

CHAPTER 8

TRANSPORTATION

A safe, efficient, convenient and interconnected transportation system facilitates the movement of people and goods to and within the borough while conserving land resources and energy as well as reducing air pollution. Timely and coordinated multi-modal transportation improvements are necessary to improve the livability of existing and emerging neighborhoods. This is particularly true for the provision of public rapid transit to serve affordable housing units within the Urban Service Area and for workers commuting to downtown Juneau. Working in conjunction with the State of Alaska Department of Transportation & Public Facilities (ADOT&PF), the CBJ government completed an *Area Wide Transportation Plan (AWTP)* in 2001. The AWTP's top six priority transportation system improvements are paraphrased below for reference.

1. Establish and implement Transportation Demand Management Policies throughout the borough focusing on reducing single-occupant-vehicle (SOV) trips and promoting alternative modes of travel such as transit, carpooling, car-sharing, bicycling and walking. These policies should also focus on encouraging telecommuting, flexible work schedules, and be presented as regulations, conditions of approval of use permits, and as incentives;
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. Develop Local Street Connections/Access Management. The AWTP seeks to develop local street connections between subdivisions and adjacent local or collector streets to maximize connectivity and minimize local vehicle trips on principal roadways. Where feasible, connect streets for pedestrian, bicycle and vehicle use. Improve connections from neighborhoods to a regional (interconnected Borough-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 re-striping, re-surfacing, street sweeping and snow removal;
5. Safe (referred to in the AWTP as "Enhanced") Routes to School Program. Under SAFET-LU, the Alaska Department of Transportation & Public Facilities (ADOT&PF) funded safe routes to school programs. This program was essentially eliminated under MAP-21. ADOT&PF recommends sidewalks on one or both sides of a street, as appropriate, in all medium-to-high- density commercial or residential subdivisions. Throughout the urban and suburban areas of the borough, school buses should be provided pull out areas along their routes where operators can pull out of the travel way to allow other vehicles to pass; this will significantly reduce travel times for many peak hour motorists.
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; all of these elements should comprise a coordinated transportation system and program. Federal funding of local improvements must be identified in the ADOT&PF Needs List in order to be included in the Statewide Transportation Improvement Program (STIP); the STIP identifies local improvements also funded and implemented by the ADOT&PF.

Many of the Implementing Actions described below must be included as improvements in the next two-year STIP before they can be considered for funding. Oftentimes, a single needed roadway improvement waits ten to twelve years before it is funded, designed and constructed. This waiting period encompasses the entire 20-year planning horizon of this *Plan Update*. As such, the approach this *Plan* takes in identifying more intense use of transportation facilities, and adjacent land uses, is a conservative approach that seeks to minimize impacts on existing transportation systems and facilities that would result in a noticeably lower level of service, lower standard of living, and reduced livability of neighborhoods and communities. In other words, the *Plan* focuses new development on vacant lands located along public transit routes instead of on vacant lands located within neighborhoods that already have congested roadway intersections.

Although the CBJ *Comprehensive Plan* has placed an emphasis on transit-oriented development, with denser, mixed-use areas near transit routes and major stops in order to promote the efficient use of limited public resources, this emphasis does come at a cost. Investments in infrastructure such as new roads, sewer, and water utilities can be avoided by promoting infill development, but adequate transit service must be provided in order to realize the benefits of denser development. Without high levels of transit service, including features such as 30 minutes maximum between buses during the service day and extended service hours (currently, only four buses travel from the Mendenhall Valley to downtown Juneau early enough to arrive before 8:00 AM, and two of these are Express routes with limited stops), transit cannot be considered a viable transportation alternative by most choice riders. And without high levels of ridership, regulatory changes such as lower parking requirements cannot be justified for new developments near transit routes. Accordingly, investment in the transit system, and its expansion in terms of service frequency, service day duration, and geographic scope will be required in order to realize the intended savings in other infrastructure.

Maintenance and snow removal of transportation infrastructure is of critical importance, as roadways, sidewalks, separated paths, and bus stops must all be kept in good repair and be cleared of snow and ice to function. Snow removal and storage must be considered and accommodated in the design of roadway sections and other transportation infrastructure, and adequate resources must be made available to ensure that infrastructure can be used safely.

Other Relevant Adopted Plans

Many of the transportation problems discussed in this chapter are analyzed and recommendations are proposed in the following relevant documents that have been adopted by the CBJ Assembly and which should be reviewed, along with any other adopted updates, when considering capital improvements and/or permit applications:

- CBJ *Area Wide Transportation Plan*, Volume 1, Transportation Plan Recommendations, July 2001;
- CBJ *Capital Transit Development Plan*, 2008;
- Juneau *Non-Motorized Transportation Plan*, November 2009;
- The *Juneau Trails Plan*, January 1993, Parks and Recreation Department in cooperation with the Alaska State Parks Department and the U.S. Forest Service;
- *Downtown Juneau Parking Management Plan*, 2010;
- The *Long Range Waterfront Plan* for the City and Borough of Juneau, November 2004;
- The *Willoughby District Land Use Plan*, 2012; and
- New and updated plans adopted by the Assembly should also be reviewed.

The CBJ is Alaska's Capital City

Alaskans visiting their elected representatives and state and federal government agencies primarily use air transportation to reach Juneau. The activities at the airport are as varied as the commerce, needs, and people who live in or visit Juneau, and the air transportation utilizing the airport is critical for the movement of both goods and people into and out of Juneau.

AIR TRANSPORTATION

Juneau International Airport (JNU)

Juneau's airport has played an important role in the past development of the community and will play an even greater role in the future. The airport is essential to many of the policies and implementing actions of the *Comprehensive Plan*, such as State Capital, tourism and visitors, commercial and industrial development, mining, seafood industry and commercial fishing, regional economics and services, wetlands, noise, trails and regional transportation system. Juneau's transportation and commerce links are limited to marine and aviation access. This necessarily places a higher value and greater responsibility on the airport's operation and development than is found in many communities.

The airport has been doing extensive safety upgrades. The runway has been expanded, security fencing installed, and improvements were made to the float plane pond to reduce bird habitat. Due to the environmental impacts that these upgrades had, mitigation funds were put in place to acquire conservation areas around the Mendenhall Wetland Game Refuge. The Southeast Alaska Land (SEAL) Trust has been working with neighboring property owners and many acres have been put in conservation status.

The CBJ government must continue responsible development of the airport to meet the expanding needs of Juneau residents and to provide access for Alaskans to their legislature and state government. Responsible development will contribute to the economic growth and diversification of the community. Nonetheless, such development must take into account the importance of Juneau's wetlands to fish and wildlife. Development must minimize impacts of airport development on the wetlands.

Alaska Airlines provides the sole commercial jet service to JNU, with direct links to Southeast communities and to Anchorage and Seattle. The advent of Required Navigational Performance (RNP) approaches utilizing airborne equipment, coupled with specific ground-based meteorological equipment has resulted in a significant reduction in poor-weather flight cancellations. This increased dependability has improved the utilization of the airport by reducing delays and allowing operations that otherwise would not occur.

The airport regularly supports multiple medivac services; National Guard, search and rescue s; aircraft operated by the US Fish and Wildlife Service, US Forest Service, Alaska State Troopers, Alaska Department of Public Safety, and Civil Air Patrol mission aircraft. US Coast Guard helicopters routinely utilize JNU in support of their missions, and aircraft of other branches of the military also use JNU occasionally.

The nation's third largest helicopter flightseeing fleet operates in Juneau. The projected growth in tourism will result in an ever busier airport. A strong General Aviation fleet operates from JNU. An unmet need for general aviation hangar space continues to be a challenge at the airport. Major expansions to leasable area are underway as the 2013 update to this *Plan* is underway; additional general aviation hangar space, as well as the consolidation of field maintenance and snow removal facilities into a new structure, will help meet this need.

The airport serves as a hub for northern Southeast Alaska. Residents of Haines, Skagway, Gustavus (and Glacier Bay National Park), Hoonah, Angoon, Tenakee, Kake, Elfin Cove, and Pelican are served by air taxi operators using JNU. Connections to the Lower 48, as well as the rest of Alaska, are made in the CBJ. The development of Juneau as a regional center for commerce and medical service emphasizes this aspect of the airport's role. The FAA classifies Juneau International Airport as a small hub airport, based on passenger enplanements in the *National Plan of Integrated Airport Systems*. Passenger enplanement in Juneau hovers between the second and third highest in the state.

The airport operates within the regulatory purview of the Federal Aviation Administration (FAA), which issues the Airport Operating Certificate, and the Transportation Security Administration (TSA). Many other agencies have regulatory, enforcement, or advisory roles related to operations at the airport. These include the US Fish and Wildlife Service, the US Forest Service, the US Department of Agriculture, Alaska Department of Fish and Game, the US Army Corps of Engineers, US Environmental Protection Agency, the National Transportation Safety Board, the Alaska Department of Environmental Conservation, the Alaska Department of Transportation and Public Facilities and, of course, the US Department of Homeland Security.

In the time since its original siting, development has grown toward and around the airport, making aviation-related land use decisions extremely difficult. There is an inherent conflict between airports and adjacent residential uses.

Typically, land surrounding an airport is placed in an industrial use designation, which is more compatible with the impacts of aircraft and the shipping functions of the airport; industrial tenants are more tolerant of noise, dust, fumes and traffic associated with airports than are residential neighbors. With the very limited number of buildable sites for residential and commercial uses in the borough, those uses have encroached into the industrial buffer zone surrounding the airport, making vacant land for aviation-related businesses more expensive and hard to find.

POLICY 8.1. TO PROMOTE AND SUPPORT AVIATION SAFETY; TO DEVELOP AND MAINTAIN AIRPORT FACILITIES MEETING THE AVIATION TRANSPORTATION NEEDS FOR JUNEAU, ITS RESIDENTS, VISITORS AND COMMERCE; AND TO WORK WITH THE PUBLIC AND PRIVATE SECTORS TO FACILITATE COMMERCE, ECONOMIC DEVELOPMENT, AND ACCESS TO ALASKA'S CAPITAL CITY.

Standard Operating Procedures

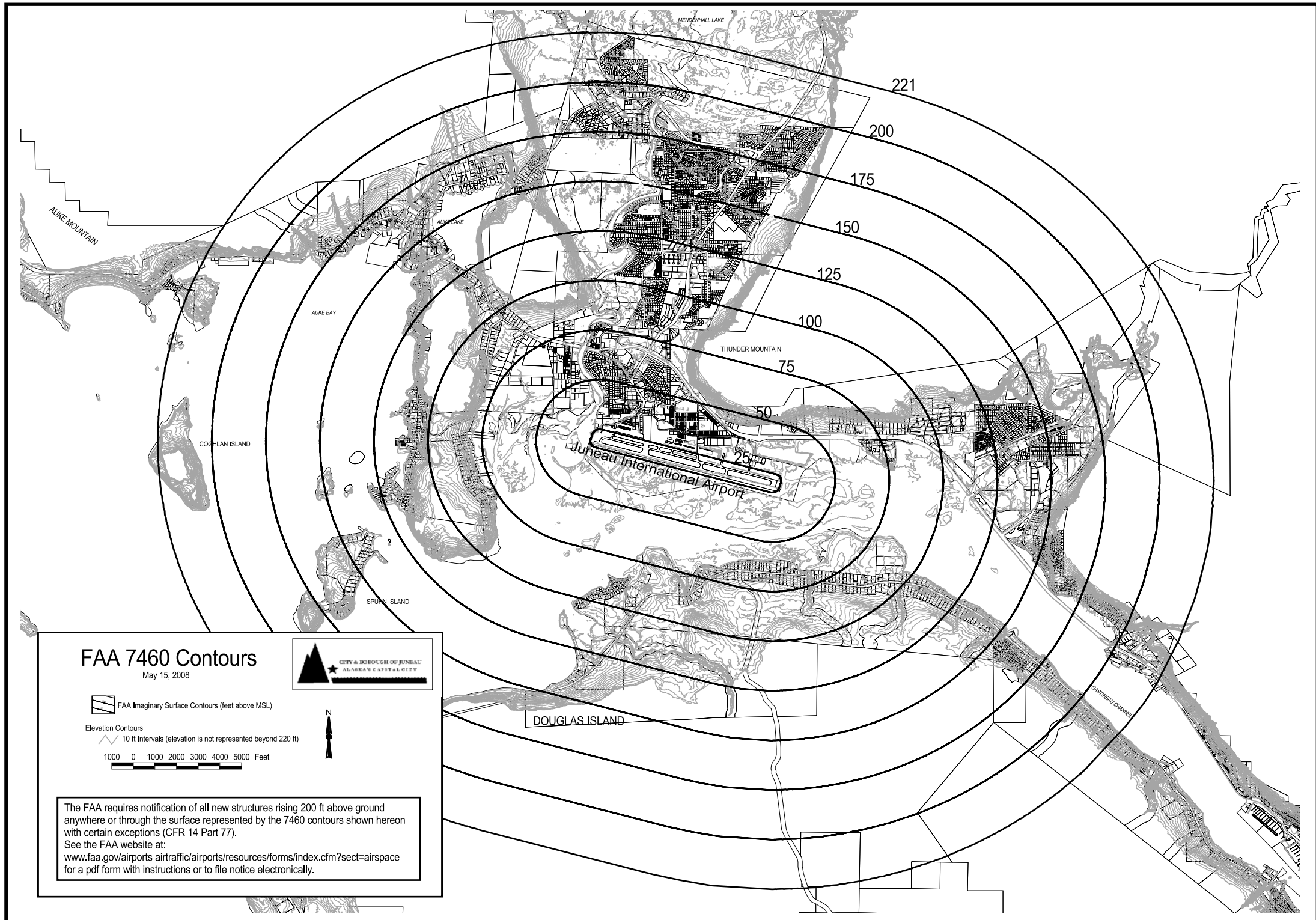
- 8.1 - SOP1 Recognize that the proximity of the airport to wetlands and forested lands create an inherent conflict between fish and wildlife habitat and airport operation, development and aviation safety. In reviewing airport development proposals and permit applications, acknowledge that aviation safety is paramount and should not be compromised.
- 8.1 - SOP2 Protect all designated airport properties from land use conflict and/or displacement.
- 8.1 - SOP3 Keep the Airport Master Plan current.
- 8.1 - SOP4 Encourage the continued refinement and application of Global Positioning System (GPS) technologies, such as RNP and CAPSTONE technologies, to allow increased rough-weather landings at the Juneau International Airport and to improve aviation safety for both commercial and general aviation.
- 8.1 - SOP5 Notify and work with the Airport Manager and the FAA to ensure that new development does not negatively affect airport operations; in particular, development that is 200' tall or that intrudes into the 7460 Contours or the FAR 77 Surfaces in place for the airport at that time requires FAA and Airport Manager notification.

Implementing Actions

- 8.1 - IA1 Continue to fund and complete the expansion plans and mitigation measures recommended in the *Airport Expansion Final Environmental Impact Statement (FEIS)*.
- 8.1 - IA2 Improve motor vehicle and pedestrian access and circulation to and through the Juneau International Airport including ingress, egress, parking, and non-airport traffic flow.
- 8.1 - IA3 Consider establishing a new Noise Notification Overlay District that encompasses lands near enough to be affected by uses known to generate nuisance noise, such as: gravel extraction areas, landfill sites, outdoor shooting ranges, airports and heliports. Within this overlay district, property owners should be required to notify prospective tenants and/or purchasers of the presence of these land uses and their potential noise impacts. Also consider amending Title 19, the Building Code, to require adequate noise mitigation in building design and construction within this overlay district.

POLICY 8.2. TO PROMOTE BUSINESS PRACTICES THAT WILL ENCOURAGE OPEN COMPETITION BETWEEN COMMERCIAL AIR CARRIERS.

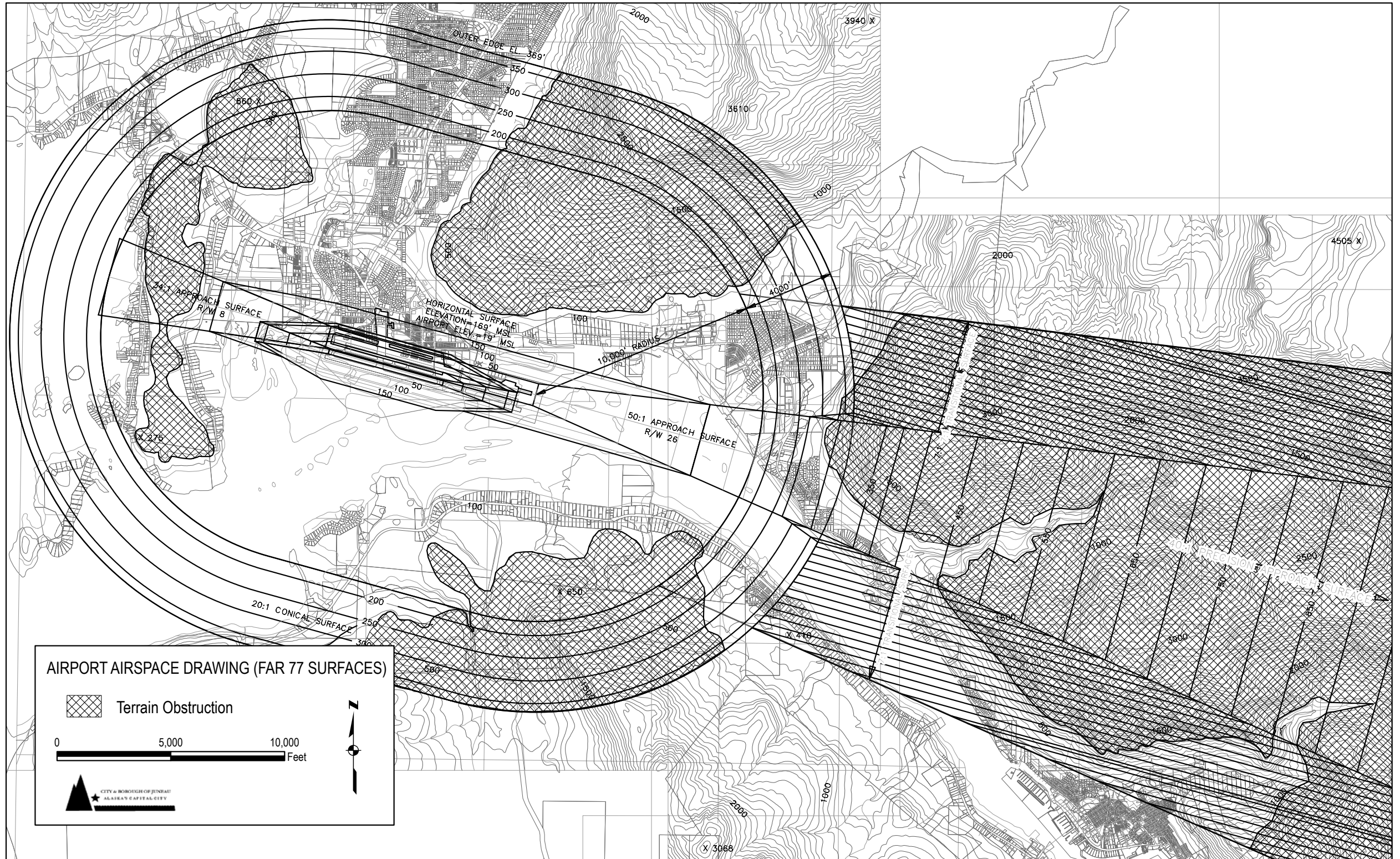
- 8.2 - IA1 Maintain, and upgrade as feasible, the airport terminal to showcase the CBJ as the Capital City of Alaska while promoting the continued viable operation of large and small carriers in the airport.
- 8.2 - IA2 Revise the Land Use Code to provide for the mixture of uses that are usual and customary at the Airport and also address neighborhood issues.
- 8.2 - IA3 Improve the capacity of the terminal to accommodate additional commercial passenger jet service.



Prepared by: Community Development Department

Map 8.1

FAA 7460 Contours Map – The contours on this map do not account for the expanded Runway Safety Area; FAA restrictions apply to larger areas at the east and west of the runway.



Prepared by the City and Borough of Juneau Community Development Department

Map 8.2

Airport Airspace Drawing (FAR 77 Surfaces) - The contours on this map do not account for the expanded Runway Safety Area; FAA restrictions apply to larger areas at the east and west of the runway.

Marine Transportation

Marine transportation is critical to Juneau's economy by supporting passenger and freight transport, the commercial fishing industry, and tourism. Juneau must maintain its regional, national, and international transportation links if it is to prosper despite its physical isolation. As Southeast Alaska's largest city, Juneau can improve its role as a regional transportation and service center by improving its access to this transportation network.

The depth of Gastineau Channel affects the ability for barges and other vessels to dock in convenient, central locations in the borough; further exacerbating the difficulty of transiting Gastineau Channel is the vertical clearance of the Juneau-Douglas Bridge, at 51 feet Mean High Water. One of the two marine drayage (barge) companies serving the community must navigate Gastineau Channel only at high tide periods and, as such, their location in the Salmon Creek area is not convenient much of the time. Similarly, the only other barge landing, located on the Rock Dump south of downtown, requires that heavy truck traffic pass through heavily congested pedestrian areas in downtown Juneau during the summer tourism months. The western side of Douglas Island has been identified as a possible location for new marine freight facilities, but this is feasible only if a north Douglas channel crossing and roadways capable of carrying greater volumes of traffic, including heavy industrial-related trucks, are provided from West Douglas to the mainland.

Cruise ship moorages also require improvement and expansion although they, too, are limited by the depth of water in Gastineau Channel. New improvements to small boat marinas and boat ramps, including Amalga Harbor and the government float at Auke Bay, have greatly improved the capacity of these facilities. Additional parking at Auke Bay and continued boat ramp improvements are needed; construction of these improvements will begin in 2013.

The CBJ Docks and Harbors Board was formed by the assembly to oversee port development projects. Emphasis has been, and should continue to be, placed on improving facilities to serve the commercial fishing fleet and promote local fish processing as well as providing facilities and services to recreational mariners and for eco-tourism.

State and federal transportation agencies are responsible for providing surface links between Juneau and other communities of the Alaskan panhandle, or Canada, that have road access.

POLICY 8.3. TO PROMOTE AND FACILITATE MARINE TRANSPORT SYSTEMS AND TO PROVIDE FACILITIES TO TRANSPORT CARGO, VEHICLES, AND PASSENGER TRANSPORTATION, COMMERCIAL FISHING INDUSTRIES, AND RECREATIONAL WATER TRAVEL.

Development Guideline

- 8.3 – DG1 When reviewing development permits for shoreline areas, intertidal areas or areas seaward of mean high tide, ensure that such development does not adversely affect marine transportation.

Implementing Action

- 8.3 – IA1 Consider community needs and priorities prior to pursuing funding for projects.
- 8.3 – IA2 Promote continued study and planning of West Douglas as a deep water port to meet Juneau's marine transportation needs.

REGIONAL TRANSPORTATION SYSTEM

Due to the lack of a road connection with other regions of Alaska and Canada, the residents, visitors, businesses, and even CBJ government depend upon air and marine transportation that also serve the Southeast Alaska region. Waterway transport accounts for much of the passenger, most of the freight, and all of the vehicular traffic to and from Juneau. The Alaska Marine Highway System provides critical access between Southeast Alaska communities, but the ferry terminal at Auke Bay is difficult to reach without a private automobile, and access to this important facility needs to be improved.

POLICY 8.4. TO SUPPORT THE IMPROVEMENT OF TRANSPORTATION FACILITIES AND SYSTEMS THAT REINFORCE JUNEAU’S ROLE AS THE CAPITAL CITY OF ALASKA AND A REGIONAL TRANSPORTATION AND SERVICE CENTER.

Standard Operating Procedure

- 8.4 - SOP1 Assume a leadership role in the encouragement of transportation links into and out of Juneau. Consider all affordable energy-efficient transport alternatives to improve transportation links between the borough and other areas of Southeast Alaska, including improved air passenger and cargo service, roadways, ferries, and fixed-guideway systems.
- 8.4 - SOP2 Support development of a Lynn Canal Highway, as this facility is important to provide improved transportation to the Capital City for Alaska’s citizens, Alaska’s legislators, and for the economic well being of Juneau and the Southeast Region.
- 8.4 - SOP3 Support the continued operation and improvement of the Alaska Marine Highway System as an important element of access to and from Juneau and the rest of coastal Alaska that helps ensure access to the Capital City and coastal communities.

Implementing Actions

- 8.4 - IA1 Identify one CBJ agency or staff member that or who can maintain very close communication and coordination with all federal, state and local agencies and private transportation operators in Juneau to ensure that local transportation resources are managed in the most efficient and convenient manner possible.
- 8.4 - IA2 Improve transportation facilities that accommodate air and marine links between Juneau and outlying communities.
- 8.4 - IA3 Encourage early and meaningful public participation in transportation decision-making processes.
- 8.4 - IA4 When analyzing transportation facility options, consider the life-cycle costs of operation and maintenance on the prospective systems, traveler safety, traveler convenience, the growth-inducing impacts of the project on the community and the affected neighborhoods along the route(s), and the environmental impacts of each option on the affected lands and neighbors, including water quality and air quality (noise, fumes, dust), and energy consumption.
- 8.4 - IA5 Implement the improvements called for in the *Area Wide Transportation Plan (AWTP)* that reinforce Juneau’s role as Alaska’s capital city and as a regional transportation and service center as funding becomes available. Update and revise the AWTP as necessary.
- 8.4 – IA6 Work to provide public and private transportation links to the Alaska Marine Highway System ferry terminal in Auke Bay that are coordinated with the ferry schedule.

LOCAL TRANSPORTATION SYSTEM

With the exception of the Mendenhall Valley, existing development in the roaded portion of the borough is essentially linear; that is, development is confined to narrow benches of land on either side of Gastineau Channel and the east side of Lynn Canal. Most development sites are interspersed within and throughout lands that are not buildable due to terrain, forested lands, streams, wetlands or other environmental assets and constraints. This makes provision of transportation facilities comparatively more expensive than in other more compact areas, where arterial roads can serve more homes or businesses per mile of length. Traffic congestion caused by community growth, recreation and tourism-related activities has increased in the Auke Bay, Mendenhall Valley, downtown Juneau area and other corridors in the roaded area. The CBJ government has identified transportation-related problems which include:

1. Key roadway intersections and bridge capacities are overburdened and inadequate to support increased development in the Mendenhall Valley and on Douglas Island. The signalized intersection of Egan Drive and Mendenhall Loop Road experiences the lowest and most congested Level of Service (LOS F) in the peak morning commute period (2003 ADOT&PF data) and 16 non-signalized

intersections experience unacceptable levels of service (LOS D or worse) in the Mendenhall Valley, Glacier Highway and Egan Drive Corridors. Traffic congestion at Tenth Street and Egan Drive is at a LOS E and F during the peak morning commute period and Cordova Street and Douglas Highway is at LOS F in the peak morning period. Motorists in areas with LOS D, E, or F experience significant delays in their commute times; those neighborhoods cannot accommodate additional peak hour single-occupancy vehicle traffic related to increased development without noticeable decreased livability and quality of life. In those areas, staggered work hours for downtown workers, roadway and intersection improvements, and transit improvements are needed and should be analyzed, budgeted and included within the ADOT & PF Needs List for subsequent listing in the State Transportation Improvement Program (STIP) as soon as possible to await their turn in the STIP funding cycle;

2. A shortage of buses. Additional Capital Transit bus vehicles are needed and, particularly, the longer “articulated” buses are needed to adequately provide convenient express bus service for commuters traveling to major employment centers. Additional drivers and maintenance staff will also be required as the fleet grows;
3. Incomplete and dangerous pedestrian and bicycle circulation systems, including inadequate sidewalk space in downtown Juneau during the summer visitor season and deficient snow removal and maintenance practices;
4. Street pavement marking materials/technology that is inadequate for the Juneau’s climate; and
5. Lack of coordination of transportation plans, facilities and resources among local agencies and private operators.

*See discussion and definition of Level of Service (LOS) in Chapter 3 “Adequate Development Opportunities” and in the Glossary.

Vehicle Transport

It is critical that the community be served by an efficient roadway system that facilitates traffic flow within and between major population centers, including the Valley, Auke Bay, and Douglas Island, as well as to and within downtown Juneau, the community’s employment, cultural, and tourist center.

POLICY 8.5. TO PROMOTE A BALANCED, WELL-INTEGRATED LOCAL MULTI-MODAL SURFACE TRANSPORTATION SYSTEM THAT PROVIDES SAFE, CONVENIENT AND ENERGY-EFFICIENT ACCESS AND TRANSPORT FOR PEOPLE AND COMMODITIES.

Standard Operating Procedures

- 8.5 - SOP1 Provide a safe, convenient, reliable and low-cost public transit and rapid transit system within the Urban Service Area to ensure that within that area, everyone has the ability to access work, school, services, shopping and leisure activities by public transit, with stops located so as to be within ½ mile of each other along routes.
- 8.5 - SOP2 Maintain area-wide and subarea transportation plans and ensure their consistency with other relevant CBJ-adopted Plans, including the *Comprehensive Plan*, the *Parks and Recreation Comprehensive Plan* and the *Capital Improvement Plan* and Program.
- 8.5 - SOP3 Provide public transit services to low- and moderate-income neighborhoods and support supplementary transit service for the elderly, handicapped and homeless residents seeking work or medical or social services.

Development Guidelines

- 8.5 - DG1 Require dedication of all rights-of-way and easements, including those for trails, roads and transit corridors and facilities on subdivision plats and development plans as determined to be appropriate by the Planning Commission for that development. Obtain commitments to construct trails and local and collector roadway improvements from private developers when

projects are approved, and ensure that those improvements are complete prior to issuing building permits on adjacent properties within that development.

- 8.5 - DG2 Review, implement and maintain appropriate and affordable development standards for major subdivisions and major developments to ensure safe and convenient vehicular traffic and to provide safe pedestrian and bicycle access internal to the subdivision/development as well as to ensure a Level of Service of D or better for roadways and intersections serving the development.
- 8.5 - DG3 Designate corridors for potential road corridors on the *Comprehensive Plan* Land Use Maps to establish a basis for subsequent site-specific studies, which also address the mitigation of associated environmental impacts through proper location of the actual right-of-way.
- 8.5 - DG4 Minimize access roadways or driveways onto major and minor arterial roadways or highways by requiring shared access points, such as a frontage road, and connections to adjacent subdivisions' roadways that lead to a "downstream" controlled or grade-separated intersection.

Implementing Actions

- 8.5 - IA1 Update the list of needed roadway, intersection, bridge and pedestrian/bicycle pathway improvements according to priority, cost, and potential funding, and incorporate it into the CBJ's Capital Improvement Program and the Alaska Department of Transportation & Public Facilities Needs List.
- 8.5 - IA2 Consider the concept of Bus Rapid Transit (BRT) or other dedicated express bus service throughout the Urban Service Area in future Transit Development Plans and related plans and studies in order to provide faster service between major trip origins and destinations.
- 8.5 - IA3 Update, adopt and implement the *Capital Transit Development Plan*. Elements of an updated plan may include, but are not limited to the following:
 - A. Providing all day express bus service to facilitate the movement of people between downtown Juneau and other major destinations in the Urban Service Area;
 - B. Expanding Capital Transit to provide service on all holidays;
 - C. Providing additional bus capacity to reduce overcrowding on buses;
 - D. Providing bus pullout areas at bus stops to avoid impeding the roadway travel lanes with requirements for motorists to immediately allow buses to re-enter the roadway upon their signaling to re-enter;
 - E. Exploring the feasibility of a Mendenhall Valley shuttle service and/or park and ride linked to downtown by express buses;
 - F. Exploring the use of buses powered by non-fossil fuels, hybrid technology, or other systems consistent with the community's commitment to sustainability;
 - G. Providing a downtown circulating shuttle service, serving the Central Business District. Evaluate the feasibility of serving the Federal Building, the Rock Dump, and other popular trip destinations and origins in the downtown area with this shuttle service;
 - H. Evaluating the best locations and size for Park & Ride facilities and purchase of the land or easements on the land for future improvements. When residential densities warrant, develop the Park & Ride facilities where they can serve commuter traffic from residential areas. These facilities would be in the form of satellite parking areas served directly by transit routes that would provide convenient access and express service to downtown Juneau for residents living significant distances (more than a quarter mile) from existing transit routes. Likely areas that could be served by Park & Ride facilities would be the Mendenhall Valley north of Egan Drive, and areas north or northwest of the University of Alaska Southeast if significant population increases occur in that area; and

- I. Providing a mix of transit vehicle sizes powered by non-fossil fuels or hybrid fuels to promote cost efficiency and to provide flexibility in service.
- 8.5 - IA4 Identify, map and designate on the CBJ GIS system and in Land Use Maps of the *Comprehensive Plan* a Transit Corridor for which the CBJ government should purchase and/or maintain an adequate easement or right-of-way for travel lanes, park & ride facilities, and transit stops and transfer stations.
- 8.5 - IA5 Along the identified Transit Corridor for the borough, identify potential transit and transfer stops or nodes and re-zone land around those nodes for high-density residential and/or mixed use and employment centers to facilitate the convenient and efficient use of the transit system. The transit system would, ideally, link the Ferry and Airport transport systems to a “chain” of transit nodes representing major destinations such as shopping centers, transit-oriented residential or mixed use developments, schools and the University, the hospital, major recreation or cultural destinations, major employment centers, and downtown Juneau.
- 8.5 - IA6 To reduce the demand for land-consuming parking spaces, reduce use of fossil fuels, and encourage the use of public transit, the CBJ government and community should urge downtown federal, state, and local government agencies, as well as private-sector employers to participate in a Coordinated Downtown Transportation Management Program managed by CBJ staff or a third party. The program could include, but would not be limited to, the following features:
- A. Free or heavily discounted transit passes to area employees;
 - B. Improved bus service, including a downtown circulator shuttle;
 - C. Organized vanpools and carpools;
 - D. Convenient and free parking for car- and van-pool vehicles, preferential parking for car-sharing, electric, hybrid and other alternate fuel-powered or multiple-user vehicles;
 - E. Instituting residential parking programs to discourage commuting motorists from long-term on-street parking in residential neighborhoods;
 - F. Satellite parking within shuttle distance to major destinations in downtown Juneau.
 - G. Working with the State of Alaska to allow off-hour parking in state employee parking facilities and lots to ease evening and week-end event parking congestion;
 - H. Increasing parking enforcement, as nearly all of these parking-related actions require enforcement or they will be of minimal utility;
 - I. Coordinated, perhaps mandatory, staggered or flexible work hours for area employees to avoid peak hour traffic;
 - J. Provision of safe pedestrian and bicycle routes throughout downtown; and,
 - K. Provision of secure, dry bicycle storage as well as shower and locker facilities for commuting cyclists.
- 8.5 - IA7 The CBJ government should investigate the feasibility of providing light or heavy rail public transit service, powered by renewable energy sources, linking existing and new neighborhoods of Douglas Island with the mainland and, in the future, to the Alaskan and Canadian interior. The analysis of the feasibility of such a Borough-wide rail transport system should consider the life-cycle costs of design, construction, environmental mitigation and monitoring, as well as operation, maintenance costs.
- 8.5 - IA8 Construct or complete the improvements and planning documents 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.

- 8.5 – IA9 Priority for improvements should be given to improve transit corridors, transit Park and Ride facilities, and to roads, bridges and intersections within the Urban Service Area where vacant lands can accommodate higher-density affordable housing if and when such improvements are made to accommodate this development and to improve Levels Of Service to D or better.

Transit First Policy

The CBJ's Capital Transit public transit system provides transport services to about 4,000 riders on a typical weekday. 1.2 million times a year a passenger boards a Capital Transit bus. In May 2001, Capital Transit implemented a 30-minute service (headway) on many of its routes, which resulted in an 18% increase in ridership over the previous year. The system is patronized heavily by government office workers commuting between downtown Juneau and Douglas Island, Lemon Creek and the Mendenhall Valley. The system accommodates approximately 8 to 10 percent of the commuter work force in the downtown area and, with some fleet, route and station improvements, has the potential of displacing a substantial portion of the total vehicular trips made in the borough. A number of recommendations in the 2008 Transit Development Plan, Transit Improvement Plan, Downtown Circulator Shuttle Feasibility Study, and Coordinated Human Services Transportation Plan would improve the convenience and quality of transit service. This would: increase transit ridership; reduce fossil fuel consumption by Single-Occupancy-Vehicles (SOV); reduce SOV-related air pollution; lessen overall congestion and surface wear of CBJ roads, intersections, bridges, and parking facilities; and ultimately reduce commute times for those who still drive SOVs.

Increased numbers of transit vehicles are needed to accommodate commuter ridership to downtown Juneau. Implementation of improved express bus service (over 2008 levels) or other improved transit service along Glacier Highway and Egan Drive should be followed by zoning amendments to accommodate higher residential and employment densities along these transit corridors—the initiation of 30-minute express bus headways in October 2009 warrants consideration of such zoning amendments. Higher residential and non-residential densities along transit corridors will improve the efficiency and reduce the cost-per-passenger of the transit service therein. Typically, 25 to 30 residential units per acre or more would adequately support a Bus Rapid Transit (BRT) or other substantially increased level of transit service.

In 2012, residential density limits and height restrictions were increased in three commercial and mixed use zoning districts in order to allow the higher residential densities called for in this Plan; the community was able to support these changes with minimal discussion, and additional modifications to land use regulations will be necessary in order to realize the goal of increasing residential densities and the diversity and mixture of uses in these areas. As residential and mixed use projects are developed at higher densities along transit routes, transit service will need to grow to keep pace with demand; the strategy of clustering denser development along transit lines may backfire if adequate transit services are not available to meet the induced demand.

As questions of system capacity and funding are raised, which they will inevitably be, it is important to remember that the public's investment in Capital Transit reduces the financial burden of extending water, sewer, road, fire, police, and other services to newly developed areas of the borough. Although the relationship between transit, residential density, housing affordability, and access to jobs is reiterated throughout this Plan, there is another even more direct relationship between funds allocated for projects for different transportation modes (i.e. transit, biking, single-occupant vehicle)

Care-A-Van, the paratransit partner agency to Capital Transit, is currently operated under contract by Catholic Community Services. Other Human Services Transportation Provider agencies, including REACH, Inc., Southeast Alaska Independent Living (SAIL) and the Juneau Alliance for Mental Health, Inc. (JAMHI) work with the Juneau Coordinated Transportation Coalition (JCTC) to ensure that services are coordinated and that projects are prioritized for funding by the various member agencies. As the "silver tsunami" of baby-boomers reaches retirement age (at a rate of 10,000 per day, nationwide), a growing proportion of Juneau's aging population will qualify for, and may require, the services provided by these agencies. Convenient fixed-route service by Capital Transit is far less expensive to provide, per ride, than demand-responsive rides provided by JCTC members and Care-A-Van, so ensuring that fixed route buses are accessible and convenient to these new riders has the potential to avert unsustainable increases in funding requirements for demand-responsive services.

Other transportation options, such as car-pooling and formal car-sharing programs should be investigated for feasibility within the Urban Service Area.

The 2008 *Transit Development Plan, Coordinated Human Services Transportation Plan*, and the related plans and studies in that document make numerous recommendations for improving transit service in the CBJ, including extending the regular and express service day, adding express service to Sundays and Holidays, and serving emerging residential and commercial areas as well as the Alaska Marine Highway ferry terminal at Auke Bay and the Juneau International Airport. Notwithstanding these valuable upgrades of the system, a successful transportation system depending on a public transit system includes a number of private and public-sector sponsored travel options, including:

- Park & ride facilities at transfer station locations;
- “Dial-a ride” para-transit programs (such as the Care-A-Van program);
- Residential parking permit programs in the neighborhoods around downtown Juneau;
- Higher parking rates for day-long parking in the downtown Juneau area;
- Private taxi service;
- Secure storage for bicycles at transit stops and major destinations; and
- Residential densities of 25 units per acre or greater around express bus route stops to support convenient bus service.

The 1996 *Capital Transit Development Plan* offers policy statements that are excerpted below for reference, as they were also the guiding statements in developing the 2008 *Transit Development Plan*:

- Provide an attractive alternative to the private vehicle to reduce their presence in the community and especially in the downtown Juneau area;
- Provide safe, reliable, low-cost transportation to ensure that everyone has the ability to access and participate in community life;
- Implement service in a manner consistent with the promotion of efficient use of urbanized lands;
- Make special efforts to meet the transportation needs of the elderly and persons with disabilities;
- Work to ensure that the need for transportation services at the Juneau International Airport and the Auke Bay Ferry Terminal are met; and
- Explore, and implement when feasible, innovative transportation systems including the potential for future fixed guide-way applications, such as electric-powered trolleys.

Roadways that serve as bus routes have unique needs that can best be determined for a particular area through a context-sensitive, Complete Streets approach to roadway design, but there are some features that make buses better “neighbors,” both to other users of the roadway and to adjacent land uses. Some of those features include:

- Adequate lane width, shoulder width, or other separation between the travel lane and adjacent sidewalk;
- Pull-outs for transit vehicles to leave the travel lane while boarding and alighting passengers;
- Safe locations to cross roadways to and from bus stops; and,
- Adequate lane width, lighting, and intersection dimensions for safe operations.

POLICY 8.6. 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

- 8.6 - DG1 Require sidewalks and bicycle paths or lanes along newly constructed arterial and collector streets where appropriate, and provide or work with ADOT&PF to provide such amenities along existing roads to provide safe and efficient access and recreation and to reduce pedestrian/automobile conflicts.
- 8.6 - DG2 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.
- 8.6 - DG3 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.
- 8.6 - DG4 Provide secure, weatherproof bike parking and storage facilities at public buildings and in private developments, particularly developments located along transit corridors.
- 8.6 - DG5 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.

Implementing Actions

- 8.6 - IA1 Complete and/or upgrade a continuous separated bicycle/pedestrian pathway between the Mendenhall Valley and downtown Juneau by connecting those portions now existing.
- 8.6 - IA2 Work with the Alaska Department of Transportation and Public Facilities (ADOT&PF) to construct sidewalks and/or separated paths. If these are not practical, a wide shoulder of at least 48" along roads that lack such improvements, with a priority given to those corridors which have Average Annual Daily Traffic (AADT) of 4000 vehicles or more. According to ADOT&PF 2010 data, these corridors are:
 - 1. Glacier Highway – Vintage Boulevard to Fritz Cove Road – 8,442 to 12,097 AADT
 - 2. Glacier Highway – Auke Bay to Ferry Terminal – 5,480 to 6,724 AADT
 - 3. North Douglas Highway – Juneau-Douglas Bridge to Eagle Creek – 5,508 AADT
 - 4. Thane Road – 5,144 AADT
 - 5. Back Loop Road – Mendenhall Loop Road to Montana Creek Road - 4,788 to 5,274 AADT
 - 6. Although it did not meet the criteria of AADT of 4000 or more vehicles and no sidewalks in 2010, the Lemon Creek portion of Glacier Highway (Lemon Drive) had an AADT of between 11,844 and 12,762 (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.
- 8.6 - IA3 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.
- 8.6 - IA4 Work with the Juneau School District and other agencies to identify opportunities for improved pedestrian and bicycle access to schools.

- 8.6 – IA5 Design or re-design of transportation corridors should consider the Policies, Development Guidelines, Standard Operating Procedures, and Implementing Actions of this Chapter so as to ensure that all potential users and all available modes of transportation are considered within the context of the neighborhood and transportation network. Early involvement of stakeholders and residents of the project area are critical to this approach.
- 8.6 – IA6 Include development of a community-defined local Complete Streets Policy in the next update to the *Non-Motorized Transportation Plan* to formalize what a Complete Streets network includes in Juneau.
- 8.6 – IA7 Allocate the resources necessary to adequately maintain and remove snow from sidewalks and separated paths.
- 8.6 – IA8 Prioritize snow removal from sidewalks and separated paths so as to provide safe walking routes for school children, where high numbers of pedestrians are present, or where no alternative routes are available.
- 8.6 – IA9 Identify discontinuous sections of bicycle lanes and prioritize improvements to connect them.

Non-Motorized Means of Transportation

Improved pedestrian and bicycle movement within and between major shopping and employment centers, schools and other concentrations of population are needed. Pedestrian and bicycle facilities are needed to provide safer and more efficient movement within and between neighborhoods and major concentrations of population. These facilities are also important as an aspect of recreation and can contribute to community health by facilitating active transportation and recreation.

Despite its contribution to congestion, air pollution, expense, accidents and inefficient use of energy, the private automobile remains the favored mode of transportation by the majority of Juneau residents. In a recent traffic capacity analyses by ADOT&PF, nine of the intersections serving the Mendenhall Valley and seven intersections providing access on Douglas Island are overcrowded and are operating beyond their design capacity, and were at Levels of Service (LOS) D, E, and F, where LOS D or better (A, B, or C) is considered adequate capacity. Due to these existing congested intersection conditions, new residential development within those neighborhoods is either prohibited by current zoning standards or is limited to very small in-fill development such as bungalow homes on small, scattered lots.

To accommodate new development, particularly that of affordable housing, the CBJ government and community should encourage and support the provision of alternative transportation opportunities. The most significant impact results from increasing the patronage of public bus service, augmented by commuter carpools and vanpools. Bicycling is an alternative for shorter commuter and shopping trips as well as recreation many months of the year and should be encouraged within and between all major concentrations of population and development. Bicycling and walking are both essentially free transportation modes, and as active transportation modes, they improve public health. Additionally, non-motorized transportation infrastructure construction projects create more jobs than road-only projects do, so their benefit accrues to both the community's transportation network but also public health and economic well-being. The 2009 *Non-Motorized Transportation Plan*, adopted as an addendum to this *Comprehensive Plan*, addresses bicycling and walking with particularity. Maintaining sidewalks and bike paths does require additional resources, especially for snow removal; the budget for adequately maintaining these facilities will need to be provided in order to ensure that they are usable throughout the year

Other sections of the *Comprehensive Plan* address transportation facilities and issues more specifically; these are found in Chapters 10 (Land Use) and 11 (Land Use Maps). Policy 8.6 is also of particular relevance to non-motorized transportation.

Use Renewable Energy for Transportation

The CBJ does not have a current assessment of CBJ government and resident use of fossil fuels, but the community is dependent on the use of fossil fuels to power vehicles, vessels, and aircraft and to heat our homes and businesses among other things. The scarcity of fossil fuels, particularly oil and natural gas, will cause the price of these non-

renewable resources to rise over time. Powering transport facilities by fossil fuels may not be affordable in the short-term or sustainable in the long-term. The linear topology of the built-up portion of the borough is amenable to an efficient, high-quality public transportation system. It is prudent to reduce our dependence upon the private vehicle for transportation and to ensure that public transit offers a safe, convenient, and affordable means of travel.

POLICY 8.7. TO ENCOURAGE THE TRANSPORTATION OF JUNEAU RESIDENTS, VISITORS, FREIGHT AND MAIL BY RENEWABLE ENERGY SOURCES ON BOTH PRIVATE AND PUBLIC TRANSPORTATION.

Standard Operating Procedure

- 8.7 - SOP1 Promote the use of public transportation and car pooling to reduce the reliance of Juneau residents and visitors on single-occupant vehicles.

Implementing Actions

- 8.7 - IA1 Use a mix of vehicle sizes and fuels for CBJ-provided public transport to promote fuel and cost efficiency, and to keep frequency of service such that it will encourage use of public transportation systems.
- 8.7 - IA2 Seek to convert fossil-fueled CBJ buses to renewable energy-fueled or hybrid vehicles. Hybrid or other dual-fuel buses that can run on fuel other than electricity are preferable to electric-only buses, especially in light of the effect of the 2008 and 2009 Snettisham avalanches and their effect on the provision of electricity to Juneau.
- 8.7 - IA3 Encourage conversion of private fossil-fueled buses to renewable energy.
- 8.7 - IA4 Provide metered electric energy sources at public parking lots and garages to re-charge public and private electric automobiles, and provide preferential parking spaces for those vehicles. The metered electrical sources should have the functionality of being turned off automatically or manually by AEL&P and/or CBJ staff during periods of peak loading of the electrical system or emergency situations.
- 8.7 - IA4 Retain adequate rights-of-way for fixed-guideway transit systems pending investigation of the feasibility of providing light or heavy rail public transit service, fueled by renewable energy sources, linking existing and new neighborhoods of Douglas Island with the mainland, the Mendenhall Valley with downtown Juneau and, in the future, connecting the Juneau area to the Alaskan interior. In the analysis of the feasibility of such a borough-wide rail transport system, consider the life-cycle costs of design, construction, environmental mitigation and monitoring, as well as operation and maintenance costs.

Subarea Transportation Needs

To ensure a smoothly functioning transportation system, the CBJ government and ADOT&PF must address some serious transportation problems within and between major concentrations of population. The areas most affected by past and projected growth and, therefore, most affected by congestion, include downtown Juneau, Lemon/Switzer/Salmon Creeks, Mendenhall Valley, Auke Bay, and Douglas Island.

POLICY 8.8. TO RESPOND TO THE SPECIAL TRANSPORTATION NEEDS OF EACH SUBAREA OF THE CBJ AND TO INTEGRATE THEM INTO A BOROUGH-WIDE COMPREHENSIVE TRANSPORTATION PLAN. THIS SYSTEM SHOULD SEEK TO REDUCE THE CONSUMPTION OF FOSSIL FUELS BY FACILITATING EFFICIENT ROUTES OF TRAVEL, CONVENIENT AND RAPID TRANSIT, AND SAFE MOTORIZED- AND NON-MOTORIZED TRAVELWAYS.

Implementing Actions

- 8.8 - IA1 The CBJ government should continuously establish transportation improvement priorities that can be included in the next revision to the ADOT&PF Needs List and the CBJ Capital Improvement Program. Priority should be given to projects that will help reduce the cost of living in Juneau, especially for low- and middle-income residents.

- 8.8 – IA2 Develop a coordinated planning process between the city and state regarding transportation plans.

Downtown

As documented in the *CBJ Area Wide Transportation Plan (AWTP)*, there are several major transportation problems in downtown Juneau. As a major destination for many Juneau residents and for approximately one million cruise ship visitors each year, the resolution of those problems will enable downtown to evolve into a convenient, attractive and dynamic year-round destination for residents and visitors alike. Coordinated planning is needed to improve pedestrian and traffic circulation, accommodate shared use of additional off-street parking, increase rapid public transit service, and facilitate pedestrian movement on sidewalks and crosswalks.

Implementing Actions

- 8.8 - IA3 Update and revise the priority table of the *CBJ Area Wide Transportation Plan*. Potential priorities for federal, state, and local funding and implementation may include the following:
- A. In order to accommodate safe transit, private vehicle, bicycle and pedestrian traffic traveling to and from Douglas Island, urge ADOT&PF to immediately improve the traffic capacity and efficiency at the intersection of Tenth St. and Egan Dr. Any improvements to this intersection or the Juneau-Douglas Bridge should provide adequate safe space for motor vehicles (including industrial trucks and buses), pedestrians and bicyclists.
 - B. The CBJ should seek funding to design, develop and operate a Downtown Transportation Management Program. [see also 8.5 - IA6 and subarea 6 Guideline and Consideration 13]
 - C. Encourage ADOT&PF to construct one or more additional travel routes across Egan Drive for pedestrian travel to and from Aurora and Harris Harbors.
 - D. Pursue the construction of a CBJ street parallel to Egan Drive that connects Aurora Harbor with the University of Alaska Southeast Marine Technology Center and Harris Harbor.
- 8.8 - IA4 The CBJ government, working in conjunction with ADOT&PF, should develop and manage an emergency transportation plan to address temporary or emergency access between all urbanized portions of the borough and emergency facilities, especially Bartlett Regional Hospital and the Juneau International Airport. Duplicate transportation routes and/or modes should be developed wherever access is currently limited to a single transportation route, such as the Juneau-Douglas Bridge, Egan Drive at Channel and Channel View Drives, and Egan Drive at Yandukin Drive and Glacier Highway.
- 8.8 - IA5 Implement the subarea improvements for downtown 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.

Lemon Creek, Switzer Creek, and Salmon Creek

The Lemon Creek, Switzer Creek, and Salmon Creek areas are home to numerous children and adults who regularly use public transit facilities, yet who must use an incomplete sidewalk system to reach bus stops or neighborhood destinations. A safe, separated pedestrian and bicycle circulation system throughout the area is needed for the area, along with weather-sheltered bus stops.

The Lemon Creek area is also traversed by heavy trucks carrying gravel and other heavy loads. A roadway suitable for heavy truck loads traveling to and from the industrial areas, particularly the gravel extraction area, and bypassing residential areas is needed.

When the land above Dzantik'i Heeni Middle School is developed for residential use, as envisioned by this *Plan*, a new roadway to access this area will also be needed. This road should not tie into the industrial by-pass road discussed above; instead, the residential access road should be designed for larger numbers of pedestrians and bicyclists and lower traffic speeds than the industrial road.

Both the industrial by-pass road on the eastern side of Lemon Creek and the residential access road on the western side of Lemon Creek are shown on the Subarea 5 Land Use Maps; it should be noted that the alignments shown on these maps are for informational and planning purposes only, and potential alignments will need to be evaluated based on engineering, habitat, cost, and other factors before a route is selected and a road constructed.

Davis Avenue and its intersection with Glacier Highway pose particular problems for pedestrian safety, as well as negatively impacting Capital Transit's on-time performance for southbound buses. This corridor and intersection should be carefully evaluated and re-designed so as to improve safety and to facilitate turning movements; Capital Transit bus routes in this area may need to be redesigned as part of this effort, and service to some areas may need to be reduced so as to improve safety at problematic intersections. A new vehicular bridge over Lemon Creek could allow transit to serve the area more efficiently.

As this 2013 Update to the *Plan* is being adopted, DOT&PF has begun scoping on a project to redesign and reconstruct Glacier Highway through the Lemon Creek area. This project intends to improve pedestrian, bicycle, transit, private vehicle, and heavy truck traffic safety in the corridor by considering the differing needs of each travel mode or vehicle type in each of several segments of the corridor in a context-sensitive manner to building a Complete Street network.

Implementing Actions

- 8.8 - IA7 Develop and implement a neighborhood transportation facilities improvement plan, in coordination with an area-wide neighborhood plan, for roadway access, sidewalks, pedestrian crossings, bus pullouts and shelters, intersection control and new intersections for Lemon Creek. Consider limiting new access directly onto Glacier Highway to preserve traffic operations in the roadway. In the vicinity of Dzantik'i Heeni Middle School, integrate future traffic control or new intersections with pedestrian needs. This plan and improvement program should include, at a minimum, the following transportation elements:
- A. Develop a complete sidewalk system and separated pedestrian/bicycle path throughout the Lemon/Switzer Creek neighborhood, connecting residential land uses to schools, playgrounds, employment centers, retailers, and transit facilities;
 - B. Construct an industrial vehicle bypass route located away from residential neighborhoods and providing access for heavy vehicles, connecting the industrial area around the Lemon Creek gravel pits to Egan Drive via Glacier Highway;
 - C. Develop a secondary roadway connection between downtown Juneau and Bartlett Regional Hospital. The connection would be two lanes with separated pedestrian and bicycle facilities. The road should function as a through-road and as a secondary access to the Hospital;
 - D. Improvements to intersections in order to assure a Level of Service of D or better throughout the Plan study area;
 - E. Crosswalks across Glacier Highway in mid-block or unsignalized locations should utilize medians for mid-crossing pedestrian refuges; the existing center turn lane should be eliminated except where it is needed for vehicles to queue for left turns off of Glacier Highway at major intersections. Medians should be used to reduce the number of locations where left turns onto Glacier Highway are possible. Snow removal and storage need to be considered in redesigning the roadway; and,
 - F. Pedestrian-scale illumination, "bulb-outs" at intersections, medians, and other design treatments which provide visual cues to drivers regarding crossing locations and which lead drivers to adjust their speed accordingly.
- 8.8 - IA8 Implement the subarea improvements for the Lemon Creek, Switzer Creek, and Salmon Creek areas 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.

- 8.8 - IA9 Require sidewalks and bicycle paths or lanes along newly constructed arterial and collector streets where appropriate, and provide or work with ADOT&PF to provide such amenities along existing roads to provide safe and efficient access and recreation and to reduce pedestrian/automobile conflicts.

The Mendenhall Valley

For the past three decades, the Mendenhall Valley has been the most rapidly growing suburban area in the CBJ. Many of the un-signalized intersections serving this area are now heavily congested, reflecting Levels of Service (LOS) D, E and F that indicate noticeable (LOS D) to irritating (LOS E) to unacceptable (LOS F) delays for motorists seeking to enter those intersections. This congestion affects both public transit and the single-occupancy-vehicle (SOV). Until these traffic conditions are improved to LOS C or better, further development on parcels served by these intersections should be limited to small, in-fill homes or developments whose occupants would primarily use public transit, or developments whose occupants would travel primarily during off-peak periods. Elsewhere within the Mendenhall Valley, future development should be characterized as medium-to-high density residential, mixed use or commercial developments when contained within transit corridors, defined as lands within a quarter mile of bus routes with headways of no more than one-half-hour during the peak travel periods. Additionally, the Mendenhall Valley intersections that experience LOS E and F should be improved to facilitate transit service therein: This could include bus pull-out lanes, travel lanes exclusive to transit and high-occupancy-vehicles (HOVs) during peak morning and evening traffic periods, or other improvements. Pedestrian pathways are incomplete in much of the Mendenhall Valley area and need to be connected.

Implementing Actions

- 8.8 - IA10 Work with ADOT&PF to undertake roadway capacity, vehicular turning movement, bus pullouts and pedestrian and bicycle safety improvements within the Urban Service Area where an existing intersection Level of Service on the state route is compromised (LOS D or worse); priority improvements should be given to intersections that would serve new high-density housing developments.
- 8.8 - IA11 Improve the area between Industrial Blvd. and Fritz Cove Road with a separated pedestrian/bicycle path and lighting.
- 8.8 - IA12 Require sidewalks and bicycle paths or lanes along newly constructed arterial and collector streets where appropriate, and provide or work with ADOT&PF to provide such amenities along existing roads to provide safe and efficient access and recreation and to reduce pedestrian/automobile conflicts.
- 8.8 - IA13 Work with ADOT&PF to provide a secondary route to Egan Drive where no alternative route currently exists. In particular, support the construction of an extension of Glacier Highway from its current dead-end north of Fred Meyer to the intersection of Glacier Highway and Egan Drive at McDonald's and the Nugget Mall.
- 8.8 - IA14 Implement the subarea improvements for the Mendenhall Valley 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.

Auke Bay and "Out the Road"

West of Auke Bay, the two-lane paved Glacier Highway provides vehicular access to about 600 residents of the rural areas referred to as "Out the Road," as well as recreational enthusiasts, hunters, fisherpersons, and boaters. ADOT&PF maintains this road year-round to milepost 40; the northernmost parts of it are snowbound and inaccessible during winter months.

Implementing Actions

- 8.8 - IA15 Work with ADOT&PF to undertake transportation improvements to state right-of-ways

within the Auke Bay area pursuant to recommendations included in a CBJ-adopted Auke Bay neighborhood plan. The plan should address existing and anticipated travel demands generated by the ferry terminal, marina, commercial fisheries facilities, affordable housing, expansion of the University of Alaska Southeast, and other destinations located further out the road, and should incorporate the improvements identified in ADOT&PF's 2003 ABCOR (Auke Bay Corridor) study. Extension of existing sidewalks, provision of additional sidewalks, and other safety projects should be high priorities.

- 8.8 - IA16 Continue to explore the feasibility of constructing a bypass road above Auke Bay from the Mendenhall Valley as envisioned in the 2003 ABCOR study's Alternative Concepts report.
- 8.8 - IA17 Require sidewalks and bicycle paths or lanes along newly constructed arterial and collector streets where appropriate, and provide or work with ADOT&PF to provide such amenities along existing roads to provide safe and efficient access and recreation and to reduce pedestrian/automobile conflicts.
- 8.8 - IA18 Implement the subarea improvements for Auke Bay and "Out the Road" 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.
- 8.8 - IA19 Crosswalks across Glacier Highway in mid-block or unsignalized locations should utilize medians for mid-crossing pedestrian refuges; where present, the existing center turn lane should be eliminated except where it is needed for vehicles to queue for left turns off of Glacier Highway at major intersections. Medians should be used to reduce the number of locations where left turns onto Glacier Highway are possible. Snow removal and storage need to be considered in redesigning the roadway.
- 8.8 - IA20 Work with ADOT&PF to provide public and improve non-vehicular access to the Alaska Marine Highway System ferry terminal in Auke Bay. Improved wayfinding signage is an important component to these improvements.

Douglas Island

Residential development along the eastern side of Douglas Island in the area between Kowee and Lawson Creeks, called West Juneau, has taxed the capacity of the Cordova Street and Douglas Highway intersection, and has contributed to congestion on the Juneau-Douglas Bridge and the Tenth Street and Egan Drive intersection during the 7 AM to 9 AM week day peak commute periods. An August 2006 weekday analysis of vehicle turning movements at the Tenth Street and Egan Drive intersection by ADOT&PF demonstrated that about half the vehicles from Douglas Island travel to downtown Juneau and half turn left heading toward the Mendenhall Valley. At the very least, the downtown Juneau government agencies employing Douglas Island residents should implement a more effective, and perhaps mandatory, staggered work hour program for those residents to relieve the 7:30 to 8:15 peak morning congestion (LOS F) on the Juneau-Douglas Bridge and Tenth Street and Egan Drive intersection. Another short-term improvement would be the installation of bus pull-outs for Capital Transit buses to leave the travel ways while picking up or dropping off passengers, and where school buses can allow queued vehicles to pass after children are safely on-board or have crossed the street. Notwithstanding these short-term improvements, vehicle capacity improvements to the Juneau-Douglas Bridge and its landing at Tenth Street and Egan Drive will likely be needed to accommodate further residential development on Douglas Island.

The 1995 Comprehensive Plan Land Use Maps for Douglas Island showed a bench road corridor connecting all existing and future communities on the Island; that is, North Douglas, West Douglas, Treadwell/South Douglas, downtown Douglas and West Juneau, with the exception of a link between Fish Creek Road and the New Growth Area community of West Douglas. The Subarea 9 Land Use Maps now show an alignment for this missing link of the bench road. This trans-island bench road remains in the Plan and should be accompanied by a safe pedestrian/bicycle pathway system linking all Douglas Island communities.

North Douglas

Over the years, North Douglas Highway has experienced increased traffic from recreational users of North Douglas lands, shorelines and waters, in addition to increased resident traffic. Increased traffic is dangerous for pedestrians, joggers, bicyclists and students awaiting school bus service.

The boat launch on the north shore of Douglas Island offers many recreational enthusiasts and visitors a world class, spectacular viewscape of the Mendenhall Glacier and access to world class fishing. Eaglecrest is working to be a year-round outdoor recreation destination. In the years ahead, additional traffic associated with a North Douglas bridge connecting the West Douglas New Growth Area to the mainland may have impacts to the North Douglas Highway traffic capacity and safety, depending on the timing and intensity of development in West Douglas, the location and design of the bridge or crossing landing, and the location and type of roadway(s) leading to and from West Douglas. [Please also refer to Chapter 11, Subarea 9 North Douglas Highway and channel crossing discussions.]

For over twenty years, a North Douglas crossing of Gastineau Channel has been identified as the CBJ's top transportation priority, due to the role this additional access would play in facilitating development of west Douglas Island as well as in providing emergency access in the event the Juneau-Douglas Bridge or another single-route travel corridor in the area (North Douglas Highway or Egan Drive) is inaccessible or out-of-service. Extensive work has been completed on project scoping, data collection for the project's Environmental Impact Statement, and identifying the community preferred alternative. If or when this project moves forward again, the North Douglas neighborhood, the West Douglas Development Working Group, relevant CBJ staff, other interested stakeholder groups and representatives of the community-at-large should participate in a study of the associated transportation elements needed to accommodate the crossing at its landing on Douglas Island, including the location, design and capacity of the crossing landing structure, the road(s) or reserved fixed-guideway right-of-way accommodating the new traffic to and from West Douglas to the mainland via both the new crossing and the existing bridge, and separated pedestrian/bicycle pathways. This study should be accompanied by a neighborhood plan as described in Subarea 9 Guidelines and Considerations in Chapter 11 of this Plan.

Implementing Actions

- 8.8 - IA21 Encourage ADOT&PF to upgrade North Douglas Highway, with or without a North Douglas bridge and associated arterial roadways, to reduce safety hazards related to the increased traffic on North Douglas Highway due to continuing residential development and increased recreational infrastructure on North Douglas. These improvements may include reduced and consistent speed limits throughout the roadway; installation of better warning signage at curves, bus stops at points with large numbers of residents and/or major destinations; separated pedestrian and bicycle pathways; and pull-off areas for school and public transit buses, if suitable for a minor arterial roadway with over 500 driveway access points.
- 8.8 - IA22 Work with ADOT&PF to make improvements to roads, intersections and bridges on Douglas Island to accommodate new affordable housing development. Transportation infrastructure deficiencies that should be addressed in the near future include the capacity of the Tenth Street and Egan Drive intersection, particular turning movements at the Cordova Street and Douglas Highway intersection, and the reliance on a single road connection between Douglas Island and the mainland.
- 8.8 - IA23 Maintain strong municipal support for construction of a North Douglas crossing of Gastineau Channel to accommodate new, compact development of North Douglas and the New Growth Area on west Douglas Island. On the North Douglas landing, the bridge should connect to a roadway that provides sufficient right-of-way to accommodate a future fixed guideway transportation system to West Douglas.

In the near term, the CBJ Community Development Department should conduct a neighborhood planning effort for the North Douglas neighborhood, which would include:

- A. Analysis of potential impacts and improvements needed to maintain and enhance the existing character of the North Douglas community. All improvements should be designed to provide adequate capacity to take residents, workers and visitors of Douglas Island to their destinations on the mainland. This may require improvements to the intersection

of Tenth Street and Egan Drive as well as providing a new northern Gastineau Channel crossing route.

- B. Evaluation of the engineering design and costs and the environmental impacts of a North Douglas crossing landing intersection, including the options of the landing intersecting with North Douglas Highway or upland of the Highway at a bench road alignment; and
- C. Analysis of the location and configuration of separated pedestrian/bicycle pathways, bus pull-offs and any access road(s) carrying traffic from Douglas Island to the mainland.

- 8.8 - IA24 Designate potential road and non-motorized trail linkages between residential neighborhoods throughout the Island, where terrain permits and avoiding high-value wetlands whenever possible.
- 8.8 - IA25 Require sidewalks and bicycle paths or lanes along newly constructed arterial and collector streets where appropriate, and provide or work with ADOT&PF to provide such amenities along existing roads to provide safe and efficient access and recreation and to reduce pedestrian/automobile conflicts.
- 8.8 - IA26 Implement the subarea improvements for Douglas Island 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.
- 8.8 - IA27 Investigate providing improved transit service to North Douglas.

Thane Southeast of Downtown Juneau

Thane Road provides vehicular, bicycle and pedestrian access to residential, recreational, tourist-oriented commercial and other non-residential destinations, including a fish hatchery. Thane Road is an approximately six mile, two-lane paved state-maintained roadway that cuts through steep terrain on both sides. There is no separated pedestrian or bicycle lane and there are numerous places where there is no road shoulder, and curves in the road limit motorists' sight lines. The speed limit of the road varies from area to area. The first few miles pass through hazardous avalanche chutes. Despite these constraints and hazards, the road is the sole access for about 175 Thane residents (Census 2000 count) and is extremely popular with joggers, hikers, berry pickers, cyclists and other recreational enthusiasts. A 2012 reconstruction project by ADOT&PF widened and straightened much of Thane Road, but only slightly added to the portion of the road where shoulders are provided. Providing safe facilities for pedestrians and bicyclists along this road remains a high priority. Once the home of the Alaska-Gastineau mining company, and still the location of the Sheep Creek adit, Thane may be affected more profoundly by a proposal to re-open the Alaska-Juneau or Alaska-Gastineau mines than any other subarea.

Implementing Actions

- 8.8 - IA28 Encourage ADOT&PF to upgrade Thane Road from the CBJ Sewer Treatment Plant to Sheep Creek. All reconstruction of Thane Road should include separated pedestrian and bike lanes which, because of terrain, may need to be located outside of the existing right-of-way and/or along the shoreline. Where separated paths cannot be constructed, shoulders should be provided.
- 8.8 - IA29 Require sidewalks and bicycle paths or lanes along newly constructed arterial and collector streets where appropriate, and provide or work with ADOT&PF to provide such amenities along existing roads to provide safe and efficient access and recreation and to reduce pedestrian/automobile conflicts.
- 8.8 - IA30 Implement the subarea improvements for Thane 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.