Juneau Non-Motorized Transportation Plan

November 2009

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CITY/BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

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EXECUTIVE SUMMARY

The purpose of the Juneau Non-Motorized Transportation Plan is to promote active transportation by guiding development of a community-wide bicycle and walking network that can be used by all Juneau residents for all types of trips. To accomplish this, a series of specific non-motorized infrastructure improvements are recommended and 12 policies with implementing actions are identified.

Plan goals are to:

1. Use new approaches to street design that focus on working together early in project design to plan and build transportation projects that address the needs of all users: pedestrians, cyclists, public transit riders and motorists.
2. Encourage an increase in bicycling, walking and other active forms of transportation by providing safe, efficient and easy-to-use facilities that connect activity centers.
3. Improve Juneau's non-motorized transportation network and decrease the number of bicycle and pedestrian related accidents by identifying unsafe conditions, network gaps and deficiencies and making necessary improvements to sidewalks, bike lanes, paved shoulder lanes, separated paths, intersections and crosswalks.
4. Develop a year-round maintenance program for Juneau's non-motorized facilities with a focus on sweeping and snow removal along the cross-Juneau bikeway and snow removal on sidewalks near schools, transit stops and in busy pedestrian areas.
5. Educate pedestrians, cyclists and motorists so all can use the transportation network safely and efficiently. This will be accomplished in part by improving signage and developing programs that encourage residents to choose active modes of transportation, and through enforcement.

In the last decade communities have been changing their approach towards planning for bicyclists and pedestrians. Rising fuel costs, increasing concern about green house gas emissions and growing awareness of the link between community health and active transportation have changed the way that all transportation is viewed. Planners and engineers now recognize that in addition to recreational use, non-motorized transportation is a vital component of any sustainable community transportation network.

Planning Process and Public Input

Four key steps – public outreach and engagement, research and field survey, data analysis, and formal public review – were completed to prepare the 2009 Juneau Non-Motorized Transportation Plan. Five public meetings were held early in the process and attended by nearly 100 people; written comments or completed surveys were submitted by 80 people. The public was asked to identify their walking and biking routes and destinations, specific obstacles along

these routes and ideas about how to improve the overall non-motorized transportation network.

New Trends in Transportation Planning

Transportation engineers and planners are using new approaches to counter automobile-only focused design and to instead plan, design and build transportation projects in a manner that addresses the needs of all users: pedestrians, cyclists, public transit riders and motorists. New trends in street design, including Context Sensitive Solutions and Complete Streets, offer ways to design and build more sustainable transportation networks.

The Institute of Transportation Engineers advocates the use of a new method of street design called *Context Sensitive Solutions.* Put simply, Context Sensitive methods take the context – the surroundings – where a street will be built into account when design is occurring. Successful Context Sensitive approaches also tend to be collaborative and interdisciplinary, and includes stakeholders in the street design process. The goal is to develop transportation facilities that fit the physical setting and consider the location's physical, scenic, and neighborhood attributes and resources, while maintaining safety and mobility. Context Sensitive approaches to street design are project-oriented and location-specific. This shifts the focus solely from the motorist to include consideration of safety, operations, community aesthetics, and the natural and built environments.

The National Complete Streets Coalition has been working for several years to improve traditional street design. This has led to the idea of *Complete Streets;* streets that are designed to give safe access for all users. Pedestrians, bicyclists, transit riders and motorists of all ages and abilities are able to move safely along and across a Complete Street. Complete Streets in busy urban areas have features for buses, bicycles and pedestrians as well as for motorists. In more rural areas with less traffic and fewer pedestrians and cyclists a paved shoulder may suffice to complete the street. The Complete Street movement encourages planning for all users across the transportation network. This does not mean that all streets need to be perfect for all modes, but that the transportation network needs to work for all modes.

Recommended Improvements to Non-Motorized Infrastructure

Eighteen highest priority and about 100 total specific infrastructure improvements are recommended. The recommended improvements are based on a combination of public input; discussion and review by City and Borough of Juneau (CBJ) staff, the Parks and Recreation Advisory Committee, Planning Commission, Affordable Housing Commission, and the Assembly; a review of existing plans; an analysis and evaluation of current conditions; and use of criteria to analyze identify priorities. The criteria used to evaluate and prioritize recommendations are: the potential for pedestrian use, proximity to community destinations, number of accidents involving pedestrians or bicyclists that have occurred in the area, and the average annual daily traffic counts in the vicinity of the proposed improvement. The result is a list of approximately

100 high, medium and low priority recommendations for improvements to non-motorized facilities.

The 18 highest priority recommendations Juneau-wide and for each specific area are now listed. The order does not imply priority status or implementation timing; all 18 are important and should be implemented as opportunity and funding allows.

The numbers (#xx) in the description refer to the improvement as it is depicted on Figures 6 through 11 and on Tables 7-2 through 7-6.

Juneau-Wide

1. Cross-Juneau Bikeway – Identify gaps, bring all routes up to standards add signs. This focus on a bikeway way will raise the visibility of cycling in Juneau and will encourage residents to take more trips by bicycle. (See Figure 11 and Table 8.1).

2. Paved Shoulder Lanes – Add paved shoulder on North Douglas Highway from Boat Launch to the end (#94), Thane Road from downtown to the end (#66), and Glacier Highway from Lena Loop to Tee Harbor (#11) and from Amalga Harbor to end (#13). These routes are part of the cross-Juneau bikeway and are recreation destinations. The paved shoulder will provide space for both pedestrians and cyclists.

Mendenhall Valley West

3. Glacier Highway Sidewalk Improvements Auke Bay/UAS – Sidewalk improvements in University of Alaska Southeast (UAS) and Auke Bay area including complete sidewalk system and crosswalks where needed (#2 and #12). The area includes residential and commercial uses, the UAS and an elementary school and has many pedestrians. Pedestrian improvements will make the area safer and will encourage increased pedestrian use.

4. Bike Lane Glacier Highway from Deharts to Brotherhood Bridge – Bike lane along Glacier Highway from Deharts to the Brotherhood Bridge needs to be brought up to standards for width, pavement markings and signs (#3). The paved shoulder in this area is currently variable in width and does not have consistent pavement markings and signs. This route has high traffic volumes and speeds and is part of the cross town bike route.

Mendenhall Valley East

5. Mendenhall Loop Road Intersections – Improve five Mendenhall Loop Road intersections for pedestrians (#27, #30, #31, #33 and #34). There are many community destinations, including schools, on both sides of this road. Accidents involving pedestrians and cyclists have occurred at each of these intersections and steps need to be taken to make these crossings safer.

6. Brotherhood Bridge – Widen Brotherhood Bridge and add bike lanes and a wider, safer sidewalk. The bridge is currently too narrow and is part of the cross-Juneau bikeway (#24).

7. Mendenhall Mall Road – Improve Mendenhall Mall Road for non-motorized users by adding crosswalks, bike facilities and sidewalks. This is close to Juneau's largest population center and near many schools and community destinations. Signage and pavement markings to delineate the road from the parking lot are not adequate particularly in winter (#25).

8. Glacier Highway Bike Lanes – Bike lane on Glacier Highway from Brotherhood Bridge to the Mendenhall Loop Road needs to be brought up to standards for width, pavement markings and signs (#26). The paved shoulder in this area is currently variable in width and does not have consistent pavement markings and signs. This route has high traffic volumes and speeds and is part of the cross town bike route.

9. Under Thunder Trail – Complete the Under Thunder separated path along the eastern edge of the Mendenhall Valley. This path will provide an off-road alternative for commuters heading downtown and between neighborhoods in an area with high traffic volumes.

Lemon Creek and Twin Lakes Priorities

10. Lemon Creek Sidewalks and Bike Lanes – Improve non-motorized facilities on Glacier Highway in Lemon Creek from Sunny Point intersection to Vanderbilt Hill Road – complete sidewalks on south-west side of the street and bring bike lane up to standard. The Lemon Creek area is very dangerous because it has a high number of pedestrians and significant commercial and industrial traffic moving at high speeds. Currently the paved bike lane is variable in width and there is only a sidewalk on one side of the street (#45 and #53).

11. Lemon Creek Crosswalks – Add or improve crosswalks along Glacier Highway at Anka Street, Walmart and Concrete Way (#48, #49 and #47). This area has many pedestrians, including children and high traffic volumes and speeds. Crosswalks do not currently exist at Concrete Way or at Walmart. There have been accidents at all three locations.

Downtown and Thane

12. Egan Drive Downtown Bike Lanes – Add a bike lane on Egan Drive from the Juneau-Douglas Bridge to Main Street. This is part of the cross-Juneau bikeway and there is currently no provision for bicycles (#62).

13. Egan Drive Downtown Pedestrian Improvements – Improve Egan Drive for pedestrians from the Juneau-Douglas Bridge to Main Street by calming traffic and improving or adding crosswalks at Gold Creek/Glacier Avenue (#68), Whittier Street (#69), Willoughby Ave (#75) and Main Street (#74). This area is home to many community destinations and with new development underway that will increase pedestrian use.

14. Glacier Avenue Downtown – Improve sidewalks, crosswalks and bike lanes on Glacier Avenue between Highland Drive and 12th Street. Focus improvements on safe routes to schools (#63 and #64).

15. Seawalk – Connect existing segments to complete route from Aurora Harbor to the Rock Dump. This has been a community priority for many years. Once completed, it will provide benefits for residents and tourists and will relieve congestion on downtown sidewalks (#61).

Douglas Island

16. Douglas Highway Bike Lane – Complete Douglas Highway bike lane from where it ends now near Gastineau School to the Savikko Road intersection (#84). This is part of the cross-Juneau bikeway and the bike lane ends abruptly making a dangerous situation.

17. Douglas Highway Crosswalks – Add or improve intersections on Douglas Highway at Cordova Street (#88), Crow Hill Drive (#86), Savikko Road (#89) and Douglas Library (#87). This is the main route through the area and several accidents involving pedestrians and bicycles have taken place at each intersection.

18. Treadwell Ditch – Rebuild trails and bridges along this 17 mile trail transportation and recreation corridor that connects Douglas and the Eaglecrest recreation area (#90). This trail connects several residential areas and will provide an off-road alternative to Douglas Highway.

Recommended Policies with Implementing Actions

In addition to the specific recommended improvements to non-motorized infrastructure, 12 policies with implementing actions are developed to support and encourage active transportation and increase the safety and effectiveness of the existing non-motorized system.

The policies are listed below (without actions).The order is not linked to priority status or implementation timing; all 12 are important and should be implemented as opportunity and funding allows.

POLICY 1 – BE "READY-TO-FUND". Complete concept plans, typical sections and cost estimates for select highest priority non-motorized infrastructure improvements.

POLICY 2 – STATE PROJECTS. Work with the Alaska DOT&PF Regional Director to establish a routine process to allow CBJ input at the front-end of the design stage for State road projects.

POLICY 3 – MUNICIPAL PROJECTS. Improve the process for Planning Commission review of CBJ projects to allow timely comment on non-motorized infrastructure and routes. Project managers will use a context sensitive approach in the design of City projects to achieve a Complete Streets network.

POLICY 4 – PRIVATE SECTOR DEVELOPMENT. Review design standards in Title 49 to provide opportunities to make subdivision design more context sensitive.

POLICY 5 – TRANSPORTATION PLANNING. Integrate motorized and non-motorized transportation planning.

POLICY 6 – EDUCATION AND SIGNAGE. Establish a bicycle/pedestrian education and signage program.

POLICY 7 – MAINTENANCE. Develop a realistic maintenance program for non-motorized facilities and commit to it.

POLICY 8 – SAFE AND HEALTHY SCHOOL ACCESS. Actively support safe routes to schools programs.

POLICY 9 – SEEK RECOGNITION. Work to be designated a bicycle friendly community.

POLICY 10 – BICYCLE RACKS. Provide more bicycle racks.

POLICY 11 – ADVOCACY. Support non-motorized advocacy.

POLICY 12 – CROSS-JUNEAU BIKEWAY. Complete the cross-Juneau bikeway.

CHAPTER 1 – INTRODUCTION

1.1 Introduction

The goal of the Juneau Non-Motorized Transportation Plan is to make bicycling and walking safe, convenient and pleasant so that residents choose active forms of transportation more often.

Over the last fifty years, the rise of the automobile has had a major influence on both behavior and community design. The automobile gave people freedom to live farther from their places of work. Rapid suburban development resulted and the design of neighborhoods, shopping centers, schools, homes and streets was altered to allow cars to move quickly and easily. Walking and bicycling, ideal for short trips, lost their advantage and their place on the road. At the community scale, land uses have became increasingly segregated and destinations farther apart. In neighborhoods, increased traffic moving at higher speeds has led to conflict between pedestrians, cyclists and motorists who once shared the streets. In many cases, the desire to accommodate cars has come at the expense of other modes of transportation. Decreased walking and biking trips, and the associated increase in vehicle trips, has impacted community sustainability by contributing to rising obesity levels, increased traffic congestion, rising transportation costs, increased burning of fossil fuels, and decreased air quality.

There is now a growing desire in cities across the country to return to more walkable and bikable streets to support livable communities. This means planning, designing and retrofitting the transportation network to encourage walking, bicycling and transit use by all residents including children, seniors and the disabled.

Juneau's Non-Motorized Transportation Plan established goals and recommends both specific infrastructure improvements and related actions aimed at developing a complete transportation network and establishes community priorities for non-motorized projects. This plan replaces the prior plan completed in 1997. It includes recommendations from that plan that are still relevant along with new recommendations to reflect current conditions and priorities for biking and pedestrian routes. This plan also identifies potential funding sources for non-motorized facilities.

Juneau currently has a basic non-motorized transportation system with many opportunities for improvement. With a strong commitment by City and Borough of Juneau policy makers, staff and residents, Juneau can use the "5 Es" – engineering, education, encouragement, enforcement and evaluation – to become a more walking and bicycling friendly city.

1.2 Sustainable Transportation

Transportation is about access and mobility. A well-designed, complete network enables convenient access for residents to housing, work, recreation, shops and other activities. Mixed-use zoning allows a blend of land uses within the same neighborhood, increasing the viability of walking and cycling trips.

Over the last thirty years, conventional development patterns have relied on single-use zones and low density, sprawling neighborhoods. These segregated areas are difficult to serve with public transit, leading to car dependence. This puts elderly people who no longer drive, people who cannot afford or choose not to own a car, and youth at a disadvantage.

Road infrastructure and parking lots are expensive to construct and maintain. As traffic congestion increases, there is increasing pressure to build more roads or widen existing ones. Across North America, cities have increased road capacity, yet find ever increasing traffic congestion.

Cities are now looking to sustainable transportation initiatives to help solve these problems. Solutions are often focused on developing a highly interconnected vehicle, transit, bicycle and trail network that increases accessibility and provides the community with transportation choices. Communities are also trying to minimize the average length of vehicle trips through compact growth and integrated land uses.

Designing and developing a transportation network that works for all modes has numerous benefits including:

- Increased safety for bicyclists and pedestrians
- Energy and cost savings for individuals and governments due to more fuel efficient modes of travel
- Reduced vehicle miles traveled resulting in reduced emissions, improved traffic flow and decreased vehicle maintenance and repair costs
- Improved public health by increasing physical activity levels and improving air quality
- Increased mobility and choice
- Improved quality of life by fostering the personal interaction that takes place while on foot or on bicycle

There are individual and community benefits to choosing non-motorized transportation, yet in many places, adequate non-motorized transportation facilities do not exist. Many communities are working to make their transportation systems more sustainable by improving their non-motorized transportation networks.

Too often traditional road building projects have focused exclusively on improving the movement of cars by widening lanes, limiting pedestrian and bicycle access to roads and minimizing interference with traffic flow. These improvements are often done without consideration of the movement of pedestrians and cyclists in the area. This design focus on increasing speeds and capacity for cars can lead to streets that divide neighborhoods and are dangerous and unwelcoming for pedestrians and cyclists.

Transportation engineers and planners are using new approaches to counter automobile-only focused design and instead plan, design and build transportation projects in a manner that addresses the needs of all users: pedestrians, cyclists, public transit riders and motorists. New trends in street design, including Context Sensitive Solutions and Complete Streets, offer ways to design and build more sustainable transportation networks.

1.3 Purpose and Goals of the Non-Motorized Transportation Plan

The purpose of the Juneau Non-Motorized Transportation Plan is to guide the development of a sustainable transportation system with a community-wide walking and biking network that can be used by all Juneau residents for all types of trips.

Specific goals are:

1. Use new approaches to street design that focus on working together early in project design to plan and build transportation projects that address the needs of all users: pedestrians, cyclists, public transit riders and motorists.
2. Encourage an increase in walking, bicycling and other active forms of transportation by providing safe, efficient and easy to use facilities that connect activity centers.
3. Improve Juneau's non-motorized transportation network and decrease the number of bicycle and pedestrian related accidents by identifying unsafe conditions, network gaps and deficiencies and making necessary improvements to sidewalks, bike lanes, paved shoulder lanes, separated paths, intersections and crosswalks.
4. Develop a year-round maintenance program for Juneau's non-motorized facilities with a focus on sweeping and snow removal along the cross-Juneau bikeway and snow removal on sidewalks near schools, transit stops and in busy pedestrian areas.
5. Educate pedestrians, cyclists and motorists so all can use the transportation network safely and efficiently. This will be accomplished in part by improving signage, developing programs that encourage residents to choose active modes of transportation, and through enforcement.

1.4 Types of Non-Motorized Facilities and Definitions

There are several different types of non-motorized transportation facilities. Generally, the term bicycle facility implies improvements or facilities intended to accommodate or encourage bicycling. This can include bike lanes, separated paths, bike parking, maps, signs, route markers, street-crossing amenities and other facilities intended for the use of cyclists. Pedestrian facilities include sidewalks, paved shoulders, crosswalks, signage, separated paths and trails. Different types of facilities will be required in different areas depending on the traffic volume, types of users and existing conditions. This plan focuses on routes that are used by residents to get from one place to another, as opposed to routes that are used for recreation.

Definitions for non-motorized facilities and other terms used in this plan are now provided. Dimensional standards are from the American Association of State Highway and Transportation Officials *Guide for the Development of Bicycle Facilities*.

Arterial: A road that is designed to move large volumes of traffic and goods, generally from one part of the community to another to connect major employment and activity centers to residential areas.

Bicycle Box: This is a painted box located at an intersection that allows cyclists to make left turns ahead of vehicles.

Bicycle Lane: Bike lanes are found to the right of the main traffic lane and carry bicycle traffic in the same direction as adjacent motor traffic. Bike lanes are at least 5 feet wide and have bike route signs and pavement markings. Bike lanes are similar to a paved shoulder except that they are intended for use by cyclists only and will have signs to indicate this.

Bicycle Route: This is a paved shoulder, bike lane, separated path or shared roadway that is designated as part of the community's bike route system and has signs and pavement markings.

Collector: A road designed to carry traffic between local streets and arterials or from local street to local street.

Complete Street: Streets designed and operated to enable safe access for all users within the network. Pedestrians, bicyclists, motorists and bus riders of all ages and abilities are able to move safely along and across a complete street network.

Context Sensitive Design: This is a collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility.

Curb Extension: This is a traffic calming feature that extends the sidewalk or curb line out into the parking lane, effectively narrowing the street width. It is also know as a bulb-out.

Local Street: A road designed to provide access to adjacent properties.

Refuge: This is a raised island placed in the centre of the street at intersections or mid-block to help protect crossing pedestrians from motor vehicles.

Paved Shoulder/Paved Shoulder Lane: This is a striped, paved area to the right of the vehicle travel lane. This is a lane that can be used by pedestrians and bicyclists. Vehicles may also be able to stop in this lane temporarily, but parking is not allowed.

Pork Chop Islands: These are small islands that separate the right turn lane from the through traffic lane, provide a refuge for pedestrians and shorten the crossing distance for pedestrians.

Separated Paths: A separated multi-use pathway is a paved path that is physically separated from the road. Separated paths are shared by pedestrians, cyclists, skate boarders, runners and in-line skaters. In some cases, they may be used by cross-country skiers.

Shared Roadways: These are streets that are shared by both vehicles, cyclists and in some cases pedestrians. Shared roads may have signs to remind motorists to respect other modes of transportation.

Sidewalks: Sidewalks are a paved surface running along a road that is separated from the driving surface by a curb and is designed for pedestrian use. These facilities are not designed for bicycle use and generally should not be considered bicycle facilities.

Trails: A trail is an unpaved corridor that is not accessible to motorized vehicles and often serves multiple uses such as walking, hiking, skiing or bicycling.

CHAPTER 2 – METHODOLOGY

Four key steps – public outreach and engagement, research and field survey, data analysis, and formal public review – were completed to prepare the 2009 Juneau Non-Motorized Transportation Plan.

2.1 Public Outreach and Engagement

Informing the community about the plan update and seeking their experiences walking and cycling in Juneau was accomplished in four ways:

1. Posting information on the CBJ website, running display ads in the Juneau Empire, being interviewed on local radio shows and running public service announcements on the radio before public meetings.

2. Hosting five public meetings in different locations throughout the community to explain the project, answer questions and encourage people to draw routes they use, wish to use, and desire to be improved as they walk, bike or use other non-motorized transportation to get around their neighborhoods and the community. Almost 100 residents attended these meetings.

3. Contacting and/or meeting with agencies or stakeholder groups such as the Alaska Department of Transportation and Public Facilities, the Southeast Road Runners, the Freewheelers Bicycle Club, Trail Mix Inc., Nordic Ski Club and the Juneau Coordinated Transportation Committee.

4. Developing a project questionnaire to solicit written, mapped and emailed comments and ideas on walking and biking destinations, missing links, safety concerns and other obstacles along the routes. Approximately 80 individuals submitted almost 400 unique comments on non-motorized transportation in Juneau. Comments covered a wide range of subjects and scale; from dangerous intersections, to snow removal priorities, to city-wide policies for promoting non-motorized transportation. (See Appendix D for a copy of the questionnaire).

2.2 Research and Field Survey

Maps of the existing non-motorized transportation network needed updating and it was critical to bring current research, practice and trends in active transportation to this project. Research and field work to support plan preparation included:

- Detailed evaluation of the 1997 Plan's recommendations to determine which were completed.
- Field survey and mapping of Juneau's bicycle and pedestrian routes to assess the status and condition of the network.
- Obtain and review non-motorized transportation plans and policy guidance from:
  - Anchorage Metropolitan Area Transportation Solutions. Anchorage Bicycle Plan, Draft 2008.

- Anchorage Metropolitan Area Transportation Solutions. Anchorage Pedestrian Plan, 2007.
- American Association of State Highway Transportation Officials (AASHTO). Guide for the Development of Bicycle Facilities, 1999.
- Bike Pittsburgh, Inc. (www.bike-pgh.org)
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- Pedestrian and Bicycle Information Center. (www.walkinginfo.org)
- Sacramento California. Best Practices for Complete Streets, 2005.
- USDOT FWA Tuner-Fairbank Highway Research Centre. (www.tfhrc.gov)
- USDOT FWA. National Biking and Walking Study 10 Year Status Report, 2004.
- USDOT FWA. Pedestrian Facilities User Guide, 2002.
- Walkable Streets. (www.walkablestreets.com)

- Acquire maps of current zoning and current "build-out" residential density from the CBJ Community Development Department.
- Map community destinations to which providing non-motorized transportation access is important such as schools, commercial and work centers, parks, trailheads and beach access points.
- Compile guidelines and codes governing design and use of non-motorized facilities.
- Acquire and map vehicle-pedestrian or vehicle-bicycle accident data from the Juneau Police Department (October 1999 – October 2008) and the Alaska Department of Transportation and Public Facilities (2002-2006).

Accident Data

Between October 1999 and October 2008, there were 101 documented accidents (five fatalities) involving pedestrians and vehicles, and 98 accidents (one fatality) involving bicycles and vehicles (Table 2-1). (No in-depth analysis was done to determine the specific causes or possible trends.)

TABLE 2-1 VEHICLE AND PEDESTRIAN OR BICYCLE ACCIDENTS	
Intersections with the most accidents	**Corridors with most accidents**
Number of accidents is shown in brackets	
Mendenhall Loop Rd and Egan Dr (7)	Mendenhall Loop Rd – More than (20 + 1 fatality)
Mendenhall Loop Rd and Mendenhall Mall Rd (8)	Egan Dr in the Mendenhall Valley (12)
Mendenhall Loop Rd and Nancy St (3)	Mendenhall Mall Rd (13)
Mendenhall Loop Rd and Stephen Richards Dr (13 + 1 fatality)	Glacier Hwy through Lemon Creek (20)
Mendenhall Loop Rd and Mendenhall Blvd (8)	Glacier Hwy in the airport/Jordan Creek area (13)
Mendenhall Loop Rd and Taku Blvd (3)	Glacier Ave through Downtown Juneau (11)
Glacier Hwy at Walmart (6 + 1 fatality)	Main St (10)
Glacier Hwy and Alaway St (4 + 1 fatality)	South Franklin St (14)
Glacier Hwy and Anka St (4)	Douglas Hwy from the Bridge to Downtown Douglas (10)
Stephen Richards Dr and Riverside Dr (4)	
Glacier Hwy Ninth Ave/Tenth Ave (5)	
Glacier Hwy and Twelfth Ave (3)	
Egan Dr and Willoughby St (5)	
Egan Dr and Main St (4)	
South Franklin St and Front St (6)	
Main St and Fourth Ave (4)	
Douglas Hwy at Cordova St (1 + 1 fatality)	
Sources: Juneau Police Department (October 1999 – October 2008) and ADOT&PF (2002-2006).	

2.3 Data Analysis and Prioritization of Infrastructure Improvements

Strong interest in establishing non-motorized improvement priorities exists for two reasons: to set realistic expectations about improvements that can be accomplished given limited funding and to ensure the investment of public resources provides the greatest possible public benefits in the most efficient way. Prioritized infrastructure improvements are presented in Chapter 7, methodology is reviewed here.

While there is some variation, most non-motorized transportation plans use similar types of criteria to analyze possible improvements and identify priorities. The 2009 Juneau Non-Motorized Transportation Plan used four criteria:

- Potential for pedestrian use, as measured by the maximum residential density when the area is built-out at the allowable zoning density.
- Potential for non-motorized use, as measured by the number of community destinations within a ¼ or ½ mile radius of the proposed improvement.
- Potential for making non-motorized facilities safer by improving an area with pedestrian or bicycle and car crash history.
- The amount of traffic in the vicinity of the proposed improvement.

These criteria, which were used to score projects, were designed to recognize improvements in locations that meet the highest community needs. In addition, attention was given to whether a proposed non-motorized improvement completed a deficiency in an existing route or network, or was recommended in the Juneau Comprehensive Plan, Area Wide Transportation Plan, or 1997 Non-Motorized Transportation Plan. For each criterion, a score between 0 and 3 was assigned. Each criterion is described in more detail in Table 2-2.

Following the application of the four scoring criteria, each project had a minimum of zero points and a maximum of 12 points. Projects scoring 9 to 12 points were ranked as high priorities, projects scoring 5 to 8 points were ranked as medium priorities, and projects scoring 0 to 4 four points were ranked as low priorities.

For example, a project within ¼ mile of a school and a public park, in an area zoned D-18, on a route with average annual daily traffic count of 5,000, and at an intersection with four documented pedestrian-vehicle crashes would score a 12, and thus be recommended as a highest priority improvement project.

TABLE 2-2 PRIORITIZATION CRITERIA
1. Proximity to community destination (schools, shopping areas, recreation destinations including parks, trailheads, beach access points) • 3 Points – Within a quarter mile of two or more community destinations • 2 Points – Within a quarter mile of one community destination • 1 Points – Within half a mile of at least one community destination
2. Maximum potential residential density • 3 Points – Within a quarter mile of a very high density area (more than 11 housing units per acre) • 2 Points – Within a quarter mile of a high density area (between 6 and 10 housing units per acre) • 1 Points – Within a quarter mile of a medium density area (between 4 and 5 housing units per acre)
3. Average Annual Daily Traffic (AADT) count • 3 Points – Recommendation is on a route with a AADT of 4000 or greater • 0 Points – recommendation is on a route with AADT less than 4000.
4. Proximity to Accidents • 3 Points – Recommendation is at a location with three or more accidents • 2 Points – Recommendation is at a location with two accidents • 1 Points – Recommendation is at a location with at least one accident

In addition to infrastructure improvements, a series of recommended policies and implementing actions were developed (see Chapter 8) based on a combination of public comment, discussion with CBJ department staff, and research into non-motorized policies and strategies used by communities. Policies were refined throughout the public hearing and review process.

2.4 Formal Public Review

The draft 2009 Non-Motorized Transportation Plan was issued in February 2009. Notice of its availability was provided by email to a project contact list and posted on the CBJ website. It was reviewed in March during work sessions or committee-of-the-whole meetings with the Parks and Recreation Advisory Committee (PRAC), the Planning Commission and the CBJ Assembly. These meetings were advertised and open to the community. Public comment on the draft plan was accepted for four weeks.

In May 2009 a revised plan was issued for public hearing and approval. Following an opportunity for public comment, the PRAC recommended the Assembly approve the plan and incorporate it into the CBJ Comprehensive Plan at its May 9, 2009 meeting. The Planning Commission took action on the plan at its May 26 meeting, also recommending that the CBJ Assembly approve the plan and adopt it as part of the CBJ Comprehensive Plan. The Affordable Housing Commission reviewed the plan at their August 11, 2009 meeting and unanimously recommended that it be approved by the Assembly. The plan was adopted by the CBJ Assembly on November 2, 2009 by ordinance 2009-15.

CHAPTER 3 – UNDERSTANDING NON-MOTORIZED TRANSPORTATION

3.1 Pedestrians

People walk places for a range of reasons; traveling to work, bus stops, school, recreation and entertainment, health and exercise, social events and errands. The decision to make a trip on foot is based on travel time, weather, safety and route continuity. People also begin and end every car and transit trip as a pedestrian.

People who are walking to a specific destination look for the most direct route with safe crossings. Those who are walking for recreation look for enjoyable and interesting routes. For either type of trip, people choose walking routes that have safe crosswalks, continuous routes, slow traffic speeds, mixed land uses, direction connections to destinations and good urban design.

Pedestrian Friendly Design

The pedestrian experience varies greatly depending on the surroundings. When constructing a new street or rebuilding an existing one, walking can be encouraged by considering the walker's experience. Features such as ample sidewalks, street furniture, crosswalks, curb cuts, pedestrian scale lighting and vegetated buffers between the sidewalk and street make walking safer and more enjoyable.

The specific design of pedestrian elements will depend on the type, capacity and location of the street. Arterial, minor arterial, collector and local streets each need to be designed differently to work well for pedestrians. Key design considerations are:

Safe Crossings: Crossings should include crosswalks and signage to alert all. Crossings should be carefully spaced. If they are too far apart, pedestrians will cross without them, making a dangerous situation. Curb extensions and mid-street refuge areas should be considered on busier streets with adequate right-of-way widths.

Continuous and Direct Routes: Sidewalks and separated paths should provide for continuous pedestrian movement. Gaps and missing links are dangerous for pedestrians. Wherever possible, direct connections to destinations should be provided to reduce walking distances.

Mixed Land Uses: Segregated land use increases the distance between destinations, making walking more difficult. Mixing housing, employment, shopping, schools and recreation will decrease distance between destinations and encourage people to walk.

Accessibility: Pedestrian facilities should be designed to be usable by all. Standard sidewalk widths, proper curb cuts, the absence of obstacles and good maintenance will

mean that seniors, people with disabilities and others with impaired mobility are all accommodated.

Traffic Separation: On streets with high traffic speeds, sidewalks should be separated by a vegetated buffer to provide increased safety, a more pleasant walking experience and space for snow storage.

Interesting Places: The pedestrian environment can be greatly improved with the addition of street furniture, trees and landscaping, human scale lighting, awnings and overhangs, public art and other amenities. The pedestrian experience is also improved where buildings rather than parking lots are closer to the street.

3.2 Bicyclists

The needs of cyclists are somewhat different from the needs of pedestrians. Bicyclists heading to school or work are looking for safe and direct routes. Recreational cyclists are looking for safe routes that have interesting scenery or destinations. Cyclists will use separated paths or, more often, will ride on the road either on a designated bike lane or on the right hand side of a shared road.

Types of Bicyclists

There are three types of bicyclists: advanced, basic and children**.** Because the skills, confidence and preferences of users can vary, it is important to consider all types when designing a non-motorized transportation system. The American Association of State Highway Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities uses the following classification system.

Advanced: Advanced riders are those who use their bicycle much the same way as they use a car. Convenience, speed and direct access to a destination with minimum detour or delay are main priorities. They are generally comfortable riding with traffic, but need to have sufficient operating space on the roadway or shoulder.

Basic: Basic or less confident adult riders may also use their bicycles for transportation purposes but prefer to avoid roads with fast and busy motor vehicle traffic unless there is ample road width. Basic riders are comfortable riding on neighborhood streets and shared use paths and prefer designated facilities such as bike lanes or wide shoulder lanes on busier streets.

Children: Children on their own or with adults may not travel as fast as their adult counterparts but still require access to key community destinations and make up a major part of the non-motorized transportation use in Juneau. They often travel between neighborhoods, schools, parks, stores and recreation facilities. Residential streets with low traffic volume and speeds, linked to designated bike lanes along arterial

streets and separated paths can safely accommodate children without encouraging them to travel in heavy traffic.

A single type of facility will not be able to accommodate all user types. A system of interconnected and continuous facilities is needed so that the advanced rider can ride on the road, while shoulder lanes and separated paths provide options for basic riders and children. Within any given corridor, bicyclists should be provided with a range of options.

3.3 Pedestrian Safety Issues

Accidents involving pedestrians result in injuries that tend to be more serious than in other types of accidents. According to the Federal Highway Administration, approximately 40 percent of accidents involving pedestrians occur at an intersection and 75 percent of accidents occur where there are no traffic controls. Traffic speed is a significant factor in the outcome of a pedestrian accident. If a car traveling 20 mph hits a pedestrian, there is an 85 percent survivability rate. If a car traveling at 40 mph hits a pedestrian, there is only a 15 percent survivability rate.

There are many ways to create a safer environment for pedestrians. Typically safety related improvements involve additional sidewalks and crosswalks, enforcing existing traffic rules, education programs for motorists and pedestrians and altering the design and engineering of roadways.

The Institution of Transportation Engineers lists a number of suggestions for altering the design of pedestrian crossings. Appropriate solutions will vary depending on the particular conditions at each intersection.

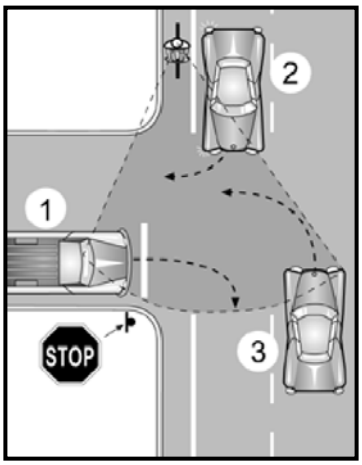
3.4 Bicycle Safety Issues

A somewhat contested question about bicycle safety is whether cyclists are safest within the road right-of-way (a bike lane or a shared road) or if they are better off on a separated path beside the road. While it may seem that cyclists would be safer on a separated path, the opposite may actually be true for adult cyclists. This is because cyclists on a separated path will be traveling at a high speed in an area where drivers of turning vehicles crossing separated paths are not looking for them. By contrast, when cyclists are riding on the road, they have the right-of-way and vehicles entering the road legally have to yield. When cyclists are traveling on a separated path or sidewalk they must yield to both pedestrians and traffic on cross streets. The decision about which type of bicycle facility is the best depends on local conditions and the anticipated type of rider.

Another important aspect of designing safe bicycle facilities is consistency. All road users should have clear and consistent expectations of how other users will behave. Facilities that are designed to provide consistent routes (either on or off the road) will mean that bicyclist behavior will be more predictable to motorists. Intersections where cyclists are merging onto

the roadway from a shared path tend to be dangerous. For this reason, it is best to minimize these transition points.

There are potential safety concerns associated with bike lanes. There are also several potential problems at intersections *(see illustration on right)*. Lastly, there are problems when cyclists must cross lanes of traffic to make a left turn. In areas where there are lots of parked cars, even bike lanes that meet the standards may not be wide enough for cyclists to avoid getting hit by a car door.



Intersection Hazards for Cyclists Riding in Bike Lanes - 1, 2 and3 are each potential conflicts between cyclists and motorists (Source: Oregon Bicycle Manual)

Bicycle Laws and Enforcement in Juneau

Bicycles are legally classified in the State of Alaska as vehicles. There are both State Statutes and provision in the City and Borough of Juneau Municipal Code that apply to bicyclists. Bicyclists are legally allowed to ride on all roads in Juneau with the exception of Egan Expressway from Mendenhall Loop Road to approximately 250 feet north of the entrance to Aurora Harbor. Cyclists are required to follow the rules of the road, whenever applicable.

In addition to motor vehicle laws, there are bicycle laws that cyclists must follow. Bicycles must be equipped with a headlight, functional brakes and a red rear reflector. People under 18 must wear a helmet while riding a bicycle. A bicycle may not be ridden on a sidewalk in a business district. A business district is defined as an area where there are buildings for commercial or industrial purposes for more than 600 feet of street frontage). Bicyclists are to ride as near to the right side of the roadway as practicable. Bicyclists should use the shoulder of the roadway when it is maintained in good condition. If a bicyclist is riding on a trail, path or sidewalk they must use care to avoid collisions and yield to pedestrians. Relevant Alaska State Statutes are in Appendix A and the relevant Juneau Municipal Code is found in Appendix B.

Motorists and bicyclists are sometimes unclear about what rules bicyclists must follow. Several Juneau cyclists have experienced being yelled at or honked by motorists who do not realize that cyclists are allowed to share the road. Sometime though, cyclists do not follow vehicle laws while riding. A common example of this is when bicyclists run stop signs and traffic signals or ride against traffic. This failure to follow laws causes confusion and can lead to conflict between motorists and cyclists. Enforcement of bicycle laws in Juneau is sporadic and enforcing the rules may lead to safer conditions for both cyclists and motorists.

CHAPTER 4 – DESIGNING A BIKABLE AND WALKABLE COMMUNITY

Traditional road building has often been focused on providing improved movement for motorists by widening lanes and limiting non-motorized access. In the past, these road upgrades have often made the movement of pedestrians and cyclists more difficult and dangerous *(see photos below).* There are many ways to improve the design of roads to make conditions safer for walkers and cyclists.

No Space for Bicycles

No Sidewalks on a School Route

Examples of Streets Poorly Designed for Non-Motorized Modes
(Source: Ken Voigt, Ayres Associates)

4.1 Context Sensitive Solutions

The Institute of Transportation Engineers has developed a new method of street design called *Context Sensitive Solutions.* Context Sensitive Solutions involves a collaborative, interdisciplinary approach that includes all stakeholders in the street design process. The goal is to develop transportation facilities that fit the physical setting and preserve the scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility. Context Sensitive Solutions take a project-oriented and location-specific approach to designing streets. This includes shifting the focus solely from the motorist to include consideration of safety, operations, community and aesthetics, natural and built environments and jurisdictional interests.

There are several important differences between conventional street design and *Context Sensitive* Design. Conventional road design was carried out with the goal of meeting certain traffic demand and intersection level of service objectives. Traditionally, these two elements would dictate the number of lanes and classification of the proposed road. This pre-determined outcome of the design process can be a source of conflict with stakeholders and can result in a project that does not work for all users and is incompatible with the surroundings. A *Context Sensitive* approach begins by identifying the critical factors and communicating with stakeholders before establishing design criteria. This process results in a road design that balances level of service needs with environmental, historic preservation or economic development objectives.

Context Sensitive Design is not intended to replace policies, guides and standards that are commonly used. Instead, this approach is intended to illustrate how the flexibility inherent in the guidelines can be applied to make road projects more compatible with community goals *(see photos below).*

Two Examples of Context Sensitive Arterial Street Design
(Source: Right - Institute of Transportation Engineers and left – Ken Voigt, Ayres Associates)

4.2 Complete Streets

The National Complete Streets Coalition has been working for several years to find solutions to the problems with traditional street design. The Coalition has developed the idea of *Complete Street;* these are streets that are designed to give safe access for all users. Pedestrians, bicyclists, transit riders and motorists of all ages and abilities are able to move safely along and across a *Complete Streets*. *Complete Streets* in busy urban areas have features for buses, bicycles and pedestrians as well as for motorists. In a more rural area with less traffic and few pedestrians and cyclists, a paved shoulder may suffice.

The Coalition has been working to promote changes to policies and design at the federal, state and local levels. *Complete Streets* policies have been adopted by both communities and states across the country. Implementation of these new policies can be a challenge and requires updating plans and procedures, collecting new types of data and training staff.

The *Complete Street* movement encourages planning for all users across the transportation network. This does not mean that all streets need to be perfect for all modes, but that the transportation network needs to work for all modes. Rather then requiring a sidewalk on both sides of each street, a *Complete Streets* policy will focus on a pedestrian network that is complete and accessible, allowing pedestrians to reach all destinations safely. Each *Complete Street* project is unique because the best multi-modal solution will depend on local conditions (*see photo next page*).

An Example of a Complete Street
(Source: Ken Voigt, Ayres Associates)

4.3 Traffic Calming Measures

As travel speed is a major contributor to pedestrian and bicyclist injury, traffic calming is often considered as an element of non-motorized transportation planning. Any vehicle traveling more than 30 mph poses a threat to both cyclists and pedestrians. This does not necessarily mean that in order to increase walkability, motor vehicle speed needs to be decreased. More important is total travel time, meaning a trip at lower speeds with fewer stops can be just as efficient as a trip at higher speeds with more stops.

It is difficult to alter an existing arterial to make it more usable for walkers and cyclists. In addition to timing traffic signals for a maximum 30 mph speed, there are several methods suggested by the Institute of Transportation Engineers to make existing arterials safer for non-motorized users. These include:

- Narrower travel lanes – 11 foot lanes are adequate for traffic speeds of 45 mph or less.
- Road diets – changing a four lane into a three lane with bike lanes and a center left turning lane *(see photos on right and on next page).*
- Elimination of any free flow right hand turn lanes – this includes freeway entry or exit ramps as encouraging freeway speeds on arterial streets is dangerous.

Road Diet
(Source: www.saferoutesinfo.org)

Road Diet - This arterial in Whitehorse Yukon was put on a "road diet". This former four-lane road was modified to implement a "complete street." It has two driving lanes, a center turning lane, bike lanes, curb extensions and a vegetated buffer. (Source: City of Whitehorse)

- Median and parkway landscaping – appropriate low maintenance landscaping visually narrows the roadway *(see photos below).*

Median and Parkway Landscaping – Photo to the right shows a poorly designed sidewalk and the photo on the left show a well designed sidewalk with buffer (Source: Federal Highway Administration)

- Curb parking – retaining curb parking provides for community access and creates a traffic calming effect.
- Engineering changes including tightening corner curb radii, raised medians, and curb extensions can also provide traffic calming.

4.4 Design of New Neighborhoods and Buildings

Facilities for non-motorized transportation should be included in the design for new neighborhoods, streets and buildings. In projects that involve upgrades and reconstruction, improvements should be made to bring non-motorized facilities up to current AASHTO standards.

Design of New Neighborhoods

When new neighborhoods or subdivisions are planned non-motorized transportation routes for pedestrians and bicyclists should be included and connect to the existing non-motorized network. In new development areas (for example, on west Douglas Island) public access easement and rights-of-way for non-motorized transportation should be acquired and developed at the same time as the rest of the transportation system. This will minimize potential conflict over where non-motorized facilities should be located, and avoid issues with future homeowners who did not know a trail was planned for an area near their dwelling.

New neighborhoods should have a highly connected street network. Cul-de-sacs are generally discouraged, but if they are necessary, bicycle and pedestrian connections should be provided to connect the ends of the cul-de-sacs.

In general, mixed-use and higher density development should be encouraged in order to reduce travel distances. Shorter distances between destinations will make non-motorized transportation more viable.

Design of New Mixed-Use or Commercial Development

Design of new commercial, mixed-use and multi-family residential development often does not include proper non-motorized facilities. Buildings should be set as close to the lot lines as possible to make a more interesting streetscape and will provide easier access to pedestrians. In parking lots safe, direct and clearly marked walkways should be provided to the building entrance. Where it crosses driving lanes, the walkway should be constructed of a different material (paving stones) and there should be crosswalk signs. Situations where pedestrians must walk behind rows of parked cars should be avoided. Landscaping within parking lots can help to define pedestrian routes, driving areas and parking areas.

CHAPTER 5 – JUNEAU'S NON-MOTORIZED TRANSPORTATION POLICIES AND EXISTING SYSTEM

5.1 Setting

Juneau, the Alaska state capital, has a population of 30,300 with nearly one million tourists visiting each year. It has a mild maritime climate where the amount of rain varies by location; downtown receiving the highest rainfall with 80 inches per year and the Mendenhall Valley with 50 inches annually. The average summer temperature range is from 44° to 65° F. The average winter temperature range is from 22° to 35° F with lows not much below zero and occasional warm periods in the forties. High levels of rain and snow can be a deterrent to non-motorized transportation.

There are several residential areas in Juneau. These areas are spread out and many people live in one area and work in another. Areas include the Mendenhall Valley (population 17,000), Lemon Creek and Twin Lakes area (population 5,000), Downtown (population 4,000) and Douglas Island (population 5,000).

Juneau's streets and neighborhoods are developed along the shore and the valleys between the mountains, Mendenhall Glacier and the Gastineau Channel. As a result, Juneau has a fairly linear layout which has both benefits and drawbacks to non-motorized transportation. The lack of compact densities means that distances are further between neighborhoods and work areas. However, because of the limited number of possible routes, many of the developed areas of Juneau can be interconnected with a small number of facilities.

Juneau's population is active and many people are interested in non-motorized transportation. According to the 2000 census, 60% of Downtown and Thane residents walk to work. This high proportion of walkers indicates that residents are interested in non-motorized modes of transportation and that improving conditions may result in even higher numbers of walkers and cyclists.

In general, the existing planning documents are in support of providing non-motorized transportation in Juneau. Both the Comprehensive Plan and the Area-Wide Transportation Plan contain overall goals related to developing non-motorized facilities area-wide and at specific locations where pedestrians and cyclists currently have difficulties.

5.2 Planning and Policy Context

The 2001 Area Wide Transportation Plan and 2008 CBJ Comprehensive Plan are the primary documents that establish transportation policy, guidelines and actions for Juneau. These plans call for area wide and neighborhood specific non-motorized facilities. The 2009 Juneau Non-Motorized Transportation Plan is guided by this direction, analyzes non-motorized

improvements in more depth, recommends a variety of prioritized improvements to Juneau's transportation network, and identifies funding options.

Area Wide Transportation Plan – 2001

The 2001 Juneau Area Wide Transportation Plan (AWTP) defines the framework for transportation projects in Juneau for the next 20 years. The AWTP's six top priority transportation improvements (as paraphrased in the CBJ 2008 Comprehensive Plan) are:

1. Establish and implement Transportation Demand Management Policies throughout the CBJ focusing on reducing single-occupant-vehicle trips and promoting alternative modes of travel.
2. Increase frequency of transit service throughout the urban and suburban areas with express bus service provided from Auke Bay to Downtown Juneau with a link to Downtown Douglas.
3. Focus on local street connections between subdivisions to maximize connectivity for pedestrian, bicycle and vehicle use and improve connections from neighborhoods to a regional, interconnected and area-wide non-motorized trail system.
4. Establish and maintain bicycle lanes, pathways, sidewalks and bus stops where they are needed. Maintain bicycle lanes, pathways, sidewalks and bus stops with regular restriping, re-surfacing, street sweeping and snow removal.
5. Work with Alaska Department of Transportation/Public Facilities to implement the Safe Routes to School Program.
6. Seek Federal funds for local transportation needs such as trails, pedestrian safety facilities, bike lanes, scenic enhancements and local transit improvements as well as roads and other vehicle transport-and parking-related improvements.

The AWTP includes recommended solutions for both area wide and neighborhood transportation problems. The CBJ Comprehensive Plan supports the implementation of AWTP recommendations; the coordination between these two plans will make implementation of recommendations easier.

The AWTP non-motorized transportation recommendations include maintaining non-motorized facilities; enhancing routes to schools; including walking and biking facilities as appropriate on all road construction and reconstruction; and installing bike racks and constructing off-street pathways to connect neighborhoods and activity centers whenever possible. There are also recommendations aimed at solving specific localized transportation problems and many of these have a non-motorized component.

Juneau Comprehensive Plan – 2008

The Comprehensive Plan guides residents and local officials as they decide the location, intensity and timing of future public and private development and conservation measures. The Plan chapter on transportation sets direction on the local transportation system, including vehicle transport, non-motorized means of transportation, transit policy and sub-area transportation needs.

The Comprehensive Plan includes a section on Non-Motorized Transportation that reinforces the importance of non-motorized transportation and the role it can have in reducing traffic congestion. Encouraging non-motorized transportation is especially important in areas such as Douglas Island and the Mendenhall Valley where many intersections are at capacity, limiting residential development.

Comprehensive Plan Policy 8.2 sets out the specific position of the CBJ on non-motorized transportation.

> ***CBJ POLICY 8.2* – It is the policy of the CBJ to promote and facilitate transportation alternatives to private vehicles as a means of reducing traffic congestion, air pollution, and the consumption of fossil fuels, and to provide safe and healthy means of transportation to all people.**

Development Guidelines for Policy 8.2

1. Require sidewalks and bicycle paths or lanes along newly constructed arterial and collector streets where appropriate, and provide or work with Alaska DOT&PF to provide such amenities along existing roads to provide safe and efficient access and recreation and to reduce pedestrian/automobile conflicts.
2. Provide sidewalks and bicycle paths in and around the expanded campus of the University of Alaska Southeast, particularly in conjunction with the construction of student housing in the Auke Bay area.
3. Require sidewalks and bicycle paths along roadways where higher-density housing is to be provided as a condition of a rezoning application for higher densities.
4. Provide secure, weatherproof bike parking and storage facilities at public buildings and in private developments, particularly developments located along transit corridors.
5. Require that cul-de-sacs and other dead-end streets be connected to neighboring dead-end streets and through-streets with pedestrian and bicycle paths wherever practical in new developments in order to create non-motorized transportation networks for neighborhood residents.

Implementation Actions for Policy 8.2

1. Complete and/or upgrade a continuous separated bicycle/pedestrian pathway between the Mendenhall Valley and downtown Juneau by connecting those portions now existing.

2. Work with the Alaska DOT&PF to construct sidewalks and/or separated paths, or where these are not practical, a wide shoulder of at least 36" along roads that lack such improvements, with a priority given to those corridors which have Average Annual Daily Traffic (AADT) of 4,000 vehicles or more. According to ADOT&PF 2005 data, these corridors are:

    - Glacier Highway – Vintage Boulevard to Fritz Cove Road – 11,000 AADT
    - Glacier Highway – Auke Bay to Ferry Terminal – 6,000 AADT
    - North Douglas Highway – Juneau-Douglas Bridge to Eagle Creek – 4,200 AADT
    - Industrial Boulevard – 4,100 AADT

    Although it did not meet the criteria of AADT of 4,000 or more vehicles and no sidewalks in 2005, the Lemon Creek portion of Glacier Highway (Lemon Drive) had an AADT of between 4,500 and 12,000 (depending on road segment) and insufficient pedestrian and bicycle facilities; accordingly, this corridor should also be given priority in constructing additional pedestrian and bicycle facilities.

3. Implement the pedestrian and non-motorized improvements called for in the Area Wide Transportation Plan as funding becomes available. Where there is a public need for those improvements in the immediate future, actively pursue the funding needed to complete those improvements.

4. Work with the Juneau School District and other agencies to identify opportunities for improved pedestrian and bicycle access to schools.

The CBJ Comprehensive Plan also sets out transportation needs for specific areas of Juneau. Non-motorized transportation policies in these sections are aimed at solving specific problems. This includes identifying gaps where separated paths or sidewalks are needed and specifying that non-motorized facilities should be included in upgrades to the road system.

Southeast Alaska Transportation Plan

This plan is one of a series of regional, multi-modal transportation plans that are components of the Alaska Statewide Transportation Plan. This plan identifies area needs, provides general guidance on transportation development, and recommends specific transportation improvements for Southeast Alaska. The existing Plan was adopted in 2004 and is currently being updated. This plan makes recommendations aimed at improving the water and road connections between communities in Southeast.

5.3 Juneau's Existing Non-Motorized Facilities

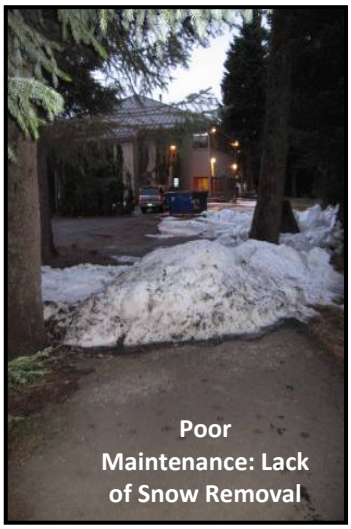
Non-motorized facilities vary across the community. Most streets have sidewalks along at least one side. Juneau has 35 miles of bike lanes and 15.5 miles of separated paths used by bicyclists and pedestrians for recreation and commuting. Figures 1 through 5 depict Juneau's bike lanes and separated paths.

Since the former NMTP was issued the following improvements have been made to Juneau's non-motorized system:

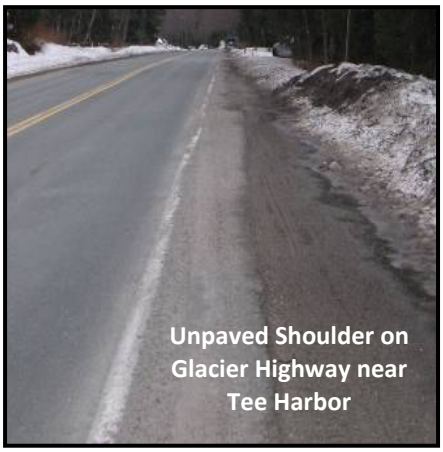
- Sections of the Seawalk have been completed between the Rock Dump and the Juneau-Douglas Bridge.
- Glacier Highway between Tee Harbor and Amalga Harbor has a new paved shoulder.
- A pedestrian bridge was installed across the Mendenhall River at Dimond Park connecting to the Kaxdigoowu Heen Dei trail.
- A roundabout at the west side of the Douglas Bridge was installed improving pedestrian and bicycle movement through the intersection.
- All Capital Transit buses now have front-mounted bicycle racks for transporting bikes. All buses purchased in the future will also have these bicycle racks.
- Bike lanes were added to the Auke Recreation Bypass Road and to the northern portion of Glacier Highway in the Auke Recreation area.
- Bike Lanes were added to Glacier Highway through the Jordan Creek/airport area between Mendenhall Loop Road and the McNugget Intersection.
- On Glacier Highway at the intersection with Anka Street (Costco turn) the bike lane was more clearly delineated and markings painted to show proper vehicle and bicycle movement, and "pork chops" were added to the intersection.
- Flags for pedestrian use were installed on Glacier Highway at the Alaway Avenue intersection near Dzantiki'-Heeni Middle School.
- Bike lanes were added along Tongass Boulevard and Nancy Street in the Mendenhall Valley.
- The separated paths along both sides of the Mendenhall Loop Road were resurfaced and new bridges installed over Jordan and Duck Creeks.
- A separated path was installed along Montana Creek Road between Back Loop Road and Skaters Cabin Road.
- Sidewalks were widened, curb bulbs added, and ADA accessibility improved in downtown along the waterfront, Front Street, Seward Street to the Capitol (awnings for rain protection also installed here) and along 4th Street in front of the Capitol.
- Wayfinding signage was designed and installed throughout downtown.

Deficiencies in Juneau's Non-Motorized Transportation System

There are still many areas where Juneau's Non-Motorized facilities need to be improved. The following is a list of the general types of deficiencies that exist in Juneau's non-motorized transportation system.


Poor Maintenance: Lack of Snow Removal

- There are gaps in the cross-Juneau biking network where the facilities are substandard and dangerous. Specificially, Glacier Highway through Lemon Creek, Glacier Highway between UAS and Mendenhall Loop Road, Glacier Highway and Egan Drive downtown, Willoughby Avenue and Douglas Highway through downtown Douglas should all be brought up to meet AASHTO standards for bike lanes.
- Separated paths and bike lanes are not properly maintained for year-round use (*see photo on right).*
- Routes to schools and sidewalks in school zones can be made safer. This involves identifying main walking routes and adding wider sidewalks, pedestrian activated crosswalks and signage along these routes. This should be accompanied by school based encouragement and education programs.


Unpaved Shoulder on Glacier Highway near Tee Harbor

- Roads in rural areas often do not have paved shoulders, sidewalks or separated paths and are dangerous for pedestrians. Thane Road, North Douglas Highway from the boat launch to the end of the road and Glacier Highway from Lena Point to Tee Harbor and from Amalga Harbor to the end of the road are currently dangerous for pedestrians and bicyclists (*see photo on right).*
- There is no map or guide that shows existing facilities for non-motorized transportation.
- Many destinations do not have bicycle parking facilities and those that exist are often poorly located, unmaintained or of substandard design.
- The sidewalk system is nonexistent or incomplete. Glacier Highway through Lemon Creek, Glacier Highway in the Auke Bay area, Mendenhall Mall Road, Douglas Highway, Anka Street, North Douglas Highway and Egan Drive in the downtown area currently have substandard or incomplete sidewalk systems (*see photo on right*).

No Sidewalks

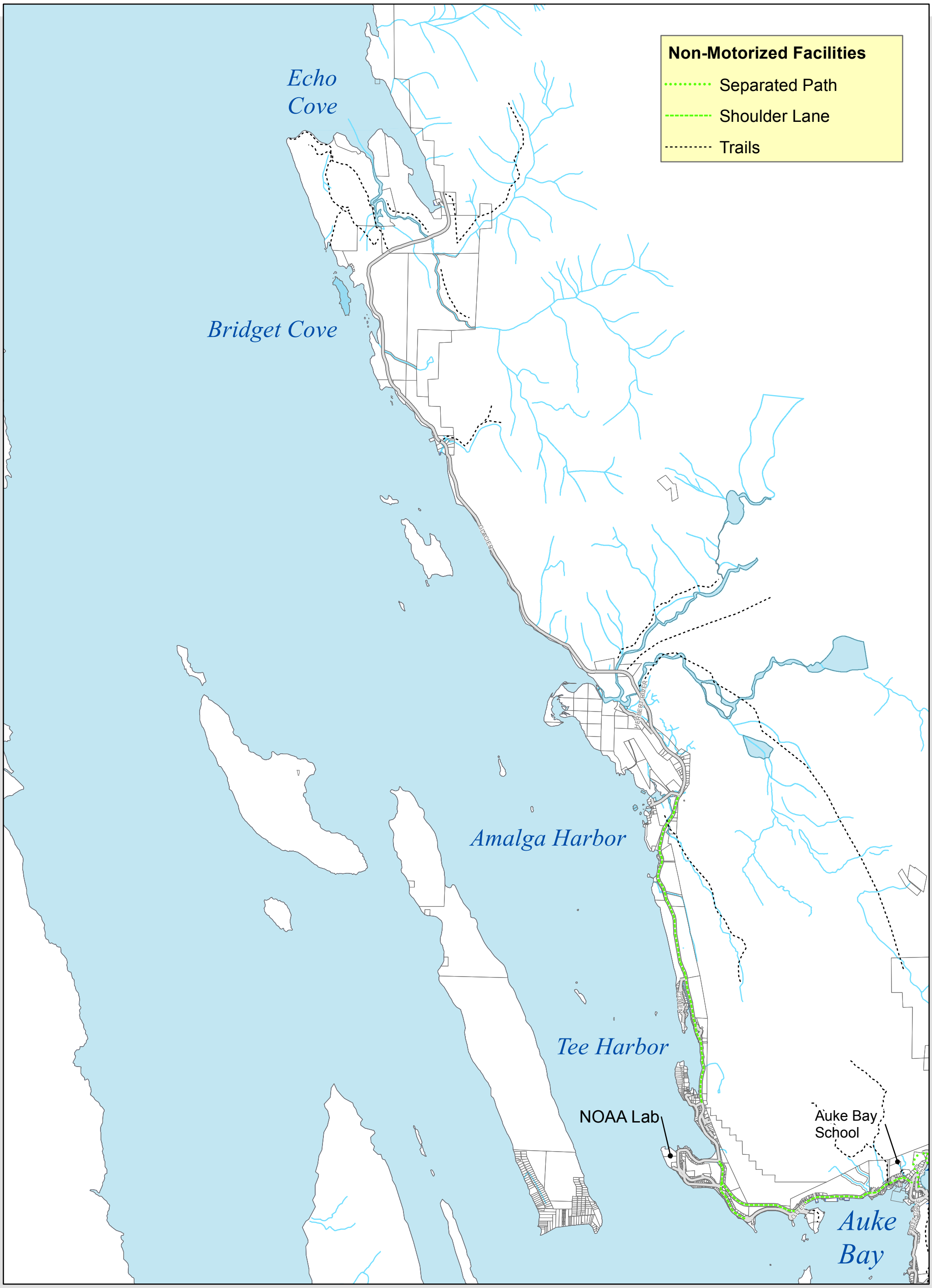


Figure 1: Auke Bay to Echo Cove - Existing

Source data: City and Borough of Juneau GIS
USGS National Elevation Dataset
Date:4/20/2009
Drawn By: GAG
Datum: Nad 27
Projection: Alaska State Plane Zone 1

N W E S

0 5,000 10,000 20,000 Feet

0 2 4 Miles

Juneau
Non-Motorized
Transportation Plan

Information originally obtained from the CBJ GIS was used to create this product. The CBJ assumes no responsibility for the completeness or accuracy of the data contained within.

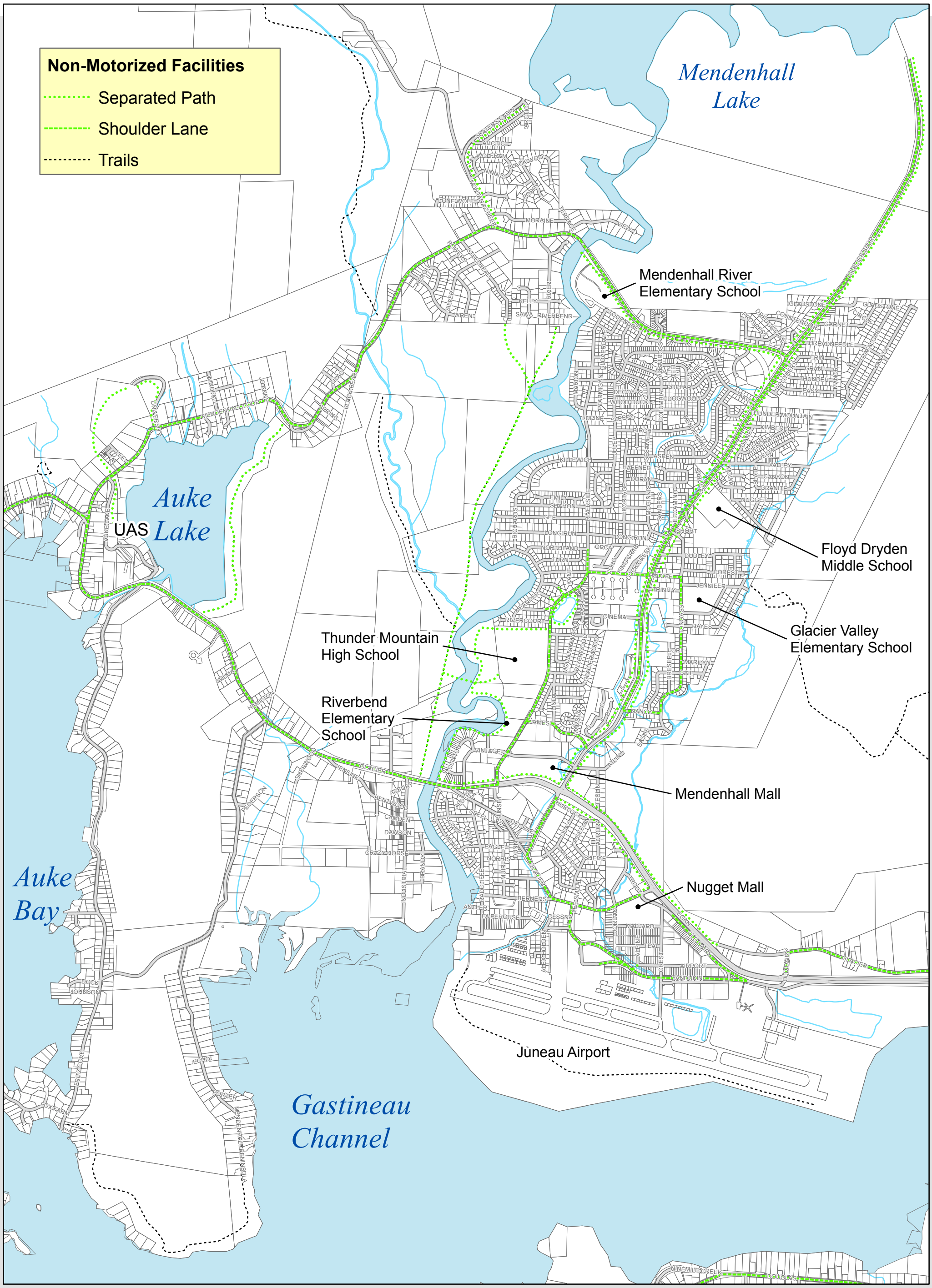


Figure 2: Mendenhall Valley Area - Existing

Source data: City and Borough of Juneau GIS
USGS National Elevation Dataset
Date:11/03/2009
Drawn By: GAG
Datum: Nad 27
Projection: Alaska State Plane Zone 1

N W E S

0 1,000 2,000 4,000 Feet

0 0.5 1 Miles

Juneau
Non-Motorized
Transportation Plan

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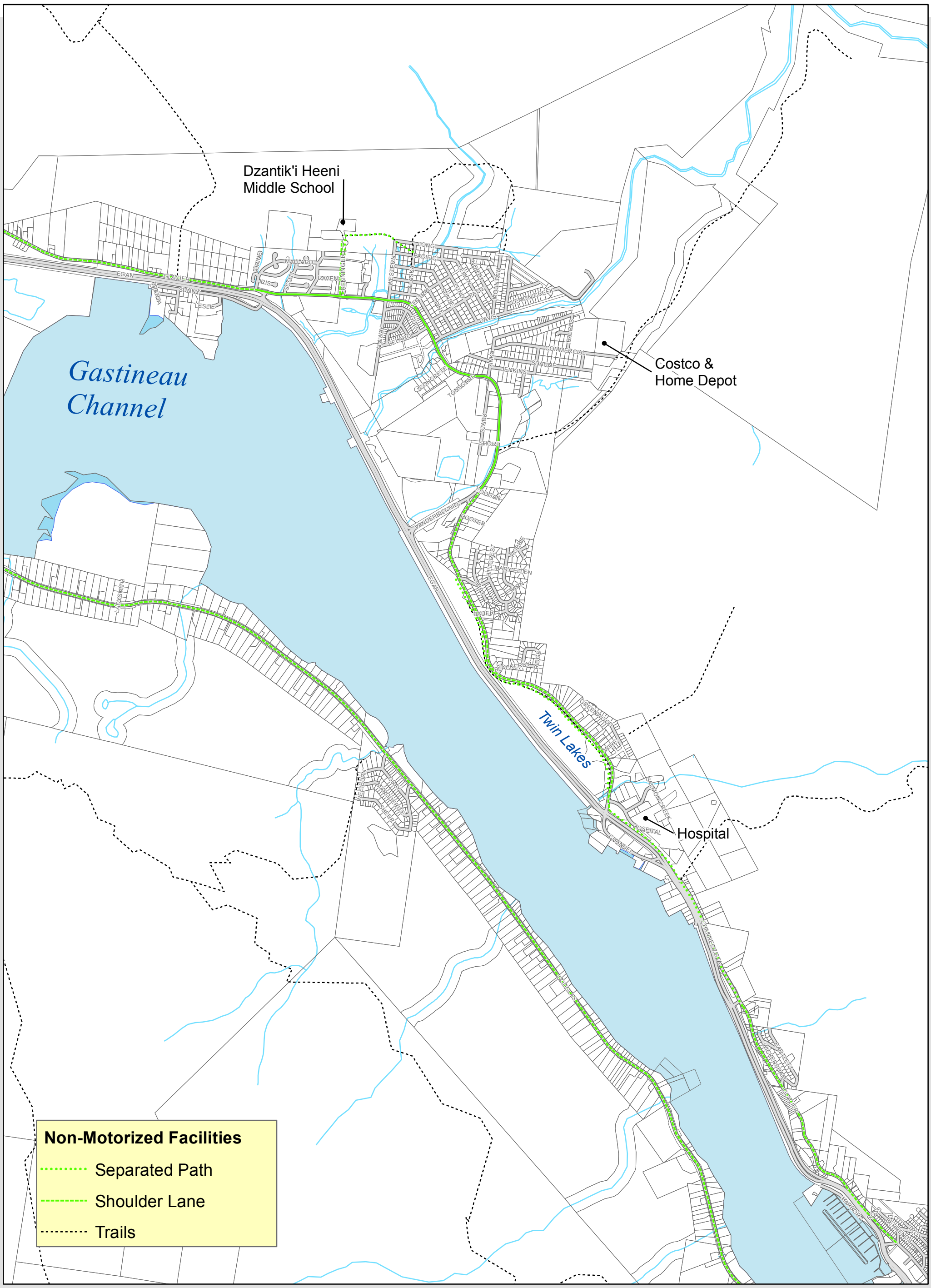


Figure 3: Twin Lakes and Lemon Creek Area - Existing

Source data: City and Borough of Juneau GIS
USGS National Elevation Dataset
Date:4/20/2009
Drawn By: GAG
Datum: Nad 27
Projection: Alaska State Plane Zone 1

N W E S

0 1,000 2,000 4,000 Feet

0 0.5 1 Miles

Juneau
Non-Motorized
Transportation Plan

Information originally obtained from the CBJ GIS was used to create this product. The CBJ assumes no responsibility for the completeness or accuracy of the data contained within.

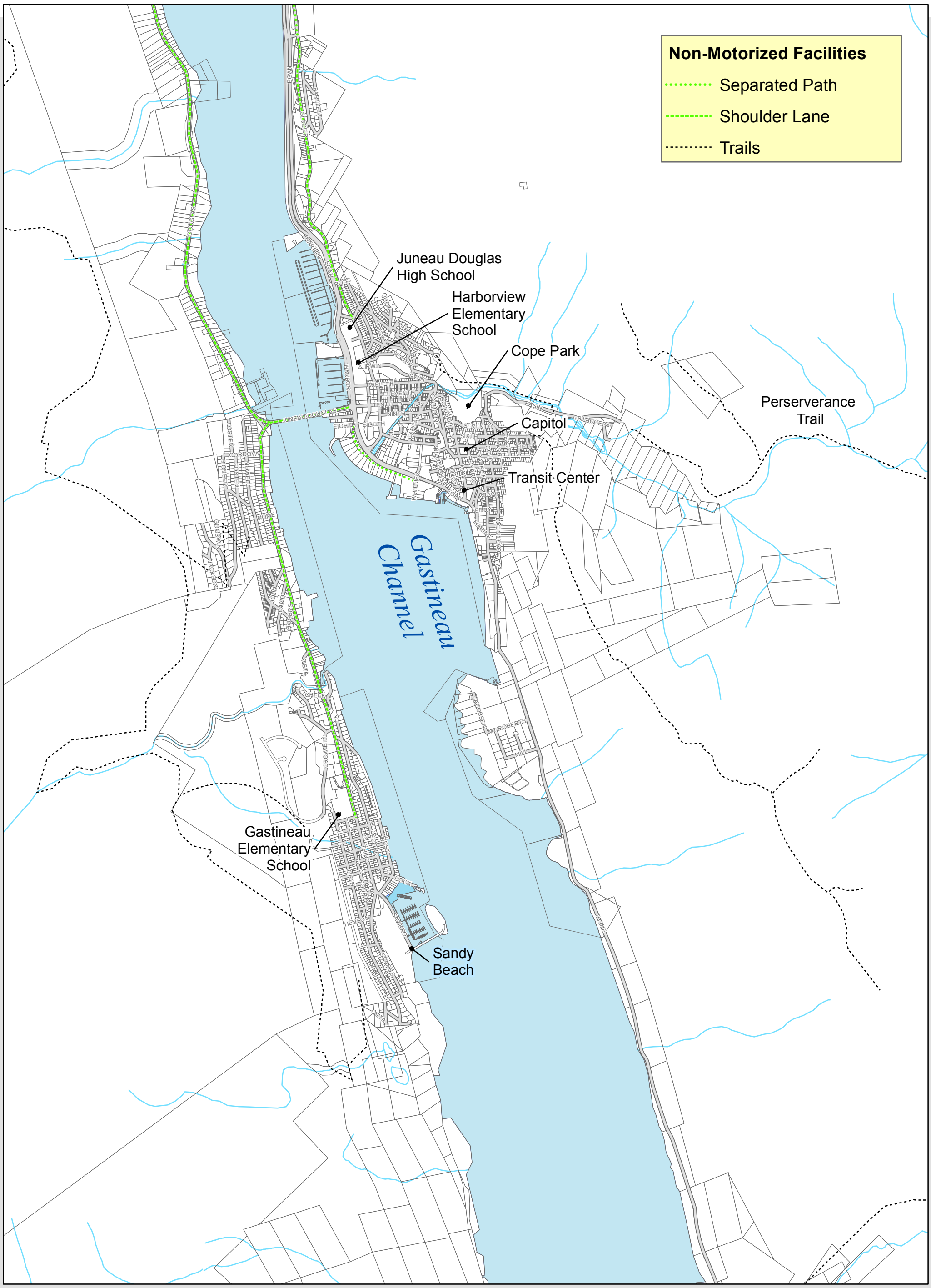


Figure: 4 Downtown and Thane Area - Existing

Source data: City and Borough of Juneau GIS
USGS National Elevation Dataset
Date:4/20/2009
Drawn By: GAG
Datum: Nad 27
Projection: Alaska State Plane Zone 1

N W E S

0 1,000 2,000 4,000 Feet

0 0.5 1 Miles

Juneau Non-Motorized Transportation Plan

Information originally obtained from the CBJ GIS was used to create this product. The CBJ assumes no responsibility for the completeness or accuracy of the data contained within.

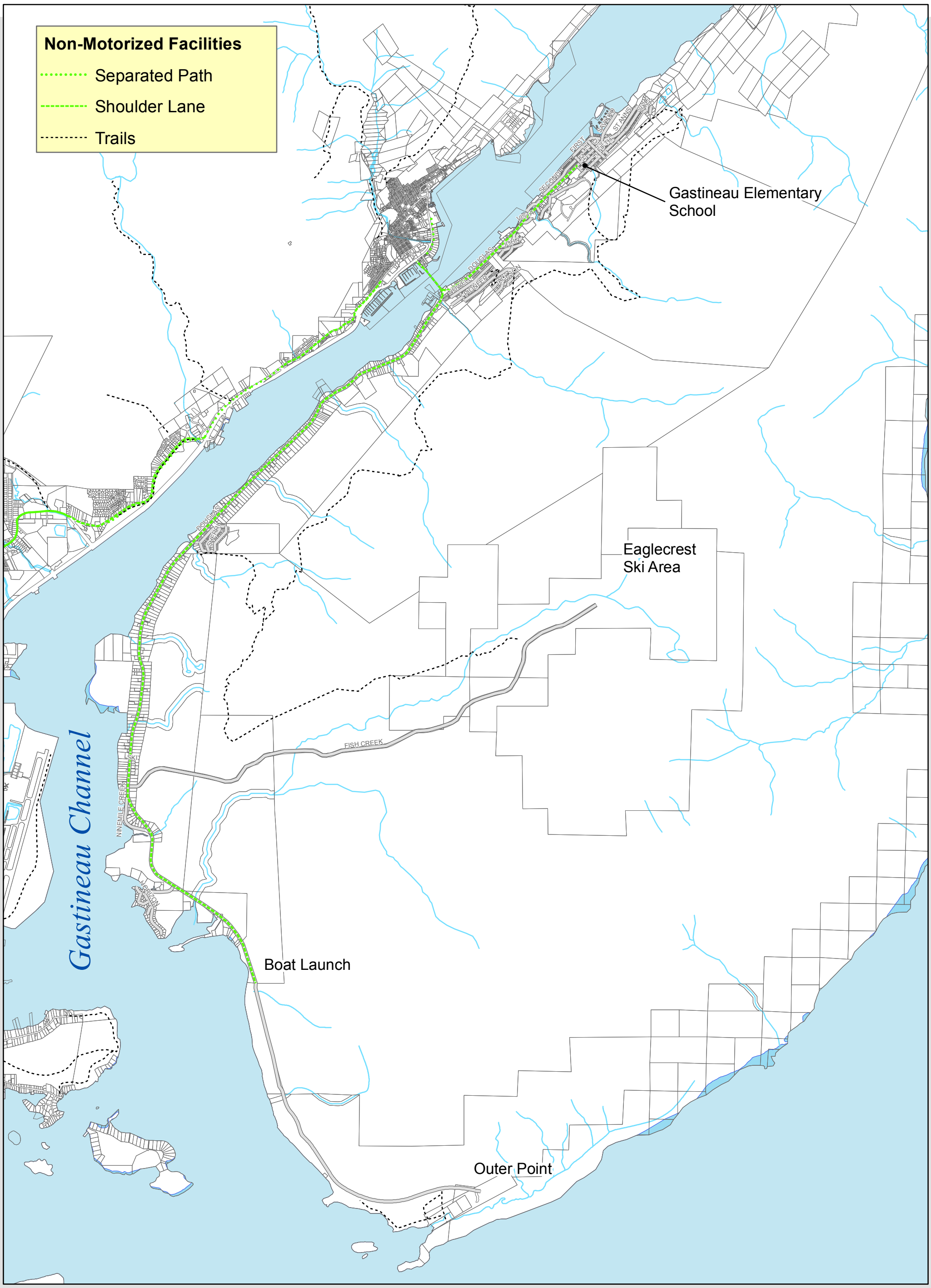


Figure 5: Douglas Island - Existing

Source data: City and Borough of Juneau GIS
USGS National Elevation Dataset
Date:4/20/2009
Drawn By: GAG
Datum: Nad 27
Projection: Alaska State Plane Zone 1

N E S W

0 2,000 4,000 8,000 Feet

0 1 2 Miles

Juneau
Non-Motorized
Transportation Plan

Information originally obtained from the CBJ GIS was used to create this product. The CBJ assumes no responsibility for the completeness or accuracy of the data contained within.

CHAPTER 6 – DESIGN STANDARDS

6.1 Specific Regulations

There are several sets of standards that apply to the design and development of non-motorized facilities. The American Association of State Highway and Transportation Officials (*Guide for the Development of Bicycle Facilities* gives design specifications including dimensions for the design of bicycle facilities including shared roadways, bike lanes, shared use paths, bicycle parking and pavement markings.

The Federal Highway Administration's (FHWA) *Manual on Uniform Traffic Control Devices* sets out standards for school zone signage, bicycle facility signage and pedestrian crossing signs. The FWHA also sets out specific regulations for pedestrian facilities in the *Pedestrian Facilities User Guide, 2002.*

Title II of the Americans with Disabilities Act requires local governments to make their activities, programs and services accessible to people with disabilities. This means that accessible design standards should be used for new and reconstructed sidewalks, crosswalks and separated paths. Priorities for improving accessibility are standardized curb cut ramps, connecting gaps in the sidewalks, ensuring that sidewalks do not end abruptly and ensuring access to transit. Snow removal and providing safe access during construction are also important.

6.2 Sidewalk Standards

Sidewalks should be a minimum of 5 feet wide and meet the requirements of the American Disabilities Association for providing barrier free access. Curb cuts or ramps should be installed at all intersections and at mid block locations where there are crosswalks (*see photo below*). Ramps should have a slope of no more than 1:12 and tactile warning should be used to mark transitions for pedestrians with visual impairment. Sidewalks should be continuous, not end abruptly and extend to the main entrances of public buildings.

Example of Sidewalk with Curb Cuts and Ramp
(Source: Front Street Downtown Juneau)

In commercial or mixed-use areas and near schools there should be sidewalks 8 to 10 feet wide on both sides of the street *(USDOT FWHA Pedestrian Facilities User Guide, March 2002).* On streets with higher traffic volumes and speeds, a vegetated buffer 4 to 6 feet wide will make the sidewalk safer and more pleasant for walkers. Snow that is cleared from the street and sidewalk can be stored in this buffer area. Other streetscape improvements such as adding

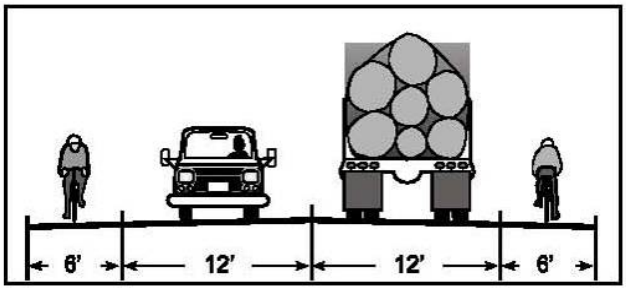
street trees, pedestrian scale lighting, landscaping and furniture will make walking more enjoyable and may encourage people to take more trips on foot.

Example of Paved Shoulder (Source: Federal Highway Administration Safety)

6.3 Paved Shoulder Lanes

Paved shoulder lanes are found to the right of the main driving lane and are delineated by a white line at least 6 inches wide. Paved shoulder lanes differ from bike lanes in that they are not designed for exclusive use by bicycles. They are often used in rural areas to accommodate both pedestrian and bicycle traffic *(see photo on right).* They have no pavement markings other than the roadway striping. They may have a Share the Road sign ("sharrow") or, where they are part of the community bike route system, they should have appropriate bike route signage.

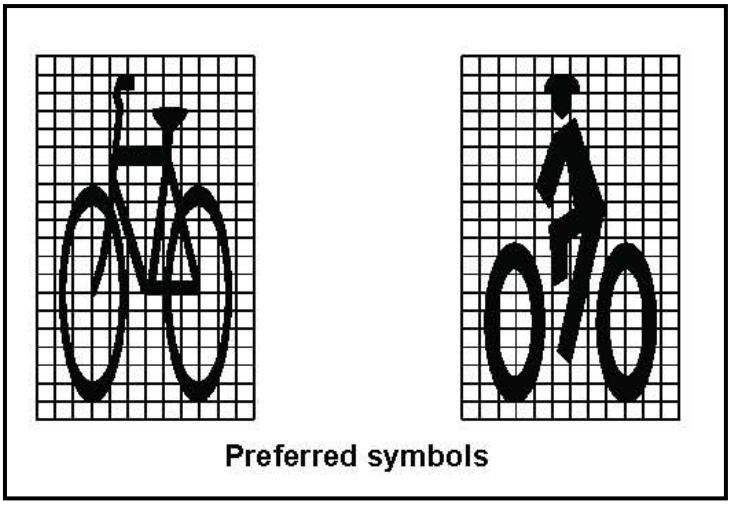
The added space provided by paved shoulders increases safety for all users of the road. Another benefit of paved shoulders is that they reduce deterioration at the edge of the road surface and thus can also extend the service life of the road surface. A paved shoulder should be a minimum of 4 feet wide. On roads where there is a curb or other roadside barrier, 5 feet is required *(AASHTO Guide for the Development of Bicycle Facilities).* Where there are lots of parked cars, high traffic volumes or speeds or steep grades the paved shoulder should be at least 6 feet wide (*see illustration on right).*



Cross section Example of a Shoulder Lane (Source: JNMTP 1997)

6.4 Bike Lanes

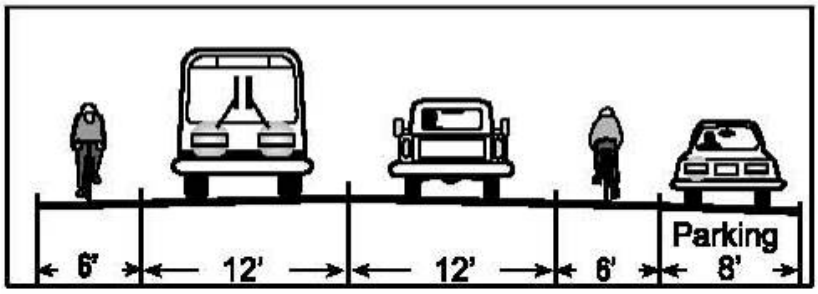
Bike lanes are located to the right of the main traffic lane and are designed to carry bike traffic in the same direction as adjacent motor traffic. A bike lane should be 6 feet wide and be delineated using a 6 inch solid white line and painted with the standard bicycle paving symbols and directional arrows *(see illustration on right).*



Example of Pavement Markings (Source: AASHTO)

In areas where the bike lane is adjacent to a curb face or guardrail, where there is a steep grade or lots of traffic, bike lanes

may need to be wider than 6 feet. If there are physical width limitations, or if there is no curb, a minimum of 4 feet may be acceptable *(AASHTO Guide for the Development of Bicycle Facilities).* In areas with on-street parking, a second 6 inch solid white line should be painted between the parked cars and the bike lane (*see cross section on right*).



Cross section of a Bike Lane (Source: JNMTP 1997)

Regular pavement maintenance, sweeping and snow removal is critical to not only encourage use but prevent accidents. Drainage grates should be bicycle safe with grates set perpendicular rather than parallel to the direction of travel. On high traffic streets, the entire bike lane can be painted either blue or green to make it more visible *(see photo on below left).*

Bike lanes should be designed to provide the safest and most direct route across town, between neighborhoods and to schools. On routes where bicycles will be traveling but where the road is too narrow to include a bike lane 6 feet wide, share-the-road ("sharrow") signs or markings may be used. This is not a preferred option, but may be required to connect bike lanes on well traveled routes *(see photo below right).*

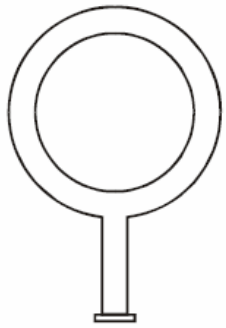
Above: Example of a "Sharrow"
(From City of Vancouver, Canada)

At left: Example of Green Bike Lane (Source: www.nycbikemaps.com)

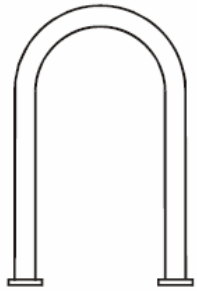
6.5 Bike Racks

Bike racks should be installed in a convenient and visible location as close to the building's front entrance as possible. Bike racks should be designed to allow the bicycle frame and both wheels to be locked to the rack using a U-type lock *(see illustrations on right).* CBJ has installed several "Cora W Series" bike racks and are pleased with the results. According to AASHTO bicycle racks should:

- Not bend wheels or damage other bicycle parts.
- Accommodate high-security U-shaped bike locks.
- Accommodate locks securing the frame and both wheels (preferably without removing the front wheel from the bicycle).
- Not impede or interfere with pedestrian traffic.
- Be easily accessed from the street and protected from cars.
- Be visible to passersby to promote usage and enhance security.
- Be covered where users will leave their bikes for a long time.
- Have as few moving parts as possible.
- Accommodate a wide range of bicycle shapes and sizes.
- Be simple to operate.
- Bike racks must be spaced to provide easy access.



Post & Loop
One rack element supports two bikes



Inverted "U"
One rack element supports two bikes

Examples of Good Bike Racks
(Source: FHWA Safety)

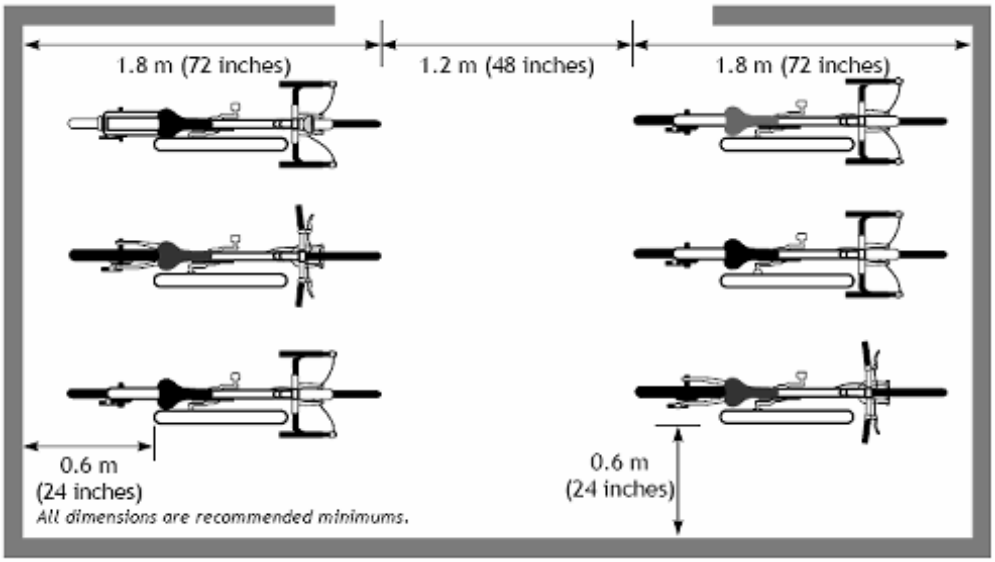


Diagram Showing Spacing for Bicycle Parking (Source: FWA Safety)

Many communities now have ordinances related to bicycle parking. These ordinances will typically set out design guidelines, number and location of the bike racks. The number of bike parking spaces required can either be set as a function of the type of development or as a standard percent of the required off-street automobile parking. For example, in Ann Arbor the City Ordinance requires 5 bike parking spaces per classroom for elementary schools *(see photo on right)* and one bike parking spot per 10 units in a multi-family residential development.

Bike Racks at a Floyd Dryden School
(Source: Nathan Coffee)

Decorative Bike Racks in Whitehorse (Source: City of Whitehorse)

6.6 Separated Paths

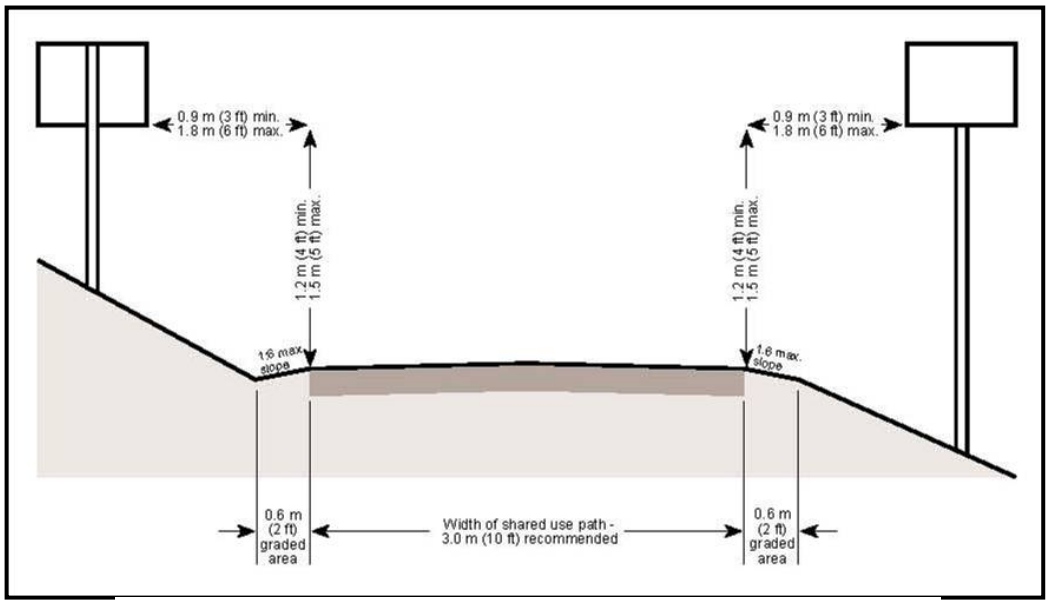
A separated multi-use pathway is a facility that is physically separated from the road *(see photo on right).* The pathway may be within the road right-of-way or may be completely separate. The pathway can be separated from the road by either an open space or a physical barrier. Users can include bicyclists, in-line skaters, wheelchair users and pedestrians including walkers, runners and people with baby strollers and dogs.

Separated Multi-Use Path (Source: Safe Routes to Schools)

A separated path can provide bicyclists and other users with a shortcut through a

residential neighborhood, an enjoyable ride in a park or along a shoreline. Separated paths need to be located where there are minimal driveway crossings or road intersections. Traffic intersecting a separated pathway can be very dangerous as cyclists will be crossing streets in an area where the motorist does not expect them.

Separated paths should be a minimum of 10 feet wide and should be separated from any adjacent road surface by at least 5 feet *(see cross section below).* Intersections where a separated path meets the road are especially dangerous and should be designed carefully; in these situations installing signage warning both non-motorized users and cyclists is important.



Cross section of a Separated Path (Source: AASHTO)

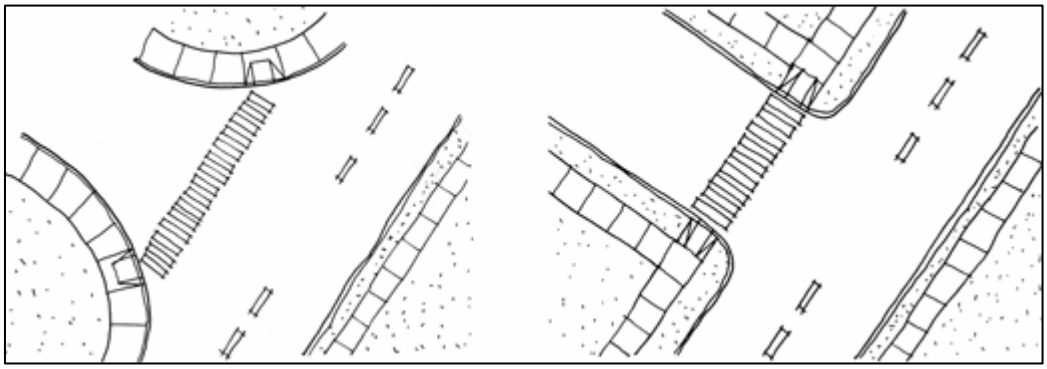
6.7 Safe Crossings and Intersections

Safe road crossings for bicyclists and pedestrians are very important for non-motorized transportation. Twelve types of alterations or crossing treatments that increase safety at intersections are described below. These are not design standards, but are options for the design of new intersections or the modification of existing intersections that will make them safer for non-motorized users.

- Adding corner "pork chop" islands to shorten crossing distance at intersections *(see illustration on right).*

"Pork Chop" Island

- Narrower vehicle travel lanes to shorten the pedestrian crossing distance and slow traffic.
- Additional street lights to increase visibility of pedestrians and bicyclists.
- Tighter corner curb radii to slow turning traffic, shorten pedestrian crossing distances and provide space for perpendicular curb ramps *(see illustration below).*



Reduced Curb Radii
Image on left allows car to turn at higher speeds. The sidewalk on the illustration to the right has been modified by reducing the curb radius to slow down turning speed and increase pedestrian safety. (Source: www.bicyclinginfo.org)

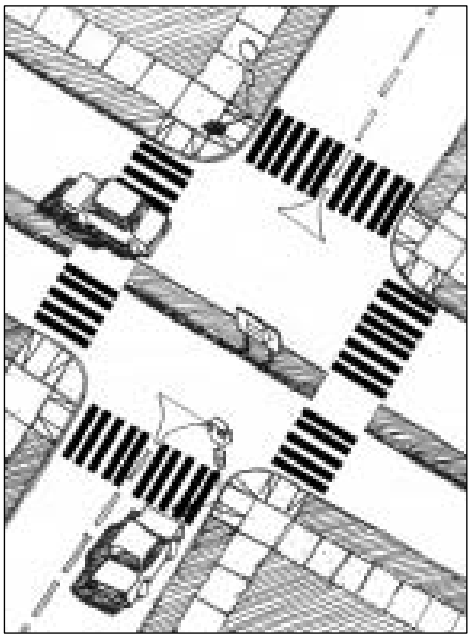
- Raised medians to provide pedestrian refuge and allow pedestrian to cross half the street at a time *(see photo on right).*
- Signs warning motorists of the presence of pedestrians.
- Pedestrian activated crosswalk warning signs on streets with many pedestrians and heavier traffic flow where there are currently no traffic lights.
- Full traffic lights with pedestrian signals at intersections that currently have no signals.
- Countdown clocks telling pedestrians how long they have to cross the street at signalized intersections.
- Curb extensions to shorten pedestrian crossing distance, improve sight lines and provide space for curb ramps (*see photo to right).*

Raised Median Creating a Refuge Island
(Source: Federal Highway Administration)

Curb Extension (Source: Federal Highway Administration)

- Crosswalks that are easy to see and last a long time. Continental or ladder style crosswalks are marked with thick white lines perpendicular to the direction of travel, are easy to see and long lasting *(see illustration to right).*

- Roundabouts where a large circular, raised island located at an intersection takes the place of a traffic signal and traffic entering the circle yields to traffic already in the roundabout *(see photo below).*



Continental Crosswalks (Source: Federal Highway Administration)

Roundabout
(Source: Federal Highway Administration)

CHAPTER 7 – RECOMMENDED INFRASTRUCTURE IMPROVEMENTS

The overall goal of Juneau's Non-Motorized Transportation Plan is to foster a more sustainable transportation system by developing a community-wide biking and walking network that can be used by all residents for all types of trips. This chapter presents the following:

7.1 – The highest priority infrastructure improvements
7.2 – Crosswalks, bridges and intersection improvements
7.3 – Sidewalk and streetscape improvements
7.4 – Shoulder lane improvements
7.5 – Bicycle facility improvements
7.6 – Separated path improvements

The location of each recommended infrastructure improvement is shown on the maps in Figures 6 through 11 and has a unique identification number. The recommendation numbers shown in the following tables can be used to locate the project on the map. Note that not all neighborhood trails that connect cul-de-sacs and serve other non-motorized purposes that have been approved by the Planning Commission are captured on the maps. A list of the recommended improvement projects by area can be found in Appendix D.

7.1 Highest Priority Non-Motorized Infrastructure Improvements

Below is a list of the 18 Highest Priority infrastructure improvements for Juneau. (Additional high priority recommendations exist, but those listed below are the top priorities.) Each is briefly described and the reason for its listing cited. Their order does not infer priority status or implementation timing, as all improvements are important and should be implemented as opportunity and funding allows. The numbers in the description of the improvement (#XX) can be used to identify the improvement on the maps found on Figures 6 to 10.

Juneau-Wide Improvements

1. **Cross-Juneau Bikeway -** Identify gaps, bring all routes up to standards add signs. This focus on a bikeway way will raise the visibility of cycling in Juneau and will encourage residents to take more trips by bicycle. (See Figure 11 and Table 8.1).

2. **Paved Shoulder Lanes -** Add paved shoulder on North Douglas Highway from Boat Launch to the end (#94), Thane Road from downtown to the (#66), and Glacier Highway from Lena Loop to Tee Harbor (#11) and from Amalga Harbor to end (#13). These routes are part of the cross town bikeway and are recreation destinations. The paved shoulder will provide space for both pedestrians and cyclists.

Auke Bay (Figure 6) and Mendenhall Valley West (Figure 7)

3. **Glacier Highway in Auke Bay/UAS Area -** Sidewalk improvements in University of Alaska Southeast (UAS) and Auke Bay area including complete sidewalk system and crosswalks where needed (#2 and #12). The area includes residential and commercial uses, the UAS and an elementary school and has many pedestrians. Pedestrian improvements will make the area safer and will encourage increased pedestrian use.

4. **Bike Lane Glacier Highway from Deharts to Brotherhood Bridge -** Bike lane along Glacier Highway from Deharts to the Brotherhood Bridge needs to be brought up to standards for width, pavement markings and signs (#3). The paved shoulder in this area is currently variable in width and does not have consistent pavement markings and signs. This route has high traffic volumes and speeds and is part of the cross town bike route.

Mendenhall Valley East (Figure 7)

5. **Mendenhall Loop Road Intersections -** Improve five Mendenhall Loop Road intersections for pedestrians (#27, #30, #31, #33 and #34). There are many community destinations, including schools, on both sides of this road. Accidents involving pedestrians and cyclists have occurred at each of these intersections and steps need to be taken to make these crossings safer.

6. **Brotherhood Bridge -** Widen Brotherhood Bridge and add bike lanes and a wider, safer sidewalk. The bridge is currently too narrow and is part of the cross-Juneau bikeway (#24).

7. **Mendenhall Mall Road -** Improve Mendenhall Mall Road for non-motorized users by adding crosswalks, bike facilities and sidewalks. This is close to Juneau's largest population center and near many schools and community destinations. Signage and pavement markings to delineate the road from the parking lot are not adequate particularly in winter (#25).

8. **Glacier Highway Bike Lanes -** Bike lane on Glacier Highway from Brotherhood Bridge to the Mendenhall Loop Road needs to be brought up to standards for width, pavement markings and signs (#26). The paved shoulder in this area is currently variable in width and does not have consistent pavement markings and signs. This route has high traffic volumes and speeds and is part of the cross town bike route.

9. **Under Thunder Trail -** Complete the Under Thunder separated path along the eastern edge of the Mendenhall Valley neighborhood (#36). This path will provide an off-road alternative for commuters heading downtown and between neighborhoods in an area with high traffic volumes.

Lemon Creek and Twin Lakes (Figure 8)

10. **Lemon Creek Sidewalks and Bike Lanes -** Improve non-motorized facilities on Glacier Highway in Lemon Creek from Sunny Point intersection to Vanderbilt Hill Road – complete sidewalks on south-west side of the street and bring bike lane up to standard. The Lemon Creek area is very dangerous because it has a high number of pedestrians and significant commercial and industrial traffic moving at high speeds. Currently the paved bike lane is variable in width and there is only a sidewalk on one side of the street (#45 and #53).

11. **Lemon Creek Crosswalks -** Add or improve crosswalks along Glacier Highway at Anka Street, Walmart and Concrete Way (#46, #49 and #47). This area has many pedestrians, including children and high traffic volumes and speeds. Crosswalks do not currently exist at Concrete Way or at Walmart. There have been accidents at all three locations.

Downtown and Thane (Figure 9)

12. **Egan Drive Downtown Bike Lanes -** Add a bike lane on Egan Drive from the Juneau-Douglas Bridge to Main Street. This is part of the cross town bikeway and there is currently no provision for bicycles (#62).

13. **Egan Drive Downtown Pedestrian Improvements -** Improve Egan Drive for pedestrians from the Juneau-Douglas Bridge to Main Street by calming traffic and improving or adding crosswalks at Gold Creek/Glacier Avenue (#68), Whittier Street (#69), Willoughby Ave (#75) and Main Street (#74). This area is home to many community destinations and with new development underway that will increase pedestrian use.

14. **Glacier Avenue Downtown -** Improve sidewalks, crosswalks and bike lanes on Glacier Avenue between Highland Drive and 12th Street. Focus improvements on safe routes to schools (#63 and #64).

15. **Seawalk -** Connect existing segments to complete the route from Aurora Harbor to the Rock Dump. This has been a community priority for many years. Once completed, it will provide benefits for residents and tourists and will relieve congestion on downtown sidewalks (#61).

Douglas Island (Figure 10)

16. **Douglas Highway Bike Lane -** Complete Douglas Highway bike lane from where it ends now near Gastineau School to the Savikko Road intersection (#84). This is part of the cross town bikeway and the bike lane ends abruptly making a dangerous situation.

17. **Intersections on Douglas Highway -** Improve intersections on Douglas Highway at Cordova Street (#88), Crow Hill Drive (#86), Savikko Road (#89) and Douglas Library (#87). This is the main route through the area and several accidents involving pedestrians and bicycles have taken place at each intersection.

18. Treadwell Ditch - Rebuild trails and bridges along this 17 mile trail transportation and recreation corridor that connects Douglas and the Eaglecrest reaction area (#90). This trail connects several residential areas and will provide an off-road alternative to Douglas Highway.

7.2 Safe Crosswalks, Bridges and Intersections

Most of Juneau's intersections already have pedestrian cross-walks, so improvements for non-motorized users are to make crossing areas more obvious and visible through a variety of specific techniques such as adding new signs, pavement coloring, markings or other additives, additional street lighting, adding curb extensions and traffic calming measures. Crossing and intersection improvements listed on Table 7-2 are at locations of accidents between pedestrians or cyclists and cars or were identified as difficult to cross by users, or both, and are ranked by priority. For each crossing or intersection, recommendations to improve its use for non-motorized users are included.

TABLE 7-1 CROSSWALK, BRIDGES AND INTERSECTION IMPROVEMENTS

High Priority	
Improvement No.	**Description**
Auke Bay (Figure 6) and **Mendenhall Valley West** (Figure 7)	
4	**Fritz Cove Road and Glacier Highway** • DOT may install a roundabout at this location • Second option would be full traffic light with signal for pedestrians or pedestrian activated light with signs and continental crosswalk markings
5	**Glacier Highway and Back Loop** • Build roundabout at this intersection
6	**Glacier Highway and Industrial Boulevard** • Traffic light with signal for pedestrians • Second option is a pedestrian activated light with signs and continental crosswalk markings
Mendenhall Valley East *(Figure 7)*	
22	**Riverside Drive at Dimond Park** • Pavement markings following AASHTO guidelines for bicycle turning lanes should be added • Consideration as part of the upcoming CBJ Riverside Drive pedestrian study
24	**Brotherhood Bridge** • Widen bridge to allow bike lanes at least 6 feet wide on both sides • Needs to be year round maintenance priority • Informal non-motorized underpass formalized, widened and made safer
27	**Nancy Street and Mendenhall Loop Road** • Currently no signals • Addition of "pork chops" and decreasing the turning radius to shorten crossing distance on Nancy Street • Continental crosswalk markings and traffic calming along Mendenhall Loop Road will increase safety

28	**McNugget Intersection** • Adding signs and continental crosswalk markings • Consider adding additional crosswalk across Egan Drive on west side
29	**Egan Drive and Riverside Drive** • Decrease turning radius and add "pork chops' and center refuge island to decrease crossing distances • Continental style crosswalk markings • Initiate safe routes to schools program and follow recommendations
30	**Mendenhall Mall Road and Mendenhall Loop Road** • Continental style crosswalk markings • Curb extensions and refuge island to decrease the crossing distance • Consider prohibiting right turn on red southbound on Mendenhall Loop Road • Traffic calming along Mendenhall Loop Road
31	**Mendenhall Loop Road and Egan Drive** • Additional signage and pavement markings • Curb extensions, decreased turning radius and add refuge island to decrease crossing distance
32	**Glacier Highway and Vintage Boulevard** • Intersection provides a pedestrian connection between Vintage Commercial area and residential area south of Egan and there are currently no signals • Pedestrian activated signal or pedestrian underpass
33	**Mendenhall Loop Road and Taku Boulevard** • Currently not signalized • Add pedestrian activated signal and continental style crosswalk • Traffic calming along Mendenhall Loop Road
34	**Mendenhall Loop Road and Mendenhall Boulevard** • Curb extensions, decrease turning radius and add refuge island to decrease crossing distance • Traffic calming along Mendenhall Loop Road
35	**Fred Meyer to Bus Stop** • DOT did not allow a crosswalk at this location • Need to find a solution to make crossing safer for pedestrians
Lemon Creek and Twin Lakes *(Figure 8)*	
47	**Glacier Highway at Concrete Way** • Add pedestrian activated signal and continental style crosswalk
48	**Glacier Highway at Anka Street** • Intersection was recently reconstructed • Consider traffic calming along Glacier Highway through this busy commercial and industrial area
49	**Glacier Highway at Walmart** • Add pedestrian activated signal and continental style crosswalk
Downtown and Thane *(Figure 9)*	
68	**Egan Drive and Glacier Avenue** • Add pedestrian activated signal and continental style crosswalk • Curb extensions, decrease turning radius and add refuge island to decrease crossing distance • Traffic calming along Egan Drive
69	**Egan Drive and Whittier Street** • DOT is adding a traffic light in July 2009 • Pedestrian activated crosswalk needed • Curb extensions, decrease turning radius and add refuge island to decrease crossing distance • Traffic calming along downtown section of Egan Drive

70	**Egan Drive and 12th Street** • Add Curb extensions, decrease turning radius and add refuge island to decrease crossing distance • Continental crosswalk marking
71	**Egan Drive and West 8th Street** • Add Curb extensions, decrease turning radius and improve refuge island to decrease crossing distance for pedestrians traveling along Egan Drive and crossing West 8th Street • Traffic calming along downtown section of Egan Drive
72	**Egan Drive and 10th Street** • Add Curb extensions, decrease turning radius and improve refuge island to decrease crossing distance • Continental crosswalk marking • Traffic calming along downtown section of Egan Drive
73	**Willoughby Ave and Capital Ave** • Continental crosswalk marking and crosswalk sign
74	**Egan Drive and Main Street** • Main Street will be rebuilt in Spring 2009 • Crosswalk markings and signage needed and where possible sidewalk width should be increased • Traffic calming along downtown section of Egan Drive
75	**Egan Drive and Willoughby Ave** • Pedestrian activated crosswalk or signs and pavement markings • Traffic calming along downtown section of Egan Drive
Douglas Island *(Figure 10)*	
83	**Juneau-Douglas Bridge** • Sidewalks too narrow for both pedestrians and cyclists • Look at options to widen in the future
86	**Douglas Highway and Crow Hill Drive** • Add pedestrian activated signal, signs and continental style crosswalk • Curb extensions to decrease crossing distance
87	**3rd St and Douglas Library** • Add pedestrian activated signal, signs and continental style crosswalk at bus stop • Curb extensions to decrease crossing distance
88	**Douglas Highway and Cordova St** • Ensure that pedestrian activated signal is functional and add signs and continental style crosswalk • Curb extensions to decrease crossing distance
89	**Douglas Highway and Savikko Road** • Continental style crosswalk and signs
Mid and Low Priority	
Auke Bay (*Figure 6)* and Mendenhall Valley West *(Figure 7)*	
14	**Glacier Highway and Engineers Cutoff** • Add pedestrian activated signal, signs and continental style crosswalk
18	**Back Loop Bridge** • Traffic calming across bridge by narrowing driving lanes • Better signage and pavement markings for bike lanes on the bridge
19	**Back Loop Road and Montana Creek Road** • Add pedestrian activated signal, signs and continental style crosswalk

Mendenhall East Valley *(Figure 7)*	
39	**Mendenhall Loop Road at Floyd Dryden** • Add pedestrian activated signal, signs and continental style crosswalk • Initiate safe routes to schools program
42	**Second Pedestrian Bridge in Upper Mendenhall Valley** • Build new pedestrian bridge over Mendenhall River near Melvin Park with connections to trails
43	**Mendenhall Loop Road and Mendenhall River School** • Pedestrian activated crosswalk needed and improved signage and pavement markings • Initiate safe routes to schools program
Lemon Creek and Twin Lakes *(Figure 8)*	
52	**Glacier Highway and Vanderbilt Hill Road** • Follow AASHTO standards for bicycle turning lanes
54	**Glacier Highway and Hospital Drive** • Follow AASHTO standards for bicycle turning lanes
80	**Irwin St and 12th Street** • Continental style crosswalks and signs
Douglas Island *(Figure 10)*	
91	**Douglas Highway Roundabout** • Improve signage for bicycles
93	**Douglas Highway and David Street** • Add pedestrians activated signal, continental style crosswalks and curb extensions

7.3 Sidewalk and Streetscape Improvements

Most of the streets in Juneau have sidewalks on at least one side. There are, however, streets that do not have sidewalks, or where existing sidewalks are not sufficient.

Table 7-3 lists the areas where sidewalk improvements are recommended. In some cases, these are areas where there is not currently a sidewalk and in other cases, they are areas where there is a sidewalk, but it needs improvement. Possible improvements include widening, adding a vegetated buffer or additional pedestrian elements such as curb extensions and crosswalks.

TABLE 7-2 SIDEWALK AND STREETSCAPE IMPROVEMENTS	
High Priority	
Improvement No.	**Description**
Auke Bay (Figure 6) and **Mendenhall Valley West** (Figure 7)	
2	**Glacier Highway (**Back Loop Road to Ferry Terminal) • Add sidewalk on both sides on Glacier Highway between Back Loop Road and the Auke Bay ferry terminal • Vegetated buffer between street and sidewalk and continental style crosswalks should be added • Initiate safe routes to schools program

Mendenhall Valley East *(Figure 6)*	
25	**Mendenhall Mall Road** • Currently a privately owned road • Needs sidewalks on both sides, designated bike lanes and crosswalks • Parking needs to be formally separated from the street surface and crosswalks should be added where needed in the parking lots
Lemon Creek and Twin Lakes *(Figure 8)*	
45	**Glacier Highway (Sunny Point to Vanderbilt Hill Road)** • Complete sidewalks on both sides of the street • Vegetated buffer between street and sidewalk and traffic calming will increase safety for pedestrians
46	**Anka Street** • Complete sidewalks on both sides of the street
Downtown and Thane *(Figure 9)*	
64	**Glacier Ave (Highland Drive to 10th Street)** • Initiate safe routes to schools program and follow recommendations to make walking safer for children in this area
76	**Egan Drive (Juneau-Douglas Bridge to Main Street)** • Add vegetated buffer between sidewalk and street Add crosswalks at intersections, complete with curb extensions and pavement markings
Douglas Island *(Figure 10)*	
82	**North Douglas Highway** • Pedestrian facilities needed north of the bridge • Sidewalk needed on one side of the street • Second option is a separated path
85	**Douglas Highway (Cordova Street to Savikko Road)** • Complete sidewalks on both sides of the street • Initiate safe routes to schools program and follow recommendations
Mid and Low Priority	
Auke Bay (*Figure 6)* and Mendenhall Valley West *(Figure 7)*	
12	**Glacier Highway and Back Loop Road (UAS area)** • Sidewalk needed on both sides of the street • Consider added vegetated buffer along Glacier Highway where traffic volume and speeds are high • Should be integrated with sidewalk in the Auke Bay area
Mendenhall East Valley *(Figure 7)*	
37	**Riverside Drive (Long Run Drive to Tournure Street)** • Sidewalks already exist, need to evaluate ways to make it safer for children • Traffic calming such as narrower travel lanes and curb extensions could be used • Initiate safe routes to schools program and follow recommendations
Lemon Creek and Twin Lakes *(Figure 8)*	
51	**Central Avenue** • Sidewalk needed on one side of the street
59	**Sunny Drive** • Sidewalk needed on one side of the street

Downtown and Thane *(Figure 9)*	
78	**Calhoun Avenue** • Traffic calming to increase safety for pedestrians • Options include narrowing travel lanes, reducing speed limit, adding signs
79	**Capital Avenue (Willoughby Avenue to 9th Street)** • Sidewalk needed on one side of the street
Douglas Island *(Figure 10)*	
92	**Savikko Road** • Sidewalks on at least one side of the street

7.4 Shoulder Lanes

There are several locations in Juneau where the shoulder lanes are not paved or where they are paved but are not wide enough to provide adequate space for pedestrians and cyclists to travel safely. Table 7-4 lists needed shoulder lane improvements.

TABLE 7-3 SHOULDER LANE IMPROVEMENTS	
High Priority	
Improvement No.	**Description**
Downtown and Thane *(Figure 9)*	
66	**Thane Road (Downtown to end)** • Minimum of 5 feet on both sides • If there are segments where this is not possible, then a wide travel lane and share-the-road signs • A context sensitive street design should be used to ensure that safe design and appropriate traffic speeds • Signed as part of cross-Juneau bikeway
Mid and Low Priority	
Auke Bay (*Figure 6)* and Mendenhall Valley West *(Figure 7)*	
9	**Fritz Cove Road** • Ensure minimum of 5 feet on both sides
10	**Industrial Boulevard (Glacier Highway to Crazy Horse Drive)** • Ensure minimum of 5 feet on both sides
11	**Glacier Highway (Lena Loop to Tee Harbor)** • Ensure minimum of 5 feet on both sides • Signed as part of cross-Juneau bikeway
13	**Glacier Highway (Amalga Harbor to Echo Cove)** • Ensure minimum of 5 feet on both sides • Signed as part of cross-Juneau bikeway
17	**Engineer's Cutoff and Mendenhall Peninsula Road (Glacier Highway to end of road)** • Ensure minimum of 5 feet on both sides
Douglas Island *(Figure 10)*	
94	**North Douglas Highway (Boat Launch to the end of the road)** • Ensure minimum of 5 feet on both sides • Signed as part of cross-Juneau bikeway

7.5 Bike Facilities

There are many routes in Juneau that are missing or have inadequate bike lanes. Specific recommendations are listed below on Table 7-5. Some are part of the cross-Juneau bikeway and others provide non-motorized links to multiple community destinations. Bike lanes should be constructed to the standards described in Chapter 6.

TABLE 7-4 BIKE FACILITY IMPROVEMENTS	
High Priority	
Improvement No.	**Description**
Auke Bay (Figure 6) and **Mendenhall Valley West** (Figure 7)	
1	**Back Loop Road (Mendenhall River to Glacier Highway)** • Shoulder is already paved • Additional pavement markings and signs • Regular maintenance required • Singed as part of cross-Juneau bikeway
3	**Glacier Highway (Back Loop Road to Brotherhood Bridge)** • Shoulder is already paved • Additional pavement markings and signs to show that it is a bike lane • Intersection striping according to AASHTO standards • Regular maintenance required • Signed as part of cross-Juneau bikeway • Street lights are required
Mendenhall Valley East *(Figure 7)*	
23	**Mendenhall Loop Road (Nancy Street to Egan Drive)** • Bike lanes should be added on both sides • Alternately, bike access from the road to separated paths should be added
26	**Egan Drive (Brotherhood Bridge to Mendenhall Loop Road)** • Bike lanes should be improved in both directions • Clear access and signage to connect bike lanes with separated paths
Lemon Creek and Twin Lakes *(Figure 8)*	
53	**Glacier Highway (through Lemon Creek)** • Shoulder is already paved, but should be a minimum of 6 feet wide • Pavement markings and signage required • Bike lanes at intersections should follow ASHTO standards
Downtown and Thane *(Figure 9)*	
60	**South Franklin Street** • Pavement markings and signage required
61	**Egan Drive (10th St to South Franklin)** • Signs and pavement markings required
63	**Glacier Highway (Highland Avenue to 10th St)** • Signs and pavement markings required

65	**Willoughby Ave (Glacier Avenue to Egan Drive)** • Signs and pavement markings required
67	**10th Street (Egan Drive to Glacier Avenue)** • Signs and pavement markings required
Douglas Island *(Figure 10)*	
84	**Douglas Highway (Gastineau School to Savikko Road)** • Best option 5 feet on each side • If not possible consider share-the-road signs and sharrows
Mid and Low Priority	
Mendenhall East Valley *(Figure 7)*	
40	**Glacier Highway (Fred Meyer to separated path along Egan Drive)** • Signs and pavement markings required • Regular maintenance required
38	**Old Dairy Road (Glacier Highway to Crest Street)** • Signs and pavement markings required
Lemon Creek and Twin Lakes *(Figure 8)*	
58	**Channel Vista Dr (Glacier Highway to Hospital Path)** • Signs and pavement markings required

7.6 Separated Multi-Use Pathways

Recommendations for additional separated multi-use paths are listed in Table 7-6. Separated paths are generally located along busy streets with high traffic volumes and provide routes for pedestrians and for cyclists who are not comfortable riding on the road. In certain locations, separated paths can provide more direct non-motorized connections to community destinations. Design and construction standards are listed in Chapter 6.

TABLE 7-5 SEPARATED PATH IMPROVEMENTS	
High Priority	
Improvement No.	**Description**
Auke Bay (Figure 6) and **Mendenhall Valley West** (Figure 7)	
7	**Back Loop Road (Mendenhall River to Glacier Highway)** • Separated paved path at least 10 feet wide required on one side of the road
8	**Glacier Highway (Back Loop Road to Brotherhood Bridge)** • Separated paved path at least 10 feet wide required on north side of the road
Mendenhall Valley East *(Figure 7)*	
36	**Under Thunder Path** • At least 10 feet wide

Lemon Creek and Twin Lakes *(Figure 8)*	
50	**Path from Sunny Point to Vanderbilt Hill Road** • Separated paved path at least 10 feet wide • Exact route to depend on land ownership and location of wetlands
Downtown and Thane *(Figure 9)*	
61	**Seawalk (Harris Harbor to Rock Dump)** • Boardwalk as close to water as possible
77	**Separated Path (Along Thane Road from Downtown to Sheep Creek)** • Paved path 10 feet wide on the channel side of Thane Road where property ownership and topography allow it
Douglas Island *(Figure 10)*	
90	**Treadwell Ditch** • Unpaved path at least 10 feet wide connecting Douglas and Eaglecrest
Mid and Low Priority	
Auke Bay (*Figure 6)* and Mendenhall Valley West *(Figure 7)*	
15	**UAS to pedestrian Bridge at Dimond Park** • At least 10 feet wide and paved
16	**Goat Hill to UAS Housing** At least 10 feet wide and paved and should connect to Auke Lake Trail
20	**Mendenhall Peninsula (Glacier Highway to end)** • At least 10 feet wide and paved
21	**Mendenhall River Trail to Back Loop Road south of Wren Dr** • At least 10 feet wide and paved
Mendenhall East Valley *(Figure 7)*	
41	**Vintage Business Park trail to Dimond Park** • Trail was completed in summer 2009.
Lemon Creek and Twin Lakes *(Figure 8)*	
55	**Coastal Trail (Yandukin Drive to Twin Lakes Path)** • At least 10 feet wide and paved
56	**Vanderbilt Hill to New Coastal Trail** • At least 10 feet wide and paved
57	**Twin Lakes to New Vanderbilt Path** • At least 10 feet wide and paved
Downtown and Thane *(Figure 9)*	
81	**Gold Creek (Egan Dr to Cope Park)** • Cantilevered path over Gold Creek

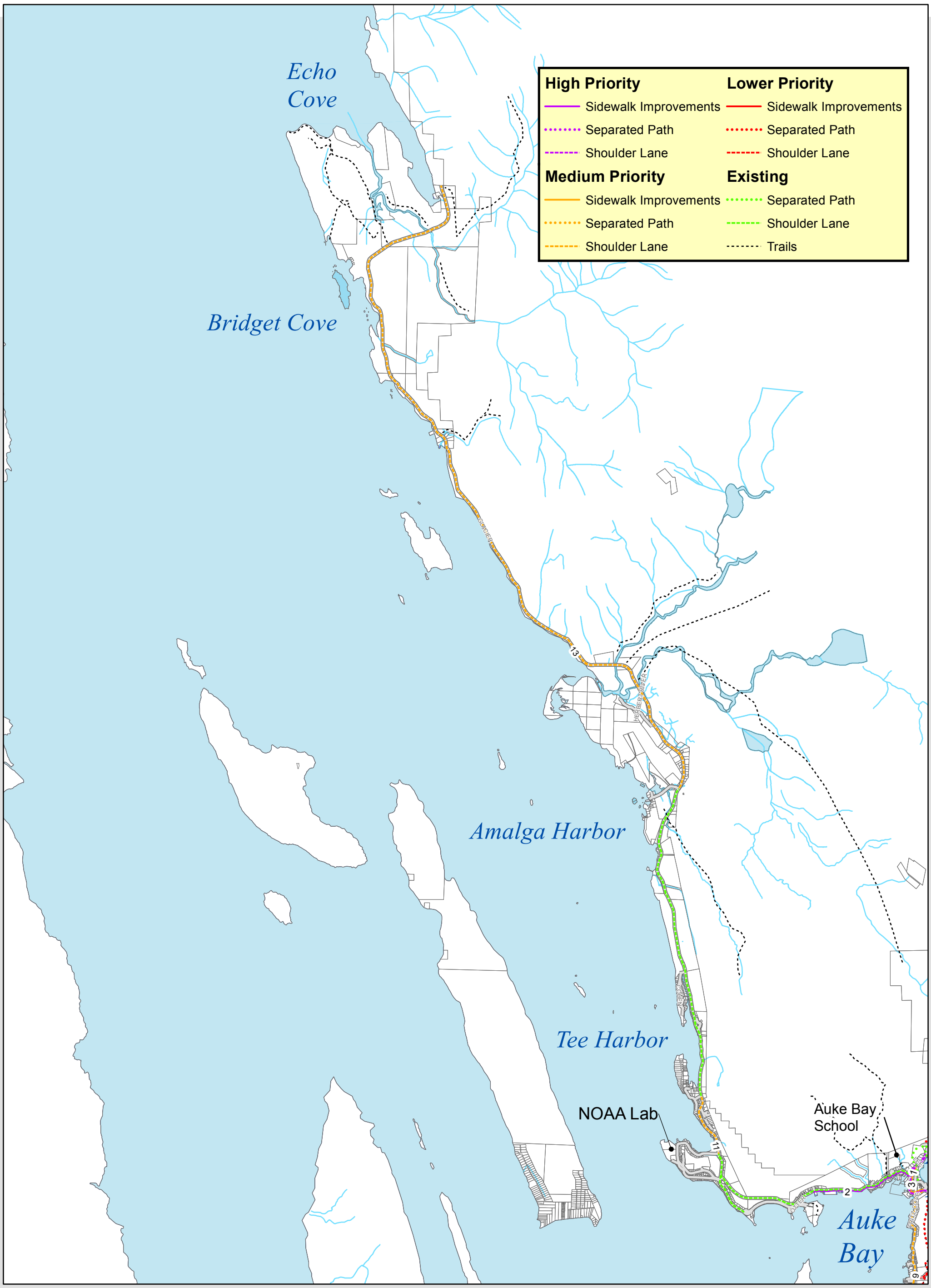


Figure 6: Auke Bay to Echo Cove - Proposed

Source data: City and Borough of Juneau GIS
USGS National Elevation Dataset
Date: 4/20/2009
Drawn By: GAG
Datum: Nad 27
Projection: Alaska State Plane Zone 1

N W E S

0 5,000 10,000 20,000 Feet

0 2 4 Miles

Juneau
Non-Motorized
Transportation Plan

Information originally obtained from the CBJ GIS was used to create this product. The CBJ assumes no responsibility for the completeness or accuracy of the data contained within.

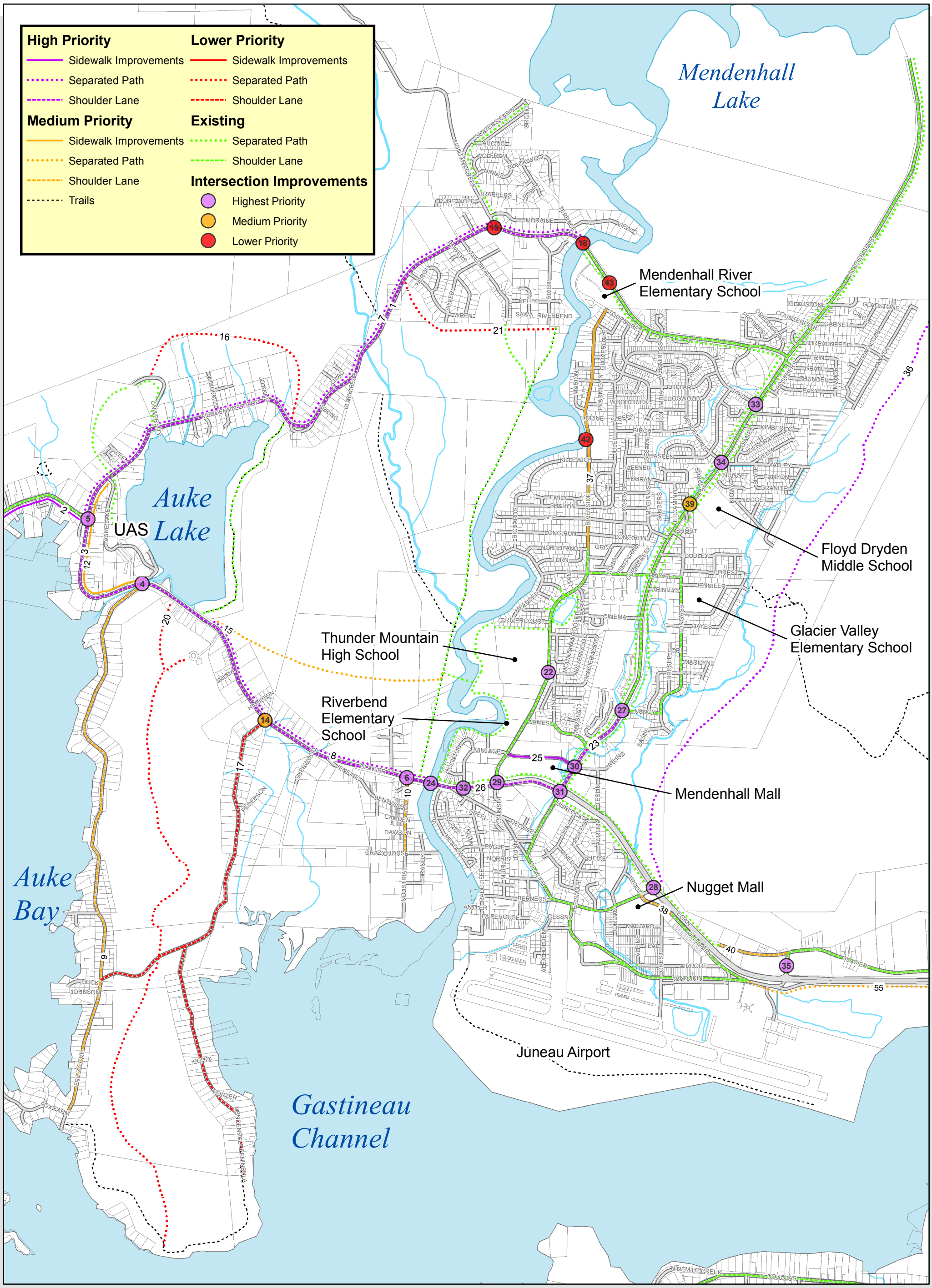


Figure 7: Mendenhall Valley Area - Proposed

Source data: City and Borough of Juneau GIS
USGS National Elevation Dataset
Date:11/05/2009
Drawn By: GAG
Datum: Nad 27
Projection: Alaska State Plane Zone 1

N W E S

0 1,000 2,000 4,000 Feet

0 0.5 1 Miles

Juneau Non-Motorized Transportation Plan

Information originally obtained from the CBJ GIS was used to create this product. The CBJ assumes no responsibility for the completeness or accuracy of the data contained within.

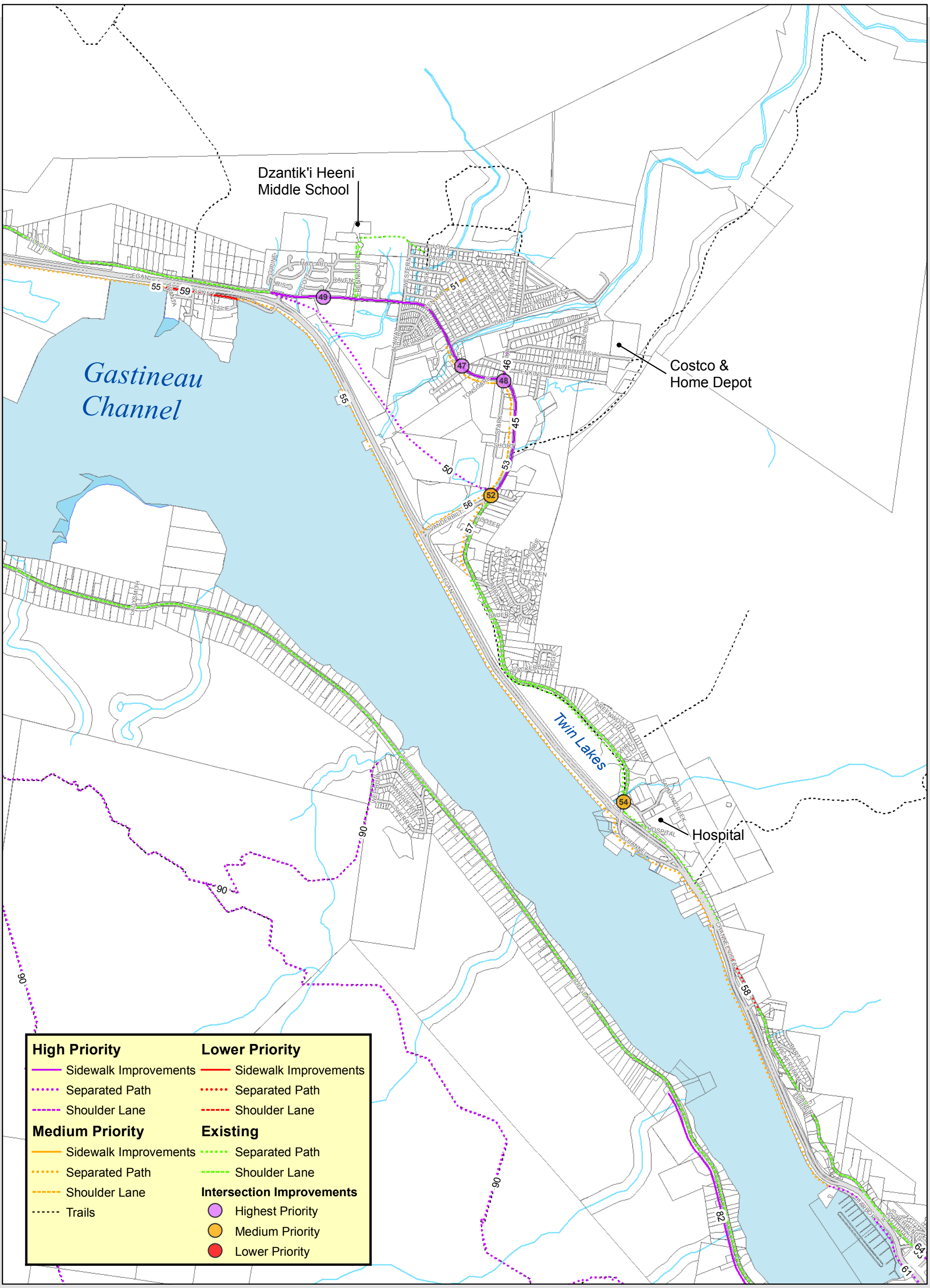


Figure 8: Twin Lakes and Lemon Creek Area - Proposed

Source data: City and Borough of Juneau GIS
USGS National Elevation Dataset
Date:4/22/2009
Drawn By: GAG
Datum: Nad 27
Projection: Alaska State Plane Zone 1

N W E S

0 1,000 2,000 4,000 Feet

0 0.5 1 Miles

Juneau
Non-Motorized
Transportation Plan

Information originally obtained from the CBJ GIS was used to create this product. The CBJ assumes no responsibility for the completeness or accuracy of the data contained within.

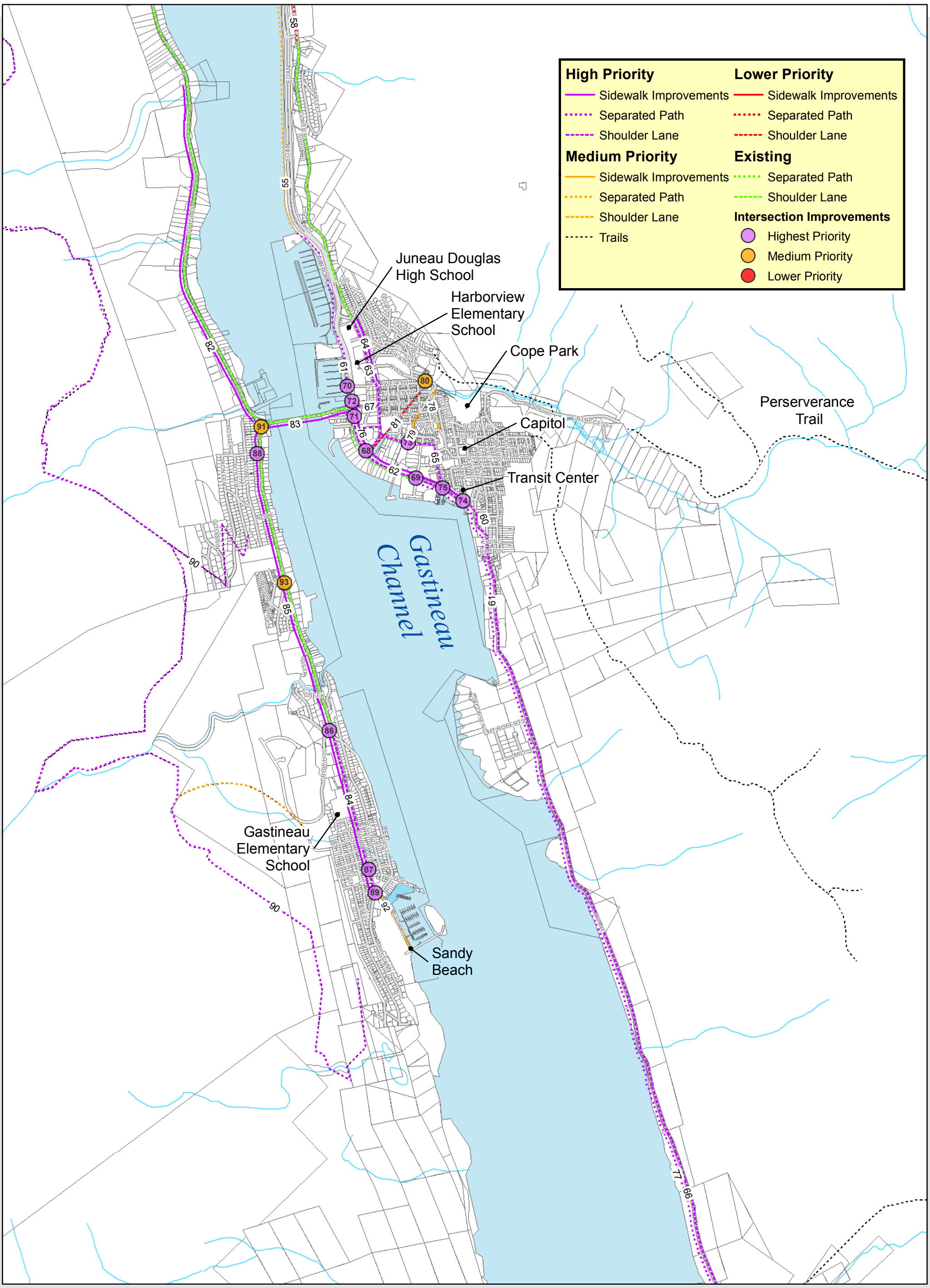


Figure 9: Downtown and Thane Area - Proposed

Source data: City and Borough of Juneau GIS
USGS National Elevation Dataset
Date:4/22/2009
Drawn By: GAG
Datum: Nad 27
Projection: Alaska State Plane Zone 1

0 1,000 2,000 4,000 Feet

0 0.5 1 Miles

Juneau Non-Motorized Transportation Plan

Information originally obtained from the CBJ GIS was used to create this product. The CBJ assumes no responsibility for the completeness or accuracy of the data contained within.

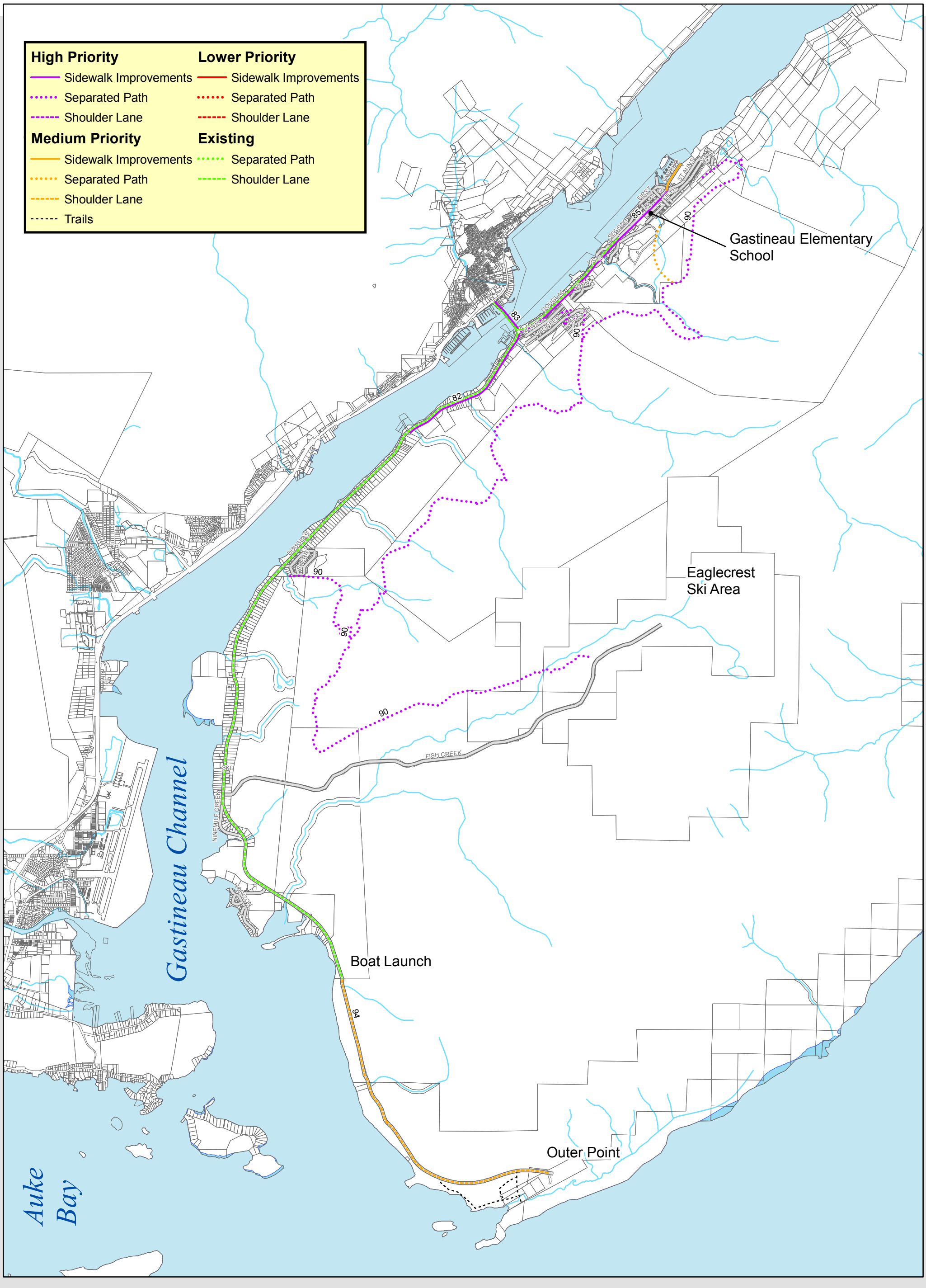


Figure 10: Douglas Island - Proposed

Source data: City and Borough of Juneau GIS
USGS National Elevation Dataset
Date:4/22/2009
Drawn By: GAG
Datum: Nad 27
Projection: Alaska State Plane Zone 1

N E S W

0 2,500 5,000 10,000 Feet

0 1 2 Miles

Juneau
Non-Motorized
Transportation Plan

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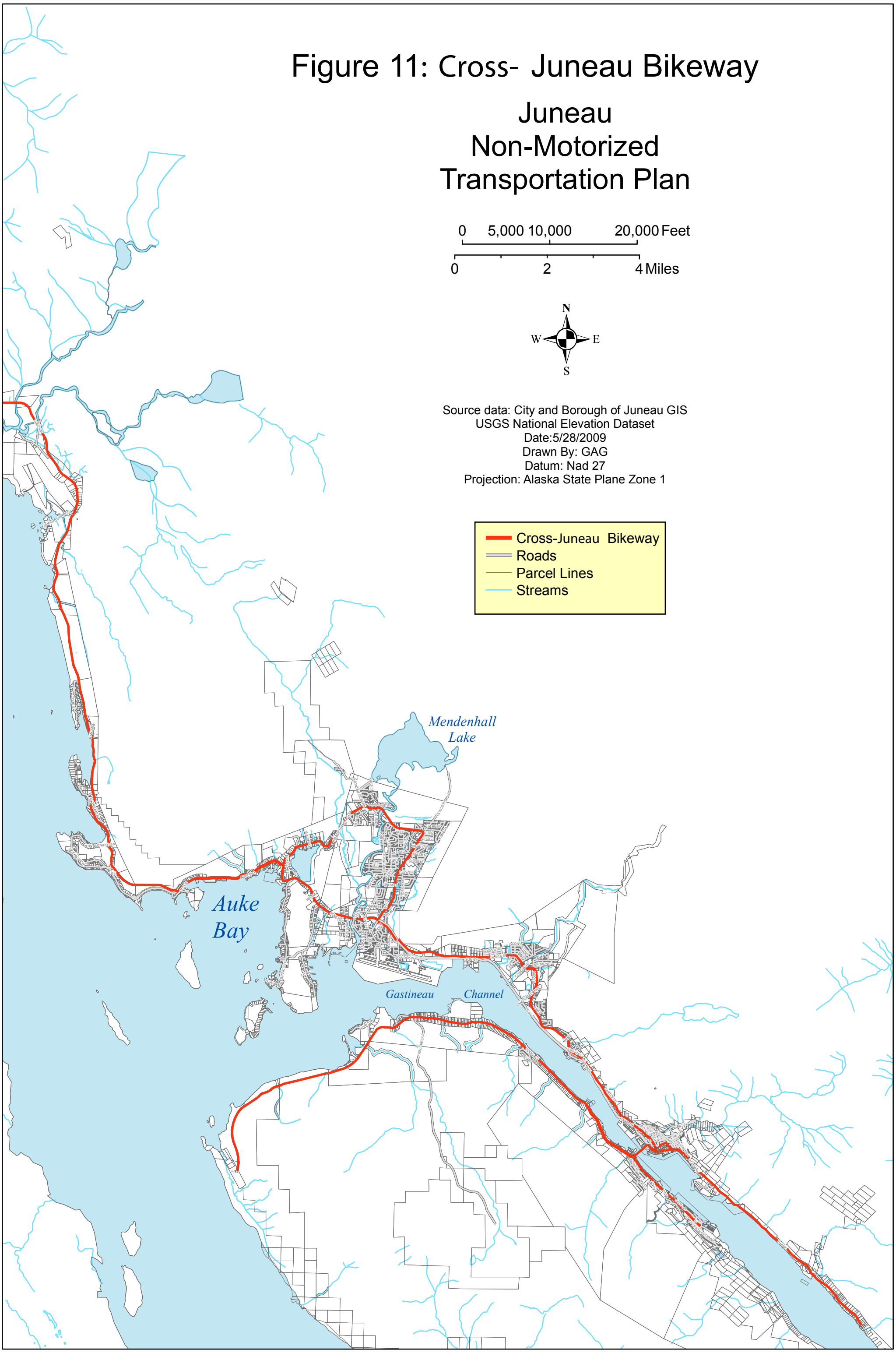
Figure 11: Cross- Juneau Bikeway

Juneau Non-Motorized Transportation Plan



Information originally obtained from the CBJ GIS was used to create this product. The CBJ assumes no responsibility for the completeness or accuracy of the data contained within.

CHAPTER 8 – RECOMMENDED POLICIES AND IMPLEMENTING ACTIONS

Chapter 7 lists the specific infrastructure improvements recommended to complete Juneau's non-motorized transportation network. This chapter establishes 12 complimentary policies with implementing actions that will support and encourage active transportation and increase the safety and effectiveness of the existing non-motorized system.

The 12 policies are listed below. Their order does not infer priority status or implementation timing, as all 12 policies are important and should be implemented as opportunity and funding allows. After each policy is an explanation of the policy's intent and implementing actions.

POLICY 1 - BE "READY-TO-FUND". Complete concept plans, typical sections and cost estimates for select highest priority non-motorized infrastructure improvements.

Having concept plans, budgets and scope defined for Juneau's non-motorized projects will enable the CBJ to quickly respond to funding opportunities that become available now and in the future.

Implementing Action

1A. The CBJ Assembly and Department directors will periodically identify projects to prepare concept plans, typical sections and cost estimates for in response to expected funding opportunities, growing safety concerns, new or anticipated development and similar conditions.

POLICY 2 - STATE PROJECTS. Work with the Alaska DOT&PF Regional Director to establish a routine process to allow CBJ input at the front-end of the design stage for State road projects.

This will save time and money for both the State and CBJ and significantly enhance cooperation and communication.

Review of proposed State road or road reconstruction and improvement projects is governed by CBJ 49.15.580 and AS 35.30.010, which provides that the CBJ will review these projects and may impose conditions on and modifications to such projects. A challenge is that AS 35.30.010 states that the review must occur "prior to construction of a public project", which gives a lot of latitude as to when a project comes before CDD and the CBJ Planning Commission for review. State projects are generally brought to CBJ for review after the design and environmental review have been completed and often just prior to construction. At this stage it is too late to effectively address design issues that would add or improve non-motorized facilities.

Southeast Region Alaska DOT&PF does not routinely communicate in this manner with communities in its region as they are all so small. However, in other Alaska DOT&PF regions

early communication with communities occurs more regularly, for example in Anchorage since it is large enough to be a Metropolitan Planning Organization.

Juneau, however, is the largest city in Southeast Alaska DOT&PF region and it is the State Capital. Informal but regular CBJ CDD input early in the design process (before the environmental review) will benefit both Alaska DOT&PF and CBJ by clarifying expectations, preventing delays and saving money due to better communication and cooperation on the front end.

This would not take the place of the review under CBJ 49.15.580 and AS 35.30.010, but would be in addition and less formal. The CBJ CDD would gather parties like other pre-application meetings and provide input, ideas and ensure Alaska DOT&PF project designers know about relevant planned local projects. A process such as this would likely make the subsequent formal review more predictable and routine for all.

Implementing Actions

2A. CBJ and Alaska DOT&PF should develop a Memorandum of Understanding to set out mutually beneficial expectations and timing of road project reviews. The goal is to provide an opportunity for informal, but routine, CBJ input early in the design process (before the environmental review) of Alaska DOT&PF road projects so that a context sensitive approach can be used to help achieve a Complete Street network in Juneau and to implement Juneau's non-motorized route priorities. All parties will benefit by clarifying expectations, preventing delays and saving money due to better communication and cooperation on the front end.

2B. When the CBJ nominates road and other transportation projects to the Alaska DOT&PF Statewide Transportation Improvement Program (STIP) Needs List, ensure that facilities for non-motorized transportation are included. Integrate non-motorized and motorized improvements into a single project description when appropriate. It is important to specifically include the non-motorized elements in the project title, by using words like "sidewalk, boardwalk and bike lane" in the project title for clarity of intent.

<u>POLICY 3 - MUNICIPAL PROJECTS.</u> Improve the process for Planning Commission review of CBJ projects to allow timely comment on non-motorized infrastructure and routes. Project managers will use a context sensitive approach in the design of City projects to achieve a Complete Streets network.

The process improvements called for in the policy should take place in the context of broader improvements to the City State Project (CSP) process.

The goals of this policy are two-fold, to: A) Have Planning Commission review of CBJ projects (whether the project is initiated by the airport, engineering, harbors, lands, parks and recreation or other department) occur earlier in the design process; and B) 'Institutionalize' the

context sensitive approach that many CBJ departments already take to motorized and non-motorized improvement planning and construction.

This will help ensure consideration is given early in the project design to the recommended infrastructure improvements, policies and actions in this Non-Motorized Transportation Plan when the CBJ is designing or upgrading streets, sidewalks, trails, harbors and other projects that pedestrians and bicyclists will use. Waiting until the design is already significantly underway, complete or the project is ready to bid is too late for meaningful review and modification. At these stages any changes tend to increase the overall cost and cause delay, both of which could be avoided by earlier communication and work. Non-motorized transportation improvements should routinely be considered at the same time as the needs of motorists. This will help ensure that Juneau's transportation system works well for all its users; pedestrians, bicyclists, transit riders and motorists.

POLICY 4 - PRIVATE SECTOR DEVELOPMENT. Review design standards in Title 49 to provide opportunities to make subdivision design more context sensitive.

Roads, sidewalks and related improvements built by the private sector, typically as a part of subdivision design and construction, are subject to the road design standards set in CBJ 49.35 (streets at sections 230-240, sidewalks at section 620, bike paths at section 630) and the CBJ Engineering Standard Details manual. Development standards already allow some consideration of context (e.g. requirements differ if the project is in or out of the urban service area boundary and vary somewhat by zoning density). However, more consideration of neighborhood and roadway context will allow consideration of, for example, hillside and steep slopes, of preexisting sidewalk and path infrastructure, etc. Title 49 standards can be improved so that non-motorized needs are accommodated more effectively.

Implementing Actions

4A. The Community Development Department, Parks and Recreation, Engineering, Public Works, and Lands and Resources will work together to improve design standards so that they are more context sensitive.

4B. In CBJ chapter 49.35 Public Improvements, bike paths are listed under Article VI. Pedestrian Access. CBJ municipal code at Title 72 subjects bicyclists on roadways to all the duties applicable to vehicles. Accordingly, CBJ 49.35.630 Bike Paths, should be listed under Article II. Streets.

4C. Update the CBJ Engineering Standard Details to include examples, standard design details for non-motorized facilities.

<u>POLICY 5 - TRANSPORTATION PLANNING</u>. Integrate motorized and non-motorized transportation planning.

The CBJ Community Development Department is responsible for preparing the Juneau Comprehensive Plan and (with others) the Area Wide Transportation Plan, both of which set policy and goals on all forms of transportation. Nationwide, transportation planning and funding now integrates the needs of all users of the street network: motorists, public transit riders, bicyclists and pedestrians. To be most successful in accomplishing a complete transportation network in Juneau, motorized and non-motorized transportation planning, design and construction should occur together.

Implementing Action

5A. Move responsibility for the Non-Motorized Transportation Plan and its implementation to the CBJ Community Development Department (from the Parks and Recreation Department). CDD will coordinate with the CBJ Parks and Recreation, Engineering, Public Works, and Land and Resources Departments.

5B. In new subdivisions and neighborhoods, install facilities for non-motorized transportation, such as paths connecting cul-de-sacs or linking to broader trail systems, at the same time as the rest of the transportation network. This will ensure home purchasers know about and can use the non-motorized network and will prevent later 'surprises.' Note that not all neighborhood trails that connect cul-de-sacs and serve other non-motorized purposes that have been approved by the Planning Commission are captured on the maps.

<u>POLICY 6 - EDUCATION AND SIGNAGE.</u> Establish a bicycle/pedestrian education and signage program.

New paths and engineering projects are high profile and exciting; however, it is education, encouragement and enforcement that make a difference in day to day familiarity and use of a community's non-motorized transportation network. A program that regularly encourages and educates residents about walking and bicycling opportunities and the health benefits of active transportation is vital to a successful system.

The CBJ can lead development of a series of non-motorized education workshops and programs. Relevant programs and materials have been developed by others and could be used to keep costs low. For example, SEARHC has developed a suite of creative public service announcements for pedestrians, motorists and cyclists about how to safely share the road. The City and Borough of Sitka, as part of its bicycle friendly community project, has developed a similar program. Programs should target: A) Informing bicyclists and motorists about respective rules and road sharing; B) Education about new trends in street design; and C) providing bicycle education to both adults and children on how to use non-motorized facilities safely.

Implementing Actions

6A. Collaborate with Juneau Freewheelers Bicycle Club, schools and the local media to develop a share-the-road campaign to educate cyclists, pedestrians and motorists about their rights and responsibilities on the road and the importance of respecting other users of the transportation system. This community wide program could use public service announcements, posters and flyers to get the word out.

6B. Develop a series of workshops for street engineers and designers, both public and private sector, that focuses on context sensitive approach, design and complete streets. This would help inform Juneau engineers about best practices, sustainable transportation and associated costs.

6C. Offer courses for both children and adults on the rules of the road, helmets, lights and other recommended or required equipment, and how to use the various non-motorized facilities safely. Courses for children can be offered through the schools.

6D. Select signs that meet applicable standards and consistently install them at intersections, bike lanes, shoulder lanes, separated paths and crosswalks.

POLICY 7 - MAINTENANCE. Develop a realistic maintenance program for non-motorized facilities and commit to it.

Maintenance of existing bicycle and pedestrian facilities is necessary in order to have a functioning non-motorized transportation network. Gravel and debris on bike lanes, paved shoulders or separated paths is very dangerous for cyclists; this and related maintenance concerns were the subject of 29 percent of all submitted plan comments and stated frequently during public meetings. Snow and ice on all types of non-motorized transportation facilities can lead to conditions where people are forced to walk and bicycle on the road because sidewalks or bike lanes are impassable. Snow on sidewalks and large snow banks near crosswalks are especially dangerous near schools and force children to walk in the roadway. To be effective, maintenance should be year round and include sweeping, pavement repair, drainage repair, and pavement symbol and sign replacement.

Implementing Actions

7A. Support a sweeping and snow removal program for the cross-Juneau bikeway. Enforcement of rules for contractors to sweep roads near construction zones, and for trucks to cover their loads and have tailgates will help reduce debris.

7B. Snow removal for main pedestrian routes should be a CBJ and state priority. Both the CBJ and the State should invest in sidewalk snow clearing equipment. Areas near schools and transit stops should be a priority. Egan Drive downtown, the Douglas Bridge, Douglas Highway south of the bridge, Mendenhall Loop Road, Glacier Highway between

Vanderbilt Hill Road and Fred Meyers, and Egan Drive between McNugget Intersection and the Brotherhood Bridge are all priorities.

7C. Enforce the rules requiring property owners to clear the sidewalks adjacent to their property. This could involve both public service announcements about the importance of clearing sidewalks for all community members and also fining property owners who do not comply.

7D. Initiate an education program tailored to CBJ employees who perform street and trail maintenance. This could include best practices in snow removal and storage, joint identification and agreement on high priority routes to target limited maintenance dollars.

POLICY 8 - SAFE AND HEALTHY SCHOOL ACCESS. Actively support safe routes to schools programs.

Safe Routes to Schools is an international movement aimed at increasing the number of children who can safely walk and bike to school. Locally, this program that will help reduce skyrocketing obesity rates in American children and create healthy lifestyle choices early-on, is run through the Alaska ADOT&PF. It provides grants to local and regional agencies and nonprofit organizations to help address planning, design and construction of non-motorized improvements in the vicinity of schools.

The Juneau School District has initiated its own safe routes to school program. This could be more effective by using the resources of the Alaska DOT&PF program and coordinating with the CBJ Community Development and Engineering departments.

Implementing Action

8A. Work with Alaska DOT&PF to enact a formal Safe Routes to Schools program to: A) Identify primary walking and bicycling routes to Juneau schools; B) Identify gaps and deficiencies; C) Prioritize improvements; and D) pursue design and construction funding (through Safe Routes to Schools funding and other).

POLICY 9 - SEEK RECOGNITION. Work to be designated a bicycle friendly community.

The League of American Bicyclists sponsors an awards program recognizing cities that support bicycling. Both Sitka and Anchorage have been recognized as Bicycle Friendly Communities. To receive this award communities are evaluated in the categories of engineering, education, encouragement, enforcement and evaluation, and planning. The award process can raise awareness about bicycling in the community and help focus energy towards active transportation.

Implementing Actions

9A. Establish a baseline count of pedestrians and bicyclists at key locations in Juneau to allow development of performance measures. Subsequent counts of users of Juneau's non-motorized transportation network can help focus non-motorized priorities in the future, target education and signage, and document how well improvements are encouraging residents to walk and bike. Consider setting a specific target for increased numbers of residents walking or bicycling.

9B. Set a municipal goal to achieve a Complete Streets bronze, silver or gold level achievement, as proposed by the Rocky Mountain Land Use Institute, by a certain date (see Appendix E, Rocky Mountain Institute's developing Sustainable Community Development Code).

POLICY 10 - BICYCLE RACKS. Provide more bicycle racks.

Biking destinations in Juneau often lack adequate bike parking facilities. Existing bike racks often do not have enough space to accommodate the number of cyclists using the facility. Secure, covered, well designed bike racks help encourage residents to take more trips by bicycle and are required for the development of a complete non-motorized network. Bike racks should be located at schools, commercial buildings, apartments, parks, transit stops and hubs, malls, recreation areas and on buses.

Implementing Actions

10A. Add a section to CBJ 49.35.630 (or other appropriate section) to establish standards for bike racks. Require installation of bicycle parking as part new building construction and major renovations. Standards could include the number of bicycle spaces (both covered and open) to be provided, the location of bike racks and specifications for design.

10B. The CBJ can partner with local businesses and artists to install decorative bike racks at key community destinations. These racks should support the bicycle frame, be U-lock compatible, and be interesting to look at. Consider seeking modest Capital Improvement Program funding for a bike rack program.

10C. Continue to fund and install bicycle racks on Capital Transit buses.

10D. Create and enforce a 'red tag' program for abandoned bicycles (and other objects) locked to bike racks.

<u>POLICY 11 - ADVOCACY.</u> Support non-motorized advocacy.

Strategies that encourage people to walk and bike benefit both individuals and the community. More people being active will lead to healthier lifestyles and reduced obesity and attendant health problems. More people using the system will make it easier to secure funding for non-motorized projects. Communities with the strongest non-motorized advocates are the most successful in obtaining funding and support for non-motorized routes (2009 Alaska Bike Summit).

Implementing Action

11A. Support bicycle and pedestrian advocacy. Consider assisting with funding or organization of such group(s) to facilitate more direct involvement of community members and non-motorized network users in obtaining funding and other work to develop and improve Juneau's bicycle and pedestrian facilities. A committee could advise the CBJ, Alaska DOT&PF, Trail Mix Inc. and others. In addition or alternatively, the CBJ can provide support to groups like the CBJ Freewheelers, actively support Bike to Work and Bike to School days, support installation of shower facilities in municipal and other Juneau work places, and support similar programs and initiatives that encourage active transportation.

<u>POLICY 12 - CROSS-JUNEAU BIKEWAY.</u> Complete the cross-Juneau bikeway.

The cross-Juneau bikeway is shown on Figure 11. Working to construct these bike lanes to AASHTO standards and to the ADOT&PF highway preconstruction manual on "Bicycle Ways" is a high priority for Juneau's non-motorized network. The cross-Juneau bikeway must also be a priority for year round maintenance including sweeping, snow removal and repairs to the pavement.

The cross-Juneau bikeway identifies the safest and most direct route across town and between neighborhoods and encourages non-motorized commuting. Bicycle commuters prefer to travel on bike lanes on roads as these are usually the safest and most direct routes. Separated paths can also form part of the cross-Juneau bikeway, especially where they provide more direct access to destinations and have few intersections where the path crosses a street.

Implementing Actions

12A. Construct or improve the sections of the cross-Juneau bikeway listed on Table 8.1 below and as depicted on Figure 11 to build a complete network.

TABLE 8-1 – MISSING SEGMENTS IN CROSS-JUNEAU BIKEWAY	
Improvement # (see Tables 7-5 and 7-6)	**Description**
1	Back Loop Road (Back Loop Bridge to Glacier Highway)
3	Glacier Highway (Back Loop Road to Brotherhood Bridge)
23	Mendenhall Loop Road (Nancy Street to Egan Drive)
26	Egan Drive (Brotherhood Bridge to Mendenhall Loop Road)
53	Glacier Highway (through Lemon Creek)
60	South Franklin Street
65	Willoughby Avenue (Glacier Avenue to Egan Drive)
67	10th Street (Egan Drive to Glacier Avenue)
84	Douglas Highway (Cordova Street to Savikko Road)

12B. In the longer term, build a separated path through Lemon Creek (improvement #57, table 7.6) and a separated coastal path from Sunny Point to Downtown Juneau (#55 and 61, table 7.6). These paths will provide routes that are safe and direct, will be part of the cross-Juneau bikeway and should be maintained for year round use.

12C. Produce a map showing Juneau's current bike paths and make it available to residents and visitors. Routes should have consistent signage that include directions (i.e., to Douglas, to Downtown) and complies with the MUTCD standards (see policy 6).

12D. Prioritize year-round maintenance for the cross-Juneau bikeway.

CHAPTER 9 – FUNDING SOURCES

The table below lists potential funding sources for non-motorized facilities. This includes opportunities that are from federal, state and local government sources as well as from private foundations. The purpose, project eligibility, timing and website are also included.

TABLE 9-1 – FUNDING SOURCES FOR NON-MOTORIZED FACILITIES

Funding Source	Purpose	Project Eligibility	Timing	Contact Website
CBJ CBJ Marine Passenger Fee	To address the impacts caused by marine passenger ship industry	Grants can be for design, construction, beautification and enhancement of facilities to relieve impacts of marine passenger ships and marine passengers and the acquisition of land for this. Seawalk and pedestrian improvements downtown would be eligible.	Project solicitation takes place annually in December	CBJ City Managers Office www.juneau.org/manager/passenger_fees.php
CBJ CBJ Capital Improvement Program	Identifies CBJ funding for street improvements, parks and recreation, etc	Street upgrading projects can include facilities for non-motorized. Trail projects can also be funded.	City Manager submits CIP proposed projects annual by April 5	CBJ Engineering Department www.juneau.org/engineering/CIP/FY09-14_Final.php
State Safe Routes to School – Alaska DOT&PF	Funding to help address planning, design and construction improvements in the vicinity of schools	Infrastructure: Planning, design, and construction of infrastructure-related projects that will substantially improve the ability of students to walk and bicycle to school, including sidewalk improvements, traffic calming and speed reduction improvements, pedestrian and bicycle crossing improvements, on-street bicycle facilities, off-street bicycle and pedestrian facilities, secure bicycle parking facilities, and traffic diversion improvements in the vicinity of schools. Non -infrastructure: Activities to encourage walking and bicycling to school, including public awareness campaigns and outreach to press and community leaders, traffic education and enforcement in the vicinity of schools, student sessions on bicycle and pedestrian safety, health, and environment, and funding for training, volunteers, and managers of safe	Applications accepted every April and July. Next deadline is July 29, 2009.	Alaska Department of Transportation & Public Facilities www.dot.state.ak.us/stwdplng/saferoutes/grants.shtml

TABLE 9-1 – FUNDING SOURCES FOR NON-MOTORIZED FACILITIES				
Funding Source	**Purpose**	**Project Eligibility**	**Timing**	**Contact Website**
		routes to school programs.		
State/Federal Statewide Transportation Improvement Program (STIP) – Alaska DOT&PF	Federal funding for developing and improvement roads and trails	Non-Motorized facilities can be included as part of road building and reconstruction projects. The TRAK program funds trails (only 2% of total budget)	Projects can be nominated to the needs list at any time.	Alaska Department of Transportation & Public Facilities www.dot.state.ak.us/stwdplng/cip_stip/index.shtml
State/Federal Highway Safety Improvement Program – Alaska DOT&PF	Funding to reduce fatalities and major injuries on roads	Potential funding to improve conditions along corridors with many accidents (ie Glacier Highway through Lemon Creek and Mendenhall Loop Road).	DOT engineers submit projects for state-wide approval.	Alaska Department of Transportation & Public Facilities www.dot.state.ak.us/stwddes/dcstraffic/hsip.shtml#
Private Bikes Belong Coalition	Private Foundation that funds bicycle facilities and advocacy.	Grants for facility and advocacy projects, Local governments can apply for grants to build paved bike paths and unpaved trails and are encouraged to partner with local bike advocacy group. Grants of up to $10,000 awarded quarterly.	Applications accepted quarterly	www.bikesbelong.org/grants
Private REI Bicycle Friendly Communities Grant Program	Grants for communities that have been awarded Bicycle Friendly Community Status	Funding is intended to help communities maintain the momentum built during the Bicycle Friendly Communities application process. The focus is on building ridership and promoting bicycling.	By invitation only.	Bikes Belong Coalition and REI www.bikesbelong.org/reibfc
Federal National Energy Technology Laboratory	Grants to reduce fossil fuel emissions	Grant to local governments to reduce fossil fuel emissions in a manner that is environmentally sustainable and, to the maximum extent practicable, maximizes benefits for local and regional communities	Closed July 26, 2009	Go to www.grants.gov and look for Funding Opportunity Number DE-FOA-0000013
State of Alaska SeaTrails	Funding for construction, signage, monitoring and marketing of non-motorized trails in Southeast Alaska	Southeast Alaska communities, preferably Seatrail partner communities.	Periodically available, not on a schedule. $245,000 awarded in April 2009. Now accepting letters of interest for its upcoming Kiosk Development Project. 10-15 kiosk kits	www.seatrails.org

TABLE 9-1 – FUNDING SOURCES FOR NON-MOTORIZED FACILITIES				
Funding Source	**Purpose**	**Project Eligibility**	**Timing**	**Contact Website**
			will be designed and transported to interested SEAtrails communities.	
Federal NPS Land and Water Conservation Fund (PL-578)	Program for acquiring land for outdoor recreation	Grants are available for the acquisition of land and the development of public outdoor recreation facilities. Grants are limited to 50 percent of the total project cost. The cities and counties are responsible for the remaining project cost. Bicycle/pedestrian paths have been funded under this program in instances where they have been shown, as needed, in connection with outdoor recreation activities.	November 2009	http://dnr.alaska.gov/parks/grants/
Federal Transit Authority (FTA/USFS) Alternative Transportation in Parks and Public Lands Program	Makes National Forest System lands explicitly eligible and includes bicycle, pedestrian and non-motorized watercraft projects in the definition of alternative transportation.	The new Alternative Transportation in Parks and Public Lands program (also known as Transit in the Parks) provides funds to support public transportation projects in parks and public lands. TEA-21 (Title III, Section 3039) authorized a study of transit needs in national parks and related public lands. Two categories: **planning** and **implementation** ("capital"). **Planning projects** are intended to identify the best alternative solution to a public land's transportation problem. **Implementation projects** (or "capital projects") are projects that, in general, involve purchasing or constructing alternative transportation facilities or equipment. $25 million in 2008, $29 million in 2009		Paul S. Sarbanes Transit in Parks Program (5320) Alaska, Idaho, Oregon, and Washington. Richard F. Krochalis, FTA Regional Administrator, Jackson Federal Building, 915 Second Avenue, Suite 3142, Seattle, WA 98174–1002 (206) 220–7954.
Federal Transit Authority	Range of projects. Some may be applicable.	Federal Transit Act (SAFETEA-LU) Grant Programs • Metropolitan & Statewide Planning (5303, 5304, 5305) • Large Urban Cities (5307)	Various.	http://www.fta.dot.gov/funding/grants_financing_263.html

TABLE 9-1 – FUNDING SOURCES FOR NON-MOTORIZED FACILITIES				
Funding Source	**Purpose**	**Project Eligibility**	**Timing**	**Contact Website**
		• Clean Fuels Grant Program (5308) • Major Capital Investments (New Starts & Small Starts) (5309) • Rail and Fixed Guideway Modernization (5309) • Bus and Bus Facilities (5309, 5318) • Transportation for Elderly Persons and Persons with Disabilities (5310) • Rural and Small Urban Areas (5311) • Rural Transit Assistance Program (5311(b)(3)) • Public Transportation on Indian Reservations (5311(c)) • Transit Cooperative Research Program (5313) • National Research & Technology Program (5314) • Job Access and Reverse Commute Program (5316) • New Freedom Program (5317) • Paul S. Sarbanes Transit in Parks Program (5320) • Alternatives Analysis (5339) • University Transportation Centers Program (TEA-21 5505) • Over the Road Bus Program/Over the Road Bus Accessibility (3038) • Flexible Funding for Highway and Transit • National Fuel Cell Technology Development Program (SAFETEA-LU 3045)		

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APPENDIX A – ALASKA ADMINISTRATIVE CODE

13 AAC 02.385. Applicability of regulations to bicycles
(a) Every person operating a bicycle upon a roadway has all the rights and is subject to all of the duties applicable to the driver of any other vehicle as set out in this chapter, in addition to special regulations in secs. 385 - 420 of this chapter, except as to those provisions of this chapter which by their nature have no application.

(b) No person may violate the provisions of secs. 385 - 420 of this chapter. The parent or guardian of a child may not authorize or knowingly permit a child to violate a provision of this chapter.

(c) When signs are erected indicating that no right, left or U-turn is permitted, no person operating a bicycle may disobey the direction of the sign unless first pulling to the extreme right or shoulder of the road, dismounting and making the turn as a pedestrian.

13 AAC 02.395. Riding on bicycles and certain non-motorized conveyances
(a) Repealed 6/28/79.

(b) No person operating a bicycle upon a highway may carry a person other than the operator, unless the bicycle is equipped with a seat for the passenger, except that an adult rider may carry a child securely attached to his person in a backpack or sling.

(c) No person operating a bicycle or other non-motorized conveyance may attach, hold on by hand or otherwise secure the bicycle or conveyance or himself to another vehicle so as to be towed or pulled.

(d) A person operating a bicycle upon a highway shall maintain control of the bicycle and shall at all times keep at least one hand upon the handlebars of the bicycle.

(e) No person may operate a unicycle, coaster, roller skates, or a similar device on a roadway.

(f) This section does not apply upon a roadway closed to motorized vehicle traffic.

13 AAC 02.400. Riding bicycles on roadways and bicycle paths
(a) A person operating a bicycle upon a roadway shall ride as near to the right side of the roadway as practicable, and shall give way to the right as far as practicable to a motor vehicle proceeding in the same direction when the driver of the motor vehicle gives audible signal.

(b) Persons riding bicycles on a roadway may not ride more than two abreast except on paths or parts of roadways set aside for the exclusive use of bicycles. Persons riding bicycles two abreast may not impede traffic and, in a laned roadway, shall ride within the farthest right lane.

(c) When a shoulder of the highway is maintained in good condition, an operator of a bicycle shall use the shoulder of the roadway.

(d) A person operating a bicycle on a trail, path, sidewalk, or sidewalk area shall

(1) exercise care to avoid colliding with other persons or vehicles;

(2) give an audible signal before overtaking and passing a pedestrian; and

(3) yield the right-of-way to any pedestrian.

(e) Repealed 6/28/79.

(f) A person riding a bicycle intending to turn left shall, unless he dismounts and crosses as a pedestrian, comply with the provisions of sec. 200 of this chapter. The operator of a bicycle must give a signal by hand and arm continuously during the last 100 feet traveled unless the hand is needed in the control or operation of the bicycle. When stopped to await an opportunity to turn, a hand and arm signal must be given continuously by the operator.

(g) No person may ride a bicycle upon a sidewalk in a business district or where prohibited by an official traffic-control device.

(h) No bicycle race may be conducted upon a roadway, except as provided under AS 05.35.

13 AAC 02.420. Parking of bicycles

(a) No person may park a bicycle on a street or sidewalk in a manner which obstructs pedestrian traffic or the parking and driving of motor vehicles.

(b) No person may secure a bicycle to any of the following publicly owned facilities:

(1) fire hydrants;

(2) police and fire callboxes;

(3) electric traffic signal poles;

(4) stanchions or poles located within bus zones or stands;

(5) stanchions or poles located within 25 feet of an intersection; or

(6) trees under 10 inches in diameter.

(c) A bicycle parked on a highway must comply with the provisions of this chapter regulating the parking of vehicles.

APPENDIX B – JUNEAU CODE GOVERNING NON-MOTORIZED TRANSPORTATION

72.02.385 Applicability of regulations.

(a) Every person operating a bicycle upon a roadway has all the rights and is subject to all of the duties applicable to the driver of any other vehicle as set out in this chapter, in addition to special regulations in this article, except as to those provisions of this chapter which by their nature have no application.

(b) No person may violate the provisions of this article. The parent or guardian of a child may not authorize or knowingly permit a child to violate a provision of this chapter.

(c) When signs are erected indicating that no right turn, left turn or U-turn is permitted, no person operating a bicycle may disobey the direction of the sign unless first pulling to the extreme right or shoulder of the road, dismounting and making the turn as a pedestrian.

72.02.395 Riding on bicycles and certain non-motorized conveyances.

(a) No person operating a bicycle upon a highway may carry a person other than the operator, unless the bicycle is equipped with a seat for the passenger, except that an adult rider may carry a child securely attached to the adult in a backpack or sling.

(b) No person operating a bicycle or other non-motorized conveyance may attach, hold on by hand or otherwise secure the bicycle or conveyance or himself or herself to another vehicle so as to be towed or pulled.

(c) A person operating a bicycle upon a highway shall maintain control of the bicycle and shall at all times keep at least one hand upon the handlebars of the bicycle.

(d) No person may operate a unicycle, coaster, roller skates, inline skates or a similar device on a roadway in a negligent manner.

(e) This section does not apply upon a roadway closed to motorized vehicle traffic.

(f) Where an official traffic control device prohibits non-motorized conveyances on certain heavily traveled highways, no one using a non-motorized conveyance shall move or ride along such highways or their easements.

72.02.400 Riding on roadways and paths.

(a) A person operating a bicycle upon a roadway shall ride as near to the right side of the roadway as practicable, and shall give way to the right as far as practicable to a motor vehicle proceeding in the same direction when the driver of the motor vehicle gives an audible signal.

(b) Persons riding bicycles on a roadway may not ride more than two abreast except on paths or parts of roadways set aside for the exclusive use of bicycles. Persons riding bicycles two abreast may not impede traffic and, in a laned roadway, shall ride within the farthest right lane.

(c) When a shoulder of the highway is maintained in good condition, an operator of a bicycle shall use the shoulder of the roadway.

(d) A person operating a bicycle on a trail, path, sidewalk or sidewalk area shall:

(1) Exercise care to avoid colliding with other persons or vehicles;

(2) Give an audible signal before overtaking and passing a pedestrian; and

(3) Yield the right-of-way to any pedestrian.

(e) A person riding a bicycle intending to turn left shall, unless the person dismounts and crosses as a pedestrian, comply with the provisions of section 72.02.200. The operator of a bicycle must give a signal by hand and arm continuously during the last 100 feet traveled unless the hand is needed in the control or operation of the bicycle. When stopped to await an opportunity to turn, a hand and arm signal must be given continuously by the operator.

(f) No person may ride a bicycle upon a sidewalk in a business district or where prohibited by an official traffic control device.

(g) No bicycle race may be conducted upon a roadway, except as provided under AS 05.35.

Business district means the territory contiguous to and including a highway, other than a controlled-access highway, when within any 600 feet along the highway there are buildings in use for business or industrial purposes, including hotels, banks, office buildings, railroad stations or public buildings other than schools which occupy at least 300 feet of frontage on one side or 300 feet collectively on both sides of the highway; however, if the highway is physically divided into two or more roadways, only those buildings facing each roadway separately may be regarded.

72.02.410 Helmet required for persons under the age of 18.

No person under the age of 18 years shall ride or operate a bicycle on any public property or private property that is open for public use unless he or she is wearing a protective helmet designed for bicycle safety. Such helmet must meet or exceed the safety standards adopted by the U.S. Consumer Product Safety Commission, or substantially similar standard, and shall be equipped with either a neck or chin strap that shall be fastened securely while the bicycle is in motion. Violation of this subsection shall be an infraction punishable by a $25.00 fine, provided that the fine shall be waived upon presentation of proof that a bicycle helmet that meets the requirements of this subsection was purchased or acquired for the bicycle operator after the citation was issued.

72.02.420 Parking.

(a) No person may park a bicycle on a street or sidewalk in a manner which obstructs pedestrian traffic or the parking and driving of motor vehicles.

(b) No person may secure a bicycle to any of the following publicly owned facilities:

(1) Fire hydrants;

(2) Police and fire callboxes;

(3) Electric traffic signal poles;

(4) Stanchions or poles located within bus zones or stands;

(5) Stanchions or poles located within 25 feet of an intersection; or

(6) Trees under ten inches in diameter.

(c) A bicycle parked on a highway must comply with the provisions of this chapter regulating the parking of vehicles.

(CBJ Code 1970, § 72.12.065; Serial No. 71-66, § 4, 1971)

State law references: Similar provisions, 13 AAC 02.420.

72.10.140 Use of skateboards, roller skates, roller blades and similar devices restricted.

(a) No person may operate a skateboard, roller skates, roller blades, unicycle, coaster, scooter, or similar device:

(1) On a sidewalk, roadway, or street within certain portions of the central business district. The portion of the central business district in which such devices are prohibited is shown on the attached Exhibit A and described as follows: Franklin Street from the Marine Park Parking Garage to Fourth Street, Seward Street from Marine Way to Fourth Street, Marine Way from the Marine Park Parking Garage to Main Street, the following streets between Franklin Street and Main Street--Front Street, Second Street, Third Street and Fourth Street--all of Shattuck Way, Municipal Way and Ferry Way;

(2) Upon any roadway or street except while crossing a roadway or street in a crosswalk;

(3) On private property which has been posted with a clearly visible sign prohibiting such operation;

(4) Within six feet of the Fisherman's Memorial;

(5) In the Marine Park Parking Garage;

(6) At any time a ship is moored at the Steamship Dock, in the upper portion of the Marine Park Plaza, from the Marine Park Parking Garage to the foot of the semi-circular stairs, as shown on the attached Exhibit B; or

(7) At any time a commercial passenger vehicle is present in the Marine Park Plaza, in the lower portion of the Marine Park Plaza, from the top of the semi-circular stairs to the Miners' Statue, as shown on the attached Exhibit B.

(b) This section does not apply to roadways, streets, or the Marine Park Plaza while those facilities are being used for a parade or other activity for which a permit has been issued under this title if the use of a skateboard, roller skates, roller blades, unicycle, coaster, scooter, or similar device is part of the activity.

(c) The manager or his designee may establish rules for use of the Marine Park Plaza.

62.35.020 Duty to construct.

Whenever application for a building permit is made for a new residential, industrial, commercial or other structure; or for an alteration of an existing structure, the cost of which alteration is estimated to be in excess of $10,000.00; the owner of any such structure within the area designated on the map entitled _____ or any area zoned commercial within the City and Borough shall also apply to the City and Borough engineer for a sidewalk permit and construct to standards approved by the City and Borough engineer a sidewalk if such does not then exist, or repair or reconstruct a sidewalk if any existing sidewalk is not in repair, or not free from defect or not safe, on all sides of the property upon which such structure is situated so long as any such side adjoins or abuts a dedicated street or walkway. The City and Borough engineer may waive the construction, reconstruction or repair requirement herein in whole or in part if the sidewalk construction in any particular location is impossible or unfeasible.

62.35.040 Maintenance required.

An owner of real property shall keep the sidewalk or sidewalk door, if any, adjacent to or abutting on such real property in a good state of repair and clear of obstructions and hazards. Violation of this section constitutes an infraction punishable as provided in subsection 01.40.010(b)(3).

62.35.080 Specifications and permit.

No person shall construct or repair any sidewalk except in accordance with the line, grade, slope and specifications established by the City and Borough engineer or without first obtaining a written permit from the City and Borough engineer.

72.02.487 Driving on sidewalks.

(a) The driver of any vehicle, except a bicycle, shall not drive within any sidewalk area except at a permanent or temporary driveway.

(b) No person shall ride a bicycle upon a sidewalk within the business district.

APPENDIX C – PUBLIC INPUT FORM

Juneau Non-Motorized Transportation Plan

Neighborhood Worksheet

PARKS & RECREATION
CITY/BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

Name: _____

(Including your name is optional and will only be used to help organize input received. If you do not wish to include your name, we will still use your input.)

My neighborhood is_____

Walking

1. What are you or your family's walking destinations? Please list them below and indicate how often you make this trip. You can also draw them on the neighborhood map.

Destination: Frequency:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

2. If there are places along your walking routes where you experience hazards or difficulties, please explain them below and/or draw them on the map in red.

Location: Type of obstacle:

_____

_____

_____

_____

_____

Thank you for participating in the Juneau Non-Motorized Transportation Plan. Your input will help make walking and biking in Juneau easier and safer.

Turn Over

Biking

3. What are you or your family's biking destinations? Please list them below and indicate how often you make this trip. You can also draw them on the neighborhood map in blue.

Destination: Frequency:

4. If there are places along your biking routes where you experience hazards or difficulties, please explain them below and/or draw them on the map in red.

Location: Type of obstacle:

General Comments

5. Do you have any other comments on how walking and biking routes and facilities in Juneau can be improved? Do you have any ideas about how to encourage people to choose active forms of transportation?

6. I choose to walk or bike to a destination when: _____

All input must be received by December 31, 2008.

Please contact us with questions or comments:

Zoë Morrison at Sheinberg Associates
586-3141 or zmorrison@gci.net
Www.juneau.org/parksrec and click on 'plan updates'

Forms and maps can be returned by:

Fax: 586-2331
Mail or in person:
204 N. Franklin Street Suite 101

APPENDIX D – RECOMMENDED NON-MOTORIZED INFRASTRUCTURE IMPROVEMENTS, BY AREA

Recommendations – Mendenhall West

Rec. No	Priority	Improvement	Type	2001 Area Wide Plan	2008 Comp. Plan	1997 NMPT Plan	Ownership of Road
1	High	Improve bike lanes on Back Loop Rd Mendenhall River to Auke Bay	Bike Lane	No	No	No	DOT
2	High	Improve sidewalks and crosswalks from Back Loop Rd to Ferry Terminal	Sidewalk Improvements	Yes	No	No	DOT
3	High	Improve bike lanes on Glacier Hwy from UAS to Brotherhood Bridge	Paved Shoulder	Yes	No	No	DOT
4	High	Fritz Cove Rd and UAS intersection needs improving for non-motorized modes	Intersection and Crossings	Partly	No	No	DOT
5	High	Intersection of Back Loop Rd and Glacier Hwy needs pedestrian improvements	Intersection and Crossings	Yes	Yes	No	DOT
6	High	Intersection of Glacier Hwy and Industrial Blvd needs crosswalk	Intersection and Crossings	Partly	No	No	DOT
7	High	New separated path needed along Back Loop Rd from Mendenhall River to Auke Bay	Separated Path	Yes	Partly	No	DOT
8	High	New separated path needed along Glacier Hwy from Brotherhood Bridge to UAS	Separated Path	No	Yes	No	DOT
9	Mid	Bike lanes needed on Fritz Cove Rd	Paved Shoulder	Yes	No	Yes	DOT
10	Mid	Bike lanes needed on Industrial Blvd from Glacier Hwy to Crazy Horse Dr	Paved Shoulder	Yes	No	Yes	CBJ
11	Mid	Shoulder lane should be paved on Glacier Hwy from Upper Lena Loop to Tee Harbor	Paved Shoulder	No	No	Yes	DOT
12	Mid	Pedestrian improvements are needed along Back Loop Rd in UAS area	Sidewalk Improvements	Yes	Yes	No	DOT
13	Mid	Shoulder lane should be paved on Glacier Hwy from Amalga Harbor to end of road	Paved Shoulder	Yes	No	Yes	DOT
14	Mid	Intersection of Glacier Hwy and Engineers Cutoff improvements for non-motorized	Intersection and Crossings	No	No	No	DOT
15	Mid	Separated path needed from UAS across to pedestrian bridge at Dimond Park	Separated Path	No	No	No	NA
16	Low	Separated path needed from Goat Hill to UAS student housing	Separated Path	No	No	No	NA
17	Low	Bike lanes should be added along Engineer's Cutoff	Paved Shoulder	Yes	No	Yes	DOT
18	Low	Back Loop Bridge needs improved facilities for non-motorized modes	Intersection and Crossings	No	No	No	DOT
19	Low	Improve intersection of Back Loop Rd and Montana Creek Rd for non-motorized modes	Intersection and Crossings	No	No	No	DOT
20	Low	Separated path needed on Mendenhall Peninsula	Separated Path	No	No	Yes	NA
21	Low	Separated path between Mendenhall River Trail and Back Loop Rd south of Wren St	Separated Path	No	No	Yes	NA

Recommendations – Mendenhall East

Rec. No	Priority	Improvement	Type	2001 Area Wide Plan	2008 Comp. Plan	1997 NMPT Plan	Ownership of Road
22	High	Bicycle access to Dimond Park needs to be improved	Intersection and Crossing	No	No	No	CBJ
23	High	Bike lanes transition needs to be improved on Mendenhall Loop Rd from Nancy St to Egan Dr	Bike Lane	No	No	Yes	DOT
24	High	Brotherhood Bridge needs improvements for non-motorized modes (including underpass)	Intersection and Crossings	Yes	No	Yes	DOT
25	High	Mendenhall Mall Rd needs improvements for non-motorized modes	Sidewalk Improvements	Yes	No	No	Private
26	High	Bike lane improvements needed on Egan Dr from Brotherhood Bridge to Mendenhall Loop Rd	Bike Lane	No	No	Partly	DOT
27	High	Intersection of Nancy St and Mendenhall Loop Rd needs improvement	Intersection and Crossings	Yes	No	No	DOT
28	High	McNugget intersection needs improvements for non-motorized modes	Intersection and Crossings	No	No	Yes	DOT
29	High	Intersection of Riverside Drive and Egan Dr needs improvements for non-motorized modes	Intersection and Crossings	No	No	Partly	DOT
30	High	Intersection of Mendenhall Loop Rd and Mendenhall Mall Rd needs improvements for non-motorized modes	Intersection and Crossings	No	No	No	DOT/Priv.
31	High	Intersection of Egan Dr and Mendenhall Loop Rd needs improvements for non-motorized modes	Intersection and Crossings	No	No	Yes	DOT
32	High	Crosswalk needed on Glacier Highway between Riverside Dr and the Brotherhood Bridge	Intersection and Crossings	Yes	No	No	DOT/CBJ
33	High	Intersection improvements needed at Mendenhall Loop Rd and Taku Blvd for non-motorized modes	Intersection and Crossing	Yes	No	No	DOT/CBJ
34	High	Intersection improvements needed Mendenhall Loop Rd and Mendenhall Blvd for non-motorized modes	Intersection and Crossing	Yes	No	No	DOT/CBJ
35	High	Crosswalks needed to bus stop near Fred Meyer	Intersection and Crossing	No	No	No	DOT
36	High	Separated Under Thunder path needs to be completed	Separated Path	Yes	No	Yes	NA
37	Mid	Pedestrian improvements needed along school routes from Long Run Dr to Tournure St	Sidewalk Improvements	No	No	No	CBJ
38	Mid	Bike lane needed on Old Dairy Rd from end to Glacier Highway	Bike Lane	No	No	Yes	DOT

Rec. No	Priority	Improvement	Type	2001 Area Wide Plan	2008 Comp. Plan	1997 NMPT Plan	Ownership of Road
39	Mid	Intersection improvements needed on Mendenhall Loop Rd at Floyd Dryden School	Intersection and Crossing	Yes	Partly	No	COT/CBJ
40	Mid	Bike lane needed on Glacier Highway between separated path along Egan Dr and Fred Meyer	Bike Lane	No	Partly	Yes	DOT
41	-	Separated path needs to be completed from Vintage area to Dimond Park pedestrian Bridge - Trail completed in summer 2009.	Separated Path	No	No	Yes	NA
42	Low	Second pedestrian bridge across Mendenhall River in upper valley	Intersection and Crossings	No	No	No	NA
43	Low	Intersection at Mendenhall Loop Rd and Mendenhall River School needs improvements	Intersection and Crossings	No	Partly	No	DOT

Recommendations – Lemon Creek

Rec. No	Priority	Improvement	Type	2001 Area Wide Plan	2008 Comp. Plan	1997 NMPT Plan	Ownership of Road
45	High	Sidewalks needed on Glacier Hwy between Sunny Point and Vanderbilt Hill Rd	Sidewalk Improvements	Yes	Yes	No	DOT
46	High	Sidewalks needed on Anka St	Sidewalk Improvements	Yes	Yes	No	CBJ
47	High	Crosswalk needed at Glacier Hwy and Concrete Way	Intersection and Crossings	Partly	Partly	No	DOT
48	High	Intersection of Glacier Hwy and Anka St needs improvements for cyclists	Intersection and Crossings	No	No	No	DOT/CBJ
49	High	Crosswalk needed at Glacier Hwy and Walmart	Intersection and Crossings	Yes	Yes	No	DOT
50	High	Separated path needed from Sunny Point to Vanderbilt Hill Rd	Separated Path	Yes	Yes	No	DOT
51	Mid	Sidewalks are needed on Central Ave	Sidewalk Improvements	Yes	Yes	No	CBJ
52	Mid	Intersection of Glacier Hwy and Vanderbilt Hill Rd needs improvements for non-motorized modes	Intersection and Crossings	No	Partly	No	DOT
53	Mid	Glacier Hwy near Western Auto needs wider bikes lanes on both sides	Bike Lane	No	No	Yes	DOT
54	Mid	Intersection of Glacier Hwy and Hospital Dr needs improvement	Intersection and Crossings	Partly	Partly	Yes	DOT/CBJ
55	Mid	Separated coastal path needed from Yandukin Dr to Twin Lakes Path	Separated Path	Partly	Partly	Yes	DOT
56	Mid	Separated path along Vanderbilt Hill Rd from Glacier Hwy to meet new coastal path	Separated Path	No	No	No	DOT
57	Mid	Separated path needed along Glacier Hwy from end of Twin Lakes path to Vanderbilt Hill Rd	Separated Path	No	No	Yes	NA
58	Low	Bike lanes needed on Channel Vista Dr	Bike Lane	Partly	Partly	Yes	DOT
59	Low	Sidewalk needed on one side of Sunny Dr	Sidewalks Improvements	No	No	No	DOT

Recommendations – Downtown and Thane

Rec. No	Priority	Improvement	Type	2001 Area Wide Plan	2008 Comp. Plan	1997 NMPT Plan	Ownership of Road
60	High	Bike lanes are needed on South Franklin St	Bike Lane	No	No	No	DOT
61	High	Seawalk should be completed from Harris Harbor to Rock Dump	Separated Path	Yes	Yes	Yes	CBJ
62	High	Bike lanes are needed on Egan Dr from Juneau-Douglas Bridge to Main St	Bike Lane	Yes	Yes	Yes	DOT
63	High	Bike lanes are needed on Glacier Ave from Highland Ave to Egan Dr	Paved Shoulder	No	No	Yes	CBJ
64	High	Pedestrian improvements are need on Glacier Ave from Highland Ave to 10th St	Sidewalk Improvements	No	No	No	CBJ
65	High	Bike lanes needed on Willoughby Ave from Glacier Ave to Egan Dr	Bike Lane	Yes	Yes	Yes	DOT
66	High	Shoulder lanes are needed on Thane Rd from downtown to the end	Paved Shoulder	Yes	No	Yes	DOT
67	High	Bike lanes needed on 10th St between Egan Dr and Glacier Ave	Bike Lane	No	No	Yes	CBJ
68	High	Intersection improvements needed at Egan Dr and Glacier Ave for non-motorized modes	Intersection and Crossings	No	No	No	DOT/CBJ
69	High	Intersection improvements are needed at Egan Dr and Whittier St for non-motorized modes	Intersection and Crossings	Underway	Underway	No	DOT/CBJ
70	High	Intersection improvements are needed at Egan Dr and 12th St for non-motorized modes	Intersection and Crossings	No	No	No	DOT/CBJ
71	High	Intersection improvements are needed at Egan Dr and West 8th St for non-motorized modes	Intersection and Crossings	Partly	No	No	DOT/CBJ
72	High	Intersection improvements are needed at Egan Dr and 10th St	Intersection and Crossings	Yes	Yes	Yes	DOT/CBJ
73	High	Intersection improvements needed at Willoughby Ave and Capital Ave for non-motorized modes	Intersection and Crossings	Partly	No	No	**CBJ**
74	High	Intersection improvements needed at Egan Dr and Main St for non-motorized modes	Intersection and Crossings	No	No	No	DOT/CBJ
75	High	Intersection improvements needed at Egan Dr and Willoughby Ave for non-motorized modes	Intersection and Crossings	Partly	No	Yes	DOT/CBJ
76	High	Pedestrian improvements are needed on Egan Dr between the bridge and Main St	Sidewalk Improvement	Yes	No	No	DOT
77	High	Separated path needed along Thane Rd from end of Seawalk to Sheep Creek	Separated Path	No	Yes	Yes	NA
78	Mid	Improvements for pedestrians needed on Calhoun Ave	Sidewalk Improvements	No	No	No	CBJ
79	Mid	Sidewalks needed on Capital Ave between Willoughby Ave and 9th St	Sidewalk Improvements	No	No	No	CBJ
80	Mid	Intersection at 12th St and Irwin St needs improvements for pedestrians	Intersection and Crossings	No	No	No	CBJ
81	Low	Separated path needed along Gold Creek from Egan Dr to Cope Park	Separated Path	No	No	Yes	NA

Recommendations – Douglas Island

Rec. No	Priority	Improvement	Type	2001 Area Wide Plan	2008 Comp. Plan	1997 NMPT Plan	Ownership of Road
82	High	North Douglas Hwy north of the bridge needs pedestrian improvements	Sidewalk Improvements	No	No	No	DOT
83	High	Separated paths on Juneau-Douglas Bridge are sometimes too narrow for bikes and walkers	Intersection and Crossings	No	No	No	DOT
84	High	Douglas Hwy bike lane needs to be completed from Gastineau Schoool to Savikko Rd	Bike Lanes	No	No	Yes	DOT
85	High	Douglas Hwy between Cordova St and Downtown Douglas needs completed sidewalk	Sidewalk Improvements	No	Yes	No	DOT
86	High	Crosswalk needed at Crow Hill Dr and the Douglas Hwy	Intersection and Crossings	Partly	No	No	DOT/CBJ
87	High	3rd St at library needs a crosswalk	Intersection and Crossings	Partly	No	No	DOT/CBJ
88	High	Douglas Hwy and Cordova St needs improved crosswalk	Intersection and Crossings	Yes	No	No	DOT/CBJ
89	High	3rd St and Savikko Rd needs intersection improvements	Intersection and Crossings	No	No		DOT/CBJ
90	High	Treadwell Ditch with neighborhood connections	Separated Path	No	No	No	NA
91	Mid	Roundabout needs lane improvements for bicycles	Intersection and Crossings	No	No	No	DOT
92	Mid	Pedestrian improvements along Savikko Rd	Sidewalk Improvements	Yes	No	Partly	CBJ
93	Mid	Douglas Hwy and David St needs a crosswalk	Intersection and Crossings	Partly	No	No	DOT/CBJ
94	Mid	Shoulder lanes on North Douglas Hwy needed from Boat launch to end of the road	Paved Shoulder	Yes	Partly	Yes	DOT

APPENDIX E – COMPLETE STREETS CODE EXAMPLE

Complete Streets are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and bus riders of all ages and abilities are able to safely move along and across a complete street.
Completestreets.org

Complete Streets

Revised 2-9-09

INTRODUCTION

The desire for safe streets that function well for all users is a timeless idea. Since the early part of the last century, street design has been an inter-disciplinary affair, often occurring in the context of a larger vision for the neighborhood, community, or city. Designs were guided by the uses planned along the street, the needs of pedestrians, horse drawn carriages, bicycles, and even streetcars. In urban environments, conflicts between these street users were commonplace and various design solutions were devised to address these challenges.

With the mid-20th century rise of the automobile, however, the focus on street design shifted; driven by new physical and safety considerations related to the size, weight, and speed of the automobile. Specialists in traffic engineering emerged. A new professional language was created. Roadway standards were developed, and attention was increasingly focused on moving vehicles quickly, minimizing delay for motorists, and increasing the personal freedom, access, and mobility afforded by the automobile.

Today, there is a growing public desire for a return to more walkable and bikable streets that support livable communities. Increasingly, local and regional agencies are working in support of street and transportation network design that encourages walking, bicycling, transit use by all users, including children, seniors, and disabled.

A complete street is safe, comfortable, and convenient for travel via automobile, foot, bicycle, and transit. This concept was initially championed by cycling advocacy groups seeking increased accommodation of cyclist needs in roadway design. What their initial research revealed was a changing attitude among the majority of Americans. For the first time in decades, surveys are showing a preference for expanding existing public transportation and building new bikeways and sidewalks over expanding existing highways and building new highways.[1]

[1] Federal Highway Administration Infrastructure Survey, 2000.

Sustainable Community Development Code Beta Version 1.2

IMPLICATIONS OF NOT ADDRESSING THE ISSUE

The sustainability implications of a narrow focus on the automobile are widespread. At the community scale, land uses have become increasingly segregated and separated by larger distances, requiring more time and more energy to meet daily needs. At the neighborhood scale, higher traffic speeds and higher traffic volumes increasingly conflict with pedestrian and bicycle uses that once shared the same streets. At the roadway intersection level, improvements constructed to meet vehicular delay standards have the unintended consequence of also creating wide and unfriendly barriers to pedestrian crossing.

Incomplete street design may also result in continued safety problems. Streets designed exclusively for the automobile have been associated with disproportionately high crashes rates and fatalities for pedestrians and bicyclists. While pedestrian and bicycle trips account for roughly 9% of all trips, 13% of all traffic related fatalities involve pedestrians and bicyclists.[2] Additionally, with the growing desire for walking and bicycling, the potential for increased crashes and injury may increase if streets are not designed to serve all users.

GOALS

- Increased safety for the most vulnerable street users, especially bicyclists and pedestrians
- Increased choices for mobility
- Increased access for non-driving population
- Energy savings related to more fuel efficient modes of travel
- Reduced vehicle miles traveled (VMT) resulting in:
  - CO_2 emission reduction
  - Improved traffic flow
  - Decreased maintenance and repair costs
- Increased physical activity levels resulting in improved public health
- Improved design standards and guidelines

RMLUI
ROCKY MOUNTAIN LAND USE INSTITUTE

[2] 2005 NHTSA Traffic Safety Facts

DRAFT Sustainable Community Development Code Framework

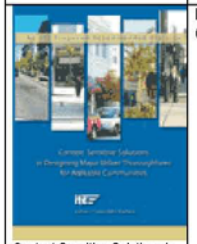
COMPLETE STREETS

KEY STATISTICS AND FACTS:

- For the first time in decades, surveys are showing a preference for expanding existing public transportation and building new bikeways and sidewalks over expanding existing highways and building new highways.[3]
- There are an estimated 35.3 billion walking trips nationwide every year in the U.S.[4]
- Walking is not just for recreation. Over 50% of all walking trips serve a functional purpose other than exercise and recreation[5]
- Nearly a third of Americans do not drive, and the non-driving senior population will grow even larger in the near future with the aging Boomer generation
- 55% of Americans say they would rather drive less and walk more[6]
- The top pedestrian complaint is simply that there are too few sidewalks[7]
- The top bicyclist complaint is simply that there are too few bikeways[8]
- While pedestrian and bicycle trips account for roughly 9% of all trips, 13% of all traffic related fatalities involve pedestrians and bicyclists[9].

RMLUI
Rocky Mountain Land Use Institute

COMPLETE STREETS

		ACHIEVEMENT LEVELS				
		Bronze (Good)	Silver (Better)	Gold (Best)	References/Commentary	Code Examples/Citations
 Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities is a comprehensive guide to street design that reflects a joint effort between ITE and the Congress for New Urbanism	**Remove Obstacles**	▪ Modal Accommodation - all modes of travel routinely accommodated on all local, collector, and arterial streets ▪ Vehicular Level of Service (LOS) – allow exceptions from jurisdiction standards on case by case basis ▪ Design Speed – allow design speed to match posted and planned operating speed on case by case basis ▪ Roadway Design – allow exception from standard cross sections based on context and consideration of other transportation goals on case by case basis ▪ Travel Lane Widths – allow exception from standard vehicle lane width (typ. 12') on case by case basis ▪ Design Vehicle – allow exceptions to the standard design vehicle (e.g WB 50 truck) on a case by case basis	▪ Modal Accommodation - all modes of travel required to be accommodated on all local, collector, and arterial streets in specific districts or areas (CBD, urban centers, TODs) ▪ Vehicular Level of Service (LOS) – flexible level of service policy that allows for consideration of other transportation goals – applied in specific districts or areas (CBD, urban centers, TODs) ▪ Design Speed – design speed allowed to match posted and planned operating speed – applied in specific districts or areas (CBD, urban centers, TODs) ▪ Roadway Design – multiple roadway design options or cross sections for various roadway types based on land use context and modal function (sometimes referred to as "Street Typologies") ▪ Travel Lane Widths – allow exception from standard vehicle lane width (typ. 12') in specific districts or areas (CBD, urban centers, TODs)	▪ Modal Accommodation - all modes of travel required to be accommodated on all local, collector, and arterial streets throughout the jurisdiction ▪ Vehicular Level of Service (LOS) – flexible level of service policy that allows for consideration of other transportation goals – applied throughout the jurisdiction ▪ Design Speed – design speed allowed to match posted and planned operating speed – applied throughout the jurisdiction ▪ Roadway Design – flexible roadway design options for all roadways based on land use context and modal function ▪ Travel Lane Widths – flexible lane width options based on land use context and modal function (e.g. allowance of 10' vehicle travel lanes) throughout the jurisdiction	▪ Completestreets.org is a comprehensive online resource. ▪ Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities, ITE Proposed Recommended Practice is a comprehensive guide to street design that reflects a joint effort between ITE and the Congress for New Urbanism. online. Retrieved 2-10-09.	▪ Portland Metro. *Creating Livable Streets, Street Design Guidelines for 2040.* online. Retrieved 2-10-09. ▪ City of Aurora Urban Street standards. online. Retrieved 1-26-09. ▪ City of Sacramento Pedestrian Friendly Street Design Guidelines. ▪ MTC Routine Accommodation Checklist.

[3] Federal Highway Administration Infrastructure Survey, 2000.
[4] National Household Travel Survey (NHTS), 2001
[5] Natl. Survey of Pedestrian and Bicyclist Attitudes and Behaviors, 2002
[6] Surface Transportation Policy Project Survey, 2002
[7] National Transportation Availability & Use survey, 2002
[8] National Transportation Availability & Use survey, 2002
[9] 2005 NHTSA Traffic Safety Facts

DRAFT Sustainable Community Development Code Framework

COMPLETE STREETS

Complete street designs should accommodate all users, including emergency and life safety providers

Complete streets policies can be structured to protect and prioritize the most vulnerable street users

	Bronze (Good)	Silver (Better)	Gold (Best)	References/Commentary	Code Examples/Citations
Remove Obstacles		▪ Design Vehicle – no "standard" design vehicle – rather it is established based on land use context and expected use of the roadway. Life safety agencies involved on case by case basis.	▪ Design Vehicle – no "standard" design vehicle – rather it is established based on land use context and expected use of the roadway. Life safety agencies involved in setting policy, minimizing subsequent design review involvement.		
Create Incentives	▪ Offer a fast track or streamlined development approval for process Complete Streets projects ▪ Provide technical assistance for Complete Street design ▪ Facility Maintenance – street maintenance program includes routine clearing of vehicle, bicycle, and transit lanes and regular restriping of lane markings and crosswalks.	▪ Reduce transportation impact fees for projects that meet Complete Streets objectives ▪ Allow the pedestrian portion of a Complete Street to qualify for open space credits ▪ Provide grant writing assistance for applicants seeking Safe Routes to Schools and other transportation funding sources that support ▪ Policy and facility plans for all modes to guide Complete Street implementation ▪ Facility Maintenance – street maintenance program includes routine clearing of vehicle, bicycle, transit lanes, and access to transit stops and stations in the public right of way and regular restriping of lane markings and crosswalks.	▪ Offer matching funds to for Complete Streets projects ▪ Fund Complete Street retrofit projects independent of new development or redevelopment ▪ Facility Maintenance – street maintenance program includes routine clearing of vehicle, bicycle, transit lanes, access to transit stops and stations, and all sidewalks in the public right of way and regular restriping of lane markings and crosswalks.	▪ Partnerships with the public health and medical community can be a resource for incentivizing complete streets. Smart Growth BC provides a good overview. online. Retrieved 2-10-09.	▪ Charlotte, NC. *Urban Street Design Guidelines.* online. Retrieved 2-10-09. • *Sacramento Transportation & Air Quality Collaborative: Best Practices for Complete Streets.* online. Retrieved 2-10-09.
Enact Standards	▪ Adopt a Complete Streets policy ▪ Establish an interdisciplinary project review process for street projects ▪ Require Complete Street design in all new construction ▪ Accessible Design Standards – require all new construction and reconstruction to routinely accommodate Americans with Disabilities Act (ADA) and Universal Design requirements.	▪ Establish Complete Street design standards that are land use and context sensitive ▪ Require Complete Street design in all new construction and reconstruction ▪ Require public and/or advisory committee involvement in the design process ▪ Require exceptions to Complete Street design to be approved by senior management or elected officials ▪ Require Transportation Impact Studies to evaluate and address all modes of travel	▪ No exceptions to the Complete Streets policy ▪ Adopt standards for multimodal level of service ▪ Require level of service analysis for all modes	▪ The San Francisco County Transportation Authority recently released a report outlining how auto LOS standards impact the convenience and safety of pedestrians and bicyclists. online. Retrieved 2-10-09. ▪ Florida DOT – Quality/LOS defined for all modes. online. Retrieved 2-10-09	▪ Fort Collins, CO, multimodal LOS and TIA requirements. online. Retrieved 2-10-09.

SUSTAINABILITY MEASURES

Potential sustainability measures for Complete Streets relate to the community design, the transportation network, and the choices available to the traveling public. The most sustainable Complete Streets communities will have a diverse mix of land uses that are accessible by many modes of travel on streets that serve all users safely and comfortably, and the resulting share of walking, bicycling, and transit trips are expected to be higher than comparable communities.

- Percent of streets with accommodation for all modes
- Quality or Level of Service for all modes
- Percent of population within walking distance of transit
- Percent of jobs within walking distance of transit
- Percent of population served by bicycle facilities
- Percent of jobs served by bicycle facilities
- Average vehicle trip length (shorter is better)
- Bicycling mode share
- Walking mode share
- Transit mode share
- Energy (fuel) savings related to mode share (relative to national or regional averages)
- Safer streets (reduction in bicycle & pedestrian crash severity and frequency)
- Emissions metrics related to vehicle use

APPENDIX F – ORDINANCE ADOPTING THE NON-MOTORIZED PLAN

Presented by: The Manager
Introduced:
Drafted by: J.W. Hartle

ORDINANCE OF THE CITY AND BOROUGH OF JUNEAU, ALASKA

Serial No. 2009-15

An Ordinance Adopting the Non-Motorized Transportation Plan.

WHEREAS, the Juneau Non-Motorized Transportation Plan was adopted by Resolution Serial No. 1886 on September 15, 1997; and

WHEREAS, in the twelve years since adoption of the plan, many changes have occurred in the City and Borough; and

WHEREAS, in recognition of these changes the Parks and Recreation Department hired a consultant to update the plan; and

WHEREAS, the analysis conducted by the consultant included public meetings throughout the City and Borough, close cooperation with CBJ staff, and involvement with stakeholder groups; and

WHEREAS, after consideration of currently accepted best practices for non-motorized transportation planning in North America, the draft plan was reviewed by City and Borough agencies, the public, and stakeholders; and

WHEREAS, the draft plan has been approved by the Parks and Recreation Advisory Committee, the Planning Commission, and the Affordable Housing Commission, each of which recommended that the Assembly adopt the Juneau Non-Motorized Transportation Plan; and

WHEREAS, the Assembly Public Works and Facilities Committee reviewed the Juneau Non-Motorized Transportation Plan and decided that the plan be forwarded to the Assembly without recommendation; and

WHEREAS, Policy 8.2 of the Comprehensive Plan provides that "It is the Policy of the CBJ to promote and facilitate transportation alternatives to private vehicles as a means of reducing traffic congestion, air pollution and the consumption of fossil fuels, and to provide safe and healthy means of transportation to all people."

NOW, THEREFORE, BE IT ENACTED BY THE ASSEMBLY OF THE CITY AND BOROUGH OF JUNEAU, ALASKA:

Section 1. Classification. This ordinance is of a general and permanent nature and shall become a part of the City and Borough Code.

Section 2. Title 49, Chapter 5, Article II Comprehensive Plan, is amended as follows:

ARTICLE II

COMPREHENSIVE PLAN

49.05.200 Comprehensive plan.

(a) The City and Borough comprehensive plan is designed to lessen congestion in the streets; secure safety from fire, panic and other dangers; promote health and the general welfare; provide adequate light and air; prevent the overcrowding of land; avoid undue concentration of population; and facilitate adequate and cost-effective provision for transportation, water, sewerage, schools, parks and other public requirements.

(b) The comprehensive plan adopted by the assembly by ordinance contains the policies that guide and direct public and private land use activities in the City and Borough. The implementation of such policies includes the adoption of ordinances in this title. Where there is a conflict between the comprehensive plan and any ordinance adopted under or pursuant to this title, such ordinance shall take precedence over the comprehensive plan.

(1) Plan adopted. There is adopted as the comprehensive plan of the City and Borough of Juneau, that publication titled "The Comprehensive Plan of the City and Borough of Juneau, Alaska, 2008 Update," including the following additions:

(A) The Juneau Coastal Management Plan, dated 1986, as amended through December 1990;

(B) The Downtown Historic District Development Plan, dated December 1981; provided that the proposed district boundaries shall be those established by the assembly under a separate ordinance;

(C) The Long Range Waterfront Plan for the City and Borough of Juneau, dated January 22, 2004, as amended;

(D) The Last Chance Basin Land Management Plan, dated May 1978, updated November 1994;

(E) Watershed Control Program - Salmon Creek Source, dated April 1992;

(F) Watershed Control and Wellhead Protection Program - Gold Creek Source, dated November 1994; ~~and~~

(G) Chapter 6 and Plate 1 of the West Douglas Conceptual Plan, dated May 1997~~.~~; *and*

(H) Juneau Non-Motorized Transportation Plan, dated _____ 2009.

(2) Changes, corrections, and interpretations. Reserved.

(c) No rights created. The goals and policies set forth in the comprehensive plan are aspirational in nature, and are not intended to commit the City and Borough to a particular action, schedule, or methodology. Neither the comprehensive plan nor the technical appendix adopted under this section nor the amendment of either creates any right in any person to a zone change nor to any permit or other authority to make a particular use of land; neither do they constitute a regulation of land nor a reservation or dedication of privately owned land for public purpose.

Section 3. Effective Date. This ordinance shall be effective 30 days after its adoption.

Adopted this day of 2009.

Bruce Botelho, Mayor

Attest:

Laurie J. Sica, Clerk