



Alaska Statewide Active Transportation Plan

A Vision for Making Alaska's Communities Safe • Active • Accessible

Master Plan 2019



Alaska Statewide Active Transportation Plan

Alaska Department of Transportation and Public Facilities

Mike Dunleavy, Governor

John MacKinnon, Commissioner

The 2018 Alaska Statewide Active Transportation Master Plan (ASATP) will help guide the State of Alaska with an updated approach to active transportation planning. It acknowledges the progress that has been made in providing for walking and bicycling in Alaska since the first Bicycle and Pedestrian Master Plan was adopted in 1994, describes the future of active transportation, and sets a framework for how to plan for and measure progress toward a vision for increased and safer active transportation opportunities and activity levels across the state. The plan is consistent with the policies from the Alaska Statewide Long-Range Transportation Plan, and complies with Alaska Statutes and U.S. Federal Regulations.

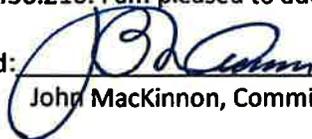
The purposes of the 2018 ASATP update are:

- To improve safety, increase accountability, and promote healthy lifestyles in our communities.
- To develop a safer and more efficient active transportation network and infrastructure to encourage walking and bicycling.

The Alaska Statewide Active Transportation Master Plan is the product of a collaborative effort between the Alaska Department of Transportation and Public Facilities (DOT&PF), municipal and local governments and public agencies. The planning effort sought public input through a rigorous process that included a Steering Committee, public meetings across the State, and on-line outreach to numerous stakeholders.

The Alaska Statewide Active Transportation Master Plan draws its authority from Alaska Statute 44.42.050 and is a component of the Alaska Long-Range Statewide Transportation Plan as defined in 23 CFR 450.216. I am pleased to adopt the Alaska Statewide Active Transportation Master Plan.

Adopted:


John MacKinnon, Commissioner

Date:

7.1.19



”

People in Alaska will enjoy equitable, accessible, safer walking and bicycling opportunities as an integral part of daily life.

The Alaska Statewide Transportation Plan was prepared together by:



1 Introduction

Since the mid-1990s, the State of Alaska Department of Transportation and Public Facilities (DOT&PF), together with partners and local governments, have committed to improving opportunities for walking and bicycling in Alaska. There is an increasing level of interest in walking and bicycling statewide, both as a mode of transportation and as an opportunity for recreation. DOT&PF has been a proponent of providing space for active transportation within rights-of-way (ROWs). DOT&PF has also supported numerous programs that encourage more people to walk and bicycle to school and work.

DOT&PF and its partners have achieved significant progress in ensuring facilities (both space and surfaces) are provided and walking and bicycling are recognized as legitimate transportation choices since the first Alaska Bicycle and Pedestrian Master Plan was prepared in 1994. This Alaska Statewide Active Transportation Plan (ASATP) is an opportunity to provide an updated approach to active transportation planning for Alaska. It acknowledges the progress that has been made, describes the future of active transportation, and sets a framework for how to plan for and measure progress toward a vision for increased and safer active transportation opportunities and activity levels across the state.

1.1 Why Plan?

The transportation system provides for the movement of people and goods and influences patterns of growth and economic activity by providing access to land. The system caters to a range of transportation modes, including automobile, public transit, rail, air, bicycle, and foot. The performance of the system affects public policy concerns like air quality, environmental resource consumption, social equity, land use, urban growth, economic development, safety, and security.¹ The transportation planning process recognizes the linkages between transportation and wider societal goals, and enables the development of strategies for operating, managing, maintaining, and financing an area's transportation system to advance its long-term goals.

¹Transportation Planning Capacity Building Team, FHWA & FTA. (n.d.) *The Transportation Planning Process Key Issues*. Retrieved from https://www.planning.dot.gov/documents/briefingbook/bbook_07.pdf.

1.2 A Second-Generation Active Transportation Master Plan

The goal of Alaska's first Bicycle and Pedestrian Master Plan was to promote the increased use and safety of bicycling and walking as year-round transportation choices by giving them full consideration in the planning, design, construction, and maintenance of transportation facilities. The 1994 plan was intended to provide a specific focus on bicycles and pedestrians as well as recognition that facilities are also readily useable by other modes of transportation such as in-line skating, equestrians, Nordic skiing, and snowmobiles or all-terrain vehicles (ATVs) dependent on local ordinances and seasons.

Many changes have occurred to the state's transportation system since 1994, and trends have shifted across the western world toward a greater focus on modes that encourage active transportation, particularly walking and bicycling. Changes will continue over the next 20 years and more. The transportation system needs to adapt to changing patterns of use, population growth, economic activity, and technology, while considering ongoing pressures associated with funding new transportation facilities and maintaining existing facilities. The ASATP will address current conditions and future changes and set out a policy framework to foster a transportation system that meets the current and future needs of walkers and bicyclists across Alaska.

The purposes of the 2018 ASATP update are:

- To improve safety, increase accessibility, and promote healthy lifestyles in our communities.
- To develop a safer and more efficient active transportation network and infrastructure to encourage walking and bicycling.

While this plan focuses on facilities for active transportation, it is important to recognize that all transportation users have a responsibility to use the transportation network in a way that respects all modes. This includes abiding by relevant laws and being mindful and vigilant when using the transportation network.



1.3 How is the ASATP Organized?

Federal Highway Administration (FHWA) and DOT&PF public involvement and transportation planning guidance were used in the development of the ASATP. It is organized into the following nine chapters:

Chapter 1: Introduction

Introduces the ASATP, the foundations of statewide active transportation planning in Alaska, the requirements for planning, and an overview of the plan.

Chapter 2: Public Outreach

Describes the process used to engage the public and other stakeholders in the ASATP.

Chapter 3: Vision, Goals Areas, Objectives and Performance Measures

Sets out the ASATP's vision, goal areas, objectives, and performance measures.

Chapter 4: Existing Conditions for Walking and Bicycling in Alaska

Describes the geographic, demographic, and climatic setting for the ASATP and provides an overview of walking and bicycling facilities planning and levels of activity in Alaska.

Chapter 5: Planning Considerations for Active Transportation in Alaska

Presents information on safety trends, transportation equity, environmental considerations for active transportation planning and estimates of the economic benefits of active transportation on health, transportation, and the environment.

Chapter 6: Providing for Walking and Bicycling in the Future

Sets out recommendations for the active transportation network, programs and strategies, transportation funding, opportunities for investment, and investment decision considerations to provide a basis for ensuring that limited financial resources are dedicated to achieving the best possible active transportation network and programs for Alaska.

Chapter 7: Integration with Other Policies, Plans and Programs

Outlines recommended changes to the State of Alaska's policy and procedure framework, how the ASATP fits with the Long-Range Transportation Plan (LRTP) and opportunities for integration with other statewide,

regional/sub-regional, and local agencies, their planning efforts and programs.

Chapter 8: Recommended Next Steps

Sets out recommendations for future statewide active transportation initiatives to encourage continual improvement.

Chapter 9: Investment Decision Considerations

Sets out recommended investment decision criteria to enable objective evaluation of active transportation projects and programs when allotting funding.



Photo 1: Children riding their bikes to the local store, Utqiagvik, Alaska (September, 2017)

1.4 The Long-Range Transportation Plan and Performance-Based Planning

The State of Alaska's LRTP, Let's Keep Moving 2036, is the overall guiding document to provide future policy direction for highways, aviation, transit, rail, marine, pedestrian, and bicycle transportation facilities. It informs area, modal, and metropolitan plans, which then informs the Statewide Transportation Improvement Program (STIP), Airport Improvement Program, and capital and operating budgets. The ASATP is a modal plan focusing specifically on walking and bicycling as transportation modes. It is applicable statewide and addresses system needs and policy requirements for walking and bicycling. The role of the ASATP in relation to the LRTP is shown in Figure 1:





Figure 1: Statewide Planning Process²

The ASATP will support the achievement of the vision and goals articulated in the LRTP and will help DOT&PF and other transportation planning agencies secure funding for active transportation projects and initiatives through the STIP and other funding sources. Further detail on integration with the LRTP is addressed in Section 7.2 and Appendix E.

1.5 Who Will Use the ASATP?

Individuals and organizations who will use statewide active transportation master plans generally fall into five groups:³



Government and Elected Officials

Elected officials involved in approving funding for active transportation facilities, projects, and programs.



DOT&PF

Transportation planners and engineers who carry out the business of planning, designing, constructing, and maintaining DOT&PF facilities.



Other State Agencies

Trail system and park planners, law enforcement, the public health community, and other state agencies that provide trails and other active transportation facilities.



Local and Tribal Government Agencies

Staff at Metropolitan Planning Organizations (MPOs) or other transportation planning organizations, engineers, and planners.



Stakeholders

Advocates and others involved in transportation policy development at the local, regional, and state level.

The early identification of ASATP users helped to determine the stakeholders involved in its development. Stakeholders have assisted by providing data, reviewing draft content, and providing feedback.

² http://dot.alaska.gov/stwdplng/areaplans/lrtp2016/docs/20160906_LRTP_trends_systemanalysis_draft.pdf.

Accessed 6/4/19

³ https://www.planning.dot.gov/documents/Ped-Bike_State_Planning_Handbook.pdf



2 Public Outreach

2.1 Public Involvement

Public involvement for the ASATP was conducted by representatives from the DOT&PF and the consultant team (referred to as “the planning team”). The planning team conducted extensive in-person, live-stream, and online engagement to receive comments and guidance from the public, detailing their current experiences and aspirations for active transportation across the state. In addition, a Steering Committee was established to broadly represent organizations, interest groups, and private citizens with a role in the delivery of active transportation, who contributed to the overall direction of the ASATP and provided additional information and data to support its development.

The ASATP’s vision and recommendations reflect the input of the public and the Steering Committee, and comments and guidance from staff at DOT&PF and other stakeholders. A detailed summary of public involvement activities can be found in Appendix A.

2.1.1 In-Person Meetings

Several in-person events were held across Alaska to share project information and gather comments from the public. Many of these events were streamed using Facebook Live to DOT&PF’s page and additional comments and feedback were gathered using the comments section on the live stream. In-person engagement provided participants an opportunity to learn about how the ASATP was being developed and to provide input. Materials for in-person engagement varied slightly between events, but generally included the following:

- ASATP overview
- Progress update
- Identifying issues and solutions to create a connected active transportation network
- Understanding needs/desires for future active transportation policy at a statewide level
- Vision and goals
- Opportunities for general comments and questions.

In-person engagements were guided by a presentation with the opportunity to ask questions throughout the meeting to discuss specific issues and receive feedback. Comments were captured through meeting notes and participants were also encouraged to provide feedback on comment forms or through the website.



Photo 2: The public met with the planning team in Juneau (March, 2018)



Photo 3: The planning team met with members of the public at the Anchorage Open House (September, 2016)



2.1.2 Online Engagement

The ASATP also included online engagement via a website at www.akbikeped.com, which provided:

- Information about the ASATP
- An online comment form, coupled with a sign-up for newsletters and updates
- Upcoming events
- Online streaming of open house events, which linked to DOT&PF's Facebook page

The website was launched in July 2016, and feedback was gathered and considered to shape the ASATP's vision, goal areas, and recommendations. Public input collected through online engagement is included in Appendix A.



Photo 4: The website at www.akbikeped.com

2.1.3 Steering Committee

A Steering Committee representing a broad range of organizations and interests, was formed to provide input on draft documents and recommendations. Organizations and groups represented at the Steering Committee are shown on Figure 2.

The Steering Committee met four times to develop preliminary goals, objectives, and a vision for walking and bicycling in Alaska. The Committee also reviewed all background materials and provided information and feedback to ensure the quality of the ASATP.



Photo 5: The planning team presents at the Soldotna Senior Center (November, 2016)



Photo 6: The planning team visits schools at Bethel (April, 2017)





Figure 2: Steering Committee Representation

2.1.4 Outcomes

Several key messages were heard during public outreach, including that Alaskans:

- Use and appreciate the significant network for walking and bicycling throughout the state that is present today and recognize efforts being made to improve the network.
- Would like to continue to improve the network by:
 - Making it safer along facilities and at intersections
 - Improving connections by filling in gaps in the network
 - Improving wayfinding, particularly in rural areas
 - Improving trail maintenance in all seasons (i.e., managing snow and dust)
 - Creating longer, connected routes
 - Creating partnerships to provide facilities and improve connections
- Recognize a trade-off between the desire for active transportation facilities and the costs of building and maintaining those facilities.



Photo 7: Bike parking facility at Westchester Lagoon, Anchorage (May, 2019)



3 Vision, Goal Areas, Objectives and Performance Measures

3.1 Vision

The ASATP defines the following vision for walking and bicycling in Alaska as part of the Alaska Statewide LRTP.

“People in Alaska will enjoy equitable, accessible, safer walking and bicycling opportunities as an integral part of daily life.”



DOT&PF has identified goal areas, objectives, and performance measures to deliver the ASATP’s vision, guide transportation decisions, and ensure the effectiveness of transportation investments over the 20-year life of the ASATP.

3.2 Goal Areas

The goal areas identify and describe key matters for focus and improvement over the life of the ASATP. The goal areas are based on input received from public outreach and the Steering Committee, as well as research and input from planning team. The goal areas are:

- **Goal Area One:** Safety
- **Goal Area Two:** Health
- **Goal Area Three:** Maintenance/ System Preservation
- **Goal Area Four:** Connectivity
- **Goal Area Five:** Economic Development

Objectives address these goal areas and achieve the vision of equitable, accessible, and safer walking and bicycling opportunities as an integral part of daily life. Each goal area and the associated objectives are discussed in greater detail in the next section.

3.3 Objectives



Goal Area One: Safety

Improving safety for walkers and bicyclists using the transportation network is a core goal. Seven specific objectives are targeted at improving safety:

- 1.1** Reduce the number and severity of conflicts between people walking, bicycling, and driving.
- 1.2** Design the active transportation network, including roads, to enhance safety for non-motorized users using current state of the practice approaches.
- 1.3** Integrate design criteria that incorporate best practices into local, regional, and statewide design guidance documents and the Alaska Highway Preconstruction Manual (HPM).
- 1.4** Consider provisions for safer active transportation on roadway segments that are being reconstructed or rehabilitated (except for curb-to-curb mill and pave projects).
- 1.5** Improve facilities and wayfinding throughout Alaska to encourage walking and bicycling as transportation modes.
- 1.6** Streamline and improve pedestrian and bicycle data collection efforts across Alaska.
- 1.7** Review statewide laws to improve safety for active transportation on the road network.





Goal Area Two: Health

Active transportation opportunities are an important factor in maintaining a healthy population. They also support DOT&PF's mission of keeping Alaska moving through service and infrastructure, while providing a transportation system that supports Alaska's ability to thrive. Two specific objectives are targeted to improve health:

- 2.1 Collaborate with health care and community service organizations to increase physical activity by providing active transportation options.
- 2.2 Support education and encouragement programs that promote active travel.



Goal Area Three: Maintenance/ System Preservation

A key part of delivering the ASATP's vision is maintaining and preserving existing walking and bicycling facilities across Alaska. Four specific objectives are targeted at improving maintenance and system preservation:

- 3.1 Provide safer and more convenient active transportation accommodations provisions during construction activities.
- 3.2 Encourage coordination between transportation organizations to improve maintenance, including winter snow removal on active transportation facilities.
- 3.3 Encourage maintenance consideration of facility in the design of active transportation facilities, recognizing the limited availability of funds to support ongoing maintenance activities.
- 3.4 Encourage expansion of "Adopt a Trail" and "Adopt a Road" initiatives in all communities and with the private sector to support the maintenance of all active transportation facilities.



Goal Area Four: Connectivity

While there is an extensive network of walking and bicycling facilities across Alaska, gaps exist that create impediments to facility use. Five specific objectives are targeted at enhancing connections in the active transportation network:

- 4.1 Identify and address gaps in the non-motorized transportation network, including where facilities need repair to facilitate a connection or for access.
- 4.2 Encourage the use of technology to enhance connectivity and wayfinding.
- 4.3 Support education, encouragement, and enforcement initiatives.
- 4.4 Identify and encourage multi-modal transportation opportunities.
- 4.5 Establish and identify active transportation connections to and through public lands.



Goal Area Five: Economic Development

Improving facilities for all users of the transportation system is correlated with improving economic development. Four specific objectives are targeted at enhancing economic development through the provision of facilities for walking and bicycling:

- 5.1 Encourage facilities for active transportation users on private and public premises.
- 5.2 Establish comfortable and safer active transportation connection to activity centers.
- 5.3 Increase awareness of Alaska's active transportation network.
- 5.4 Create transportation systems that encourage natural movement for daily activities and encourage active transportation, in conjunction with broader community and infrastructure planning and development.



3.4 Performance Measures

Performance measures help DOT&PF to track progress toward achievement of the ASATP's vision, goal areas, and objectives. Performance measures establish a data-driven approach to assessing improvement to the non-motorized network over time. The performance measures use existing data already gathered by DOT&PF, or enable partnerships with other departments and organizations to obtain information to track progress. The expectation is that data will be collected annually for these performance measures, and the measures themselves will be revisited during future updates to the ASATP.

Table 1 defines performance measures by goal area. As well as measuring performance statewide to fulfill national performance management reporting requirements, performance measures can be tracked at a regional level using health region boundaries defined by the Healthy Alaskans 2020 state health improvement plan (HA2020). By tracking performance measure progress at the regional level, greater sensitivity can be applied to the limitations and opportunities that are present in the range of land use contexts found across Alaska. Health regions provide greater granularity for analysis, enable better distinction among land use context, and creates a clear link to other departments in accordance with the health objectives identified as part of the ASATP.

Table 1: Performance Measures

Goal Area	Performance Measure
 Goal Area One Safety	PM 1.1 Reduction in the number of fatal or serious injury collisions involving bicyclists and pedestrians in the last five years, as both a rolling average and percentage of total collisions.
 Goal Area Two Health	PM 2.1 Percent change in average minutes of physical activity per day per capita over a five-year period, as measured by the Alaska Department of Health and Social Services. PM 2.2 Percentage of health regions meeting Healthy Alaska Benchmarks by 2020.
 Goal Area Three Maintenance/System Preservation	PM 3.1 Miles of roadways adopted through Adopt-a-Road and Adopt a Highway initiatives.
 Goal Area Four Connectivity	PM 4.1 Miles of state-owned active transportation facilities, including trails, sidewalks, designated bicycle facilities, and road shoulders.
 Goal Area Five Economic Development	PM 5.1 Number of communities with current active transportation plans and Safe Routes to School programs or plans. PM 5.2 Percent of commute trips completed by walking or bicycling, as determined by American Community Survey data.



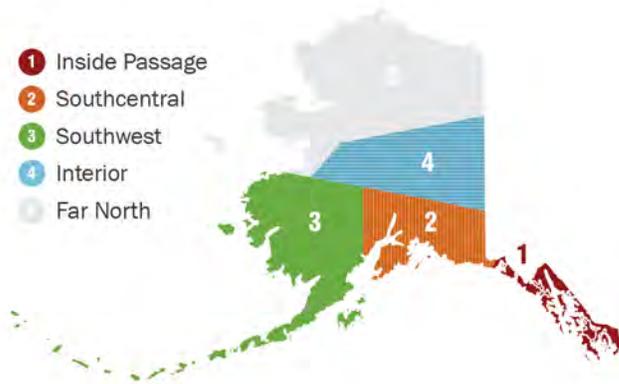
4 Existing Conditions for Walking and Bicycling in Alaska

4.1 Geographic Setting

4.1.1 Geography

Alaska is frequently divided into five regions,⁴ as shown on Figure 3:

Figure 3: Regions of Alaska



Inside Passage

The Southeast Region is also referred to as the Panhandle or Inside Passage, and is the part of Alaska that is closest to the rest of the U.S. The region includes the Alexander Archipelago and Tongass National Forest, the cities of Sitka and Ketchikan, and the capital city of Juneau. The Alaska Marine Highway system provides a vital transportation link through southeast Alaska as only three communities (Haines, Hyder, and Skagway) have direct connections to the contiguous Alaskan and North American road system.

Southcentral

The Southcentral region is the most populous region of Alaska and includes Anchorage, the Matanuska-Susitna Valley, and the Kenai Peninsula. The region also includes rural areas south of the Alaska Range and west of the Wrangell Mountains, Prince William Sound, and the communities of Cordova and Valdez. Much of the rural area of Southcentral Alaska is unpopulated.

Southwest

Southwest Alaska is a sparsely inhabited region that extends approximately 500 miles inland from the Bering Sea. Populations in this region are primarily located along the coast, or the Yukon or Kuskokwim Rivers which cross through the Yukon-Kuskokwim Delta. The region also includes the Aleutian Islands, a chain of more than 300 small volcanic islands extending over 1,200 miles into the Pacific Ocean.

Interior

The Interior is the largest region in Alaska, and much of the area is uninhabited. The region includes Denali National Park and Denali, which is the highest mountain in North America. Fairbanks is the only large city in the region.

Far North

The North Slope region is mostly tundra with interspersed small villages. The area is known for its large reserves of crude oil and includes the National Petroleum Reserve – Alaska and the Prudhoe Bay Oil Field. The city of Utqiagvik, which is the northernmost city in the U.S., and Kotzebue are located in the North Slope region.

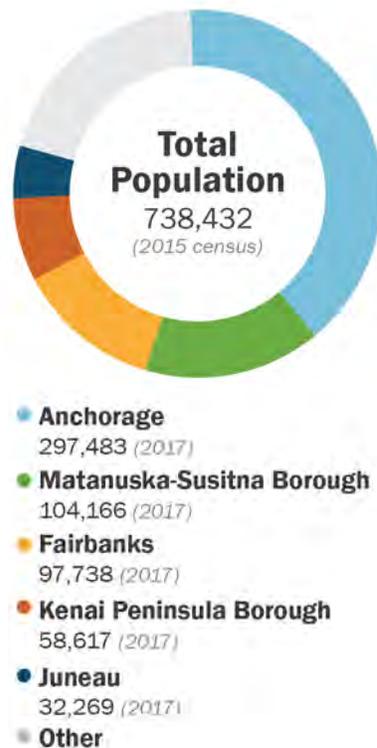
⁴ <http://alaskaweb.org/regionmap.html> Accessed 6/6/19.



4.1.2 Population

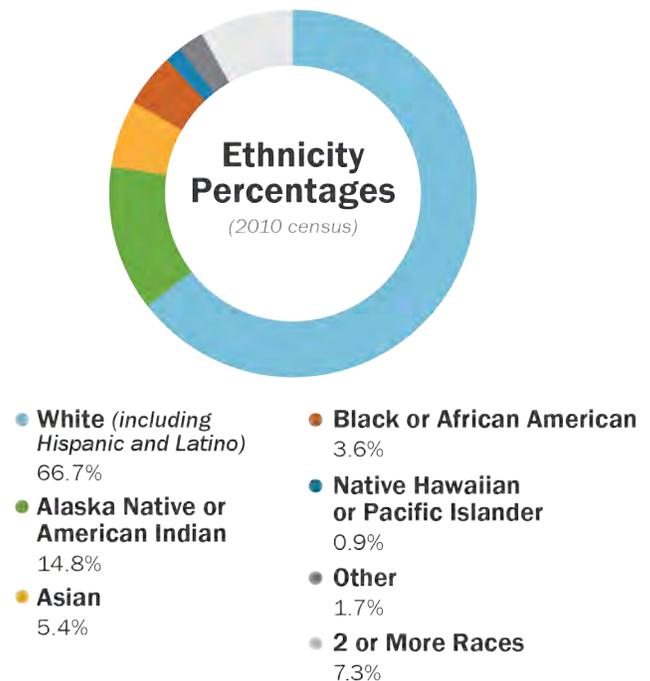
The U.S. Census Bureau estimates the population of Alaska in 2017 was 739,795. It is the 47th largest state by population, and the least densely populated. The largest city is Anchorage, with an estimated population in 2017 of 297,483, followed by the Matanuska-Susitna Borough with an estimated population of 104,166.

Figure 4: Total Population of Alaska



Other notable population centers include Fairbanks North Star Borough, with an estimated population of 97,738; Kenai Peninsula Borough, with an estimated population of 58,617; and Juneau, with an estimated population of 32,269. Total ethnicity percentages according to the 2010 U.S. Census of race and ethnicity are summarized in Figure 5.

Figure 5: Total Ethnicity Percentages



4.1.3 Climate

Alaska's climate varies across the state's regions but is generally cool with moderate levels of precipitation. An extratropical storm track runs along the Aleutian Island chain, across the Alaska Peninsula and along the coastal area of the Gulf of Alaska which exposes these areas to storms crossing the North Pacific. The climate in Juneau and the southeast panhandle is a mid-latitude oceanic climate in the southern sections and a subarctic oceanic climate in the northern parts. Southcentral Alaska experiences a subarctic climate with short, cool summers. The Interior region

experiences a greater range of extreme weather conditions, is a true subarctic climate, and the highest and lowest temperatures recorded. The Far North region experiences an arctic climate with long, cold winters and cool summers where snow is possible year-round. These climatic conditions present challenges for active transportation across Alaska, but notwithstanding the weather extremes, many people have adapted to walking and bicycling year-round throughout the state.



4.2 Existing Walking and Bicycling Activity

Levels of walking and bicycling in Alaska rank highly when compared to the rest of the U.S. This statistic is surprising given the sparse development pattern in Alaska and the long, cold winters, but it appears to be primarily driven by a combination of dense development

in rural villages, a very limited road network, high gas prices, and a relatively young population when compared to the rest of the U.S. Key statistics for walking and bicycling in Alaska are captured in Figure 6.

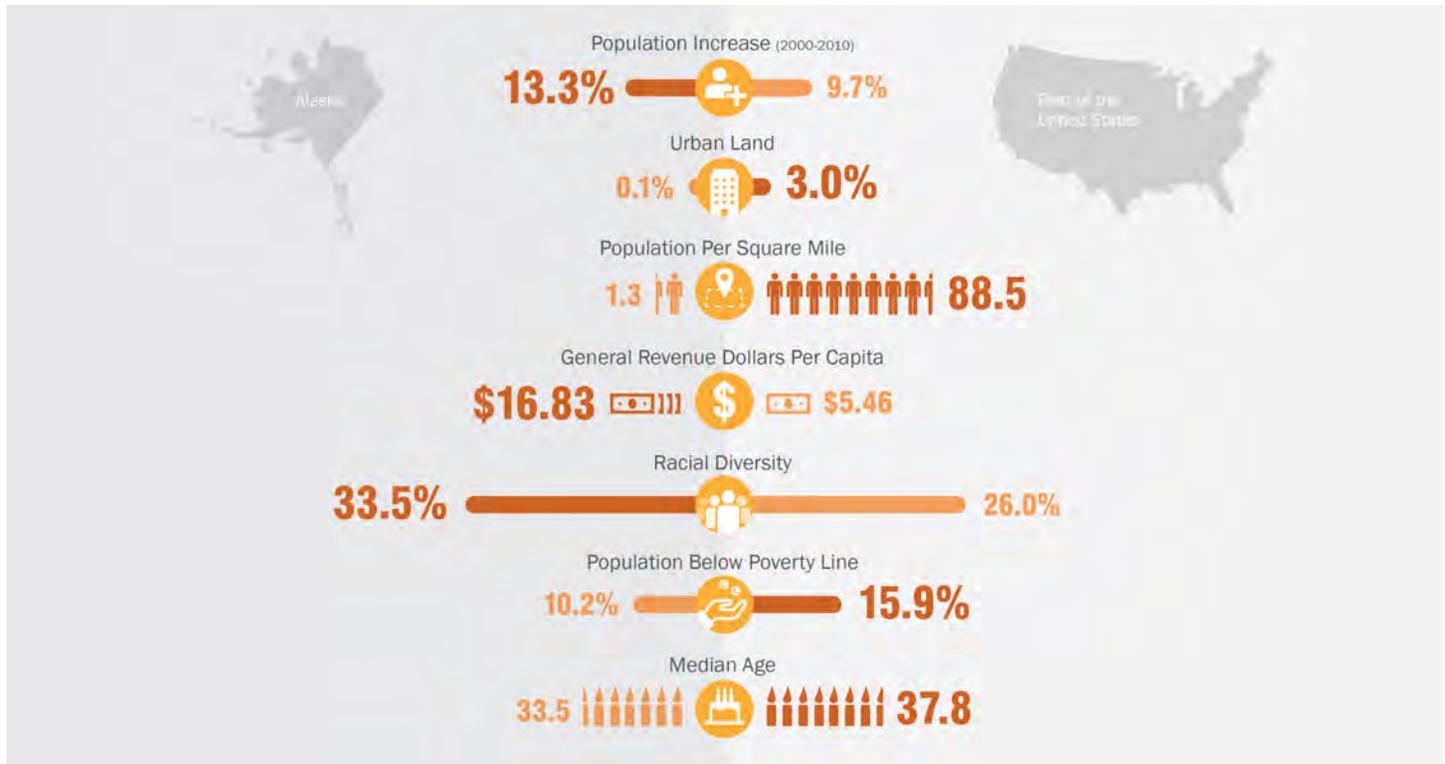


Figure 6: Population Comparisons: Alaska vs. Rest of U.S.⁵

These statistics are notable as they identify the following demographic trends:

- Alaska's population increased at a rate above the U.S. average between 2000 and 2010. This growth rate may have leveled out or declined since 2014 because of a reduction in oil and gas activity in Alaska.
- Alaska's percentage of urban land is substantially lower than the average of all states, which correlates with the state having the sparsest population density in the U.S.
- The general revenue dollars per capita allocated to Alaska is significantly higher than the average of all states.
- Alaska has a higher percentage of people of color than the average of all states. Alaska has a significant Alaska Native population, and many Alaska Native people live a subsistence lifestyle in rural Alaska.
- Alaska has a lower percentage of the population living below the poverty line than the average of all states. However, the cost of living in Alaska, and particularly in rural Alaska, is high.
- Alaska's median age is lower than the average of all states.

These demographic factors impact walking and bicycling activity. Alaskan commuters rank well in walking and bicycling activity when compared to other U.S. states as shown in Figure 7.

⁵ Alliance for Walking and Bicycling. (2016). *Bicycling and walking in the U.S.: A benchmarking report*. Retrieved from <https://www.aarp.org/content/dam/aarp/livable-communities/documents-2016/2016-WalkingBicyclingBenchmarkingReport.pdf>.





Figure 7: Alaska Active Transportation Rankings⁶

Alaska ranks highly for the number of people walking and bicycling daily for commute trips and on the amount spent on walking and bicycling projects. The data collected from the Alliance for Walking and Bicycling's 2016 Benchmarking Report references 'commuters', but there is no differentiation between commuter trips and recreational trips when data is collected.

4.3 Existing Facilities for Walking and Bicycling

Since the first Alaska Bicycle and Pedestrian Plan was completed in 1994, the state has made significant progress in providing facilities to accommodate pedestrians and bicyclists both within the ROW and adjacent to roadway facilities.

4.3.1 Commissioner Policy Directive on Bicycle and Walking Facilities Memorandum (June 7, 1995)

In June 1995, the Commissioner of the DOT&PF directed: "it is the policy of the department that accommodations for bicyclists and pedestrians be considered and implemented for all of our highway projects." Exceptions to this policy must be approved by the Commissioner on a case-by-case basis.

The policy directive was in support of a memorandum by former Governor Tony Knowles, which cites that in addition to providing the best possible system for motorized vehicles, provisions for pedestrians and bicyclists are integral components of a good transportation system. It states the policy of the administration is that "accommodations for both bicyclists and pedestrians shall be included in the design for all projects, including those under construction, where reasonably possible and shall be constructed where economically feasible." The memorandum further notes that "with few exceptions, every road is a potential pedestrian walking/bicycle way. By fully considering bicycles and pedestrians in our designs, we serve not only them, but motorists as well."

In September 1996, DOT&PF Planning staff issued a memo proposing procedures for Planning to be involved in the review and implementation of bicycle/pedestrian accommodations on all new project development and for previously designed projects to receive the necessary considerations. The memo further proposed that following the review of proposed procedures by the affected regional staff, the procedures would be incorporated into revisions of Chapter 4 (Project Development) of the HPM.

⁶ Alliance for Walking and Bicycling, 2016 Benchmarking Report.



Collectively, the memoranda provide strong direction and a foundation that supports increased accommodation of pedestrian and bicycle travel, and they show a commitment to ensuring the provision of active transportation facilities that has the potential to spread to borough and local government agencies.

4.3.2 Highway Preconstruction Manual

The HPM is DOT&PF's guidance document for development and designing highway and road projects in Alaska. It covers both federal and state-funded projects.

Chapter 4 of the HPM addresses the Project Development Process. Section 450 addresses Preliminary Engineering through Final Plans, Specifications and Estimates (PS&E), and requires as part of the Design Study Report (DSR) that pedestrian and bicycle accommodations, including provision for accessibility by people with disabilities is a section of the DSR (Section 450.5.1 Item 14). In addition, Figure 1100-2(A) Project Design Criteria for New Construction and Reconstruction Projects also requires non-motorized inputs for every design.

Chapter 11 of the HPM addresses highway design and requires designers to use the American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities 2012 as modified by the HPM in the design of new construction and reconstruction projects. Due to the 1995 Directive, the DOT&PF wrote and adopted a new Chapter 1200 to the HPM to improve direction for non-motorized facilities. Chapter 12 addresses non-motorized transportation, with bicycle facilities addressed in Section 1210. Section 1220 is reserved and not yet developed for pedestrian facilities, and a further Section 1230 is reserved for other non-motorized facilities.

Section 1210 (Bicycle Facilities) requires facilities design to use the AASHTO Guide for the Development of Bicycle Facilities 1999, as modified by the HPM. It further notes that if there is a conflict between the AASHTO Guidance and the ATM for striping and signing, the ATM should prevail. Section 1210.2 deals with waivers from developing facilities for bicycles, which notes there may be situations where use of full design

criteria will price the improvement beyond reasonable cost. It provides guidance for facilities development and costing to enable the approval of a bicycle facility using below-minimum design criteria through a waiver process. The section also provides guidance for when a waiver is necessary for the elimination (as opposed to reduction) of a facility that is normally required under the guidelines of the section. It notes that a full waiver requires the endorsement of the regional preconstruction engineer or chief engineer, and the approval of the Commissioner. Section 1210.4.2 directs designers to use Selecting Roadway Design Treatments to Accommodate Bicyclists, FHWA publication RD-92-073 to determine all shared roadway facility configurations. This publication sets out recommended roadway treatments and widths to accommodate bicycles, and details minimum and desirable facility widths based on a range of factors including the types of users, traffic volumes, average motor vehicle operating speed, traffic mix, on-street parking, sight distance and the number of intersections.

4.3.3 Active Transportation Facilities

The provision of facilities for pedestrians and bicyclists provides a signal to motorists that non-motorized travelers have a legitimate right to be in and use the ROW. Alaska has spent substantial capital dollars to improve conditions for non-motorized users throughout the state and the progress is worthy of recognition and celebration. Although this list is not intended to be exhaustive, active transportation accommodations that have been incorporated into the roadway network in Alaska include some of the following:⁷

- Separated pathways along urban and rural highways
- Highway modernization projects that have created paved shoulders suitable for active transportation
- Improved intersection designs, including intersections that incorporate countdown pedestrian heads
- Grade-separated crossings of major roadways and other appropriate crossing treatments
- In-street bicycle lanes in high-use areas
- Construction of new sidewalks, often separated from the vehicle lanes

⁷ Thomas, S.E., (2018). HSIP Ped/Bike Crash Update 2018 CR Design Practice. DOT&PF Internal Memorandum.



- Accessible sidewalk curb ramps and facilities
- Appropriate lighting, signage and striping.

There is currently no statewide inventory, map or database showing the location of walking and bicycling facilities in Alaska. Several borough, city and local transportation planning organizations have their own inventories and maps of active transportation facilities, but the format and age of these is variable.

4.4 Existing Planning for Walking and Bicycling

Alongside the 1994 Alaska Bicycle and Pedestrian Plan, MPOs and some municipalities, cities, boroughs, and communities have prepared transportation plans, non-motorized transportation plans, or comprehensive plans that provide guidance and are supportive of walking and bicycling in Alaska. The following sections provide a high-level summary of plans and guidance across the state.

4.4.1 Anchorage

Transportation planning for Anchorage is led by the Anchorage Metropolitan Area Transportation Solutions (AMATS), which is the local MPO for the Anchorage Bowl. AMATS activities are guided by the Metropolitan Transportation Plan (MTP), which includes policies relevant for all surface transportation. Anchorage has prepared transportation plans and non-motorized transportation plans for several years which guide the development of non-motorized facilities in Anchorage, Alaska's largest city and center of population. Existing plans include:

Anchorage Pedestrian Plan 2007

The Anchorage Pedestrian Plan has a stated goal to “double the number of pedestrian trips made by Anchorage residents while simultaneously reducing the number of injuries from pedestrian-vehicle crashes.” The overall goal is supported by seven individual goals, focused on safety, mobility, crash rates, connectivity, design and development patterns, and awareness of the importance of walking and bicycling for health. These goals are supported by a range of policies and action item recommendations. The Anchorage Pedestrian Plan will shortly be superseded by the Anchorage Non-Motorized Transportation Plan.

Anchorage Bicycle Plan 2010

The purpose of the Anchorage Bicycle Plan is “to expand the bicycle infrastructure and the use of bicycles for transportation.” The plan was developed to promote and expand the comprehensive bicycle network of on- and off-street bicycle infrastructure in Anchorage, to integrate bicycle travel into the overall transportation planning process, and promote the use of the bicycle as a legitimate mode of transportation. The overall goal of the plan is to “double the amount of utility bicycling while reducing the number of bicycle crashes by one-third.” This goal is supported by six additional goals, focused on connectivity, safety, network, greater public awareness and understanding, providing support facilities, and educating the public. The Anchorage Bicycle Plan will shortly be superseded by the Anchorage Non-Motorized Transportation Plan.

Anchorage Non-Motorized Transportation Plan

The Non-Motorized Transportation Plan is a comprehensive effort to examine the opportunities to increase and expand multi-modal facilities for both recreation and transportation throughout Anchorage. The draft vision is: “Anchorage is a world-class city that has an integrated network of routes accessible for people of all ages and abilities to walk, roll or glide safely on trails and streets.” The vision is supported by a range of goals and objectives focused on increasing use of the non-motorized system, health and quality of life, safety and security, maintenance, connection, measurability, education, and involvement. The draft plan is intended to be made available for public comment during Spring 2019 and approved by the end of Summer 2019.



Photo 8: Commuter bicyclist in Anchorage (May, 2019)



Anchorage's street and trail networks is mapped through the municipality's geographic information system and available to the public both digitally and as a single-page Anchorage trail map. AMATS also has an established Bicycle and Pedestrian Advisory Committee, which assists with educating the public about pedestrian and bicycle safety.

4.4.2 Matanuska-Susitna Borough

The Matanuska-Susitna Borough's LRTP was adopted in December 2017, with the purposes of establishing community goals for the transportation system, planning and recommending strategies for all modes of travel, developing transportation system improvements, and developing a list of roadway improvements and a short-term implementation strategy. The plan sets out a range of goals and strategies addressing all transportation modes. The most applicable goal for bicycling and walking is providing transportation choices and associated strategies, including developing a policy for all-terrain and off-road vehicle use, developing an active transportation master plan, adopting a policy requiring pedestrian and bicycle improvements near and along transit corridors, and improving awareness of transportation choices. The Matanuska-Susitna Borough does not currently have a geographic information system of non-motorized facilities and trails. A Mat-Su bicycle map is currently being developed.



Photo 9: Commuter bicyclist in Nome, Alaska (April, 2017)

4.4.3 Fairbanks

Transportation planning for Fairbanks is led by Fairbanks Area Surface Transportation Planning (FAST Planning), formerly known as Fairbanks Metropolitan Area Transportation System (FMATS). FAST Planning is the local MPO for the urbanized area of Fairbanks North Star Borough, including the cities of Fairbanks and North Pole. FAST Planning's activities are guided by the MTP, which includes policies relevant for all surface transportation. The first Non-Motorized Transportation Plan was developed in 2012, which recognizes there has been a resurgence in interest in non-motorized travel, spurred by a desire for better health, transportation options, environmental quality, and access. The plan includes a detailed vision targeting an increase in the number of people walking and bicycling and an improvement in facilities. In addition to the Non-Motorized Transportation Plan, FAST Planning has also adopted a Complete Streets Policy with the goal of creating a complete network of roads that serves all users. FAST Planning has extensively mapped existing and proposed pedestrian and bicycle facilities in its Non-Motorized Transportation Plan, and this information is available in a geographic information system. As part of its Non-Motorized Transportation Plan, FAST Planning worked with DOT&PF to develop a Non-Motorized Design Tool Kit. FAST Planning also has an established Bicycle and Pedestrian Advisory Committee, which assists with educating the public about pedestrian and bicycle safety. FAST Planning has applied to the League of American Bicyclists for status as a bicycle-friendly community and is working to address deficiencies in the transportation network to enable it to achieve this status.

4.4.4 Kenai Peninsula Borough

Kenai Peninsula Borough (KPB) incorporates the Kenai Peninsula and some parts of mainland Alaska on the western side of Cook Inlet. The overarching planning document is the Comprehensive Plan 2005, which is the subject of a 2018 update. KPB has a 1998 Trails Plan, which presents major trail-related issues for KPB and identifies community priorities for trail actions. Several city plans are adopted as elements of the KPB Comprehensive Plan. Incorporated cities within the borough have their own comprehensive plans. The City of Soldotna has a Recreation and Trails Master Plan (2014), and the City of Homer has a Non-Motorized Transportation and Trails Plan (2004) which maps bicycle and pedestrian facilities within the City.



4.4.5 Juneau

The City and Borough of Juneau (CBJ)'s Community Development Department is responsible for plan development for Juneau. The overarching planning document is the Comprehensive Plan 2013. A range of transportation plans have also been developed, including a 2001 Areawide Transportation Plan and a 1997 Non-Motorized Transportation Plan. The plan includes maps of existing and proposed non-motorized transportation facilities.

4.4.6 Southeast Alaska

Transportation planning in southeast Alaska is undertaken by multiple organizations, including DOT&PF South Coast, other state and local government agencies, and tribal government entities. Larger communities have comprehensive plans and transportation plans that include non-motorized elements. Sitka is a notable city in southeast Alaska due to its recognition by the League of American Bicyclists as a Bicycle Friendly Community. The city was initially recognized as a bronze level community in May 2008, and in May 2016, it moved up to the silver level. Sitka is also recognized as a bronze level Walk-Friendly Community, and it is the only community recognized with this status in Alaska. Sitka has a Non-Motorized Transportation Plan (2003) and associated maps showing an inventory of existing facilities.

4.4.7 Rural Alaska

Transportation planning throughout rural Alaska is undertaken by a range of organizations, including DOT&PF, local government, and tribal government entities. Some of the larger hub cities have comprehensive plans and transportation plans for their cities and regions that include non-motorized elements such as provision for walking, bicycling, and trail facilities.

Transportation systems provide for various modes of transportation including aviation, surface and marine using vehicle fleets such as ATVs, four-wheelers, bicycles, walking, dog sleds, automobiles, boats, and planes. Rural communities typically have a small local road, community trails, a barge landing, and an airport. Some rural communities rely solely on boardwalks (boardroads) and community trails as they do not have conventional roads for automobiles. Residents in rural Alaska typically walk to access



Photo 10: Bicyclists and walkers on Bike to Work Day (May, 2019)

public facilities such as schools, grocery stores, and medical facilities. For longer distances, air travel is common. Hub communities such as Bethel, Dillingham, Kotzebue, King Salmon, and Nome have high levels of pedestrian activity due to residents from other villages visiting without access to a motorized vehicle. Active transportation facilities exist in hub communities, but they are most frequently provided on the shoulder of road facilities and are also used by ATVs and snow machines.

Extensive trail networks across rural Alaska provide connections between communities and the river systems. Primary users of the trail networks are ATVs, snow machines and dog sleds. Trails are both seasonal (on ice) and four-season (on ground). Trail maps are available for winter trails and connector routes in the Yukon-Kuskokwim Delta, North Slope Borough, and Northwest Arctic Borough. Other trails exist throughout the state, but maps are not currently available.



5 Planning Considerations for Active Transportation in Alaska

5.1 Safety Trends and Planning Efforts

5.1.1 Why is Safety Important?

Safety is a core goal as it supports initiatives to reduce serious injuries and fatalities arising from the transportation system.⁸ Non-motorized transportation safety is an important key priority for the USDOT, and this is carried through to the ASATP as one of its key goal areas. The ASATP provides an opportunity to coordinate statewide active transportation planning with ongoing statewide safety analysis and programs conducted by DOT&PF, including the Strategic Highway Safety Plan (SHSP).

5.1.2 Alaska Strategic Highway Safety Plan

The SHSP is a statewide, coordinated safety plan that provides a comprehensive framework for reducing highway fatalities and serious injuries on all public roads. It uses a data-driven approach to analyze the state's key safety needs, and guides investment decisions towards strategies and countermeasures with the greatest potential to save lives and prevent injuries.

The SHSP data analysis process identifies several safety emphasis areas and strategies and priorities for addressing safety concerns within those emphasis areas. Pedestrians and bicycles are emphasis areas in Alaska's SHSP.

The 2018 revision of the Alaska SHSP retained the framework of the four Es of safety – Engineering, Enforcement, Education, and Emergency Response. DOT&PF completed the update of the SHSP in December 2018, which incorporated requirements from the federal FAST Act law.

5.1.3 Alaska Highway Safety Improvement Program

The HSIP is a core federal-aid program with the purpose of achieving a significant reduction in fatalities and serious injuries on public roads. The HSIP identifies high-risk intersections and roads, scopes and prioritizes corrective projects, funds the most cost-effective projects, and evaluates actual project and program effectiveness. HSIP dollars are distributed to the most effective projects from a single statewide fund. The purpose of the Alaska HSIP is to “*maximize lives saved and major injuries eliminated per dollar spent.*”

The HSIP includes pedestrians and bicyclists as HSIP-related SHSP emphasis areas, and a range of projects are identified targeting improvements for non-motorized transportation. In addition to projects identified in the HSIP, many projects are underway or have been completed through the HSIP that have provided a range of non-motorized facilities throughout Alaska including pedestrian islands, pedestrian refuges, and countdown timers at signalized intersections.

5.1.4 Non-Motorized Crash Data

State non-motorized crash data is maintained by DOT&PF and is drawn from police reporting data. It relies on crashes being reported to police. There is relatively limited data available for rural Alaska, and it is likely that non-motorized crashes are under-reported because of a limited police presence. The data only reflects crashes where a motor vehicle is involved, so it excludes incidents where pedestrians and bicyclists have fallen or injured themselves due to facilities, and collisions with other pedestrians and bicyclists.

⁸ FHWA (2017). <https://safety.fhwa.dot.gov/tsp/fhwasa16116/mod1.cfm> Accessed 6/6/19.





Pedestrians

Data on statewide pedestrian crashes is drawn from the statewide crash database and covers the years 2000 to 2015. Raw data on all vehicular crashes is sorted to single out crashes that involve pedestrians and to sort by location, area, and where available, region to understand the most frequent crash locations (95th percentile and 75th percentile for crash frequency). These locations then form the focus for interventions and improvements.

The graph in Figure 8 shows the total number of crashes between pedestrians and motor vehicles between 1977 and 2015. This data demonstrates that crashes involving pedestrians and motor vehicles has been trending downwards for several years. The impact of the 1995 Memorandum is also shown in this figure, but the positive impact on pedestrian crashes and fatalities is less obvious than the impact on bicycle crashes and fatalities (see Figures 8 and 9). A focus on planning for pedestrian facilities, ensuring the provision of improved pedestrian facilities and a greater awareness of pedestrians on the transportation network is likely to help improve the rate of pedestrian crashes currently experienced in Alaska.

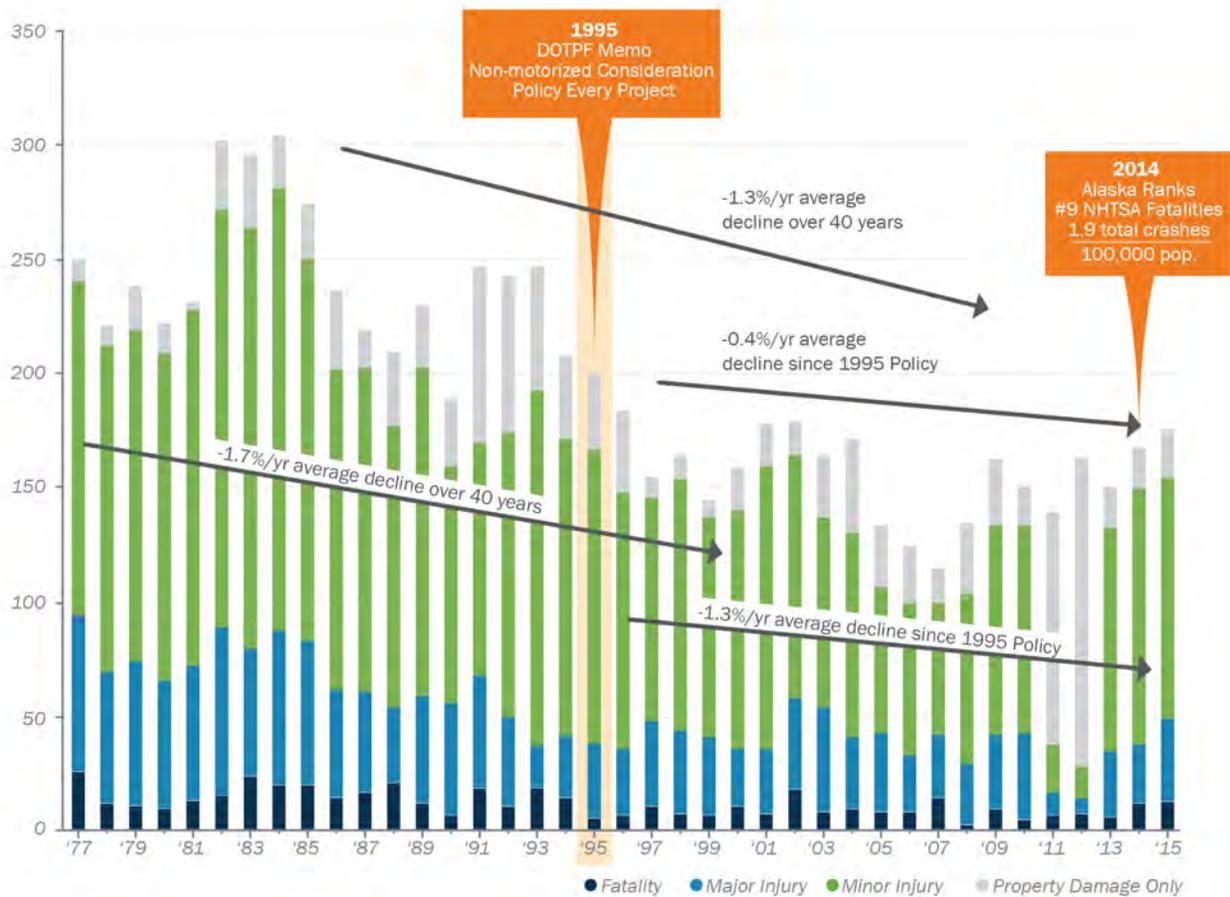


Figure 8: Statewide Pedestrian-Vehicle Crashes 1977-2015





Bicycles

Data on statewide bicycle crashes is drawn from the statewide crash database and covers the years 2003-2015. Raw data on all vehicular crashes is sorted to single out crashes that involve bicycles and to sort by location, area, and where available, region to understand the most frequent crash locations (95th percentile and 75th percentile for crash frequency). These locations then form the focus for interventions and improvements.

Data are also available for the number of fatal and serious injury crashes between bicycles and motor vehicles between the years 1977 and 2015, as shown in Figure 9. The DOT&PF is aware there are an increasing number of bicyclists on the road, but the total numbers of severe crashes are trending downwards. This is a positive trend and is notably linked to improved provision of space for bicyclists on transportation facilities, as required by the 1995 Memorandum.

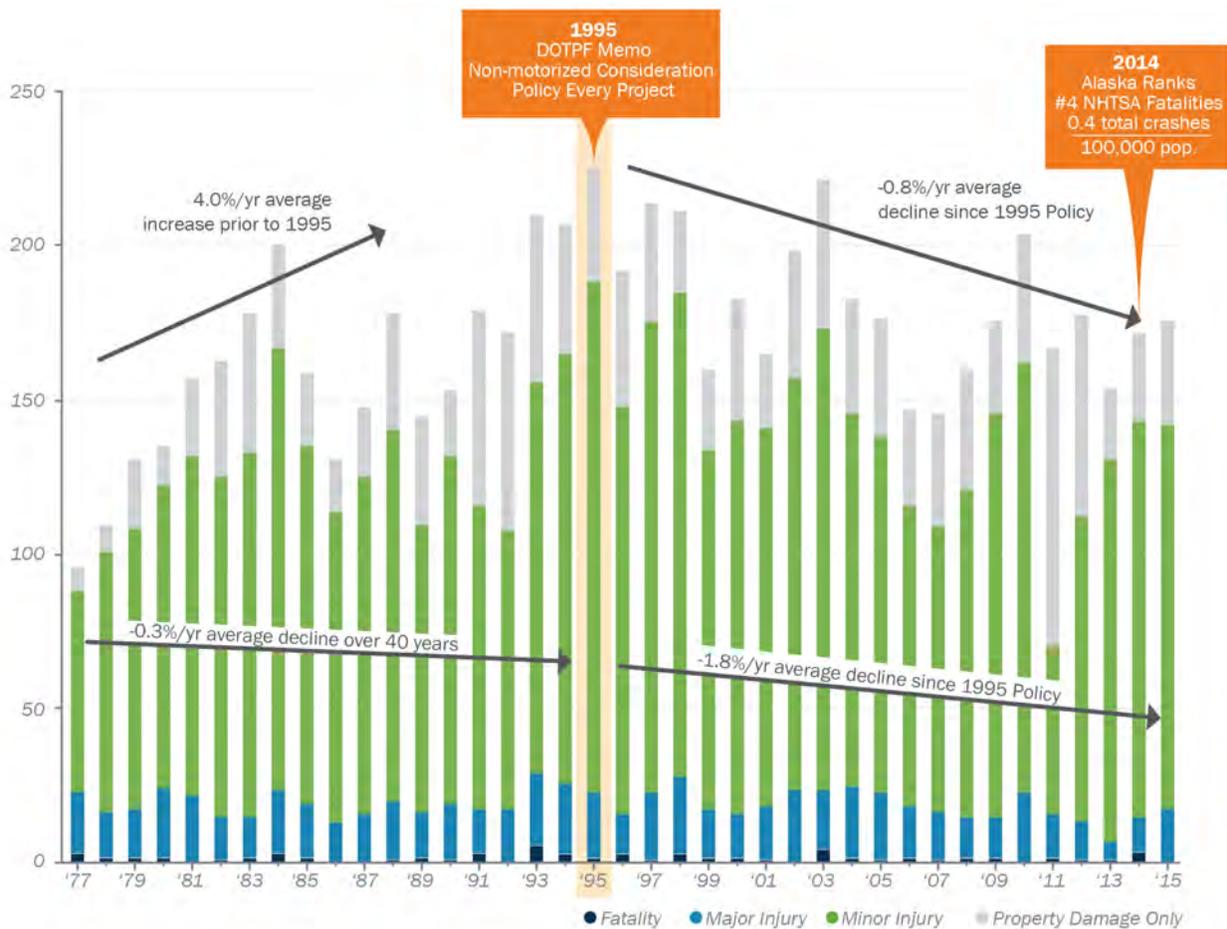


Figure 9: Statewide Bicycle-Vehicle Crashes 1977-2015



5.1.5 Personal Safety and Security

The crash data demonstrates that there are opportunities for intervention based on infrastructure improvements. In addition, personal safety and security are key considerations when evaluating safety for active transportation networks. Factors such as lighting, visibility, and access control can impact real and perceived safety and security for pedestrians and bicyclists, particularly in the dark winter months.

Improved personal safety and security may be affected by local-level decisions, such as design standards and development policies. For this reason, it is recommended that jurisdictions evaluate existing policies, standards, and practices that influence personal safety and security. For example, Crime Prevention through Environmental Design (CPTED) offers evaluation techniques and key action items to create an environment that supports personal safety and security. Jurisdictions should consider, for example, adopting a policy that is consistent with CPTED.

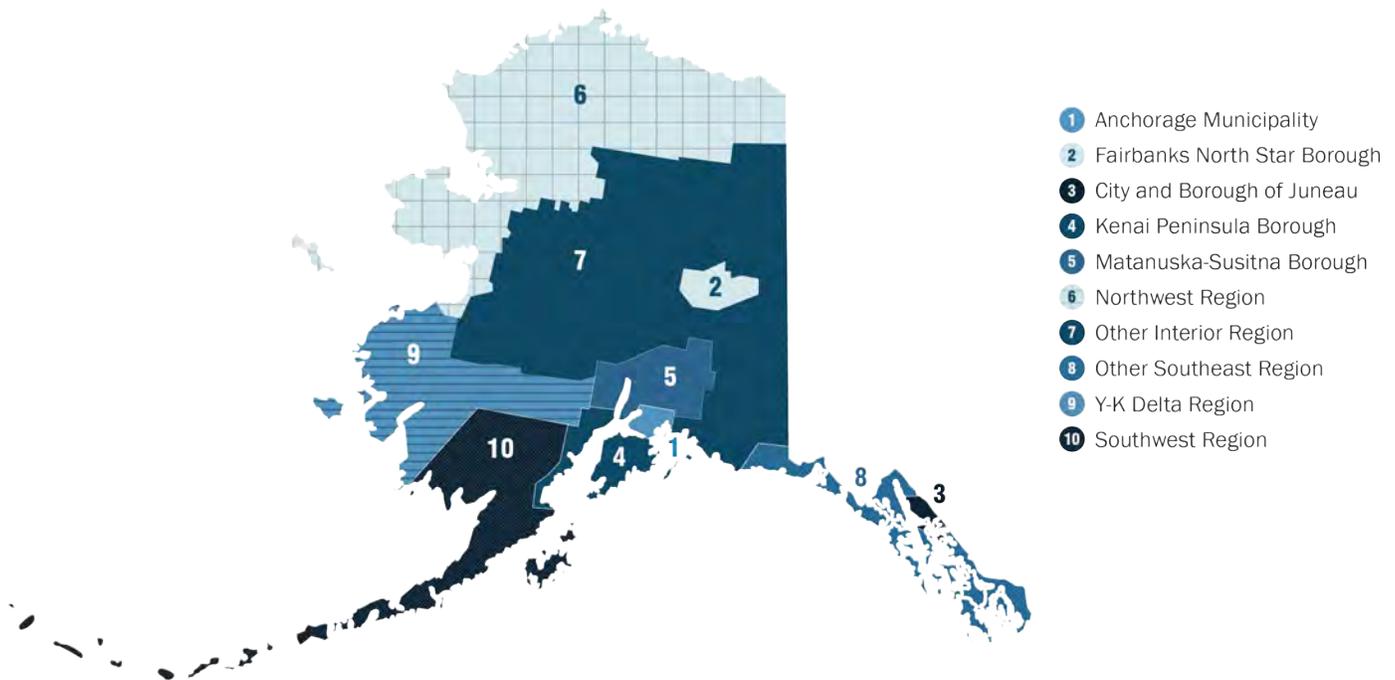
5.2 Health Trends and Planning Efforts

5.2.1 Why is Health Important?

Active transportation has a considerable impact on individual and community health and wellness. The development and promotion of a safer and more connected statewide active transportation network will help DOT&PF and other agencies create opportunities for greater physical activity through transportation, and thereby support a reduction in the rates of chronic disease and preventable injuries.

In the U.S., chronic disease is the leading cause of death and disability and it is associated with approximately 70 percent of deaths each year.⁹ In Alaska, six out of ten of the leading causes of death are due to chronic conditions, of which Alaska Native people experience disproportionately high rates.¹⁰ Increasing physical activity levels is one of the most effective ways to reduce the risk of chronic diseases and related risk factors. Research

Figure 10: Alaskan Behavioral Health Regions



⁹ Office of Disease Prevention and Health Promotion. (2017). *General Health Status*. Retrieved from <https://www.healthypeople.gov/2020/about/foundation-health-measures/General-Health-Status#chronic>.

¹⁰ The Alaska Bureau of Vital Statistics. (2015). *Top Ten Leading Causes of Death for Alaska*. Retrieved from http://dhss.alaska.gov/dph/VitalStats/Documents/stats/death_statistics/leading_causes_census/frame.html.



Health Indicator (Disease)		Obesity	Overweight	Limited Physical Activity	Pedestrian Mortality	Diabetes	Coronary Heart Disease	Breast Cancer	Prostate Cancer	Depression
1	Anchorage Municipality		■		■	■	■	■	■	
2	Fairbanks North Star Borough			■				■		■
3	City & Borough of Juneau			■					■	■
4	Kenai Peninsula Borough			■				■		
5	Matanuska-Susitna Borough	■		■		■			■	■
6	Northwest	■				■		■		
7	Other Interior			■		■	■	■		
8	Other Southeast	■	■	■		■	■	■		
9	Yukon-Kuskokwim Delta				■					
10	Southwest	■		■	■	■	■	■	■	

Table 2: Regions Exceeding the State Average for Health Indicator Prevalence (Exceeding the indicator is a sign of disease and is therefore considered an adverse health outcome)

shows that health behaviors, the physical environment, and social and economic factors account for 60 to 75 percent of the health factors that contribute to shaping health outcomes, which can all be impacted by physical activity.¹¹ Improving opportunities for increased physical activity may improve health outcomes for residents impacted by these risk factors.

To better understand the health impacts facing Alaska residents, data on a series of health outcomes and indicators was evaluated. These factors were selected based on two considerations: factors known to be positively affected by increased physical activity, and factors identified in the HA2020 state health improvement plan.

The HA2020 plan established benchmarks for a series of 25 indicators that allows Behavioral Health Regions in Alaska to track progress over time and in relation to other regions.

Assessing data at the Behavioral Health Region scale allows this plan to not only connect to the HA2020 initiative, but it also provides a more nuanced view of concerns, given the size and varying context across the state. To best realize the benefits that physical activity can have for people in Alaska, local, regional,

and statewide active transportation infrastructure must be designed in consideration of the unique opportunities and constraints of geography, weather, and culture of the state. As part of this context, the unique health challenges facing each region should also be considered.

Detailed methodology and results can be found in Appendix B. The health analysis confirmed:

- Many behavioral health regions are doing well compared with state and national averages for several of the health indicators analyzed.
- Rates of pedestrian mortality, obesity and being overweight, breast cancer, diabetes, coronary heart disease, depression, and unintentional injury are particularly high in certain regions of the state. This is a sign of adverse health outcomes in these regions.
- Alaskan Native populations may be more affected by adverse health outcomes compared to the general population.

Table 2 above summarizes the health indicators (diseases) for each region that have prevalence rates above the state average for all Alaskans. The ASATP presents a unique opportunity to support the

¹¹ University of Wisconsin Population Health Institute. (2017). County Health Rankings: Our Approach. Retrieved from <http://www.countyhealthrankings.org/our-approach>.



achievement of improved physical, mental, and social health across the state, through increased access and opportunities for walking and bicycling. Active transportation investments are a cost-effective method to reduce the prevalence of each of these highly preventable risk factors and health concerns and help meet HA2020 goals.

5.3 Transportation Equity Considerations

Transportation Needs and Equity

5.3.1 Access to affordable and reliable transportation is essential to support addressing poverty, unemployment, and other equal opportunity goals such as access to good schools and health care services. This section considers state profiles and identifies potential barriers to transportation equity, including to what extent people, jobs, and destinations are served by active transportation facilities and what the barriers are to their use. It further considers how active transportation can be provided in Alaska, considering the context of particular areas and routes to meet community needs.

5.3.2 Understanding Transportation Needs

Alaska exhibits a diverse mix of transportation habits and needs, and the patterns of active transportation use vary widely across the state. Many people in the state use walking and bicycling as their main mode of transportation, particularly in rural Alaska, and others prefer a choice to walk or bicycle as part of their daily lives. Levels of active transportation use vary across the state. Some areas have a high walking and bicycling commuter mode share, whereas others have minimal levels of walking and bicycling.

When considering different transportation needs, factors such as geography, climate, land use patterns, cultural norms, income, affordability, and physical ability can have a dramatic impact. Trip purpose, underlying health status, or demographics can further impact the needs surrounding active transportation trips. Understanding these factors can provide insight as to who may be walking and bicycling, why, and what kind of transportation improvements are most likely to improve their experience.

There are many factors that contribute to an individual's transportation needs, habits, and choices, and the factors addressed in the following sections are primary

considerations that may impact transportation patterns. While each element has its own set of considerations, it is important to understand the impact of combining one element with the others listed here. For instance, a utilitarian trip may be different for someone with moderate experience in an urbanized area, as compared to a highly skilled user in a rural area.

Geographic Context

Geographic context, both in terms of climate and land use patterns, can significantly impact the nature of an active transportation trip. Two broad categories are considered here.



Urban/Suburban: Communities with an urban or suburban context typically have higher population densities and higher density development and are often associated with greater potential demand for walking and bicycling facilities. In these communities, facilities can serve a wide range of trip purposes and experience levels. Typical recommendations could include improved crossing conditions, enhanced wayfinding systems, and increased connections between facilities that provide opportunities for travel separated from motor vehicles.



Rural/Smaller Communities: These communities typically have lower relative population densities, although many areas are supported by a compact center of development surrounded by low-density areas. Existing commute mode-share data demonstrates higher walking rates in rural regions of the state, in part due to rural villages being more compact. This compactness is driven by the need to increase density to limit utility infrastructure costs related



to transportation, water, sewer, electricity, and communication. Also, many rural villages have limited infrastructure, and often do not have widespread access to motor vehicles except for ATVs and snow machines, and the costs of gasoline are significantly higher than in urban centers. This results in walking and bicycling being the preferred transportation choice for short trips.

Trip Purpose

The purpose of a specific trip is also a determinant in the transportation mode selected:



Utilitarian/Necessity Trips: Characterized as trips that are purely for transportation purposes, such as commute or errands. Utilitarian trips can occur at all hours of the day and in all weather conditions. These trips can be made of choice, such as someone who owns a car but opts to travel by non-motorized modes, or out of necessity, because another mode is not available. Research has highlighted, however, that there are correlations between lower levels of vehicle ownership, higher rates of poverty, and lower educational attainment and areas that lack quality active transportation facilities.



Recreational/Sporting: Recreational trips for both walking and bicycling are general trips made for fun, fitness, or social connection. These trips may be to a destination, such as a park or other activity center, or they may be a trip made purely for the pleasure of walking or bicycling.

Experience and Ability

A person's experience level and ability will also determine the transportation mode selected. Users typically fall into two groups:



Lower Experience Level or Limited Ability: Improved facilities can greatly increase opportunities for walking and bicycling, particularly for people who are interested in traveling using active modes but are concerned about the safety, comfort, convenience, or existing routes. Accessible active transportation facilities are necessary to provide comfortable, safer mobility options for people with less experience or limited abilities, and these should be provided on every facility. Curb ramps, wide sidewalks, and clear pathways with no obstructions are necessary to provide safer, more accessible, and connected pathways for all users.



Medium to Higher Experience Level or Able-Bodied Individuals: Users who confidently use non-motorized modes, often regardless of weather conditions or the presence of facilities, are included in this category. These users are less concerned with exposure to motor vehicles or disconnected facilities, but they still benefit from the comfort and safety provided by a high-quality facility.



5.3.3 Environmental Justice (EJ) Populations

In addition to the factors discussed above, socio-economic and demographic factors can influence an individual’s transportation patterns and needs. Research has highlighted that certain populations may rely more on walking and bicycling as primary modes of transportation, while also experiencing limited access to quality facilities. The following indicators were identified and considered as part of the ASATP as they are frequently associated with disadvantaged or vulnerable populations, who are more likely to experience decreased transportation access:

- 

Race: This indicator measures the percentage of the population that identifies as non-white. Within Alaska, this provides insight into areas with a higher proportion of Alaska Native populations.
- 

Age: Individuals under the age of 18 and over the age of 65 comprise this indicator. Each of these population groups is considered separately to better identify the different needs of these populations.
- 

Income: This indicator measures individuals of working age living at or below 200 percent of the federal poverty level, which is a threshold set by the U.S. Census Bureau and is updated annually.
- 

Educational Attainment: This indicator represents the percentage of the population over 25 years of age that does not have a high school diploma or equivalent.
- 

Access to a Motor Vehicle: This indicator represents the percentage of the population without access to a motor vehicle. This specifically relates to the availability of passenger cars, trucks, and vans but does not consider the availability of ATVs and snow machines, which are important transportation modes in rural parts of Alaska.

This analysis considers both the distribution and concentration of EJ populations at the census tract level across Alaska, using American Community Survey 2014 five-year estimates. The composite analysis, shown in Figure 11, represents a combination of these factors. Maps depicting each indicator are included in Appendix C.

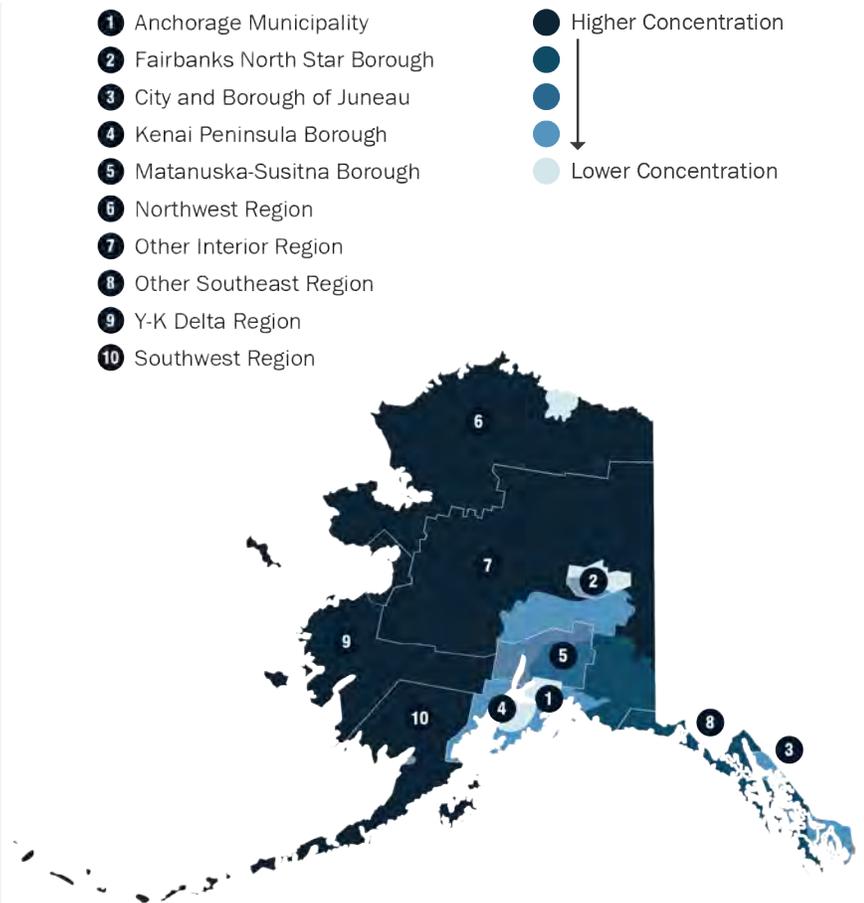


Figure 11: Composite Equity Score by Census Tract



In general, the northern and western parts of the state, including the Southwest Region, Northwest Region, Yukon-Kuskokwim Delta Region and other Interior Regions experience higher concentrations of EJ populations. These regions have lower levels of motor vehicle access, lower educational attainment, higher proportions of youth under 18 years of age, and lower income levels when compared to the rest of Alaska. These populations are more likely to rely on walking and bicycling to meet daily needs, including traveling to work or school, accessing food, or attending medical appointments. The provision of active transportation infrastructure is important in rural Alaskan hub communities and villages for these reasons.

5.4 Environmental Considerations

Alaska is renowned for its diverse terrain of open spaces, mountains, forests, and abundant wildlife. The largest population centers are concentrated around Anchorage and the Matanuska-Susitna Borough in Southcentral Alaska. Other large cities include Fairbanks North Star Borough and Juneau, and the remainder of the population is dispersed across the state in smaller cities, towns, and villages, many of which are not directly accessible by road. Preserving and enhancing Alaska's natural and built environment and unique way of life is important to the state's citizens and for maintaining a high quality of life for future generations. Alaska's environmental resources are diverse and varied, ranging from National and State Parks and other recreational resources to fish and wildlife, cultural and historic resources and properties, air and water quality, soils and vegetation, and many others.

Active transportation is a key part of the transportation system in Alaska and is important to support access to and the preservation and enhancement of the environment. Of the environmental resources present in Alaska, air quality has the highest potential

for improvement through investment in active transportation facilities and programs. Air quality can be negatively impacted by transportation-related sources, including vehicle exhaust emissions, road dust, fuel, and other emissions. Often, these emissions are proportional to the vehicle miles of travel (VMT). Anecdotally, total pollutant emissions can be decreased through shifting from auto to active transportation modes.

Dust is a particular issue in rural Alaska, and a 2010 state survey highlighted more than 50 Alaska communities where residents were “highly affected by dust”. Effects include eye irritation, asthma, coughing, bronchitis, emphysema, and chest tightening.¹² The DOT&PF has tried numerous techniques to address the dust impacts across rural Alaska, including paving roads, spreading recycled motor oil, salt compounds, synthetic fluids, and water to suppress dust, but many of these solutions are costly and environmentally damaging. The most cost-effective solution to date has been slowing the speed of motorized traffic to avoid dust disturbance, but this has been difficult to enforce and increases travel time.¹³

The Clean Air Act (CAA) and its amendments directed the Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) for each of six criteria pollutants to protect the public from the health hazards associated with air pollution. In Alaska, a portion of Fairbanks and North Pole is designated as a Carbon Monoxide Maintenance Area and a larger portion has been designated as PM2.5 non-attainment area. A large portion of Anchorage is also designated as a Carbon Monoxide Maintenance area. A maintenance area is one that has been previously designated as a non-attainment area and is required to develop a maintenance plan. These areas of the state, which also coincide with the largest centers of population density, are the focus of efforts to reduce air pollution.

¹² Demer, L. (2017). *Dust busting: Bush Alaska clouds with choking dust, and residents want to do something about it.* Anchorage Daily News. Retrieved from <https://www.adn.com/alaska-news/rural-alaska/2017/08/13/dust-busting-bush-alaska-laska-clouds-with-choking-dust-and-residents-want-to-do-something-about-it/>.

¹³ Succarieh, M. (1992). *Control of dust emissions from unpaved roads.* Transportation Research Center, Institute of Northern Engineering, University of Alaska Fairbanks. Retrieved from http://tundra.ine.uaf.edu/wp-content/uploads/2011/02/INE_TRC_QRP_92_05.pdf.



Alaska's LRTP, *Let's Get Moving 2036*, identifies a key measure of livability and environmental sustainability is air quality. As of May 2018, FHWA has repealed the performance management measure relating to greenhouse gases (GHG), which has removed the requirement to establish targets and report progress toward achieving targets for GHG emissions.¹⁴

Notwithstanding this, active transportation facilities and infrastructure can support a modal shift, which will help improve Alaska's air quality and GHG emissions and contribute to reducing reliance on fossil fuels.

5.5 Economic Benefits of Active Transportation

There is increasing recognition of the benefits of walking and bicycling including improved community access and connectivity, reduced dependence on fossil fuels, reduced vehicle emissions, and active, healthier communities. Accounting for these benefits is often less tangible and more qualitative. To make the case for investing in active transportation infrastructure, communities increasingly seek methods to quantify these benefits.

Often the most convincing case is made by quantifying the economic value of benefits associated with active transportation investments. Specifically, benefits include those associated with health, transportation, and environmental costs. With this data, transportation policy makers and planners can integrate cost-benefit analyses in the decision-making process, which can generate more informed discussion regarding the cost-effectiveness of transportation investments. Further, this analysis can allow communities to be more competitive for grant funding and may lead to new partnerships and initiatives.

As part of the ASATP, the potential economic benefits associated with increased walking and bicycling were evaluated. Details regarding the methods and research supporting this assessment can be found in Appendix D. In general, this process involved:

- Establishing current levels of walking and bicycling activity
- Identifying future goals for walking and bicycling activity considering both current activity levels and the goal areas of this plan

- Calculating the anticipated economic benefits associated with increased walking and bicycling activity levels, including assumed reduction in motor vehicle trips.

The results, which are presented below, can be quantified for each mode at a regional level and are summed to provide an overall anticipated value for the state.

5.5.1 Data Sources and Methods

The analysis was completed using the Behavioral Health Regions (see Figure 10) to provide a more refined, geographically appropriate, and usable scale for goal setting and benefits estimation.

Existing activity levels were developed based on journey to work data available from the U.S. Census Bureau's American Community Survey (ACS). This data provides a comprehensive view of the state and establishes a baseline commute mode share measure. Various multipliers derived from the National Household Travel Survey and National Center for Safe Routes to School data were then applied to account for school and college trips, utilitarian trips, social/recreational trips, and other non-commute trips. Table 3 presents the existing walking and bicycling commute mode shares for each region.

Goals for future activity were then established based on existing activity level, previous planning efforts, and unique characteristics of each region, such as geography and demographics. Within each region, localized goals may be higher or lower; however, the region-wide goals create an aggregate measure.

In general, goals were set at twice the existing rate for bicycling. Walking rates were set to be twice the existing rate for more densely populated regions while less populated regions (which have significantly higher existing walk mode shares) were assigned goals at approximately 1.25 times the existing rate. At the statewide level, a bicycle commute mode share goal of two percent and a walk commute mode share goal of 13.4 percent would achieve the same overall benefits as derived by the individual regions.

¹⁴ FHWA. (2018). *GHG Final Rule Signed*. Retrieved from <https://www.fhwa.dot.gov/tpm/rule.cfm>.



Regional Walking and Bicycling Commute Mode Share Goals		Walking		Bicycling	
		Existing	Goal	Existing	Goal
1	Anchorage Municipality	3.0%	6.0%	1.2%	2.4%
2	Fairbanks North Star Borough	3.6%	7.2%	1.3%	2.6%
3	City & Borough of Juneau	5.8%	11.6%	1.3%	2.6%
4	Kenai Peninsula Borough	5.9%	11.8%	0.5%	1.0%
5	Matanuska-Susitna Borough	1.9%	3.8%	0.2%	0.4%
6	Northwest	39.6%	49.5%	0.4%	0.8%
7	Other Interior	20.2%	25.2%	0.3%	0.6%
8	Other Southeast	16.4%	20.5%	2.2%	4.4%
9	Yukon-Kuskokwim Delta	36.7%	45.9%	0.4%	0.8%
10	Southwest	29.6%	37.0%	0.5%	1.0%

Table 3: Regional Walking and Bicycling Commute Mode Shares and Mode Share Goals

5.5.2 Economic Benefits of Active Transportation

Health benefits are generated by reduced health care costs because of people meeting recommended physical activity levels due to increased walking and bicycling. While not directly quantified here, health benefits also include improved mental health, improved academic performance, strengthened connection to nature, and cultivation of a sense of place.

Transportation benefits are associated with the cost savings resulting from reduced congestion, reduced road maintenance, vehicle crashes avoided, and household vehicle operation cost savings. These metrics are relative to the reduction in VMT and assume people will select the most sensible, convenient, and safe option for daily trips.

One of the most direct environmental benefits of walking and bicycling is these transportation modes do not produce air pollutant emissions. The cost savings reflected here consider the cost required to mitigate air pollution or the cost equivalent of the damage caused by a pollutant to the environment. If all ten regions attained their respective walk and bike mode share goals, health, transportation, and environmental benefits as set out in Table 4 could be captured.

	Walking	Biking
Health Benefits		
Additional Statewide Trips	93 M	13.9 M
Additional Miles Travelled	+28.7 M	+18.8 M
Physical Activity (increase in residents meeting recommended PA levels annually)	+10%	+2%
Annual Healthcare Cost Savings	\$3.25 M	\$655,000
Transportation Benefits		
Vehicle Miles Travelled (VMT) Reduction	25.8 M	12.2 M
Traffic Congestion Cost Reduction	\$1.8 M	\$857,000
Vehicle Collision Cost Reduction	\$12.8 M	\$6.1 M
Road Maintenance Costs Reduced	\$3.9 M	\$1.8 M
Household Vehicle Operation Cost Savings	\$14.7 M	\$7 M
Environmental Benefits		
Carbon Dioxide Emissions Reduced (lbs)	21 M	10 M
Other Emissions Reduced (lbs)	835,000	400,000
Total Emissions Cost Reduction	\$862,000	\$410,000
Total Combined Benefits	\$37.35 M	\$16.9 M
	M = Million	
	\$54.25 M	

Table 4: Potential Economic Benefits of Walking and Biking



5.5.3 Aggregate Economic Benefits

The total economic benefits associated with increased walking are estimated to be approximately \$37 million per year, while increased bicycling would derive an estimated \$17 million in economic benefits annually. These totals are considered conservative estimates, because they primarily account for the direct benefits that can be quantified in monetary terms. These

totals also do not fully account for localized aggregate health, transportation, and environmental impacts of complete walking and bicycling networks. This implies that statewide walking and bicycling economic benefits, when fully accounted for, may well exceed the sum of the individual regional and local benefits presented in Tables 5 and 6.

Table 5: Total Regional and Statewide Economic Benefits of Increased Walking

Region		 Health Benefits	 Transportation Benefits	 Environmental Benefits	 Total Benefits
1	Anchorage Municipality	\$963,000	\$10,122,000	\$262,000	\$10,347,000
2	Fairbanks North Star Borough	\$378,000	\$3,805,000	\$99,000	\$4,282,000
3	City & Borough of Juneau	\$164,000	\$1,980,000	\$52,000	\$2,196,000
4	Kenai Peninsula Borough	\$239,000	\$2,725,000	\$70,000	\$3,034,000
5	Matanuska-Susitna Borough	\$164,000	\$1,652,000	\$43,000	\$1,859,000
6	Northwest	\$337,000	\$2,431,000	\$63,000	\$2,831,000
7	Other Interior	\$164,000	\$1,798,000	\$47,000	\$2,009,000
8	Other Southeast	\$249,000	\$2,947,000	\$76,000	\$3,272,000
9	Yukon-Kuskokwim Delta	\$220,000	\$1,456,000	\$37,000	\$1,713,000
10	Southwest	\$370,000	\$4,324,000	\$113,000	\$4,807,000
Annual Additional Statewide Benefits		\$3,248,000	\$33,240,000	\$862,000	\$37,350,000

Table 6: Total Regional and Statewide Economic Benefits of Bicycling

Region		 Health Benefits	 Transportation Benefits	 Environmental Benefits	 Total Benefits
1	Anchorage Municipality	\$345,000	\$8,944,000	\$232,000	\$9,521,000
2	Fairbanks North Star Borough	\$122,000	\$2,965,000	\$77,000	\$2,164,000
3	City & Borough of Juneau	\$36,000	\$968,000	\$25,000	\$1,029,000
4	Kenai Peninsula Borough	\$24,000	\$535,000	\$14,000	\$573,000
5	Matanuska-Susitna Borough	\$21,000	\$280,000	\$8,000	\$309,000
6	Northwest	\$9,000	\$75,000	\$2,000	\$86,000
7	Other Interior	\$8,000	\$101,000	\$2,000	\$111,000
8	Other Southeast	\$69,000	\$1,642,000	\$42,000	\$1,753,000
9	Yukon-Kuskokwim Delta	\$6,000	\$52,000	\$2,000	\$60,000
10	Southwest	\$15,000	\$232,000	\$6,000	\$253,000
Annual Additional Statewide Benefits		\$655,000	\$15,794,000	\$410,000	\$16,859,000



6 Providing for Walking and Bicycling in the Future

This section considers the active transportation network and existing programs and strategies and outlines changes and improvements that can be made over the next 20 years to achieve the ASATP's vision for people in Alaska to enjoy equitable, accessible, safer walking and bicycling opportunities as an integral part of daily life.

An analysis of funding sources to support and enable investment in walking and bicycling facilities and programs was also carried out, considering federal, state, tribal, and other funding sources that can be applied to walking and bicycling projects in Alaska. Notwithstanding the broad range of funding sources available, there are still more projects needed or desired than funds available. An investment decision framework is recommended to consider the effective allocation of scarce funding to projects and programs in a way that will deliver the most benefits and achieve the vision, goal areas, and objectives of the ASATP.

6.1 Providing the Active Transportation Network

This section summarizes standards, policies and guidance that support provision of transportation facilities. Many facilities in Alaska are designed as “non-motorized” facilities or are addressed through “non-motorized plans”, which means pedestrians and bicyclists are often considered as a single user group. The approach recognizes that both travel modes propel themselves without the use of a motor, but care is needed to ensure that appropriate facilities are provided for each user group and the risk of conflicts between walkers and bicyclists is minimized.

6.1.1 National Standards for Non-Motorized Transportation Facilities

Highway Capacity Manual (HCM)

The HCM is the leading national document for the evaluation, planning, design, and operation of transportation facilities, including the multimodal operation of streets, highways, freeways, and off-street pathways. The sixth edition of the HCM has evolved in

response to the shifting focus in surface transportation from designing and constructing the Interstate highway system to managing a complex transportation system serving a variety of users and travel modes. The previous update to the HCM in 2010 significantly elevated the status of active transportation modes by integrating their analysis into several chapters and by adopting a user-perception-based level of service model to understand how safe and comfortable bicyclists felt operating in the roadway environment. This was a shift from the previous approach of capacity for pedestrian and bicycle and pedestrian facilities. The sixth addition of the HCM further elevates multimodal travel by considering:

- **Quantity of travel:** the magnitude of use of a transportation facility or service
- **Quality of travel:** users' perceptions of travel on a transportation facility or service with respect to their expectations
- **Accessibility:** the ease with which travelers can engage in desired activities
- **Capacity:** the ability of a transportation facility of service to meet the quantity of travel demanded of it.

Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD)

The MUTCD defines the standards used by road managers to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads that are open to travel by the public. It is published by FHWA and is a compilation of national standards for all traffic control devices, including road markings, highway signs, and traffic signals. It is updated periodically to accommodate changing transportation needs and address new safety technologies, traffic control tools and traffic management techniques. The MUTCD provides standards for signage and striping for on-road and off-road bicycle facilities.



6.1.2 Other Standards Applied in Alaska

Alaska Traffic Manual

The Alaska Traffic Manual (ATM) is the standard for traffic control devices on public roads in Alaska. It consists of the MUTCD and the Alaska Traffic Manual Supplement (ATMS). It references the Alaska Sign Design Specifications (ASDS), which is the sign layout for Alaska public roads.

AASHTO Guide for the Development of Bicycle Facilities

AASHTO produced bicycle design guidance through the Guide for the Development of Bicycle Facilities (4th edition, 2012), which includes shared use path design criteria, wayfinding recommendations, and enhanced integration of bicycling with transit. The Guide is applied as a standard in Alaska through Section 1210 of the HPM.

Americans With Disabilities Act Accessibility Guidelines (ADAAG)

The Americans With Disabilities Act Accessibility Guidelines (ADAAG) contains technical requirements for accessibility to buildings and facilities (including surface transportation facilities) for people with disabilities under the Americans with Disabilities Act (ADA) of 1990. The ADAAG 2206/2010 are standards for non-motorized facilities in Alaska, as adopted by the United States Department of Transportation.

6.1.3 Other National Guidance for Active Transportation Facilities

Complete Streets

Complete Streets is a policy and engineering approach based on the idea that streets should be consistently designed with all users in mind, regardless of who they are or how they get around. It seeks to place the safety and convenience of all users of the ROW on equal footing, whether they are walking, biking, using a wheelchair, using transit, or driving an automobile. Several jurisdictions in Alaska have formally adopted Complete Streets policies, including Anchorage, Fairbanks, Juneau and Bethel. The USDOT is supportive of Complete Streets policies at a state, regional, and local level. Smart Growth America and the National Complete Streets coalition provides extensive resources for agencies seeking to implement Complete Streets in their communities.

Vision Zero

Vision Zero is a multi-national road traffic safety project that aims to achieve a highway system with no fatalities or serious injuries. Many cities across the U.S. have adopted Vision Zero initiatives, including Anchorage. The DOT&PF adopted Vision Zero as “Target Zero” in 2007 as part of its SHSP.

Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG)

PROWAG was proposed by the Architectural and Transportation Barriers Compliance Board to provide accessibility guidelines for the design, construction, and alteration of pedestrian facilities in the public ROW. The guidelines provide an additional resource to the DOT&PF for designing ADA compliant facilities.

USDOT and FHWA Small Town and Rural Multimodal Design Guide

The Small Town and Rural Multimodal Networks Design Guide (STAR Guide) was produced in 2016 as a resource considering the application of national design guidelines in rural settings and small towns for active travel. It provides information on maintaining accessibility and MUTCD compliance and seeks to encourage innovation. The STAR Guide recognizes that active transportation is more common in rural areas than in urban areas, but infrastructure to support active transportation is often limited or absent. It seeks to provide ideas that can be incorporated in rural locations to enhance facilities for active transportation.

FHWA Guidance

FHWA has produced several guidance documents that support incorporation of active transportation facilities into the surface transportation network. Useful guidance includes:

- ***Incorporating On-Road Bicycle Networks Into Resurfacing Projects Guide (2015)***: This guide provides recommendations on how roadway agencies can integrate bicycle facilities into their resurfacing programs. It provides methods for fitting bicycle facilities onto existing roadways, cost considerations and case studies and highlights existing guidance and best practices for providing bikeways during resurfacing projects.
- ***Achieving Multimodal Networks: Applying Design Flexibility and Reducing Conflicts (2016)***: This guide highlights how design flexibility can be



designed to address common roadway design challenges and barriers, with a focus on reducing multimodal conflicts and achieving connected walking and bicycling networks.

- **Separated Bike Lane Planning and Design Guide (2016):** This guide has been developed to provide an overview of the process and approaches for incorporating separated bike lanes into transportation facilities.
- **Bikeway Selection Guide (2019):** This guide is a resource to support the selection of bikeway types. It highlights the linkages between the bikeway selection process and the transportation planning process.

Other AASHTO Guidance

As well as the Guide for the Development of Bicycle Facilities referenced in section 6.1.2, AASHTO has produced other useful guidance including:

- **A Guide for Achieving Flexibility in Highway Design (2004):** This guide is intended to promote the incorporation of sensitive community and environmental issues into the design of highway facilities.
- **Guide for the Planning, Design and Operation of Pedestrian Facilities (2004):** The guide focuses on identifying effective measures for accommodating pedestrians on public ROWs, and to recognize the effect that land use planning and site design have on pedestrian mobility.
- **A Policy on Geometric Design of Highways and Streets (2011, 2018):** The manual is commonly referred to as the “Green Book” and is a comprehensive reference manual for roadway design for new construction projects and designing reconstruction projects.
- **Guidelines for Geometric Design of Low-Volume Roads (2001, 2019):** The guidelines have been developed to provide specific guidance to low-traffic volume facilities.

NACTO Guidance

The National Association of City Transportation Officials (NACTO) has produced several design guidance

documents for active transportation, including the *Urban Street Design Guide*, *Urban Bikeway Design Guide*, *Global Street Design Guide*, *Transit Street Design Guide* and *Bike Share Station Siting Guide*. Elements of these Design Guides are helpful for designing and siting facilities.

ITE Guidance

The Institute of Transportation Engineering (ITE) produced the *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach* (2010), which provides guidance for practitioners to design major urban streets to support walkable and bikeable communities.

6.1.4 Facilities for Bicycles

The following factors should be considered when designing bicycle facilities:

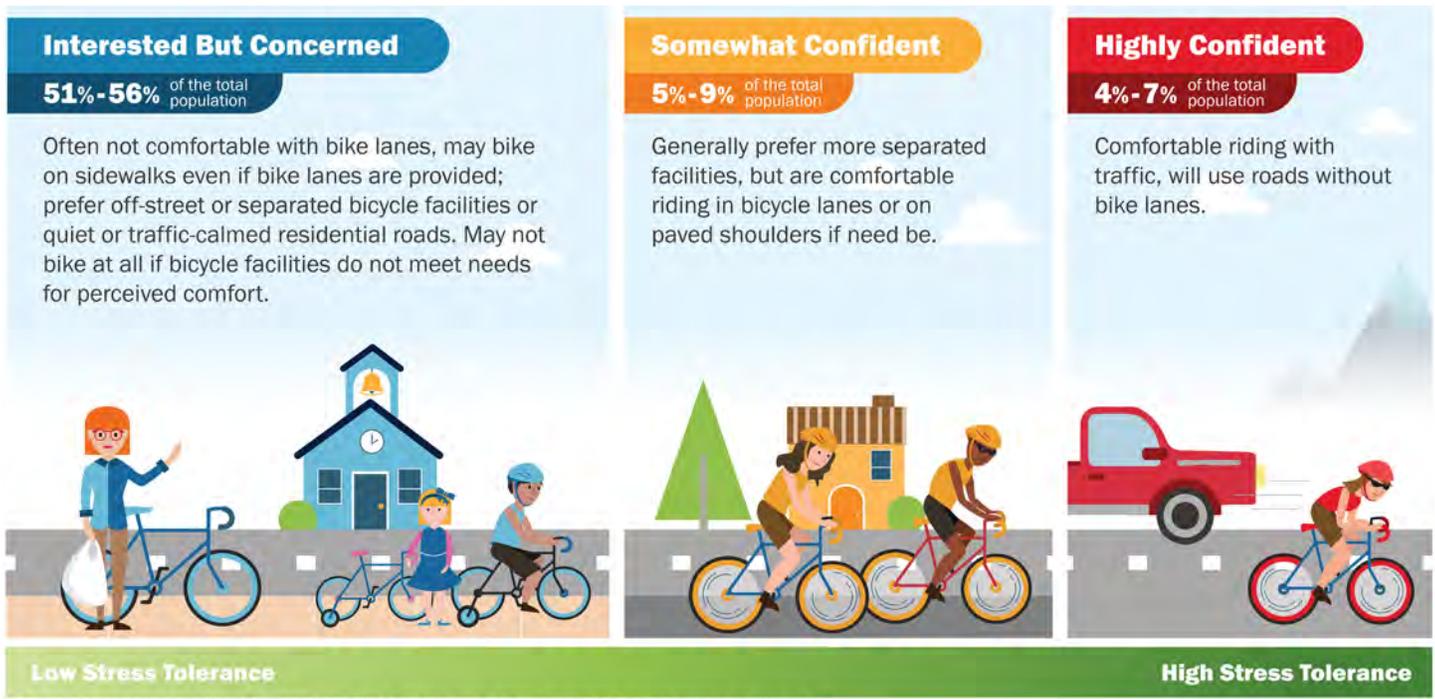
- The travel-related characteristics of the bicyclist
- Design guidelines and standards established for different facility types
- Ensure transition areas where facilities begin and end consider safety for both bicyclists and motorists
- Provide appropriate operating space, address existing spot hazards and ongoing maintenance of the facility.¹⁵

The FHWA’s *Bikeway Selection Guide* (2019)¹⁶ notes that understanding the characteristics of different types of bicyclists helps inform facility selection. Characteristics commonly used to classify bicycle facility users include comfort level, bicycling skill and experience, age, and trip purpose. The guide notes however that people may not fit into a single user profile, and a bicyclist’s profile may change in a single day. An example given is a bicyclist who is comfortable within a bicycle lane when traveling alone may prefer to bicycle on a quiet residential street or shared use path when traveling with children. In addition to other factors, people who bicycle are influenced by their level of comfort riding in close proximity to motor vehicle traffic. Many people are interested in bicycling for transportation but are uncomfortable with the potential for stressful interactions with motor vehicles, which dissuades them from bicycling.

¹⁵ Meyer, M. (ed.). (2016). (4th ed.). *Transportation planning handbook*. Institute of Transportation Engineers. John Wiley and Sons, Inc.

¹⁶ FHWA (2019). *Bikeway Selection Guide*. https://safety.fhwa.dot.gov/ped_bike/tools_solve/docs/fhwasa18077.pdf Accessed 6/5/19.





*Note: The percentages above reflect only adults who have stated an interest in bicycling.

Figure 12: Bicycle Network User Typology

This approach replaces earlier approaches that considered the skill level of bicycle users in designing facilities. The three types of users are highlighted in Figure 12, and described below.¹⁷

- **Highly Confident Bicyclist:** Highly Confident Bicyclists are the smallest group identified by research. While some of these individuals bicycle less frequently, when they do, they prefer direct routes and do not avoid operating in mixed traffic, even on roadways with higher motor vehicle operating speeds and volumes. Many also enjoy bikeways separated from traffic, but they may avoid bikeways which they perceive to be less safe or too crowded with pedestrians or other slower moving bicyclists, or which require deviation from their preferred route.
- **Somewhat Confident Bicyclist:** Somewhat Confident Bicyclists, also known as Enthused and Confident Bicyclists, are the next-smallest group. They are comfortable on most types of bicycle facilities. They have a lower tolerance for traffic stress than the Highly Confident Bicyclist and generally prefer low-volume residential streets and striped or separated bike lanes on major streets,

but they are willing to tolerate higher levels of traffic stress for short distances to complete trips to destinations or to avoid out-of-direction travel.

- **Interested but Concerned Bicyclist:** Interested but Concerned Bicyclists are the largest group identified by the research and have the lowest tolerance for traffic stress. Those who fit into this group tend to avoid bicycling except where they have access to networks of separated bikeways or very low-volume streets with safe roadway crossings. To maximize the potential for bicycling as a viable transportation option, it is important to design bicycle facilities to meet the needs of Interested but Concerned Bicyclist category. This is generally the recommended user profile as the resulting bikeway network will serve bicyclists of all ages and abilities, which includes Highly Confident and Somewhat Confident Bicyclists.

Technology creates disruption to traditional approaches to providing for pedestrians and bicyclists. A recent example is fat-tire bicycles, which emerged in Alaska approximately five to ten years ago and changed the landscape and patterns for recreational use and commuting on bicycles throughout Alaska. This included increasing the potential for an average bicyclist to

¹⁷ Ibid.



commute using their bicycle year-round. Advances in clothing and winter cycling gear make the prospect of winter commuting and recreational cycling more common and open to a variety of users who hone their skills in the summer and winter. The emerging presence of e-bicycles (typically defined as bicycles with power-assisted mechanisms up to 750 watts, maximum self-propelled speed of 20 miles per hour and operable pedals) as well as electronically powered scooters is making active transportation modes available to more users and for more purposes. E-bicycle users may be more comfortable with hillier terrain, riding longer distances, and riding in travel lanes as opposed to on trails and sidewalks. E-bikes and electric scooters also make it possible for people regaining fitness or recovering from injury to enjoy non-motorized transportation modes. E-bicycles may ride on roadways, paths and sidewalks in Alaska unless it is specifically posted to exclude bicycles.

Coupled with changing technologies is changes in the way that people access non-motorized transportation, such as bicycle share programs. There are bicycle share programs already in operation during the summer months in Alaska, which use mobile application-based technology to enable people to rent bicycles for use within urban centers. Several larger bicycle share companies are also diversifying into e-bikes and scooters, and there is the potential for these schemes to expand their fleet to include non-motorized transportation year-round in winter climates.

Many of Alaska's non-motorized and active transportation plans provide guidance on the types of facilities local communities are seeking as they establish and address gaps in the non-motorized network. DOT&PF will continue to support local efforts and partner with communities where appropriate to provide for bicycle facilities.

The provision of bicycle facilities on the road network provided by the State of Alaska has been dependent on national trends, availability of state funding, political direction and public demands. This means that many state-owned roadways constructed prior to 1990 (that are not yet modernized) include limited or no accommodations for pedestrians and bicyclists, and some more recently modernized roadways that were improved during a period of higher oil prices and ample state budgets include a very high level of provision. Since

the mid-1990s, there has been a requirement to provide accommodations for non-motorized transportation in all rehabilitation projects, unless specific approval is obtained to not provide accommodations.

The minimum accommodation on a rural highway that is being modernized (for example) is a paved shoulder with a fog line to enable pedestrians and bicyclists to use the ROW. Most of the road network that is maintained by DOT&PF is outside of urban centers. The facilities cater to users who are covering a longer travel distance and are generally more confident cyclists. A paved shoulder will generally be the most appropriate facility type for confident cyclists, and DOT&PF will continue to provide this standard for most state-owned roadway facilities.

Where DOT&PF maintain roads in urban areas (including the roadway network that is maintained and operated by DOT&PF in cities like Juneau, Anchorage, and Fairbanks), DOT&PF will work with the local communities to implement the recommendations of their non-motorized plans where appropriate, including the establishment of non-motorized networks articulated in these plans. This could include providing non-motorized facilities on state-owned roads to a standard specified in the plans or providing support for the establishment of the non-motorized network by facilitating connections or crossings where state-owned facilities may support connectivity or create barriers to establishing a continuous network for pedestrians and bicyclists. This also provides an opportunity to target designs for users who are Interested but Concerned and support the creation of a bicycle network for all ages and abilities.

6.1.5 Facilities for Pedestrians

A person's decision to walk is influenced by a range of factors, including the perceived quality of the experience, level of security, safety, and convenience.

Traditional pedestrian planning has focused on the physical characteristics of the pedestrian (e.g., walking speed, mobility assistance requirements) and of pedestrian movement. Figure 13 details the range of pedestrian types.¹⁸

More recent approaches to pedestrian planning have looked at a broader context considering not only what is needed to physically walk from one location to another but also how urban design and the interaction between

¹⁸ AAA. (n.d.). *Types of pedestrians*. Retrieved from <https://exchange.aaa.com/safety/pedestrian-safety/types-pedestrians/#.WzqFrarrvL8>.





Runners/Joggers

Runners/joggers are exposed to higher danger as they move faster than a typical pedestrian.



Mature Pedestrians

Mature pedestrians encompass a broad range of walkers, from people who walk for utility reasons to people who walk recreationally. The group exhibits a broad range of characteristics. Mature pedestrians are aware of the road environment and will generally walk in locations where it is safe and comfortable. Many mature pedestrians are able-bodied, and some have mobility limitations due to age and disability or may use mobility aids such as walkers, crutches, and wheelchairs. The use of mobility aids and disability (including physical, cognitive, visual, etc.) will impact the quality of facility needed by these pedestrians.



Children

Children are the least predictable pedestrians, and are smaller and less aware of the characteristics of road environments. Young children require additional training and consideration in route selection and design. Adult supervision is not required for SRTS but it may be noted as "desirable" in the absence of training and preparation.

Figure 13: Pedestrian Typology¹⁹

the road network structure and land use patterns enhance or degrade that experience.

It is preferable and good practice to provide some type of walking facility separate from the traveled roadway. A dedicated pedestrian facility is frequently the best option, but a roadway shoulder will also provide safer pedestrian accommodation than walking in the travel lane. Direct and convenient pedestrian connections should be provided between residences and areas where activity is centered. Residential streets tend to have lower traffic numbers and are more able to accommodate pedestrians in the traveled roadway, but streets classified as collector roads and higher accommodate a larger number of vehicles and have a greater need for a dedicated pedestrian facility. Sidewalks are particularly important for people who use transit, as they provide vital connections to transit

facilities and centers of activity. Collector and arterial streets near schools should provide sidewalks to increase school trip safety. The provision of sidewalks should always occur in a manner that considers accessibility and the nearby facilities that require access. Pedestrian improvements should be compatible with the characteristics of the area. Most transportation planning organizations in urban areas in Alaska have non-motorized transportation plans and land use codes that set out minimum standards for pedestrian facilities. DOT&PF will support these organizations as they implement their plans and focus on the provision of pedestrian facilities on state-administered roads.

Where logical and in accordance with roadway characteristics in urban areas, DOT&PF will provide pedestrian facilities in accordance with local non-motorized transportation plans and land use codes, as

¹⁹ AAA. (n.d.). *Types of pedestrians*. Retrieved from <https://exchange.aaa.com/safety/pedestrian-safety/types-pedestrians/#.WzqFrarrvL8>.



appropriate. DOT&PF will also implement a State ADA Transition Plan and support other organizations in the implementation of their ADA Transition Plans.

In rural areas, a minimum 4-foot-wide paved shoulder is generally included to provide space for pedestrians to walk, and this is a shared space with bicycles. There are many communities in rural Alaska that face unique challenges with the transportation network due to the lack of availability of gravel and other building materials to construct a traditional road and trail network. These communities rely on “boardroads”, or narrow roadways that are built using timber laid over tundra or permafrost soils or perhaps supported on piling. Boardroads have traditionally accommodated pedestrians, but increasingly these are being used by ATVs of varying sizes, and snow machines. Use of board roads by ATVs and snow machines is creating conflicts with non-motorized users and generating maintenance concerns due to the heavier weights of the vehicles and higher levels of wear and tear. Many boardroad facilities are constructed and maintained by local communities. They provide the main transportation route through the community and sometimes connect with the state-maintained roadway. DOT&PF sometimes constructs boardroads and other trails that are informally used by ATVs and snow machines. Consideration is needed to ensure conflicts are minimized and safer accommodations are provided for non-motorized users where ATV/snow machine use is present.

Dust is also a significant concern in many rural communities, as it limits visibility and can limit people’s ability to walk and ride bicycles. Dust can also potentially generate negative health impacts, including increasing the risk of respiratory illness. DOT&PF is

implementing ongoing dust mitigation efforts in rural communities.

6.1.6 Facility Maintenance

Active transportation facility maintenance is an important aspect of creating adequate and comfortable facilities. A crumbling sidewalk or shoulder is not only an eyesore, but it is also a hazard for pedestrians and bicyclists and can limit accessibility for a range of users, including those with limited mobility. The Transportation Planning Handbook recommends that where maintenance of sidewalks and non-motorized facilities is the responsibility of the local jurisdiction or the state, a periodic inspection schedule should be adopted, and a general maintenance budget should be allocated for use on an annual basis.

In Alaska, snow removal/compaction is an important maintenance issue during the winter months. Non-motorized facilities are frequently used for temporary or permanent snow storage, reducing the space available for users and sometimes resulting in the facility not being available for use for several days or even an entire season after a snow event. Snow storage should be considered in facility design to provide adequate space for storage and make it as easy as possible to plow/sweep facilities as part of general roadway maintenance while maintaining access for non-motorized users. Placing non-motorized facilities close to a driving surface and removing obstructions to enable the surface to be maintained from the roadway allows for the efficient maintenance of active transportation facilities in areas of the state where specialized trail and sidewalk blowers and plows are not available. In addition, transit stops require particular care to ensure they are kept clear of snow and are not used for snow storage, to enable them to be used year-round as intermodal connection points.



Photo 11: Pedestrians along Chief Eddie Hoffman Highway in Bethel, Alaska (April, 2017)



Photo 12: Active transportation shared street, Anchorage (May, 2019)



6.2 Programs and Strategies

Providing safer routes for people walking and bicycling requires a focus on both the design of roadways and adjacent facilities and on education and enforcement actions. The following section outlines new or existing program areas for DOT&PF to either lead or support. These program areas relate directly to the ASATP goal areas, including increasing safety for non-motorized road users, and encouraging walking, biking, and other non-motorized activity.

6.2.1 Programs – DOT&PF Lead

The following are programs that DOT&PF could lead to foster a greater understanding of the role of walking and bicycling in the transportation network and the provision of facilities for non-motorized modes.

Infrastructure Design Improvements – Crash Evaluation Program

Crash analysis can tell us not only where collisions have occurred, but also where they could potentially occur in the future. Just as snowy and slippery roads often lead to an increase in crashes during the winter months, certain roadway characteristics present greater risk to people walking and bicycling. For example, how does speeding affect crash frequency and severity? Is a person walking or bicycling at a greater risk when crossing more lanes of traffic?

A Crash Evaluation Program uses a systematic approach to identify locations and behaviors prone to pedestrian and bicycle crashes and enables an agency to implement multidisciplinary countermeasures ranging from infrastructure and operations, to education and enforcement measures. The DOT&PF already has a crash analysis program as part of its HSIP, which has led to the identification of problem areas and implementation of projects throughout the state.

Data Collection – Active Transportation Inventory Program

Data collection related to active transportation is essential to determine whether changes in mode share, safety, or crash risk are occurring. Evaluating and inventorying data collection needs on state-owned facilities will result in the creation of a robust data system that aids in improving and promoting walking and bicycling.

An Active Transportation Inventory Program can include both data collection of pedestrian counts and bicycle ridership counts over time, as well as an inventory of existing state facilities and assessment of gaps and deficiencies within the system.



Photo 13: Pedestrians at a pedestrian signal in Anchorage (October, 2017)

Non-Motorized Counts

The DOT&PF should adopt standards for non-motorized counts that are compatible with the national Travel Monitoring Analysis System (TMAS). The TMAS system serves as a repository for all automated motorized counts across the U.S. and augments the Highway Performance Management System (HPMS). Below are actions DOT&PF could take to move toward a more robust counts program:

- Develop a Statewide Count Program consistent with that described in the FHWA Traffic Monitoring Guide (2016) and supplemented in the Coding Non-Motorized Station Location Information in the 2016 Traffic Monitoring Guide Format FHWA-HEP-17-011.
- Develop training materials and modules that support local counting efforts.
- Develop and manage a count database, maintain training materials, and conduct annual count training for interested parties following the data collection standard and format of the TMAS system.
- Develop partnerships within the state to build on existing count programs while minimizing duplication of efforts.
- Coordinate with other state active transportation



coordinators to develop standard tools to analyze count data.

- Continue identifying new data collection technologies and opportunities (e.g, mobile applications such as Strava and personal fitness trackers) as their availability and thoroughness expands, to augment conventional pedestrian/ bicycle counts and other data gathering methods.

Active Transportation Facilities Inventory

An active transportation facilities inventory can be used to identify needs and deficiencies within the state-owned roadway system for active transportation infrastructure projects. A typical assessment would inventory all existing facilities, assess the quality of facilities in relation to current design standards, and identify gaps and deficiencies in the system.

A facilities inventory requires the development of an accurate methodology at the outset to ensure the ability to compare gaps and needs across regions. Determining certain information ahead of time, such as which facility types to inventory (*sidewalks, shared-use paths, on-street bicycle lanes, etc.*); nomenclature used to describe certain facilities (*i.e., “separated bicycle lanes” versus “protected bicycle lanes”*); and a standard hierarchy to assess the quality of facilities (e.g., non-existent versus meets requirements) will aid in future analysis over a wide area.

Internal DOT&PF Training – Staff Training

Offering technical training to agency staff will increase understanding of active transportation user needs, best practice design guidance, safety measures, and educational campaigns to promote active transportation safety. Active transportation-focused training could potentially build on training opportunities already offered to DOT&PF staff on roadway safety and design standards. Table 7 lists agencies and organizations that have published training materials directly or indirectly relating to active transportation. DOT&PF can use these resources as a starting point and adapt training curricula to address Alaska’s unique context.

Table 7: Staff Training Resources

Training/Active Transportation Guides by Organization
<p>FHWA</p> <ul style="list-style-type: none"> • Small Town and Rural Multimodal Networks Guide (2016) • Achieving Multimodal Networks: Applying Design Flexibility and Reducing Conflicts (2016) • Incorporating On-Road Bicycle Networks into Resurfacing Projects (2016) • Separated Bike Lane Planning and Design Guide (2015) • Manual on Uniform Traffic Control Devices (2009)
<p>AASHTO</p> <ul style="list-style-type: none"> • A Guide for Achieving Flexibility in Highway Design (2004) • Guide for the Development of Bicycle Facilities (2012) • Guide for the Planning, Design and Operation of Pedestrian Facilities (2004, 2017) • A Policy for Geometric Design of Highways and Streets “Green Book” (2018) • A Guide for Geometric Design of Low-Volume Roads (2019)
<p>National Association of City Transportation Officials</p> <ul style="list-style-type: none"> • Urban Street Design Guide (2013) • Urban Bikeway Design Guide (2014)
<p>Institute of Transportation Engineers</p> <ul style="list-style-type: none"> • Designing Walkable Urban Thoroughfares: A Context Sensitive Approach (2010)



6.2.2 Programs – DOT&PF Support

This section outlines programs to support and encourage walking and bicycling that could be led by other agencies with support from DOT&PF.

Active Transportation Educational Campaigns and Training

Active transportation marketing campaigns and training offer an opportunity to educate all roadway users on regulations and safety behaviors, and also to encourage greater participation in active transportation. DOT&PF is well positioned to support statewide and local agency efforts to educate residents and visitors through staff support, funding, and guidance. The Alaska SHSP further recommends strategies and actions to educate

roadway users, pedestrians, and bicyclists on the rules of the road and safety practices.

To support active transportation campaigns, DOT&PF could assist other agencies or organizations in the following ways:

- Assist with the development of materials and messages for public information officers
- Convene agencies to coordinate on campaigns
- Partner with lead organizations through National Highway Traffic Safety Administration (NHTSA) grants
- Develop measurable outcomes for each campaign

Suggested training and campaign options are summarized in Table 8.

Table 8: Suggested Training and Campaign Options

Campaigns	Training
 Impaired Driving/Riding Campaigns Campaigns targeting impaired operation or distracted driving of motor vehicles, ATVs, or snow machines in conjunction with high-visibility enforcement efforts to reduce collisions involving people walking and bicycling	 Driver's Education Training Addressing active transportation safety in driver education training, materials, and licensing programs in the classroom and behind the wheel, including strategies for motorists, pedestrians and bicyclists on safely sharing the road and expecting pedestrians and bicyclists in the roadway corridor.
 Share the Road/Trail Marketing Walking and bicycling safety campaigns that specifically target sharing the road or trail with different types of users	 Three-foot Buffer for Bicyclists Support Supporting education of motorists maintaining a three-foot buffer when passing bicyclists
 Be Seen Campaigns Campaigns highlighting and promoting pedestrian and bicyclist reflective wear	 Safety Policy Support Encouraging community-led policies and approaches that promote active transportation initiatives
 Vulnerable User Awareness Increasing awareness and understanding of safety issues related to vulnerable road users	 School Education Programs School-based education programs to promote active transportation safety through partnerships, materials, curricula, and technical assistance
 Safety Media/Campaigns Encouraging and developing active transportation safety campaigns such as radio, posters, billboards, and commercials	
 Senior Safety Campaigns Increasing awareness of the safety, accessibility, and mobility needs of aging pedestrians and bicyclists	
 Participation Campaigns Encouraging and increasing the level of participation in walking and bicycling for transportation	



6.2.3 Summary

Supporting education and enforcement efforts through the creation of programs, campaigns and evaluation tools in Alaska will aid in creating safer and more welcoming places for people of all ages and abilities to walk, bicycle, or use other non-motorized means of transportation. Education and enforcement efforts such as Systemic Crash System Evaluation Program, increased data collection, an inventory of existing active transportation facilities along state-owned facilities, and increased staff training support Alaska's SHSP strategies and actions and are effective and cost-efficient ways to increase active transportation opportunities and to prioritize needs.

6.3 Transportation Funding

6.3.1 Title 23 United States Code

Title 23 United States Code (U.S.C) outlines the laws and regulations for U.S. highways and rural roadways. Title 23, Chapter 2, Section 201, requires the availability for funding through various programs administered by the DOT&PF, including the Federal Lands Access Program (FLAP), Federal Lands Transportation Program (FLTP), and Tribal Transportation Program (TTP). Funds authorized for these programs are to be available for contract upon apportionment, or on October 1 of the fiscal year for which the funds were authorized if no apportionment is required. These programs are summarized below.

Federal Lands Transportation Program

The Federal Lands Transportation Program (FLTP), provides funding for transportation facilities owned and maintained by the National Park Service, U.S. Fish and Wildlife Service, U.S. Forest Service, and many other independent federal agencies with natural resource and land management responsibilities. FLTP funding has specific eligibilities for active transportation including transportation planning, engineering, reconstruction, rehabilitation, restoration and maintenance.

Federal Lands Access Program

The Federal Lands Access Program (FLAP) is designed to improve facilities that are located within federal lands or provide access to federal lands. Eligibility is similar to the FLTP. Apportioned funds are allocated by formula and managed by federal agencies with natural resource and land management responsibilities.

Tribal Transportation Program (Title 25)

The Tribal Transportation Program (TTP) is primarily designed to provide access to and within Indian

reservations/lands, and Alaska Native Village communities. The policy states that any public roadway, trail, or transit system that is located on or provides access to tribal land is eligible for funding for active transportation activities.

Each year TTP funds are provided to tribal governments to address transportation needs in tribal communities. The TTP funding is allocated to each tribal government based on a formula that is derived by the National American Housing Self Determination Act (NAHSDA) population. The 229 tribes in Alaska will receive approximately \$45 million per year for years 2016 to 2020 for transportation planning, maintenance, and construction, which equates to a total of approximately \$240 million. The TTP funds are the most flexible funding source in the transportation sector and are the only federal funding source that can be matched with Title 23 federal funding. They can be spent on projects identified and prioritized by a tribe and can be used when developing a project using funding from multiple funding sources. Figure 14 provides the estimated funding amounts received by Alaska's tribes.

Figure 14: Alaska Tribe's Estimated Funding Amounts



Six Tribal Transportation Organizations (TTO) have been created to act as a consortium representing several tribes within a specific region in Alaska. The TTO administers plans and develops, designs, and constructs transportation projects on a tribe's behalf. TTOs such as Kawerak, Inc. typically partner with DOT&PF and FHWA to develop common transportation priorities in their region. In 2014, Kawerak received a total of \$7 million for transportation projects for its communities. The amount received is anticipated to be similar each year through 2020. The other five TTOs in Alaska receive similar levels of TTP funds as Kawerak.



6.3.2 Fixing America Surface Transportation Act

Levels of funding to provide accommodations for pedestrians and bicyclists have increased since the passing of the Fixing Americas Surface Transportation (FAST) Act and the level of flexibility for funding active transportation projects has also improved. The FAST Act also directs the USDOT to identify best practices to provide safe and adequate accommodation of all users of the surface transportation network in all phases of project planning, development, and operation. Although

the improved funding is positive, there are challenges created for rural Alaska as funding is primarily directed toward urban areas with higher levels of population.

The FAST Act funds surface transportation programs at over \$305 billion for fiscal years 2016 through 2020. It authorizes \$226.3 billion for road, bridge, walking, and bicycling improvements. Numerous FAST Act programs indicate potential funding eligibility for active transportation activities and projects, as listed in Table 9 and described further below.

Table 9: Active Transportation Funding Sources²⁰

Activity	Pedestrian and Bicycle Funding Sources										
	NHPP	STBG	HSIP	CMAQ	TA	FLTP	NHTSA	BUILD	TIFIA	FTA	PLAN
Active Transportation Plans		✓			✓	✓				✓	✓
Data Collection	✓	✓	✓	✓	✓	✓				✓	✓
Bicycle Lanes on Roads	✓	✓	✓	✓	✓	✓		✓	✓	✓	
Shared Use Paths	✓	✓	✓	✓	✓	✓		✓	✓	✓	
Signs/Signals	✓	✓	✓	✓	✓	✓		✓	✓	✓	
Separated Bike Lanes	✓	✓	✓	✓	✓	✓		✓	✓	✓	
Safety Education		✓			✓		✓				✓
Lighting	✓	✓	✓		✓	✓		✓	✓	✓	
Maps		✓		✓	✓					✓	✓

National Highway Performance Program

The National Highway Performance Program (NHPP) focuses on the overall condition and performance of the NHS, construction of new facilities, and supporting progress toward the achievement of performance targets established in a state's asset management plan for the NHS. Projects using NHPP funds must be identified in the STIP or Transportation Improvement Program and be consistent with the appropriate LRTP or MTP, pedestrian and bicycle transportation associated with an NHS facility are specifically listed as eligible activities in this program. Additional eligibilities include data collection as part of asset management, signing and signalization, and lighting.

Surface Transportation Block Grant

The Surface Transportation Block Grant (STBG), previously the long standing Surface Transportation Program, has the most flexible eligibilities among all Federal-aid highway programs. The STBG promotes flexibility through numerous eligible activities and transferability to other federal-aid apportioned programs. Generally, STBG projects are eligible for most active transportation projects and activities.

²⁰ Pedestrian and Bicycle Funding Opportunities. USDOT Transit, Highway, and Safety Funds; Revised August 12, 2016.



Highway Safety Improvement Program

Strategic planning places emphasis on high risk transportation facilities in both urban and rural areas, where pedestrians and bicyclists are at greatest risk. The HSIP is intended to assist in the reduction of traffic fatalities and serious injuries on all public roads. State and MPO targets for the number of non-motorized fatalities and non-motorized serious injuries in addition to several others need to be established to be eligible for HSIP funding, and the DOT&PF has established targets as part of its SHSP and HSIP. Additionally, a significant progress determination will be made by FHWA annually to ensure progress is being made towards set goals.

Congestion Mitigation and Air Quality Improvement Program

The Congestion Mitigation and Air Quality Improvement Program (CMAQ) program provides funding for transportation projects and programs to help meet the requirements of the CAA. Funding is available to reduce congestion and improve air quality for areas that do not meet the NAAQS for ozone, carbon monoxide, or particulate matter and for former non-attainment areas that are now in compliance. There are some eligible active transportation activities as part of the CMAQ program. A portion of Fairbanks and North Pole is designated as a Carbon Monoxide Maintenance Area and a larger portion has been designated as a PM2.5 non-attainment area. A large portion of Anchorage is also designated as a Carbon Monoxide Maintenance Area.

Transportation Alternatives Set-Aside and Associated Programs

The Transportation Alternatives (TA) is a set-aside of the STBG program. Funds include all projects and activities that were eligible under the previous program including bicycle facilities, recreational trails, safe routes, and several other active transportation eligibilities. For most of Alaska's TA projects, the federal sliding scale share is 90.97 percent match due to the large amount of public lands in the state.

The Recreational Trails Program (RTP) is a set aside of the TA program administered under the STBG program. The RTP provides funding to develop, repair, rehabilitate, or improve recreational trails and facilities for pedestrian, bicycle, equestrian, and motorized recreational vehicle use. State DOTs are required to use 40 percent of their apportioned RTP funds for a diverse recreational trail use, 30 percent for motorized recreation, and 30 percent for non-motorized

recreation. Under the RTP, FHWA will provide up to an 80/20 match, however, often the actual match is 50/50 percent or more. Between 1993 to 2015, Alaska delivered over 420 successful RTP projects.

The Safe Routes to School (SRTS) program provides funding for various projects and education programs designed to build safer street crossings and encourage children to walk and bicycle safely to school. In Alaska, the SRTS program is delivered using TAP funding.



Photo 14: Bicycle racks at an office building, Anchorage (May, 2019)

Better Utilizing Investments to Leverage Development Grant Program

The Better Utilizing Investments to Leverage Development (BUILD) Transportation Discretionary Grant program provides an opportunity for the USDOT to invest in road, trail, transit, and port projects that meet national objectives. Previously known as Transportation Investment Generating Economic Recovery, or TIGER Discretionary Grants, Congress has dedicated nearly \$506 billion for nine rounds of national infrastructure investments to fund projects that have a significant local or regional impact. Since 2011, four projects in Alaska have been awarded TIGER grants. Current program guidelines state that TIGER grants may be \$5 to \$25 million, except for projects located in rural areas (\$1 million).

Transportation Infrastructure Finance and Innovation Act

All projects eligible for federal assistance through the above programs are eligible for the Transportation Infrastructure Finance and Innovation Act (TIFIA)



credit program except for a \$50 million capital cost. Qualified projects are evaluated against several criteria including but not limited to: impact on the environment, significance to the national transportation system, and promotion of innovative technologies.

Federal Transit Administration Capital Funds

Multiple Federal Transit Administration (FTA) grant programs are available for cities and rural areas to invest in active transportation infrastructure. FTA grants may be used to fund active transportation facility design, construction, and maintenance projects, particularly those that provide access to a public transportation facility. Planning (PLAN)

Under current federal policy guidelines, statewide and metropolitan transportation investment programs must provide for the development and operation of accessible active transportation facilities. Additionally, state DOTs are required to develop a long-range active transportation plan to be incorporated into the statewide long-range transportation plan. Statewide Planning and Research or Metropolitan Planning can be used for these activities.

6.3.3 State Funding Sources

The Alaska Legislature

Each year the Alaska Legislature develops both capital and operating budgets for the state. In years when the state's fiscal situation allows, transportation projects for areas across the state are included as line items in the capital budget. Additionally, the legislature periodically drafts bond bills that are then voted on by state residents during general elections. Unlike capital budget items, items identified in an approved bond bill are funded through the sale of general obligation bonds, which are repaid later using specified state revenues.

State of Alaska Department of Commerce, Community, and Economic Development

The State of Alaska Department of Commerce, Community, and Economic Development (DCCED) administers several programs of interest for developing and maintaining transportation infrastructure vital to a community's success. Most notably, it administers the Community Development Block Grant (CDBG) program, funded by the U.S. Department of Housing and Urban Development (HUD). Once each year, municipal governments can apply for CDBG funding for

an array of project types, which include transportation improvements such as active transportation facilities. In addition to capital projects, HUD also allows CDBG funding to be used for planning efforts. Funding is administered by the State of Alaska.

The Western Alaska Community Development Quota Program

The Western Alaska Community Development Quota (CDQ) Program allocates a percentage of all Bering Sea and Aleutian Islands quotas for ground fish, prohibited species, halibut, and crab to eligible communities. The purpose of the CDQ Program is to (i) provide eligible western Alaska communities with the opportunity to participate and invest in fisheries in the Bering Sea and Aleutian Islands Management Area; (ii) support economic development in western Alaska; (iii) alleviate poverty and provide economic and social benefits for residents of western Alaska; and (iv) achieve sustainable and diversified local economies in western Alaska. There are six CDQ groups in Alaska. In 2010, the six CDQ groups total revenue peaked at approximately \$414.5 million, of which approximately 84 percent, or \$348 million, was derived from revenue sources other than royalties. In 2013, the aggregated revenue from all CDQ groups was \$248.7 million, of which approximately 23 percent was derived directly from CDQ royalties. In 2011, the six CDQ groups held approximately \$938 million in assets and they invested more than \$176 million in CDQ communities and in fisheries activities (Western Alaska Community Development Association 2011, 2012).

6.3.4 Other Funding Sources

Local and private sources typically provide alternative ways to fund city and borough level improvements. Frequently these improvements provide match in either state or federally funded projects. Where a lesser investment is required, solely funded local and private projects can provide additional incentives and promote an uptake in non-motorized transportation use.

Numerous clubs and organizations assist in the promotion of active transportation both for leisure and everyday commuting. Riding and walking events have been able to generate sizeable funding sources used to promote safety and provide capital project and maintenance funding.



7 Integration with Other Policies, Plans and Programs

7.1 Alaska Statewide Long-Range Transportation Policy Plan

The Statewide LRTP (Let's Keep Moving 2036) establishes transportation policies, goals, and implementing actions for DOT&PF through 2036. The LRTP's vision is *"To provide a network that establishes a robust and growing economy and meets the mobility needs of the state's residents."* The LRTP sets out eight policy goals, and the ASATP will support the achievement of many of the LRTP's goals, policies and actions. Please refer to Appendix E for the detailed analysis of how the specific ASATP goal areas, objectives and recommended actions will support the achievement of the LRTP.

The ASATP also supports DOT&PF to address a safety performance measure in the LRTP and the SHSP:

Number of Non-Motorized Fatalities and Serious Injuries (five-year rolling average, combined total, and must involve a motor vehicle).



Section 3.4 details the performance measures for the ASATP and includes the above performance measure. This measure is set out in MAP-21/FAST Act and relates to national goals for Transportation Performance Management.

7.2 Opportunities for Integration

The ASATP's vision is that people in Alaska will enjoy equitable, accessible, safer walking, and bicycling opportunities as an integral part of daily life. This vision is consistent with the draft LRTP update's vision that seeks to provide a network that enables a robust and growing economy and meets the mobility needs of the state's residents and DOT&PF's mission statement, which is to *"Keep Alaska Moving through service and infrastructure."*

To effectively integrate the ASATP into the LRTP and other transportation plans, the statewide active transportation goal areas and objectives should be used to help incorporate active transportation needs into goal areas, objectives, and strategies.

The actions and recommendations in the ASATP will enable DOT&PF to improve and support opportunities for walking and bicycling throughout the state. Through policy, design standards, and program improvements, DOT&PF can positively impact active transportation across Alaska. However, coordination with other state departments, local governments, and advocacy groups can further the reach of the actions and recommendations in this plan. The following sets out specific recommendations for organizations at the statewide, regional, and local level to implement the ASATP.

7.2.1 Statewide Opportunities

- Encourage to have goal areas and objectives consistent with the ASATP in other state plans.
- Ensure consistent vision and goal areas for walking and bicycling across state-level comprehensive planning efforts.
- Coordinate with other agencies and planning efforts to expand data collection practices and identify opportunities for collaborative efforts.
- Partner with or support other agencies to implement programs for active transportation and healthy, active lifestyles.



7.2.2 Regional/Sub-Regional Opportunities

- Coordinate with MPOs and regional/sub-regional organizations to implement the vision, goal areas, and objectives of the state plan at the regional level.
- Collaborate with MPOs to identify opportunities for further integration at the regional and local levels. Examples include working with MPOs to identify how performance measures and strategies can be incorporated into funding criteria.

7.2.3 Local Opportunities

- Encourage local governments to develop pedestrian and bicycle plans, non-motorized plans and active transportation plans with goal areas and objectives that are consistent with the ASATP.
- Encourage local governments to track performance measures, as applicable, at the local level.
- Partner with and encourage local governments to extend data gathering related to pedestrian and bicycling activities and facilities in a consistent, shareable format to support statewide data on active transportation.
- Support local governments and other transportation organizations to develop Safety Plans to address areas with high incidences of pedestrian and bicycle collisions.
- Support and encourage local comprehensive planning efforts to reflect the goal areas and objectives in the ASATP.



Photo 15: Children and parents biking to the play equipment at Westchester Lagoon, Anchorage (May, 2019)



Photo 16: Pedestrians in Utqiagvik, Alaska (April, 2017)



8 Recommended Next Steps

The ASATP will support DOT&PF, and other transportation planning and partner organizations, to work on an effective and consistent approach to improving active transportation opportunities and accommodations in Alaska. Recommendations have been identified for future statewide active transportation planning initiatives to ensure the momentum is maintained by DOT&PF. These recommendations are summarized below.

8.1 Recommendations – Facilities

- **R-F1:** Focus on the provision of pedestrian and bicycle facilities on state-administered roads.
- **R-F2:** Work with the local communities to implement the recommendations of their non-motorized plans where the department maintains roads and where appropriate, including the establishment of non-motorized networks articulated in these plans.
- **R-F3:** Where logical and in accordance with roadway characteristics in urban areas, provide pedestrian and bicycle facilities in accordance with local non-motorized transportation plans and land use codes, as appropriate.
- **R-F4:** In rural areas, include a minimum 4-foot wide paved shoulder to provide space for pedestrians to walk, which is shared space with bicycles.
- **R-F5:** Provide reliable surfaces that are appropriate to accommodate pedestrians and bicyclists along state-owned and operated facilities as roadways are upgraded and modernized, except on facilities where pedestrians and bicycles are prohibited. Section 6.1.3 of the plan sets out useful guidance documents for provision of pedestrian and bicycle facilities.
- **R-F6:** Provide active transportation facilities that are contextually aligned with the speed and volume of the motorized facility and separate active transportation users to the extent practical. This may include wider gravel top roads with dust control in some rural locations, a shared use path along a major highway in an urban location and everything in between.

- **R-F7:** Consider design guidelines and standards established for different facility types.
- **R-F8:** Ensure facility design factors are addressed in the design and construction of active transportation facilities, as a key mechanism to achieving the vision, goal areas, and objectives set out in the ASATP.
- **R-F9:** Ensure transition areas where facilities begin and end to improve safety for both non-motorized users and motorists.
- **R-F10:** Implement the requirement for a paved shoulder in roadway rehabilitation construction projects unless specific approval is granted to not provide a facility.
- **R-F11:** Draw from the FHWA Guidance *“Incorporating On-Road Bicycle Networks into Resurfacing Projects”* to explore opportunities to provide active transportation facilities in preservation projects and consider how to increase provision of facilities while recognizing the constrained costs associated with lower-level preservation projects.

8.2 Recommendations – Users

- **R-U1:** Understand the different types of facility user and define what types of user each active transportation facility is seeking to accommodate.
- **R-U2:** When accommodating bicyclists in urban areas, provide facilities for all user types from interested and concerned users to highly confident users. For non-urban areas, providing facilities for more confident users (who are likely to be traveling longer distances, or in areas with lower traffic volumes and lower potential for conflict) is adequate and is expected to serve all groups.
- **R-U3:** Accommodate all users on either a dedicated facility or more informally in rural areas, depending on level of use of the roadway.
- **R-U4:** When accommodating pedestrians, provide facilities that provide for a broad range of users and be aware of predominant land uses in the



surrounding environment, particularly where these will result in a higher concentration of more vulnerable users.

- **R-U5:** Ensure active transportation facilities are scaled appropriately to ensure that users feel comfortable and safe when using facilities.

8.3 Recommendations – Maintenance

- **R-M1:** Continue with a periodic inspection schedule for non-motorized facilities and consider how maintenance budgets can be allocated to ensure facilities are maintained in a standard of good repair.
- **R-M2:** Consider space for snow storage in the design of roadway facilities while ensuring year-round provision of active transportation facilities where possible. This includes designing facilities to ensure it is easy to plow/compact/groom/sweep areas used by pedestrians and bicyclists as part of roadway maintenance.
- **R-M3:** Consider transit stops where they are provided along a roadway facility to ensure they can be kept clear of snow and are not used for snow storage, so they can be used as year-round intermodal connection points.
- **R-M4:** Consider establishing maintenance priority of active transportation routes.

8.4 Recommendations – Partners

- **R-P1:** Where appropriate, support other transportation planning organizations in urban areas as they implement their non-motorized plans.
- **R-P2:** Support local jurisdictions in the creation and updating of local level non-motorized and active transportation plans.
- **R-P3:** Work with, and where appropriate, partner with local communities to address network gaps and barriers to creating a connected active transportation network in locations where DOT&PF owns and maintains specific roads that interact with the local road network.
- **R-P4:** Support local jurisdictions to evaluate existing policies, standards and practices that focus on and influence personal safety and security on active transportation facilities. Examples include the development of CPTED policies and the Anchored Home Strategic Plan to Solve Homelessness in Anchorage.

8.5 Recommendations – Programs and Data

- **R-D1:** Develop a Statewide Active Transportation court program consistent with the FHWA Traffic Monitoring Guide (2016) and supplemented in the coding non-motorized station location information in the 2016 Traffic Monitoring Guide format FHWA-HEP-17-011.
- **R-D2:** Undertake an inventory and generate a database of existing active transportation facilities on roads administered by DOT&PF, with a focus on:
 1. An inventory and map of existing active transportation facilities on roads managed by DOT&PF
 2. An inventory of network gaps and connections across the whole transportation network.
- **R-D3:** Support local communities in their implementation of non-motorized transportation plans and land use codes for the design, construction, and maintenance of active transportation facilities.
- **R-D4:** Continue technical training to support the understanding of active transportation user needs, best practice design guidance, safety measures and educational campaigns to promote active transportation safety.



8.6 Recommendations – Highway Preconstruction Manual

Revisions are recommended to the HPM as follows:

- **Section 1210 – Bicycle Facilities:** DOT&PF should use the most recent AASHTO Guide for the Development of Bicycle Facilities (currently 4th Edition, published in 2012) when revising Chapter 12 of the HPM. This will ensure consistency between the Guidance referenced in Chapters 11 and 12.
- **Section 1220 – Pedestrian Facilities: When preparing the content of Section 1220:** Adopt guidance such as the AASHTO Guide for the Planning, Design and Operation of Pedestrian Facilities (currently 1st Edition, published 2004), and the MUTCD. Pedestrian Facilities will provide designers with clear direction on designs for better accommodating pedestrians on the Alaska highway system.

8.7 Recommendations – Policies and Procedures

Table 10 summarizes a review of policies and procedures and lists suggestions for updated or new policies and procedures, with the overall goal of improving walking and bicycling conditions throughout Alaska. Recommendations are organized by the goals of this Plan and consider both existing policies and current best practices.

The recommendations reflect a variety of actions ranging from implementation of new policies and laws to minor modifications in existing code language. These recommendations support network and safety related goals, while also aligning Alaska with national and international best practices. Internal policies for maintenance and funding also present opportunities to improve system preservation and develop a safer, complete network.

Items identified as higher priority are based on the recommendations that can support the safety goal area of the ASATP. These actions include recommendations for developing and adopting safe passing distance legislation and vulnerable road user laws and considering a statewide Complete Streets Policy. While DOT&PF may have a leadership role for implementing some of the recommendations, it would likely have a supporting role to partner agencies, organizations, and interest groups advancing other recommended initiatives. For instance, DOT&PF will take ownership of its internal policy and procedure updates, while other interested parties will lead advancing broader legislative and regulatory changes, including updates to the Alaska Administrative Code.

Table 10: Recommendations for Updated or New Policies and Procedures

Master Plan Goal(s)	Priority	Existing Policy/ Procedure	Recommendation	DOT&PF's Potential Role
PP-1: Safety	HIGH	None	<p>Safe passing distance: Develop and adopt language requiring a safe passing distance. Model language can be found through sources such as the League of American Bicyclists. The model language suggests a minimum of three feet. Consider greater distances and including language that specifies the motorist's responsibility.</p> <p>Rationale: Safe passing laws provide clarity to motorists and improve comfort and safety for bicyclists by specifying the minimum distance by which a driver may pass someone on a bicycle.</p>	Support



Master Plan Goal(s)	Priority	Existing Policy/ Procedure	Recommendation	DOT&PF's Potential Role
PP-2: Safety	HIGH	None	<p>Vulnerable road user law: Develop and adopt a vulnerable road user law that increases penalties for motorists who harass, injure, or kill a pedestrian or bicyclist.</p> <p>Rationale: Vulnerable road user laws provide important legal protections to pedestrians, bicyclists, and other people traveling outside of motor vehicles. The law is intended to increase awareness amongst motorists about the importance of driving attentively when sharing the road with non-drivers, by providing stronger punishments for people who seriously injure or kill a pedestrian, bicyclist, or other vulnerable users while driving.</p>	Support
PP-3: Safety	HIGH	SB 123 (Use of Electronic Devices While Driving)	<p>Policy/Regulatory Amendment: Update language to include use of a cell phone or similar device for voice-based communications.</p> <p>Rationale: Distracted driving is a safety hazard for all roadway users. People walking and bicycling are particularly vulnerable in crashes involving distracted drivers. While existing legislation addresses non-voice communications, the state should consider including all device use to promote greater safety on the roadway.</p>	Support
PP-4: Safety, Health	HIGH	1995 Commissioner's Policy Directive	<p>Complete Streets Policy and Implementation Strategy: Consider adopting a Complete Streets policy and implementation strategy to consider the needs of all users in planning, design, and operation of state-owned transportation facilities. This policy could build from the 1995 Commissioner's Policy on Bicycle and Pedestrian Accommodations and align with the Fixing America's Surface Transportation (FAST) Act.</p> <p>Rationale: A Complete Streets policy could provide clear direction for agencies to plan, design, construct, and maintain streets for people of all ages and abilities, for all modes of transportation. It may provide the framework for agency staff to implement the intent of the 1995 Commissioner's policy on bicycle and pedestrian accommodations in a comprehensive, systematic, and measurable way.</p>	Lead
PP-5: Maintenance/ System Preservation	HIGH	DOT&PF: 07.05.020 (Highway Pavement Maintenance and Rehabilitation)	<p>Policy/Regulatory Amendment: Clarify the scope of this policy to include state-owned non-motorized facilities that are not within a roadway (e.g., adjacent shared use paths). Further clarify the policy to enable these adjacent facilities to be eligible as separate projects in the event pavement condition improvements on the adjacent roadway are needed under a separate timeline.</p>	Lead



Master Plan Goal(s)	Priority	Existing Policy/ Procedure	Recommendation	DOT&PF's Potential Role
<p>PP-6: Maintenance/ System Preservation, Health, Safety, Connectivity</p>	<p>MEDIUM</p>	<p>None</p>	<p>Track Federal funding: Although Alaska spends a relatively large amount per capita on active transportation facilities, the state ranks lower on the percentage of federal funds dedicated to walking and bicycling. This is because non-motorized improvements are frequently bundled with other projects and are therefore not easy to track as the federal improvement code for pedestrian and bicycle projects only recognizes projects that are exclusively for the benefit of pedestrians and bicyclists and makes no provision for pedestrian and bicycle improvements that are a component of a larger project. Develop a methodology to better track investment levels on projects that support walking and bicycling to expand and strengthen current and future investments, and align with system/facility maintenance, safety, connectivity, and health goals.</p> <p>Rationale: Increased investments in active transportation infrastructure can support the connectivity goal through providing more active transportation facilities; the maintenance goal by supporting preservation of existing investment; the economic goal by improving connections with destinations; and the health goal by creating a system that encourages natural movement for daily activities.</p>	<p>Lead</p>
<p>PP-7: Maintenance/ System Preservation</p>	<p>MEDIUM</p>	<p>None</p>	<p>Facility Maintenance Manual: Update sections of the facility maintenance manual to improve specifications for non-motorized facilities. Specific procedures could include snow clearing priority, work zone standards, and agency responsibility assignments for non-motorized facilities.</p> <p>Rationale: Updating the maintenance manual can support the efforts recommended as part of this plan to improve maintenance and system preservation.</p>	<p>Lead</p>
<p>PP-8: Safety</p>	<p>MEDIUM</p>	<p>13 AAC 02.400 (Operation on Roadways and Paths)</p>	<p>Policy/Regulatory Amendment: Update statute to clarify the statement: "...shall ride as near to the right side of the roadway as practicable." Model language can be found through the League of American Bicyclists. Consider revising requirement to ride in the shoulder.</p> <p>Rationale: The League of American Bicyclists indicates the term "practicable" does not provide clarity for those on the roadway to understand how to behave appropriately. By revising the language, the state can be specific about where bicyclists are expected to increase predictability on the roadway and to help bicyclists make safer decisions about where to ride.</p>	<p>Support</p>



Master Plan Goal(s)	Priority	Existing Policy/ Procedure	Recommendation	DOT&PF's Potential Role
PP-9: Safety	LOW	13 AAC 03.050 (Driving on right side of roadway; exceptions and special situations)	<p>Policy/Regulatory Amendment: Update language to clearly specify motorists may (are encouraged to) cross the double yellow line if there is no opposing traffic to safely overtake a pedestrian or bicyclist.</p> <p>Rationale: By specifying that this action is permitted, the state can better adopt a safe passing distance law to promote greater safety for pedestrians and bicyclists on the roadway.</p>	Support
PP-10: Safety	LOW	None	<p>Policy/Regulatory Amendment: Explore the appropriateness of introducing statute to regulate impaired or distracted users of non-motorized facilities.</p> <p>Rationale: Impaired or distracted use of non-motorized facilities increases the risk of collision with other users of facilities and with motorized traffic. It also slows reaction time, increasing risk to other facility users.</p>	Support
PP-11: Connectivity	LOW	13 AAC 40.010 (Pedestrian Defined)	<p>Policy/Regulatory Amendment: Update definition of a pedestrian to include those who use wheelchairs or other mobility-assistance devices.</p> <p>Rationale: Policy language should be inclusive and reflect the goal to provide a network that is accessible to people of all ages and abilities.</p>	Support
PP-12: Safety	LOW	13 AAC 02.175 (Pedestrians on Highways)	<p>Policy/Regulatory Amendment: Consider modifying AAC 02.175 to specify that “pedestrians walking along a roadway must walk on the sidewalk if a sidewalk is provided, can be easily accessed, and in good repair.”</p> <p>Rationale: A sidewalk that is not in good repair may not be safe, comfortable or accessible for all users. In the case that sidewalks are not properly accessible or maintained, pedestrians should not be legally obligated to use them.</p>	Support
PP-13: Safety	LOW	DOT&PF 05.05.015 (Highway Work Zone Safety and Mobility)	<p>Policy/Regulatory Amendment: Update language to specify provisions specific to non-motorized users.</p> <p>Rationale: The existing policy requires that a high level of safety is provided to all roadway users in work zones. Specifying the types of provisions and access that should be provided to non-motorized users can improve safety in work zones by providing clarity as to what constitutes a high level of safety for these modes.</p>	Lead



Master Plan Goal(s)	Priority	Existing Policy/ Procedure	Recommendation	DOT&PF's Potential Role
PP-14: Safety	LOW	DOT&PF: 05.05.020 (Establishment of Speed Limits and Zones)	<p>Policy/Regulatory Amendment: Update to include presence of active transportation as rationale to reduce the speed limit, in addition to crosswalks and pedestrian activity.</p> <p>Rationale: The existing policy establishes pedestrian activity and frequent crosswalks as rationale for reducing speed limits in some areas. This policy should be expanded to specify other non-motorized users to better account for seasonal modes and areas with significant bicycle usage.</p>	Lead



9 Investment Decision Considerations

The ASATP's vision seeks to ensure people in Alaska enjoy equitable, accessible, safer walking, and bicycling opportunities as an integral part of daily life. Implicit in this vision is people's freedom to decide to use active transportation and the associated provision of facilities (*i.e., infrastructure*) and policy and program initiatives (*i.e., training, education, enforcement, and encouragement*) that are supportive of walking and bicycling.

One way to support walking and bicycling facilities, policies and programs is to create a framework to consider the effective allocation of scarce funding to projects and programs in a way that will most benefit people in Alaska and deliver the vision and goals of the ASATP. The development of criteria to guide investment decisions is recommended to enable the objective evaluation of the effectiveness of candidate active transportation projects and program initiatives. In this way, parties proposing active transportation projects and programs can objectively consider whether a project will support the delivery of the goal areas and objectives set out in the ASATP.

The criteria should represent measurable characteristics of candidate projects and programs and enable those that deliver the most benefit to people in Alaska to have the highest likelihood of being funded. Table 11 sets out recommended investment decision criteria for each of ASATP's goal areas.

The recommended investment decision criteria can be used for project evaluation to determine the benefits and costs of a project. The criteria are also connected to the ASATP's performance measures and using them to evaluate projects can support achievement of the vision, goal areas, and objectives. The linkage between each goal area, objective, performance measure, and recommended investment decision criterion is set out in Appendix F.

Figure 15: Goals and Recommended Investment Decision Criteria

Goal Area One: Safety

- Reduces crash rate or potential threat of crashes
- Reduces severity of crashes
- Integrates best practices into facility design
- Increases DOT&PF's ability to gather and use data to prioritize projects

Goal Area Two: Health

- Provides the opportunity to reduce disease/obesity in children, adults and seniors
- Provides mobility options for underserved populations
- Provides safer active transportation to schools and learning centers
- Provides pedestrian mobility for seniors and disabled persons

Goal Area Three: Maintenance & System Preservation

- Funds are available (federal, state, local, other agency or user) to cover the capital cost of the active transportation facility
- Funds are available (federal, state, local, other agency or user) to cover the costs of operation and maintenance of the active transportation facility
- Improves conditions for walking and bicycling
- Completes or connect an active transportation network or system
- Provides potential to reduce motor vehicle congestion

Goal Area Four: Connectivity

- Encourages mapping of facilities and sharing information using technology and interactive platforms
- Provides continuous walking and biking facilities on scenic byways
- Improves connection or access to other modes of transportation (multi-modal connectivity)
- Provides multi-use pathways near population centers
- Creates access to public lands

Goal Area Five: Economic Development

- Improves non-motorized access to employment centers
- Bolsters tourism
- Provides the opportunity to induce a mode shift to walking and bicycling for short trips
- There is public support for the active transportation facility

