

## APPENDIX H

### SOCIOECONOMIC EFFECTS TECHNICAL REPORT



#### JUNEAU ACCESS IMPROVEMENTS SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT

STATE PROJECT NUMBER: 71100  
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# Executive Summary

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This report provides an assessment of the potential socioeconomic effects of improved access to Juneau. It includes detailed socioeconomic baseline data for Juneau, Haines and Skagway. The socioeconomic effects of ten different access improvement alternatives are considered. These include:

- Alternative 1 – No Build
- Alternative 2 – East Lynn Canal Highway with shuttle ferry to Haines from Katzehin Terminal
- Alternative 2A – East Lynn Canal Highway with Berners Bay Shuttle
- Alternative 2B – East Lynn Canal Highway to Katzehin, shuttles to Haines and Skagway
- Alternative 2C – East Lynn Canal Highway with shuttle to Haines from Skagway
- Alternative 3 – West Lynn Canal Highway, shuttle ferry from Sawmill Cove to William Henry Bay
- Alternative 4A – Fast Vehicle Ferry (FVF) Shuttle Service from Auke Bay
- Alternative 4B – FVF Shuttle Service from Berners Bay
- Alternative 4C – Conventional Monohull Shuttle Service from Auke Bay
- Alternative 4D – Conventional Monohull Shuttle Service from Berners Bay

All marine alternatives (4A, 4B, 4C, and 4D) include continued mainline service to Haines and Skagway and shuttle ferry service between Haines and Skagway.

The results of this analysis are based on traffic projections presented in the *Juneau Access Traffic Forecast*. Traffic on the Juneau Access alternatives is predicted to range from about 10 percent above baseline (2002) traffic (in the No Build alternative) to as high as six times greater than baseline traffic (in East Lynn Canal alternative 2). Detailed traffic estimates for each alternative are provided in that report.

Key findings from the socioeconomic effects analysis are summarized below:

## **Effects Common to All Alternatives**

**Transportation:** Improved access in the Lynn Canal corridor would facilitate the movement of goods and people through and to the northern Southeast region. This would create closer links between the economies of Juneau, Haines, Skagway, and Whitehorse. Residents of Haines and Skagway would have better access to Juneau's retail and service sectors. Residents of Juneau would have better access to the recreational opportunities available in Haines, Skagway, and other destinations on the Alaska/Canada highway systems.

**Air taxi operations:** Improved access in Lynn Canal is likely to have a negative impact on local air taxi operators. This impact would vary according to alternative, with highway alternatives resulting in substantial negative impacts, and the improved ferry service resulting in moderate negative impacts. Air taxis could lose between 10 and 50 percent of their Lynn Canal business, depending on the alternative.

**Economic development:** Improved access would enhance Haines' reputation as a retirement community through better access to Juneau's retail and service sectors, particularly health care services. To the extent that this occurs, demand for property in Haines would increase. Because of land availability in Haines, climate, and other reasons, additional Juneau residents may seek seasonal or year-round homes in Haines.

**Local government expenditures:** Local governments would be affected by improved access in several ways. These include increased demand for public services in remote areas of the Juneau and Haines boroughs as well as outlying Skagway areas, and increased demand for public utilities associated with increased traffic and population growth. Expenditures in these areas would be offset by increases in sales tax revenues from travel

related spending and increases in property tax revenues. Other tax revenues, such as bed taxes, would also increase.

**Health care:** Improved access would provide residents of Haines and Skagway better access to Juneau's well-developed health care sector. Improved access would make it somewhat easier and faster to transport patients – either on an emergency or scheduled basis -- to Juneau from Haines or Skagway.

**Education:** Improved access, whether by ferry or highway, benefits educational programs and organizations in the region. Improved access would allow more frequent, more convenient, and less costly exchanges between school districts. Lower cost transportation between Juneau and Haines and Skagway would reduce the cost of professional services exchanged between the three school districts. It would also make centralized training and conferences somewhat less expensive. Sports programs and events would be enhanced, both with better athlete and audience participation, if cheaper, more reliable transportation services are offered.

**Public Safety:** As with any rural Alaska road system, emergency situations occurring far from downtown areas would create response challenges for fire, EMS, and police departments. Personnel and equipment would be pulled away from normal duties, possibly for extended periods. The agencies with the most resources available – State Troopers, Juneau Police Department, and Juneau Fire Department – say they are already operating at minimal staffing levels given the extent of their current responsibilities and service areas.

**Quality of Life:** How improved access would affect quality of life depends on individual perspectives. Generally, however, residents consider improved access important. More than three-quarters of Juneau residents feel that improved access to their community is important. In 2003, 32 percent of Juneau residents surveyed said improved transportation is important, and 46 percent said it is very important. Nearly three quarters of those surveyed said they would travel to or through Haines or Skagway more often if it were more convenient, with recreation being the key reason for the travel.

When surveyed in 2003, 87 percent of Haines residents said improved access to Juneau is important (22 percent) or very important (65 percent). Most Skagway residents also said that improved access to Juneau is important (24 percent) or very important (59 percent).

### ***The No Build Alternative***

According to the 2004 Juneau Access Traffic Forecast, the No Build alternative would generate traffic only slightly above present levels. Therefore, the No Build alternative would have negligible socioeconomic effects on Juneau, Haines and Skagway. With the No Build alternative, most of the latent demand for transportation infrastructure in Lynn Canal would remain unmet.

### ***East Lynn Canal Highway Alternatives***

In terms of socioeconomic effects, differences between the East Lynn Canal alternatives are small. The following summary applies to all East Lynn Canal alternatives, except where noted.

#### ***General Effects***

**Transportation:** An East Lynn Canal highway would improve Lynn Canal transportation and would generate traffic in Lynn Canal of between 380 and 510 vehicles per day (annual average), more than five times more traffic than would occur with the No-Build alternative.



**Construction employment:** Construction costs for the East Lynn Canal alternatives range from \$193 million to \$280 million. Direct employment related to highway and ferry terminal construction would range from 255 to 370 jobs over a four-year construction period.

**Air taxi operations:** It is estimated that the demand for air taxi service in Lynn Canal could be reduced by approximately 35 to 50 percent, though for any individual operator the impact might be higher or lower, depending on the markets they serve.

**Mining activity:** Development of an East Lynn Canal alternative could affect operation of Coeur Alaska Inc.'s Kensington mine. This includes reduced cost of worker and supply transport between the mine and Juneau, improved opportunity for Haines and Skagway residents to participate in the mine workforce, and increased CBJ property tax revenues. There could also be increased security and public safety concerns at the mine as a result of greater public access.

## **Juneau**

**Transportation:** Barges will remain the mode by which most freight is shipped to Juneau. However, a highway connection would provide substantial benefits to the fishing industry or other manufacturers producing time-sensitive goods. Shipment of time-sensitive products out of Juneau would create lower-cost back-haul opportunities. Over the long-term, Juneau would experience growing dependence on overland trucking of basic goods into Juneau, as more individual businesses consider the scheduling flexibility trucking provides. East Lynn Canal alternatives that do not provide uninterrupted highway links (Alternatives 2A and 2B) would not generate as much truck traffic as those without ferry links (Alternatives 2 and 2C).

**Seafood industry:** An East Lynn Canal highway would increase income for fishermen as a result of better access to fresh fish markets. Seafood processors in Juneau would have the opportunity to change product form (i.e. fresh rather than frozen) and tap into higher value markets due to reduced transportation costs and shipping time. More fishermen would deliver to Juneau, due to local processors' ability to pay higher prices.

**Visitor industry:** An East Lynn Canal highway would bring approximately 50,000 to 80,000 new visitors (including non-Alaskans, Haines and Skagway residents, and others) to Juneau annually. This number would increase over time, as markets and travelers adjust to the improved access.

**Economic and population growth:** Overall, an East Lynn Canal highway would generate between 110 and 160 new jobs in the Juneau economy, resulting in a population increase of between 170 and 250 residents. Alternative 2 would generate the most job growth in Juneau and Alternatives 2A and 2B the least, among the East Lynn Canal alternatives. A population increase in Juneau of 250 residents would represent an overall increase of less than 1 percent.

**Local tax revenues:** Additional visitor spending in Juneau would total approximately \$5.7 million to \$8.6 million, generating \$290,000 to \$430,000 in additional sales tax revenues. The CBJ could also expect some increase in property tax revenues and bed tax revenues.

**Public utilities and services:** None of the Juneau Access alternatives would have measurable effects on Juneau's public utilities, including water supply, wastewater treatment, and solid waste disposal. However, increased traffic would place additional demands on police and emergency medical services in Juneau.

## **Haines**

**Transportation:** An East Lynn Canal highway would not result in a change in barge service to Haines. Freight that is now shipped to Haines on the ferry would be trucked from Juneau, at a lower cost than is now possible with ferry service. Demand for air transportation services to and from Haines would decline.

**Visitor Industry:** An East Lynn Canal highway would draw more visitors to Northern Southeast than is now the case, increase access to Haines for Juneau's independent visitors, increase access to Haines for Skagway's independent visitors, increase access to Haines for Juneau residents, and improve access to Haines for Whitehorse residents. New traffic to Haines is expected to total between 12,000 (Alternative 2C) and 48,000 visitors (Alternative 2), depending on the East Lynn Canal alternative. This does not include Haines resident traffic or current baseline traffic (the volume of traffic that already travels to or through Haines).

The impact of an East Lynn Canal highway would be dependent on the frequency of ferry service between Katzehin and Haines or Skagway and Haines, the cost of that ferry service, and on how aggressively the community markets itself.

Overall, traffic to Haines would increase, primarily the result of increased Juneau resident travel, but also Whitehorse resident travel, and other visitor (tourist) travel. The economic impact of this increase in traffic would depend on travelers' length of stay. A key factor regarding length of stay after construction of an East Lynn Canal highway would be the degree to which Haines develops and promotes local assets and attractions. Additional investment in marketing Haines as a destination would attract more travelers than would be the case without such marketing.

**Seafood industry:** An East Lynn Canal highway could shift fishermen's delivery to the processors from Haines to Juneau. This could reduce the volume of seafood processed in the community.

**Support sector:** Haines support sector industries would be affected by the East Lynn Canal alternative. All of the East Lynn Canal highway alternatives would result in increased traffic to Haines and an increase in visitor spending. Some of this spending would be offset by increased Haines resident spending in Juneau. Because goods and services are often less expensive in Juneau and because Juneau has a wider selection of goods and services, a high level of economic "leakage" already occurs. Improved access to Juneau would result in more leakage from the Haines-area economy as more local residents take advantage of Juneau's better-developed retail and service sectors. This also means improved access would play a role of reducing the cost of living in Haines.

Certain Haines businesses would benefit by improved access, while others might see a decline in business. Businesses that serve the visitor market, such as motels and hotels, restaurants, gift shops, convenience stores and gas stations, would see an increase in business, as a result of an overall increase in traffic. Stores that already compete with Juneau retailers, such as grocery, clothing, hardware, and lumber supply stores, are likely to see some decline in business as Haines residents take advantage of better access to Juneau.

In terms of total spending in Haines, an East Lynn Canal highway would result in either no overall change (in Alternative 2C, where new visitor spending would be about equal to the increased leakage from the Haines economy) or an overall net increase of approximately \$2 million (in Alternative 2). (This is a measure of net change, that is, increased visitor spending less additional leakage from Haines resident spending in Juneau).

**Economic growth:** An East Lynn Canal highway would generate minor population changes in the community. Contingent upon the availability of regular, frequent and low-cost ferry service between Haines and Katzehin or Skagway, the community could expect an increase in traffic overall. To the extent that this increased traffic translates into additional spending in Haines, economic and population growth would occur. The employment effects of an East Lynn Canal highway would range from no change (Alternative 2C) to approximately 40 new jobs (Alternative 2) in the Haines economy. These additional jobs would result in a population increase of about 60 residents.

**Public utilities and services:** Solid waste, hazardous waste, and electric utilities would not be affected in the Haines Borough by the development of an East Lynn Canal highway. An East Lynn Canal highway alternative could generate some population growth over the long-term, therefore would contribute to the need for expansion of water supply and wastewater treatment facilities.

### **Skagway**

**Transportation:** With the exception of freight currently moved from Juneau to Skagway on the ferry, Skagway is not expected to see any change in waterborne freight service with an East Lynn Canal alternative (particularly if the alternative includes a ferry link). Freight that now moves from Juneau to Skagway on the ferry would instead be trucked.

**Cruise ship traffic:** A highway between Juneau and Skagway would not alter cruise lines' decisions to place ships in either community. Port of call decisions are based on a combination of factors including the availability of berthing space, appeal to passengers, and the overall capacity and profitability of tour offerings. Skagway is one of the most profitable ports in Alaska for the cruise lines. Passenger satisfaction ratings are very strong for Skagway. Eliminating Skagway from cruise itineraries would have negative financial impacts and would detract from passengers' overall experience.

Ground transportation providers for all large ships are emphatic that ground tours to Skagway from Juneau are not feasible due to limitations regarding tour capacity, pricing, and timing. While a flight and bus tour combination might reduce the overall transportation time, this option is not practical due to the high cost of the flight, capacity limitations, and potential for weather cancellations.

**Independent visitors:** Skagway would benefit from increased independent visitor traffic with an East Lynn Canal highway. New traffic to Skagway is expected to total between 85,000 (Alternative 2B) and 270,000 visitors (Alternative 2C), depending on the East Lynn Canal alternative. This does not include Skagway resident traffic or current baseline traffic (the volume of traffic that already travels to or through Skagway).

**Economic and population growth:** An East Lynn Canal highway would generate between 30 and 70 new jobs in the Skagway economy in 2008, resulting in a population increase of between 40 and 90 residents. Alternative 2C would generate the most job growth in Skagway and Alternative 2B the least, among the East Lynn Canal alternatives. A population increase in Skagway of 90 residents would represent an overall increase of 11 percent, compared to the year-round average.

The overall effect of the East Lynn Canal alternative on Skagway's retail and service sectors would be substantial, with new spending of between \$2 million (Alternative 2B) and \$5 million (Alternative 2C) in 2008. A potential decline in local spending by Skagway households would be more than offset by increased spending by non-Alaska visitors and Juneau households visiting Skagway.

**Local tax revenues:** Skagway would experience an increase in sales and bed tax revenues associated with increased visitor spending. A \$5 million estimated initial annual increase in visitor spending would generate \$200,000 in additional sales tax revenues annually. Additional bed tax revenues would also be generated. A \$2 million increase in taxable sales would generate \$80,000 in additional sales tax revenues.

**Public utilities:** The City of Skagway may experience the need for additional water, solid waste, and wastewater and sewer treatment capacity, with an East Lynn Canal highway, as a result of increased visitor traffic and local population growth.

**Public safety:** Emergency response demands from additional highway traffic would impact the Skagway fire department. The department's size and reliance on volunteers makes responding to multiple emergencies very challenging. Continued growth in demands on the department would require more paid staff.

## **West Lynn Canal Highway**

### **General Effects**

**Construction employment:** Construction costs for the West Lynn Canal highway would be \$208 million. Employment related to highway and ferry terminal construction would be 275 jobs over a four-year construction period.

**Transportation:** A West Lynn Canal highway would improve Lynn Canal transportation and would generate traffic in Lynn Canal of about 310 vehicles per day, four times more traffic than is currently transiting Lynn Canal.

The West Lynn Canal alternative would have minor effects on waterborne freight movement in Lynn Canal. Barge service to Juneau, Haines, and Skagway would be unaffected. The cost associated with one or two ferry links (two if the freight is destined for Skagway) would constrain use of truck rather than barge. The handling and ferry costs associated with barging freight to Juneau, then trucking to Haines or Skagway, would prevent any transshipment in Juneau of freight moving from Seattle to Haines or Skagway.

Because the West Lynn Canal alternative would provide for less expensive shipment of goods from Juneau to Haines than the No Build alternative, freight costs would likely be lower. Lower freight costs between Juneau and Haines would result in savings to retailers, consumers, or both.

**Air taxi operations:** It is estimated that the demand for air taxi service in Lynn Canal would be reduced by approximately 30 to 40 percent, though for any individual operator the impact might be higher or lower, depending on the particular markets they serve.

**Seafood industry:** Because of the ferry links in the West Lynn Canal alternative, there would be negligible or minor benefits in terms of increased opportunity for Juneau processors to ship fresh fish to Lower 48 markets. The cost of the ferry links and the scheduling uncertainty associated with ferry service would constrain time-sensitive trucking activity.

**Mining industry:** The West Lynn Canal alternative would improve access to an area with known mineral potential; however, there is little exploration activity currently occurring in the area. Improved access to Juneau would increase the opportunity for Haines and Skagway residents to work at Juneau area mines.

### **Juneau**

**Transportation:** Because the West Lynn Canal alternative does not provide uninterrupted highway access, it would have minor effects on how Juneau is supplied.

**Independent visitors:** The West Lynn Canal highway would bring an estimated 17,000 new visitors to Juneau in 2008. This includes additional non-Alaskans and residents of Haines, Skagway and Whitehorse.

**Employment and population growth:** Increased visitor spending associated with a West Lynn Canal highway would generate approximately 40 new jobs in the Juneau economy.

This would result in a population increase of about 60 residents, an overall increase of about 0.2 percent.

**Local tax revenues** Additional visitor traffic to Juneau would account for about \$2 million in additional spending, generating \$100,000 in additional sales tax revenues to the CBJ.

**Public utilities:** Juneau's public utilities would not be impacted by the West Lynn Canal highway alternative.

## **Haines**

**Visitor industry:** The number of travelers passing through and visiting Haines would increase substantially with a West Lynn Canal highway. The economic impact of this increase in traffic depends primarily on visitors' length of stay. Some of the visitor traffic would pass through Haines without stopping. Other visitors might spend a short time in Haines and purchase gas, food, or souvenirs. Finally, others would spend one or more nights in Haines, and have a larger impact on the local economy.

New traffic to Haines would be expected to total approximately 93,000 visitors annually in 2008. This does not include Haines resident traffic or current baseline traffic (the volume of traffic that already travels to or through Haines).

**Employment and population growth:** Haines would see an increase in population with a West Lynn Canal highway. Total new employment related to the West Lynn alternative (including direct and indirect jobs) would be approximately 90 jobs. This employment increase would translate into population growth of about 135 residents, a 6 percent increase in the local population.

**Housing demand:** The demand for housing in Haines would increase along with population growth. Population growth of about 135 residents would translate into demand for approximately 55 additional housing units.

**Local government revenues:** The expected net increase in spending of \$4.6 million annually would generate \$250,000 in annual sales tax revenues (assuming it is all taxed at the city rate of 5.5 percent). Visitor spending would also generate additional bed tax revenues. In addition, an increase in housing demand would lead to some increase in housing values, resulting in a potential increase in property tax revenues (assuming tax rates are held constant). A West Lynn Canal highway would also result in an increase in private property values for real estate located along the highway.

**Public utilities:** Population growth associated with a West Lynn Canal highway would contribute to the need for expansion of water supply facilities. Over the long term, as Haines' population grows, additional wastewater treatment facilities may be required.

**Public Safety:** Increased traffic to and through Haines would place additional demands on the community's fire protection and emergency services. If fire and EMS personnel respond to incidents outside current service areas, it would reduce capacity to deliver normal services while those personnel and equipment are occupied.

## **Skagway**

**Transportation:** The West Lynn Canal alternative would improve transportation to and from Skagway (meaning that the cost, in terms of time and out-of-pocket expenses, would be reduced) for personal vehicle traffic. Two ferry connections would be required for travel to Juneau, however, and the cost and inconvenience associated with these ferry links would constrain travel, relative to the East Lynn Canal alternatives.

The West Lynn Canal alternative would not affect how Skagway is supplied in terms of freight shipments. The cost or frequency of barge service would not change. Freight that

now comes from Juneau on the ferry would be diverted to the West Lynn Canal highway; however, it is not clear that shipping costs between Juneau and Skagway would be reduced, which would depend on the fares charged for commercial vehicles on the ferries.

**Cruise ship traffic:** As is the case with the East Lynn Canal alternatives, cruise ship traffic to Skagway would not be affected by the West Lynn Canal alternative.

**Independent visitors:** A West Lynn Canal highway could result in little change in non-Alaskan visitor travel to and through Skagway and a small increase in Juneau resident travel (because the West Lynn alternative does represent a small improvement in travel to Skagway, in terms of travel convenience and cost). Traffic forecasts indicate that the West Lynn Canal highway would produce new traffic to (and through) Skagway of about 3,000 additional visitors.

**Employment and population growth:** The net economic effect on Skagway is likely to be a very slight increase in that sector of the economy that depends on independent visitor travel. Overall, the employment, payroll, population and local tax effects of the West Lynn Canal highway would be negligible.

## ***Improved AMHS Alternatives***

### ***General Effects***

**Transportation:** The all-marine alternatives would generate traffic ranging from approximately 100 vehicles per day (annual average) to 170 vehicles per day in the first year of operations (between 10 percent and 90 percent above the No Build alternative of about 90 vehicles per day). Alternative 4B would generate the highest volume of traffic and 4C the lowest volume of traffic. Traffic volumes vary among the all-marine alternatives because each has unique user or traveler costs.

Barge service would be unaffected by the all-marine alternatives. Freight that now moves from Juneau to Skagway on the ferry would not be affected, unless costs associated with shipping on fast ferries is higher than on mainline vessels.

**Industry effects:** The all-marine alternatives would have negligible effects on the seafood, mining, and forest products industries.

**Public utilities:** Public utilities in the communities of Juneau, Haines, and Skagway would not be affected with improved AMHS service. Alternative 4B would generate the most traffic among the all-marine alternatives. That alternative would result in increased traffic to Haines and Skagway, which would place additional minor demands on local utilities.

**Public safety:** The all-marine alternatives would have very little impact on public safety. The need to send fire and emergency personnel to address a ferry incident has arisen infrequently in the past. Marine alternatives calling for new terminals north of Auke Bay would be more challenging for public safety personnel than other marine alternatives. Incident response time would increase in proportion to the distance of the new terminals from either downtown Juneau or downtown Skagway.

### ***Juneau***

**Independent visitors:** The AMHS alternatives would have positive impacts on Juneau's visitor industry. To the extent that the AMHS alternatives improve ferry service in Lynn Canal in terms of frequency, convenience, and cost, there would be an increase in the number of independent visitors traveling to Juneau. The all-marine alternatives include continuing mainline service to Haines and Skagway (meaning that mainline ferry travelers need not disembark in Juneau, as would be the case with the highway alternatives). Alternative 4C would have the least impact on visitor traffic (with no increase or decrease expected).

Alternative 4B would have the most impact on visitor traffic (with 23,000 new visitors expected and \$3 million in additional annual spending).

**Employment growth:** Alternative 4B would generate the most job growth in Juneau (60 new jobs) and Alternative 4C the least (no new jobs), among the all-marine alternatives. Alternatives 4A and 4D would generate 30 and 20 jobs, respectively, in 2008.

**Local tax revenues:** Additional visitor traffic to Juneau associated Alternative 4B would account for \$150,000 in additional sales tax revenues to the CBJ. Alternative 4C would not generate new sales tax revenues to the CBJ.

### ***Haines and Skagway***

**Independent visitors:** All-marine alternatives would bring between zero and 18,000 additional visitors to Haines and between zero and 7,000 additional visitors to Skagway. For both communities, Alternative 4B would generate the highest level of new traffic. Alternative 4B could generate up to \$1 million in additional spending in Haines and about half a million in additional spending in Skagway.

**Population and related growth:** Alternative 4B could create 20 new jobs in Haines and approximately 10 jobs in Skagway. The all-marine alternatives would have negligible to minor impacts on Haines' and Skagway's population, housing and real estate markets, and local government revenues.

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## 1.1. Introduction

### 1.1.1. Purpose

The existing public transportation infrastructure of Lynn Canal affects the economic and social conditions in Juneau, Haines, and Skagway and elsewhere in Southeast Alaska. Proposed changes in the regional transportation infrastructure would result in social and economic consequences for these communities.

The *Socioeconomic Effects of Juneau Access Improvement* assesses the effects on Juneau, Haines, and Skagway of a number of improved transportation alternatives. This report provides a complete update of the socioeconomic analysis conducted for the 1997 Draft EIS. It also includes research and analysis not contained in the 1997 report. This technical report supports conclusions outlined in the *Juneau Access Supplemental Draft Environmental Impact Statement (SDEIS)*.

The transportation alternatives researched in this document are outlined below:

- **Alternative 1 – No Build:** The No Build alternative includes a minimum of three mainline vessel round trips per week through Lynn Canal year round. It also includes a dayboat shuttle operating year round between Haines and Skagway. (Actual Haines/Skagway vessel to be determined by an independent Reconnaissance Study.) The No Build alternative is based on the FVF Fairweather operating between Juneau and Haines/Skagway five days per week in summer, two days per week in winter. (Note: in this situation “No Build” means no capital improvements designed specifically for Lynn Canal, other than the Haines/Skagway shuttle, which has independent utility and does not preclude or favor any of the build alternatives.)
- **Alternative 2 – East Lynn Canal Highway with Katzeihin Terminal:** This alternative would construct the East Lynn Canal highway from Echo Cove to Skagway with a shuttle ferry from Katzeihin Delta to Haines. The shuttle ferry would be the vessel identified in the No Build Alternative. Mainline ferry service would end at Auke Bay.

**Alternative 2A. – East Lynn Canal Highway with Berners Bay Shuttle:** This alternative is the same as Alternative 2 (East Lynn Canal highway from Echo Cove to Skagway) with the exception that shuttle ferries would cross Berners Bay from Sawmill Cove to Slate Cove rather than constructing a highway around the Bay. A shuttle ferry would operate from Katzeihin Delta to Haines. As in Alternative 2, the Katzeihin to Haines shuttle ferry would be the vessel identified in the No Build Alternative. Mainline ferry service would end at Auke Bay.

**Alternative 2B. - East Lynn Canal Highway to Katzeihin, shuttles to Haines and Skagway:** This alternative would construct the East Lynn Canal highway from Echo Cove to the Katzeihin Delta, with shuttle ferries providing service from Katzeihin to both Haines and Skagway. Shuttle service from Katzeihin would include the Haines/Skagway shuttle identified in the No Build Alternative. Mainline ferry service would end at Auke Bay.

**Alternative 2C. – East Lynn Canal Highway with shuttle to Haines from Skagway:** This alternative would construct the East Lynn Canal highway

from Echo Cove to Skagway with shuttle ferry service from Haines to Skagway. This alternative deletes the Katzehin ferry terminal; service to and from Haines would be via Skagway using the vessel identified in the No Build Alternative. Mainline ferry service would end at Auke Bay.

- **Alternative 3 – West Lynn Canal Highway:** This alternative would extend Glacier Highway to Sawmill Cove; shuttle ferries (to be determined from a new Marine Segments Report) from Sawmill Cove would run to William Henry Bay. A highway would be constructed from William Henry Bay to Haines via Pyramid Island, connecting to Mud Bay Road. The Haines/Skogway shuttle identified in the No Build Alternative would provide service to and from Skagway. Mainline ferry service would end at Auke Bay.
- **Alternative 4 – Marine Alternatives.** The four marine alternatives would construct new shuttle ferries to operate in addition to continued mainline service in Lynn Canal. All of the alternatives would include a minimum of two mainline vessel round trips per week, year-round, and continuation of the Haines/Skogway shuttle service provided by the *M/V Aurora*. The *M/V Fairweather* would no longer operate in Lynn Canal. All of these alternatives would require construction of a new double stern berth at Auke Bay.

**Alternative 4A – FVF Shuttle Service from Auke Bay.** This alternative would construct two FVFs to provide daily service from Auke Bay to Haines and to Skagway

**Alternative 4B – FVF Shuttle Service from Berners Bay.** This alternative would extend Glacier Highway 5.2 miles from Echo Cove to Sawmill Cove where a new ferry terminal would be constructed. Two FVFs would be constructed to provide daily service from Sawmill Cove to Haines and to Skagway in the summer and from Auke Bay to Haines and to Skagway in the winter.

**Alternative 4C – Conventional Monohull Shuttle Service from Auke Bay.** This alternative would construct two conventional monohull vessels to provide daily summer service from Auke Bay to Haines and to Skagway. In winter shuttle service to Haines and Skagway would be provided on alternative days.

**Alternative 4D – Conventional Monohull Shuttle Service from Berners Bay.** This option would extend Glacier Highway 5.2 miles from Echo Cove to Sawmill Cove where a ferry terminal would be constructed. Two conventional monohull vessels would be constructed to provide daily service from Sawmill Cove to Haines and to Skagway in the summer and alternating day service from Auke Bay to Haines and to Skagway in the winter.

### 1.1.2. Methodology

The findings summarized in this document are based upon a combination of primary and secondary research.

Primary research includes interviews with Juneau, Haines, and Skagway businesses, government, and other community representatives. In addition executive interviews were conducted with state and local government agencies throughout the research process in order to gather data and assess the effects on the various transportation alternatives.

Additional primary research included the *2003 Juneau Access Household Survey* in which a random sample of households in each of the affected communities was contacted: 365 in Juneau, 150 in Haines, 104 in Skagway, and 100 in Whitehorse. The purpose of the survey was to evaluate current travel patterns, transportation needs, and preferences for potential transportation improvements in Lynn Canal. For full reporting and documentation of the survey please refer to the *Juneau Access Household Survey Results: Juneau, Haines, Skagway, & Whitehorse*.

Secondary research used in the preparation of this document included data gathered, published, and prepared by local, state, and federal governmental agencies, as well as private sector entities. Please refer to the bibliography for a full listing of agencies contacted for secondary research data.

Based upon the primary and secondary research conducted, this report identifies probable economic and social effects of each improved access alternative.

### 1.1.3. Report Outline

This report has two chapters following this introduction:

- **Chapter 2 – Baseline Conditions:** Chapter 2 reviews the economic and social baseline conditions of Juneau, Haines, and Skagway. The chapter has three major sections for each of the affected communities. The first section includes demographics, economic conditions, basic and support sector industries, and municipal finances. The second section outlines the public utility infrastructure for each community while the third section describes the social condition including education, healthcare, and public safety in each community.
- **Chapter 3 – Effects of Access Improvements:** Chapter 3 also has three major sections outlining the effects of improved access on: economics, public utilities, and social environment. Within each section are four subsections, one for each transportation alternative, outlining pertinent effects to the communities of Juneau, Haines, and Skagway.

## 2. BASELINE CONDITIONS

### 2.1. Economic Conditions

#### 2.1.1. City and Borough of Juneau

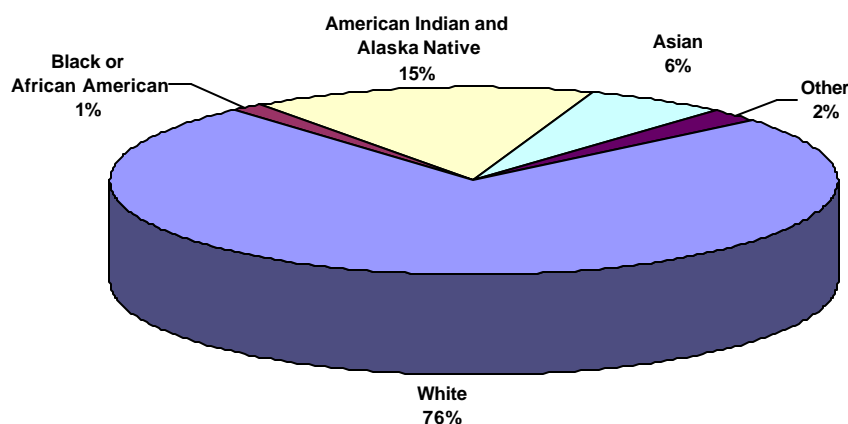
This section outlines Juneau's historical and current economic conditions. In addition, the section includes a population forecast (2003 to 2035), assuming no major changes in Juneau's transportation infrastructure.

##### 2.1.1.1. Demographics

The 2000 Census counted 30,711 residents living in Juneau, averaging 2.66 persons per household (based on 11,543 occupied housing units). This is an increase in population from the 1990 Census when 26,751 individuals lived in Juneau and reflects a slight drop in the number of persons per household (2.70 in the 1990 Census with 9,902 occupied housing units). Approximately three-fourths (72.6 percent) of Juneau residents are 18 years of age or older. Males outnumber females slightly, 50.4 percent to 49.6 percent respectively.

According to the 2000 Census, more than three-quarters of Juneau's population is white (76 percent) and 15 percent are American Indian and Alaska Native. Another 6 percent are Asian, one percent Black or African American, and the rest are Native Hawaiian and Other Pacific Islander or some other race. (See Figure 1.)

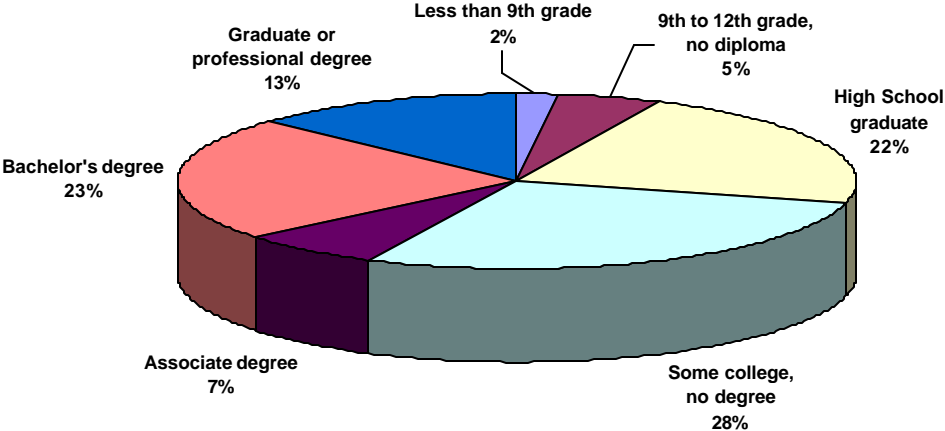
**Figure 1**  
**City and Borough of Juneau**  
**Racial Composition of Population - 2000**



Source: U.S. Census Bureau, 2000 Census.

Educational demographic data indicate that 93.2 percent of Juneau residents who are 25 years and older have completed high school. Individuals holding at least an associate's degree number 43 percent and 36 percent hold a bachelor's degree or higher. (See Figure 2.) This compares to the 1990 Census when 38 percent of the population held at least an associate's degree and 31 percent of the population held a bachelor's degree or higher.

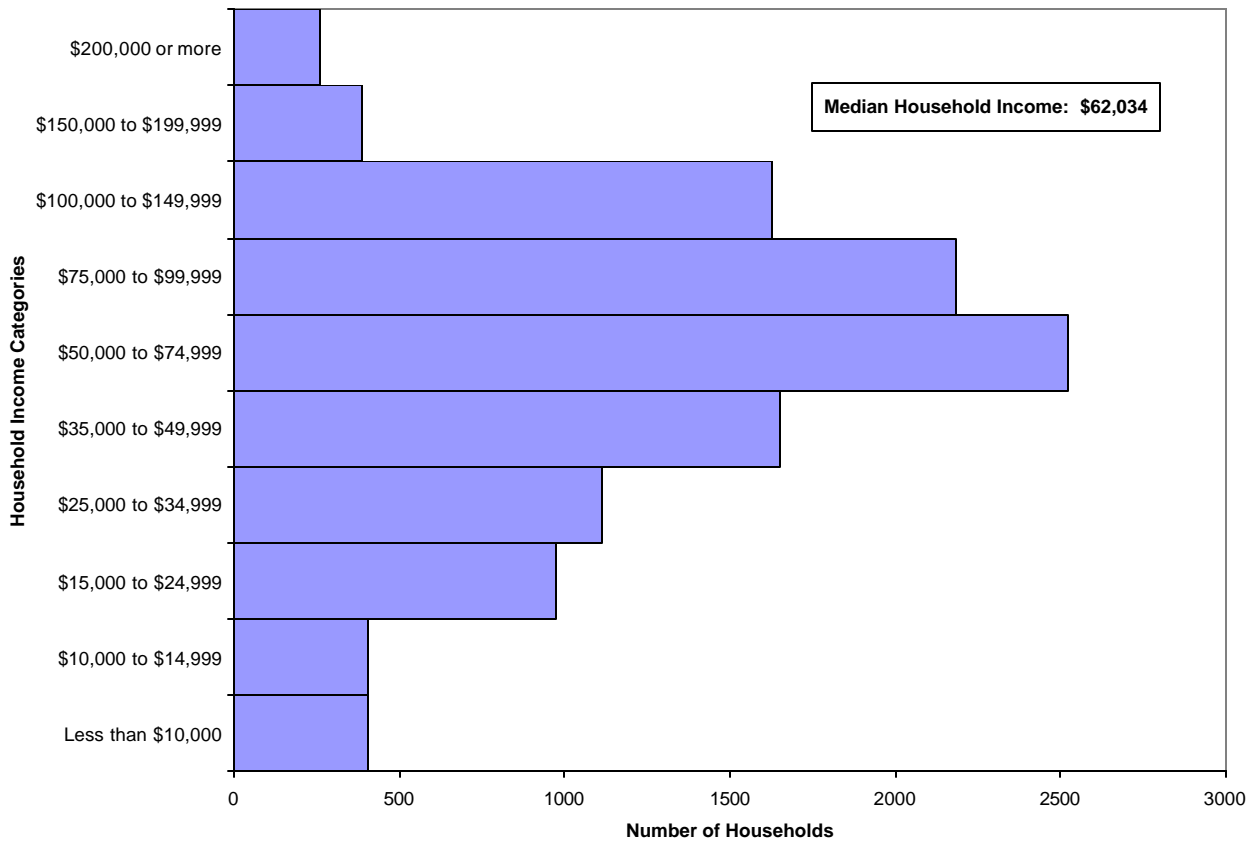
**Figure 2**  
**City and Borough of Juneau**  
**Educational Attainment of Population - 2000**



Source: U.S. Census Bureau, 2000 Census.

There were 11,534 households counted in Juneau in the 2000 Census. Among Juneau households, 15.5 percent had incomes less than \$25,000 in 1999, and 6 percent of all individuals living in Juneau had incomes below the poverty line. More than 60 percent of the area households had incomes of over \$50,000, with almost 38 percent earning \$75,000 or more. Median household income was \$62,034 and per capita income was \$26,719. (See Figure 3.)

**Figure 3**  
**City and Borough of Juneau**  
**Annual Household Income - 1999**



Source: U.S. Census Bureau, Census 2000.

### 2.1.1.2. Population

The population of Juneau has increased 128 percent since 1970. This is an average annual rate of growth of 2.9 percent. The 1990's brought a much slower pace of growth than previous decades, with population increasing about 16 percent from 1990 to 2002, an average annual growth rate of 1.2 percent. During the 1980's population change was irregular in Juneau, with phenomenal growth in some years (13 percent in 1982) and declines in others (1980, 1987, 1988, and 2001). (See Table 1.)

**Table 1  
City and Borough of Juneau Population  
1970 - 2002**

Year	Juneau	Annual Number Change	Annual Percent Change	Five Year Average Rate of Change	Ten Year Average Rate of Change	Twenty Year Average Rate of Change
1970	13,556					
1971	14,700	1,144	8.4%			
1972	15,200	500	3.4%			
1973	15,900	700	4.6%			
1974	16,600	700	4.4%			
1975	17,600	1,000	6.0%			
1976	18,600	1,000	5.7%			
1977	19,100	500	2.7%	4.7%		
1978	19,400	300	1.6%			
1979	19,900	500	2.6%			
1980	19,528	(372)	-1.9%			
1981	20,494	966	4.9%			
1982	23,155	2,661	13.0%	3.9%	4.3%	
1983	24,985	1,830	7.9%			
1984	26,206	1,221	4.9%			
1985	27,117	911	3.5%			
1986	27,685	568	2.1%			
1987	26,800	(885)	-3.2%	3.0%	3.4%	
1988	26,064	(736)	-2.7%			
1989	26,305	241	0.9%			
1990	26,751	446	1.7%			
1991	27,579	828	3.1%			
1992	28,253	674	2.4%	1.1%	2.0%	3.1%
1993	28,448	195	0.7%			
1994	28,454	6	0.0%			
1995	28,700	246	0.9%			
1996	29,230	530	1.8%			
1997	29,713	483	1.7%	1.0%	1.0%	2.2%
1998	30,021	308	1.0%			
1999	30,189	168	0.6%			
2000	30,711	522	1.7%			
2001	30,675	(36)	-0.1%			
2002	30,981	306	1.0%	0.8%	0.9%	1.5%

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section, Demographics Unit. Rates of change calculated by McDowell Group.

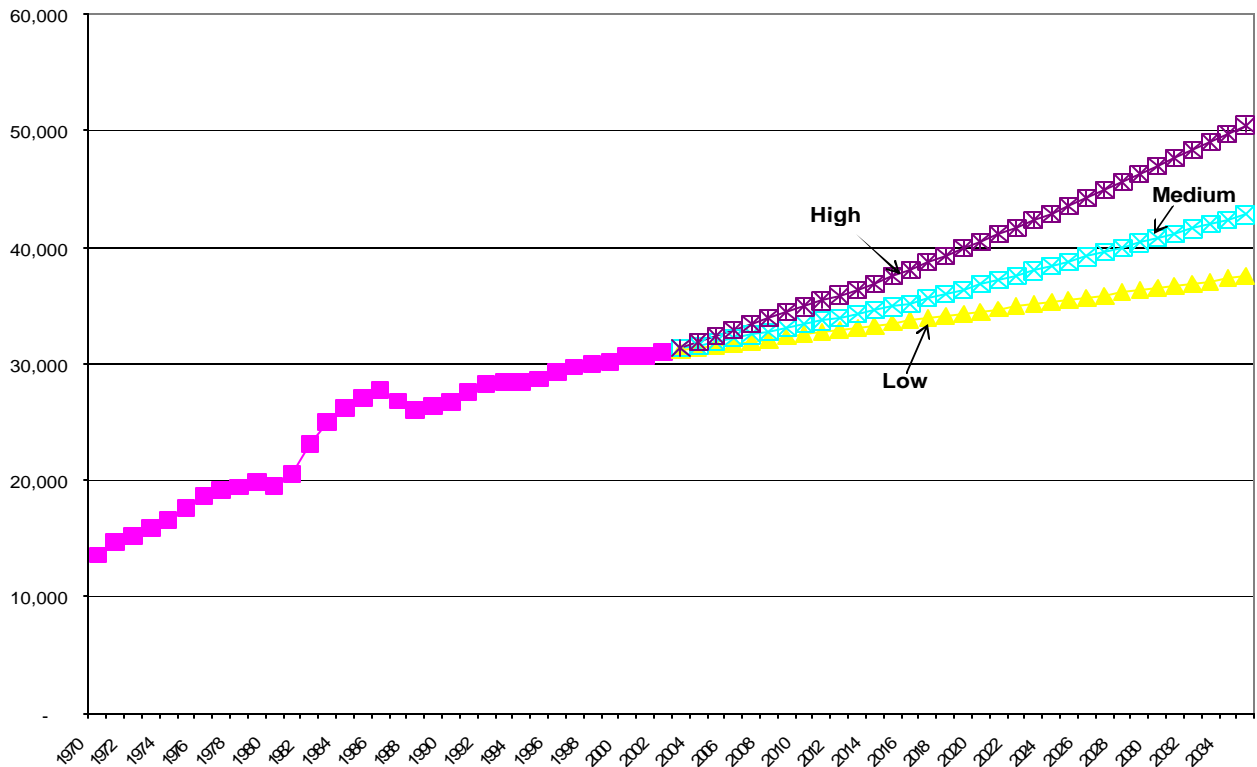
It had been predicted that Juneau's population would decline through the latter half of the 1990s. Anticipated declines in oil revenues and related state government spending were cited as reasons for the decline. The predicted population declines for Juneau did not materialize, however, because of continued deficit spending by state government. State spending continues to outpace revenues resulting in a steady decline in the Budget Reserve Fund.

### 2.1.1.3. Population Forecast

There is considerable uncertainty in forecasting Juneau's population because it is not possible to predict when or how state government will choose to deal with continuing revenue shortfalls. The opening of the Arctic National Wildlife Reserve to oil drilling or the construction of an Alaskan route for a natural gas pipeline could temporarily mitigate some of the budget deficit. Implementation of some new tax structure could also ensure that state programs will continue uninterrupted. However, the current administration is considering taxes or use of the Permanent Fund Dividend to cover state government revenue shortfalls. This limits the options for continued state operations at the current levels. State government employment losses, should they materialize, would result in population decline in Juneau over the next several years.

A recent McDowell Group study completed for the City and Borough of Juneau examined long-term population growth for the purpose of predicting traffic patterns for the Juneau Second Crossing project. McDowell Group predicted low, medium, and high growth population scenarios for 30 years of 0.5, 1.0, and 1.5 percent average annual growth. Under the low growth scenario, Juneau population reaches 37,500 in 30 years. The low growth forecast assumes that the Legislature and Capital remain in Juneau. If the State Capital were to move, Juneau's population would decline dramatically. Under the high growth scenario, the population grows to 50,500. All growth forecasts presented here for Juneau's population assumes that some new program for revenue enhancement by the state is initiated and that state government employment in Juneau stabilizes.

**Figure 4**  
**City and Borough of Juneau**  
**Historical Population and Forecast – 1970 through 2035**



Source: U.S. Census Bureau and the State of Alaska Department of Labor, Research and Analysis Section, Demographics Unit. 2004 through 2035 low/medium/high projections are McDowell Group estimates.

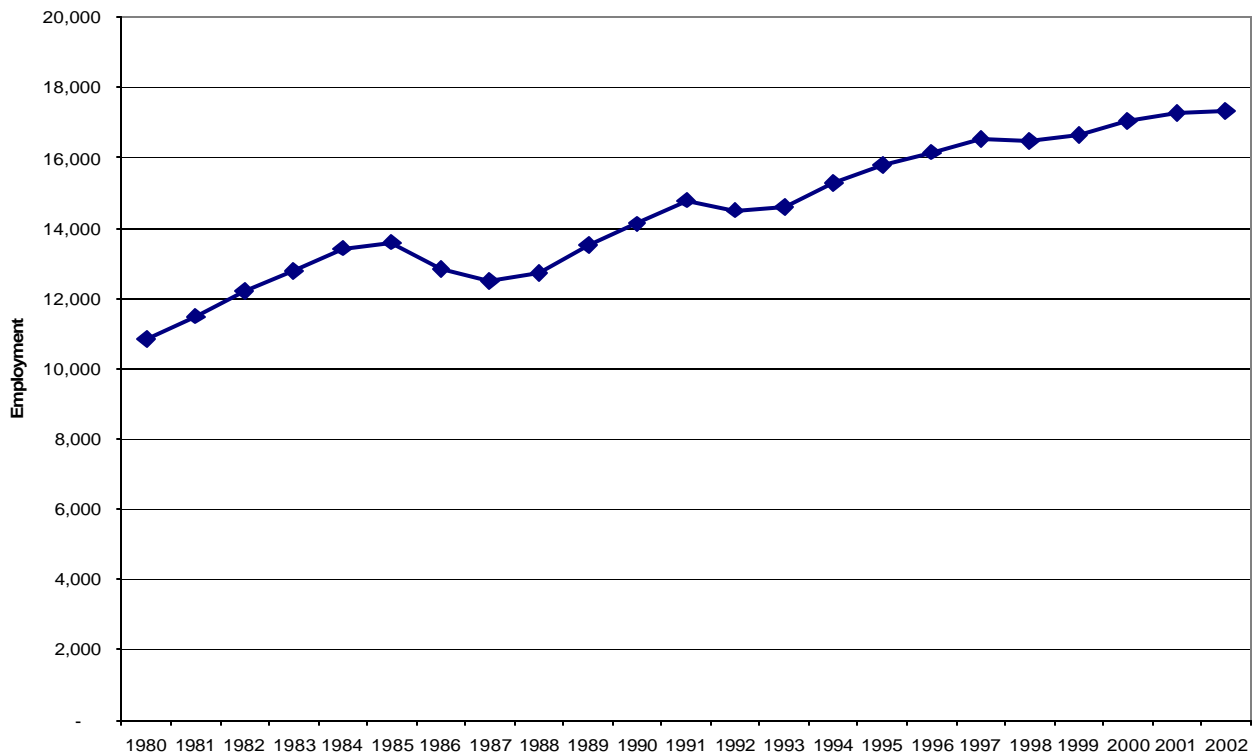


#### 2.1.1.4. Employment and Payroll

According to the Alaska Department of Labor and Workforce Development (DOL&WD), annual average employment in Juneau reached 17,331 jobs in 2002 (this is total wage and salary employment, which does not include uniformed military personnel or self-employed individuals such as commercial fishermen).

Since 1980, employment in the City and Borough of Juneau has grown almost 60 percent, rising at an average annual rate of 2.2 percent. (See Figure 5 for a graph of Juneau's average annual employment.)

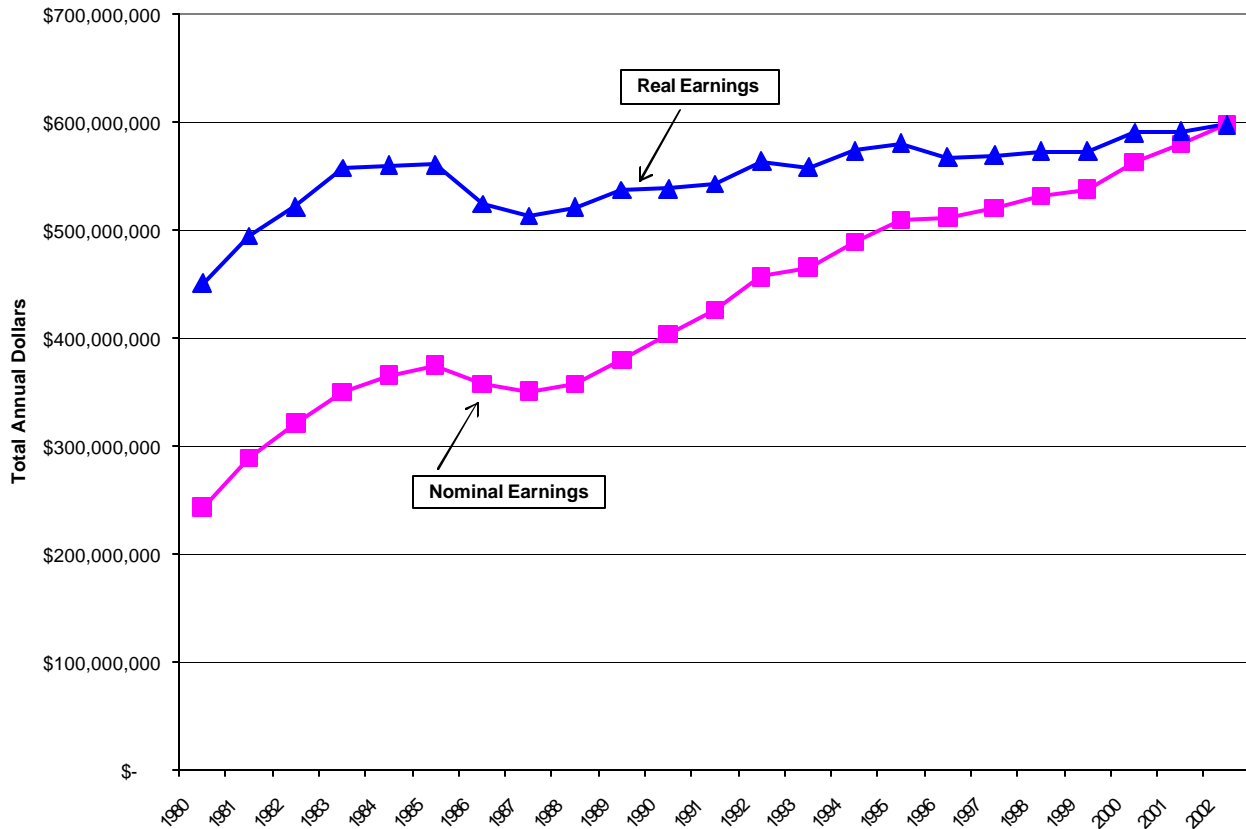
**Figure 5**  
**City and Borough of Juneau**  
**Average Annual Employment – 1980 through 2002**



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section, Employment and Earnings Summary Report for the years 1980 through 2002.

Juneau’s payroll totaled \$598 million in 2002. In inflation adjusted “real” dollars, total annual payroll in Juneau has increased by approximately 33 percent since 1980, rising at an average annual rate of 1.3 percent. Payroll was adjusted using the Bureau of Labor Statistics Consumer Price Index for Municipality of Anchorage – All Items - All Urban Consumers (CPI-U). (See Figure 6.)

**Figure 6**  
**City and Borough of Juneau**  
**Total Annual Payroll (Real and Nominal Dollars) – 1980 through 2002**



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section, Employment and Earnings Summary Report for the years 1980 through 2002. Conversion to real dollars (CPI-U Anchorage) was calculated by the McDowell Group.

Last year (2002) was the first year DOL&WD used the North American Industry Classification System (NAICS) for recording industry employment. This is a change from the previous Standard Industry Classification (SIC) system which focused on goods-producing industries. The NAICS is based on a production oriented framework. This means that producing units using identical or similar production processes are grouped together. In simpler terms, SIC was based on what was produced while NAICS is based on how products and services are produced.<sup>1</sup> For this reason, comparison to previous year’s detailed industry employment and earnings is not possible. This shift in classification reflects an effort to achieve compatibility with the International Standard Classification of Economic Activities of the United Nations.

<sup>1</sup> Alaska Economic Trends, July 2002, Industry Classification System Changes by Neal Gilbertsen, Labor Economist.

Government is Juneau's most important source of employment, accounting for 43 percent of total employment. State government alone accounts for 26 percent of employment and local government makes up another 12 percent. (See Table 2.) Service-providing industries in Juneau comprise 35 percent of the total annual wage and hour earnings and account for 48 percent of the jobs. Trade, transportation, and utilities falls in third place with 17 percent of employment and local government follows with 12 percent of total employment.

The Leisure and Hospitality industry is a new classification under the NAICS system. It accounts for 10 percent of total annual employment. This industry has average monthly employment of 1,766 workers but peaked at 2,091 workers in June of 2002. These positions are mostly seasonal, lower-paying jobs, capturing only 4 percent of total wage and hour earnings.

The percentage of government workers in the economy has fallen since 1993, from 47.5 to 43.4 percent while actual government employment increased by 578. The number of federal government workers fell from 961 in 1993 to 891 in 2002. Government earnings comprises 53 percent of the total wage and hour earnings of workers in Juneau, down from 61 percent in 1993.

**Table 2**  
**City and Borough of Juneau**  
**Industry Employment and Earnings - 2002**

	Average Monthly Employment	Percent of Total Employment	Total Annual Earnings	Percent of Total Annual Earnings
<b>TOTAL INDUSTRIES</b>	<b>17,331</b>	<b>100.0%</b>	<b>597,724,359</b>	<b>100.0%</b>
<b>TOTAL GOVERNMENT</b>	<b>7,518</b>	<b>43.4%</b>	<b>315,983,029</b>	<b>52.9%</b>
FEDERAL GOVERNMENT	891	5.1%	54,530,713	9.1%
STATE GOVERNMENT	4,541	26.2%	181,696,844	30.4%
LOCAL GOVERNMENT	2,087	12.0%	79,755,472	13.3%
<b>PRIVATE OWNERSHIP</b>	<b>9,812</b>	<b>56.6%</b>	<b>281,741,330</b>	<b>47.1%</b>
<b>GOODS-PRODUCING</b>	<b>1,481</b>	<b>8.5%</b>	<b>74,428,190</b>	<b>12.5%</b>
<b>NATURAL RESOURCE &amp; MINING</b>	<b>362</b>	<b>2.1%</b>	<b>24,317,063</b>	<b>4.1%</b>
Agriculture, Forestry, Fishing, Hunting	78	0.4%	**	**
Mining	284	1.6%	**	**
<b>CONSTRUCTION</b>	<b>901</b>	<b>5.2%</b>	<b>44,362,971</b>	<b>7.4%</b>
Construction of Buildings	212	1.2%	3,144,968	0.5%
Heavy Construction	254	1.5%	6,816,139	1.1%
Specialty Trade Contractors	435	2.5%	18,630,048	3.1%
<b>MANUFACTURING</b>	<b>218</b>	<b>1.3%</b>	<b>5,748,156</b>	<b>1.0%</b>
Food	77	0.4%	883,083	0.1%
Beverage & Tobacco Products	50	0.3%	**	**
Printing & Support Activities	51	0.3%	1,253,617	0.2%
<b>SERVICE-PROVIDING</b>	<b>8,332</b>	<b>48.1%</b>	<b>207,313,140</b>	<b>34.7%</b>
<b>TRADE, TRANS. &amp; UTILITIES</b>	<b>2,916</b>	<b>16.8%</b>	<b>77,023,435</b>	<b>12.9%</b>
Wholesale Trade	187	1.1%	**	**
Retail Trade	1,942	11.2%	44,417,948	7.4%
Motor Vehicle & Parts Dealers	171	1.0%	6,078,100	1.0%
Building Material & Garden	123	0.7%	2,734,162	0.5%
Food & Beverages	468	2.7%	9,476,285	1.6%
General Merchandise	494	2.8%	11,411,087	1.9%
Miscellaneous	237	1.4%	5,559,116	0.9%
Transportation & Warehousing	730	4.2%	23,341,797	3.9%
Air Transportation	337	1.9%	10,740,556	1.8%
Water Transportation	72	0.4%	**	**
Truck Transportation	95	0.5%	3,049,155	0.5%
Scenic & Sightseeing	135	0.8%	3,262,391	0.5%
<b>INFORMATION</b>	<b>291</b>	<b>1.7%</b>	<b>11,203,372</b>	<b>1.9%</b>
Publishing, except Internet	80	0.5%	2,722,025	0.5%
Broadcasting, Except Internet	71	0.4%	1,806,428	0.3%
Telecommunications	98	0.6%	5,972,358	1.0%
<b>FINANCIAL ACTIVITIES</b>	<b>481</b>	<b>2.8%</b>	<b>17,225,443</b>	<b>2.9%</b>
Finance & Insurance	236	1.4%	10,469,345	1.8%
Credit Intermediation, etc.	118	0.7%	4,923,297	0.8%
Funds, Trusts, etc.	65	0.4%	3,856,434	0.6%
Real Estate, Rental & Leasing	244	1.4%	6,756,098	1.1%
Real Estate	209	1.2%	6,317,253	1.1%
Rental & Leasing Svcs.	35	0.2%	438,845	0.1%
<b>PROFESSIONAL &amp; BUSINESS SVCS.</b>	<b>824</b>	<b>4.8%</b>	<b>24,689,068</b>	<b>4.1%</b>
Professional, Scientific, Tech.	374	2.2%	12,388,925	2.1%
Mgmt. of Companies & Enterprises	59	0.3%	2,663,734	0.4%
Administrative & Waste Svcs.	391	2.3%	9,636,409	1.6%
<b>EDUCATIONAL &amp; HEALTH SVCS.</b>	<b>1,513</b>	<b>8.7%</b>	<b>41,082,416</b>	<b>6.9%</b>
Health Care & Social Assistance	1,497	8.6%	40,884,629	6.8%
Out Patient Health Care	592	3.4%	19,206,504	3.2%
Nursing & Residential Care	275	1.6%	8,303,908	1.4%
Social Assistance	630	3.6%	13,374,217	2.2%
<b>LEISURE &amp; HOSPITALITY</b>	<b>1,766</b>	<b>10.2%</b>	<b>22,906,470</b>	<b>3.8%</b>
Arts, Entertainment & Recreation	546	3.1%	5,077,681	0.8%
Amusements, Gambling, Recreation	1,220	7.0%	17,828,789	3.0%
Accommodation	516	3.0%	8,135,704	1.4%
Food Services & Drinking Places	705	4.1%	9,693,085	1.6%
<b>OTHER SERVICES</b>	<b>541</b>	<b>3.1%</b>	<b>13,182,936</b>	<b>2.2%</b>
Repair & Maintenance	71	0.4%	1,873,426	0.3%
Personal & Laundry	98	0.6%	1,568,855	0.3%
Membership Organizations, etc.	339	2.0%	9,222,268	1.5%

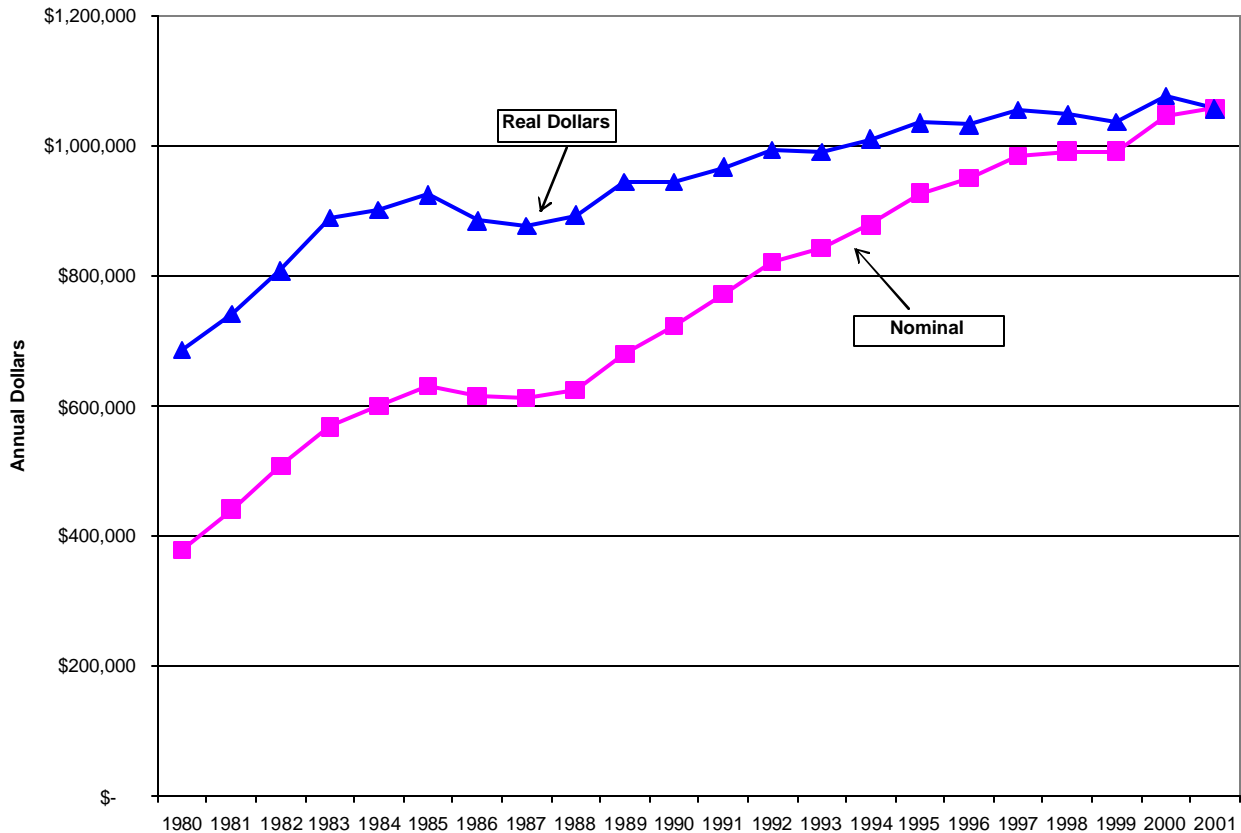
\*\* Data non-disclosable for confidentiality reasons.

Source: Alaska Department of Labor and Workforce Development

### 2.1.1.5. Personal Income

Juneau's personal income totaled \$1.06 billion in 2001 (the most recent available data). Between 1980 and 2001, real personal income in Juneau grew by approximately 54 percent, an average annual rate of 2.2 percent.

**Figure 7**  
**City and Borough of Juneau**  
**Personal Income (Real and Nominal Dollars in thousands)**  
**1980 through 2001**

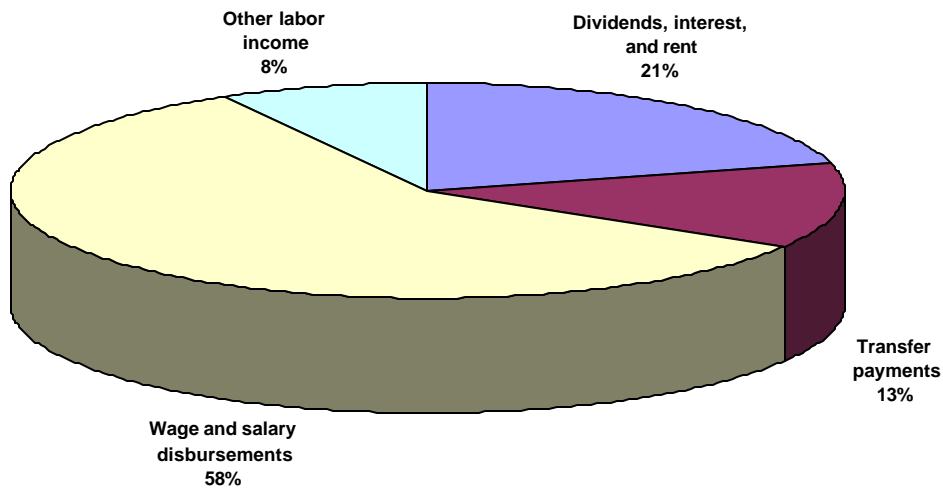


Source: Nominal Personal Income is provided by the U.S. Bureau of Economic Analysis. Conversion to real dollars (CPI-U Anchorage) was calculated by the McDowell Group.

Personal income took a dip in the mid to late 1980's similar to the change in payroll for this period. The loss of over 1,000 state government and construction jobs accounted for this decline.

A large part of personal income is attributed to transfer payments (13 percent), dividends, interest, and rents (21 percent) as shown in Figure 8. Wage and salary disbursements in 2001 accounted for the largest portion of personal income, 58 percent.

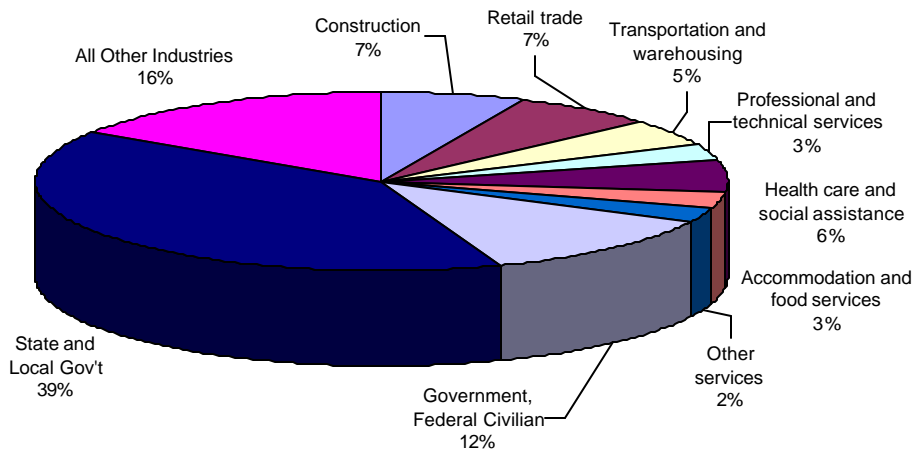
**Figure 8**  
**City and Borough of Juneau**  
**Personal Income by Source - 2001**



Source: U.S. Bureau of Economic Analysis – 2001.

As illustrated in Figure 9, the largest percentage of personal income attributed to “earnings by industry” is state and local government. When combined with federal (civilian) government income, personal income attributed to all government is over 50 percent. Construction and retail trade both provide 7 percent of the total personal income of Juneau residents.

**Figure 9**  
**City and Borough of Juneau**  
**Personal Income by Industry - 2001**



Source: U.S. Bureau of Economic Analysis – 2001.

The most recent personal income data available from the U.S. Bureau of Economic Analysis is for 2001 and presented in Table 3.

**Table 3**  
**City and Borough of Juneau**  
**Personal Income - 2001**

Personal Income Calculation	Amount
<b>Total Personal Income</b>	\$ 1,057,104,000
Nonfarm Personal Income	\$ 1,057,359,000
Farm income	\$ (255,000)
<b>Population</b>	30,652
<b>Per Capita Income</b>	\$ 34,487
<b>Derivation Total Personal Income</b>	
Earnings by Place of Work	\$ 754,822,000
Less Personal contribution for social insurance	\$ (29,687,000)
Plus Adjustment for residence	\$ (23,879,000)
Equals Net earnings by place of residence	\$ 701,256,000
Plus Dividends, interest, and rent	\$ 219,718,000
Plus Transfer payments	\$ 136,130,000
<b>Equals Total Personal Income</b>	<b>\$ 1,057,104,000</b>
<b>Components of Earnings</b>	
Wage and salary disbursements	\$ 616,119,000
Other labor income	\$ 94,563,000
Proprietors' income	\$ 44,140,000
Farm proprietors' income	\$ (305,000)
Nonfarm proprietors' income	\$ 44,445,000
Farm Earnings	\$ (255,000)
<b>Earnings by Place of Work</b>	<b>\$ 754,822,000</b>
<b>Earnings by Industry</b>	
Farm	\$ (255,000)
Nonfarm	\$ 755,077,000
<b>Private Earnings</b>	<b>\$ 365,341,000</b>
Forestry, fishing, related activities, and other	(D)
Mining	(D)
Utilities	(D)
Construction	\$ 50,393,000
Manufacturing	\$ 9,154,000
Durable goods manufacturing	\$ 1,717,000
Nondurable goods manufacturing	\$ 7,437,000
Wholesale trade	(D)
Retail trade	\$ 50,100,000
Transportation and warehousing	\$ 38,063,000
Information	\$ 14,853,000
Finance and insurance	\$ 14,511,000
Real estate and rental and leasing	\$ 9,582,000
Professional and technical services	\$ 20,307,000
Educational services	\$ 809,000
Health care and social assistance	\$ 45,158,000
Arts, entertainment, and recreation	\$ 16,880,000
Accommodation and food services	\$ 23,346,000
Other services, except public administration	\$ 18,731,000
<b>Government and government enterprises</b>	<b>\$ 389,736,000</b>
Federal, civilian	\$ 69,872,000
Military	\$ 19,463,000
State and local	\$ 300,401,000

(D) Not shown to avoid disclosure of confidential information, but the estimates for this item are included in the totals.

Source: U.S. Bureau of Economic Analysis

### 2.1.1.6. Basic Industries

Basic industries are those that draw income into the community from sources outside the local economy. Key basic industries for the City and Borough of Juneau (CBJ) are state government, federal government, tourism, mining, commercial fishing, and seafood processing.

#### State Government

State government is Juneau's largest basic industry. The DOL&WD reported that 4,541 workers were employed with state government in 2002. These workers earned \$181 million in 2002, 30 percent of total wage and hourly earnings in the CBJ.

State government's role in the economy has declined since 1980 when the state accounted for 36 percent of all Juneau employment. Total state employment increased from 3,877 jobs in 1980 to 4,541 in 2002, yet the state accounted for 26 percent of Juneau employment in 2002. This relative decline in employment is the result of more rapid growth in other parts of Juneau's economic base and support sectors.

**Table 4**  
**City and Borough of Juneau**  
**State Government Employment – 1980 to 2002**

Year	Total Juneau Employment	State Employment	Percent of Total Juneau Employment
1980	10,838	3,877	35.8%
⋮			
1990	13,772	4,535	32.9%
⋮			
1997	16,518	4,232	25.6%
1998	16,461	4,237	25.7%
1999	16,660	4,271	25.6%
2000	17,047	4,288	25.2%
2001	17,288	4,444	25.7%
2002	17,331	4,541	26.2%

Source: State of Alaska Department of Labor and Workforce Development, Research and Analysis Section, Employment and Earnings Summary Reports various years.

The prospect of a capital move is always a consideration when examining the future role of state government in Juneau's economy. A capital move would cost the community about one-third of its economy.<sup>2</sup> A capital move notwithstanding, it is the level of state services required by Alaskans, and their willingness to pay for those services, that will ultimately determine future state employment in Juneau. As oil revenues diminish and state budgets are cut, more and more Alaskans will begin to feel the impacts of reduced government services. Eventually, the level of state service will fall below the acceptable level of most Alaskans. At that time, the state will find other sources of revenue and fund services to meet the basic demands of the population.

<sup>2</sup> *The Capital Economy – An Assessment of the Economic Impacts of a Capital Move on Southeast Alaska* prepared for the Alaska Committee by the McDowell Group, Inc., August 2002.



## Federal Government

Federal agencies provide services of national interest to the Southeast Alaska region and throughout the state. The Coast Guard is the largest federal employer in Juneau (275 uniformed and civilian workers), followed by the Forest Service (265 jobs), the National Oceanic and Atmospheric Administration (NOAA, 200 jobs), and others. Federal government employment declined from a high of almost 1,300 in the early 1990's to about 900 workers in 2002. Federal government employment is important in Juneau because the jobs are stable, year-round, and pay about 75 percent more than the community average. Over the long term, federal employment is expected to remain reasonably stable, with growth in proportion to the state's population and economy.

## Mining

The Greens Creek Mine is Juneau's largest private sector employer. The mine employs 260 workers and has a projected life of about 10 more years. Located on Admiralty Island, the mine is one of the nation's largest silver producers. Greens Creek employees live in Juneau and commute to the mine on a daily basis. In 1996, Congress passed and President Clinton signed into law, a land exchange with the U.S. Forest Service that provides Greens Creek with access and mineral rights to an additional 7,500 acres surrounding the property. This land, which was previously closed to exploration, has good mineral potential and may extend Greens Creek's reserves and mine life.<sup>3</sup>

The Kensington Gold Project is located approximately 45 air miles north of Juneau and is owned by Coeur d'Alene Mines Corporation. The mine site is within the City and Borough of Juneau and the Tongass National Forest. Active mining occurred at the Kensington from 1897 through 1938. The adjacent Jualin project was discovered in 1895 and operated from 1896 to 1928. Both mines have now been consolidated. Coeur Alaska anticipates receiving all necessary permits for the mine by the end of January 2004.<sup>4</sup> The company will then prepare an updated feasibility study and, if economically feasible, proceed with mine development. The project will employ approximately 300 to 400 people during a 22-month construction period and 225 full-time workers once production begins.<sup>5</sup> Annual payroll is expected to total \$16 million. Kensington has an expected life of 10 years, though additional ore discovery could extend the operating life of the mine. The monitoring and reclamation phase following mine closure is expected to last 5 years and employ 30 to 50 workers.

A Canadian mine, the Tulsequah Chief Mine project, and owner Redfern Resources Ltd., recently received government approval to commence mine development. The mine is located along the Taku River valley at the base of Mount Eaton, which is 60 miles south of Atlin in northwestern British Columbia and 38 miles northeast of Juneau. Because the Tulsequah Mine will be supported out of British Columbia, the project will have relatively little impact on Juneau's economy. An adjacent mine site, Big Bull, was also scheduled to begin drilling in the 2003 field season. A 96 mile access road from Atlin to the mine site is scheduled for upgrades for the eventual transport of copper, lead, zinc, gold, and silver production.

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<sup>3</sup> Greens Creek Mining Company, <http://www.kennecottminerals.com/mines/greens.html>.

<sup>4</sup> Coeur d'Alene Mines Corporation news release July 28, 2003.

<sup>5</sup> Alaska Department of Natural Resources, Division of Mining, Land & Water, <http://www.dnr.state.ak.us/mlw/mining/kensington/>

## Tourism

The most recent, comprehensive study of the economic impact of tourism in Juneau was prepared in 1996.<sup>6</sup> That study, conducted by the McDowell Group for the CBJ, found that the visitor industry employed an annual average of 1,460 workers and generated \$24 million in annual payroll, as of 1994. This visitor industry employment included 630 jobs created as a result of cruise ship passenger spending and 830 jobs stemming from independent visitor spending (including convention visitors).

Since that study was completed, only the economic impact of the cruise industry has been re-examined. A 2000 McDowell Group study found that the cruise industry generated 748 jobs and \$15.2 million in payroll in Juneau in 1999.<sup>7</sup> A 2001 McDowell Group study found that cruise passengers spend an average of \$122 per person while in Juneau during their typical one-day stay. Airline passengers spend an average of \$344 per person per trip, with an average 7.2 nights spent in Juneau.<sup>8</sup>

In general, the independent visitor market has been flat in Alaska over the last several years; however, some growth in Juneau's visitor industry has occurred. For example, employment in hotels increased by about 125 jobs between 1994 and 2001. Current employment in Juneau's visitor industry is estimated at about 1,650 jobs with total annual payroll of approximately \$30 million.

The tourism industry has been Juneau's fastest growing industry. Juneau cruise passenger volume has more than doubled in the last decade reaching almost 770,000 visitors for 2003. (See Figure 10.) The Juneau Convention and Visitors Bureau estimates that between 100,000 and 150,000 visitors arrive annually by non-cruise modes of travel.

The size and condition of Juneau's independent visitor market (those visitors arriving by air or ferry) is difficult to measure. The last survey research measuring independent visitor traffic to Juneau was in 1993. At that time 86,400 independent visitors came to Juneau. Trends in the independent market since 1993 are not well understood, but are reflected in airline and ferry arrival data. Between 1993 and 2002, airline passenger traffic has increased by about 16 percent, while ferry passenger traffic has increased by only 4 percent. During the same period, Juneau's population increased by about 9 percent. The increase in air travel to Juneau is likely the result of a combination of increased resident travel (from population growth) and from increased visitor arrivals. In any case, this data suggests only slow growth in Juneau's independent visitor market. The 2002 total is probably between 95,000 and 110,000 visitors. This total does not include residents of outlying communities or other parts of Alaska who travel to Juneau to shop, seek health care services, or conduct business.

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<sup>6</sup> *Juneau's Visitor Industry – An Economic Impact Study* prepared for the Tourism Working Group of the City and Borough of Juneau by the McDowell Group, Inc. in March 1996.

<sup>7</sup> *Economic Impact of the Cruise Industry in Southeast Alaska*, prepared for the Southeast Conference by the McDowell Group, October 2000.

<sup>8</sup> *Survey on Juneau Visitor Center Needs* prepared by the City and Borough of Juneau by the McDowell Group, Inc. - November 2001.

**Table 5  
Airline and Ferry Passenger Traffic to Juneau  
1993 to 2003**

	Ferry Passengers*	Airline Passengers*
1993	69,683	200,066
1994	73,833	233,917
1995	72,074	246,620
1996	71,577	234,720
1997	68,552	235,402
1998	71,377	239,648
1999	80,660	243,414
2000	75,463	271,637
2001	64,334	275,500
2002	72,782	264,710
2003 (Preliminary)	67,381	265,236

\*Disembarking ferry passengers and jet passenger arrivals.

*Source:* Alaska Marine Highway System (AMHS) 2002 Traffic Report for ferry passengers. Airline passenger data obtained from Juneau International Airport (JIA) manager's office.

Over the past few years the Alaska independent visitor market overall has apparently declined, according to the best available data. Based on Alaska Visitors Statistics Program data, Alaska independent, pleasure-related visitor traffic declined from 300,000 visitors in 1993 to about 275,000 visitors in 2001. Available data suggests that this decline continued through 2002. The number of visitors arriving by highway has declined steadily, as has the number of visitors arriving by ferry. The outlook for Alaska's independent visitor market is uncertain. In the short-term, an increase in the state's marketing program from \$6 million to \$10 million should help reverse the decline in the visitor market. On the other hand, the national trend toward shorter vacations does not bode well for Alaska. Over the long term, the state's commitment to marketing, the perceived safety of overseas travel, exchange rates, demographic shifts, and other factors will determine how many independent visitors travel to Alaska. The best that Alaska can hope for, over the long-term, is a growth rate of 1 to 2 percent.

The outlook for Juneau's independent visitor market, in the absence of improved transportation infrastructure is also for slow growth. In 1993, Juneau captured about 20 percent of Alaska's independent visitor market. The same market capture rate has persisted, and will persist, in the absence of improved access to Juneau.

Juneau's visitor market includes a relatively small number of recreational vehicle travelers. In 2002, a total of 900 RVs disembarked in Juneau (this includes Juneau-

resident owned RV travel), according to AMHS data. That represents about 14 percent of total RV traffic on the AMHS. Juneau's capacity to serve RVs is limited, but adequate to meet current demand. It includes 82 parking sites at private parks, plus up to 63 sites at the Mendenhall Campground (which are available for camping and RV parking).

**Recent Cruise Market Growth**

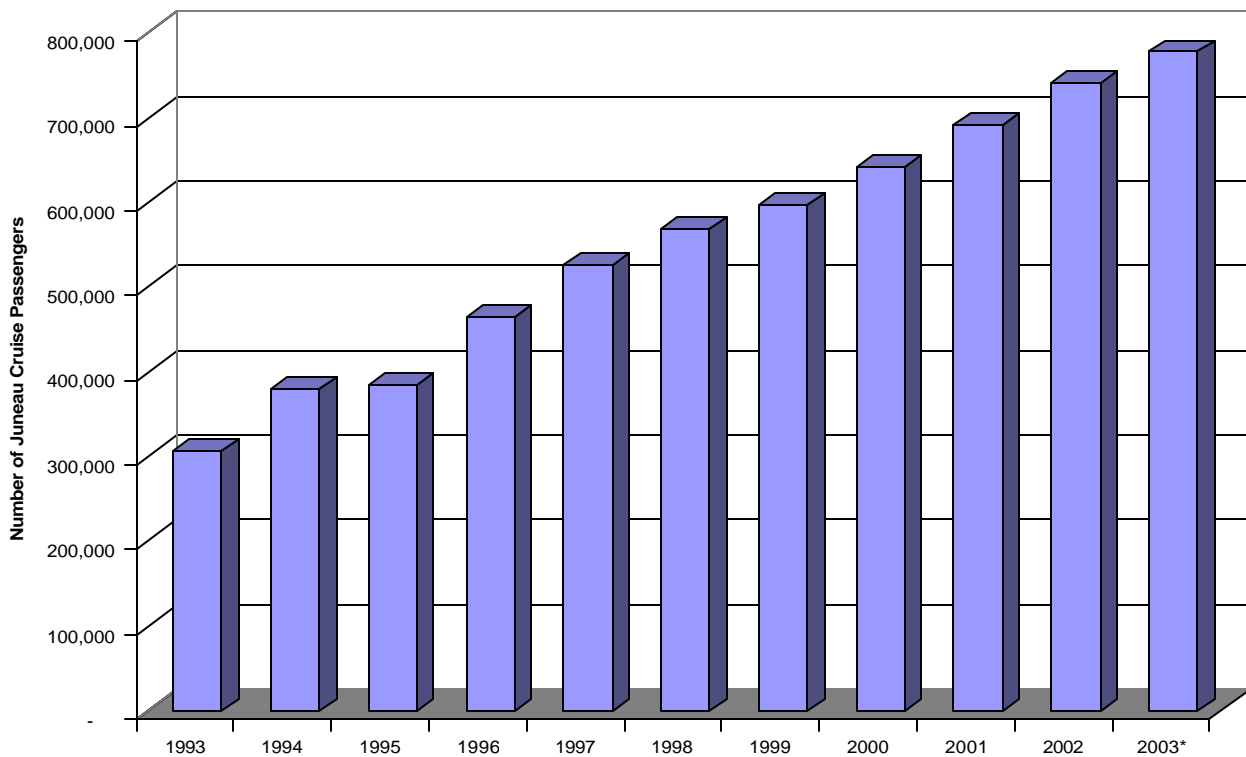
Between 1991 and 1997, the number of cruise passengers arriving in Juneau grew at a rate of 10 percent or more each year. By 1998, the annual rate of growth slowed to between 5 and 8 percent. While the rate of growth tapered off, it remained higher than industry experts projected a decade ago. Several factors contributed to market growth.

**Increased Juneau port capacity.** Private sector development of the South Franklin Street Dock and the Seadrome Marine Complex allowed Juneau to accommodate more ships during the summer season. Both facilities were online by the mid-1990's.

**Increased Northwest port capacity.** Cruise ship berth and airlift constraints in Vancouver previously limited Alaska market growth. The development of three cruise ship piers in Seattle has nearly doubled capacity and simplified the logistics of moving people and luggage on and off ships.

**Expanded summer season.** Until the early 1990's, cruise ship calls began their Alaska calls in the fourth week of May. The cruise industry, tour operators, and local marketing organizations worked together to expand the season into early May and late September. The additional weeks expanded overall port capacity by nearly 20 percent.

**Figure 10**  
**Juneau Cruise Ship Passenger Traffic, 1993 to 2003**



Source: Cruise Line Agencies of Alaska. \*2003 passenger estimate as of 10/27/03.

**Increased vessel size.** The average passenger capacity of large cruise ships calling Juneau in 2003 was 1,646 passengers. In 1993, the average capacity was 1,060. The increased vessel size is the result of technological advances in the industry that allow cruise ships to increase overall vessel size without increasing the required draft.

**Redeployment of ships.** Following the terrorist activities in September 2001, several ships were redeployed to Alaska from other destinations, including Europe. Itinerary changes continued through the 2002 and 2003 summer seasons.

### **Cruise Market Forecast**

Cruise traffic should reach 800,000 in 2004. The cruise market forecast for the next decade is continued moderate growth, likely between 3 and 4 percent. Cruise growth is expected to slow to an average of about 1 to 2 percent when looking 10 to 20 years into the future.

In a recent Ketchikan waterfront plan conducted by KPFF Consulting Engineers, the mid-range forecast for year 2015 was 1.4 million cruise passengers. This estimate was arrived at after looking at historical trends, development of new port facilities inside and outside of Alaska, and Ketchikan's market capture rate. In 2003, the number of cruise passenger arrivals to Ketchikan and Juneau was within 7,000 passengers.

### **Seafood Industry**

The seafood industry in Juneau includes commercial fishing and seafood processing. Juneau's commercial fishing fleet harvests a wide variety of seafood including salmon, halibut, blackcod, rockfish, shrimp, crab, herring, and groundfish. Most permit holders fish in Southeast Alaska, but permit holders also fish elsewhere in the state, such as Bristol Bay. The processing sector includes several smokeries and fresh fish buyers. Juneau grocery stores and restaurants also buy a substantial volume of seafood from local fishermen. Direct sales from fishermen to consumers are common as well.

According to Commercial Fisheries Entry Commission (CFEC) 2002 data, 286 Juneau-based commercial fishermen fished 510 permits and harvested 18.4 million pounds of fish with an estimated gross income of more than \$14.35 million. Earnings per permit fished averaged \$28,136. Salmon comprised the majority of the landed fish at 12.8 million pounds followed by halibut at almost 2 million pounds. Crab landings totaled more than 700,000 pounds for the year and landed sablefish were 1.2 million pounds. Smaller quantities of herring, other groundfish, and other shellfish were also landed. CFEC data for 2002 lists 266 crew members who provided a Juneau address on their crew license application along with 25 Douglas residents and 41 Auke Bay residents.

Douglas Island Pink and Chum (DIPAC) is also an important part of Juneau's commercial seafood, sport fish, and tourism industries. In 2001, DIPAC employed an average of 45 workers, with peak employment at 79 and an estimated annual payroll of \$1.5 million.<sup>9</sup>

Based on 2001 data, the seafood processing sector in Juneau employed 65 workers among four different employers in Juneau. According to Alaska Department of Fish

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<sup>9</sup> *Economic Impacts of Douglas Island Pink and Chum, Inc.* prepared for DIPAC by the McDowell Group, Inc. – May, 2001.

and Game data, nine Juneau processors produced 7.3 million pounds of seafood valued at \$19.5 million, at the wholesale level. The 2001 totals were 5.5 million pounds valued at \$16.7 million.

### **2.1.1.7. Support Sector Industries**

Support sector industries are those that provide services to local residents and businesses. Industries such as local government, retail trade, healthcare services, and transportation fall in this category.

#### **Local Government**

Local government accounted for 2,087 jobs in Juneau in 2002, 12 percent of all employment. This includes employment associated with city government administration, the school district, and Bartlett Regional Hospital. Local government accounted for \$80 million in annual earnings in 2002.

#### **Retail Trade**

Retail trade employment for 2002 averaged 1,942 workers earning a total annual payroll of \$44 million. Retail trade in Juneau includes both basic and support sector industry activities. The basic industry component offers retail goods to visitors to the community. The retail trade support sector is composed of businesses offering goods to Juneau's resident population.

In general, retail employment has been trending down in Juneau, and that trend likely continued in 2003 with the closing of the Juneau K-Mart. The Illinois-based company, struggling to stay alive in its bankruptcy proceedings, decided to close more than 200 stores and closed all five of its Alaska locations. Other retail trade trends include the closing of the Family Grocery Store whose space was then occupied by Alaska Industrial Hardware, the expansion of the Southeast Furniture Warehouse to its new location by Costco, and the relocation and expansion of Gottshalk's to the Mendenhall Mall. Recently, Williams Express announced it would be closing its Juneau location because of increased competition from Safeway and Fred Meyer.

Over the long term, the retail industry will track with changes in local basic industry employment and population, and with growth in the visitor industry.

#### **Healthcare Services**

The health services industry, as with retail trade, serves both basic and support industry functions. Many healthcare and social services organizations provide services to residents of outlying communities as well as the Juneau resident population. The healthcare and social assistance industry had average annual employment of 1,497 in 2002, representing about 9 percent of the wage and hour employment in the area and \$40 million in annual payroll.

#### **Transportation**

Juneau's transportation sector, including air, water, trucking, and warehousing, generated employment of 730 and payroll of \$23 million in 2002. Air transportation alone account for 337 of those jobs. The transportation industry provides services to residents and non-residents and is heavily influenced by visitors traveling to, from, and within Juneau. Juneau is unique in that the population must rely upon air or water-borne transportation services to enter and exit the community. With limited access options, the transportation industry in Juneau is a critical component of the

economy. This sector will also continue to grow according to the demands of the local population and growth in the visitor industry.

Most of Juneau's basic goods and materials are shipped in via barge. According to the U.S. Department of the Army *Waterborne Commerce of the United States* for the calendar year 2001, the Juneau harbor had in-bound freight traffic of 222,000 tons for the year. The majority of this freight (56 percent) was petroleum products, primarily gasoline and other fuel oils. Manufactured equipment, machinery, and products (almost 20 percent) along with food and farm products (12.6 percent) also made up a significant portion of the waterborne freight into Juneau.

According to the Juneau International Airport Manager's Office, in 2003, 11 million pounds of airfreight was shipped out of Juneau while 14 million pounds were shipped in to Juneau. These totals include 6.2 million pounds of mail shipped out and 7.4 million pounds of mail shipped in to Juneau. These totals include freight shipped by Alaska Airlines, Evergreen and Empire Air. These totals do not include freight shipped to and from Juneau by local air taxi operators.

### 2.1.1.8. Housing and Real Estate

According to the CBJ Community Development Department there were 12,369 housing units in the community in 2001 with a vacancy rate of 2.6 percent. Single family homes comprise 43 percent of Juneau's housing inventory while multi-family and condominiums/townhouses make up another 30 percent. (See Table 6.)

**Table 6**  
**City and Borough of Juneau**  
**Housing Assessment - 2001**

<b>CBJ TOTALS</b>	<b>Total Units</b>	<b>Percent of Total Units</b>	<b>Vacancy Rate</b>	<b>Occupied Units</b>	<b>Persons Per Household</b>
Single Family	5,323	43.0%	1.3%	5,244	2.8
Apt in SF	587	4.7%	0.0%	587	1.8
Condo/Townhouse	1,098	8.9%	1.9%	1,073	1.8
Duplex	572	4.6%	1.2%	568	2.7
Zero-Lot	774	6.3%	1.2%	770	2.8
Multifamily	2,628	21.2%	7.5%	2,431	2.2
Mobile Home	1,225	9.9%	1.0%	1,213	2.7
Boats	129	1.0%	0.0%	129	1.6
RV's	33	0.3%	0.0%	33	1.5
<b>Total/Overall Average</b>	<b>12,369</b>	<b>100.0%</b>	<b>2.6%</b>	<b>12,048</b>	<b>2.5</b>

Source: City and Borough of Juneau Community Development Department.

Population projections for the year 2035 are for an additional 11,800 residents to be living in Juneau. If the average household size is 2.5, 4,700 housing units would be required in the area to satisfy this population growth.

Real property valuations as of January 1, 2002 were \$2.3 billion for all types of real property in the CBJ.<sup>10</sup>

### 2.1.1.9. Municipal Revenues and Expenditures

The 2002 Financial Statement (unaudited) for the CBJ reports revenues of \$157 million. The majority of revenues collected by the CBJ are derived from taxes and

<sup>10</sup> *Alaska Taxable 2002*, Alaska Department of Community and Economic Development, Volume XLII, January 2003.

State of Alaska sources (56 percent of 2002 total revenues). (See Table 7.) Most State of Alaska revenue is for public school funding.

The CBJ has a mill rate that ranges from 6.00 (for residents off the road system with no fire protection) to 11.47. Real property taxes generated more than \$28 million in 2002. The CBJ assesses a 5 percent sales tax which generated approximately \$30 million in 2002. A 7 percent bed tax (based on gross room receipts), a 3 percent liquor tax, and a 6 percent tobacco tax contributed another \$1.8 million for 2002.<sup>11</sup>

**Table 7**  
**City and Borough of Juneau**  
**Municipal Revenues - 2002**

Source of Funds	Revenue Amount 2002	Percent of Revenue Base
Taxes	\$59,097,011	37.5%
State Sources	29,323,869	18.6%
Licenses, Permits, and Fees	6,806,786	4.3%
Federal Sources	5,855,894	3.7%
Investment and Interest Income	3,106,921	2.0%
Local Sources	1,965,861	1.2%
Charges for Services	1,901,814	1.2%
Ambulance and Air Medevac	466,730	0.3%
Fines and Forfeitures	460,670	0.3%
Land Sales	407,569	0.3%
Contracted Services	307,100	0.2%
Rental	216,682	0.1%
Special Assessments	209,442	0.1%
Equity in earnings of AJT Mining Properties, Inc. joint ventures	190	0.0%
Other	453,392	0.3%
<b>Total Revenues</b>	<b>\$110,579,931</b>	
Transfers from other funds	46,900,832	29.8%
<b>Total Revenues and Transfers</b>	<b>\$157,480,763</b>	

Source: City and Borough of Juneau 2002 Unaudited Financial Statement.

<sup>11</sup> *Ibid.*



About one-third of budget expenditures for the CBJ in 2002 were allocated to Bartlett Regional Hospital, and another 15 percent to education. Public works and public safety accounted for 16 percent of municipal expenditures. The remaining budget is split between other programs ranging from debt service to administration. (See Table 8.)

**Table 8**  
**City and Borough of Juneau**  
**Municipal Expenditures - 2002**

Program Expenses	Expense Amount 2002	Percent of Total Expenditures
Government Activities:		
Education	\$21,666,937	15.0%
Public Safety	12,766,689	8.8%
Public Works	11,493,885	7.9%
Recreation	4,669,172	3.2%
Public Transportation	3,605,103	2.5%
Community Development and Lands Mgmt	3,373,445	2.3%
Finance	2,639,816	1.8%
Administration	2,131,275	1.5%
Libraries	1,973,051	1.4%
Tourism and Conventions	1,937,907	1.3%
Legislative	1,730,794	1.2%
Interest on Long-Term Debt	1,041,739	0.7%
Social Services	907,118	0.6%
Legal	751,497	0.5%
Engineering	507,532	0.4%
Low-income Housing	62,187	0.0%
Community Projects	57,120	0.0%
<b>Total Government Activities</b>	<b>\$71,315,267</b>	
Business-Type Activities:		
Hospital	\$44,297,256	30.6%
Sewer	6,668,520	4.6%
Airport	5,691,086	3.9%
Water	4,429,047	3.1%
Harbors	1,792,134	1.2%
Docks	1,356,551	0.9%
Waste Management	481,848	0.3%
<b>Total Business-Type Activities</b>	<b>\$64,716,442</b>	
Transfers	8,860,262	6.1%
<b>Total Government -Wide Expenses</b>	<b>\$144,891,971</b>	

Source: City and Borough of Juneau 2002 Unaudited Financial Statement.

## 2.1.2. Haines Borough

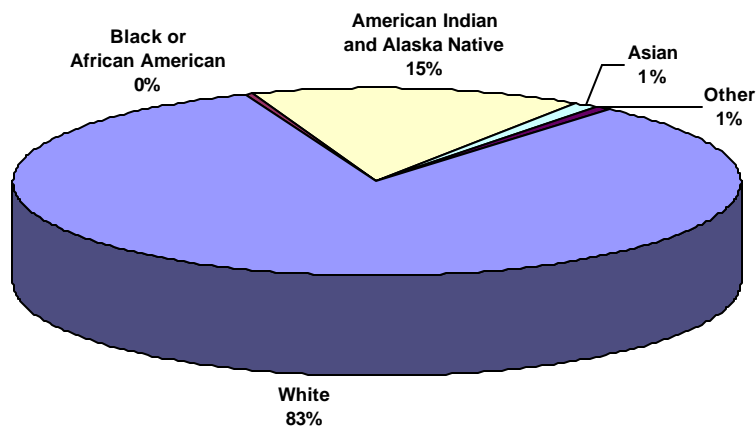
Following is an overview of the Haines Borough area economy, including past trends and current economic conditions. The Haines area population is predicted through 2035.

### 2.1.2.1. Demographics

The 2000 Census counted 2,392 individuals living in the Haines Borough, averaging 2.4 persons per household. Approximately three-fourths (74 percent) of the individuals in Haines are 18 years of age or older (1,779 individuals). Males outnumber females slightly, 50.6 percent to 49.4 percent respectively.

According to the 2000 Census, 83 percent of Haines's population is white and 15 percent are American Indian and Alaska Native. Another 1 percent is Asian, and the rest are Native Hawaiian and Other Pacific Islander, Black or African American, or some other race. (See Figure 11.)

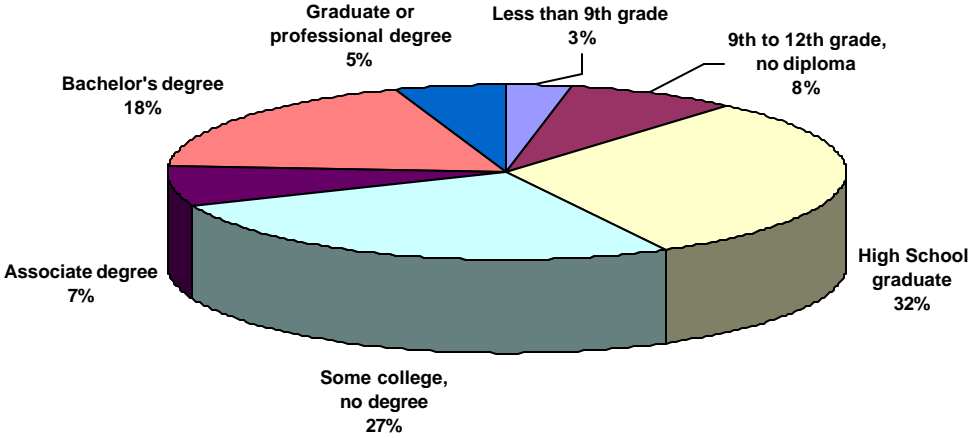
**Figure 11**  
**Haines Borough**  
**Racial Composition of Population - 2000**



Source: U.S. Census Bureau, 2000 Census.

Educational achievement data indicates that 89 percent of Haines residents have completed high school. More than 30 percent of the local population hold at least an associate's degree and 23 percent hold a bachelor's degree or higher. This compares to the 1990 Census when 23 percent of the population had at least an associate's degree and 17 percent held a bachelor's degree or higher.

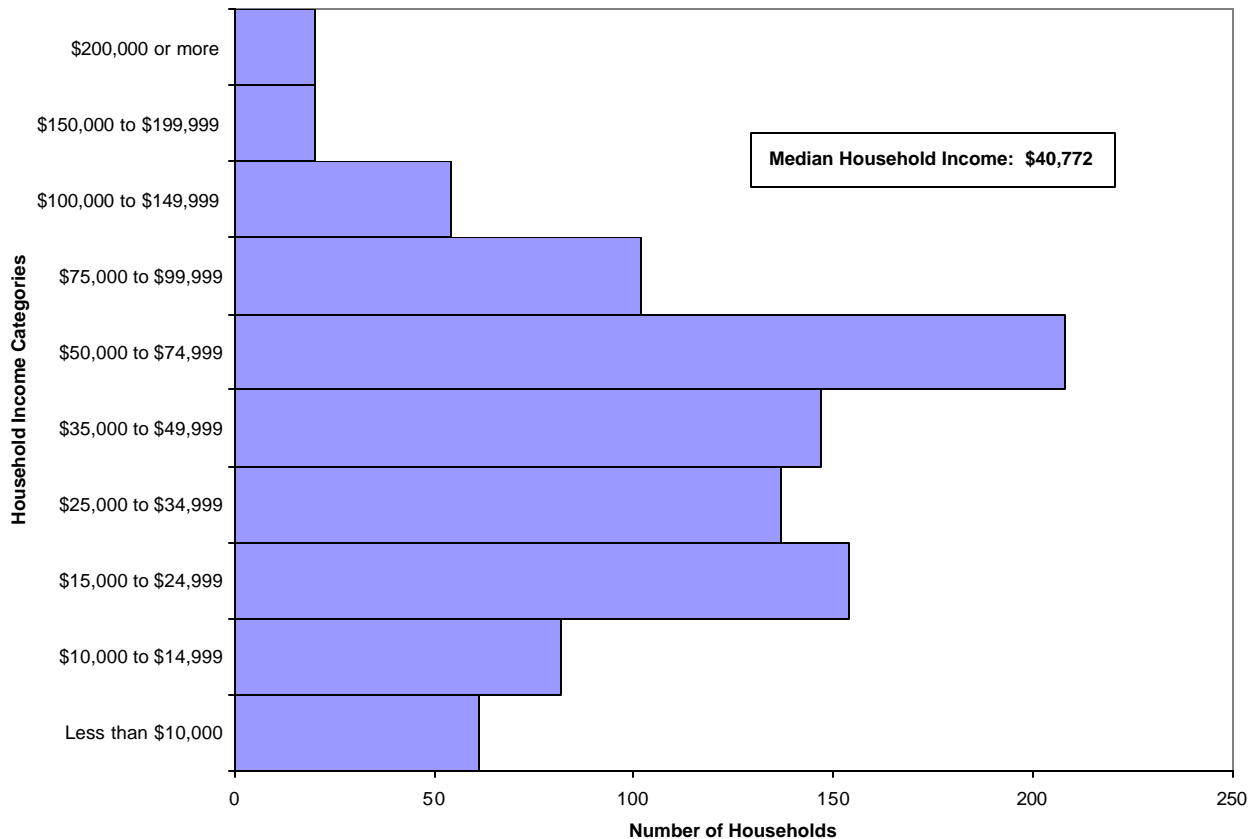
**Figure 12**  
**Haines Borough**  
**Educational Attainment of Population - 2000**



Source: U.S. Census Bureau, 2000 Census.

There were 985 households counted in Haines in the Census 2000. Among Haines households, more than 30 percent had incomes less than \$25,000 (in 1999) and 11 percent of all Haines residents had incomes below the poverty line. Forty-one (41) percent of Haines households had incomes of over \$50,000, with almost 21 percent earning \$75,000 and more. Median household income was \$40,772 and per capita income was \$22,090.

**Figure 13**  
**Haines Borough**  
**Annual Household Income - 1999**



Source: U.S. Census Bureau, 2000 Census.

### 2.1.2.2. Population

According to DOL&WD estimates, Haines population totaled 2,360 residents in 2002. The population of Haines has grown at an average annual rate of 1.6 percent since 1980. However, the local population declined over the previous three years, from 2,475 in 1999 to 2,360 in 2002. Average annual population growth from 1992 through 2002 was 0.6 percent. (See Table 9.)

Historically, Tlingit Indians were the original inhabitants of the Chilkat Valley.<sup>12</sup> These Alaska Natives controlled the trade routes between the coast and the interior. In the late 1800's, Sheldon Jackson, a Presbyterian missionary in Sitka, was asked by the Tlingits to build schools for each of the local villages. In 1879, missionary S. Hall Young and naturalist John Muir traveled to Yendustucky (the village near Haines airport) where the site for a mission was chosen. The area was known as Dei Shu meaning "end of the trail". It was later renamed Haines in honor of the Secretary of

<sup>12</sup> Haines Chamber of Commerce – [www.haineschamber.org/profile.html](http://www.haineschamber.org/profile.html).

the Presbyterian Women's Executive Society of Home Missions, Mrs. F.E. Haines, who had raised funds for the mission.

Well known historical figure and entrepreneur, Jack Dalton, following the Tlingit trade route, established a freight trail to the gold fields of the interior during the mid-1890s. The Dalton Trail, as it became known, reached over the Chilkat Pass and followed the same general route now driven on the Haines Highway. At the beginning of the Klondike Gold Rush, Haines grew as a mining supply center. When the U.S.-Canada boundary dispute heated during the Klondike Gold Rush, Fort William H. Seward was commissioned as a military presence. Garrisoned in 1903, the army post became a major component of Haines economy until it was deactivated after World War II. Today the army post is a National Historic Landmark.

**Table 9  
Haines Borough Historical Population  
1980 through 2002**

Year	Haines	Annual Number Change	Annual Percent Change	Five Year Average Rate of Change	Ten Year Average Rate of Change	Twenty Year Average Rate of Change
1980	1,680					
1981	1,784	104	6.2%			
1982	1,872	88	4.9%			
1983	2,144	272	14.5%			
1984	2,076	(68)	-3.2%			
1985	2,297	221	10.6%			
1986	2,009	(288)	-12.5%			
1987	1,960	(49)	-2.4%	0.9%		
1988	2,031	71	3.6%			
1989	2,130	99	4.9%			
1990	2,117	(13)	-0.6%			
1991	2,242	125	5.9%			
1992	2,230	(12)	-0.5%	2.6%	1.8%	
1993	2,293	63	2.8%			
1994	2,331	38	1.7%			
1995	2,280	(51)	-2.2%			
1996	2,352	72	3.2%			
1997	2,404	52	2.2%	1.5%	2.1%	
1998	2,461	57	2.4%			
1999	2,475	14	0.6%			
2000	2,392	(83)	-3.4%			
2001	2,375	(17)	-0.7%			
2002	2,360	(15)	-0.6%	-0.4%	0.6%	1.2%

Source: U.S. Census Bureau and Alaska Department of Labor and Workforce Development, Research and Analysis Section, Demographics Unit. Rates of change calculated by McDowell Group.

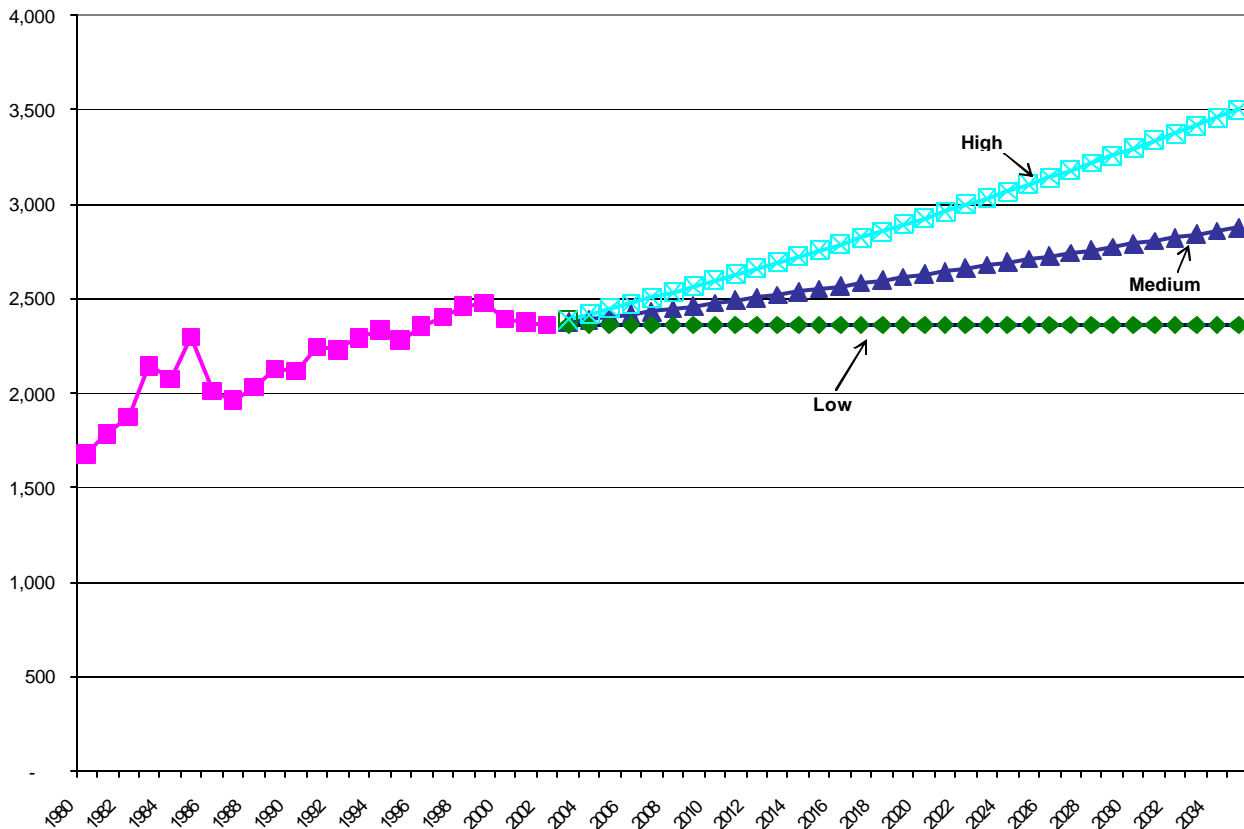
### 2.1.2.3. Population Projection

Haines' population in 2002 is essentially the same as it was in 1996, and has in fact declined by about five percent since peaking in 1999. This no-growth/slow decline situation is typical of Southeast communities in recent years, all of which are experiencing structural economic change. Haines has suffered from declining highway traffic, and in 2003 saw its cruise ship traffic decline from 80,000 passengers the year before to about 20,000 passengers (cruise traffic is expected to bounce back to about 60,000 in 2004). The seafood industry in Haines has been

struggling with weak salmon prices, and the timber industry, once a mainstay of the local economy, is essentially non-existent. The only real growth in Haines is in the retirement community. Retirees are moving to Haines based on lifestyle decisions rather than local economic opportunities.

Within this relatively unstable economic environment, it is particularly difficult to predict population growth in the short-term, let alone over the next 30 years. It is reasonable to assume that Haines' population will stabilize, and perhaps begin growing slowly. One approach to predicting population growth is to use historical rates of population change as a guide. Using that approach, low, medium, and high case population forecasts can be developed. The low case is no growth. The medium case, annual average growth of 0.6 percent, is the 10-year historical average. The high case is 1.2 percent, the 20-year historical growth rate. These projections are illustrated in Figure 14. In the high case, Haines' population would reach about 3,500 by 2035.

**Figure 14**  
**City and Borough of Haines**  
**Historical Population and Projection – 1980 through 2035**



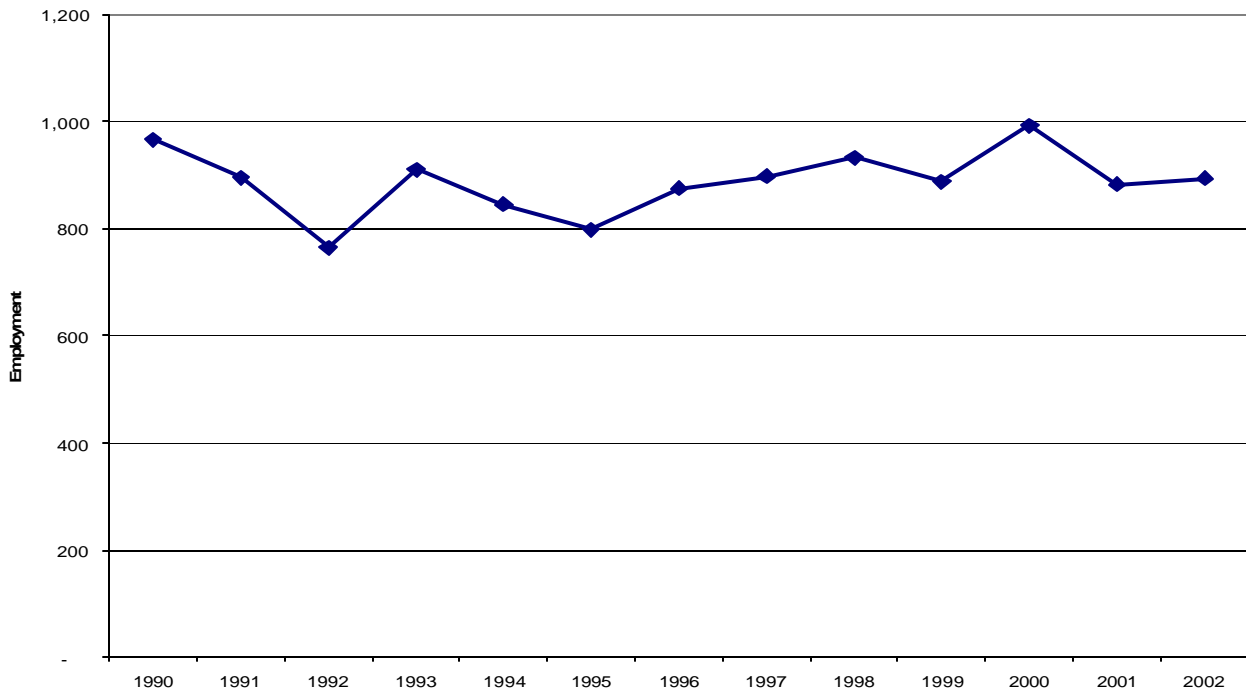
Source: U.S. Census Bureau for centennial years, State of Alaska Department of Labor and Workforce Development, Research and Analysis Section, Demographics Unit for non-centennial years, and McDowell Group estimates for 2004 through 2035.

### 2.1.2.4. Employment and Payroll

In 2002, the Haines economy included an annual average of 893 jobs (not including self-employed individuals) and \$23.5 million in wages. Employment grew by 56 percent from 1980 to 2002. This is an annual average rate of growth of 2.1 percent.

Haines area employment for 1990 through 2002 is illustrated in Figure 15. Reporting errors may have compromised the quality of the employment data during the 1980's so these years have not been shown. Haines area employment has declined overall since 2000, with the loss of about 100 jobs.

**Figure 15**  
**Haines Borough**  
**Average Annual Employment – 1990 through 2002**



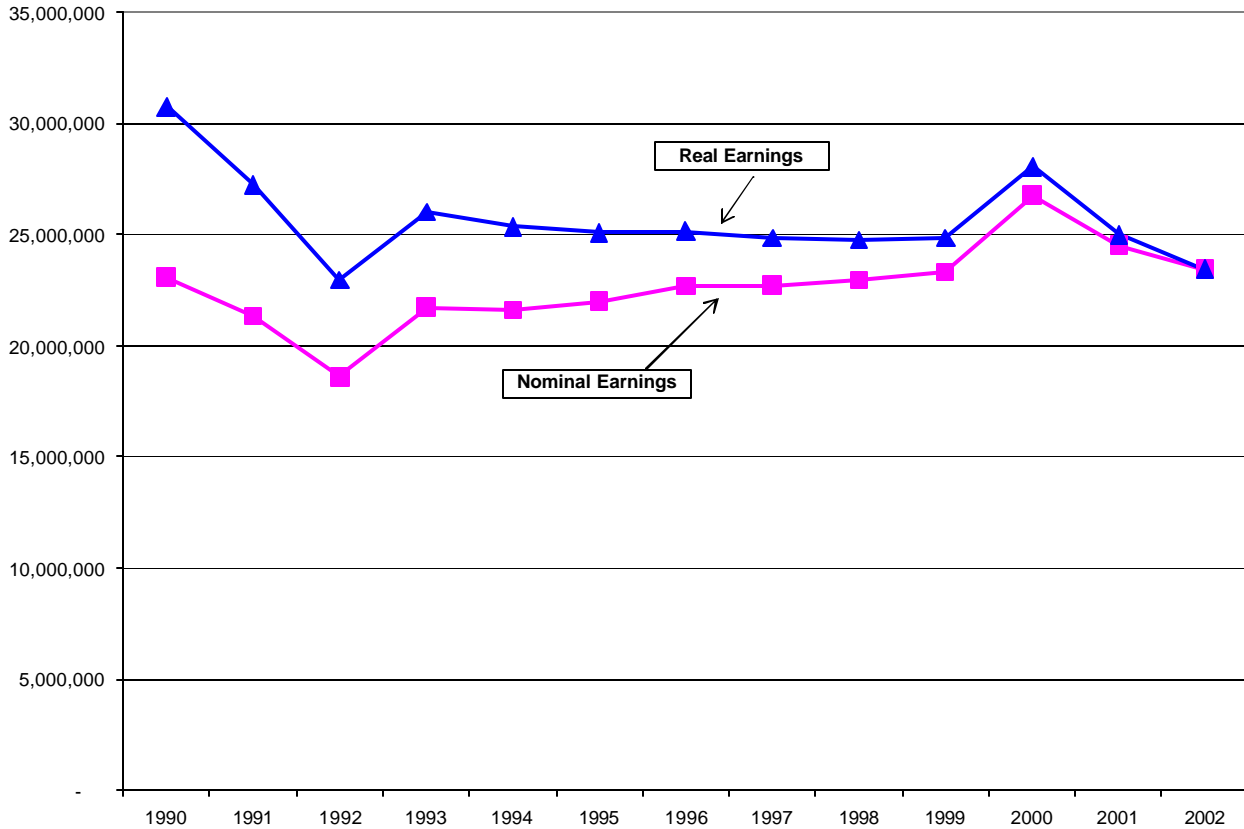
Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section, Employment and Earnings Summary Report for the years 1980 through 2002.

Total Haines earnings (in 2002 dollars) decreased by almost 24 percent, from \$30.7 million to \$23.5 million, between 1990 and 2002. The average annual rate of decline for total earnings was approximately 2.2 percent during this 12-year period. Figure 16 depicts real and nominal wage and hourly earnings from 1990 through 2002.

Some of the drop in Haines employment and earnings in 2001-2002 may have been due to Royal Caribbean Cruise Lines dropping Haines as a port of call. Cruise traffic dropped from 195,466 in 2000 to less than 20,000 visitors expected for 2003.<sup>13</sup>

<sup>13</sup> Cruise Line Agencies of Alaska, Cruise Ship Expected Calls for 2003.

**Figure 16**  
**Haines Borough**  
**Total Annual Payroll (Real and Nominal Dollars) – 1990 through 2002**



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section, Employment and Earnings Summary Report for the years 1980 through 2002. Conversion to real dollars (CPI-U Anchorage) was calculated by the McDowell Group.

In terms of employment, the largest sector in the Haines economy is local government with 145 jobs and \$4.1 million in annual payroll in 2002. Retail trade accounted for 118 jobs with \$750,000 in payroll and the transportation sector had average annual employment of 115 with \$1.6 million in payroll.

The construction sector had average employment of 62 jobs, with \$2.4 million in payroll. Leisure and hospitality jobs peaked at 365 in August of 2002 while offering 189 average annual jobs with annual payroll of \$2.8 million.



**Table 10**  
**Haines Borough**  
**Industry Employment and Earnings - 2002**

	Average Monthly Employment	Percent of Total Employment	Total Annual Earnings	Percent of Total Annual Earnings
<b>TOTAL INDUSTRIES</b>	<b>893</b>	<b>100.0%</b>	<b>23,450,493</b>	<b>100.0%</b>
<b>TOTAL GOVERNMENT</b>	<b>195</b>	<b>21.8%</b>	<b>6,394,430</b>	<b>27.3%</b>
FEDERAL GOVERNMENT	13	1.5%	812,769	3.5%
STATE GOVERNMENT	37	4.2%	1,466,993	6.3%
LOCAL GOVERNMENT	145	16.2%	4,114,668	17.5%
<b>PRIVATE OWNERSHIP</b>	<b>699</b>	<b>78.2%</b>	<b>17,056,063</b>	<b>72.7%</b>
<b>GOODS-PRODUCING</b>	<b>104</b>	<b>11.6%</b>	<b>6,098,913</b>	<b>26.0%</b>
<b>CONSTRUCTION</b>	<b>62</b>	<b>6.9%</b>	<b>2,371,589</b>	<b>10.1%</b>
Construction of Buildings	11	1.2%	120,314	0.5%
Heavy Construction	42	4.7%	**	**
Specialty Trade Contractors	9	1.0%	49,078	0.2%
<b>MANUFACTURING</b>	<b>42</b>	<b>4.7%</b>	<b>150,236</b>	<b>0.6%</b>
Food	40	4.5%	**	**
<b>SERVICE-PROVIDING</b>	<b>595</b>	<b>66.6%</b>	<b>10,957,150</b>	<b>46.7%</b>
<b>TRADE, TRANS. &amp; UTILITIES</b>	<b>235</b>	<b>26.3%</b>	<b>4,235,221</b>	<b>18.1%</b>
Retail Trade	118	13.2%	766,749	3.3%
Building Material & Garden	17	1.9%	340,079	1.5%
Food & Beverages	73	8.2%	1,201,530	5.1%
Miscellaneous	21	2.3%	248,713	1.1%
Transportation & Warehousing	115	12.8%	1,611,916	6.9%
Air Transportation	55	6.2%	**	**
Water Transportation	28	3.1%	**	**
<b>INFORMATION</b>	<b>19</b>	<b>2.1%</b>	<b>321,317</b>	<b>1.4%</b>
Publishing, except Internet	7	0.8%	**	**
Broadcasting, Except Internet	8	0.9%	**	**
Telecommunications	4	0.4%	**	**
<b>FINANCIAL ACTIVITIES</b>	<b>35</b>	<b>3.9%</b>	<b>673,714</b>	<b>2.9%</b>
Finance & Insurance	14	1.6%	**	**
Credit Intermediation, etc.	10	1.1%	**	**
Real Estate, Rental & Leasing	21	2.3%	**	**
Rental & Leasing Svcs.	18	2.0%	**	**
<b>PROFESSIONAL &amp; BUSINESS SVCS.</b>	<b>13</b>	<b>1.5%</b>	<b>319,252</b>	<b>1.4%</b>
Administrative & Waste Svcs.	11	1.2%	**	**
<b>EDUCATIONAL &amp; HEALTH SVCS.</b>	<b>60</b>	<b>6.7%</b>	<b>1,957,544</b>	<b>8.3%</b>
Health Care & Social Assistance	60	6.7%	1,957,544	8.3%
Out Patient Health Care	57	6.3%	**	**
<b>LEISURE &amp; HOSPITALITY</b>	<b>189</b>	<b>21.2%</b>	<b>2,851,369</b>	<b>12.2%</b>
Arts, Entertainment & Recreation	83	9.3%	1,594,771	6.8%
Amusements, Gambling, Recreation	107	11.9%	1,256,598	5.4%
Food Services & Drinking Places	67	7.5%	786,659	3.4%
<b>OTHER SERVICES</b>	<b>44</b>	<b>4.9%</b>	<b>598,733</b>	<b>2.6%</b>
Membership Organizations, etc.	34	3.8%	396,964	1.7%

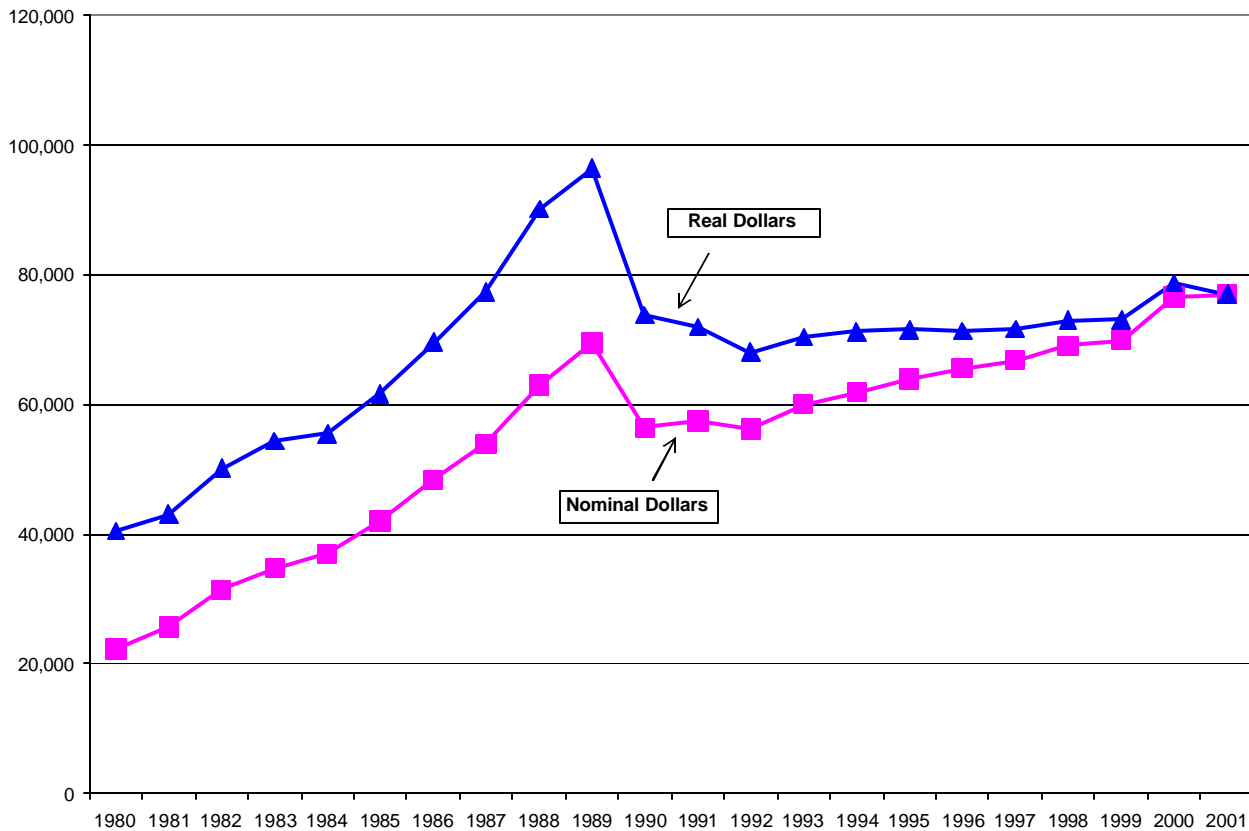
\*\* Data non-disclosable for confidentiality reasons.

Source: Alaska Department of Labor and Workforce Development

### 2.1.2.5. Personal Income

Haines personal income (in 2002 dollars) increased by over 89 percent between 1980 and 2002, rising from \$40 million to almost \$77 million, averaging an annual growth rate of 2.8 percent.

**Figure 17**  
**Haines Borough**  
**Personal Income (Real and Nominal Dollars in thousands)**  
**1980 through 2002**

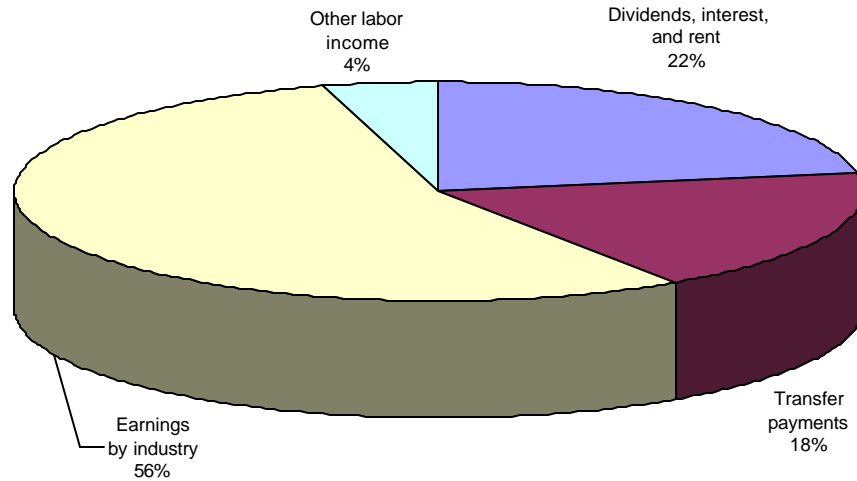


Source: Nominal Personal Income is provided by the U.S. Bureau of Economic Analysis. Conversion to real dollars (CPI-U Anchorage) was calculated by the McDowell Group.

The U.S. Bureau of Economic Analysis (BEA) develops personal income figures based on data received from the Alaska DOL&WD. As in the case for employment and earnings, the BEA historical personal income is probably overstated for the late 1980's due to reporting errors.

For many Alaska communities, a large percentage of personal income is attributable to dividends, interest, rents, and transfer payments. Approximately 40 percent of Haines' residents' total personal income was derived from these sources. (See Figure 18.) Non-employment-related sources of income have increased markedly since 1990, from 29 percent of total personal income.

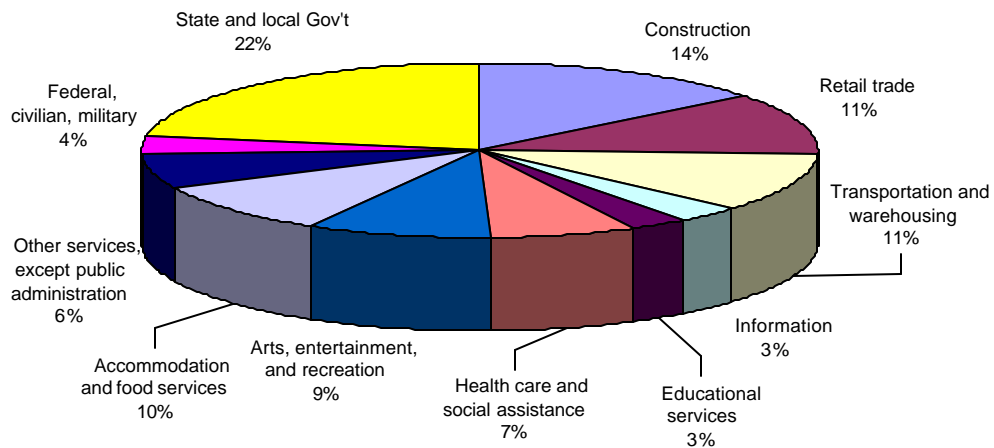
**Figure 18**  
**Haines Borough**  
**Personal Income by Source - 2001**



Source: U.S. Bureau of Economic Analysis – 2001.

Government was the largest source of personal income at 22 percent followed by the construction industry at 14 percent. Retail trade and transportation share third place with 11 percent of total personal income. Accommodations and food services businesses accounted for 10 percent of personal income in Haines.

**Figure 19**  
**Haines Borough**  
**Personal Income by Industry - 2001**



Source: U.S. Bureau of Economic Analysis – 2001.

The most recent personal income data available from the U.S. Bureau of Economic Analysis is for 2001 and is presented in Table 11.

**Table 11**  
**Haines Borough**  
**Personal Income - 2001**

Personal Income Calculation	Amount
<b>Total Personal Income</b>	<b>\$76,921,000</b>
Nonfarm Personal Income	76,921,000
<b>Population</b>	<b>2,333</b>
<b>Per Capita Income</b>	<b>\$32,971</b>
<b>Derivation total Personal Income</b>	
Earnings by Place of Work	42,106,000
Less Personal contribution for social insurance	-2,508,000
Plus Adjustment for residence	6,282,000
Equals Net earnings by place of residence	45,880,000
Plus Dividends, interest, and rent	16,980,000
Plus Transfer payments	14,061,000
<b>Equals Total Personal Income</b>	<b>76,921,000</b>
<b>Components of Earnings</b>	
Wage and salary disbursements	26,111,000
Other labor income	3,316,000
Proprietors' income	12,679,000
Farm proprietors' income	0
Nonfarm proprietors' income	12,679,000
Farm Earnings	0
<b>Earnings by Place of Work</b>	<b>42,106,000</b>
<b>Earnings by Industry</b>	
Nonfarm	42,106,000
<b>Private Earnings</b>	<b>34,140,000</b>
Forestry, fishing, related activities, and other	(D)
Mining	83,000
Utilities	(D)
Construction	4,345,000
Manufacturing	(D)
Wholesale trade	(D)
Retail trade	3,509,000
Transportation and warehousing	3,423,000
Information	984,000
Finance and insurance	(D)
Real estate and rental and leasing	(D)
Professional and technical services	(D)
Educational services	785,000
Health care and social assistance	2,197,000
Arts, entertainment, and recreation	2,677,000
Accommodation and food services	2,954,000
Other services, except public administration	1,926,000
<b>Government and government enterprises</b>	<b>7,966,000</b>
Federal, civilian	905,000
Military	219,000
State and local	6,842,000

(D) Not shown to avoid disclosure of confidential information, but the estimates for this item are included in the totals.

Source: U.S. Bureau of Economic Analysis.

### 2.1.2.6. Basic Industries

Key basic industries in Haines are tourism, seafood, and transportation, as well as government.

#### Tourism

The visitor industry directly or indirectly accounted for the annual equivalent of approximately 300 jobs in Haines in 2001. These jobs stem from local spending by visitors to the community, including cruise ship passengers, visitors traveling to and through Haines via ferry or highway, and visitors arriving by air or ferry to participate in special activities (for example, to attend the fair, take a guided hunt, view eagles, etc.).

Visitor-related employment in Haines includes three basic components: direct wage and salary employment, proprietorships, and indirect employment. Visitor-related employment in Haines in 2001 included the annual equivalent of 190 wage and salary jobs. This employment included approximately 90 cruise-related jobs (including those generated by cruise visitors from Skagway), 55 jobs due to highway visitor traffic, and 45 jobs from other niche markets.<sup>14</sup> In terms of sectors of the local economy, about 40 percent of this visitor-related employment was in the service sector, 30 percent was in the retail sector, 15 percent in lodging, 10 percent in transportation, and 5 percent in government.

In addition to the wage and salary jobs, the visitor industry in Haines generates other employment and income in the local economy for self-employed individuals or proprietorships. This includes bed and breakfast owner/operators, charter fishing businesses, guides, taxi drivers, and others who operate their own businesses but do not report themselves as employees of the business. An examination of business directories for Haines suggests that there are approximately 40 self-employed workers in Haines.

In summary, 2001 visitor industry-related employment totaled 230 jobs in Haines, including 190 wage and salary jobs and 40 proprietorships. Peak visitor season employment is much higher than this annual average. In July of 2001 the visitor industry account for approximately 400 jobs in Haines, based on DOL&WD data and McDowell Group estimates.

The visitor industry indirectly creates additional jobs in the Haines support sector. Visitor industry businesses and their employees spend money in the community generating additional economic activity, including additional employment and income. Previously, McDowell Group estimated indirect employment multipliers for Haines of 1.3.<sup>15</sup> This means that for every direct job created in the visitor industry, another 0.3 jobs are created in the support sector. Based on this employment multiplier, the visitor industry in Haines accounted for a total (direct and indirect) of approximately 300 jobs in Haines in 2001.

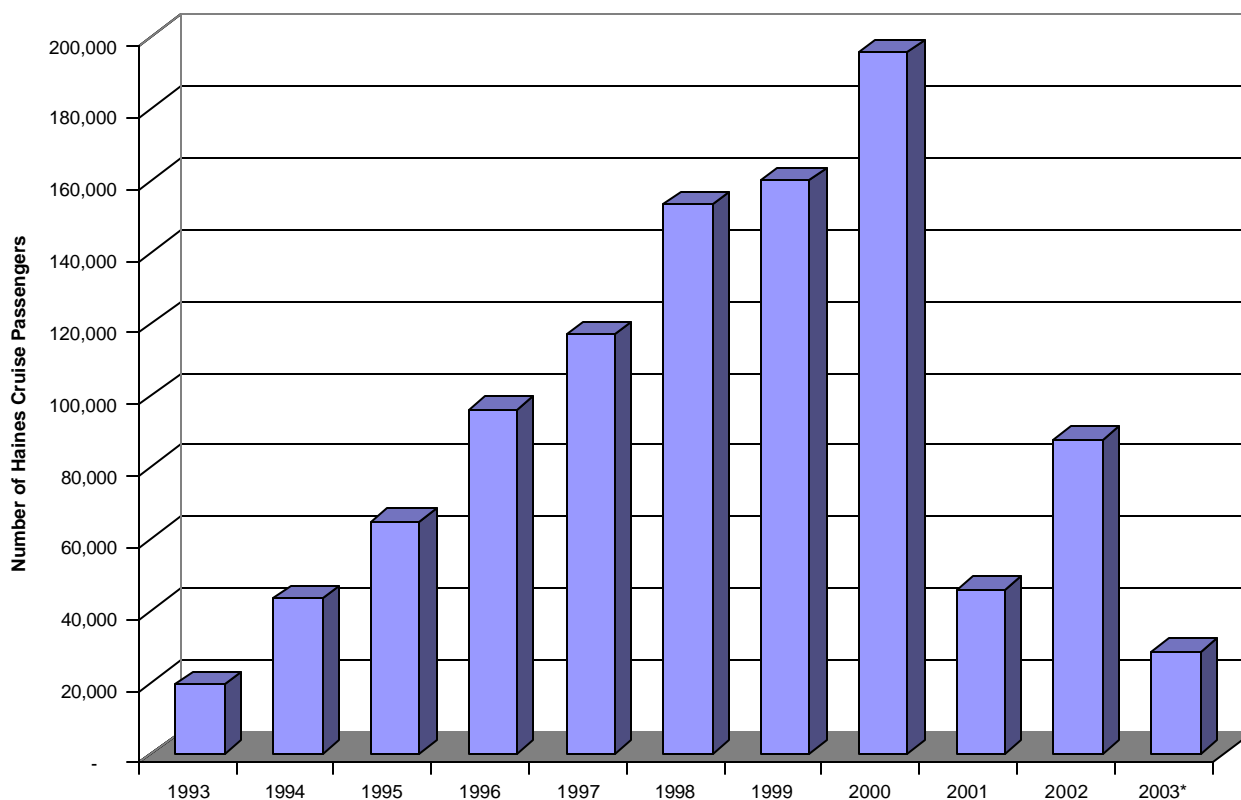
The number of cruise line visitors to Haines has dropped dramatically in recent years from a high of almost 200,000 visitors in 2000 to a low of 28,000 visitors in 2003. Traffic is expected to return to about 60,000 passengers in 2004.

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<sup>14</sup> *Haines Tourism Management Plan* prepared for the City of Haines by the McDowell Group, Inc. June 2002.

<sup>15</sup> *Ibid.*

**Figure 20  
Haines Cruise Ship Passenger Traffic  
1993 to 2003**



Source: Cruise Line Agencies of Alaska. \*2003 passenger estimate as of 10/27/03.

The long-term outlook for cruise traffic to Haines is uncertain. Haines is likely to remain a secondary port of call. It lacks the tour and excursion opportunities that it needs to be popular with passengers and cruise lines (which are looking to maximize commission revenues from on-board tour sales). Cruise traffic will probably continue to be erratic, as lines add or drop the port, depending on availability of other ports of call.

Haines independent visitor traffic has been declining. In 1992, ferry traffic included 45,300 disembarking passengers and 15,100 vehicles. In 2002, disembarking traffic totaled 36,900 passengers and 13,400 vehicles. Embarking traffic followed the same trends. This reflects an overall decline in the Alaska highway visitor market in recent years. The number of air taxi passenger arrivals in Haines has also declined. For example, in 1998, 10,000 passengers traveled from Juneau to Haines. In 2001, the total was 6,900 passengers (2002 data is not available).

Bus traffic to and from Haines is also declining. In 1998, 338 busses carrying 2,981 passengers crossed into the U.S. at the Haines border station. In 2002, bus traffic was down to 141 busses and 1,006 passengers.

## **Commercial Fishing**

According to Commercial Fisheries Entry Commission (CFEC) preliminary data, 81 Haines-based commercial fishermen fished 120 permits in 2002 and harvested 5.3 million pounds of fish with an estimated gross income of \$2 million. This is a drop from 2000 when 97 Haines-based commercial fishermen fished 152 permits and harvested 7 million pounds of fish with an ex-vessel value of \$3.8 million. Salmon comprised the majority of the landed fish in 2002 at 4.6 million pounds, followed by halibut at 241,000 pounds. Small quantities of crab, herring, other shellfish, and sablefish were also landed. CFEC data for 2002 also lists 120 crew members who provided a Haines address on their crew license application.

Though outside the local area, the Haines economy includes the Excursion Inlet fishing processing plant. In 2002, Excursion Inlet Packing employed, at the peak 200 workers. The plant was closed and sold in 2003, and the scale of future operations and employment is uncertain.

## **Transportation**

The transportation industry in Haines accounted for an average of 115 jobs in 2002, with peak employment of 200 workers in 2002, according to DOL&WD. Payroll totaled approximately \$1.6 million and personal income (including payroll) of \$3.4 million. The majority of transportation jobs in Haines can be found in the air transportation business (55 jobs, or 48 percent of the industry total) followed by water transport activities (28 jobs or 24 percent).

Though not a large part of the economy, several Haines residents are employed hauling freight vans between Haines and Interior Alaska. In 2002, a total of 743 trucks traveled north on the Haines Highway through Pleasant Camp. Truck traffic has been declining steadily since its peak in 1995 when 1,484 trucks traveled north from Haines. Southbound truck traffic on the Haines Highway has also declined, falling from a peak of 1,267 in 1998 to 882 in 2002.

AMHS van traffic in Haines included 517 disembarking vans in 2002 and 546 embarking vans. About two-thirds of the embarking van traffic was destined for Juneau. Eight out of ten (84 percent) of the vans disembarking in Haines originated in Juneau.

Waterborne freight arrives in Haines on a weekly basis through Alaska Marine Lines barge service. During the summer months, Haines receives approximately 30 to 50 cargo vans per week, dropping in the winter to between 15 and 20.

## **Government**

Government is a critical source of both employment and personal income in Haines. Collectively, local, state, and federal government accounted for 195 jobs in Haines, almost 22 percent of total employment and more than 27 percent of total wage and salary earnings in 2002. Local government accounts for the majority of these jobs with 145 workers, followed by state government (37 workers) and federal government (13 workers). The Haines Borough School District is the single largest source of government employment in Haines. The U.S. Bureau of Economic Analysis reports personal income in government and government enterprises at \$7.9 million for 2001.

Government also generates income for Haines residents through capital (construction) project funding, grants to non-profit organizations, and others. Though specific data is not available, government (local, state, and federal payroll, plus transfer payments and government contracts and grants) probably account for one-

third of all personal income in Haines. When indirect income effects are added, government likely accounts for over 40 percent of local personal income.

### **2.1.2.7. Support Sector Industries**

#### **Retail Trade**

Employment in Haines' retail trade sector for 2002 averaged 118 jobs with \$766,000 in total annual payroll. The retail sector in Haines is particularly dependent on non-resident spending. This is reflected in the seasonal increase in retail employment. In 2002, retail employment peaked at 161 jobs in August, compared to October employment of 89. Even employment in grocery and liquor stores doubles during the summer (102 jobs in August and 51 in October). Based on interviews with local retailers, non-residents probably account for 30 to 40 percent of all local retail sales. Because of this dependence on non-resident sales, access to Haines is critically important to the retail sector.

To a large degree Haines retailers compete against Juneau stores. Based on data from the 1994 *Juneau Access Household Survey*, Haines households spent (at that time) an average of \$3,500 in Juneau, including \$1,300 on groceries. Leakage from the Haines economy (leakage occurs when local consumers purchase goods and services from outside the community) has likely increased since then, as a result of improved ferry service to Juneau. This issue is an important one for Haines merchants, as leakage is likely to increase as improved access will offer even greater opportunities for Haines households to shop in Juneau's much larger and more competitive retail sector.

#### **Health Care Services**

In 2002, health care generated average employment of 60 jobs and annual payroll of \$2 million. Health care services accounted for about 7 percent of the jobs in Haines in 2002 and more than 8 percent of the wage and hourly earnings.

The Southeast Alaska Regional Health Consortium (SEARHC) accounts for about half of this employment and is one of Haines' largest employers.

#### **Construction**

The construction industry accounted for an average of 62 jobs in 2002, with peak employment of 93 workers. Payroll totaled approximately \$2.4 million and personal income (including payroll) of \$4.4 million. Most of this employment (over two-thirds) is in heavy construction, rather than residential or commercial, and includes employment in projects outside the Haines area.

### **2.1.2.8. Housing and Real Estate**

According to the 2000 Census, there were 1,419 housing units in Haines, of which 991 units were occupied. Vacant housing units numbered 428 (30 percent) but 301 of this number were classified as seasonal, recreational, or occasional use units.

According to the Haines Chamber of Commerce, rentals range from \$400 per month for a studio-type apartment including utilities to \$1,000 per month for a two or three bedroom house not including utilities. The 2000 Census reported the median gross rent for Haines Borough of \$588. The 2000 Census reported a rental vacancy rate of 16.3 percent for 2000.



Real property valuations for the City and Borough of Haines as January 1, 2002 were \$156 million (\$99 million for the City of Haines and \$57 million for outside city limits). This compares to the 1994 assessed real property valuation of \$102 million.

Haines is unique in Southeast Alaska for its relative abundance of available private land. A recent search of multiple listing services found 76 individual properties available for sale, including a 50-acre and 218-acre parcel.<sup>16</sup> Haines Borough is the location for second homes or cabins for a growing number of Juneau residents (including Auke Bay and Douglas), who seek the small-town atmosphere and dry summer weather. Haines property ownership data indicates that Juneau residents own 305 parcels in the Haines Borough, including 212 parcels in the Haines area and 93 parcels in Excursion Inlet. Based on this data, Juneau residents own almost 13 percent of the real estate parcels in the Haines Borough.

### 2.1.2.9. Municipal Revenues and Expenditures

There were two municipal governments in the Haines area until the Haines Borough and the City of Haines consolidated on October 17, 2002. The city and borough's financial statements have been combined for purposes of this report.

The city and borough combined revenues for the fiscal year ending June 30, 2002 were \$10.5 million. Taxes comprised the bulk of these revenues (37 percent) followed by state revenue sources (31 percent). Real property tax revenues were \$1.7 million in fiscal year 2002. The mill rate for the City of Haines was 12.08 while the Haines Borough levy is 6.5 mills plus a service area assessment.

The City of Haines collects a 4 percent sales tax while the Haines Borough collects an additional 1.5 percent sales tax. Total sales tax revenues for 2002 were \$1.7 million. Haines Borough assesses a 4 percent bed tax and a 4 percent tour tax which added approximately \$260,000 to municipal revenues for the year.<sup>17</sup>

**Table 12**  
**City and Borough of Haines**  
**Municipal Revenues – 2002**

Source of Funds	Revenue Amount 2002	Percent of Revenue Base
Taxes	\$3,914,554	37.3%
State Sources	3,226,639	30.8%
Federal Sources	1,175,337	11.2%
Land Sales and land Improvement Revenue	982,643	9.4%
Investment Income, Penalties, and Interest	350,073	3.3%
Donations - Foundations	295,070	2.8%
Charges for services	233,529	2.2%
Miscellaneous	230,316	2.2%
Admissions and Store Sales	74,065	0.7%
<b>Total Revenues</b>	<b>\$10,482,226</b>	

Source: Haines Borough and City of Haines Combined Statement of Revenue, Expenditures, and Changes in Fund Balance All Government Fund Types for the fiscal year ended June 30, 2002.

<sup>16</sup> [www.alaskarealestate.com](http://www.alaskarealestate.com) search for vacant land close to Haines on 11/17/03.

<sup>17</sup> *Alaska Taxable 2002*, Alaska Department of Community and Economic Development, Volume XLII, January 2003.

Combined city and borough expenses for the fiscal year ending June 30, 2002 were \$9.5 million. Education made up the bulk of these expenditures at 44 percent followed by capital projects at 10 percent. (See Table 13.)

**Table 13**  
**City and Borough of Haines**  
**Municipal Expenditures - 2002**

Program Expenses	Expense Amount 2002	Percent of Total Expenditures
Education	\$4,176,810	44.2%
Capital Projects	972,488	10.3%
General Administration	650,579	6.9%
Police Department	630,745	6.7%
Land Administration/Development	554,153	5.9%
Sheldon Museum and Cultural Center	343,173	3.6%
Public Library	315,365	3.3%
Economic Development and Assistance	307,673	3.3%
Tax Administration	230,750	2.4%
Debt Service	208,849	2.2%
Public Programs	201,151	2.1%
Fire Protection	110,284	1.2%
Port Authority	92,896	1.0%
Medical Services	76,236	0.8%
Chilkat Center for the Arts	41,547	0.4%
Community Youth Development	31,875	0.3%
Animal Control	14,129	0.1%
Elections	5,761	0.1%
Other	486,230	5.1%
<b>Total Expenditures</b>	<b>\$9,450,694</b>	

Source: Haines Borough and City of Haines Combined Statement of Revenue, Expenditures, and Changes in Fund Balance All Government Fund Types for the year ended June 30, 2002.

### 2.1.3. Skagway

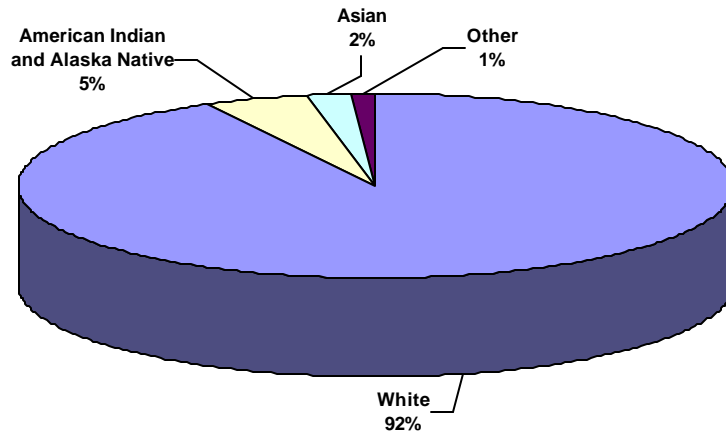
Following is an economic overview of the community of Skagway. Economic data is limited, so wherever possible, reasonable estimates of past and present economic conditions in Skagway are presented. This overview includes population projections for Skagway to the year 2035.

#### 2.1.3.1. Demographics

The 2000 Census counted 862 residents living in the City of Skagway, averaging 2.2 persons per household. Almost 80 percent of Skagway residents are 18 years of age or older (685 individuals). Males outnumber females, 52 percent to 48 percent, respectively.

According to the 2000 Census, 92 percent of Skagway's population is white and 5 percent are American Indian and Alaska Native. Another 2 percent are Asian, and the rest are Native Hawaiian and Other Pacific Islander, or some other race. (See Figure 21.)

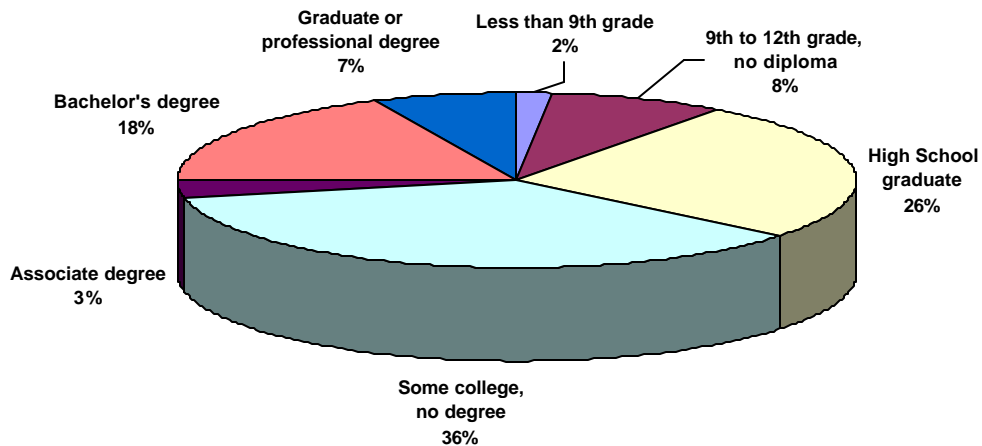
**Figure 21**  
**City of Skagway**  
**Racial Composition of Population - 2000**



Source: U.S. Census Bureau, 2000 Census.

Educational data indicates that 90 percent of Skagway's residents have completed high school. Twenty-eight percent hold at least an associate's degree and 25 percent hold a bachelor's degree or higher. This compares to the 1990 Census when 28 percent of the population had at least an associate's degree and 21 percent of the population held a bachelor's degree or higher.

**Figure 22**  
**City of Skagway**  
**Educational Attainment of Population - 2000**

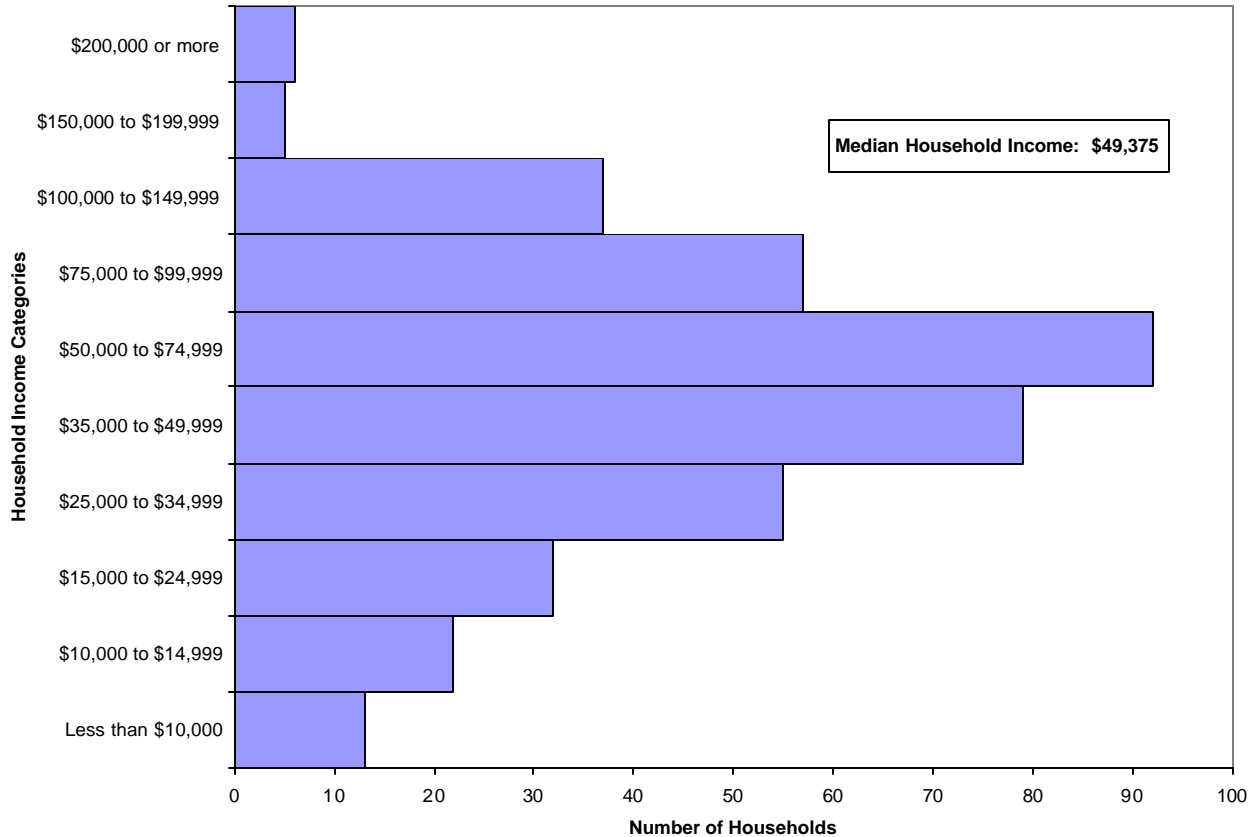


Source: U.S. Census Bureau, 2000 Census.

There were 398 households counted in Skagway in the Census 2000. Among Skagway households, approximately 17 percent had incomes less than \$25,000 (in

1999) and 3.7 percent of all Skagway residents had incomes below the poverty line. Just under half, 49.5 percent, of local households had incomes of over \$50,000, and 26 percent of the households earned \$75,000 or more. Median household income was \$49,375 and per capita income was \$27,700.

**Figure 23**  
**City of Skagway**  
**Annual Household Income - 1999**



Source: U.S. Census Bureau, 2000 Census.

### 2.1.3.2. Population

According to DOL&WD, Skagway's population in 2002 was 841. Skagway's population has not changed substantially over the past 20 years, growing only 0.3 percent. Over the past 5 years the growth rate was 0.6 percent, while the 10-year growth rate was 1.1 percent. The latest population data shows a slight decline in Skagway's population of 21 residents (2.4 percent). Population estimates available from the Census and the DOL&WD are as of April each year, and essentially represent year-round residents. However, Skagway experiences a large influx of seasonal workers employed in the visitor industry. One estimate placed Skagway's summer population at about 1,700 residents in 1999.<sup>18</sup>

<sup>18</sup> Skagway Economic Impact Study, City of Skagway, prepared by Southeast Strategies and Dean Runyon Associates.

**Table 14**  
**City of Skagway Historical Population**  
**1980 through 2002**

Year	Skagway	Annual Number Change	Annual Percent Change	Five Year Average Rate of Change	Ten Year Average Rate of Change	Twenty Year Average Rate of Change
1980	768					
1981	768	0	0.0%			
1982	790	22	2.9%			
1983	782	(8)	-1.0%			
1984	761	(21)	-2.7%			
1985	610	(151)	-19.8%			
1986	736	126	20.7%			
1987	712	(24)	-3.3%	-2.1%		
1988	704	(8)	-1.1%			
1989	704	0	0.0%			
1990	692	(12)	-1.7%			
1991	726	34	4.9%			
1992	758	32	4.4%	1.3%	-0.4%	
1993	786	28	3.7%			
1994	798	12	1.5%			
1995	775	(23)	-2.9%			
1996	778	3	0.4%			
1997	815	37	4.8%	1.5%	1.4%	
1998	811	(4)	-0.5%			
1999	825	14	1.7%			
2000	862	37	4.5%			
2001	842	(20)	-2.3%			
2002	841	(1)	-0.1%	0.6%	1.1%	0.3%

Source: U.S. Census Bureau for centennial years, the State of Alaska Department of Labor, Research and Analysis Section, Demographics unit for the non-centennial years, and the State of Alaska Department of Community and Economic Development for 1987 and 1989 estimates. Rates of change calculated by McDowell Group.

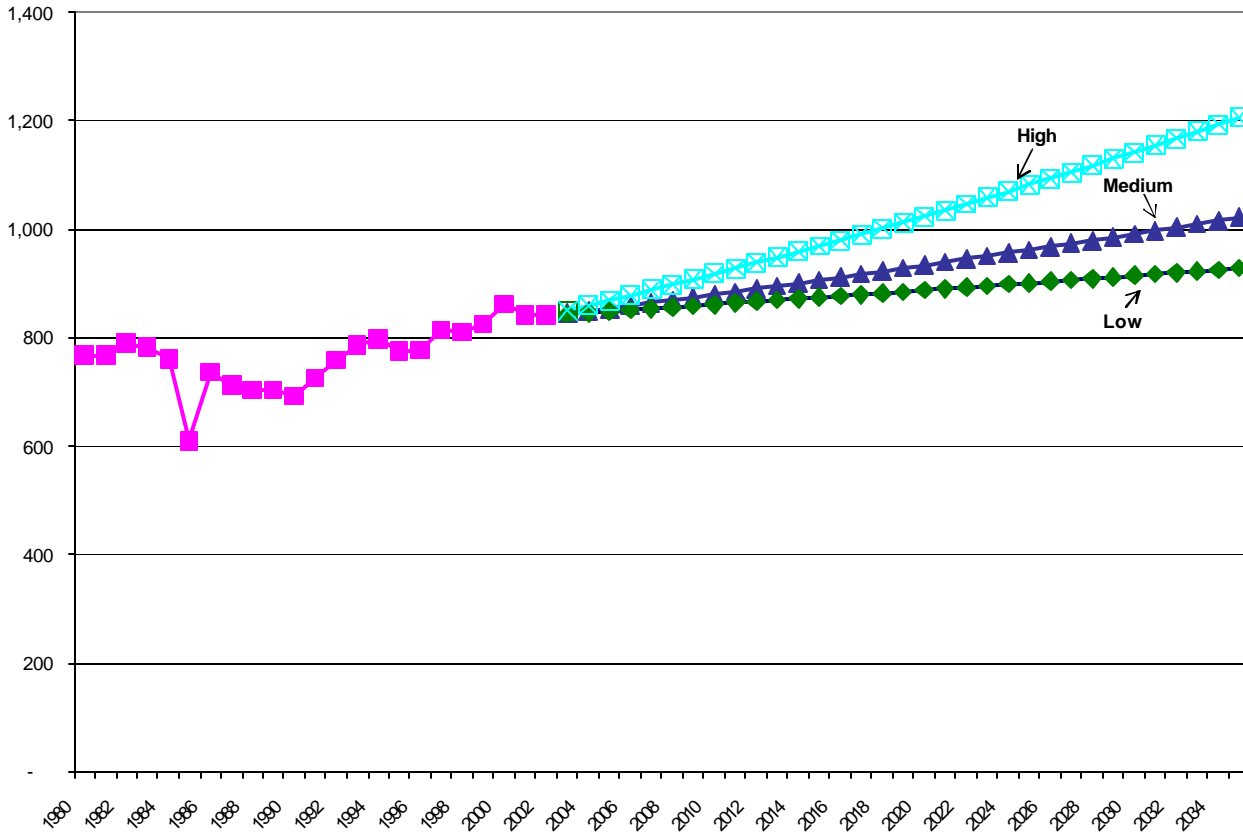
Historically, Skagway's position as the northernmost point on the Inside Passage led many gold seekers in the late 1800's to this community. According to a North West Mounted Police report, Skagway grew to a town of about 20,000 people in October 1897. The population base decreased just as rapidly as it began once the gold rush was over and by 1900 when the Census Bureau started gathering population information, the town had shrunk to 3,177 residents. The community continued to contract through the 1980's while the 1990's saw modest growth in population. Since 1990, the population has increased at an average annual rate of 1.6 percent mostly the result of increased cruise ship traffic.

### **2.1.3.3. Population Projection**

Over the long-term, Skagway's population is expected to continue growing slowly. Summer population growth is likely to out-pace year-round population growth, as a result of further expansion in the visitor industry. Projecting past trends into the future provides an indication of where the community's population could be in 30 years. Based on past trends, a low-case growth rate of 0.3 percent annually would push Skagway's population to about 920 year-round residents. With a mid-case growth rate of 0.6 percent annually, the community's year-round population would increase to about 1,000 residents. Skagway's population would grow to about 1,130 with an annual growth rate of 1.1 percent. All of these projections are conservative.

As usual, it is not possible to identify in advance the forces that will drive population change. Availability of affordable land, mine development in the Yukon, a turn-around in the Alaska highway visitor market are a few factors (unrelated to Juneau Access) that could have an impact on the local economy.

**Figure 24**  
**City of Skagway**  
**Historical Population and Projection – 1980 through 2035**

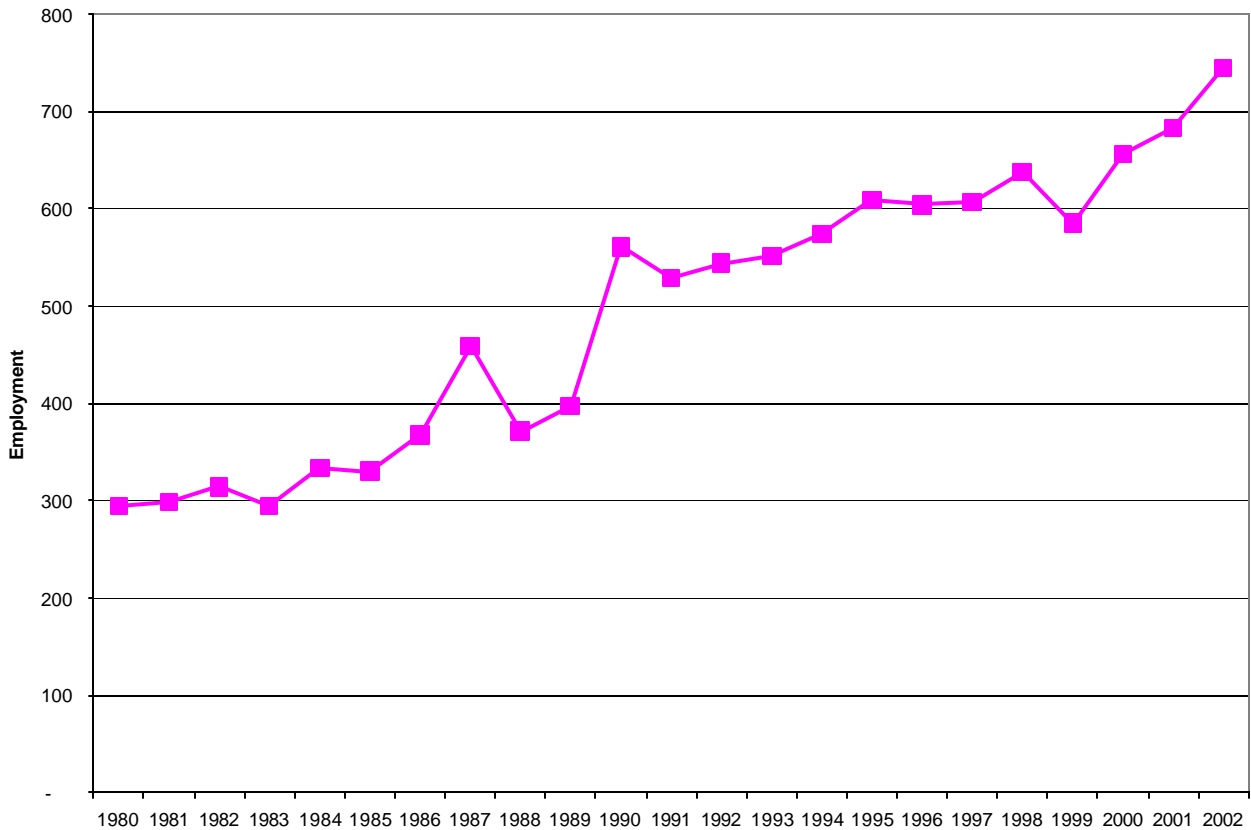


Source: U.S. Census Bureau for centennial years, the State of Alaska Department of Labor, Research and Analysis Section, Demographics unit for the non-centennial years, the State of Alaska Department of Community and Economic Development for 1987 and 1989 estimates, and McDowell Group estimates for 2004 through 2035.

### 2.1.3.4. Employment and Payroll

According to the DOL&WD, employment in Skagway included the annual average of 745 jobs in 2002. Employment grew by 153 percent between 1980 and 2002, at an annual average rate of 4.3 percent. Skagway employment is highly seasonal. In July of 2002, Skagway employment totaled 1,141 jobs. In November, the total was 505 jobs.

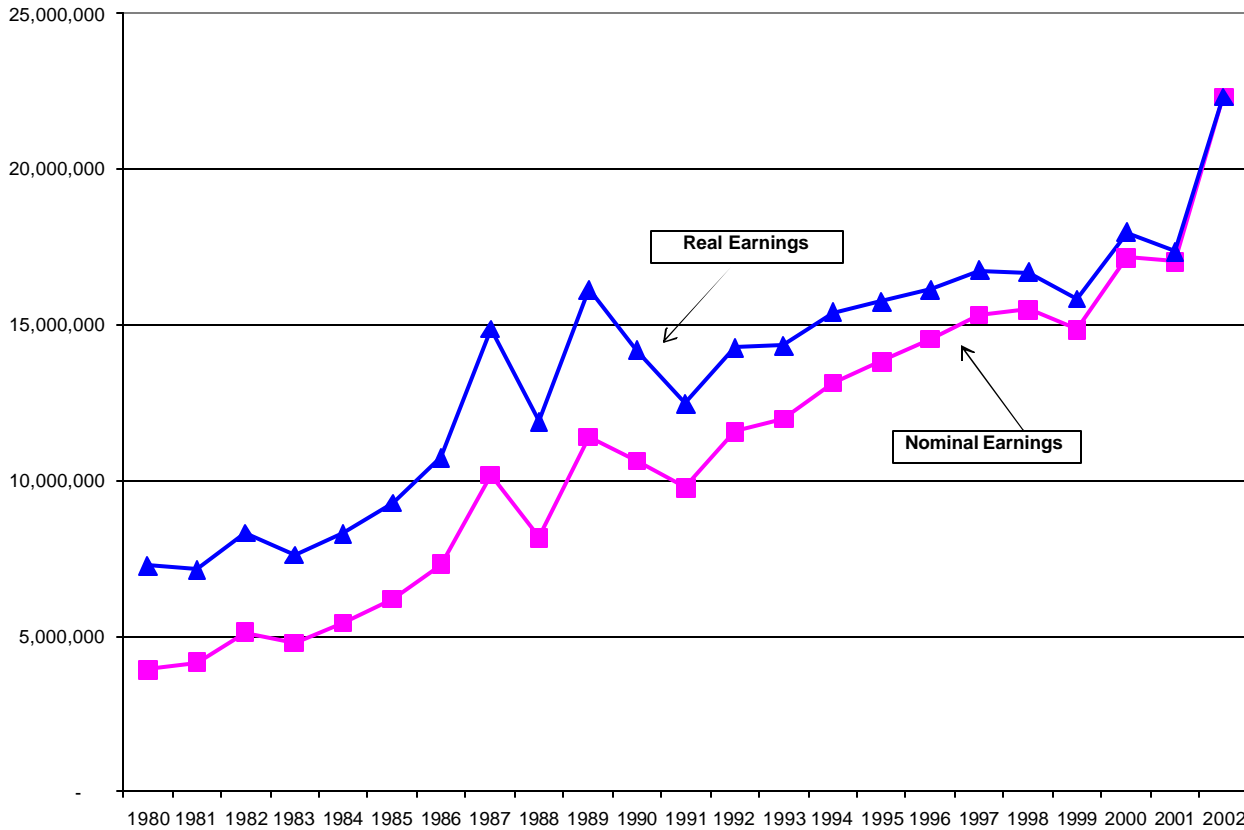
**Figure 25**  
**City of Skagway**  
**Average Annual Employment – 1980 through 2002**



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section, Employment and Earnings Summary Report for the years 1980 through 2002.

Total Skagway wage and hourly earnings increased at a higher rate than employment (over 200 percent, in 2002 dollars), from \$7 to \$22 million from 1980 to 2002. This is an average annual rate of 5.2 percent over the period. The jump in 2002 earnings is due to one employer who filed estimated reports in previous years that understated employment and earnings. (See Figure 26 for an illustration of real and nominal earnings.)

**Figure 26**  
**City of Skagway**  
**Total Annual Payroll (Real and Nominal Dollars) – 1980 through 2002**



Source: State of Alaska Department of Labor and Workforce Development, Research and Analysis Section, Employment and Earnings Summary for the years 1980 through 2002. Conversion to real dollars (CPI-U Anchorage) was calculated by the McDowell Group.

Approximately 100 employers reported wage and hour earnings for workers in Skagway.<sup>19</sup>

Private industry accounts for the majority (80 percent) of all employment in Skagway. Employment and payroll by industry is provided in the following table. (See Table 15.)

<sup>19</sup> If 50 percent or more of the workers in an industry are represented by one employer, the wage information is considered confidential. Average monthly employment, on the other hand, can be revealed.



**Table 15  
City of Skagway  
Industry Employment and Earnings - 2002**

	Average Monthly Employment	Percent of Total Employment	Total Annual Earnings	Percent of Total Annual Earnings
<b>TOTAL INDUSTRIES</b>	<b>745</b>	<b>100.0%</b>	<b>22,314,354</b>	<b>100.0%</b>
<b>TOTAL GOVERNMENT</b>	<b>124</b>	<b>16.6%</b>	<b>3,912,809</b>	<b>17.5%</b>
FEDERAL GOVERNMENT	51	6.8%	2,117,263	9.5%
STATE GOVERNMENT	10	1.3%	416,963	1.9%
LOCAL GOVERNMENT	63	8.5%	1,378,583	6.2%
<b>PRIVATE OWNERSHIP</b>	<b>621</b>	<b>83.4%</b>	<b>18,401,545</b>	<b>82.5%</b>
<b>GOODS-PRODUCING</b>	<b>62</b>	<b>8.3%</b>	<b>2,646,275</b>	<b>11.9%</b>
CONSTRUCTION	52	7.0%	2,646,275	11.9%
MANUFACTURING	10	1.3%	**	**
<b>SERVICE-PROVIDING</b>	<b>559</b>	<b>75.0%</b>	<b>15,095,395</b>	<b>67.6%</b>
<b>TRADE, TRANS. &amp; UTILITIES</b>	<b>338</b>	<b>45.4%</b>	<b>10,667,646</b>	<b>47.8%</b>
Retail Trade	146	19.6%	3,338,122	15.0%
Transportation & Warehousing	193	25.9%	7,329,524	32.8%
FINANCIAL ACTIVITIES	9	1.2%	**	**
Finance & Insurance	6	0.8%	**	**
Real Estate, Rental & Leasing	3	0.4%	**	**
<b>PROFESSIONAL &amp; BUSINESS SVCS.</b>	<b>11</b>	<b>1.5%</b>	<b>213,696</b>	<b>1.0%</b>
Administrative & Waste Svcs.	11	1.5%	213,696	1.0%
<b>EDUCATIONAL &amp; HEALTH SVCS.</b>	<b>45</b>	<b>6.0%</b>	<b>1,455,625</b>	<b>6.5%</b>
Health Care & Social Assistance	45	6.0%	1,455,625	6.5%
<b>LEISURE &amp; HOSPITALITY</b>	<b>135</b>	<b>18.1%</b>	<b>2,496,900</b>	<b>11.2%</b>
Arts, Entertainment & Recreation	13	1.8%	351,010	1.6%
Accommodation and Food Services	122	16.3%	2,145,890	9.6%
<b>OTHER SERVICES</b>	<b>21</b>	<b>2.8%</b>	<b>261,528</b>	<b>1.2%</b>

\*\* Data non-disclosable for confidentiality reasons.

Source: Alaska Department of Labor and Workforce Development

### 2.1.3.5. Personal Income

Personal income data specific to Skagway is not available from the U.S. Bureau of Economic Analysis. Data for Skagway is combined with Hoonah and Angoon and other smaller communities in the northern Southeast region and generated at the census area level.

Using 2000 Census data, it is possible to estimate total personal income for Skagway. Based on per capita income and population, personal income was approximately \$23.9 million in 1999.<sup>20</sup> Per capita income in Skagway was \$27,700 in 1999, approximately 22 percent above the Alaska average of \$22,660. Data on personal income by industry and source of payment for Skagway is not available.

### 2.1.3.6. Basic Industries

The visitor industry is, by far, Skagway's most important industry. In 2003, Skagway had almost 630,000 cruise ship visitors and another 160,000 visitors arrived by other modes according to the Skagway Convention and Visitors Bureau. Historically, Skagway has also been an important transshipment center, with freight, fuel, and ore concentrates moving over its docks.

<sup>20</sup> Per capita income in Skagway for 1999 was \$27,700 with a total population of 862.

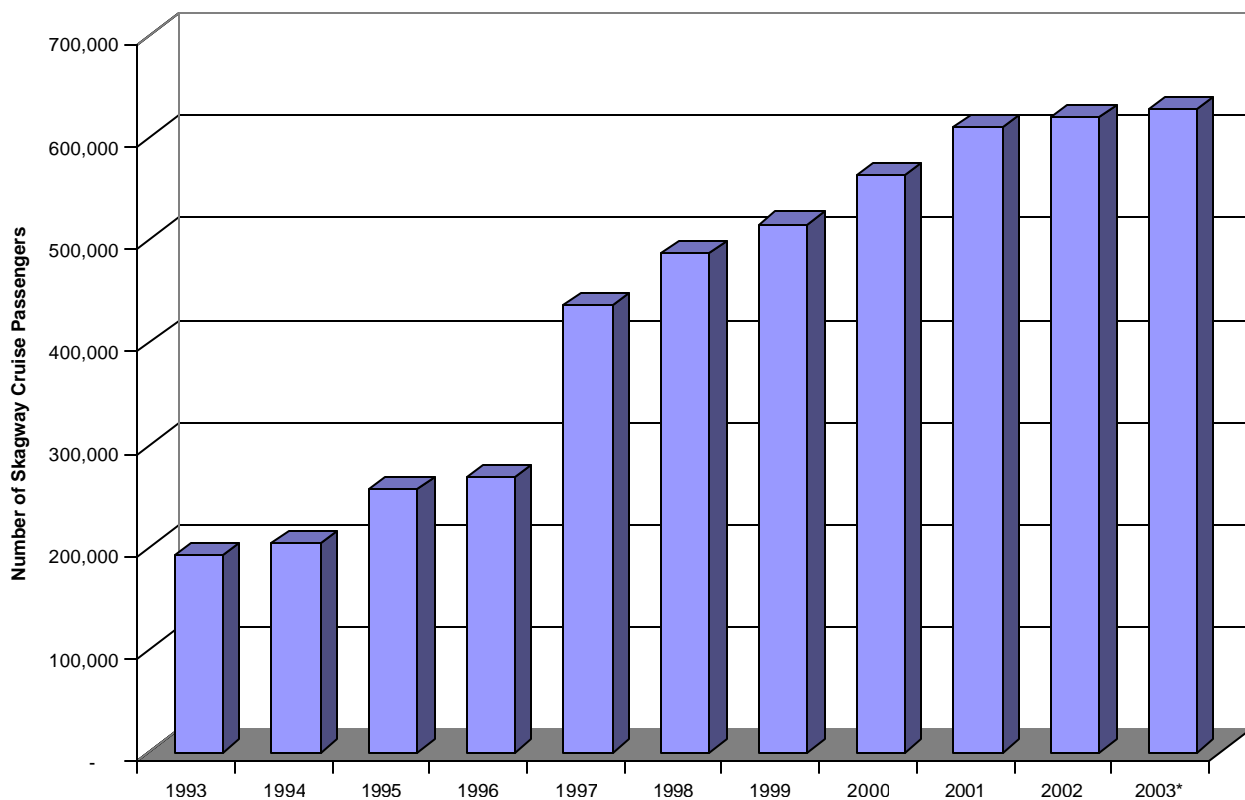
## Visitor Industry

According to a 2000 study prepared for the City of Skagway, visitors accounted for about \$60 million in local spending.<sup>21</sup> Visitor spending included \$44 million by cruise ship passengers and \$15 million by independent travelers. Visitor spending generated 900 summer season jobs and \$7.7 million in payroll. Winter employment related to visitor spending totaled 119 jobs, with an annual average of 453 jobs.

That study also noted that only about \$9 million of that spending actually stays in the economy. City of Skagway tax and fee revenues from the visitor industry totaled \$4.7 million, according to the same study.

The number of cruise visitors to Skagway has more than doubled in the last eight years, from 260,000 in 1996 to almost 630,000 for 2003. (See Figure 27.)

**Figure 27**  
**Skagway Cruise Ship Passenger Traffic, 1993 to 2003**



Source: Cruise Line Agencies of Alaska. \*2003 passenger estimate as of 10/27/03.

Cruise ship traffic to Skagway is expected to increase along with regional growth in the industry. Skagway is a very popular stop among cruise ship passengers and is profitable (in terms of tour and excursion sales commissions) for the cruise lines. Only infrastructure-related limitations (e.g., dock space) could prevent Skagway cruise traffic from growing at a slower rate than predicted for the region overall. Regional cruise traffic growth of 3 to 4 percent annually is predicted for the next ten years.

Independent visitor travel to Skagway includes travelers arriving by ferry, air taxi, and highway. In 2002, 86,000 travelers arrived in Skagway via personal vehicle,

<sup>21</sup> *Skagway Economic Impact Study*, prepared for the City of Skagway, prepared by Southeast Strategies and Dean Runyon Associates.

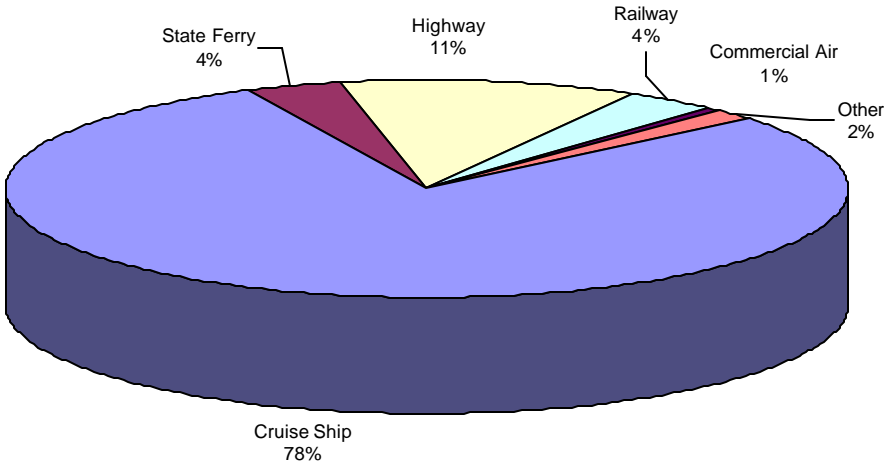
according to the border crossing data. Another 4,200 arrived via bus. Highway traffic has been declining steadily in recent years. In 1998, 98,000 visitors arrived in Skagway via personal vehicle, 94,000 in 1999, 91,000 in 2000, and 87,000 in 2001. Similarly, bus traffic has declined sharply, falling from 11,700 passengers in 1998 to 7,700 in 1999, 6,800 in 2000, and 5,200 in 2001.

Ferry traffic has also declined in recent years. The number of disembarking passengers in Skagway was at over 40,000 in 1995 and years prior to that, but totaled only 32,600 passengers in 2002. Counter to the long-term trend, passenger arrivals increased in 2002 compared to 2001, when arrivals totaled 29,100.

Air taxi passenger arrivals are also down somewhat from historical levels. In 2001 (the most recent available data), air traffic from Juneau totaled 7,200 passengers, up from 2000 (6,700 passengers) but below the 1998 total of about 8,100 passengers.

The distribution of visitor traffic in 2002 by mode of transportation is presented in Figure 28.

**Figure 28**  
**City of Skagway**  
**Visitor Traffic by Mode of Transportation - 2002**



Source: Cruise Line Agencies of Alaska, Alaska Marine Highway disembarking passenger traffic, and Southeast Strategies *Economic Impact of the Klondike Gold Rush National Historical Park on the Economy of Skagway, Alaska* March 2003.

**Transportation**

The visitor industry-dominated transportation industry employed 193 workers in Skagway in 2002, about 26 percent of the total employment for the area, and these workers captured nearly 33 percent of the total earnings for the year. Transportation workers are primarily employed with the White Pass and Yukon Railroad. The railroad was initially built to supply goods to the interior gold mining camps. The railroad prospered during World War II when the trains hauled freight for the war effort. Today the railway connects Skagway with Fraser, in British Columbia, during the summer months. The railroad trip from Skagway to Fraser and back is one of the

most popular visitor excursions in Alaska. In addition to the round-trip, passengers can make bus connections to Whitehorse and northern Alaska.

The port of Skagway serves several important functions in the city's economy. Inbound general cargo and petroleum products pass through the port. Outbound ore concentrates have been shipped all over the world from Skagway though no concentrates are currently moving through the port. Most important, the port serves the cruise industry and its 630,000 passengers, and is a northern terminus for the Alaska Marine Highway. AMHS traffic in 2002 in Skagway included 8,600 disembarking vehicles and a smaller number (8,100) of embarking vehicles.

The Skagway harbor had freight traffic of 84,000 tons in 2001, primarily gasoline and other fuels (almost 75 percent). Smaller amounts of lumber, groceries, alcoholic beverages, and machinery (one percent of each) also traveled through the harbor. According to Alaska Marine Lines, 43 percent of Skagway general freight goes on to the Yukon. The Petro Marine Services bulk fuel plant handles the petroleum products passing through Skagway. Once a month service in the off season increases to twice monthly during the summer month. The fuel originates in Vancouver with separate blended mixes for the U.S. and Canadian markets. About 75 percent of the petroleum products arriving in Skagway are bound for the Yukon (12–18 million gallons of the 22-24 million gallons annually).

The volume of freight (excluding ore concentrates) moving through Skagway has been declining, but may have stabilized in 2002. According to Yukon border crossing data, 1,646 trucks passed through the border northbound in 2002, up from 1,370 in 2001, but below previous years (1,753 in 2000, 2,196 in 1999, and 3,110 in 1998). Similarly, the number of trucks southbound on the Klondike Highway totaled 1,800 in 2002, up from the 2001 total of 1,639, but below traffic in 2000 (2,080 trucks), 1999 (2,262 trucks), and 1998 (3,147 trucks).

### **2.1.3.7. Support Sector Industries**

#### **Retail Trade**

The Retail Trade industry in Skagway employed an average of 146 workers in 2002. Many of these positions are seasonal jobs. During the month of August, 262 workers were employed in this sector. Employment falls sharply during the winter months when, in 2002, only 62 workers were employed for the month of January. Skagway's retail sector, like the economy overall, is highly dependent on visitor spending.

Similar to Haines, a large share of Skagway household spending occurs in Juneau. The 1994 *Juneau Access Household Survey* found that Skagway households spent an average of \$1,600 in retail purchases, including \$1,100 in groceries, the previous year. Leakage from the Skagway economy has likely increased since then, as a result of improved ferry service to Juneau. Future changes in the transportation infrastructure in Lynn Canal will affect this leakage.

#### **Government**

As in most Southeast communities, public sector employment plays an important role in Skagway's economy. Local government employment averaged 63 in 2002, followed by federal government employment at 52, and state government at 10. Collectively, government workers made up almost 17 percent of the local workforce and earned 17.5 percent of the total wages in 2002.

Local government employment includes municipal and school district employees. Federal government workers are employed with the National Park Service, customs,

and the local post office. Future federal employment is expected to be stable. State employment in Skagway is also expected to remain stable. However, like all communities in Alaska, Skagway may be faced with state employment reductions if state budget shortfalls cannot be resolved.

### **Seafood Harvesting**

According to Alaska Commercial Fisheries Entry Commission records for 2002, only 2 of the 3 active permit holders in Skagway participated in commercial fishing activities. Halibut, herring, and salmon were harvested. Total pounds landed and estimated gross earnings data were not released due to confidentiality reasons.

### **Salmon Enhancement**

Prior to 2000, two local hatcheries released small numbers of Chinook salmon smolt in the Skagway area for several years. These releases peaked in 1993 and 1994 and helped support a sport fishing charter industry. Skagway and Haines residents requested assistance from the Alaska Department of Fish and Game to increase hatchery Chinook salmon return to Taiya Inlet. Taiya Inlet is located approximately 4 miles north of Haines and includes the Skagway boat harbor. Chinook salmon are imprinted in net pens located in Pullen Creek and are relocated to saltwater net pens in Taiya Inlet prior to release. Returning adults are available to anglers fishing near Haines and in Taiya Inlet, a popular terminal area. The shoreline adjacent to Pullen Creek is easily accessible from Skagway. The department's aim is to generate 4,000 angler-days of fishing effort per year at the terminal release area in Taiya Inlet.

#### **2.1.3.8. Housing and Real Estate**

According to the 2000 Census, there were 502 housing units in Skagway, of which 401 units were occupied. Vacant housing units numbered 101 (20 percent) but 47 of this number were classified as seasonal, recreational, or occasional use units. Also, this vacancy rate does not reflect housing market conditions in the summer, when, apparently, very few housing vacancies exist.

The summer housing situation is apparently limited with seasonal workers frequently camping and staying in travel trailers. Many summer employees live in tents or trailers in seasonal camping facilities and RV parks. Spaces are limited and costly. Some residents rent out rooms in their home.

The Skagway Chamber of Commerce reports that there are no real estate agents in Skagway because there are very few properties available for sale. When property does become available it is usually advertised and sold 'by owner'.

The City of Skagway assessed real property value for 2002 was \$170 million for all properties.<sup>22</sup>

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<sup>22</sup> State of Alaska Department of Community and Economic Development, *Alaska Taxable 2002*.

### 2.1.3.9. Municipal Revenues and Expenditures

The City of Skagway generated \$6.5 million in revenue for the fiscal year ending June 30, 2002. More than 63 percent of these revenues were generated from sales and real property taxes (\$2.6 million and \$1.1 million, respectively). Skagway's mill rates for real property taxes ranged from 1.49 to 8.27 for 2002. The sales tax rate is 4 percent. Skagway's growing visitor industry and a change in tax structure are reflected in increasing sales tax revenues, from \$949,000 in 1993 to \$2.6 million for 2002.

Skagway also levied an 8 percent bed tax in 2002 resulting in \$105,000 in revenues.

**Table 16**  
**City of Skagway**  
**Municipal Revenues - 2002**

Source of Funds	Revenue Amount 2002	Percent of Revenue Base
Sales Taxes	\$2,571,798	45.1%
Real Property Taxes	1,064,127	18.6%
Water/Sewer Revenue	327,157	5.7%
Bond Service Revenue	312,269	5.5%
Investment Income, Penalties, and Interest	296,847	5.2%
Port	252,984	4.4%
Garbage Revenues	248,733	4.4%
Tourism (Including Hotel Taxes)	180,633	3.2%
State Sources	162,406	2.8%
Land Payments	99,059	1.7%
Charges for services	89,884	1.6%
Land Sales Revenues	85,915	1.5%
Recreation Center Revenue	15,255	0.3%
<b>Total Revenues</b>	<b>\$5,707,067</b>	
Transfers from other funds	807,617	14.2%
<b>Total Revenues and Transfers</b>	<b>\$6,514,685</b>	

Source: City of Skagway pre-audited financial statements for the fiscal year 2002 ending June 30, 2002.

General fund expenditures for the City of Skagway represented more than 40 percent of all expenses in 2002. Capital projects comprise another 41 percent. (See Table 17.)

**Table 17**  
**City of Skagway**  
**Municipal Expenditures - 2002**

Program Expenses	Expense Amount 2002	Percent of Total Expenditures
General Fund Expenditures:		
Police Department	\$504,524	7.4%
Equipment	415,496	6.1%
Fire Department	367,646	5.4%
Administration	264,965	3.9%
City Hall	216,593	3.2%
Public Works	201,950	3.0%
Health Center	173,584	2.6%
City Manager	149,532	2.2%
Library	95,113	1.4%
Museum	93,120	1.4%
Council	89,585	1.3%
Civic Center	79,107	1.2%
City Janitorial	55,919	0.8%
Capital Projects	2,809,939	41.3%
Bond Payments	311,780	4.6%
Water/Sewer Fund	281,715	4.1%
Tourism	277,299	4.1%
Garbage Fund	246,933	3.6%
Port	129,814	1.9%
Land Sales Expenses	32,604	0.5%
<b>Total Expenditures</b>	<b>\$6,797,220</b>	

Source: City of Skagway pre-audited financial statements for the fiscal year 2002 ending June 30, 2002.

## 2.2. Public Utilities Conditions

### 2.2.1. City and Borough of Juneau

Public utility services offered in the City and Borough of Juneau (CBJ) include water, wastewater treatment, solid waste, and electrical power. Water and wastewater treatment are provided by the CBJ Utility Department. Solid waste is handled by Arrow Refuse and Channel Landfill, two private corporations. Electric power is provided by the Alaska Electric Light and Power Company.

#### 2.2.1.1. Water

Two watersheds supply Juneau's drinking water. These are the well field in the Last Chance Basin of Gold Creek and the Salmon Creek reservoir. When both sources are operational, residents north of Hospital Drive and along North Douglas Highway are supplied by water from the Salmon Creek system and residents south of Hospital Drive and all of Douglas Island are supplied by Last Chance Basin. The treated water is stored in nine reservoirs with a total capacity of 13.6 million gallons. The Juneau water system services 30,000 customers through 6,900 residential and

commercial accounts. (Joe Buck, October 9, 2003) Over 90 percent of Juneau households are served by the public water system. (DCED, 2003)

The primary source for Juneau drinking water is the Last Chance Basin well on Gold Creek. Average supply from this well is about 3 million gallons per day (MGD) and supplies approximately 87 percent of the total annual area usage. This water source was constructed in 1959 and upgraded in 1976 and 1990. The water is chlorinated and fluoridated but otherwise receives no treatment.

A secondary, less dependable, source of water is Salmon Creek. Salmon Creek is an intermittent source of water due to high turbidity and annual maintenance of the AEL&P generators. Turbidity is usually exceeded for one month in the spring as a result of snow melt. When online the system supplies approximately one third of the water used area wide. AEL&P uses the creeks reservoir for power generation. CBJ pumps the water after it passes through the AEL&P generators. The water is chlorinated, fluoridated, and adjusted for pH and alkalinity. This water source became available in 1984 after AEL&P rehabilitated the power house.

Source production capacity for both systems is 19 MGD. Current average usage is approximately 3.5 MGD and 108 million gallons per month. Peak usage for June 2002 was 126.1 million gallons per month. Total water usage for 2002 was 1.3 billion gallons.

#### **2.2.1.2. Wastewater Treatment**

The CBJ utilizes a complex system of 152 miles of gravity feed sewer mainlines. The system serves approximately 8,350 customers area wide. The City of Juneau operates three wastewater treatment plants;

- Juneau-Douglas Treatment Facility,
- Mendenhall Treatment Facility, and
- Auke Bay Treatment Facility.

The Juneau-Douglas treatment plant is approximately 30 years old. The average daily flow through the plant is approximately 1.8 million gallons per day (MGD) with peak flow generally occurring in the fall at 5.5 MGD. Annual flow is approximately 657 million gallons. The capacity for average volume is 2.76 MGD and a peak capacity is 7.25 MGD. Based on design flow, the facility operates at approximately 80 percent of capacity annually. Due to the age of the facility, the Juneau Douglas plant will most likely need to be upgraded in the next 10 years.

The Mendenhall treatment plant is approximately 15 years old. The average daily flow through the plant is approximately 2 MGD with peak flow generally occurring in the fall at 3.8 MGD. Annual flow is approximately 730 million MGD. The capacity for average volume is 6.8 MGD. Based on design flow, the facility operates at approximately 66 percent of capacity. The Mendenhall facility was expanded 15 years ago with some minor improvements since. The facility can handle projected growth for the foreseeable future.

The Auke Bay treatment plant is approximately 15 years old. The average daily flow through the plant is approximately 0.09 MGD with peak flow generally occurring in the fall at 0.13 MGD. Annual flow is approximately 32.9 million gallons. The capacity for average volume is 0.16 MGD. Based on design flow, the facility operates at approximately 75 percent of capacity. The Auke Bay facility was expanded in 2000 when a larger clarifier was added. The facility can handle projected growth for the foreseeable future. (Scott Jeffers, October 10, 2003)



The Borough's piped sewage system serves almost 80 percent of Juneau's residents. (DCED, 2003)

### **2.2.1.3. Solid Waste**

Solid waste is collected by Arrow Refuse Inc., a subsidiary of Alaska Pacific Environmental. Solid waste is hauled to the incinerator/landfill facility in the Lemon Creek area. The landfill and incinerator are operated by Capital Disposal. Burnable waste is separated from non-burnable items and incinerated in the twin-incinerator facility. Non-burnable inert items are landfilled on site. There are currently plans underway to change operating procedures at the facility to achieve more efficient flow of materials. Cardboard, newsprint, aluminum, glass, tin, and white office paper are accepted for recycling at the Juneau Recycling Center in Lemon Creek operated by Waste Management. Materials for recycling are periodically sent to Renton, Washington. In 1991, R.W. Beck estimated the remaining life of the landfill to range from 23-33 years under current use patterns dependent on population fluctuations, recycling efforts, and incineration capacity. (Mike Allison, October 10, 2003)

### **2.2.1.4. Hazardous Waste**

The CBJ contracts for the collection of hazardous materials. There are 7 collection events annually for household and conditionally exempt small generators of hazardous materials (SGHM). SGHM are small entities that generate less than 220 pounds of hazardous material per month. Household users pay a hazardous waste fee monthly on their water and sewer bill and no fee at the time of collection. SGHM users pay a fee based on volume. Entities that generate larger volumes of hazardous materials are responsible for contracting for disposal in the private sector. (Janet Grange, October 10, 2003)

### **2.2.1.5. Electricity**

Electric power in Juneau is supplied by Alaska Electric Light and Power Company (AEL&P). AEL&P is a privately owned corporation with a capacity to provide 91 megawatts of hydropower and more than 100 percent of that available in diesel backup.

AEL&P's main hydro source is the Snettisham Hydroelectric Facility. Built by the federal government in 1973 and expanded in 1990, the Snettisham Project was sold to the State of Alaska in 1998. Snettisham is leased from the state and 3 smaller facilities located in Salmon, Gold, and Annex Creeks are owned and operated by AEL&P. Snettisham has a maximum generating capacity of 85 megawatts, Salmon Creek has generating capacity of 5 megawatts, Gold Creek has generating capacity of 1.5 megawatts, and Annex Creek has generating capacity of 3.5 megawatts. AEL&P generated a total of 311 million kilowatt hours (MKWH) of power in 2002. Ninety-five percent of generation came from hydro sources. Diesel is used only as a back-up source. Maximum hydro generation capacity is 325 MKWH. Snettisham has a maximum capacity of approximately 275 MKWH, Salmon Creek capacity is 35-45 MKWH, Gold Creek capacity is 8 MKWH, and Annex Creek has capacity of 4 MKWH.

AEL&P serves 12,949 residential, 1,403 small commercial, 99 large commercial, and 446 governmental customers. Recent peak demand was January 2003 at 60 megawatts. Annual usage has been averaging approximately 310 million kilowatt hours. Demand is tied to local economy and has been basically flat for the last five years. Demand is expected to remain flat for the next 2-3 years. Current installed capacity is sufficient to satisfy demand for the foreseeable future. (David Stone, October 3, 2003)

## **2.2.2. Haines Borough**

Utility systems owned and operated by the City of Haines are the water and wastewater systems. There are three companies providing solid waste disposal, the city and two privately owned companies. Electric power is primarily supplied by Alaska Power and Telephone Co.

### **2.2.2.1. Water**

City water is pumped from Lily Lake, two miles north of Haines. Ninety-six percent of the city's population uses city water. There are 531 total customers, 337 residential, and 194 commercial. An estimated 100 million gallons per year (MGY) is pumped from the lake. The system is rated for a maximum pump rate of 500 gallons per minute (GPM) but 450 GPM is the practical limit. Even at that rate the system begins to deteriorate and water quality drops. A 630,000-gallon water storage tank on FAA Road gives the city three days of water supply reserve. During the summer the system operates at approximately 80 percent of design flow of the filters (400 GPM). Maximum usage in summer is approximately 400,000 gallons per day (GPD) and 50 percent of that the rest of the year. Lily Lake holds 35 acre feet of water. This supply should be adequate for the next few years. The city contracted for a study due for completion in 2003 that will address issues of future demand. (Scott Bradford, October 6, 2003)

Privately owned, Crystal Cathedrals Water and Sewer Inc. (CC,) operates a well water system located at 1.5 mile of the Haines Highway. The system serves the Piedad, Cathedral, and the new Meadows subdivisions. There are currently 50 customers. The system pumps approximately 150-300 GPM. The CC system is interconnected to the Haines city water system at Sawmill Road. The city buys water from CC when demand is high. In previous years demand was high during cruise ship visits. Haines has seen a dramatic decrease in the number of cruise ship visits in recent years and a corresponding decline in water usage. (John Floreske Jr., October 7, 2003).

### **2.2.2.2. Wastewater Treatment**

Haines rebuilt a secondary treatment plant into a primary plant in 1993. The plant operates under an EPA 301(h) waiver from secondary treatment for ocean discharges. The facility is rated for a maximum flow of 1.9 million gallons per day. Average non-peak usage is approximately 232,000 gallons per day and summer peak usage is approximately 350,000 gallons per day. Rarely, in the wettest weather, the system can exceed one million gallons per day. The system is adequate to handle growth in the near future. (Scott Bradford, October 6, 2003)

### **2.2.2.3. Solid Waste**

There are three disposal services for solid waste in Haines, the city and two private firms, the Haines Sanitation Company and Acme Transfer. The Haines Sanitation Company is a private operator that provides solid waste collection. Landfill disposal is at the city-owned, ten-acre site approximately 1.5 miles southeast of the city limits. The site has been used since 1976 and has an expected life of 20 to 25 years. The City owns an adjacent ten acres for future expansion. A monitoring well at the site and ground water sampling every six months have shown no leachate problems. (Linda Walker, Haines Sanitation October 9, 2003).

Acme Transfer operates a drop off garbage disposal service for a fee of ten cents a pound. Acme sorts recyclables such as aluminum, plastic, glass, and cardboard. The remaining refuse is compacted and stored in 60-foot containers. The containers

are barged to Seattle every six weeks. A non-profit group operates the recycling center in Haines. (Adam Pierce October 9, 2003)

#### **2.2.2.4. Hazardous Waste**

Organized hazardous waste collection in Haines is obtained by participation in the Southeast Alaska hazardous substance mobile operated by the Alaska Department of Environmental Conservation approximately once a year. The Regional Household Hazardous Waste (HHW) Program serves nine communities in Southeast Alaska: Skagway, Haines, Sitka, Petersburg, Wrangell, Klawock, Craig, Thorne Bay, and Ketchikan. Each community holds at least one weekend-long HHW collection event for its residents each year. The nine communities schedule their event dates such that the contractor and equipment can move from community to community in the most cost-effective manner. (DEC, 2002)

#### **2.2.2.5. Electricity**

The electric power for the Haines area is supplied by three entities. Alaska Power and Telephone Co. (AP&T) provides power for city residents; The Tlingit Haida Regional Electric Authority (THREA) provides power from mile ten on the Haines Highway to the Canadian border, and augments their generation capacity by purchasing power from Southern Electric (SE). There is an area from approximately the five-mile mark to the ten-mile mark on the Haines Highway that has no service provider.

AP&T purchased the Haines utility from AEL&P in 1997. AEL&P purchased the utility from Haines Power and Light. AP&T also purchased another small local utility, Mud Bay Utility Co. in 1997. AP&T provides power for both Haines and Skagway from its Goat Lake Hydro facility located ten miles north of Skagway. The Goat Lake facility began operation in 1997 and the intertie with Haines was completed in 1999. Goat Lake has the capacity to generate 4 megawatts of hydro and 3.2 megawatts of diesel power.

AP&T services approximately 1,232 residential and commercial customers in Haines. The average usage for Haines is approximately 900,000 kilowatt hours per month. Unlike Skagway, Haines peak usage occurs in the winter months with average usage of one million kilowatt hours per month. Increased demand in Skagway during the summer months combined with Haines normal usage draws close to 100 percent of the capacity of Goat Lake. Demand for power in Haines is growing steadily but at a slow rate.

AP&T has been under Chapter 11 bankruptcy. They recently completed the reorganization process and operating agreements are in place effective July 2003. There was no disruption of service during the reorganization process. (Dave Vogle, October 8, 2003).

Southern Electric (SE) is a privately owned hydro facility located near ten-mile on the Haines Highway. SE is capable of generating 600 kilowatts of hydro and 417 kilowatts of diesel power. SE currently operates at less than 50 percent of capacity. Low water levels can at times be a problem for the hydro facility. SE is under a 20-year contract to sell 100 percent of its power to The Tlingit Haida Regional Electric Authority. (John Floreske Jr. October 7, 2003).

THREA, located on Mosquito Lake Road, provides power from 10-mile to the Canadian border including the City of Klukwan. THREA has the capacity to generate 1,160 kilowatts of diesel power. The generators are brought on line occasionally to supplement SE power during times of low water or maintenance shut-downs.

THREA has 240 customers, the largest being the U.S. and Canadian border stations. THREA can accommodate projected growth in demand for the foreseeable future. If required, THREA can parallel capacity with SE. (Harry Brown October 9, 2003).

### **2.2.3. Skagway**

The City of Skagway provides water, wastewater treatment, and solid waste utility services. Electric power is supplied by Alaska Power and Telephone (AP&T).

#### **2.2.3.1. Water**

The Skagway municipal water system is comprised of three wells that tap an aquifer beneath the Skagway River. The wells have been in use since 1966. The city has a storage capacity of 300,000 gallons in two 150,000 gallon cedar tanks. There are approximately 350 service connections including residential and commercial.

Average daily usage in non-peak season (fall, winter, spring) is approximately 510,000 gallons per day (GPD). Daily peak summer demand is estimated at 1.2 to 1.3 million gallons per day (MGD) and 188.6 million gallons per year. Cruise ship water usage has a great impact on the daily flow and water levels. The city allows the cruise ships to deplete the water supply down to 40 percent of total reserves. At that point, the water supply is automatically shut off until the reserve is restored above 40 percent.

Current capacity is adequate for the next 2 to 3 years, but probably not much longer at current rates of growth. Design work is underway for a booster station for North end users above 15th street. This project would install another well with a 550 GPM capacity and dramatically increase water pressure in the area. (Tim Gladden, October 7, 2003)

#### **2.2.3.2. Wastewater Treatment**

Skagway built a secondary treatment facility that shut down in 1978. At that time, they went to a screen and discharge system. In 1991 they opened a primary treatment plant operating on an EPA 301(h) waiver from secondary treatment for ocean discharges. Average daily flow is approximately 200 to 300,000 gallons per day. During the fall wet season, the plant operates at near full hydraulic capacity (630,000 gallons per day) for short periods of time. The system is adequate for the next 2 to 3 years. Annual revenues exceed expenses for combined water and wastewater operations in Skagway. (Tim Gladden, October 7, 2003)

#### **2.2.3.3. Solid Waste**

Skagway capped the city-owned landfill approximately 5 years ago. The facility is not closed yet, but is not currently being used. An incinerator was built in 1998 at mile 5.6 Klondike Highway. The incinerator is adequate for non-peak demand but use is maximized during the summer peak. Maximum demand during summer is approximately 8 tons per day and averages between 8 to 16 tons per week for the remainder of the year. Scrap metal is collected and barged out for recycling approximately once a year. Only a small amount of trash is collected directly from small cruise ships. Large cruise ships do not currently leave solid waste in Skagway. (Tim Gladden, Grant Lawson, October 7, 2003)

#### **2.2.3.4. Hazardous Waste**

There are no hazardous waste disposal sites available in the Skagway area. The city participates in the annual Southeast Alaska hazardous substance mobile operated

by the Alaska Department of Environmental Conservation. (Tim Gladden, October 7, 2003)

#### **2.2.3.5. Electricity**

Power for the City of Skagway and the surrounding area is generated by Alaska Power and Telephone (AP&T) from their Goat and Dewey Lake facilities. Goat Lake is the primary source and is located ten miles north of Skagway. Access to the facility is at seven-mile on the Klondike Highway. Goat Lake provides power to the City of Haines as well as Skagway. Dewey Lake is a decades old hydro project with a 940 kilowatt capacity. The Dewey Lake system operates intermittently based on water levels. It produces approximately 3 million kilowatt hours per year.

Goat Lake hydro facility began operating in 1997 and is capable of generating 4 megawatts of power. AP&T provides service to 952 residential and commercial customers. Summer demand approaches 100 percent of generating capacity. Goat Lake has a diesel back up capacity of 2.4 megawatts.

Growth in demand is currently small but steady. Commercial demand has fluctuated with the operations of the White Pass Railroad and the ore terminal. Currently, the ore is not operating and the White Pass Railroad operates as a visitor attraction. (Dave Vogle, October 10, 2003)

The ability of Goat Lake to generate hydro power is at the mercy of the weather. It is AP&T's desire to end more expensive diesel power generation. AP&T is in the final design and engineering stage for a new hydroelectric facility (Otter Creek Hydroelectric Project) at Kasidaya Creek, three miles south of Skagway. The facility would have a generation capacity of 3 megawatts. This new facility would help to offset the load demand of both communities. The project would be a run-of-the river project and would not use a reservoir. The project would include the construction of a 115' x 150' jetty and a 60'x 20' floating dock in Taiya Inlet. (USFS Record of Decision, Tom Puchlerz, Forest Supervisor, Tongass National Forest, June 27, 2003).

The USFS released a decision on June 27, 2003 to issue a Special Use Authorization for the project. AP&T anticipates construction beginning in the winter or spring of 2003-2004 with completion projected for one year from the start. (Dave Vogle, October 10, 2003).

AP&T has expressed concern with the proposed east Lynn Canal route in the Juneau Access Project. The utility is concerned about increased cost of construction, public safety and vandalism. (Letter from AP&T to AK DOT&PF April 16, 2003).

### **2.3. Social Environment**

This chapter provides information on education, health care and social services, public safety, and quality of life in the Juneau Access project area. The chapter is separated into sections for the communities of Juneau, Haines, and Skagway. This introductory section also contains background information on quality of life.

#### **Quality of Life Background Information**

Quality of life is an intangible that is impossible to quantify and therefore, often given scant attention. Many residents will assert, however, that quality of life is the reason they live where they do. Quality of life is an important, and individual, feeling of satisfaction and well-being. This subjective topic is often at the heart of people's

opinions about a project. Accordingly, this Technical Report explores why people live where they do and the judgments they may make about the effect of the Juneau Access alternative on their lifestyles.

Quality of life judgments in this document were formed from a series of interviews, review of the results of several survey efforts, and from a literature investigation. Interviews were conducted with Juneau, Haines, and Skagway government officials, business owners, service providers, and other community residents. Surveys include October 2003 *Juneau Access Household Survey Results* by the McDowell Group, the October 2000 *Economic Impacts of the Cruise Industry in Southeast Alaska* prepared for the Southeast Conference by the McDowell Group, and the November 2001 *Survey on Juneau Visitor Center Needs* prepared for the City and Borough of Juneau by the McDowell Group. Literature reviewed includes the comprehensive and coastal management plans for all affected communities since the foundation for these plans lies in community desires and values.

Quality of life is a complex, abstract, and multidimensional concept that is difficult to define and measure. Definitions include: an individual's sense of well-being, or personal satisfaction (or dissatisfaction) with the cultural or intellectual conditions under which one lives (as distinct from material comfort), or the freedoms one has to enjoy political, economic, and social desires. Other things which determine quality of life include access to adequate food, freedom of worship, and availability of good health care. Quality of life varies for different age groups and for different geographical areas. The availability of hospital or elder care is important to the elderly while individuals in their 20's or 30's may desire close proximity to outdoor recreation. Some individuals might desire a strong arts community while others could prefer solitude for reading or writing.

Residents of Juneau, Haines, and Skagway all feel a strong attachment to their communities, have strong feelings about changes that might affect their chosen way of life, and hold differing opinions as to what constitutes good versus bad change. This community cohesion – the feeling that each community has special qualities – bring residents together, but also divides them because they hold definite and differing opinions about the kind of change that would be beneficial for their towns.

All three communities have, to a varying degree, recently been involved in public reviews of permits or Environmental Impact Statements for large proposed mining projects (AJ, Kensington, and Windy Craggy Mines). Juneau has also been recently involved in discussion of a second crossing in Lynn Canal to the north end of Douglas Island. Public reaction made it clear that residents in all three communities hold strong and divergent opinions regarding development projects and those residents are well-educated, informed, and vocal about their views.

## 2.3.1. City and Borough of Juneau

### 2.3.1.1. Education

#### Juneau School District

**Enrollment:** The Juneau School District serves primary and secondary educational needs within the boundaries of the City and Borough of Juneau. During the 2002-2003 school year, the district had an average daily membership (ADM) of 5,543. The following table shows enrollment over the past 13 years for elementary, middle, and high school students. Middle and high school enrollment numbers have increased from the 1990-1991 school year (212 and 447 students, respectively) while elementary school enrollment has decreased (240 students) over this same time.

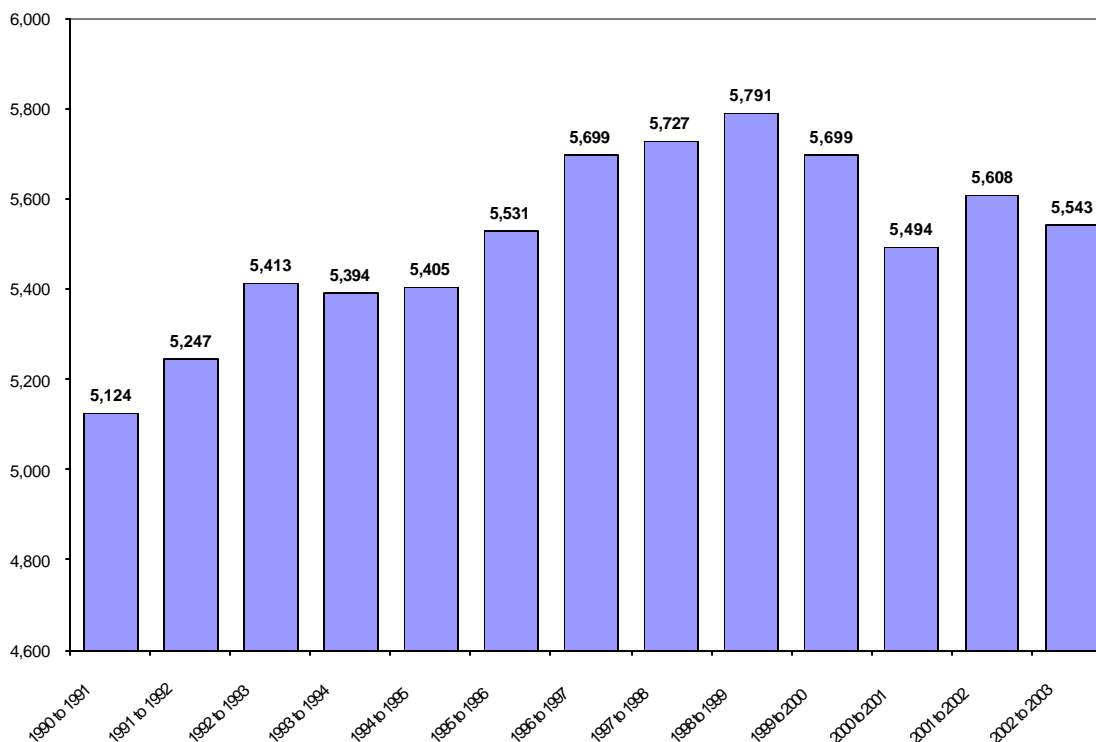
**Table 18**  
**Juneau School District Enrollment**  
**(1990 through 2002)**

School Year	Enrollment			
	Elementary	Middle	High School	Total
1990 to 1991	2,639	1,173	1,312	5,124
1991 to 1992	2,652	1,227	1,368	5,247
1992 to 1993	2,744	1,272	1,397	5,413
1993 to 1994	2,714	1,275	1,405	5,394
1994 to 1995	2,644	1,280	1,481	5,405
1995 to 1996	2,656	1,301	1,574	5,531
1996 to 1997	2,634	1,362	1,703	5,699
1997 to 1998	2,640	1,388	1,699	5,727
1998 to 1999	2,653	1,355	1,783	5,791
1999 to 2000	2,614	1,314	1,771	5,699
2000 to 2001	2,490	1,260	1,744	5,494
2001 to 2002	2,479	1,349	1,780	5,608
2002 to 2003	2,399	1,385	1,759	5,543

*Source:* State of Alaska Department of Education and Early Development. Enrollment does not include Alyeska Central Correspondence School. While located in Juneau, the correspondence school serves students from all over the state.

Enrollment has grown over the long term with the exception of 1993, 1999, 2000, and 2002 when the school district experienced declines. The biggest decline was from 1999 to 2000 when the school district experienced a loss of 205 students from the previous year. School enrollment declined by nearly 250 students in Juneau in the last five years.

**Figure 29**  
**Juneau School District Enrollment**  
**1990–1991 through 2002–2003 School Years**



*Source:* State of Alaska Department of Education and Early Development. Enrollment does not include Alyeska Central Correspondence School. While located in Juneau, the correspondence school serves students from all over the state. 2002-2003 enrollment is as of October 1, 2002.

**Budget:** The 2002–2003 school district budget was \$39.0 million. The projected budget for the 2003-2004 school year is \$39.3 million. The State of Alaska provides approximately 52 percent of the district’s revenues (\$20.5 million for FY03 and projected \$20.2 million for FY04) and the City and Borough of Juneau contributes nearly all the other 48 percent.

**Facility Capacity:** The Juneau School District has six elementary schools, two middle schools, and one high school. There are also a charter school for grades K-5, a Montessori program, and an alternative high school. Over 600 certified and support staff work for the school district. The Juneau-Douglas High School is nearing renovation completion and architectural design of a second high school is underway. Depending on funding availability and high school enrollment, a new high school may be constructed in the area.

**Programs and Resources:** The Juneau School District offers a comprehensive educational program for kindergarten through 12<sup>th</sup> grade, including vocational education and a number of alternative learning programs to address students’ varied needs. The district also serves students aged 3 through 21 who experience some type of disability. The count of students with disabilities as of 10/25/02 was 736 students, almost half of whom were classified with Specific Learning Disabilities (350 students) and another 152 students were classified as Speech/Language Impaired.

During the course of a school year, district staff and students travel out of town by ferry, ferry/car/bus, or jet to a variety of events and activities. These include



academic and extracurricular activities such as debate, foreign language fairs, drama, athletic competitions, and student government conferences. Most student travel occurs at the high school level, but elementary and some middle school classes take field trips via ferry. For example, a number of classes visit the Alaska Chilkat Bald Eagle Preserve in Haines during the eagle concentrations. On any given mid-semester weekend, it is likely that several teams or groups of students and teachers or coaches will be traveling out of town. Often, additional days of school are missed because of travel time. Staff travels primarily to Anchorage for conferences, meetings, and staff development activities.

There has been limited interchange between Juneau and schools in Whitehorse. Individual teachers have exchanged places for short periods, and have made presentations at Whitehorse conferences. Individual classes have traveled to Whitehorse for a field trip. There has been discussion of increasing cooperation between schools in the sister cities. Additional discussions have taken place at the high school level about Ft. Collins High School in Whitehorse joining the Alaska school activities association, but the transportation problems (ferry scheduling and frequency) have been an obstacle.

Juneau school facilities are used for a variety of community functions. These include a before- and after-school and summer childcare program. Schools are also used by the Community Schools Program, a cooperative effort of the school district, City and Borough of Juneau, and the University of Alaska Southeast, to provide a variety of educational and recreational courses.

The Juneau School District is involved in cooperative efforts with a number of state and local agencies and private groups to address the wide-ranging needs of students. These include providing access to health care, mental health counseling, substance abuse treatment, and programs for emotionally disturbed children. The district also provides teacher and education services to youth who are in the residential and day treatment programs at Miller House and youth in detention at Johnson Youth Center. Youth from throughout Southeast Alaska are placed at Miller House and the Johnson Youth Center.

Private school enrollment in Juneau was 37 as of 2002. This number may be understated in that there is no requirement to notify the public school system of private school enrollment. Home-schooled students are not required to register with the state but should notify their local school district of student enrollment. Generally these students are included in the correspondence school totals. There were 724 students enrolled in Alyeska Central Correspondence School (this number includes students from other regions of the state).

### **2.3.1.2. Health Care and Social Services**

Juneau is a regional center for northern Southeast Alaska health and human services. Residents of outlying communities travel to Juneau for emergency and longer-term medical, mental health, hospice, prenatal and elder care, and family counseling services, as well as emergency shelter and crisis intervention.

Bartlett Regional Hospital is an important regional medical center with 56 inpatient beds, outpatient services, and services for disabled persons. Bartlett also offers chemical dependency programs and operates the Juneau Recovery Unit, an inpatient detoxification, counseling and educational program with 17 beds. Bartlett Regional Hospital is the destination of choice for most medical evacuations from outlying communities.

The Juneau Public Health Center is operated by the State of Alaska and provides a wide variety of home health, family planning, family and individual treatment, screening, and education services. The Southeast Alaska Regional Health Corporation operates a large clinic in Juneau. The clinic offers medical, dental, mental health, chemical dependency, and social work services to Alaska Natives and their dependents.

Private medical practitioners in Juneau cover a wide range of medical specialties, including alternative medicine. SHANTI is a private non-profit serving victims of AIDS and HIV. Cornerstone Home Health and Hospice and Home Care of Juneau offers home care and nursing for patients, including the terminally ill. The Juneau Family Birth Center offers midwifery, birthing facilities, and childbirth preparation classes. Physical therapy is available through, among others, Juneau Physical Therapy and Action Rehab.

The range of mental health service providers in Juneau has shrunk in recent years with the closing of the CBJ Mental Health Center and Tongass Community Counseling. The Juneau Alliance for Mental Health, Inc. (JAMHI) provides clinical and residential services to the mentally ill. The Juneau Teen Health Center continues to offer health education and counseling, medical, and mental health services, primarily to high school students. Juneau Youth Services is a private nonprofit providing a range of counseling and emergency youth services, including a 16-bed residential treatment facility.

Help for victims of domestic violence is offered by AWARE (Aiding Women in Abuse and Rape Emergencies). Juneau has a number of alcohol treatment programs. The largest outpatient provider is the non-profit Gastineau Human Services, which also operates programs for individuals transitioning out of the correctional system.

Food and temporary shelter for homeless services are provided by the Glory Hole, which this year has been forced to limit its hours due to lack of funding. St. Vincent de Paul and the Salvation Army assist needy families.

### **Senior Facilities and Programs**

Juneau has two larger long-term care (nursing and/or assisted living) facilities for Alaska seniors, the Juneau Pioneers' Home and Wildflower Court. Altogether, Juneau offers approximately 70 assisted living and 44 nursing home beds. A variety of home and day services for the elderly are available. Southeast Senior Services is the largest program provider and also operates a senior center.

The Central Council Tlingit and Haida Indian Tribes of Alaska (CCTHITA) offers a wide range of social services to Alaska Natives in Juneau and outlying communities throughout Southeast Alaska. REACH (Resources Empowerment and Advocacy in the Community and Home) provides residential services, vocational placement and training and independent living and training opportunities. SAIL (Southeast Alaska Independent Living) assists people with disabilities.

### **2.3.1.3. Public Safety**

#### **Fire Protection and Emergency Medical Services (EMS)**

There are five fire stations in the City and Borough of Juneau. Lynn Canal and Douglas stations are both volunteer status, while the Juneau, Glacier and Auke Bay stations have both paid and volunteer firefighters. The fire department also provides emergency medical response, dive rescue, air medevac, fire safety education and airport crash-fire-rescue services. There are 39 registered volunteers and 32 paid staff, not including administration staff. The department operates 4 ambulances and 17 fire response vehicles. These include five vehicles downtown, two each in

Douglas and Auk Bay, seven at the Glacier station (including 3 airport trucks) and 1 at the Lynn Canal station, located at milepost 18.

### **Police Protection**

The Juneau Police Department is headquartered at Lemon Creek and responds to calls throughout the Juneau road system, as far north as Echo Cove. There are 47 sworn officers, including those involved in management, and 40 civilian staff. The department has 10 active, marked patrol cars. JPD operates four primary patrols per day, in 12-hour shifts with 3 officers and a sergeant in each patrol. Typically two officers respond to a police call. In 2002, the department received 47,800 incident reports, including approximately 1,500 traffic accidents. JPD officers made 955 arrests in 2002. Only about 5 percent of arrests involved non-residents of Juneau, and 70 percent of those non-residents lived elsewhere in Alaska, mainly in other Southeast Alaska communities. This means approximately 15 arrests in 2002 involved people from outside Alaska. Overall, the level of police activity has more than doubled since 1994 – 1995, while the number of sworn officers has increased by only about 20 percent and the presence of Alaska State Troopers in the area has declined. (Grummow, 2003).

Most of the crime in Juneau involves alcohol and domestic issues. Controlled substance crimes are also fairly common. There is little or no gang activity and a very low incidence of auto theft. Transients are not seen as a significant source of crime by the department (Grummow, 2003). The distribution of crime around the CBJ correlates with population density.

The Alaska State Troopers maintain a headquarters in Juneau staffed by three uniformed troopers and 5 fish & wildlife protection officers. Each of the troopers has a patrol vehicle and there is one 4-wheel drive vehicle stationed in Juneau. Troopers are mainly concerned with felony investigations in rural communities and are considered to be stretched thin. There are 18 uniformed State Troopers assigned to cover 64,000 square miles in Southeast Alaska. When specialized transportation is needed the troopers charter aircraft or, occasionally, have access to Coast Guard aircraft (Tracy, 2003).

### **Search and Rescue**

Juneau Mountain Rescue is a local organization that responds to outdoor and wilderness emergencies requiring technical mountaineering skills. The group consists of approximately 20 volunteers and is affiliated with state and national mountain rescue networks and with another local organization, SEADOGS, which trains and handles search dogs.

#### **2.3.1.4. Quality of Life**

Juneau has a small-town “feel” but is geographically somewhat dispersed. In area, it is the largest of the fifty state capitals. The community has four population centers: downtown Juneau, Douglas, Lemon Creek, and the Mendenhall Valley. Of these, the Mendenhall Valley is the largest in both population and area. In recent years, residential growth has occurred in the more rural areas of north Douglas Island and along the shoreline north of Auke Bay.

Cultural opportunities are relatively plentiful in Juneau, considering its size. The community is home to Alaska’s best known regional theater, Perseverance Theater, as well as several other theater groups, a community symphony and vocal chorus, and many other musical organizations. CCHITA and the Alaska Native Brotherhood and Sisterhood sponsor various Native cultural events throughout the year. Both the

State of Alaska and the CBJ operate museums in Juneau. Juneau has three public libraries in addition to the State library and archives and the UAS library.

Traffic is seldom considered a problem in Juneau, with the exception of the Juneau/Douglas bridge, a two-lane structure providing the only link between Juneau and adjacent Douglas Island. Plans for a second crossing to Douglas are currently underway. South Franklin Street also experiences congestion in the summer during the heavy influx of visitors to the downtown retail shops.

Transportation to and from Juneau is accomplished by air or water. Juneau has four major harbors in addition to several boat launch facilities. The CBJ operates two cruise ship docks. A third dock is privately owned with a fourth private facility planned for next season. The Alaska Marine Highway terminal is located at Auke Bay, approximately 13 miles from downtown Juneau and three miles from the airport. Juneau International Airport accommodates passenger and cargo jets and a large number of commuter, charter, and private aircraft. The airport includes a pond for float planes.

Recreational activities in Juneau are numerous. Sport fishing and, to a lesser extent, hunting are popular. There is a community ski area, ice rink, and swimming pool, in addition to numerous parks and trails for hiking and bicycling. A privately operated tram transports visitors to a mountaintop viewing, hiking, eating, and shopping area during the summer. Several private health clubs provide workout equipment and the largest, the Alaska Club, also has tennis and racquetball courts and will add a gymnasium this winter. The CBJ Community Schools program provides opportunities for organized competition in several sports, including volleyball, basketball, hockey, soccer, baseball, and others. Juneau hosts the annual Gold Medal Basketball Tournament, a week-long gathering of enthusiasts from throughout northern Southeast Alaska.

Shopping opportunities have expanded significantly during the past decade. A K-Mart recently closed, but two “big box” retailers – Costco and Fred Meyer – remain as do a number of smaller department and retail chain stores. Home Depot, a major retailer of home and garden products, recently announced negotiations for a planned outlet in Juneau.

According to 2003 *Juneau Access Household Survey Results*, 72 percent of Juneau residents foresaw making extra trips to or through Haines or Skagway primarily for recreation. Juneau residents expressed the need for improved transportation between Juneau, Haines, and Skagway as very important (46 percent) and important (32 percent). Other popular trip purposes include visiting friends and relatives, business and recreation, shopping, business, and medical.

Quality of life for Juneau residents also includes access to multiple religious institutions, close proximity to Bartlett Regional Hospital, strong arts community offerings, relatively easy participation in the state’s political process due to Juneau’s position as the capital, all while offering a “small town” environment.

## 2.3.2. Haines Borough

### 2.3.2.1. Education

**Enrollment:** The Haines School District is overseen by the Haines Borough Assembly which functions as the local Board of Education. The district provides kindergarten through twelfth grade education for 331 students in the most recent year. There is no junior high school in the Haines School District though enrollment was reported at the junior high level in some years.

**Table 19**  
**Haines School District Enrollment**  
**(1990 through 2002)**

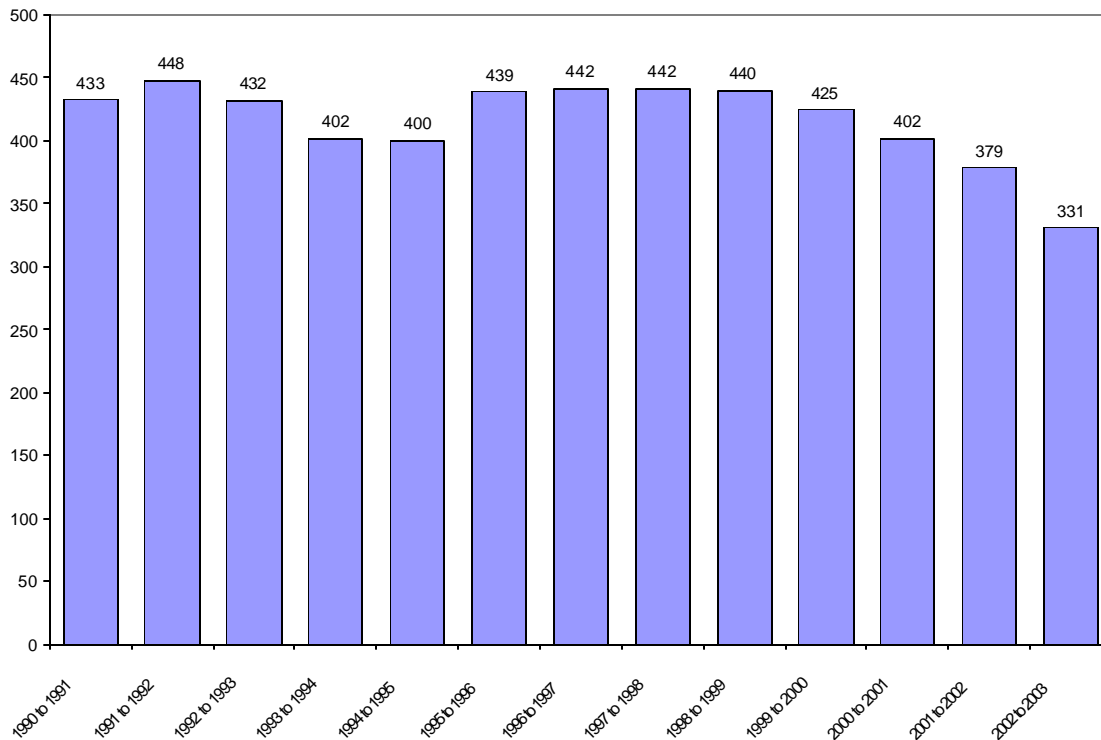
School Year	Enrollment			Total
	Elementary	Junior High	High School	
1990 to 1991				433
1991 to 1992				448
1992 to 1993				432
1993 to 1994				402
1994 to 1995				400
1995 to 1996	211	74	154	439
1996 to 1997	215	75	152	442
1997 to 1998	215	77	150	442
1998 to 1999	284		156	440
1999 to 2000	211	67	147	425
2000 to 2001	193	77	132	402
2001 to 2002	191	52	136	379
2002 to 2003	214		117	331

*Source:* State of Alaska Department of Education and Early Development.

Haines School District enrollment has declined across all grade levels in recent years. Enrollment dropped by 109 students since 1998. Haines Borough predicts that enrollment for 2003-2004 will further decline to 312 students.

A decline in school enrollment between 1999 and 2002 (from 440 to 331 students) could support the assertion that Haines population declined. However, declining school enrollment could have several causes unrelated to population decline. First, birth rates have been declining throughout Alaska and nationwide as the Baby Boomer generation ages. In 2000, median age of Haines residents was 40.7 years compared to 34.2 years in 1990, according to Census data. Second, many Alaska communities have seen public school enrollment decline as a result of increasing home/correspondence schooling. This may or may not be a contributing factor in Haines.

**Figure 30**  
**Haines School District Enrollment**  
**1990-1991 through 2002-2003 School Years**



Source: State of Alaska Department of Education and Early Development. 2002-2003 enrollment is as of October 1, 2002.

**Budget:** The projected budget for the 2003-2004 school year is \$3.1 million, a decline of \$81,000 from the previous year's budget. In 2002-2003, almost 50 percent of the \$3.18 million budget came from the State of Alaska and the balance from local and other sources.

**Facility Capacity:** The Haines School District facilities consist of a complex of buildings in downtown Haines and the Mosquito Lake School. Current capacity is approximately 500 students.

**Programs and Resources:** Students and staff from Haines travel to a variety of school-related events around the state. There is usually a team or group of students traveling every weekend starting in October and continuing through May. Most travel occurs by plane or ferry. Students and teachers lose class time to travel schedules and, not uncommonly, to weather delays.

Haines population of special needs students has decreased in recent years. In 1993, there were 60 students representing 15 percent of enrollment. In 2003, there were 35 students representing 10.6 percent of enrollment. The Haines School District has trained special education teachers, but relies on specialists from outside the community for certain specialized services and assistance in meeting the needs of children with extraordinary disabilities.

**Community Education and Education Services:** the Haines School District makes school facilities available for community educational and recreational purposes, providing funding and personnel as well as the use of facilities. Occasionally, the University of Alaska Fairbanks Cooperative Extension Service

offers programs for Haines residents, but is not able to provide an ongoing presence in the community.

### **2.3.2.2. Health Care and Social Services**

Medical services are available at the Haines Medical Clinic and the Klukwan Medical Clinic, both operated by SEARHC. SEARHC undertook a \$1.1 million upgrade when it assumed operations of the Haines clinic in 1998 and recently completed a 2,400 square foot addition, which includes dental and x-ray facilities and a pharmacy. A new clinic for Klukwan may be open as soon as next summer.

The two clinics are able to handle most emergency care on a short-term basis, but are not equipped for procedures requiring general anesthesia. Medical evacuation is normally by air to Juneau. The trip takes approximately one hour. If weather precludes travel to Juneau, patients are sometimes transported to Whitehorse by road, a six-hour trip. Clients needing in-patient care typically are transferred to SEARHC's Mt. Edgecombe Hospital in Sitka.

Demand for medical services increases substantially in the summer with the influx of visitors from cruise ships, ferries, and highway vehicles. Medical specialties such as orthopedics, endodontics, ophthalmology, and cardiology are provided by traveling physicians.

Southeast Senior Services operates the Haines Klukwan Senior Center and provides a variety of other programs and services for seniors.

Domestic violence services in outlying communities are provided mainly by AWARE. The Juneau-based nonprofit conducts an outreach program through volunteers in Haines and Skagway. Victims of violence are sheltered temporarily until they can be transported to Juneau. AWARE also conducts periodic trainings for public safety officers and magistrates in Haines and Skagway.

### **2.3.2.3. Public Safety**

#### **Fire Protection and Emergency Medical Services**

Haines has 30 to 35 volunteer firemen. There are two ambulances in town.

#### **Police Protection**

The Haines Police Department employs five full-time uniformed officers and five dispatchers and maintains five patrol vehicles. The department responds to calls in the Townside Service Area. This extends from just past the airport on the Haines Highway to the intersection of Mud Bay and Small Tracts Roads to approximately 6 miles north of downtown Haines in the direction of Lutak Inlet. According to the department, most Haines crime is local. Occasionally, someone passing through town causes trouble. An estimated 15 percent of crime involves non-residents (Goodman).

There is one uniformed Alaska State Trooper stationed in Haines.

### **2.3.2.4. Quality of Life**

A 1993 Haines household survey provides an indication of how local residents perceive their quality of life.<sup>23</sup> Three-quarters of residents responding to the survey regarded clean air and water, the natural setting, safety and security and friendliness as the most important characteristics of life in Haines. At the same time, the 1993 survey found that most Haines residents found local job opportunities inadequate.

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<sup>23</sup> Haines Borough Attitudinal Survey, 1993.

Haines' rich cultural history is an important part of life in Haines. Migrating Tlingits first settled the Haines area. Klukwan, located 22 miles north of Haines, off the Haines Highway, lies at the junction of the Kleheni and Tsirku Rivers. Historically the site of important Tlingit cultural artifacts and structures, Klukwan has retained much of the character of a Native village.

Haines location has been strategic with respect both to fisheries and to transportation links with interior Alaska and Canada. The community had four canneries by 1910. Services for travelers, always an important source of jobs in Haines, became more so after the advent of the Alaska Marine Highway System in the 1960s. A former military installation, Fort Seward, is an historic site that, together with a new Tlingit tribal house and the Sheldon Museum, lends character to the downtown area. All of this is framed against a spectacular scenic backdrop of mountains, rivers and fjords. Today, tourism, fishing and government are key elements of the Haines economy.

A major attraction in the Haines/Klukwan area is the Chilkat Bald Eagle Preserve. The 48,000 acre Chilkat Bald Eagle Preserve is 9 miles from Haines. A combination of warmer-than-normal water and late salmon runs creates the largest concentration of eagles in the world each fall and winter. Hunting, fishing, boating and backcountry travel are popular activities for both locals and visitors.

A medical clinic with two doctors and a staff of nurses is located in Haines. Patients receive both primary care and emergency service. Those who require more intensive care must travel to Juneau, Seattle, or Whitehorse.

There are 11 churches in the community of Haines. Ten are denominational and one is non-denominational.

Haines has an indoor swimming pool, track, tennis court, two ball diamonds, and two gymnasiums. Additionally there are four public parks, including the 6,045 acre Chilkat State Park. Numerous hiking trails and cross country ski trails of varying difficulty are available. Sportfishing, snowmobiling, and dogsledding are also popular sports.

Annual events in Haines include the Alcan 200 International Snowmachine Road Rally from Haines side of US/Canada Border to Dezadeash in Yukon Territory and back to the Border, the biennial Alaska State Community Theatre Drama Festival (ACTFEST), a week long festival of drama and workshops with participating groups from around the state, the Great Alaska Craftbeer and Homebrew Festival featuring the best of regional microbrews, plus music, dinner, and awards ceremony, and the Klugane to Chilkat International Bike Relay starting in Haines Junction, Yukon Territory, and ending in Haines, Alaska.

According to the 2003 *Juneau Access Household Survey Results*, 79 percent of Haines residents foresaw making extra trips to Juneau primarily for shopping. Haines residents expressed the need for improved transportation between Juneau, Haines, and Skagway as very important (65 percent) and important (22 percent). Other popular trip purposes include vacation/recreation, medical, business, visiting friends and relatives, and to catch a jet.

Quality of life for Haines residents, while removed from the political climate in Juneau and close proximity to hospital care, includes a diverse arts community, smaller schools for families with children, highway access to Canadian and interior Alaska communities, and a drier climate than Juneau has to offer.



### 2.3.3. Skagway

#### 2.3.3.1. Education

**Enrollment:** The Skagway School District had total enrollment of 117 students for the 2002-2003 school year. Students are enrolled in pre-elementary through 12<sup>th</sup> grade at the city's only school.

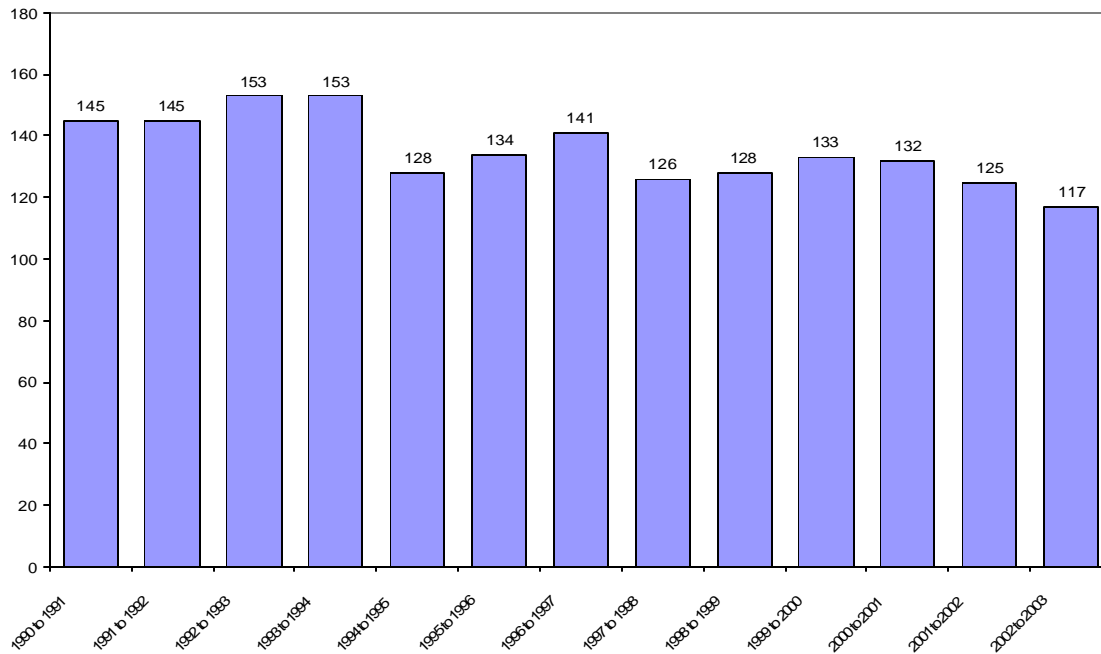
**Table 20**  
**City of Skagway School District Enrollment**  
**(1990 through 2002)**

School Year	Enrollment
	Total
1990 to 1991	145
1991 to 1992	145
1992 to 1993	153
1993 to 1994	153
1994 to 1995	128
1995 to 1996	134
1996 to 1997	141
1997 to 1998	126
1998 to 1999	128
1999 to 2000	133
2000 to 2001	132
2001 to 2002	125
2002 to 2003	117

*Source:* State of Alaska Department of Education and Early Development.

The City of Skagway school district enrollment has declined steadily in recent years. The district's enrollment was reduced by 11 students in the last five years and by 36 students in the last ten years.

**Figure 31**  
**City of Skagway Enrollment**  
**1990-1991 through 2002-2003 School Years**



Source: State of Alaska Department of Education and Early Development. 2002-2003 enrollment is as of October 1, 2002.

**Budget:** In 2002-2003, almost 42 percent of the \$1.7 million budget came from the State of Alaska and the balance from local and other sources.

**Facility Capacity:** A new school was opened in 1985. It is 35,000 square feet, containing seven elementary and six secondary classrooms, computer lab, vocational education shop, gym, library, and multipurpose room. The total capacity for kindergarten through 12<sup>th</sup> grade is 200.

**Programs and Resources:** Student travel to competitions and events is generally by plane or ferry. Flying students to events is expensive to the district and can cause delays. Ferry travel often takes extra time out of class for students and teachers due to ferry schedules.

The Skagway School District provided a special education program for a dozen children in FY03. The district periodically relies on outside consultants and specialists to augment the expertise of district staff when student needs require it. Itinerant specialists from the Southeast Regional Resource Center, the Special Education Service Agency, the Juneau School District, or other agencies as well as private practitioners provide technical assistance and training. Training opportunities for staff are often presented on a regional or statewide basis requiring travel to Juneau, Anchorage, or Fairbanks.

**Community Education and Education Services:** the Skagway School District offers a community education and recreation program using district facilities to residents. The program is popular.

### **2.3.3.2. Health Care and Social Services**

#### **Health Care and Medical Services**

The Skagway Medical Service employs two physician's assistants year-round; a doctor from Juneau visits once per month. The clinic provides general medical and emergency care, and some special services. There are no beds at the facility currently; services are on an out-patient basis only.

The clinic is a non-profit corporation; it receives funding from the City of Skagway, and a rural health grant from the state. The City provides the clinic building, pays all utilities and repairs, and owns most of the equipment. The clinic operates on fees and donations. The community is very supportive as evidenced by its willingness to assist the clinic financially.

The clinic is well-equipped for routine general medical care and emergencies. Emergency patients are usually medevaced by fixed-wing aircraft. The trip to Bartlett Regional Hospital takes about one hour. If necessary, transport is by helicopter (usually sent from Juneau). If emergency transportation to Juneau is not possible, volunteer emergency medical technicians transport the patient by ambulance to Whitehorse.

A public health nurse comes from Haines once each month to see patients in Skagway. Dental services in Skagway are provided by a Juneau dentist who travels to Skagway on a monthly basis. Other services are also provided by specialist traveling from Juneau on a periodic basis, including visiting physicians, ophthalmologists, optometrists, and the mammogram unit from Bartlett Regional Hospital.

According to the 2003 *Juneau Access Household Survey*, Skagway residents traveled to Juneau an average of 10.1 times. Of these trips, 16 percent were for medical reasons.

Lynn Canal Counseling Services of Haines employs one counselor in Skagway to provide mental health counseling and treatment services. This counselor also provides substance abuse counseling and treatment.

As with Haines, a number of the regional programs for adolescents such as those provided by Alaska Youth Initiatives and Juneau Youth Services serve Skagway youth when the need arises. However, these services are often provided in Juneau, not in Skagway. This makes it difficult for family and friends to provide frequent support and to be involved in treatment.

There are a relatively large proportion of senior citizens in Skagway, but there are no nursing home facilities. Seniors must relocate to Juneau, Sitka or elsewhere for long-term care.

The AWARE Shelter in Juneau provides an outreach program to women and children in Skagway. There are volunteers who can provide support and temporary shelter at "safe homes" until the women and children can be transported to Juneau. AWARE will buy a plane or ferry ticket to Juneau if necessary, and will provide temporary housing, counseling, and support services.

### **2.3.3.3. Public Safety**

#### **Fire Protection**

Skagway's fire protection is provided by the Skagway Volunteer Fire Department (SVFD). Originally, the organization provided only fire suppression services. The SVFD currently provides fire protection, emergency medical and rescue services, fire and medical training, and fire prevention education. The department is also responsible for building plan review and building fire inspections and is the Civil Defense coordination center which has response plans for natural disasters, highway disasters, railroad accidents, air disasters, power plant and fuel tank fires, and snow emergencies.

The department has two full-time staff, a safety officer, and a plans review and maintenance specialist. During the summer, a seasonal administrative assistant and a seasonal EMS responder are added. The EMS responder is responsible mainly for incidents involving cruise ship passengers. The department relies heavily on volunteers. There are 10 to 15 year-round volunteers. This number swells to approximately 40 in the summer. There are approximately 250 fire/EMS calls per year, of which 2 to 3 are working fires. Skagway has six response vehicles and two ambulances.

Fire services are provided in road-accessed areas within the city limits of Skagway and as far north as the Canadian customs office in Fraser (23 Mile on the Klondike Highway). Emergency medical services are provided as far as Mile 32 on the Klondike Highway. Emergency medical calls have increased in recent years as a result of increased summer cruise ship visits. Many of these calls are for heart attacks or strokes or other medical needs of elderly cruise ship clients.

#### **Police Protection**

Within the Skagway City limits are three levels of law enforcement agencies – federal, state, and local. The federal government operates the U.S. Customs and Immigration which enforces international transportation of materials and passengers through Skagway, and the U.S. Park Service, which enforces federal regulations within the Klondike Gold Rush National Historical Park.

The Alaska state government provides a District Magistrate, First Judicial District which handles arraignments and preliminary hearings. Skagway has no facilities to hold state felons, who must either be transferred to Juneau or released on their own recognizance. There are no State Troopers located in Skagway.

The local Skagway Police Department (SPD) has one full-time police chief, three full-time officers, two officer clerk/dispatchers, and two seasonal officers. The SPD has five patrol vehicles.

In recent years, all three levels of law enforcement agencies have experienced increased activities attributed to the year-round opening of the Klondike Highway, increased summer tourism, and expanded city limit boundaries. During 2002, the SPD received 13,131 calls for service, 22 of which were accidents, and 40 of which resulted in arrests. Non-resident arrests represent roughly 75 percent of the total.

The SPD jurisdiction extends to the U.S./Canadian border located at 15 Mile on the Klondike Highway. The Klondike Highway is regularly patrolled with four trips per day.

#### 2.3.3.4. Quality of Life

Objective information on how the residents of Skagway perceive their quality of life is not available. Life in Skagway ranges from the winter-time quiet when non-resident traffic is almost non-existent and only a few hundred people reside in the community to the crowded, frantic pace of summer when cruise ships can bring 6,000 to 8,000 visitors to the community in a single day.

Skagway's history has been marked by boom and bust. At the peak of the Klondike Gold Rush in 1897, Skagway was the largest city in Alaska with a population of 20,000 people. By 1910 the population had declined to 872. Today's year population is approximately 840 people.

The Skagway economy in the past was very dependent on freight service provided by the White Pass and Yukon Route railroad. When the railroad shut down in 1982, many residents were put out of work and the economy shifted to tourism. The Skagway economy is now directly linked to its location as the northern terminus in Southeast Alaska for state ferries and cruise ship operators. Tourism-related jobs are the main industry in town, including employment on the railroad that reopened in the early 1990s to serve tourists (Skagway Coastal Management Program, May 1991).

Life changed in Skagway with the Klondike Highway construction project which was completed in 1978. The year-round opening of the Klondike Highway between the cities of Skagway and Whitehorse in early 1986 was also significant as it made Skagway one of two cities in Southeast to have highway access to interior Alaska and Canada. This changed regional transportation patterns and opened up use of the Skagway port for transshipment to Canada. Ferry traffic increased 15 percent during the first year-round opening of the Klondike Highway. The year-round opening of the Klondike Highway was coupled with the reopening of the White Pass and Yukon Railroad to tourists for the summer season and a shift took place in the Skagway employment from transportation/government employment to more seasonal tourism related jobs.

Other features add to Skagway's character as a community. Skagway serves as the starting point for the historic 33-mile long Chilkoot Trail. Annual events include the Buckwheat Ski Classic, a cross country ski race, the annual International Softball Tournament with teams from Alaska and Canada competing, and the Klondike Road Relay, a 110 mile relay race that begins in Skagway and ends in Whitehorse, Yukon.

Life in Skagway includes few shopping opportunities. According to the 2003 *Juneau Access Household Survey Results*, 58 percent of Skagway residents foresaw making extra trips to Juneau, with improved access, primarily for shopping. Most Skagway residents (73 percent) believe improved transportation between Juneau, Haines, and Skagway is important. In addition to shopping, Skagway want better access to Juneau for vacation/recreation, medical services, business, visiting friends and relatives, and to catch a jet.

The 1988 *Skagway Community Opinion Survey* asked residents to comment on the one thing that would most improve their quality of life in Skagway. The 100 answers to this question fell into 10 topic areas and "other". One-quarter of the comments (25) were about the need for more year-round jobs and job or business ideas, another 23 responses were about the need for more community recreation options and activities. Other topic areas were population, transportation/access, housing, tourism, medical, the current high quality of life, Skagway government, and traffic.

### **3. EFFECTS OF ACCESS IMPROVEMENT**

#### **3.1. Economic Environment**

In this analysis, the socioeconomic effects of each alternative are described. Whenever possible, these effects are quantified. Where impacts cannot be quantified, and where the relative importance of socioeconomic effects are described, the terms negligible, minor, substantial or major are used. These descriptions are somewhat subjective, but are generally defined as follows:

*Negligible:* There would be effects; however, they would not be noticeable and would be very small in comparison to other events or trends in the baseline socioeconomic environment.

*Minor:* Effects would be noticeable, but would not change a community's basic socioeconomic environment. Other events or trends in the baseline socioeconomic environment would have a greater effect.

*Substantial:* Effects would alter an economic sector or one or more components of a community's basic socioeconomic environment.

*Major:* Effects would fundamentally change the socioeconomic environment. The effect would overshadow other events or trends in the baseline socioeconomic environment.

##### **3.1.1. General Effects of Improved Access**

Important background information for this socioeconomic effects analysis is provided in the 2004 Juneau Access Traffic Forecast. That report provides traffic forecasts for each Juneau Access alternative for 2008 and 2038. It also provides traffic numbers to Haines and Skagway. Total traffic and Haines/Skagway traffic for each alternative are summarized in the following table. Traffic is presented in terms of annual average daily traffic (AADT). AADT is the average daily volume of traffic on the highway or ferry, in both directions (one-way traffic would be half the AADT).

**Table 21**  
**Juneau Access Traffic Forecasts**  
**2008 Traffic for Each Alternative, AADT**  
**(with traffic to and through Haines and Skagway)**

Juneau Access Alternative	2008 AADT	Haines Traffic	Skagway Traffic
<b>East Lynn Canal Highway - 2</b>	510	225	285
<b>East Lynn Canal Highway – 2 A</b>	390	170	220
<b>East Lynn Canal Highway – 2 B</b>	380	190	190
<b>East Lynn Canal Highway – 2 C</b>	410	120	410
<b>West Lynn Canal Highway - 3</b>	310	310	90
<b>Improved AMHS Service – 4A</b>	140	80	60
<b>Improved AMHS Service – 4B</b>	170	90	80
<b>Improved AMHS Service – 4C</b>	100	55	45
<b>Improved AMHS Service – 4D</b>	130	70	60
<b>No Action Alternative</b>	90	50	40
<b>2002 AMHS Traffic</b>	80	45	35

## Overview

Improved access in the Lynn Canal area will facilitate the movement of goods and people through and to the northern Southeast region. This will create closer links between the economies of Juneau, Haines, Skagway, and Whitehorse as well as the smaller communities in the area. For example, residents of Haines and Skagway will have better access to Juneau's retail and service sector, which will result in a change in the retail structure and environment in those communities. Similarly, residents of Juneau will have better access to the recreational opportunities available in Haines, Skagway, and destinations beyond those communities on the Alaska/Canada highway systems.

In the near-term, improved access to Juneau through highway construction or improved AMHS service is not expected to result in new major economic development in Alaska. For example, improved access to and from Juneau is not likely to result in a large increase in the number of visitors traveling to the state. Visitors to Alaska are unlikely to spend much more time or inject more money into the state's economy as a result of access improvements. Similarly, access improvement is not expected to result in increased forest products, mining, or other industrial activity.

Improved access to Juneau would redistribute within the state some of the economic benefits received from one of Alaska's primary basic industries, the visitor industry. Visitors could shift their travel patterns, perhaps spending more time and money in Southeast Alaska, particularly in Juneau.

The redistribution of tourism-related economic benefits might result in net economic gain in one area of the state, offset by economic loss in another. Improved access, for example, would over the long term, result in an overall increase in Southeast Alaska's independent visitor market, with a possible corresponding decrease in time and money spent in other areas of the state. Likewise, on a regional basis, improved access would result in a net gain to Juneau's local retail industry, while Haines and Skagway could realize some loss in certain types of retail sales. This issue is discussed in more detail in the following sections.

Improved access would also reduce the cost of transporting certain products and materials to and from Juneau. For example, the seafood industry would realize economic gain as a result of improved access to fresh fish markets. The magnitude of benefits such as this is highly dependent on the access improvement alternative.

### 3.1.1.1. General Effects of Improved Access on Commercial Fisheries

Potential impacts to commercial fishermen from the Juneau Access project include:

- Increased income for fishermen as a result of better access to fresh fish markets
- Increased competition by sport fishers from improved access or access alternatives that provide fishing opportunities in areas that were not previously accessible by this user group.

Potential impacts to commercial fish *processors* from the Juneau Access project include:

- Changes in fishermen's deliveries to processors as a result of improved access
- Alternative market delivery expansion to Canada or other Alaska areas

- Ability to change product form (i.e. fresh rather than frozen) due to reduced costs and improved proximity to market destination
- Increased income as a result of better access to fresh fish markets.

The potential effect of the first type of impact would be a shift of fishermen's delivery to the processors from one community to the detriment of another (Haines to Juneau, for instance). The potential effect of impacts on processors would be positive in terms of expansion of markets and ability to diversify product form to meet market demands.

The relative effect of each of these impacts differs by construction alternative. The general impact of all of the construction alternatives is discussed first. This is followed with more specific information for each of the alternatives.

### **Commercial Fishing Impacts Common to Highway Construction Alternatives**

Processors currently freezing fish may decide to send fresh or other value-added product if overland truck routes to markets are available. Highway alternatives that include a ferry would probably not influence harvesters or processors to alter their behavior, due to the cost and time delay associated with ferry service. Commercial fish harvest delivery would be altered as a result of access improvements. Fishermen currently delivering to other ports in Southeast may elect to deliver their product to Juneau if Juneau processors are able to pay higher prices because they have better access to the higher-value fresh fish markets.

Commercial fishermen could be impacted by increased competition from sport fishers if fishing pressure increases as a result of improved access. Increases in sport fisheries harvests could result in lower harvest levels by commercial fisheries in order to provide for adequate escapement levels.

#### **3.1.1.2. General Effects of Improved Access on the Transportation Industry**

There are private and public components to the Lynn Canal/Northern Southeast Alaska transportation infrastructure that would be affected by each of the improved access alternatives. These include:

1. Air taxi operations between Juneau, Haines, and Skagway
2. Major airline services
3. Waterborne freight shipment patterns into and out of Juneau, Haines, and Skagway
4. Private ferry services
5. AMHS operations.

These components of the Lynn Canal transportation infrastructure are discussed below.

#### **Air Taxi Operations**

Improved access to Juneau is likely to divert some traffic from the air taxi operators currently serving Lynn Canal. Although it is difficult to predict to what degree this might occur, the following section provides an overview of the different factors and possible impacts involved in improving access in Lynn Canal.

Overall air taxi passenger traffic between Juneau, Haines, and Skagway totaled approximately 28,000 passengers in 2001, including both residents and non-residents (Bureau of Transportation Statistics). Using resident/non-resident ratios



provided by air taxi operators, approximately 12,000 (43 percent) of these passengers were non-residents, while 16,000 were residents. Both resident and non-resident air travel behavior are likely to be affected by improved access. The level of impact will depend on a number of different factors.

Trip purpose will play a major role in travelers' transportation decisions. With highway access, people traveling for pleasure or vacation purposes would be more likely to take advantage of the opportunity to travel by vehicle, and are not as time-sensitive as other travelers. Business travelers, on the other hand, are more time-sensitive *and* less cost-sensitive, and are thus more likely to continue to fly. Haines and Skagway residents traveling to Juneau for the purpose of shopping will appreciate the cargo room a vehicle offers, while those traveling to catch a jet will appreciate the airport-to-airport convenience of flying rather than driving.

The degree to which travelers might change their current air travel behavior would depend on travel times and costs associated with each alternative. For example, in the case of the West Lynn Canal alternative, residents and visitors alike will be much less likely to fly if ferry connections are affordable and conveniently scheduled. Under the East Lynn Canal alternative, the frequency and cost of ferry service to and from Katzehin or Skagway will play into Haines residents' travel mode decisions. With the improved ferry system alternative, Juneau residents may be more likely to fly if the ferry terminal is located at Berners Bay – but less likely to fly if ferry cost greatly decreases.

It is clear that each alternative would result in different air traffic diversion levels. The East Lynn Canal alternatives would result in the greatest diversion of air traffic, because they create the greatest savings in terms of time and cost to the travelers. The West Lynn Canal alternative would result in less diversion corresponding to the lower savings associated with it, and the improved ferry service alternatives would lead to the least diversion of air traffic.

Based on traveler cost estimates for each Juneau Access alternative, between 10 percent (Alternative 4C) and 50 percent (Alternative 2) of air traffic could be diverted to surface transportation. (Traveler costs are described in detail in the Juneau Access Traffic Forecast.)

Much of the mail that is now carried by air between Juneau, Haines, and Skagway would be carried on a highway.

In interviews conducted for this study, local air taxi operators noted that the addition of the Lynn Canal day ferry in 1998 has reduced air passenger loads in Lynn Canal. This is supported by available data. For example, air traffic from Juneau to Haines totaled 10,014 passengers in 1998. In 2001, a total of 6,939 passengers flew from Juneau and Haines.

In addition, individual businesses will feel the impacts differently regardless of which alternative is implemented, because they each have a different level of dependence on the Juneau-Haines-Skagway corridor. Businesses with a strong base of flightseeing customers, for example, will feel the impacts to a lesser degree, as will operators that serve communities in central Southeast Alaska in addition to Lynn Canal.

Another factor to consider is the long-term effects of a diminished Lynn Canal air passenger market. With fewer passengers, operators may be forced to raise ticket prices and lower flight frequency. These measures will make the alternatives (whether highway or ferry) that much more appealing to travelers, further reducing air traffic.

In conclusion, improved access in Lynn Canal is likely to have a negative impact on local air taxi operators. This impact will vary according to alternative, with both highway alternatives most likely to result in a substantial negative impact, and the improved ferry service resulting in moderate negative impact. The three air carriers currently operating in Lynn Canal each have between 25 and 125 employees, and are between 40 and 90 percent dependent on the Lynn Canal market in terms of revenues.

### **Major Airline Traffic**

Juneau has regularly scheduled northbound and southbound jet passenger and cargo flights. Alaska Airlines passenger volumes would be negligibly affected by any of the improved transportation alternatives. Cost-conscious travelers from interior Alaska may elect to travel to Juneau if a highway were available; however, air transportation would remain the primary transportation link between Juneau and Southcentral/Interior Alaska.

Over the long-term some freight that now moves by major airline could be diverted to a highway. For example, the U.S. Postal Service, parcel delivery services, and others might add overland trucking to their range of shipping options for Juneau. Improved ferry service alternatives would not change jet air freight traffic to or from Juneau.

Improved access would also change how fresh fish is shipped out of Juneau. The volume of fish that currently moves out on jets is not likely to decline. Rather, more of the fish that is processed in Juneau is likely to be trucked from Juneau and sold in the fresh market, with a highway connection. Impacts on the seafood processing industry are described elsewhere in this report.

### **Waterborne Freight**

Improved access to Juneau would change the way surface freight moves to and from Juneau, as well as between Juneau, Haines, and Skagway. The potential change is dependent on the alternative, with little or no change expected with the all-marine alternatives and potentially important changes with an East Lynn Canal highway. Because the West Lynn Canal alternative does not provide uninterrupted highway access, it would have relatively minor effects on how Juneau, Haines, and Skagway are supplied.

A detailed analysis of the impact of an East Lynn Canal highway is provided in the analysis of General Effects Common to All East Lynn Canal Highway Alternative (Section 3.1.3.1).

### **Private Ferry Operations**

All of the Juneau Access alternatives include improved vehicle access between Haines and Skagway. For all alternatives except 2 and 2A, Haines and Skagway are linked with shuttle ferry service between the two communities. With Alternatives 2 and 2A, Haines and Skagway are connected via a Katzehin to Haines shuttle ferry.

Chilkat Cruises and Tours operates the Haines-Skagway Fast Ferry passenger service. Summer service runs mid-May to mid-September with three trips daily. The ferry service is primarily for transporting Skagway cruise passengers to Haines for scheduled day tours. On busy days, the ferry makes up to 14 trips. The Haines-

Skagway Fast Ferry service is the only private ferry system currently operating between Haines and Skagway (there are no winter operations). In previous years, the company also provided transportation between Haines and Juneau but the company dropped this route. The company operates two fast ferries, the Fairweather Express and the Fairweather Express II.

Private passenger-only ferry service between Skagway and Haines would not be substantially affected by a shuttle ferry. The private ferry service can be very frequent and responsive to demand (depending on cruise ship-related traffic). Adult passenger fares are \$24 one-way and \$44 round-trip for the 35-minute high-speed catamaran trip. Given that the shuttle ferry service is likely to be less frequent than the private fast ferry, slower, and perhaps more expensive, relatively little private ferry traffic would be expected to divert to the shuttle. The inconvenient location of the shuttle ferry terminal will also constrain walk-on traffic, relative to the high-speed catamaran. The shuttle's primary market will be travelers with vehicles, rather than walk-ons.

Alaska Fjordlines passenger service between Skagway, Haines and Juneau could be affected by improved access in Lynn Canal. The 65-foot Fjordland provides daily summer passenger service from Skagway and Haines to Juneau and back. The trip is sold as a roundtrip package with wildlife viewing and sightseeing in Lynn Canal plus a motorcoach tour of Juneau. Improved access could reduce the demand for this particular service.

A new Lynn Canal transportation service may be initiated in the summer of 2004. Pacific Seafight plans to offer passenger service between Juneau, Haines, and Skagway in an eight-passenger "wing-in-ground-effect" craft. The craft travels at a cruising speed of 85 knots. While it travels above water, it is considered a passenger vessel by the U.S. Coast Guard, with the same licensing requirements as a passenger ship under 100 tons carrying more than six passengers.<sup>24</sup> All of the Juneau Access alternatives have the potential to reduce the market for this transportation service, much as Juneau Access would affect air taxi operations. At \$60 per person, Juneau to Haines, the service will be priced between current air and ferry rates.

### **Regional Ferry Service**

The Alaska Marine Highway System serves passengers and vehicles moving throughout Southeast Alaska and coastal communities in Southcentral and Southwest Alaska. The impact of Juneau Access on service in other areas will depend on the alternative and on AMHS management priorities. With the all-marine alternatives, the AMHS would continue to dedicate resources to meet the demand for service in Lynn Canal. With a highway, fewer resources would be devoted to Lynn Canal (shuttle ferry service between Haines and Skagway, for example).

The net cost of providing ferry service in Lynn Canal under any of the all-marine alternatives will depend on fare structures, scheduling, and resulting traffic volumes. Ferry service in Lynn Canal does not now pay for itself, nor would it with any of the All-Marine alternatives.

The recently-released Southeast Alaska Transportation Plan (SATP) Update provides a plan for replacing mainline ferries with dedicated point-to-point ferries. The plan also includes twice-weekly mainline ferry service from Bellingham. With an

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<sup>24</sup> Source: Chilkat Valley News, September 2003, and [www.maldives.at/news/fs8.htm](http://www.maldives.at/news/fs8.htm).

all-marine alternative, mainline service will include Haines and Skagway stops. With a highway alternative, Juneau would be the northern terminus for mainline service.

AMHS management would determine how AMHS service to other communities and regions might change with a Juneau Access highway alternative. With Juneau serving as the northern terminus for mainline service, the AMHS will have the option to increase service frequency elsewhere in the region. Similarly, a highway alternative would give AMHS the option to re-deploy the new FVF Fairweather, perhaps providing more frequent service to Sitka or other destinations south of Juneau.

In summary, with a Lynn Canal highway, the AMHS would give careful consideration to the cost and revenue implications of freed-up Lynn Canal assets. Retiring vessels to save costs, redeploying vessels to other routes, or other measures could be employed to adjust to the change in AMHS service requirements resulting from highway construction in Lynn Canal.

### **3.1.1.3. General Effects of Improved Access on Government**

State government employment and activity in Juneau, Haines, and Skagway are likely to experience negligible to minor impacts from improved access. In Juneau, however, improved access has been an issue raised in countering efforts to move the capital. Some Juneau residents believe that providing highway access would help retain the capital in Juneau. Other residents believe that building a highway would have little or no impact on efforts to relocate the capital. To the extent that highway construction allays the capital access issue, it will assist in efforts to maintain Juneau as the capital city. If the capital is moved, Juneau could lose as many as 5,000 jobs, 30 percent of all local employment, and about 8,000 residents (25 percent of the population) (McDowell Group, Inc., 2002).

Local, state, and federal government would be affected in more direct ways as a result of improved access. Providing road maintenance and public safety services along the newly constructed highway would require government expenditures (see General Effects of Improved Access on Municipal Revenues and Expenditures). The federal government, as a key land manager in the Lynn Canal area, would incur additional land management-related costs. These and other government-related effects are discussed in more detail in the Public Services section of this report.

Operation of shuttle ferries in North Lynn Canal will create state government (AMHS) job opportunities in Haines and Skagway. Operation of a single shuttle ferry between Haines and Skagway will require a crew of approximately six per shift.

State government expenditures on ferry operations and road maintenance are provided in other components of the Juneau Access SDEIS.

### **3.1.1.4. General Effects of Improved Access on Population**

In general, negligible to minor population changes would be expected in Juneau, Haines, and Skagway with improved access.

It is possible, however, that improved access would enhance Haines' reputation as a retirement community (through better access to Juneau's retail and service sectors, particularly health care services, and cultural activities). To the extent that this occurs, Haines population would grow as a result of improved access. Better access

to Haines would also increase the number of Juneau residents with second homes or cabins in the Haines area, resulting in a seasonal increase in population.

Of the three communities, Juneau will experience the largest population growth (though still minor) due to improved access. Population growth in Juneau is discussed in detail under each of the improved access alternatives. The West Lynn Canal highway, because it would funnel all northern Southeast surface traffic through Haines, would result in population growth in that community, as described below.

There are also potential short-term population effects associated with highway construction. A very large four-year construction project, such as would occur with an East Lynn or West Lynn Canal highway, would likely involve non-local contractors and construction workers (as well as local contractors and workers). The construction effort would likely be camp-supported, meaning that the number of dependents moving to Juneau, Haines, or Skagway would be small.

### **3.1.1.5. General Effects of Improved Access on Housing and Real Estate**

#### **Juneau**

According to the most recent available data, Juneau's overall housing vacancy rate was about 2.6 percent, totaling approximately 300 units in 2001 (CBJ, 2001). Low mortgage interest rates have spurred single family housing construction in Juneau over the past two years, but high housing costs, due to limited land availability, continues to be an issue for long-term community development. Nevertheless, the minor population increase associated with better access to the community could be accommodated within the existing infrastructure.

#### **Haines**

Improved access would enhance Haines' reputation as a retirement community through better access to Juneau's retail and service sectors, particularly health care services. To the extent that this occurs, demand for property in Haines would increase.

Further, because of land availability in Haines, it is possible that additional Juneau residents may seek seasonal or year-round homes in Haines. While the driving distance to Haines may prevent the area from becoming a "bedroom community" to Juneau, more vacation homes/cabins might be developed than is now the case. Haines offers a significantly drier climate than Juneau's, an appealing attribute for Juneau residents looking for a conveniently located second home or cabin. (Average annual precipitation in Haines is about 52 inches, with Juneau precipitation ranging from 70 inches to over 100 inches depending on the specific location.)

There are likely to be localized effects on property values in the Haines area, depending on the alternative, depending on where highways tie into existing highway networks, and depending on how the highway alignment transects (or provides access to) private property. For example, property values in the Glacier Point area would be affected by a highway along West Lynn Canal. These effects are discussed in the analysis of each alternative.

#### **Skagway**

The increased traffic through Skagway resulting from highway access would increase the value of commercial property in Skagway. Further, increased employment in the visitor industry (to the extent that an increase occurs) could increase the seasonal demand for housing. Overall, however, the effects on the Skagway real estate market are expected to be low.

Similar to Haines, localized Skagway property values would be affected by the specific location of the highway alternatives.

### **3.1.1.6. General Effects of Improved Access on Municipal Revenues and Expenditures**

Ways in which local government would be affected by improved access in Lynn Canal include:

- Increased demand for public safety services in remote areas of the Juneau and Haines boroughs as well as outlying Skagway areas
- Potential increased demand for public utilities
- Changes in traffic volumes and traffic patterns, and associated highway maintenance costs
- Increases in sales and bed tax revenues from traveler related spending
- Increases in property tax revenues.

**Public Safety Effects:** The effects of improved access on public safety are addressed in detail in the Social Environment section of this report.

**Demand for Public Utilities:** Potential effects on public utilities are addressed in the Public Utilities Impacts section of this report. In summary, the effects of improved access on Juneau's public utilities are expected to be negligible. Highway alternatives would affect Haines and Skagway utilities.

**Changes in Traffic Volumes and Traffic Patterns:** Increased traffic in the region, notably recreational vehicle (RV) traffic, would increase congestion, particularly on Juneau's already crowded downtown streets. Overall, however, the several hundred additional vehicles per day that improved access would bring would be distributed widely throughout each community and therefore would not be noticeable on primary roadways, many of which in Juneau now carry 10,000 or more vehicles daily.

Highway development would also increase the demand for services related to recreation-related public facilities, particularly RV parks, dump stations, etc. Haines and Juneau currently have excess capacity for RV traffic. The impacts of increased RV traffic in Juneau are addressed elsewhere in this report.

**Tax Revenues:** Sales tax revenues to local governments would be affected in a number of ways, including:

- Increased Haines, Skagway, and Whitehorse spending in Juneau (which would mean lower levels of resident spending in those communities and possibly lower sales tax revenues for those local governments)
- Increased Juneau resident spending in Haines, Skagway, and Whitehorse (which would mean lower resident spending in Juneau and, possibly, lower sales tax revenues for the CBJ)
- Increased non-resident (tourist) spending in all communities.

The net effect, in each community, is very difficult to predict and depends (to a degree) on each alternative. Additional analysis is provided under each alternative.

**Property Tax Revenues:** Local governments would also expect some increase in property tax revenues as a result of increased assessments on privately-held land along the portion of the highway constructed within each community. These revenue impacts would be particularly important for Juneau, with respect to the mining

operations in the Berners Bay area. These operations are currently taxed at the roadless area rate, which is much lower than tax rates on property with road access.

Overall, the economic impacts of highway construction on local government revenues and expenditures in Juneau, Haines, and Skagway are expected to be low.

### **3.1.1.7. General Effects of Improved Access on the Health Care Industry**

Improved access would affect the health care industry in several ways. First, to the extent that access is improved, Haines and Skagway residents would have better access to Juneau's well-developed health care sector. This would mean less reliance on local health care providers and/or less reliance on Whitehorse health care providers.

Juneau currently serves as a regional health care center for northern Southeast Alaska, with facilities such as SEARHC and Bartlett Regional Hospital, for example, providing services to Haines and Skagway residents. Juneau's role in this regard would grow with improved access.

The effect of improved access to Juneau's health care industry would also be directly linked with anticipated changes in population in Juneau, Haines and Skagway. As discussed above, no substantial changes in population are anticipated with any of the alternatives, though there is the potential for some population growth in Juneau, Skagway and Haines associated with highway alternatives, depending on the alternative.

Overall, health care providers in Haines and Skagway, which are now quite limited, would see some decrease in the demand for routine services with improved access to Juneau. However, provision of emergency medical services is a key function of clinics in Haines and Skagway. Demand for these kinds of services would increase as non-resident traffic through those communities increases.

### **3.1.1.8. General Effects of Improved Access on Other Industries**

Improved highway access to northern Southeast Alaska would be expected to have minor or negligible impacts on other segments of the region's economy. The manufacturing sector in Juneau, for example, would benefit from better access to markets in Haines, Skagway, Whitehorse, and elsewhere. Better access to the Alaska/Canada highway system would also improve the economics associated with serving markets in Interior Alaska.

The region's wholesale trade sector would benefit from lower-cost of transportation between Juneau, Haines, and Skagway. Currently, wholesalers, primarily in Juneau, compete with Seattle distributors for this regional business.

## **3.1.2. Alternative 1 – No Build Alternative**

### **3.1.2.1. General Effects of the No Build Alternative**

The No Build alternative includes fast ferry service between Auke Bay and Haines, between Auke Bay and Skagway, and shuttle ferry service between Haines and Skagway. It also includes a reduced level of mainline service in Lynn Canal. Summer fast ferry service includes one trip each to Skagway (four days per week) and Haines (five days per week).

The No Build alternative represents a very minor improvement in the Lynn Canal transportation infrastructure, in terms of traveler costs. According to the Juneau Access Traffic Forecast, the No Build alternative is expected to result in a small increase in traffic (about 10 percent). Conditions that would exist under the No Build

alternative would be very similar to the future economic conditions set forth in the baseline Economic Conditions discussion in Chapter 2.

#### **3.1.2.2. Effects of the No Build Alternative on the City and Borough of Juneau**

The No Build alternative would have negligible economic impacts in Juneau; therefore future economic conditions in Juneau would be approximately the same as outlined in the baseline Economic Conditions section.

#### **3.1.2.3. Effects of the No Build Alternative on the Haines Borough**

The No Build alternative would have negligible economic impacts in Haines; therefore future economic conditions in Haines would be approximately the same as outlined in the baseline Economic Conditions section.

#### **3.1.2.4. Effects of the No Build Alternative on the City of Skagway**

The No Build alternative would have negligible economic impacts in Skagway; therefore future economic conditions in Skagway would be approximately the same as outlined in the baseline Economic Conditions section.

### **3.1.3. Alternative 2 – East Lynn Canal Highway**

#### **3.1.3.1. General Effects Common to All East Lynn Canal Highway Alternatives**

There are four East Lynn Canal highway alternatives being considered in the Juneau Access SDEIS. The Juneau Access Traffic Forecast indicates that traffic on the East Lynn Canal highway alternatives would range from a low of about 380 vehicles per day in Alternative 2B to a high of about 510 vehicles per day for Alternative 2 (in 2008). The difference in traffic between these alternatives represents about 65 additional vehicles each day in each direction. In terms of socioeconomic effects, differences between these alternatives are generally small. Therefore, in many instances, this analysis considers the socioeconomic effects of the East Lynn Canal alternatives together. Where meaningful differences in socioeconomic effects exist, they are noted.

#### **General Effects of the East Lynn Canal Highway Alternatives on the Construction Industry**

Construction of the East Lynn Canal highway (Alternative 2) is estimated to cost approximately \$280 million. In major construction projects of this nature, it is generally assumed that the cost of labor is about one-third to one-half of construction costs. For this analysis we assume 45 percent of construction costs for labor. For the East Lynn Canal Alternative 2, therefore, total labor expenditures would total approximately \$126 million. This payroll would be spread over a four-year construction period, or about \$31.5 million annually. Based upon 2001 DOL&WD data, the total annual salary for highway, street, and bridge construction workers in Alaska was \$5,922 a month, or approximately \$71,000. Total labor cost includes this annual salary plus 20 percent for benefits and other labor-related overhead, or approximately \$85,000 per annual-equivalent job. Based on this average, \$31.5 million in annual labor expenditures would indicate an approximate annual-equivalent of 370 jobs in each year of the four-year construction project.



This should be viewed as a preliminary estimate of construction-related employment. Peak construction season employment would be greater than 370 jobs, and of course off-season employment would be lower. It is not possible to predict local labor participation in the construction effort. The economic impact of the construction effort would depend on the number of local construction workers involved in the project. A project of this magnitude would attract contractors from outside Juneau, Haines, and Skagway. Therefore a high degree of non-local labor participation is possible.

The following table summarizes employment impacts for the East Lynn Canal highway alternatives and shows estimated employment for each alternative based on 45 percent of construction costs allocated to employment and average annual wages for highway construction workers in Alaska.

**Table 22**  
**East Lynn Canal Highway Alternatives**  
**Construction Phase Employment Impacts**  
**(Based on a Four-year construction period)**

East Lynn Canal Highway	Construction Cost	Estimated Annual Employment
Alt. 2	\$281 million	370
Alt. 2A	\$248 million	320
Alt. 2B	\$198 million	255
Alt. 2C	\$265 million	350

*Note:* Construction costs include only highway and ferry terminal construction costs. Vessel construction is not included.

Because Juneau is the largest community in the area, it is likely to benefit most in terms of construction jobs. However, Skagway is likely to benefit to some degree as construction occurs near the community. In addition to employment, Juneau and Skagway would experience some increase in commerce in support of the construction effort.

In 2002 there were 13 firms designated as Heavy Construction employers in the Juneau/Haines/Skagway area with average annual employment of 298 workers. (Heavy Construction employers are primarily engaged in highway, street, bridge, and tunnel construction.) The month of August saw the greatest number of workers in this industry with 461 workers and the month of February had the least number of workers with 118 workers. The employment estimates predicted for the East Lynn Canal Highway would more than double this employment in all but one alternative (2B) where the employment would increase by 86 percent. Alternative 2 offers the greatest employment increase for Heavy Construction employers with an estimated increase of 124 percent. It is unlikely that the Juneau/Haines/Skagway region has enough qualified workers for this construction project; therefore workers would be needed from other areas to construct a highway.

**Construction Phase-Related Socioeconomic Effects:** Construction activity associated with development of an East Lynn Canal highway could have temporary socioeconomic effects on the communities of Juneau, Haines and Skagway.

As the region's commercial and population center, Juneau is likely to see the largest construction-related impacts. Haines would be unlikely to experience construction-related socioeconomic impacts from an East Lynn Canal highway alternative, though local construction labor and contractors could participate in the project. Skagway, as

the smallest community in the project's region of influence, and located on the highway route, could be most affected by a construction-related, temporary population influx. Mitigation measures, however, could substantially reduce any potential adverse socioeconomic effects in Skagway.

The magnitude of the socioeconomic effects associated with highway construction would depend on a number of factors that are unknown at this time. These factors include:

- The residency of contractors and subcontractors awarded construction contracts.
- The availability of local skilled labor and operators at the time the project is under construction. This would depend in part on the number and size of other heavy construction projects underway in the region that might be competing in the same labor pool.
- Use of remote camps to support the construction effort. If housing and food services are provided for workers, the impact on communities would be far less than if non-resident workers are required to find their own housing.
- Construction shift scheduling. A ten-days-on, four-days off schedule, for example, is more likely to attract workers from nearby communities, or even elsewhere in Alaska.
- The duration of the construction phase. A four-year construction period is assumed in this study. A shorter construction period would have higher peak labor requirements. Longer construction periods would have lower peak labor requirements, but might draw more dependents to the region. A longer construction period might also generate greater indirect socioeconomic effects.

It is likely that the highway construction effort would be almost entirely camp-supported. Relying on available housing in Juneau would mean long daily commutes to the construction site. Basing some or all of the labor force in Skagway would be impractical because of the lack of rental housing, though a camp could be located there.

For the East Lynn Canal highway alternatives it is likely that the construction effort would be supported by several camps, including camps at Skagway, Katzeihin, Kensington, and near Juneau. The location of the camps is important in terms of where construction-related socioeconomic impacts would occur. A camp near Juneau would direct construction-related impacts toward Juneau. These impacts could include:

- Increased sales with construction equipment, rental and repair companies.
- Increased sales with food wholesalers and other businesses providing goods and services to the construction camp.
- Increased sales with fuel distributors.
- Increased sales at restaurants, bars, hotels and other businesses providing goods and services to construction workers and their dependents.
- Increased CBJ sales tax revenues as a result of sales to construction companies and their employees.
- Increase demand for rental and other housing. Depending on the number of non-resident workers who choose to relocate families to Juneau, demand for housing in Juneau would increase. Most of the demand would be for rental

housing, though a four-year construction period may be long enough to induce some workers to purchase housing. Increase demand for rental housing could result in upward pressure on rental rates.

- Increased enrollment in local schools. To the extent that dependents of non-resident workers relocate to Juneau, local school enrollment could increase. Enrollment has been declining in Juneau in recent years, so any construction-related increase would be served within the existing public school infrastructure. Additional enrollment would also draw additional state funding to the school district.
- The relatively small, temporary population increase associated with highway construction could also place additional demands on other public services, such as law enforcement, fire and emergency services, and health care services. The change in demand for these services, however, would be accommodated within Juneau’s existing public services infrastructure.

The impacts of the highway construction effort could be more pronounced in Skagway, in the absence of mitigating measures. A construction camp located in the Skagway area could have many of the same (though lesser) business sales and local tax benefits described above. Skagway has developed a public services infrastructure that can accommodate a large seasonal population increase. However, an influx of dependents could exacerbate an apparently tight housing market and could place burdens on the local school system.

The total direct and indirect employment and population effects of an East Lynn Canal highway would depend on the factors outlined above. Multipliers derived from the IMPLAN economic impact modeling system provide a highest-case estimate of indirect impacts. IMPLAN indicates that an employment multiplier of 1.44 is appropriate for measuring total direct, indirect and induced employment associated with highway construction. The IMPLAN multiplier for labor income is 1.24. These multipliers probably overstate indirect effects from an East Lynn Canal highway because of the remote location of the project and the camp-supported infrastructure. Based on slightly lower multipliers (1.4 for employment and 1.2 for payroll), the total, maximum potential labor and labor income effects of each East Lynn Canal alternative is provided in the following table.

**Table 23**  
**East Lynn Canal Highway Alternatives**  
**Construction Phase Direct and Total Employment and Payroll Effects**  
**(Based on a four-year construction period)**

East Lynn Canal Highway Alt.	Estimated Annual Direct Employment	Estimated Annual Direct Payroll	Estimated Annual Total Employment	Estimated Annual Total Payroll
Alt. 2	370	\$25 million	520	\$30 million
Alt. 2A	320	\$22 million	450	\$26 million
Alt. 2B	255	\$17 million	360	\$21 million
Alt. 2C	350	\$24 million	490	\$29 million

These estimates of total employment and payroll are high-case estimates. Indirect impacts (those associated with business spending on goods and services in support of the construction project) and induced impacts (those associated with construction workers spending their payroll) develop over time and are lower for shorter-term projects.

As described above, how these employment estimates would translate into population growth depends on many factors. However, by making a number of assumptions, it is possible to broadly estimate potential population-related effects of the construction phase. These assumptions are:

- Half of the total construction-related labor force would seek some form of housing in the Juneau area. (Even with a camp-supported construction effort, many workers would seek local housing for their dependents or for accommodations during time off).
- For construction workers relocating to Juneau, 75 percent would bring dependents with them, with an average family size that would match the Juneau average of 3.1 family members. One fifth of this population would be of school age.
- Workers seeking housing in Juneau who do not have dependents would seek shared housing with other construction workers. The average household size among these workers would be two persons.

Based on these assumptions, the following table provides estimates of population-related effects of the East Lynn Canal alternatives.

**Table 24**  
**East Lynn Canal Highway Alternatives**  
**Construction Phase, Maximum Potential Population-Related Effects**  
**(Based on a four-year construction period)**

East Lynn Canal Highway Alt.	Total Construction-Related Population Increase	Total New Housing Demand (number of units)	Additional School Age Population
Alt. 2	670	240	130
Alt. 2A	580	200	115
Alt. 2B	460	160	90
Alt. 2C	630	220	125

The latest available data indicates that Juneau’s housing vacancy rate is at approximately 4 percent, meaning that 450 housing units are vacant. While the construction-related housing demand associated with an East Lynn Canal highway is less than the existing vacancy, some additional housing development would probably occur in anticipation of increased demand.

The effect on the school district from additional school age residents would depend on the age and geographic distribution of the construction-related population with the CBJ. Total public school enrollment in Juneau has declined by about 250 students over the past five years, therefore the infrastructure is in place to serve this additional enrollment. As discussed above, additional enrollment would also result in increased state funding, which is based in part on enrollment.

## General Effects of the East Lynn Canal Highway Alternatives on the Transportation Industry

### Waterborne Freight

#### *Juneau*

Water transportation is the primary method of moving freight to and from Juneau, with Seattle being the primary port of origin and destination. Juneau currently has three times weekly service from Seattle, with barges arriving every Monday and Wednesday from Alaska Marine Lines, and once a week service from Northland Services, generally on Thursdays. Juneau also receives regular fuel barge service. According to the Department of the Army Corps of Engineers report *Waterborne Commerce of the United States for Calendar Year 2001*, total imports at Juneau Harbor included 17,000 tons of groceries, 9,000 tons of lumber and wood products, and 28,000 tons of manufactured equipment, machinery, and products (such as vehicles, boats, machinery, etc.). Juneau also imported 83,000 tons of petroleum products. Outbound freight leaving Juneau by barge included 6,000 tons of alcoholic beverages, 2,000 tons of fish, and 1,000 tons of groceries. The largest categories for outbound freight were ore and scrap metal (172,000 tons) and forest products (168,000 tons).

The cost for the movement of freight by Alaska Marine Lines is based on the type and value of the commodity and can vary significantly. AML offers negotiated rates for regular, large-scale users such as Fred Meyer or Costco. Juneau is approximately 935 nautical miles (1,076 statute miles) from Seattle.<sup>25</sup> A common commodity moved on AML is groceries. A 20-foot cargo van carrying 20,000 pounds of dry groceries from Seattle to Juneau costs \$1,073, translating into \$1.15 per nautical mile (\$1.00 per statute mile) or about \$0.05 per pound. The typical barge schedule for AML takes five days, for example leaving Seattle on Wednesday and arriving in Juneau on Monday after making stops in Ketchikan and Petersburg. After leaving Juneau, the barge travels north to Haines and Skagway on Tuesday before making its return to Seattle. Friday sailings from Seattle do not include the Haines and Skagway stops.

In addition, cargo also enters Juneau by AMHS ferry. The current cost of a 21-foot cargo van from Bellingham to Juneau in the winter is \$949 (\$899 plus \$50 handling fee) and in the summer is \$958 (\$908 plus \$50 handling fee). This translates into approximately \$1.10 per nautical mile (\$0.96 winter and \$0.95 summer per statute mile) or a little less than \$0.05 per pound.

Trucking companies servicing other Alaska communities were asked to approximate the cost of trucking between Seattle and Juneau if a highway were available. Seattle to Juneau via Skagway and an East Lynn Canal highway is a distance of approximately 1,715 miles. Trucking companies were asked to estimate the cost of sending 20,000 pounds of goods from Seattle to Juneau in order to compare costs to the barge alternative. Trucking cost estimates for these goods is \$3,075 (a 40,000 to 42,000 pound load was estimated at \$6,150). This equals \$1.79 per mile or \$0.15 per pound and assumes no cargo is available for the return trip and as little as half that amount if cargo loads can be obtained for the return trip.

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<sup>25</sup> A statute mile is 5,280 feet in length. A nautical mile is 6,076 feet in length.

While trucking goods from Seattle is not competitive with barge service, a highway link to Juneau may provide opportunities for transporting time-sensitive freight. Air freight costs are between \$0.33 and \$0.46 per pound, Juneau to Seattle.

While improved access would provide some short-term transportation benefit, transportation by barge would likely remain the mode by which most freight is shipped to Juneau. The economies of scale possible with barge service, and the relatively frequent service offered into Juneau, place economics on the side of barge transportation. However, there would be substantial benefits to the fishing industry or other manufacturers producing time-sensitive goods. Further, shipment of time-sensitive products out of Juneau would create low-cost back-haul opportunities.

Over the long-term, Juneau would expect growing dependence on overland trucking of basic goods into Juneau, as more and more individual businesses consider the scheduling flexibility trucking would provide. Highway access would give businesses and consumers the opportunity and versatility to choose a shipping mode that best meets their specific needs. In addition, with highway access, Juneau might develop a dependence on supply centers other than Seattle. Though not addressed explicitly in this study, overland shipment of freight from Midwest commercial centers, for example, would be very competitive with Seattle barge service, especially if some of the supplies moving through Seattle originate in the Midwest.

Alternatives 2A and 2B would have less potential to stimulate overland freight transportation to and from Juneau. Both of these alternatives include a ferry link. The cost and scheduling inefficiencies inherent in ferry service would constrain truck traffic.

### **Haines**

Haines and Skagway are important transshipment points, linking Inside Passage barge and ferry traffic to the Yukon and Interior Alaska. Waterborne freight arrives in Haines on a weekly basis through Alaska Marine Lines barge service. During the summer months, Haines receives approximately 30 to 50 cargo vans per week, dropping in the winter to between 15 and 20.

AMHS ferries also provide freight service to Haines. In 2002, AMHS traffic included 571 vans off-loaded and 546 vans loaded in Haines.

Some of the vans arriving in Haines by ferry and barge carry freight for local customers; others are destined for the Yukon or Interior Alaska. In 2002, 743 vans crossed northbound through the Canadian Customs station at Pleasant Camp. A larger number of vans (882) crossed southbound into Haines in 2002.

An East Lynn Canal highway would affect freight movement to and through Haines. Some of the vans now off-loaded from the ferry in Haines would be trucked from Juneau (others would be barged). To the extent that local truckers move these vans, the job of off-loading and delivering these vans could be taken by Juneau-based truckers. Though data is not available, apparently the vans arriving by ferry destined for points north of Haines are handled primarily by non-resident drivers.

The critical issue for local drivers is AML's plans for serving Haines should a highway be constructed. AML currently has three to four full time truckers living in Haines and they often add one to two more staff in the summer. Representatives of AML have stated that they would not alter their barge service to Haines. The cost of off-loading vans in Juneau, and trucking to Haines (and incurring the cost and delay associated with a ferry link), would not be competitive with continued barge service. As such, the Haines truckers who handle AML vans would not be affected by highway construction.

Haines would see reduced costs for freight shipped from Juneau. In 2002, of the 571 vans transported on the AMHS and off-loaded in Haines, 434 originated in Juneau. The final destination for these vans is not known, but in any case, the cost of transporting these vans from Juneau over an East Lynn Canal highway is very likely to be lower than the cost of ferry transport. Critical to this assumption is the cost of the ferry link or links included in the East Lynn Canal alternatives. If the ferry service between Skagway and Haines is relatively infrequent, or relatively expensive, there may be no cost savings associated with the highway.

In summary, an East Lynn Canal highway would not result in a change in barge service to Haines. Freight that is now shipped to Haines on the ferry would be trucked and shuttle-ferried, most likely at a lower cost than is now possible with ferry service.

### **Skagway**

In 2001, 84,000 tons of freight moved through the Skagway harbor, primarily (85 percent) petroleum products (ACOE, 2003). Waterborne freight (other than fuel) arrives in Skagway on a weekly basis through Alaska Marine Lines barge service. During the summer months, Skagway receives approximately 30 cargo vans per week, dropping in the winter to about 10. AMHS ferries also provide freight service to Skagway. In 2002, AMHS traffic included 219 vans off-loaded and 184 vans loaded in Skagway. Freight arriving in Skagway by ferry and barge is for local residents and businesses as well as consumers in the Yukon.

In 2002, 1,646 vans (including fuel trucks) crossed northbound through the Canadian Customs station at Fraser. A larger number of vans (1,800) crossed southbound into Skagway in 2002.

Skagway would see reduced costs for freight shipped from Juneau. In 2002, of the 219 vans transported on the AMHS and off-loaded in Skagway, 139 originated in Juneau. The cost of transporting these vans over an East Lynn Canal highway would be lower than the cost of ferry transport.

With the exception of freight currently moved from Juneau to Skagway on the ferry, Skagway is not expected to see any change in waterborne freight service, with an East Lynn Canal alternative (particularly if the alternative includes a ferry link). The economics associated with off-loading vans or fuel in Juneau, then trucking to Skagway or the Yukon are inferior to the cost efficiencies associated with barge transportation as now provided. In other words, overall transportation costs would be higher than is currently the case, if the product were transshipped (off-loaded then on-loaded) in Juneau.

In summary, Skagway barge service would be unaffected by an East Lynn Canal highway. Freight that now moves from Juneau to Skagway on the ferry would instead be trucked at a lower cost.

### **Air Transport**

See General Effects of Improved Access on the Transportation Industry, section 3.1.1.2.

### **Private Ferry Operations**

See General Effects of Improved Access on the Transportation Industry, section 3.1.1.2.

## **Commercial Highway Passenger Transportation**

If Lynn Canal transportation options are improved, it is assumed that other, less expensive, means of commercial transportation between Juneau, Haines, and Skagway will emerge. Bus and van transportation between these communities may develop as competition for higher-priced air taxi service.

With a highway, it would be possible to provide land transportation from Juneau to Haines and Skagway several times daily. It is not possible to determine the market for this type of transportation service or the number of local jobs that would be created. In addition, new commercial surface transportation services could emerge between Southeast, Southcentral, and Interior Alaska, serving visitors as well as Alaska residents.

These commercial transportation services would be available to travelers who would otherwise be walk-on ferry travelers. Most potential walk-on ferry travelers would choose to use a private vehicle if highway access were available, because of the lower cost of driving the highway versus taking a car on the ferry. Still, there are some travelers who rely solely on commercial transportation services. If the number of these travelers is large enough, bus, van or other commercial services will develop.

## **General Effects of the East Lynn Canal Highway Alternatives on the Forest Products Industry**

The East Lynn Canal alternative would generate activity in the forest products industry in two general areas. First, clearing the right-of-way would produce some volume of marketable timber. Second, an East Lynn Canal highway would improve access to timber stands that at some future date could be made available for harvest.

Overall, the effects of the East Lynn Canal alternative on the forest products industry would depend on a number of factors, including:

- Forest Service management of timber stands along the East Lynn Canal corridor
- The volume and quality of timber along the East Lynn Canal corridor
- Market conditions for Alaska's forest products in general
- Disposition of the marketable timber harvested as part of the highway construction process.

**Forest Service Land Management:** Most of the East Lynn Canal area is to be maintained in a "mostly natural setting." However, an area of approximately 12 miles along the eastern shore of Lynn Canal between Point Sherman and a point east of Sullivan Island is designated for moderate development, including allowing for timber harvesting.

**Volume and Quality of Timber Along East Lynn Canal:** The Forest Service has not cruised the forested lands along the eastern shore of Lynn Canal, therefore timber quantities and qualities are unknown. However, aerial photographs of the area indicate a high degree of variability in terms of quantity. Volumes probably range from very low to as high as 30,000 board feet per acre.

**Market Conditions for Alaska Forest Products:** It is impossible to predict what market conditions might be by the time an East Lynn Canal highway would be



constructed. However, it is likely that an East Lynn Canal alternative would affect the economics of national forest timber sales along the highway. There are no plans to conduct timber sales in the area within the next ten years, though market conditions and other factors would lead the Forest Service to make available small volumes of timber on an itinerant basis at some point in the future.

A highway is not likely to affect the timing or magnitude of such sales, but it would affect the industry's response to the sales. Highway access would reduce the cost of harvesting and therefore increase the market value of the timber.

**Disposition of Timber Harvested During Construction:** In the construction phase of the project, a potentially large volume of timber would be harvested along the 68-mile long, 100-foot right-of-way in preparation for highway building. A total of approximately 800 acres would require clearing.

Data is not available on the total volume of timber located along the East Lynn Canal route. However, in the Berners Bay area, along approximately 7 miles of the highway, timber volumes could average as much as 30,000 board feet per acre (USDA Forest Service, 1994). Beyond Berners Bay, volumes would range from essentially zero (in slide areas) to 30,000 board feet per acre. If it is assumed that the average volume along the corridor is 10,000 board feet per acre, the East Lynn Canal alternative would require the harvesting of approximately 8 million board feet of timber.

The value of the timber harvested as part of the highway construction effort would depend on the volume and species mix of the timber resource. There is a very high degree of price variability. Current prices are at historically low levels, ranging from \$100 per thousand board feet (mbf) for spruce and as low as \$1 per mbf for hemlock. (This is the expected bid price for standing timber, i.e. the stumpage value.) The value of the right-of-way timber harvest would be somewhere within this range. Assuming an average of price of \$50 per thousand and a volume of 8 million board feet, the value of the right-of-way harvest would be \$400,000. Revenues from right-of-way timber sales through national forest would be retained by the Forest Service.

### **General Effects of the East Lynn Canal Highway Alternatives on the Mining Industry**

Development of the East Lynn Canal alternative could affect operation of Coeur Alaska's Kensington mine, located just north of Berners Bay, within CBJ boundaries. Development of the mine could begin in 2004 and create 225 jobs over the mine's anticipated 15-year life. It is important to note that the decision to develop the Kensington mine is not contingent on construction of an East Lynn Canal highway. In fact, the mine is likely to be fully operational before an East Lynn Canal highway would be constructed. However, improved access to the mine would have a number of effects on mine operations and local economies:

- Reduced cost of transport between the mine and Juneau
- Potential for savings from improved access to Juneau area utilities
- Improved opportunity for Haines and Skagway residents to participate in the mine workforce
- Increased security and public safety concerns at the mine as a result of public access
- Increased CBJ property tax revenues.

These issues are addressed in more detail below.

**Reduced Cost of Transport To and From Juneau:** Most supplies required to operate the Kensington Mine (fuels, explosives, drill steel, chemical reagents, food, etc.) would be shipped directly to the mine from Seattle with or without highway access to Juneau. It would be more cost effective to ship directly to the mine rather than bear the expense of shipping to Juneau or Haines first, re-handling the materials and then trucking or barging to Kensington.

However, the costs associated with daily transport of workers to the mine via bus all the way from Juneau would be lower than if a shuttle ferry were required to cross Berners Bay (from Cascade Point to Slate Cove).

**Improved Worker Safety with All-Weather Surface Access to Juneau:** An important benefit of highway access to the Kensington mine concerns safety of mine personnel. First, travel by bus between the mine and Juneau would be more dependable and faster than with a shuttle ferry link. Second, in case of injury, prompt medievac service would be assured with highway access to Juneau whereas helicopter medevac, while potentially faster, would be weather-dependent.

**Improved Access to Juneau Area Utilities:** Highway access to the Kensington project would reduce the cost of tying into the Alaska Electric Light & Power (AEL&P) power grid in Juneau. A 1988 study conducted by AEL&P for Echo Bay Alaska (previous owners of the mine) indicated that an intertie would cost about \$12 million. This cost, plus the cost to provide surplus power, exceeded the cost of on-site power generation. Coeur Alaska currently plans on using four diesel-powered generators, each rated at 3.3 megawatts (Coeur Alaska 2001). It is not possible within the scope of this study to accurately determine the savings associated with intertie construction along the East Lynn Canal highway to the mine versus helicopter supported construction and undersea cable installation.

While an East Lynn Canal highway would reduce the cost of an intertie between the Kensington Mine and AEL&P, the key issue is power availability, rather than the cost of intertie construction. The mine would consume 68,000 megawatt-hours (MWh) annually (Coeur Alaska, Inc, 2001). Juneau currently has a surplus of power that ranges from 20,000 to 30,000 MWh to 100,000 MWh annually, depending on water levels. Therefore, while initially there could be surplus power available to the Kensington Mine with an intertie, it would be available only on an interruptible basis. That is, Juneau area residential and commercial consumers would always have service priority. When Snettisham is off-line, AEL&P would probably be unable to meet Kensington's needs. Therefore, to ensure continuous mine operations, Coeur Alaska would be required to install substantial back-up generating capacity.

Development of the Dorothy Lake hydroelectric project would increase Juneau's total power generating capacity and therefore, would change the economics of linking with Kensington. Construction of the Dorothy Lake project probably will not occur for another four years, and a two-year construction effort will follow. Kensington is likely to be fully operational by that date, and will have already invested in its on-site generators.

In summary, it is unlikely that the Kensington mine would realize any utility-related benefit from an East Lynn Canal alternative. Even with the highway, a highly variable, interruptible supply of power from AEL&P would force the mine developer to make substantial investment in on-site power-generating capacity.

**Haines and Skagway Residents in the Mine Workforce:** Improved access to Juneau or to Kensington would increase the opportunity for Haines and Skagway residents to work at the mines. The East Lynn Canal alternatives (except 2B) would allow Skagway residents to drive directly to the mine. Haines residents could also

drive directly to the mine with a ferry connection. Currently, Coeur Alaska's plans call for busing employees from Juneau. Haines and Skagway residents would be required to fly or ferry to Juneau to connect with daily company-provided transportation to the mine.

**Increased Security and Public Safety Concerns:** Mine developers will incur increased costs associated with providing increased security on and around their facilities, as a result of improved access to the area. The costs associated with this increased security have not been quantified.

**Increased Property Taxes Payments:** The Kensington is currently taxed at the roadless area rate. With an East Lynn Canal highway, mine facilities would be taxed at the rate for property with highway access, which is 60 percent higher than the roadless rate. Coeur Alaska will invest approximately \$100 million in the development of the Kensington Mine.

Kensington is currently taxed at the 2003 non-roaded rate of 6.72 mills (5.52 areawide mill rate and 1.2 debt service). If a highway goes through and the Assembly does not redraw the taxation area boundary lines, the Kensington Mine would then be taxed at the rural roaded rate of 10.96 mills. As a point of reference, property tax payments from Greens Creek Mine (non-roaded rate) for 2003 were about \$365,000 for real property taxes and \$320,000 for business personal property taxes.

### **General Effects of the East Lynn Canal Highway Alternatives on the Seafood Industry**

Juneau's seafood processing industry would benefit from an East Lynn Canal Highway as a result of lower-cost access to fresh fish markets. A relatively small volume of fresh seafood is currently shipped out of Juneau. Approximately 5 million pounds of fresh seafood are shipped out via airline or barge each year. Tapping fresh fish markets is advantageous to processors because buyers are willing to pay more for a fresh, rather than frozen, product. For example, typical wholesale prices for sockeye salmon are 30 to 40 cents per pound higher for fresh than for frozen product.<sup>26</sup>

In the fresh fish market, shipping cost and logistics are critical. Fresh fish has a limited shelf-life, making rapid transport to market highly important. From the perspective of seafood processors, barge transport (in refrigerator vans) has the advantage of being relatively low cost, but has the disadvantage of being slow. Alternatively, air shipment of fresh fish can have product in Seattle in just a few hours, though at a cost of between \$0.33 and \$0.46 per pound, and at a higher weather-related risk. Highway transport offers a third option for movement of fresh fish, offering faster delivery times than the barge at costs lower than air freight. For example, a truck could make the trip from Juneau to Seattle in about 48 hours, at a cost of about 8 to 15 cents per pound. Trucking also has an advantage over barge or ferry service in that product can be sent when needed rather than waiting on the barge schedule.

Juneau processors indicated that a highway to Juneau would result in more fresh fish moving out of Juneau. One Juneau processor who is currently sending 60 to 80 cargo vans annually of fresh halibut indicated he would double the volume of fresh seafood and would consider adding fresh salmon to the product that his company currently transports. Sales of more fresh fish would result in higher-value sales

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<sup>26</sup> Salmon Market Information Service (SMIS), prepared for the Alaska Seafood Marketing Institute by the McDowell Group, Inc.

overall and, perhaps, higher prices paid to fishermen. To the extent that higher prices are paid by local processors, more fishermen may be encouraged to sell to Juneau processors.

Overland shipping of fresh seafood has proven economical in other regions of the state. A McDowell Group study conducted for the World Trade Center in October 2001 found that of the 42 million pounds of fresh seafood shipped out of Southcentral Alaska, half (21 million pounds) were trucked south via the Alaska Highway.

In summary, an East Lynn Canal highway would result in increased shipment of fresh fish out of Juneau. Product that is now shipped out via barge or jet will probably continue to be shipped by those modes, as they are apparently adequately meeting buyers' and sellers' needs. Fresh fish that is moved out by truck over the highway would likely be new product destined for new markets.

Haines processors suggested that their businesses would be hurt by highway access to Juneau. Apparently, because Haines now has highway access to fresh fish markets, local processors can pay fishermen slightly higher prices for their catch. If Juneau develops the same access to fresh fish markets, fishermen may lose the incentive to sell in Haines. Overall market expansion could benefit all processors in the region, however.

### **General Effects of the East Lynn Canal Highway Alternatives on the Commercial Visitor Use of Berners Bay**

While Berners Bay is a popular recreation site for Juneau residents, there is limited commercial activity in the area. According to Juneau-based whale watching operators, Berners Bay is too far north for their tours. A low level of charter fishing may occur in the bay; however, that activity would not experience any effects from the proposed access alternatives.

A list of permitted operators provided by the Forest Service for the Berners Bay area between 1999 and 2001 reveals limited commercial usage of the land surrounding the bay. Two companies operate tours in the area. The total number of user days for the 2003 season was approximately 200. Nearly all of the users were on overnight trips of three to four days, while a few clients were on day trips only. According to operators, trips to Berners Bay account for a very small portion of their companies' overall revenue.

Commercial use of the Berners Bay area would change with an East Lynn Canal highway alternative. The current, remote wilderness experience now offered in the area could be replaced by somewhat larger-scale operations, depending on USDA Forest Service management of the area. The area is rich in wildlife and scenic viewing opportunities and, assuming commercial access is available, improved physical access to the area would induce Juneau's visitor industry to develop day-tour or longer excursions to the area.

### **3.1.3.2. Effects of an East Lynn Canal Highway on Juneau**

#### **Effects on Basic Industries in Juneau**

##### ***Visitor Industry***

A highway link between Juneau and Skagway on the east side of Lynn Canal would be expected to substantially impact segments of Juneau's visitor industry.

**Cruise Visitor Market:** As presented in the baseline analysis, Juneau's cruise market is expected to continue to grow. The East Lynn Canal alternatives would not affect the volume or economic impact of cruise traffic to Juneau.

**Independent Visitor Market:** The independent visitor market would be substantially affected by the East Lynn Canal alternatives. Among independent visitors, those traveling by personal vehicle are the most likely to be affected by a highway link between Juneau and Skagway. This section focuses on non-Alaskan personal vehicle visitors to Juneau.

Non-Alaskan personal vehicle visitor traffic to Juneau would be affected by an East Lynn Canal highway in several ways, including:

- AMHS travelers traveling north through Southeast Alaska who would otherwise disembark in Haines or Skagway, would disembark in Juneau and continue their travels north via highway.
- AMHS travelers traveling south through Southeast Alaska who would otherwise have boarded in Haines or Skagway and remained on the ferry at the Auke Bay terminal, would drive to Juneau to board a ferry.
- Haines and Skagway-bound ferry travelers who might not otherwise have visited Juneau are likely to spend time and money after disembarking. Likewise, southbound travelers will do the same.
- A large increase in Whitehorse resident traffic to Juneau is expected with an East Lynn Canal highway.
- Some Yukon visitors and Alaska-bound highway travelers who now choose not to visit Juneau (including Alcan Highway travelers who do not visit Southeast Alaska at all, and those who visit Haines and/or Skagway as a side trip), will drive to Juneau because of the improved access.

Approximately 30,000 personal vehicle travelers visit Juneau each year (McDowell Group, 2004). The number of visitors who travel to Alaska by ferry or personal vehicle has been declining slowly, a trend affecting Juneau visitation. In any case, Juneau captures approximately one-third of the ferry/highway market.

Upon completion of an East Lynn Canal highway, the number of these visitors traveling to Juneau is expected to approximately double. With completion of the highway, Juneau would become the mainline terminus for the AMHS, resulting in a large number of visitors traveling to Juneau that otherwise might not visit the community. Approximately 60 percent of the non-resident travelers now using the ferry between Juneau and Haines/Skagway are actually spending time in Juneau (the remainder are staying on the ferry as it passes through Auke Bay). Most of these pass-through visitors (15,000 to 20,000) would be spending some time in Juneau.

A relatively small number of Whitehorse residents now visit Juneau each year. However, survey results indicate that there is a very high level of interest in visiting Juneau, if a highway is constructed. The Juneau Access Traffic Forecast indicates that Whitehorse residents would account for 10,000 household trips a year, or about 20,000 total visitors.

Finally, Juneau would be expected to capture a somewhat larger share of the Alcan Highway market. This market includes non-Alaska residents traveling on the highway from the Lower 48 states, destined for Alaska. With a highway, some of those visitors might add a Juneau stop to the itinerary, because of the reduced travel cost and increased convenience. Similarly, Juneau would also draw more of the Yukon visitor

market (this includes visitors to the Yukon who are not also visiting Alaska). The Juneau Access Traffic Forecast estimates that traffic from this market would average 10 AADT (with summer average daily traffic much higher). This translates into about 4,000 additional visitors to Juneau.

In summary, an East Lynn Canal highway would bring approximately 30,000 to 40,000 new non-resident visitors to Juneau. Overall, Juneau could expect the number of visitors from the ferry/highway market to increase to between 60,000 and 70,000 annually.

This increase in visitor travel to Juneau would occur over a several year period following completion of the highway. There would be an initial jump in traffic as ferry traffic is diverted to the highway, and then a more gradual increase as Alcan and Yukon visitors grow accustomed to improved access to Juneau and Juneau businesses begin to tap these markets.

The increase in non-resident traffic to Juneau would be lower for East Lynn Canal Highway alternatives 2A and 2B than for alternatives 2 and 2C. These alternatives (2A and 2B) include ferry links and do not provide an uninterrupted highway connection to the Alaska/Canada highway system. The cost and travel delays associated with these alternatives would constrain visitor traffic, to some degree. The Juneau Access Traffic Forecast provides more detail on these travel costs and their effect on traffic.

**Recreational Vehicle Visitors and Related Impacts:** According to AMHS data, approximately 900 recreational vehicles (RV's) visited Juneau in 2002, at least 90 percent of them in the May to September period. The total number of 2002 "RV nights" – nights in Juneau spent by RV's – is estimated to be between 3,000 and 4,000. This range is derived from two separate calculations: applying the average length of stay according to local RV park operators (3 nights) to the total number of RV's (900); and applying the average summer occupancy of RV parks (35 percent) to the total RV park summer capacity (12,000 nights). In the off-season, total RV nights is expected to be between 300 and 400, or about 10 percent of summer traffic.

There are several RV parks in Juneau, totaling about 100 RV parking sites. (Other campground sites that can be used by RV's add another 50 potential sites, but these are predominantly used by tent campers and do not offer the amenities preferred by most RV travelers.)

Under Alternative 2, Juneau would become the main terminus for the Alaska Marine Highway System. RV travelers on the ferry who otherwise would have gone directly to Haines or Skagway would be forced to disembark in Juneau. While some travelers would choose to travel on directly to Skagway and/or Haines, others would take advantage of the opportunity to visit the capital city, including Mendenhall Glacier and other attractions. Using 2002 AMHS traffic numbers (and assuming that RV traffic would not change significantly from 2002 to the time the highway is built), the total number of diverted RV's would be about 800, in addition to the 900 that would have included Juneau in their itinerary with or without a highway.

It is estimated that these diverted RV's would spend an average of 2.0 nights in Juneau. The 900 RV's that would have included Juneau in their itineraries anyway are expected to increase their average length of stay slightly, from 3.0 nights to 3.5 nights. This is because without constraints posed by the current AMHS reservation system, RV's would be able to lengthen (or shorten) their stay much more easily. Local RV park operators agree that the Juneau RV market would probably spend, on average, a slightly longer time here if given the opportunity.

Together, the baseline and diverted RV traffic to Juneau would amount to approximately 4,500 to 5,500 RV nights over the May to September period.

In addition to diverted traffic, there would be additional traffic not related to the AMHS market that would be drawn to Juneau by the new highway connection. RV's are particularly sensitive to the costs of ferry travel – in the summer of 2002 it cost \$298 for round-trip passage between Juneau and Haines for a 28-foot RV (plus \$52 for each passenger). The same RVer traveling round trip between Skagway and Juneau paid \$380 for passage and \$70 for each passenger. These costs have likely been preventing a significant segment of the RV market from visiting Juneau. (Vehicle prices are the same for 2004, but passenger fares increased to \$64 per person to Haines and \$84 per person to Skagway with a 10 percent increase for all FVF service.)

Overall, independent visitor traffic in Lynn Canal is expected to double under Alternative 2. Applying this growth to the total baseline and diverted RV traffic of 1,700 results in an estimate of 3,400 annual RV's to Juneau, once an East Lynn Canal highway is constructed. This additional traffic would, like the ferry market, be expected to spend an average of 3.5 nights in Juneau.

**Total RV Traffic and Capacity:** The total number of annual RV's that are estimated to visit Juneau in the first year of highway access is nearly four times the current level (3,400 compared to 900). With 2,600 RV's spending an average of 3.5 nights and 800 RV's spending an average of 2.0 nights, the total number of annual Juneau RV nights expected in the first year of highway access is approximately 10,000 to 12,000, 90 percent of which would likely come during the summer season. Over the 120-day visitor season, that averages to 80 to 90 per day.

As stated above, the current capacity for RV's in Juneau in the May 15 to September 15 period is 12,000, or an average of 100 spaces every night.

Although the total capacity is more than the predicted number of RV nights, Juneau would still need additional RV capacity to accommodate the increased traffic, for several reasons. RV traffic fluctuates over the summer season, with less traffic coming in the shoulder months of May and September. Other variables that would affect traffic include the ferry schedule, special events such as the Fourth of July, and RV caravans (groups of RV's traveling together). The current capacity of RV spaces would not be enough to accommodate peak daily demand in the first year of highway completion, and would certainly be inadequate as demand grows in subsequent years.

**RV Infrastructure Needs:** As described above, there are several RV parks in Juneau, totaling about 100 RV sites. It is expected that the private sector would respond to demand and develop the necessary RV-related services, including increased capacity, RV rental businesses, and RV supply services. According to the City and Borough of Juneau, no current plans are underway to build a new RV park. (One was permitted several years ago but was never built.)

The process of planning and building an RV park in Juneau will present some challenges to prospective RV park operators. According to city officials, it is difficult to find developable land in Juneau that is appropriate for RV parks. It would need to have easy highway access, water and electrical utilities, and accommodating neighbors. Such a location is likely to be desirable by a variety of interests, and in the past it has been found that an RV park does not promise the revenues that other operations would.

With highway access and the accompanying increase in RV's, however, an RV park would become more feasible financially. Despite the challenges outlined above, it is

expected that the private sector would make the necessary adjustments to meet demand, either through enlarging current parks or building new ones. Because there is already so much unused capacity, the need for additional space would be much less than the probable increase in traffic, at least in the short term.

**Impacts of Increased RV Traffic on Juneau:** This analysis estimates that annual RV traffic to Juneau would nearly quadruple in the first year of highway access (from 900 to 3,400), with slight annual increases in subsequent years that parallel growth in the overall independent market. Impacts of this growth would depend on where RV's choose to travel while in Juneau.

On Egan Drive, the growth in traffic would have little impact. According to the Alaska Department of Transportation and Public Facilities, Egan Drive by the high school had an average daily traffic count of 23,680 in 2002. With highway access, the number of RV's on Egan Drive on any day in the summer is unlikely to exceed 90 – the average daily number of RV's that are expected to be in Juneau during the summer season. Thus the RV's would represent less than 1 percent of the total vehicular traffic on any given day. The presence of passing lanes further mitigates the potential for impacts of increased RV's on Egan Drive traffic.

The impacts on downtown Juneau from increased RV traffic would be more noticeable. With steep and narrow streets, no passing lanes, numerous visitor attractions, very limited parking, and an already highly-congested traffic situation in the summer, downtown is not well-equipped for an increase in RV's. The unique nature of RV's further accentuates their impact: they are large, slow-moving, and like other visitors tend to stop at attractions. Drivers unfamiliar with downtown Juneau may have difficulty finding their way.

However, considering the average daily traffic in the downtown core, RV's would again represent a small percentage of all vehicles. Average daily traffic ranges from 1,491 on Seward Street, to 3,810 on South Franklin, to 7,443 at City Hall, to 12,247 in front of the Goldbelt Hotel. (These are year-round numbers; daily average numbers in the summer are higher.)

The *Downtown Juneau Tourism Transportation Impact Study* (conducted by Kittelson & Associates, Inc. for the City and Borough of Juneau in September 2003) makes a series of recommendations designed to relieve both vehicular and pedestrian congestion in downtown Juneau. These include increasing sidewalk capacity, pedestrian channelization, and additional highway connections. The city has also taken measures to increase parking capacity and enforce stricter parking regulations. If the city continues its efforts to improve the situation, downtown Juneau will be better equipped to handle the increase in RV traffic that may occur as a result of highway access.

## ***Mining***

Please refer to General Effects Common to All East Lynn Canal Highway Alternatives.

## **Effects on Support Industries in Juneau**

The East Lynn Canal alternatives would have generally positive economic effects in Juneau's support sector. The retail and service sectors in particular are likely to experience economic benefits from the East Lynn Canal alternatives.

### *Retail Trade and Service*



Juneau's retail and service sectors would be affected by the East Lynn Canal alternative in several ways:

- Increased travel and spending by non-Alaskan visitors due to improved access to Juneau
- Increased spending by residents of Haines, Skagway and Whitehorse, who would have improved access to Juneau's more developed retail and service sectors
- Potential for decreased spending of recreational dollars as Juneau residents would have more convenient access to Haines and Skagway
- Some potential decrease in spending in Juneau as a result of Juneau household spending in Whitehorse, where favorable exchange rates would spur spending there.

**Non-Alaskan Traffic:** Spending by non-Alaskans would increase in Juneau as a result of an East Lynn Canal alternative. The addition of 30,000 to 40,000 new non-resident visitors to Juneau's visitor industry would generate several million dollars in additional spending. (Visitor spending is also addressed in a following section.)

**Regional Resident Traffic:** Because of Juneau's more developed retail and service sectors, many residents from Haines and Skagway travel to Juneau for pleasure, vacation, medical reasons, business travel, and/or for shopping. The *Juneau Access Household Survey* conducted in 1994 indicated that approximately \$4 million was spent annually in Juneau by Haines and Skagway residents, accounting for approximately 0.5 percent of gross sales in Juneau. Survey results suggested that Haines households spent an average of \$3,500 in Juneau over the previous year, while Skagway households averaged \$3,100.

Survey results suggested that Haines and Skagway households would spend more in Juneau if a highway were built. Sixty-one percent of Haines households said they would increase spending. (The remainder said that their spending would stay the same or that they were unsure how their spending would change.)

While increased Haines and Skagway household spending in Juneau could affect businesses in those smaller communities, the effect in Juneau would be relatively small. In comparison to Juneau's total gross sales of approximately \$1 billion annually, even a doubling of Haines and Skagway resident spending would increase total gross sales by less than 1 percent.

The issue of Haines and Skagway household spending in Juneau is addressed in more detail in the Haines and Skagway Effects section.

**Juneau Resident Spending in Haines/Skogway:** Juneau's retail and service sectors might also experience some minor decline in recreation-related spending in Juneau by Juneau residents. With an East Lynn Canal alternative, local residents would have new options for spending their recreational time and money. However it is difficult to predict the volume of recreation spending diverted from Juneau businesses to Haines or Skagway businesses.

Results of the *Juneau Access Household Survey* indicate that the frequency of travel to Haines and Skagway would increase with an East Lynn Canal alternative. Juneau households are currently taking an annual average of about 2 trips to Haines and 1 trip to Skagway each year. Juneau residents estimate that they would use the East Lynn Canal highway 3.6 times per year to access Haines and 3.4 times per year to access Skagway. This suggests that Juneau household travel to northern Lynn

Canal would at least double, with a corresponding increase in spending. This increase does not necessarily translate into less spending in Juneau. To the extent that additional Haines and Skagway trips replace other out-of-town trips, there would be no negative effect on Juneau. To the extent that new travel to Haines and Skagway replaces local recreational activity, there would be an impact on Juneau business sales, though a minor one.

### **Summary of Visitor Spending and Related Impacts in Juneau**

Based on data in the 2004 Juneau Access Traffic Forecast, the total increase in non-resident traffic to and from Juneau associated with the East Lynn Canal alternatives is estimated at between 125 AADT (Alternatives 2A and 2B) and 185 AADT (Alternative 2). These estimates are less than half of total traffic associated with each alternative because Juneau residents would account for the majority of traffic on a highway. The estimates of new traffic also do not include baseline traffic (baseline traffic is already affecting the economy and therefore is not counted along with new traffic in estimating new visitor spending).

Converting these vehicle traffic estimates to number of new visitors indicates that Juneau would see between 52,000 (Alternatives 2A and 2B) and 78,000 (Alternative 2) new visitors in 2008 with an East Lynn Canal highway alternative. These are conservative estimates because they are based on the assumption that all traffic is round-trip traffic (in other words, 2 AADT equals one additional visiting vehicle, carrying an average of 2.3 people). In reality, some of the traffic would be one-way travelers passing through Juneau on their way north or south.

The amount of increased spending in Juneau associated with this increased visitor traffic is estimated for each alternative. Data is very limited, but for purposes of this study it is assumed that visitor spending in Juneau would average \$80 per visitor per trip, except non-Alaskan visitors who would spend \$160 per visitor per trip. The \$80/visitor/trip estimate is derived from data produced by the Alaska Travelers Survey, which found that AMHS travelers spent an average of \$80 per day during their visit to Alaska in 2003. Though regional residents may be traveling to Juneau for different reasons, this number is considered a reasonable, though perhaps conservative, per trip estimate for all visitors to Juneau from Haines, Skagway and Whitehorse.<sup>27</sup> Non-Alaskan visitor (excluding Whitehorse residents) spending is estimated at \$160 per visitor per trip, assuming a two-day average stay.

Based on these per visitor per trip spending averages, the East Lynn Canal highway alternatives would result in total additional visitor spending in Juneau of between \$5.7 million and \$8.6 million in 2008.

The economic impact of this additional spending would include new employment and payroll in Juneau. Based on multipliers derived from the IMPLAN economic impact modeling system, this increase in visitor spending in Juneau would generate between \$3.2 million and \$4.7 million in new payroll and between 110 and 160 additional jobs (annual average).<sup>28</sup> These employment and payroll estimates, which are summarized in the following table, include total direct and indirect effects associated with the increased visitor spending.

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<sup>27</sup> The 1994 Juneau Access Household Survey found that Haines residents spent an annual average of \$3,500 in Juneau. Skagway residents spent an average of \$3,100. Households from these communities made about ten trips to Juneau, indicated average per trip spending of \$300 to \$350. This spending included purchases of a wide variety of goods and service. These household spending estimates translate into per person per trip spending of \$130 to \$150, assuming a travel party size of 2.3.

<sup>28</sup> The IMPLAN economic impact modeling system provides employment and payroll multipliers for each sector of the Juneau economy.

**Table 25  
East Lynn Canal Highway Alternatives  
Visitor Spending and Related Impacts in Juneau, 2008**

	East Lynn Canal Alternative			
	<b>2</b>	<b>2A</b>	<b>2B</b>	<b>2C</b>
Total Highway Traffic (AADT)	510	390	380	410
Total vehicle traffic less residents and baseline traffic (AADT)	185	125	125	140
Total New Visitors	78,000	52,000	52,000	58,000
Total New Visitor Spending	\$8,600,000	\$5,800,000	\$5,700,000	\$6,400,000
New Local Payroll	\$4,700,000	\$3,200,000	\$3,200,000	\$3,500,000
New Local Employment	160	110	110	120

Traffic on the East Lynn Canal highway alternatives is predicted to increase at an annual rate of approximately 2 percent for the 30-year forecast period considered in the Juneau Access SDEIS. At that rate of growth, annual spending, employment and payroll related to new highway traffic would be approximately 80 percent higher than in 2008.

### ***Transportation***

Please refer to the General Effects Common to All East Lynn Canal Highway Alternatives.

### **Effects on Population in Juneau**

Improved access through an East Lynn Canal route is expected to have minor impacts on population trends in Juneau. Population growth is driven primarily by economic growth. For the East Lynn Canal alternatives, increased visitor spending (including new non-Alaska spending and new spending by Haines, Skagway and Whitehorse residents), would be expected to directly and indirectly create between 110 (Alternatives 2A and 2B) and 160 (Alternative 2) new jobs in Juneau.

As a rule of thumb, each new job in the economy results in an increase in population of about 1.5 people.<sup>29</sup> That is, 110 to 160 new jobs would be expected to result in a population increase of between 170 and 250 residents.

A population increase in Juneau of 250 residents would represent an overall increase of less than 1 percent (Juneau's population is currently estimated at about 31,000). By the year 2008, when an East Lynn Canal alternative would be complete, Juneau's population is expected to be slightly higher than it is today. If so, the percentage increase in population due to an East Lynn Canal highway would be smaller yet.

### **Effects on Housing and Real Estate**

A population increase of 250 residents would result in additional demand for about 100 housing units (assuming 2.6 persons per household). The impact of an East Lynn Canal highway on real estate values in Juneau would include an increase in private property values along the highway. For example, the value of Goldbelt's property in and north of Echo Cove would increase in value with improved access. In addition, a proposed land swap in the Berners Bay would put additional land in

<sup>29</sup> Based on an estimated participation rate of 65 percent, meaning that 65 percent of the local population participates in the local labor force.

private sector ownership (the land swap is described in more detail below). Highway access to this property would increase the land's value.

Please refer to the General Effects of Improved Access for more discussion of impacts on Juneau's housing and real estate markets.

### **Effects on Municipal Revenues and Expenditures**

Sales tax revenues (plus hotel, liquor, and tobacco taxes) would increase at a rate proportional to the increase in spending in Juneau. Total additional visitor spending in Juneau of between \$5.7 million and \$8.6 million annually would generate (assuming all of the spending is taxable) \$290,000 to \$430,000 in additional sales tax revenues (based on a 5 percent tax rate).

The CBJ could also expect some increase in property tax revenues. As described above, values of certain property along the highway would increase, and road access would also increase the mill rate at which property is taxed.

An East Lynn Canal highway would be likely to spur development of private property along the highway including Goldbelt's property in the Echo Cove/Cascade Point areas. As undeveloped Alaska Native Claim Settlement Act (ANCSA) Corporation entitlement property, it is currently not subject to property taxes.

The Berners Bay land swap has the potential to increase CBJ tax revenues, and highway access to that property would increase the taxable value of that land. Senator Lisa Murkowski introduced Senate Bill S1354 on June 26, 2003. The legislation is designed to resolve issues of equity concerning restrictions placed on Cape Fox during their selection of ANCSA land. Under the complex land exchange plan, Cape Fox Corporation would receive surface and subsurface ownership of approximately 2,664 acres of national forest system lands at the Jualin Mine site near Berners Bay. Sealaska Corporation will select lands from within a 9,329-acre pool of National Forest lands at the Kensington Mine. Sealaska Corporation would receive the surface and subsurface title to land of equal value to the Sealaska subsurface lands and land interests that would be conveyed to the federal government. The Forest Service would receive lands and land interests of equal value from the southern Southeast Alaska area.

The lands being exchanged in Berners Bay are not timberlands; the interest in this exchange stems from the proximity of the land to existing mining claims (there is, however, no provision in the current bill to restrict logging). Entitlement lands held by Alaska Native Claims Settlement Act (ANCSA) corporations are not taxable until they are developed.

The land exchange bill was sent to the Senate Energy and Resources Committee on June 26, 2003. A similar House bill was passed out of committee on October 2, 2003.

Please refer to the General Effects of Improved Access for more discussion of impacts of an East Lynn Canal highway on Juneau's municipal revenues and expenditures.

### **3.1.3.3. Effects of an East Lynn Canal Highway on Haines**

#### **Effects on Basic Industries in Haines**

The Haines economy is based on the visitor industry, commercial fishing, seafood processing, government, construction industry activity, transportation, and retirement/investment income. The local economy has a high level of dependence on personal income that is unrelated to employment, i.e., retirement income, transfer

payments, and investment income. An East Lynn Canal highway would affect the various segments of the basic economy in different ways.

### ***The Visitor Industry***

Haines is struggling to maintain a position in the independent and cruise visitor markets. Independent visitor travel to Haines has been declining, direct cruise traffic has been erratic, and the local visitor industry has a growing dependence on Skagway cruise passengers taking excursions to the Haines area. The East Lynn Canal alternatives would affect Haines' non-Alaskan independent market but would not affect the cruise market.

The visitor industry accounts for about one-quarter of the Haines economy in terms of employment (McDowell, 2002) and for 14 percent of employment-related income in the community (about \$6.5 million out of total employment related income of \$47 million, in 2002).

**Cruise Visitor Market:** According to cruise operators, a highway link between Juneau and Skagway on the east side of Lynn Canal would not affect cruise itineraries planned for the Alaska market, including Haines port calls. Haines will continue to be a secondary port-of-call in the Alaska market. Primary ports-of-call, including Ketchikan, Juneau, and Skagway, have a well-developed selection of tours and attractions (which is critical for generating on-board sales commissions for the cruise lines), extensive and convenient retail opportunities, and multiple-ship infrastructure. Haines' cruise-related assets are more limited.

Forces that will drive Haines' development as a cruise destination will include:

- Further development of attractions and excursions in Haines
- Growth in the regional cruise market overall
- Development of port facilities elsewhere in the Inside Passage, including Pt. Sophia near Hoonah, and Prince Rupert, British Columbia
- Over-crowding at the most popular ports (Juneau, Skagway, etc.).

The East Lynn Canal alternatives would not change any of these factors. One potential concern is the aesthetic impact of the highway. However, cruise lines typically cruise at night and offer a port stop during the day.

Changes in cruise traffic to Skagway would affect the number of cruise passengers buying Haines excursions. However, no changes in Skagway cruise traffic are expected to result from an East Lynn Canal highway. The effect of an East Lynn Canal highway on Skagway is addressed in the following section (Effects of an East Lynn Canal Highway on Skagway).

An East Lynn Canal highway would provide additional opportunities for pre- or post-cruise land tour options. However, this option would have a negligible impact on this component of Haines' visitor industry.

**Independent Visitor Market:** The Haines non-Alaskan independent visitor market would be affected by an East Lynn Canal alternative. Among independent visitors, those traveling by personal vehicle would be the most impacted if a highway existed between Juneau and Skagway.

Compared to the No-Build alternative, an East Lynn Canal highway would:

- Draw more visitors to Northern Southeast than is now the case
- Increase access to Haines for Juneau's independent visitors

- Increase access to Haines for Skagway's independent visitors
- Increase access to Haines for Juneau residents
- Increase exposure to Whitehorse residents
- Remove Haines from the AMHS mainline system.

These issues are addressed in detail, below.

In 2003, northbound ferry travelers with vehicles could take mainline or day-boat (during the summer) ferry service to either Haines or Skagway (day-boat service, with the FVF Fairweather, becomes year-round in 2004). After completion of an East Lynn Canal alternative, northbound ferry travelers would disembark in Juneau, drive to Katzehein or Skagway, then ferry to Haines. Similarly, Haines would no longer be the boarding point for visitors traveling southbound on the ferry.

This change would impact visitor travel to Haines. Visitors traveling northbound and southbound through north Lynn Canal would, as in the past, have a choice of passing through (and spending time in) Haines, Skagway, or both. Similarly, new visitors to Southeast (those that prior to construction of a highway to Juneau would have bypassed Southeast altogether) would also have the same choice (visit Haines, Skagway, or both), as would Juneau's independent visitors who would have better access to Haines and Skagway with a highway. Finally, the residents of Juneau would have better access to Haines.

How would these visitors respond to the change in Lynn Canal access? Key factors working in Haines' favor include:

- Shorter travel distances through Haines between Interior Alaska and Southeast Alaska (the trip from Haines to Tok, for example, is 57 miles shorter than the trip from Skagway to Tok)
- Haines' better developed RV support infrastructure
- Attractions that are unique to Haines such as the Bald Eagle Preserve, good sport fishing opportunities, and outdoor activities that appeal to the independent market
- Well-developed events that are popular with Juneau and other regional residents, such as the Kluane Bike Relay, the Southeast Alaska State Fair and Bald Eagle Music Festival, the Great Alaska Craft Beer and Homebrew Festival, the Alcan 200 Road Rally snowmachine race, ACTFEST – Alaska Community Theater Festival, the Alaska Bald Eagle Festival, basketball and softball tournaments, etc.
- Haines' better weather conditions and more predictable winter recreation opportunities
- Availability of land for development as summer cabins, recreational homes, or retirement homes.

Key factors working against Haines in this regard include:

- The real and perceived inconvenience of the Haines ferry link to an East Lynn Canal highway in comparison with a drive-only option
- The cost of the Haines ferry link to an East Lynn Canal highway
- The marketing efforts of Skagway, Whitehorse, Juneau, and perhaps in the future, Carcross, diverting potential visitors from Haines

- Skagway's more highly developed visitor infrastructure, including attractions, services, and retail
- Whitehorse's larger retail and service opportunities.

Two very important factors weigh into this issue. First, the frequency of ferry service between Katzehin and Haines or Skagway and Haines, and the cost of that ferry service, are critical in determining the number of independent visitors to Haines. The *Juneau Access Traffic Forecast* and *Marine Segments Analysis* both assume that a high level of service frequency would be provided. It is also predicted that the fare between Haines and Skagway or Katzehin would be about one-third the current fare. Second, the number of independent visitors traveling to Haines would depend in part on how aggressively the community markets itself. Additional investment in marketing Haines as a destination would attract more travelers.

Haines currently hosts an estimated 50,000 to 60,000 independent non-resident visitors. Approximately 20,000 Juneau residents visit Haines each year (including repeat trips). A total of 38,000 passengers (including residents and non-residents) boarded an AMHS ferry in Haines in 2002, while 37,000 passengers disembarked. Just under 8,000 passengers arrived in Haines via air taxi, and 7,000 passengers departed by that mode.

It is clear that the segment of Haines' visitor industry that depends on independent travelers would change. Overall, however, visitor traffic to the community is expected to increase with the East Lynn Canal highway alternatives. The economic impact of this change in traffic depends primarily on visitors' length of stay. Part of the time that visitors now spend in Haines is associated with AMHS service frequency and delays. Shuttle ferry service between Haines and Katzehin or Haines and Skagway would be more frequent than current ferry service. Therefore, there would be more opportunity to pass directly through Haines without spending time or money. However, passengers traveling by ferry are more likely to travel through since they have been idle for a long time and have not consumed fuel on the trip. Passengers traveling by highway for a couple of hours would be more inclined to stop for food and fuel.

The key factor regarding length of stay now and after construction of an East Lynn Canal highway would be the degree to which Haines develops and promotes local assets and attractions. The greater effort that is made, especially in Juneau, to develop Haines as a visitor destination, the more time visitors would spend in the community and the more money they would spend.

The opportunity to attract weekend travel from Juneau is particularly important. Currently a family of four will spend over \$360 to travel round-trip, with a car, on the ferry to Haines.<sup>30</sup> With a highway, the cost would be less than the cost of half a tank of gas, or about \$10, plus the cost of the ferry from Katzehin or Skagway to Haines. Again, the cost of the shuttle ferry is important, but with any reasonable assumption about ferry costs, the overall cost of a trip to Haines would be dramatically reduced.

### ***Retirement and Lifestyle Sector***

An East Lynn Canal highway would enhance Haines' role as a retirement community. For retirees, access to health care services is a critical issue. The better access offered by a highway link to Juneau would provide more immediate access to the community's relatively well-developed health care sector. It is not possible to

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<sup>30</sup> Based on two adults, one child over 12 and one child under 12, 16-foot vehicle summer fares.

quantify this impact, but the long term result would be more people choosing Haines as a place to have a year-round or seasonal retirement home.

The retirement and “lifestyle”-related sector of Haines economy is large. In 2001, 39 percent of all personal income in Haines came from non-employment-related sources (McDowell, 2002). One in six local households receives retirement income (U.S. Census, 2002).

### ***Construction***

Haines’ construction industry would likely benefit from the construction of an East Lynn Canal highway. The East Lynn Canal highway would cost approximately \$280 million (Alt. 2). This very large construction project would provide business opportunities for local heavy construction contractors. However, because the construction contracts would be awarded competitively, it is not possible to predict what the employment and income-related effects would be in Haines.

In terms of residential construction, some increase in demand for real estate in Haines would be expected to result from improved access. This increased demand would create business and employment opportunities for local contractors and their employees.

### ***Government***

Local, state, and federal government accounts for 190 jobs and about \$8 million in personal income in Haines. The Haines Borough School District is one of the largest employers in town. The impact of highway construction on government employment in Haines would be minor. If the Haines economy grows as a result of improved access to Juneau, there would be increased demand for public services and related employment.

Operation of shuttle ferries in North Lynn Canal would create state government (AMHS) job opportunities in Haines and/or Skagway. Operation of a single shuttle ferry between Haines and Skagway (or Katzehin) would require a crew of six per operating shift.

### ***Transportation***

See 3.1.1.2 General Effects on the Transportation Industry and 3.1.3.1 General Effects Common to All East Lynn Canal Highway Alternatives. In summary, Haines would not experience any change in its basic barge service. The cost of moving freight from Juneau to Haines (and the reverse) would decline with improved access. Demand for air transportation services to and from Haines would decline.

### ***Mining***

An East Lynn Canal highway would provide better opportunities for Haines residents to find employment at the proposed Kensington mine, or for employees of the mine to relocate to Haines. The mine is within the City and Borough of Juneau boundaries, but about equidistant between Haines and Juneau. A variety of factors could persuade employees to live in Haines rather than Juneau, such as housing affordability, smaller schools, access to fish and game resources, and perceived superior quality of life associated with residing in a smaller community. Please refer to General Effects of the East Lynn Canal alternatives for more details on mining industry impacts.



## **Effects on Support Industries in Haines**

Haines' support sector industries could be substantially affected by an East Lynn Canal alternative. The Haines economy already experiences a substantial level of economic "leakage." Leakage occurs when local residents buy goods and services from non-local merchants (leakage is a growing issue for all Alaska communities, as Internet sales increase) Goods and services are perceived to be less expensive in Juneau and Juneau has a wider selection of goods and services. Improved access to Juneau would result in more leakage from the Haines-area economy as more local residents take advantage of Juneau's better-developed retail and service sectors.

At the same time, the local support sector would benefit from an increase in Juneau resident travel. Juneau residents expressed a strong interest in traveling more often to Haines (and Skagway). This increased travel (primarily recreation-related) would create new business opportunities in Haines.

### ***Retail Trade and Services***

There are a number of issues that would ultimately determine the impact of an East Lynn Canal alternative on Haines' retail and service sector business, including:

- The increase in Haines household spending in Juneau
- The effect of improved access on shipping costs to Haines
- Changes in spending in Haines by Juneau and other non-residents.

**Haines household spending in Juneau:** To a large degree, the amount of leakage from the Haines economy to Juneau depends on the cost, convenience, and resulting frequency of travel between the two communities. Members of Haines households currently travel to Juneau an average of 9 to 10 times a year. According to 1994 *Juneau Access Household Survey* results, on average each Haines household spent approximately \$3,500 (1994 dollars) in Juneau each year. There are approximately 800 households in the Haines area. This suggests that Haines households spent an estimated \$2.8 million in Juneau on goods and services over the previous year. If the 1994 spending data is adjusted for inflation, total Haines household spending in Juneau would total about \$3.5 million annually. This is probably a conservative estimate. Spending has likely increased (more than inflation) along with the development of Juneau's retail sector and some improvement in ferry service (such as initiation of day-boat service).

According to the 1994 survey, with improved access to Juneau, Haines households indicated that they would spend more money in Juneau than they did at the time of the survey. In fact, 61 percent of Haines households indicated that their spending in Juneau would increase with improved access. Another 31 percent did not expect their Juneau spending to change and the remainder were unsure. It is difficult to predict how much additional leakage from Haines' support sector would occur with an East Lynn Canal alternative, but certainly some increase would be expected, simply because more frequent travel is expected.

**Effect of Improved Access on Shipping Costs to Haines:** Barge service to Haines would not be expected to change with an East Lynn Canal highway. Therefore, shipping costs for goods moved by this mode would probably not change. However, some freight does come into Haines via ferry from Juneau. Shipment of that freight would be less expensive. This would translate into lower costs for Haines consumers and/or increased profits for merchants.

**Increase in Spending by Juneau and other Non-Residents in Haines:** It is not known how much money Juneau residents typically spend while visiting Haines and

Skagway, An informal survey of visitor-affected business in Haines found that Juneau residents accounted from 5 percent to as much as 15 percent of individual businesses' overall sales. Juneau resident travel to Haines to attend the fair and music festival, bike and snow machine races, to view bald eagles, and a variety of other reasons represent an important segment of sales for some Haines businesses.

The amount of additional money spent in Haines by non-residents would depend on the change in travel frequency and the length of stay. Traffic through Haines with an East Lynn Canal highway is expected to increase, mostly as a result of Juneau resident, recreation-related travel. The average length of stay might be shorter, however. Shuttle ferry service between Haines and Katzehin or Haines and Skagway would be more frequent than current ferry service, allowing more opportunity to pass directly through Haines without spending time or money. After construction of an East Lynn Canal highway, the key factor regarding length of stay in Haines (as well as overall visitation) would be the degree to which Haines develops and promotes local assets and attractions. The more effort that is made to develop Haines as a visitor destination, the more time and money visitors will spend in the community.

The overall effect is that an East Lynn Canal alternative would change the nature of Haines' retail and service sectors. Declining local spending by Haines households would be largely offset by increased spending by non-Alaskan visitors and Juneau residents visiting Haines (see below).

It is important to recognize that certain businesses would benefit by improved access, while others might see a decline in business. For example, businesses that cater to the visitor market, such as motels and hotels, restaurants, gift shops, convenience stores and gas stations, would see an increase in business. Alternatively, stores that already compete with Juneau retailers, such as grocery, clothing, hardware, and lumber supply stores, could see some decline in business as Haines residents take advantage of better access to Juneau. It should be noted that Haines residents would be spending more in Juneau because goods and services are available at a lower price. This means improved access would play a role of reducing the cost of living in Haines.

Approximately one-quarter of the Haines economy is dependent on visitor travel to and through the community. That quarter of the economy would change as a result of highway construction, with some businesses gaining business and others potentially seeing a decline in business. However, the 75 percent of the economy that is not visitor-dependent would benefit by improved access to the regional service and supply center, which would result in lower cost of doing business.

In summary, while the distribution of benefits and costs in the Haines business community is likely to be uneven, the overall increase in traffic would generate an overall increase in economic activity, as quantified below.

### **Summary of Visitor Spending and Related Impacts in Haines**

The 2004 *Juneau Access Traffic Forecast* indicates that the East Lynn Canal highway alternatives would produce traffic to (and through) Haines of approximately 120 to 225 AADT (annual average daily traffic) as soon as the road is constructed. This traffic includes existing (baseline) traffic as well as induced Haines resident traffic. Excluding baseline and induced local traffic, new traffic to Haines with the East Lynn Canal Highway alternatives would range from 30 AADT (Alternative 2C) to 115 AADT (Alternative 2).

Growth in Juneau resident travel accounts for the majority of this traffic increase. The *Juneau Access Household Survey* measured a strong interest among Juneau residents for more travel to Haines.

Converting these vehicle traffic estimates to number of new visitors indicates that Haines would see between 12,000 (Alternative 2C) and 48,000 (Alternative 2) new visitors in 2008, with an East Lynn Canal highway alternative. These are conservative estimates because they are based on the assumption that all traffic is round-trip traffic. In fact, some of the traffic would be one-way travelers passing through Haines on their way north or south.

The amount of increased spending in Haines, associated with this increased visitor traffic, is estimated for each alternative. For purposes of this study it is assumed that visitor spending in Haines would average \$50 to \$60 per visitor per trip. The \$50/visitor/trip estimate is derived from data in the *Skagway Economic Impact Study*. It measures spending by day travelers only. In the 2003 *Haines Tourism Development Plan* it was estimated that independent non-resident visitors to Haines spent an average of \$60 per person per trip. The \$50 to \$60 range is probably a conservative estimate, but represents a reasonable blend between visitors traveling to Haines specifically and visitors only traveling through Haines to other destinations. According to the Skagway research, visitors using campgrounds spent an average of about \$90 per person per trip and visitors using hotels spent an average of approximately \$115 per visitor per trip (in 1999). Other relevant spending data includes data from the Alaska Travelers Survey, which found that AMHS travelers spent an average of \$80 per day during their visit to Alaska in 2003.

Based on these per visitor per trip spending averages, the East Lynn Canal highway alternatives would result in total additional visitor spending in Haines of between \$0.7 million (Alternative 2C) and \$2.8 million (Alternative 2) in 2008.

In terms of economic impact, increased spending in Juneau by Haines residents would offset some (or all) of this new visitor spending in Haines. (This increased spending by Haines residents in Juneau would occur because of lower prices available in Juneau. Lower prices paid for goods and services translates into lower cost of living for Haines residents).

Approximately 10 percent of new spending that would occur in Juneau with an East Lynn Canal highway would be by Haines residents, ranging between and \$0.8 million and \$1.3 million in 2008. Based on these estimates, total visitor spending in Haines would either not measurably change (Alternative 2C) or would increase by approximately \$1.9 million in 2008.

The economic impact of this change in spending would include new employment and payroll in Haines (Alternative 2C would not have any measurable employment and income effects). Based on multipliers derived from the IMPLAN economic impact modeling system, a net increase in visitor spending in Haines of \$1.9 million (Alternative 2) would generate \$0.8 million in new payroll and 40 additional jobs (annual average). These employment and payroll estimates, which are summarized in the following table, include total direct and indirect effects associated with the increased visitor spending in Haines.

**Table 26  
East Lynn Canal Highway Alternatives  
Visitor Spending and Related Impacts in Haines, 2008**

<b>East Lynn Canal Alternative</b>				
	<b>2</b>	<b>2A</b>	<b>2B</b>	<b>2C</b>
Total Highway Traffic (AADT)	225	170	190	120
Total traffic less local residents and baseline traffic (AADT)	115	80	100	30
Total New Visitors	48,000	33,000	42,000	12,000
Total New Visitor Spending	\$2,800,000	\$1,900,000	\$2,500,000	\$700,000
Less New Haines Resident Spending in Juneau	\$900,000	\$600,000	\$700,000	\$600,000
Net Change in Spending in Haines	\$1,900,000	\$1,300,000	\$1,800,000	\$100,000
New Local Payroll	\$800,000	\$500,000	\$700,000	-
New Local Employment	40	25	35	-

Traffic on the East Lynn Canal highway alternatives is predicted to increase at an annual rate of approximately 2 percent for the 30-year forecast period considered in the Juneau Access SDEIS. At that rate of growth, annual spending, employment and payroll in Haines related to new highway traffic would be approximately 80 percent higher than in 2008.

### **Effects on Population in Haines**

An East Lynn Canal highway alternative would not generate major population changes in the community. Contingent upon the availability of regular, frequent and low-cost ferry service between Haines and Katzehin or Skagway, the community could expect an increase in traffic overall (over current traffic and over the No Build alternative). To the extent that this increased traffic translates into additional spending in Haines, economic and population growth would occur. In addition, improved access would result in some additional growth in the retiree population (as described above) as well as the summer “second-home” population.

For the East Lynn Canal alternatives, increased visitor spending (primarily new spending by Juneau residents) would be expected to directly and indirectly create between zero (Alternative 2C) and 40 (Alternative 2) new jobs in Haines.

Typically, each new job in the economy results in an increase in population of about 1.5 people.<sup>31</sup> That is, 40 new jobs would be expected to result in a population increase of about 60 residents. Alternative 2A would result in an increase of about 40 residents, 2B approximately 50 residents.

A population increase in Haines of 60 residents would represent an overall increase of less than 3 percent (Haines’ population is currently estimated at about 2,360). By the year 2008, when the East Lynn Canal alternative would be complete, Haines population could be slightly higher than it is today. If so, the percentage increase in population due to an East Lynn Canal highway would be smaller.

<sup>31</sup> Based on an estimated participation rate of 65 percent, meaning that 65 percent of the local population participates in the local labor force.

## Effects on Housing and Real Estate in Haines

Minor effects on the Haines housing and real estate markets would be expected. A population increase of 60 residents would result in additional demand for about 25 housing units (assuming 2.4 persons per household).

In addition to this increased demand, improved access to the Kensington mine could also result in demand among mine workers for Haines area housing. This impact could range from a few to several dozen housing units, depending on how ferry schedules meshed with mine shift schedules, ferry fares, if company-provided transportation were available, and a variety of other factors.

Improved access to Haines, particularly for Juneau residents, would increase the demand for recreational property in the Haines area. Please refer to 3.1.1.5 General Effects on Housing and Real Estate.

## Municipal Revenues and Expenditures in Haines

Sales tax revenues would increase at a rate proportional to the increase in spending in Haines. Total additional visitor spending in Haines of between \$1.3 million and \$1.9 million annually would generate (assuming all of the spending is taxable) \$70,000 to \$100,000 in additional sales tax revenues (based on a 5.5 percent tax rate).

Please refer to 3.1.1.6 General Effects on Municipal Revenues and Expenditures for additional discussion.

### 3.1.3.4. Effects of an East Lynn Canal Highway on Skagway

#### Effects on Basic Industries in Skagway

##### *The Visitor Industry*

An East Lynn Canal highway alternative would affect tourism in Skagway, particularly the non-Alaskan independent visitor market. For independent visitors, an all-road link provides direct access between two very popular tourist destinations.

**Cruise Visitor Market:** A highway between Juneau and Skagway would not alter cruise lines' decisions to place ships in either community. Concern has been expressed about the possible loss of cruise ship traffic to Skagway if a highway to Juneau is constructed. The fear is that ships, in an effort to reduce fuel costs, would bus passengers to Skagway rather than actually make a port call. Concern has also been expressed about the aesthetic impact of a highway visible from the water.

Port of call decisions are based on a combination of factors including the availability of berthing space, appeal to passengers, and the overall capacity and profitability of tour offerings. Also considered are operational issues such as vessel speed, fuel consumption, docking fees, and safety. Not all cruise ships currently call in Skagway. According to Cruise Line Agencies of Alaska, approximately 628,000 cruise passengers visited Skagway in 2003. Juneau hosted almost 24 percent more passengers (777,000).

Members of the North West CruiseShip Association recently discussed the proposed highway during the NWCA Operations and Technical Committee meeting as well as the Government Affairs and Community Relations Committee meeting. As a follow-up to their discussions, NWCA sent a letter to the Governor of Alaska stating that construction of a highway would have no effect on members' itineraries. The NWCA is comprised of Carnival Cruise Line, Celebrity Cruises, Crystal Cruises, Holland America, Norwegian Cruise Line, Princess Cruises, Royal Caribbean International,

Seabourne Cruise Line, World Explorer Cruises, and Radisson Seven Seas Cruises. NWCA estimates their member lines carry 97 percent of Alaska cruise passengers.

Further discussions with individual cruise lines revealed that Skagway is one of the most profitable ports in Alaska. Additionally, passenger satisfaction ratings are very high for the community. Eliminating Skagway from cruise itineraries would have negative financial impacts and would detract from passengers' overall experience.

A concern raised by Skagway residents is that Skagway could be experienced as a tour from Juneau, eliminating the need for ships to sail in Lynn Canal. Regional managers for Princess Tours and Gray Line, primary ground transportation providers for all large ships, are emphatic that this option is not feasible due to limitations regarding tour capacity, pricing, and timing. A round-trip bus excursion would require a minimum of 6 to 7 hours, leaving no time for passengers to experience the community or the popular rail excursion. While a flight and bus tour combination might reduce the overall transportation time, this option is not practical due to the high cost of the flight, capacity limitations, and potential for weather cancellations.

In summary, while fuel expense is an important consideration for cruise lines, it is greatly outweighed by other cost and logistical issues as well as passenger satisfaction. The cruise ships *must* be docked in Skagway to achieve their tour sales volume and revenue goals.

The other concern expressed is the aesthetic impact a highway visible from the water would have on the quality of the cruise experience up Lynn Canal. According to cruise operators, it is likely a visible highway would have little or no effect on current cruise itineraries. Cruise ships generally sail at night and visit a port during the day; therefore the aesthetic impact of the highway is not an issue for the cruise industry.

**Independent Visitor Market:** Skagway's independent visitor market would be affected by an East Lynn Canal alternative. This analysis considers several important factors concerning Skagway's independent visitor traffic. An East Lynn Canal Highway would:

- Result in termination of ferry service between Skagway and points south of Haines
- Draw more visitors to Northern Southeast than is now the case
- Increase access to Skagway for Juneau's independent visitors
- Increase access to Skagway for Haines' independent visitor
- Increase access to Skagway for Juneau residents.

Currently, northbound ferry travelers with vehicles can take mainline or day-boat (during the summer) ferry service to either Haines or Skagway (day-boat service is scheduled to be year-round in 2004). After completion of an East Lynn Canal alternative, northbound ferry travelers would be required to disembark in Juneau, drive to Katzehin or Skagway and ferry to Haines or drive on to Skagway. Similarly, Skagway would no longer be the boarding point for southbound ferry travelers.

This change would impact visitor travel to Skagway, but the nature of that impact is difficult to predict. Visitors traveling northbound and southbound through north Lynn Canal would, as in the past, have a choice of passing through (and spending time in) Haines, Skagway, or both. Similarly, new visitors to Southeast (those that prior to construction of a highway to Juneau would have bypassed Southeast altogether) would also have the same choice (visit Haines, Skagway, or both), as would Juneau's independent visitors who would have better access to Haines and Skagway

with a highway. Finally, the residents of Juneau would have better access to Skagway and destinations north, especially Whitehorse.

In general, Skagway is well-positioned to benefit economically from this improvement in access. Skagway traffic includes a total of 31,000 passengers (including residents and non-residents) who boarded an AMHS ferry in Skagway in 2002, while 33,000 passengers disembarked. Approximately 7,800 passengers arrived in Skagway via air taxi, and 7,400 passengers departed by that mode.

The segment of Skagway's visitor industry that depends on independent travelers would change with highway construction. But overall, traffic to the community would increase. The economic impact of this change in traffic depends primarily on length of stay. Part of the time that visitors now spend in Skagway is associated with AMHS service frequency and delays. With a highway link to Juneau there would be greater tendency to pass directly through Skagway without spending time or money.

The key factor regarding length of stay now and after construction of an East Lynn Canal highway would be the degree to which the community develops and promotes local assets and attractions to the independent market, including the Juneau market.

### **Effects on Support Industries in Skagway**

Skagway's support sector businesses would be affected by the East Lynn Canal alternatives. As is the case with Haines, a large amount of leakage already occurs from the Skagway economy as local residents take advantage of Juneau's greater selection and lower prices on goods and services. Improved access to Juneau would result in more leakage from the Skagway-area economy.

At the same time, the local support sector would benefit from an increase in Juneau resident and Whitehorse resident travel. In the 2003 household survey, Juneau residents expressed a strong interest in traveling more often to Skagway. Similarly, Whitehorse residents expressed a strong interest in visiting Juneau. This increased travel (primarily recreation-related) to and through Skagway would create new business opportunities in the community.

#### *Retail Trade and Services*

The impact of an East Lynn Canal alternative on Skagway's retail and service sector business would be determined by several factors, including:

- The increase in Skagway household spending in Juneau
- The effect of improved access on shipping costs to Skagway
- Changes in spending in Skagway by Juneau, Yukon, and other non-residents.

**Skagway household spending in Juneau:** The amount of leakage from the Skagway economy to Juneau depends on the cost, convenience, and frequency of travel between the two communities. Members of Skagway households currently travel to Juneau an average of 10 times a year. According to 1994 *Juneau Access Household Survey* results, on average each Skagway household spent approximately \$3,100 (1994 dollars) in Juneau each year. There are approximately 300 households in Skagway. This suggests that Skagway households spent an estimated \$900,000 in Juneau on goods and services over the previous year. If the 1994 spending data is adjusted for inflation, annual Skagway household spending in Juneau would total about \$1.2 million today. This is a conservative estimate. Spending has likely increased (more than by inflation alone) along with the

development of Juneau's retail sector, and some improvement in ferry service (such as initiation of day-boat service).

According to the 1994 survey, with improved access to Juneau, Skagway households indicated that they would spend more money in Juneau than they did at the time of the survey. In fact, 72 percent of Skagway households indicated that their spending in Juneau would increase with improved access.

Improved access to Juneau may result in less Skagway household spending in Whitehorse. To the extent that this is true, improved access to Juneau may not result in increased leakage from the Skagway economy.

**Effect of Improved Access on Shipping Costs to Skagway:** Barge service to Skagway would not be expected to change with an East Lynn Canal highway. Therefore, shipping costs for goods moved by this mode would probably not change. However, some freight does come into Skagway via ferry from Juneau. Shipment of that freight would be less expensive. This would translate into lower costs for Skagway consumers and/or increased profits for merchants.

**Increase in Spending by Juneau Residents and other Non-Residents in Skagway:** It is not known how much money Juneau residents typically spend while visiting Skagway. The amount of additional money spent in Skagway by non-residents would depend on the change in travel frequency and the length of stay. As described below, the total traffic through Skagway with an East Lynn Canal highway is expected to increase, mostly as a result of Juneau resident, recreation-related travel. The average length of stay could shorten, however. With direct highway access to Juneau, there would be more opportunity to pass directly through Skagway without spending time or money. After construction of an East Lynn Canal highway, the key factor regarding length of stay, and overall independent traveler visitation to Skagway, would be the degree to which the community develops and promotes local assets and attractions.

In summary, the overall effect of an East Lynn Canal alternative on Skagway's retail and service sectors is likely to be substantial, and generally positive. Declining local spending by Skagway households is likely to be more than offset by increased spending by visitors from out-of-state and Juneau households visiting Skagway.

#### *Local Government*

Please refer to 3.1.1.3 General Effects on Government.

#### **Summary of Visitor Spending and Related Impacts in Skagway**

The 2004 *Juneau Access Traffic Forecast* indicates that the East Lynn Canal highway alternatives would produce traffic to (and through) Skagway of approximately 190 to 410 AADT (annual average daily traffic) when the road is constructed (2008). This traffic includes existing (baseline) traffic as well as induced Skagway resident traffic. Excluding baseline and induced local traffic, new traffic to Skagway with the East Lynn Canal highway alternatives would range from 100 AADT (Alternative 2B) to 320 AADT (Alternative 2C).

Growth in Juneau resident travel is the key source of this increase. The *Juneau Access Household Survey* measured a strong interest among Juneau residents in more travel to Skagway (residents predicted traveling three times more frequently to Skagway with highway access).

Converting these vehicle traffic estimates to number of new visitors indicates that Skagway would see between 86,000 (Alternative 2C) and 268,000 (Alternative 2) new visitors in 2008, with an East Lynn Canal highway alternative. These are



conservative estimates because they are based on the assumption that all traffic is round-trip traffic (2 AADT equals one visiting vehicle). In reality, some of the traffic would be one-way travelers passing through Skagway on their way north or south.

The amount of increased spending in Skagway, associated with this increased visitor traffic, is estimated for each alternative. For purposes of this study it is assumed that visitor spending in Skagway would average \$50 per visitor per trip. The \$50/visitor/trip estimate is derived from data in the *Skagway Economic Impact Study*. It measures spending by day travelers only. The \$50 estimate is probably a conservative estimate, but represents a reasonable blend between visitors traveling to Skagway specifically and visitors only traveling through Skagway to other destinations. According to the Skagway research cited above, visitors using campgrounds spent an average of about \$90 per person per trip and visitors using hotels spent an average of approximately \$115 per visitor per trip (in 1999). Other relevant spending data includes data from the Alaska Travelers Survey, which found that AMHS travelers spent an average of \$80 per day during their visit to Alaska in 2003. While the \$50 per visitor estimate is used for alternatives 2, 2A and 2B, a lower rate (\$37.50) is used for Alternative 2C to account for the fact that a larger percentage of travelers are likely to pass through Skagway without stopping, primarily those travelers destined for Haines.

Based on these per visitor per trip spending averages, the East Lynn Canal highway alternatives would result in total additional visitor spending in Skagway of between \$2.1 million (Alternative 2B) and \$5.0 million (Alternative 2C) in 2008.

Some of this increase in visitor spending could be offset by increased Skagway resident spending in Juneau. This potential offset has not been factored into economic impact analysis because, first, the increase in leakage would be small in comparison to the increase in visitor spending and, second, a portion of the additional Skagway household spending would likely come at the expense of the Whitehorse economy rather than the Skagway economy.

The economic impact of additional visitor spending would include new employment and payroll in Skagway. Based on multipliers derived from the IMPLAN economic impact modeling system, this increase in visitor spending in Skagway would generate between \$0.9 million and \$2.0 million in new payroll and between 30 (Alternative 2B) and 70 (Alternative 2C) additional jobs (annual average). These employment and payroll estimates, which are summarized in the following table, include total direct and indirect effects associated with the increased visitor spending in Skagway.

**Table 27**  
**East Lynn Canal Highway Alternatives**  
**Visitor Spending and Related Impacts in Skagway, 2008**

	East Lynn Canal Alternative			
	2	2A	2B	2C
Total Highway Traffic (AADT)	285	220	190	410
Total traffic less local residents and baseline traffic (AADT)	180	125	100	320
Total New Visitors	75,000	53,000	43,000	134,000
Total New Visitor Spending	\$3,700,000	\$2,600,000	\$2,100,000	\$5,000,000
New Local Payroll	\$1,500,000	\$1,100,000	\$900,000	\$2,000,000
New Local Employment	50	40	30	70

Traffic on the East Lynn Canal highway alternatives is predicted to increase at an annual rate of approximately 2 percent for the 30-year forecast period considered in the Juneau Access SDEIS. At that rate of growth, annual spending, employment and payroll in Skagway related to new highway traffic would be approximately 80 percent higher after 30 years than in 2008.

### **Effects on Population in Skagway**

An East Lynn Canal highway alternative could generate substantial population changes in Skagway. To the extent that increased traffic translates into additional spending in Skagway, economic and population growth would occur.

For the East Lynn Canal alternatives, increased visitor spending (primarily new spending by Juneau and Whitehorse residents) would be expected to directly and indirectly create between 30 (Alternatives 2B) and 70 (Alternative 2C) new jobs in Skagway.

Assuming each new job in the economy results in an increase in population of about 1.3 people, 30 to 70 new jobs would be expected to result in a population increase of between 40 and 90 residents.<sup>32</sup> This increase would likely be seasonal.

A population increase in Skagway of 90 residents would represent an overall increase of 11 percent over the year-round population (Skagway's population is currently estimated at about 840) and approximately 5 percent over the summer population.

### **Effects on Housing and Real Estate in Skagway**

A population increase of 90 residents would result in additional demand for about 40 housing units (based on the 2000 Skagway average of 2.2 persons per household). This increase in housing demand would be in excess of available housing in the community. It is likely that the private sector would respond by constructing additional single family and multifamily housing. Again, this increase in housing demand would have a significant seasonal component.

Please refer to 3.1.1.5 General Effects on Housing and Real Estate.

### **Effects on Municipal Revenues and Expenditures**

Skagway would experience an increase in sales and bed tax revenues associated with increased visitor spending. For example, the \$2.1 million to \$5 million estimated initial increase in visitor spending would generate \$80,000 to \$200,000 in additional sales tax revenues annually. Additional bed tax revenues would also be generated.

The East Lynn Canal alternatives would also result in an increase in local government expenditures, for public safety, emergency response, and public utilities. These effects are described in section 3.2, Public Utilities Impacts and section 3.3 Social Environment.

Please refer also to 3.1.1.6 General Effects on Municipal Revenues and Expenditures for additional discussions.

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<sup>32</sup> The ratio of 1.3 residents per job is lower than in Haines and Juneau due to the highly seasonal nature of Skagway's economy, the high number of non-residents in the local workforce, and the generally lower level of support sector development in the economy.

### 3.1.4. Summary of Effects of an East Lynn Canal Highway

Geographic Area	Industry or Sector	Summary of Effects
<b>Common Effects</b>		
	Construction	Construction expenditures of between \$193 to \$280 million and employment of between 255 to 370 workers for a 4-year construction period.
	Transportation	Waterborne freight unlikely to be affected, though time-sensitive cargo shipments on the highway would increase. Demand for air taxi services would decline.
	Forest Products	Industry activity is dependent on factors other than road access such as market conditions, volume and quality of timber available.
	Mining	Highway access would not affect the decision to open the Kensington Mine. Highway construction would reduce the cost of transporting workers from Juneau to the mine. Road access would increase property tax revenues to the CBJ from the mine.
	Seafood	Highway to Juneau would result in the movement of substantially more fresh seafood to market.
<b>Juneau</b>		
	Basic Industries	Visitor industry growth occurs as the number of independent visitors to Juneau increases. Cruise industry would be unaffected.
	Support Industries	Retail and service sectors experience economic benefits from increased traffic.
	Population	Minor population growth associated with visitor industry and support sector growth.
	Housing and Real Estate	Increased housing requirements due to normal population increases.
	Municipal Revenues and Expenditures	Increased sales and real property tax revenues resulting from visitor sales and development of land along the highway.
<b>Haines</b>		
	Basic Industries	Increased visitor traffic expected, with associated benefits to visitor-affected businesses.
	Support Industries	Increased leakage as residents purchase more goods and services from outside the community. Businesses competing with Juneau retailers and service providers could see a decline in sales.
	Population	Minor change, with potential increase over the long-term as a result of increased visitor industry activity and retirement/recreation-related growth.
	Housing and Real Estate	Increased demand for second homes or recreational cabins from Juneau residents.
	Municipal Revenues and Expenditures	Minor effects anticipated, including some increase in sales and bed tax revenues.
<b>Skagway</b>		
	Basic Industries	Substantial increase in visitor travel, especially among Juneau, Whitehorse and Skagway residents. Cruise ship traffic would be unaffected.
	Support Industries	Increased spending by Skagway residents for goods and services outside of the community. Increased spending of Juneau residents for recreation and lodging/food service in Skagway.
	Population	Substantial effects expected.
	Housing and Real Estate	Minor effects expected.
	Municipal Revenues and Expenditures	Increase in sales and bed tax revenues expected.

### 3.1.5. Alternative 3 – West Lynn Canal Alternative

#### 3.1.5.1. General Effects of the West Lynn Canal Alternative

##### **General Effects of the West Lynn Canal Alternative on the Construction Industry**

Construction of the West Lynn Canal highway is estimated to cost approximately \$210 million, including construction of two shuttle ferry terminals (but excluding the cost of two shuttle ferries). Assuming a four-year construction period, annual construction expenditures would be about \$52 million.

Assuming labor cost would equal approximately 45 percent of total construction costs, the West Lynn Canal alternative should generate about 275 jobs over the construction period. This assumes that annual labor costs would be about \$23 million and that the average heavy construction worker earns approximately \$85,000 per year including benefits.

Construction employment figures are year-round estimates. Actual employment would be higher during the peak construction season and considerably lower during the off-season. The economic impact of the construction effort would depend on the number of local construction workers involved in the project. A project of this size would attract contractors from outside Juneau, Haines, and Skagway; therefore a high degree of non-local labor participation is possible. In 2002 there were 13 firms designated as Heavy Construction employers in the Juneau/Haines/Skagway area with average annual employment of 298 workers. The West Lynn Canal Highway alternative would increase this industry's workforce by about 90 percent for the duration of the construction effort. It is unlikely that the Juneau/Haines/Skagway region has enough qualified workers for this construction project and workers would be needed from other areas of the state to complete the project.

Juneau is likely to benefit the most from West Lynn Canal construction employment because it has the largest pool of potential workers and construction contractors. However, a large portion of the construction benefits could also flow to Haines.

**Construction Phase-Related Socioeconomic Effects:** Construction activity associated with development of a West Lynn Canal highway could have temporary socioeconomic effects on the communities of Juneau and Haines. As described under the analysis of East Lynn Canal highway construction phase impacts, the magnitude of the socioeconomic effects associated with highway construction would depend on a number of factors including:

- The residency of contractors and subcontractors awarded construction contracts.
- The availability of local skilled labor and operators at the time the project is under construction. This would depend in part on the number and size of other heavy construction projects underway in the region that might be competing in the same labor pool.
- Use of remote camps to support the construction effort. If housing and food services are provided for workers, the impact on communities would be far less than if non-resident workers are required to find their own housing.
- Construction shift scheduling. A ten-days-on, four-days off schedule, for example, is more likely to attract workers from nearby communities, or even elsewhere in Alaska.

- The duration of the construction phase. A four-year construction period is assumed in this study. A longer construction period is possible and would have lower peak labor requirements, but might draw more dependents to the region. A longer construction period might also generate greater indirect socioeconomic effects.

Construction phase impacts related to a West Lynn Canal highway differ from an East Lynn Canal highway in that Haines could potentially be substantially effected. While it is likely that the West Lynn Canal highway construction effort would be largely camp supported, Haines would likely play some role in staging and provision of goods and services.

Potential socioeconomic effects in Haines could include:

- Increased sales with fuel distributors.
- Increased sales at restaurants, bars, hotels and other businesses providing goods and services to construction workers and their dependents.
- Increased Haines Borough sales tax revenues as a result of sales to construction companies and their employees.
- Increased demand for rental and other housing, even with a construction camp. Depending on the number of non-resident workers who choose to relocate families to Haines, demand for housing would increase. Most of the demand would be for rental housing, though a four-year construction period may be long enough to induce some workers to purchase housing. Increased demand for rental housing could result in upward pressure on rental rates.
- Increased enrollment in local schools. To the extent that dependents of non-resident workers relocate to Haines, local school enrollment could increase.
- The temporary population increase associated with highway construction could also place additional demands on other public services, such as law enforcement, fire and emergency services, and health care services.

If a portion of the West Lynn Canal highway construction project were staged out of Haines, including a camp in the Haines area, there would be local socioeconomic impacts. An employment multiplier of 1.40 was used to predict indirect employment effects in Juneau for the East Lynn Canal highway alternatives. Haines' much smaller economy would certainly generate lower employment multiplier effects. Based on an employment multiplier of 1.25, maximum potential direct and indirect employment from the West Lynn Canal alternative would be approximately 345 temporary jobs, distributed between Juneau and Haines. This additional local employment, though temporary, could have population-related effects in Haines.

Assuming that about three-quarters of the jobs would be filled by non-residents, and about half of those non-residents would bring dependents with them to Juneau or Haines, a population increase of approximately 500 to 550 residents could be expected, including those residing in camps.

In summary, a construction effort based in part in Haines would have substantial socioeconomic effects on the community. The local economy would expand for the duration of the construction phase, and demand for basic services would increase proportionately. Upon completion of the road, a portion (but not all) of the economic activity associated with highway construction would be replaced by economic activity generated by increased highway traffic to and through the community. The economic impact associated with this increased traffic is described in following sections of this report.

This analysis assumes that a construction camp would be located in the Haines area. Camps located elsewhere along the West Lynn Canal highway corridor, in William Henry Bay for example, would have only minor direct and indirect employment effects in Haines.

### **General Effects of the West Lynn Canal Alternative on the Forest Products Industry**

As with the East Lynn Canal alternative, a West Lynn Canal route would provide opportunity for timber harvests associated with construction of the highway, as well as improved access to timber stands that may at some point in the future be available for harvest.

Issues that could affect future timber harvest include:

- Forest Service, State of Alaska, Alaska Mental Health Trust Land, University of Alaska, and other management of timber stands along the West Lynn Canal corridor
- The volume and quality of timber along the West Lynn Canal corridor
- Market conditions for Alaska's forest products in general
- Disposition of the marketable timber harvested as part of the highway construction effort.

**Land Management:** The West Lynn Canal corridor begins on the eastern side of Lynn Canal, with the extension of Glacier Highway four miles to Sawmill Creek. These four miles are located on the Tongass National Forest and are to be maintained in a "mostly natural setting," which precludes logging.

All of the West Lynn Canal route from William Henry Bay to a point west of the northernmost point of Sullivan Island travels through the Tongass National Forest. This area includes a number of management designations, some of which allow for logging.

The highway corridor from William Henry Bay to a point slightly north of Sullivan Rock is to be maintained in a mostly natural setting, and managed for semi-remote recreation. The area north of Sullivan Rock to the Tongass National Forest boundary is classified as "moderate development," which allows logging. The designation further to the west of the highway corridor is for Semi-Remote recreation.

South of Glacier Point, the Tongass National Forest ends and the Haines State Forest begins. The West Lynn Canal route travels through approximately 10 miles of Haines State Forest, from south of Glacier Point to Pyramid Harbor.

The state's current Forest Management Plan, which is in effect for another 10 to 15 years, precludes logging. However, the University of Alaska owns property in the Glacier Point and Pyramid Harbor areas. Timber on this property has not been scheduled for harvest, but it could be harvested at any time if market conditions warranted.

**Volume and Quality of Timber Along West Lynn Canal:** The Forest Service has not cruised the forest land along the western shore of Lynn Canal, and therefore the exact volumes and quality of the timber is not known. However, Forest Service personnel indicate that small portions of the area have been harvested in the past. Volumes in these areas are as low as 1,700 board feet per acre. Throughout the

remainder of the West Lynn Canal route, the average ranges from 27,000 to 30,000 board feet per acre.

On average, the timber volume on the Haines State Forest is approximately 20,000 board feet per acre. There are approximately 9,800 operable acres (in Management Units 5 and 6); however, the exact volume of timber contained in this acreage is not known. A rough estimate of the quality suggests that about 60 percent of this timber is hemlock and 40 percent is spruce.

**Market Conditions for Alaska Forest Products:** Market conditions for timber harvested from the Tongass National Forest, as a result of the West Lynn Canal alternative, are identical to those outlined under forest product impacts of the East Lynn Canal alternative.

Regarding Haines State Forest land, currently Units 5 and 6 are not open for harvest. In the event this changes, it is not known if the West Lynn Canal highway would be the access point for the harvesting of this timber. Rather, it is believed that access would be gained from northern portions of the forest. Therefore the economic benefit of the West Lynn Canal alternative on the forest product industry would most likely be limited to the highway construction phase of the project.

Resource development on other land (private, University, and Mental Health Trust) will most likely be at the discretion of the deed holders. If a decision is made to harvest this timber, the West Lynn Canal alternative may provide some minor transportation benefits. However, it is not believed to be a vital component of the timber harvesting decision process.

**Description of the Timber Harvested During Construction:** In the construction phase of the project, a potentially large volume of timber would be harvested along the 26-mile-long, 100-foot-wide highway corridor through the Tongass National Forest on the western side of Lynn Canal, and an additional 4 miles (at 100-foot width) along the eastern side of the Canal. In addition, the West Lynn Canal corridor would traverse approximately 10 miles of the Haines State Forest Land, from the northern Lynn Canal boundary of the Tongass National Forest up to Pyramid Harbor.

There is no data indicating the volume of timber along the portion of the highway that would cross the Tongass National Forest. The estimated area that would require clearing for construction comprises roughly 365 acres of land (including National Forest and non-National Forest land, and 48 acres on the eastern side of the Canal).

If it is assumed that the average volume of timber is roughly 25,000 board feet per acre along the highway corridor, the timber harvest related to construction could be as high as 9 million board feet.

The precise quality of timber in this section of the Tongass National Forest is not known; however, it is some mix of spruce and hemlock, with a small concentration of cottonwood. Based upon the value estimates outlined in the forest product impacts of an East Lynn Canal highway, the value of this timber would be approximately \$450,000.

As mentioned in the impacts on forest products of the East Lynn Canal corridor, the cost and benefit impacts of timber harvested for highway construction along the highway corridor would be determined by whether the land becomes state-owned or if the state simply acquires right-of-way.

It is estimated that the ten miles of highway corridor through the Haines State Forest would comprise approximately 120 acres. Again, exact volumes are not available; however, if it is assumed that the volume in the areas is approximately 20,000 board

feet per acre, a rough estimate of the harvest from construction would be 2.4 million board feet of timber.

Timber in this area is a mix of spruce, hemlock and cottonwood. Based upon USFS pricing, the value of this timber would be approximately \$120,000.

Economic benefits of timber harvested on state-owned land, less the cost of harvest operations, would be retained by the state.

## **General Effects of the West Lynn Canal Alternative on the Transportation Industry**

### **Waterborne Freight**

A discussion of the effect of improved access on waterborne freight movement in Lynn Canal is provided in section 3.1.1.2, General Effects of Improved Access on the Transportation Industry, and in section 3.1.3.1, General Effects of the East Lynn Canal Alternatives on the Transportation Industry.

The West Lynn Canal alternative would have minor effects on waterborne freight movement in Lynn Canal. Barge service to Juneau, Haines, and Skagway would be unaffected. The cost associated with one or two ferry links (two if the freight is destined for Skagway) would constrain use of truck rather than barge. The handling and ferry costs associated with barging freight to Juneau, then trucking to Haines or Skagway, would prevent any transshipment in Juneau of freight moving from Seattle to Haines or Skagway.

Because the West Lynn Canal alternative would provide for less expensive shipment of goods from Juneau to Haines than the No Build alternative (though perhaps not Skagway because two ferry links are involved), freight costs would likely be lower. Lower freight costs between Juneau and Haines would result in savings to retailers, consumers, or both.

### **Air Transport**

See General Effects of Improved Access on the Transportation Industry, section 3.1.1.2., for a detailed discussion of the effects of improved access on Lynn Canal air taxi operators.

The West Lynn Canal alternative would result in reduced demand for air taxi services in Lynn Canal. The West Lynn Canal alternative would generate traffic of approximately 310 AADT (annual average daily traffic) in 2008. This is about four times the current Lynn Canal surface traffic volume. Most of the increase is induced traffic, however, some is diverted air traffic. It is estimated that the demand for air taxi service in Lynn Canal could be reduced by approximately 30 percent to 40 percent, though for any individual operator the impact might be higher or lower, depending on the particular markets they serve.

### **Private Ferry Operations**

See General Effects of Improved Access on the Transportation Industry, section 3.1.1.2. The West Lynn Canal alternative would not substantially affect private ferry operations linking Haines and Skagway or Haines, Skagway and Juneau. Private passenger-only service between Haines and Skagway includes competitively priced, more frequent, and more convenient transportation than would the Haines/Skagway shuttle ferry that is part of the West Lynn Canal alternative. Day cruise, passenger-only service between north Lynn Canal and Juneau could be affected by a West Lynn Canal highway. However, the market for small cruise vessel-based wildlife



viewing and sightseeing would not be expected to decrease with a highway linking Haines and Juneau.

### **General Effects on the Mining Industry from the West Lynn Canal Alternative**

The West Lynn Canal alternative is expected to result in minor impacts to mine development in the area. The highway would improve access to an area with known mineral potential along western Lynn Canal (including the area west of Sullivan Island, for example). Improved access would increase exploration in the area although there are no exploration or development activities currently occurring in the area. Increased exploration increases the probability of discovery of a mineral deposit that is economically viable. Over the very long-term, this could translate into mine development, with associated employment, payroll, and tax benefits to the Haines Borough.

Improved access to Juneau would increase the opportunity for Haines residents to work at Juneau-area mines. Currently, Coeur Alaska's plans call for transporting employees from Juneau only. Haines and Skagway residents would be required to fly, drive or ferry to Juneau to connect with company-provided transportation to the mine.

### **General Effects on the Seafood Industry from the West Lynn Canal Alternative**

Because of the ferry links in the West Lynn Canal alternative, there would be negligible benefits in terms of increased opportunity for Juneau processors to ship fresh fish to Lower 48 markets. The cost of the ferry links and the scheduling uncertainty associated with ferry service, would constrain time-sensitive trucking activity.

#### **3.1.5.2. Effect of the West Lynn Canal Highway on Juneau**

##### **Effects on Basic Industry in Juneau**

The visitor Industry is Juneau's only basic industry likely to be directly impacted by a West Lynn Canal corridor.

##### *Visitor Industry*

A highway link between Juneau and Haines on the west side of Lynn Canal would be expected to impact segments of Juneau's visitor industry.

**Cruise Visitor Market:** As presented in the baseline analysis, Juneau's cruise market is expected to continue to grow. However, the West Lynn Canal alternatives would not affect cruise traffic to Juneau.

**Independent Visitor Market:** The independent visitor market would be substantially affected by the West Lynn Canal alternative. Among independent visitors, those traveling by personal vehicle are the most likely to be affected by a highway link between Juneau and Haines. This section focuses on non-Alaskan personal vehicle visitors to Juneau

Non-Alaskan personal vehicle visitor traffic to Juneau would be affected by a West Lynn Canal highway in several ways, including:

- AMHS travelers traveling north through Southeast Alaska who would otherwise have remained on the ferry, would be forced to disembark in Juneau and continue their travels north via highway.

- AMHS travelers traveling south through Southeast Alaska who would otherwise have boarded in Haines or Skagway and remained on the ferry at the Auke bay terminal, rather than disembark, would be required to drive to Juneau to board a ferry.
- Highway travelers that now choose not to visit Juneau (including Alcan Highway travelers who don't visit Southeast Alaska at all, and those who visit Haines and/or Skagway as a side trip) may elect to drive to Juneau because of the improved access.

Between 30,000 and 35,000 personal vehicle travelers visit Juneau each year. The number of visitors who travel to Alaska by ferry or personal vehicle has been declining slowly, a trend affecting Juneau visitation. In any case, Juneau captures approximately one-third of the ferry/highway market.

Upon completion of a West Lynn Canal highway, the number of these visitors traveling to Juneau is expected to increase. With completion of the highway, Juneau would attain "end of the highway" status, becoming the mainline terminus for the AMHS, leading a number of visitors to travel to Juneau that otherwise might not visit the community. Further, Juneau would be expected to capture a somewhat larger share of the Alcan Highway market.

**Recreational Vehicle Visitors and Related Impacts:** The West Lynn Canal highway alternative would bring fewer RV travelers to Juneau than an East Lynn Canal highway. Nevertheless, the number of RV's traveling to Juneau would increase. See 3.1.3.2, City and Borough of Juneau, Basic Industry, for a detailed discussion of RV-related effects in Juneau resulting from improved access.

#### *Mining*

Please see General Effects of West Lynn Canal alternative.

#### *Government*

Please see General Effects of Improved Access.

#### *Seafood Industry*

The West Lynn Canal alternative would generate less economic benefit to the seafood processing industry than would an alternative with an uninterrupted road connection because it would not measurably reduce the cost of shipping fresh seafood via truck to Lower 48 markets. Trucking fresh fish to Lower 48 markets would incur costs associated with either two ferry links if traveling through Skagway or one ferry link and the additional mileage associated with accessing the Alcan Highway via Haines. In addition to adding costs, ferry connections reduce the flexibility processors need to ship product when it is ready to be transported.

#### **Effects on Support Industries in Juneau**

Similar to the East Lynn Canal alternative, the West Lynn Canal corridor would have overall positive economic effects on Juneau's support sector.

#### *Retail Trade and Service*

A West Lynn Canal highway would be likely to affect the retail and service sector in several ways:

- Increased spending by non-Alaskan visitors (with improved access more visitors would come to Juneau).

- Increased spending by the regional population, predominately residents of Haines but also Skagway, who would have improved access to Juneau's much larger retail and service sectors.
- Possibly some decrease in spending as Juneau residents have more convenient access to Haines and Skagway, where they would spend more recreational dollars, rather than in Juneau.

**Non-Alaskan spending:** Spending by non-Alaskans would increase in Juneau as a result of the West Lynn Canal alternative. The addition of 10,000 to 15,000 new non-resident visitors to Juneau's visitor industry would generate several million dollars in additional spending. (Visitor spending is also addressed in a following section.)

**Regional resident spending:** The effect of improved access to Juneau on Haines and Skagway resident spending in Juneau is described under 3.1.3.2, City and Borough of Juneau Support Industry Effects. Among Haines residents, a West Lynn Canal highway would result in more spending in Juneau than is now the case, and perhaps more spending than would be the case with an East Lynn Canal highway, because of shorter travel times and therefore more frequent travel. For Haines residents, a ferry link would be required to reach Juneau with either alternative (Alternative 2A would require two ferry links for Haines residents to reach Juneau). The West Lynn Canal ferry link, from William Henry Bay to Sawmill Cove, would likely be of about equal duration and cost as the Haines/Skagway shuttle ferry link. However, for Haines residents, the trip to Juneau on a West Lynn Canal alternative would be about 45 minutes less than an East Lynn Canal trip.

With a West Lynn Canal highway, Skagway residents would travel to Juneau less often than with an East Lynn Canal highway. Skagway residents would incur the cost and travel delays associated with two ferry links, the Skagway/Haines shuttle and the William Henry Bay shuttle. As a result of this lower frequency of travel, Skagway residents would spend less money in Juneau. The West Lynn alternative would result in greater spending in Juneau than the No Build alternative, however. The West Lynn alternative provides greater opportunity (than the No Build Alternative) for travel between Haines and Juneau (including round-trip travel within a single day).

**Juneau resident spending in Haines/Skagway:** Juneau's retail and service sectors could experience some minor decline, particularly in the area of recreation-related spending. The West Lynn Canal alternative would provide Juneau residents new recreation opportunities, leading to an increase in related spending outside of the area. Haines and Skagway would be the recipients of a portion of the redistribution of Juneau recreational dollars. Juneau spending in Haines and Skagway is discussed under the impacts of the West Lynn Canal alternative on Haines and Skagway.

Results of the 2003 *Juneau Access Household Survey* indicate that the frequency of travel to Haines and Skagway would increase with the West Lynn Canal alternative. Juneau households are currently taking an annual average of about 2 trips to Haines and 1 trip to Skagway each year. Juneau residents estimate that they would use a West Lynn Canal highway 3.7 times per year to access Haines and 3 times per year to access Skagway. As Juneau household travel to northern Lynn Canal increases, a corresponding increase in spending would occur. This increase does not necessarily translate into less spending in Juneau. To the extent that additional Haines and Skagway trips replace other out-of-town trips, there would be no negative effect on Juneau. As new travel to Haines and Skagway replaces local recreational activity, there could be an impact on Juneau business sales, though probably a minor one.

### *Transportation*

Please refer to the General Effects of Improved Access on the Transportation Industry

### *Local Government*

Please refer to the General Effects of Improved Access on Government.

## **Summary of Visitor Spending and Related Impacts in Juneau**

Based on data in the 2004 Juneau Access Traffic Forecast, the total increase in traffic to and from Juneau associated with the West Lynn Canal alternative is estimated at 310 AADT. This traffic includes existing (baseline) traffic and, mostly, induced Juneau resident traffic. Excluding baseline and induced local traffic, new traffic to Juneau with the West Lynn Canal Highway alternative would be approximately 40 AADT.

Converting this vehicle traffic estimate to number of new visitors indicates that Juneau would see about 17,000 new visitors in 2008, with the West Lynn Canal highway alternative. As described above, it is assumed that visitor spending in Juneau would average \$80 per visitor per trip, except non-Alaskan visitors who would spend \$160 per visit. Based on these per visitor per trip spending averages, the West Lynn Canal highway alternative would result in total additional visitor spending in Juneau of about \$2 million in 2008.

The economic impact of this additional spending would include new employment and payroll in Juneau. Based on multipliers derived from the IMPLAN model, this increase in visitor spending in Juneau would generate about \$1.1 million in new payroll and 40 additional jobs (annual average). These employment and payroll estimates, which are summarized in the following table, include total direct and indirect effects associated with the increased visitor spending in Juneau.

**Table 28**  
**West Lynn Canal Highway Alternative**  
**Visitor Spending and Related Impacts in Juneau, 2008**

Total Highway Traffic (AADT)	310
Total traffic less local residents and baseline traffic (AADT)	40
Total New Visitors	17,000
Total New Visitor Spending	\$2,000,000
New Local Payroll	\$1,100,000
New Local Employment	40

Traffic on the West Lynn Canal highway is predicted to increase at an annual rate of approximately 1.8 percent for the 30-year forecast period considered in the Juneau Access SDEIS. At that rate of growth, annual spending, employment and payroll related to new highway traffic would be approximately 70 percent higher than in 2008.

### **Effects on Population in Juneau**

Improved access through a West Lynn Canal highway would have minor impacts on population trends in Juneau. For the West Lynn Canal alternative, increased visitor spending would be expected to directly and indirectly create approximately 40 new jobs in Juneau.

Assuming each new job in the economy results in an increase in population of about 1.5 people, 40 new jobs would result in a population increase of about 60 residents.

A population increase in Juneau of 60 residents would represent an overall increase of about 0.2 percent.

### **Effects on Housing and Real Estate in Juneau**

A population increase of 60 individuals would create a demand for an additional 25 units of housing. This demand is well within Juneau existing vacant housing capacity. A West Lynn Canal highway would result in an increase in private property values near the Sawmill Cove terminal. The increase in traffic to the area, and the required wait time associated with shuttle ferry service, would create business development opportunities that may further increase property values in the area.

Goldbelt Corporation's property in the Echo Cove and Cascade Point areas would probably be most affected by the West Lynn Canal highway alternative. Goldbelt owns approximately 1,300-1,400 acres of land from Echo Cove to Cascade Point. The site is about 42 miles north of downtown Juneau at the end of the Juneau road system. Goldbelt has received permits from the U.S. Forest Service (1999) and the Army Corps of Engineers (2000) to build a gravel road extending from the current road end at Echo Cove to Cascade Point.

Goldbelt has signed a letter of intent to work with Coeur Alaska, owner of the Kensington mine, to develop the Cascade Point site. Coeur Alaska has identified the use of a docking facility at Cascade Point in its Amended Plan of Operations, submitted for use in the current SEIS. Coeur Alaska proposes to use off-site housing and bus employees from Juneau to Cascade Point. The development of marine facilities at Cascade Point would include a breakwater, pedestrian access dock, an aluminum gangway, and a removable float.

Long-term future plans for the Cascade Point site include possible development as a port for the Lynn Canal ferry providing service from Skagway/Haines to Juneau. According to the Echo Cove Master Plan, reasonable foreseeable development on Goldbelt land in the area includes a lodge and restaurant, convenience store, gas station, and commercial fishing support facilities (Goldbelt, 1996). This level of development (which would be contingent upon construction and utilization of a ferry terminal) would have substantial property tax benefits for the CBJ.

Please refer to the General Effects of Improved Access for additional discussion of impacts of the West Lynn Canal highway alternative on Juneau's housing and real estate market.

### **Effects on Municipal Revenues and Expenditures in Juneau**

The increase in real estate values described above would translate into increased property tax revenues for the CBJ. This increase, however, would be minor in comparison to overall CBJ property tax revenues.

Sales tax revenues (plus hotel, liquor and tobacco taxes) would increase at a rate proportional to the increase in spending in Juneau. Total new non-resident spending of \$2 million in Juneau would generate (assuming all of the spending is taxable) \$100,000 in additional sales tax revenues, based on a 5 percent tax rate.

Some increase in local government expenditures could also be expected, associated with public safety and emergency response. These costs are addressed in the public services section of this report.

Please refer to the General Effects on Municipal Revenues and Expenditures for additional discussion.

### **3.1.5.3. Effects of a West Lynn Canal Highway on Haines**

#### **Effects on Basic Industries in Haines**

##### ***Visitor Industry***

**Cruise Visitor Market:** The cruise ship visitor market to Haines would not be affected by the West Lynn Canal alternative. A highway link between Juneau and Haines would not affect cruise itineraries planned for the Alaska market, including Haines or Skagway port calls. Haines would continue to be a secondary port-of-call in the Alaska market. Primary ports-of-call, including Ketchikan, Juneau, and Skagway, have a well-developed selection of tours and attractions (which is critical for generating on-board sales commissions for the cruise lines), extensive and convenient retail opportunities, and multiple-ship infrastructure.

Forces that will drive Haines' development as a cruise destination will include:

- Further development of attractions and excursions in Haines
- Growth in the regional cruise market overall
- Development of port facilities elsewhere in the Inside Passage, including Pt. Sophia near Hoonah, and Prince Rupert, British Columbia
- Over-crowding at the most popular ports (Juneau, Skagway, etc.).

The West Lynn Canal alternative would not change any of these factors. One potential concern is the aesthetic impact of a highway. However, a West Lynn Canal highway would not have high visual impacts from the water and, further, cruise lines typically cruise at night and offer a port stop during the day.

Changes in cruise traffic to Skagway would affect the number of cruise passengers buying Haines excursions. However, no changes in Skagway cruise traffic are expected to result from a West Lynn Canal highway.

**Independent Visitor Market:** The independent visitor market would be affected by the West Lynn Canal alternative. Among independent visitors, those traveling by personal vehicle would be the most affected if the West Lynn Canal alternative were developed.

Currently, northbound ferry travelers with vehicles can take mainline ferry service to either Haines or Skagway. After completion of the West Lynn Canal alternative, these mainline ferry travelers would be required to travel through Haines, creating a substantial increase in traffic to the community.

Further, some personal vehicle traffic flowing from the north, with Juneau and mainline ferry services as their destination, may be diverted from Skagway. In this case, visitors may choose a more direct route to Juneau, by way of the Haines

highway and West Lynn Canal, as opposed to traveling the Klondike Highway, ferrying to Haines and then traveling the West Lynn Canal highway.

In any case, all of the traffic predicted for the West Lynn Canal highway alternative would flow through Haines, resulting in an increase in traffic to or through that community. Traffic on a West Lynn Canal highway is predicted to initially total about 310 AADT.

Overall, the number of travelers passing through Haines would more than triple with a West Lynn Canal highway. This would include all of the ferry traffic that now embarks or disembarks in Skagway without visiting Haines (about 23,000 passengers embarking and about the same number disembarking). It also includes new "induced" travel to Haines and Skagway among Juneau residents that would be spurred by improved Lynn Canal access. Household survey results indicate that Juneau households would travel to Haines more frequently with a West Lynn Canal highway than they do now.

The economic impact of this increase in traffic depends primarily on visitors' length of stay. Part of the time that visitors now spend in Haines is associated with AMHS service frequency and delays. Without the ferry terminal in Haines there would be more opportunity to pass directly through Haines without spending time or money. (With increased ferry service frequency there is also the opportunity to stay for short period and still make connections.) The key factor regarding length of stay would be the degree to which Haines develops and promotes local assets and attractions. The greater effort that is made to develop Haines as a visitor destination (especially in Juneau), the more time and money visitors would spend in the community. Some of the visitor traffic would pass through Haines without stopping. Other visitors might spend a short time in Haines and purchase gas, food, or souvenirs. Finally, others would spend one or more nights in Haines, and have a comparatively high impact on the local economy.

Visitor industry employment would increase in Haines with a West Lynn Canal highway. Haines' visitor industry now directly accounts for approximately 230 jobs, including jobs created by the cruise ship industry (about one-third of the total) and jobs related to independent visitor travel (McDowell Group, Inc. 2002).

### ***Retirement and Lifestyle Sector***

A West Lynn Canal highway would enhance Haines' role as a retirement community. For retirees, access to health care services is a critical issue. The better access offered by a highway link to Juneau would provide more immediate access to the community's relatively well-developed health care sector. It is not possible to quantify this impact, but the long-term result would be more people choosing Haines as a place to have a year-round or seasonal retirement home.

### ***Mining***

Please see General Effects of the West Lynn Canal highway alternative. The West Lynn Canal alternative would improve access to areas in the Chilkat Range with known mineral potential. Better access increases the likelihood of discovery of mineral deposits and, ultimately, commercial production.

In addition, the West Lynn Canal highway would create the opportunity for Haines residents to work at the Kensington mine.

### ***Seafood Industry***

Please see General Effects of Improved Access and General Effects of a West Lynn Canal Highway. The West Lynn Canal alternative would not affect Haines' seafood industry.

### ***Forest Products Industry***

Please see General Effects of the West Lynn Canal Alternative.

### **Effects on Support Industries in Haines**

#### ***Retail Trade and Services***

There are a number of issues that would determine the impact of the West Lynn Canal alternative on retail and service sector business in Haines, including:

- The effect of improved access on shipping costs to Haines
- The increase in Haines household spending in Juneau
- Changes in spending in Haines by Juneau and other non-residents.

**Effect of improved access on shipping costs to Haines:** Barge service to Haines would not be expected to change with a West Lynn Canal highway. Therefore, shipping costs for goods moved by this mode would probably not change. However, some freight does come into Haines via ferry from Juneau. Shipment of that freight would be less expensive. This would translate into lower costs for Haines consumers and/or increased profits for merchants.

**Increase in Haines household spending in Juneau:** Improved access to Juneau's much larger service and retail sectors would draw more spending from Haines residents. This leakage from the Haines economy would occur as a result of lower prices available in Juneau. This impact of this leakage is analyzed below.

**Increase in spending by non-residents in Haines:** The economic impact of increased non-resident traffic to and through Haines is addressed in the analysis of visitor spending effects, described below. Non-resident spending would be expected to increase substantially, as would visitor industry-related employment.

#### ***Transportation***

Please refer to General Effects of Improved Access.

#### ***Local Government***

Please refer to General Effects of Improved Access.

### **Summary of Visitor Spending and Related Impacts in Haines**

The 2004 *Juneau Access Traffic Forecast* indicates that the West Lynn Canal highway alternative would produce traffic to (and through) Haines of approximately 310 AADT (annual average daily traffic) as soon as the road is constructed. This traffic includes existing (baseline) traffic as well as induced Haines resident traffic. Excluding baseline and induced local traffic, new traffic to Haines with the West Lynn Canal highway alternative would be about 220 AADT.

Growth in Juneau resident travel accounts for the majority of this traffic increase. The *Juneau Access Household Survey* measured a high level of interest among Juneau residents for more travel to Haines.

Converting these vehicle traffic estimates to number of new visitors indicates that Haines would see approximately 93,000 new visitors in 2008, with an East Lynn Canal highway alternative. These are conservative estimates because they are



based on the assumption that all traffic is round-trip traffic. In fact, some of the traffic would be one-way travelers passing through Haines on their way north or south.

The amount of increased spending in Haines associated with this increased visitor traffic is estimated at approximately \$5.6 million. This is based on average visitor spending in Haines of \$50 to \$60 per visitor per trip.

In terms of economic impact, increased spending in Juneau by Haines residents would offset some of this new visitor spending in Haines. Approximately half of new spending that would occur in Juneau with a West Lynn Canal highway would be by Haines residents, or about \$1 million in 2008. Based on these estimates, the net increase in spending in Haines would be approximately \$4.6 million in 2008.

The economic impact of this additional spending would include new employment and payroll in Haines. Based on multipliers derived from the IMPLAN economic impact modeling system, this increase in visitor spending in Haines would generate 110 additional jobs (annual average) and \$1.8 million in annual payroll. These employment and payroll estimates, which are summarized in the following table, include total direct and indirect effects associated with the increased visitor spending in Haines.

**Table 29**  
**West Lynn Canal Highway Alternative**  
**Visitor Spending and Related Impacts in Haines, 2008**

Total Highway Traffic (AADT)	310
Total traffic less local residents and baseline traffic (AADT)	220
Total New Visitors	93,000
Total New Visitor Spending	\$5,600,000
Less New Haines Resident Spending in Juneau	\$1,000,000
Net Change in Spending in Haines	\$4,600,000
New Local Payroll	\$1,800,000
New Local Employment	90

Traffic on the West Lynn Canal highway alternative is predicted to increase at an annual rate of approximately 1.8 percent for the 30-year forecast period considered in the Juneau Access SDEIS. At that rate of growth, annual spending, employment and payroll in Haines related to new highway traffic would be approximately 80 percent higher after 30 years than in 2008.

### **Effects on Population in Haines**

Haines would see an increase in population with a West Lynn Canal highway. The increase in traffic through the community would result in increased visitor spending in Haines, translating into increased employment in businesses that provide goods and services to visitors.

With 90 new jobs, a population increase of about 135 residents would be expected. A population increase in Haines of 135 residents would represent an overall increase of about 6 percent.

## Effects on Housing and Real Estate in Haines

The demand for housing in Haines would increase along with population growth. Assuming about 2.4 residents per household, population growth of about 135 residents would translate into demand for about 55 additional units.

The West Lynn Canal highway alternative would be very likely to spur development of some type of property owned by the University of Alaska. UA owns substantial acreage in the Glacier Point and Pyramid Harbor areas. UA will manage these lands to the maximum financial benefit of the university. This could include logging (which would be dependent on market conditions), subdivision development, lease for commercial development, or some combination of these options.

The Alaska Mental Health Trust also owns a small parcel in the Glacier Point area and would pursue similar profit-oriented development with improved access.

## Local Government Revenues and Expenditures

An increase in traffic to and through Haines would result in increased business sales and therefore sales tax revenues to the Haines Borough. The expected increase in visitor spending of \$4.6 million annually would generate \$250,000 in annual sales tax revenues (assuming it is all taxed at the city rate of 5.5 percent). This spending would also generate additional bed tax revenues.

In addition, an increase in housing demand would result in some increase in housing values, resulting in a potential increase in property tax revenues (assuming tax rates are held constant). A West Lynn Canal highway would also result in an increase in private property values for real estate located along the highway, particularly in areas such as Glacier Point. Better access to that recreational property would enhance the marketability and value of that property. Please refer to the General Effects of Improved Access for additional discussion.

Some increase in local government expenditures would also be expected, primarily associated with public safety and emergency response. These costs are addressed in the public services section of this report.

### 3.1.5.4. Effects of the West Lynn Canal Highway on Skagway

#### Basic Industry Effects in Skagway

##### *Visitor Industry*

**Cruise Visitor Market:** As is the case with the East Lynn Canal alternative, cruise ship traffic to Skagway would not be affected by the West Lynn Canal alternative. A full discussion on the effects of highway development on the cruise visitor market is outlined under effects of the East Lynn Canal alternatives.

**Independent Visitor Market:** Skagway's independent visitor market would be affected by a West Lynn Canal alternative. This analysis considers several factors concerning Skagway independent visitor traffic. A West Lynn Canal highway would:

- Result in termination of mainline ferry service between Skagway and points south of Haines.
- Provide marginally better (than the No Build alternative) access to Skagway for Juneau's independent visitors.
- Increase access to Skagway for Haines' independent visitors.
- Provide marginally better access to Skagway for Juneau residents.

In 2003, northbound ferry travelers with vehicles could take mainline or day-boat (during the summer) ferry service to either Haines or Skagway (day-boat service is scheduled to be year-round in 2004). After completion of a West Lynn Canal alternative, northbound ferry travelers would disembark in Juneau, drive to Sawmill Cove and ferry to William Henry Bay, then drive to Haines. From Haines another shuttle ferry trip would be required to reach Skagway. Similarly, Skagway would no longer be an AMHS boarding point for southbound ferry passengers.

This change would effect visitor travel to Skagway, though no measurable change in the economic impact of independent visitor travel is expected. Visitors traveling northbound and southbound through north Lynn Canal will, as in the past, have a choice of passing through (and spending time in) Haines, Skagway, or both. The inconvenience and cost associated with another ferry link to reach Skagway would likely push some traffic through Haines that might otherwise pass through Skagway.

However, the *Juneau Access Traffic Forecast* indicates that the West Lynn Canal highway would produce traffic to (and through) Skagway of approximately 90 AADT (annual average daily traffic) after the highway is built (2008). This is above current Skagway traffic to or from Lynn Canal. The increase would largely be the result of more frequent Juneau resident travel to Skagway.

The economic impact of this change in traffic depends primarily on length of stay. Part of the time that visitors now spend in Skagway is associated with AMHS service frequency and delays. With the ferry terminus in Juneau, there would be greater tendency to pass directly through Skagway without spending time or money. The key factor regarding length of stay now and after construction of a West Lynn Canal highway would be the degree to which the community develops and promotes local assets and attractions to the independent market, including Juneau residents. Because Skagway is a popular, well-developed, and well-known visitor destination the average length of stay is not expected to decrease significantly.

In summary, a West Lynn Canal highway would:

- Result in an overall though slight increase in traffic to and through Skagway
- Result in small decline non-Alaskan visitor related economic impact
- Result in a small increase in Juneau resident travel (because the West Lynn alternative does represent a small improvement in travel to Skagway, in terms of travel convenience and cost)
- Place Skagway in more direct competition with Haines for visitors' time and money.

The net economic effect on Skagway is likely to be a minor change in that sector of the economy that depends on independent visitor travel.

#### *Mining*

Please see General Effects of the West Lynn Canal alternative.

#### *Seafood Industry*

Please see General Effects of Improved Access and General Effects of the West Lynn Canal Highway.

#### *Forest Products Industry*

Please see General Effects of the West Lynn Canal alternative.

### *Transportation Industry*

Please see General Effects of the West Lynn Canal Alternative on the Transportation Industry.

In general, the West Lynn Canal alternative would improve transportation to and from Skagway (meaning that the cost, in terms of time and out-of-pocket expenses, would be reduced) for personal vehicle traffic. Two ferry connections would be required for travel to Juneau, however, and the cost and inconvenience associated with these ferry links would constrain travel to and through Skagway, relative to the East Lynn Canal alternatives.

The West Lynn Canal alternative would not affect how Skagway is supplied in terms of freight shipments. The cost or frequency of barge service would not change. Freight that now comes from Juneau on the ferry would be diverted to the West Lynn Canal highway, though, it is not clear that shipping cost between Juneau and Skagway would be reduced. That would depend on the fares charged for commercial vehicles on the ferries.

### **Support Sector Effects in Skagway**

Because the West Lynn Canal highway alternative would have no effect on the cruise industry (Skagway's most important industry), and the impact on the independent visitor market is likely to be small, Skagway's support sector is expected to experience negligible economic impacts overall. Leakage from the Skagway economy as a result of spending in Juneau by local residents is not expected to increase. A West Lynn Canal highway would not change how Skagway is supplied by barge, therefore no measurable change in shipping costs to the community is expected. Juneau resident spending in Skagway would increase slightly, along with an increase in travel frequency.

**Table 30**  
**West Lynn Canal Highway Alternative**  
**Visitor Spending and Related Impacts in Skagway, 2008**

Total Highway Traffic (AADT)	90
Total traffic less local residents and baseline traffic (AADT)	10
Total New Visitors	3,000
Total New Visitor Spending	\$200,000
New Local Payroll	-
New Local Employment	-

### **Effects on Population and Demographics in Skagway**

The West Lynn Canal highway alternative is expected to have negligible impacts on the population and demographics of Skagway, Please refer to the General Effects of Improved Access for additional discussion.

### **Effects on Housing and Real Estate in Skagway**

The West Lynn Canal highway alternative is expected to have negligible impacts on housing and real estate in Skagway. Please refer to the General Effects of Improved Access for additional discussion.

### **Effects on Municipal Revenues and Expenditures in Skagway**

The West Lynn Canal highway alternative is expected to have negligible impacts on municipal revenues and expenditures in Skagway. Please refer to the General Effects of Improved Access for additional discussion.

### 3.1.6. Summary of Alternative 3 Effects – West Lynn Canal Highway

Geographic Area	Industry	Summary of Effects
<b>Common Effects</b>		
	Construction	Construction expenditures of \$208 million and employment of 275 workers annually over a four-year period.
	Transportation	Waterborne freight unlikely to be affected. Air taxi operations could decrease by 30 percent to 40 percent. Overall increase in travel between communities.
	Forest Products	Improved access to timber stands, though harvests dependent on factors other than road access, such as market conditions and quality of timber available.
	Mining	Increased exploration access to areas with mineral potential.
	Seafood	Negligible effects.
<b>Juneau</b>		
	Basic Industries	Visitor industry affected as independent (including RV) visitor traffic increases. Cruise traffic unaffected.
	Support Industries	Retail and service sectors experience minor economic benefits.
	Population	Negligible to minor population growth expected.
	Housing and Real Estate	Negligible increase in housing demand due to population growth.
	Municipal Revenues	Increased sales taxes from non-resident spending in Juneau. Increased property taxes from land development along the access corridor.
<b>Haines</b>		
	Basic Industries	Increased visitor traffic from the Juneau and non-resident markets would result in growth in the visitor industry. Potential for growth in the “retirement industry.” Major visitor industry effects expected.
	Support Industries	Increased leakage as residents purchase goods and services from outside the community, offset by increased visitor spending.
	Population	Increased population due to visitor industry growth.
	Housing and Real Estate	Increased demand for housing due to seasonal and year-round population growth.
	Municipal Revenues	Increased sales tax associated with increased visitor spending and increased property tax revenues associated with development along the highway corridor.
<b>Skagway</b>		
	Basic Industries	Some increase in independent visitor travel expected. Cruise industry unaffected.
	Support Industries	Negligible change in retail leakage expected. Increase in spending by Juneau residents visiting Skagway.
	Population	Negligible effects.
	Housing and Real Estate	Negligible effects.
	Municipal Revenues and Expenditures	Negligible effects.

### 3.1.7. Alternative 4 - Improved AMHS Service

#### 3.1.7.1. General Effects of Improved AMHS Alternatives

The all marine alternatives include the following (in addition to continued mainline service to Haines and Skagway, and shuttle ferry service between Haines and Skagway):

- Alternative 4A – Daily fast vehicle ferry (FVF) service from Auke Bay
- Alternative 4B – Daily FVF service from Berners Bay
- Alternative 4C – Dayboat service from Auke Bay
- Alternative 4D – Dayboat service from Berners Bay

According the *Juneau Access Traffic Forecast*, the All-Marine alternatives would generate traffic ranging from approximately 100 AADT (annual average daily traffic) to 160 AADT in the first year of operations (2008). Alternative 4B would generate the highest volume of traffic and 4C the lowest volume of traffic. Traffic volumes vary among the all-marine alternatives because each has unique user or traveler costs (see *Juneau Access Traffic Forecast* for a detailed discussion of the effect of user costs on traffic).

All-Marine alternatives 4B and 4D include extending Glacier Highway to a new ferry terminal at Sawmill Cove. Sawmill Cove ferry service would be summer-service only. During the winter all ferry service would be from Auke Bay.

The difference in traffic between the four all-marine alternatives represents about 30 additional vehicles each day in each direction. In terms of socioeconomic effects, differences between these alternatives are small. Therefore this analysis considers the socioeconomic effects of the all-marine alternatives together. Where meaningful differences in socioeconomic effects exist, they are noted.

#### **General Effects of Improved AMHS Alternatives on the Construction Industry**

The only construction expenditures associated with the AMHS alternatives that would have in-state effects are related to terminal construction and highway extension to Sawmill Cove. Vessels would be constructed out-of-state.

Assuming labor cost for the highway extension and terminal facilities would equal approximately one-third of total construction cost, the AMHS alternatives should generate between 25 and 65 jobs over the construction period (which is assumed to be about 2 years). This is based on average annual construction industry earnings of approximately \$85,000 per year including benefits. In 2002 there were 13 firms designated as Heavy Construction employers in the Juneau/Haines/Skogway area with average annual employment of 298 workers. The Improved AMHS alternatives would increase this industry's workforce by 8 to 20 percent depending on the alternative.

**Table 31**  
**Improved AMHS Service Alternatives**  
**Construction Phase Employment Impacts**

Improved AMHS Alternative	Terminal & Highway Construction Cost	Estimated Employment
Alt. 4A	\$13 million	25
Alt. 4B	\$34 million	65
Alt. 4C	\$13 million	25
Alt. 4D	\$34 million	65

**Construction Phase-Related Socioeconomic Effects:** Construction activity associated with development of an all-marine alternative would have negligible to minor, temporary socioeconomic effects on the communities of Juneau, Haines and Skagway.

**General Effects of Improved AMHS Alternatives on the Mining Industry**

The Improved AMHS alternatives are not expected to directly effect mine development in the area.

The AMHS alternatives would provide improved access to Juneau, increasing the opportunity for Haines and Skagway residents to work at Juneau area mines. Currently, Coeur Alaska’s plans call for transporting employees via bus and shuttle from Juneau only. Haines and Skagway residents would be required to fly or ferry to Juneau to connect with company-provided transportation to the mine.

**General Effects of the Improved AMHS Alternatives on the Seafood Industry**

The Improved AMHS Service alternatives are less likely to result in increased competition for commercial fishing fleets from subsistence and sport fish users because the AMHS alternative would not open areas to new access modes.

The AMHS alternatives would not enhance seafood processor’s access to fresh fish markets.

**3.1.7.2. Effects of AMHS Alternatives on Juneau**

**Effects on Basic Industry in Juneau**

The visitor industry is Juneau's only basic industry likely to be impacted by the improved AMHS alternative. Those impacts would be minor.

**Visitor Industry**

The AMHS alternatives would have minor positive impacts on Juneau's visitor industry. To the extent that the AMHS alternatives improve ferry service in Lynn Canal, in terms of frequency, convenience and cost there would be an increase in the number of independent visitors traveling to Juneau.

**Cruise Visitor Market:** The AMHS alternatives would not affect cruise traffic to Juneau.

**Independent Visitor Market:** All AMHS alternatives include continuing mainline service to Haines and Skagway. Because of this, the effect of the AMHS alternatives on independent visitor traffic to Juneau are expected to be minor. (Highway



alternatives include discontinuing mainline ferry service in Lynn Canal, meaning that all through passengers must disembark in Juneau.) The Juneau Access Traffic Forecast indicates that traffic on the four marine alternatives would range from 10 percent over the No Build alternative to about 90 percent above the No Build alternative. The volume of new non-resident traffic to Juneau would range from no additional nonresident traffic to 35 AADT additional non-resident traffic. A traffic increase of 35 AADT translates into approximately 23,000 additional visitors in 2008.

### **Mining**

Please see General Effects of the AMHS Alternative.

### **Seafood Industry**

Please see General Effects of the AMHS Alternative.

### **Forest Products Industry**

The AMHS alternative would have negligible effects on the forest products industry. There would be a small volume of timber harvested in association with extension of the highway to Sawmill Cove.

### **Effects on Support Industries in Juneau**

As outlined under the highway alternatives, the AMHS alternatives would have overall positive, but minor economic effects on Juneau's support sector. Primarily these beneficial impacts would be received by the local retail trade and service sector industries that provide goods and services to visitors. These benefits would stem from minor increases in Haines and Skagway resident spending in Juneau and minor increases in non-resident visitor spending in Juneau - both offset partially by increased spending by Juneau residents in Haines and Skagway.

### **Summary of Visitor Spending and Related Impacts in Juneau**

The following table summarizes visitor spending in Juneau associated with each all-marine alternative, along with the estimated employment and payroll impact of that spending. Alternative 4B would generate the highest level of overall traffic (170 AADT) and the highest level of new non-resident traffic (35 AADT). This new non-resident traffic would spend approximately \$3 million in Juneau, creating 60 jobs and \$1.7 million in payroll. All-marine alternatives 4A, 4C, and 4D all result in lower traffic and lower economic impacts. Alternative 4C would not generate any traffic or economic benefits above the No Action alternative.

**Table 32**  
**Improved AMHS Alternatives**  
**Visitor Spending and Related Impacts in Juneau, 2008**

	All-Marine Alternatives			
	4A	4B	4C	4D
Total Ferry Traffic (AADT)	140	165	100	130
Total traffic less residents and baseline traffic (AADT)	20	35	-	10
Total New Visitors	12,000	23,000	-	7,000
Total New Visitor Spending	\$1,600,000	\$3,000,000	-	\$1,000,000
New Local Payroll	\$900,000	\$1,700,000	-	\$500,000
New Local Employment	30	60	-	20

Traffic on the all-marine alternatives is predicted to increase at an annual rate of between 1.2 percent and 1.6 percent for the 30-year forecast period considered in the Juneau Access SDEIS. At that rate of growth, annual spending, employment and payroll related to new highway traffic would be between 40 percent and 60 percent higher than in 2008.

### ***Transportation***

Please refer to the General Effects of Improved Access.

### ***Local Government***

Please refer to the General Effects of Improved Access.

### **Effects on Population in Juneau**

The AMHS alternatives are expected to have negligible to minor impacts on Juneau's current and future population. The AMHS alternatives would not provide any impetus for growth in local basic industries other than the visitor industry, which would be minor. Since population is primarily a function of economic growth, the AMHS alternatives would not be expected to yield any measurable change in Juneau's population.

### **Effects on Housing and Real Estate in Juneau**

The AMHS alternatives are not expected to result in any measurable change in Juneau's housing and real estate markets. With dayboats the vessels would be homeported in Juneau. Crew for these vessels would require housing, creating a small additional demand for housing in Juneau.

### **Effects on Municipal Revenues and Expenditures in Juneau**

The AMHS alternatives would have negligible to minor effects on Juneau's municipal revenues and expenditures. New visitor spending associated with Alternative 4B would generate \$150,000 in CBJ sales tax revenues, the highest level among the all-marine alternatives. Extension of the highway to Sawmill Cove and associated traffic would lead to an increase in property values in the area if Goldbelt's properties were developed. Additional property tax revenue would be generated.

## **3.1.7.3. Effects of AMHS Alternatives on Haines**

### **Effects on Basic Industry in Haines**

The AMHS alternatives would be expected to have negligible to minor impacts on Haines area basic industries, compared to the No Build Alternative. Only the visitor industry could expect some minor impact from the AMHS alternatives.

### ***Visitor Industry***

**Cruise Visitor Market:** As is the case with the highway alternatives, the cruise ship visitor market to Haines would not be affected by the AMHS alternatives.

**Independent Visitor Market:** The *Juneau Access Traffic Forecast* indicates that traffic to Haines on all the AMHS alternatives would range from 55 AADT (Alternative 4C) to 90 AADT (Alternative 4B). Total new non-resident traffic would range from zero new traffic (Alternative 4C) to 30 AADT additional visitor traffic in 2008. This (30 AADT) would equate to approximately 18,000 new visitors to Haines in 2008.

### ***Mining***

Please see General Effects of the Improved AMHS alternatives.

### ***Seafood Industry***

Please see General Effects of the Improved AMHS alternatives.

### ***Forest Products Industry***

The economic effects on Haines' forest products industry would be negligible under the AMHS alternatives.

### **Effects on the Support Sector in Haines**

The effects of the Improved AMHS alternatives on Haines' support sector would be minor. Improved access between Juneau and Haines would increase marginally the level of leakage from the community's support sector. The effect of the AMHS alternatives on shipping costs is expected to be negligible, therefore no reduction in business profitability or the cost of living in Haines is expected. Spending by Juneau residents and other non-residents in Haines would increase, though again that increase would be minor in the local economy overall, for the all-marine alternatives.

### **Summary of Visitor Spending and Related Impacts in Haines**

The following table summarizes visitor spending in Haines associated with each all-marine alternative, along with the estimated employment and payroll impact of that spending. Alternative 4B would generate the highest level of overall traffic to Haines (90 AADT) and the highest level of new non-resident traffic (30 AADT). This new non-resident traffic would account for approximately \$1 million in new spending in Haines, creating 20 jobs and \$0.4 million in payroll. Some portion of this increase in spending would be offset by increased Haines resident spending in Juneau.

All-marine alternatives 4A, 4C, and 4D all result in lower traffic and lower economic impacts. Alternative 4C would not generate measurable traffic or economic benefits above the No Action alternative.

**Table 33**  
**Improved AMHS Alternatives**  
**Visitor Spending and Related Impacts in Haines, 2008**

	<b>All-Marine Alternatives</b>			
	<b>4A</b>	<b>4B</b>	<b>4C</b>	<b>4D</b>
Total Ferry Traffic (AADT)	80	90	55	70
Total traffic less residents and baseline traffic (AADT)	20	30	-	10
Total New Visitors	12,000	18,000	-	9,000
Total New Visitor Spending	\$700,000	\$1,000,000	-	\$500,000
New Local Payroll	\$300,000	\$400,000	-	\$200,000
New Local Employment	10	20	-	10

Traffic on the all-marine alternatives is predicted to increase at an annual rate of between 1.2 percent and 1.6 percent for the 30-year forecast period considered in the Juneau Access SDEIS. At that rate of growth, annual spending, employment and payroll related to new highway traffic would be between 40 percent and 60 percent higher in 30 years than in 2008.

### ***Transportation***

Alternatives 4A, 4B, and 4D provide measurable improvement in marine passenger and vehicle transportation services in Lynn Canal, as indicated by traffic forecasts. The all-marine alternatives do not, however, provide improved freight transportation infrastructure in the region. Also please refer to the General Effects of Improved Access.

### **Local Government**

The AMHS alternatives would have negligible to minor effects on local government in Haines. Also, please refer to the General Effects of Improved Access for additional discussion.

### **Effects on Population in Haines**

The AMHS alternatives would be expected to have negligible to minor impacts on Haines' current and future population. Alternative 4B, which generates the highest level of traffic, would result in 20 additional jobs in Haines, an increase that would have a minor impact on population.

### **Effects on Housing and Real Estate in Haines**

The AMHS alternatives would not be expected to result in any measurable change in Haines' housing and real estate markets.

### **Effects on Municipal Revenues and Expenditures in Haines**

The AMHS alternatives would not be expected to result in any measurable change in the Haines Borough's revenues and expenditures.

## **3.1.7.4. Effects of Improved AMHS Alternatives on Skagway**

### **Effects on Basic Industry in Skagway**

#### **Visitor Industry**

**Cruise Visitor Market:** As is the case with the highway alternatives, the cruise ship market to Skagway would not be affected by the AMHS alternatives.

**Independent Visitor Market** The *Juneau Access Traffic Forecast* indicates that traffic to Skagway on all the AMHS alternatives would range from 45 AADT (Alternative 4C) to 70 AADT (Alternative 4B). These traffic volumes represent negligible to minor increases in overall traffic. Total new non-resident traffic would range from zero new traffic (Alternative 4C) to 10 AADT additional visitor traffic in 2008 (Alternative 4B). An increase in 10 AADT would equate to approximately 7,000 new visitors to Skagway in 2008. The economic impact of this increase in traffic is described below.

#### **Effects on the Support Sector in Skagway**

The effects of the Improved AMHS Alternatives on Skagway's support sector would be minor. Improved access between Juneau and Skagway would increase marginally the level of leakage from the community's support sector. The effect of the AMHS alternatives on shipping costs is expected to be negligible; therefore no reduction in business profitability or the cost of living in Skagway is expected. Spending by Juneau residents and other non-residents in Skagway would increase, but only slightly.

## Summary of Visitor Spending and Related Impacts in Skagway

The following table summarizes visitor spending in Skagway associated with each All-Marine alternative, along with the estimated employment and payroll impact of that spending. Alternative 4B would generate the highest level of overall traffic to Haines (70 AADT) and the highest level of new non-resident traffic (10 AADT). This new non-resident traffic would spend approximately \$0.4 million in Skagway, creating 10 jobs and \$0.2 million in payroll. All-Marine alternatives 4A, 4C, and 4D all result in lower traffic and lower economic impacts. Alternatives 4C and 4D would not generate measurable traffic or economic benefits to Skagway above the No Action alternative.

**Table 34**  
**Improved AMHS Alternatives**  
**Visitor Spending and Related Impacts in Skagway, 2008**

	All-Marine Alternatives			
	4A	4B	4C	4D
Total Ferry Traffic (AADT)	60	80	45*	60*
Total traffic less residents and baseline traffic (AADT)	5	10	-	-
Total New Visitors	3,000	7,000	-	-
Total New Visitor Spending	\$200,000	\$400,000	-	-
New Local Payroll	\$100,000	\$200,000	-	-
New Local Employment	5	10	-	-

\*Nearly all of the new traffic on these alternatives is Skagway resident travel.

Traffic on the all-marine alternatives is predicted to increase at an annual rate of between 1.2 percent and 1.6 percent for the 30-year forecast period considered in the Juneau Access SDEIS. At that rate of growth, annual spending, employment and payroll related to new highway traffic would be between 40 percent and 60 percent higher in 30 years than in 2008.

### **Transportation**

Alternatives 4A, 4B, and 4D provide measurable improvement in marine passenger and vehicle transportation services in Lynn Canal, as indicated by traffic forecasts. The all-marine alternatives do not, however, provide improved freight transportation infrastructure in the region. Also please refer to the General Effects of Improved Access.

### **Local Government**

The AMHS alternatives would have negligible to minor effects on local government in Skagway. Also please refer to the General Effects of Improved Access for additional discussion.

### **Effects on Population in Skagway**

The AMHS alternatives are expected to have negligible impacts on Skagway's current and future population.

### **Effects on Housing and Real Estate in Skagway**

The AMHS alternatives are not expected to result in any measurable change in Skagway's housing and real estate markets.

## Effects on Municipal Revenues and Expenditures in Skagway

The AMHS alternatives are not expected to result in any measurable change in Skagway's municipal revenues and expenditures.

### 3.1.8. Summary of Effects of Alternative 4 – Improved AMHS Service

Geographic Area	Industry	Summary of Effects
<b>Common Effects</b>		
	Construction	Terminal construction expenditures of between \$13 and \$34 million and employment of between 25 and 65 jobs for the two-year construction period.
	Mining	Negligible effects.
	Seafood	No economic effects expected.
<b>Juneau</b>		
	Basic Industries	Minor visitor industry impacts associated with increased visitor spending.
	Support Industries	Minor retail and service sectors benefits associated with increased visitor spending.
	Population	Negligible effects.
	Housing and Real Estate	Negligible effects.
	Municipal Revenues and Expenditures	Negligible effects.
<b>Haines</b>		
	Basic Industries	Negligible to minor visitor industry impacts.
	Support Industries	Negligible to minor effects.
	Population	Negligible to minor effects.
	Housing and Real Estate	Negligible to minor effects.
	Municipal Revenues and Expenditures	Negligible to minor effects.
<b>Skagway</b>		
	Basic Industries	Minor visitor industry effects.
	Support Industries	Negligible to minor effects.
	Population	Negligible effects.
	Housing and Real Estate	Negligible effects.
	Municipal Revenues and Expenditures	Negligible effects.

## **3.2. Public Utilities Impacts**

### **3.2.1. General Effects of Improved Access**

#### **3.2.1.1. General Effects of Improved Access on Water Supply**

None of the alternatives would affect Juneau's water supply, which is adequate to accommodate any population increases attributable to improved access. The East Lynn Canal highway alternatives would place additional demands on the City of Skagway and the Haines Borough. The West Lynn Canal highway alternative would place additional demands on the Haines Borough.

#### **3.2.1.2. General Effects of Improved Access on Wastewater and Sewer Treatment**

None of the alternatives would affect the wastewater and sewer treatment for the Juneau area. The East Lynn Canal alternatives would place additional demands on the City of Skagway but other alternatives would not affect the city's infrastructure requirements. The East Lynn Canal and West Lynn Canal alternatives would place additional demands on the Haines Borough but other alternatives would have minor effects the borough's infrastructure requirements.

#### **3.2.1.3. General Effects of Improved Access on Solid Waste**

Given the life spans of the landfills, the projected increase in population, and the current plans to increase solid waste incinerating capacity, all of the Juneau Access project alternatives would have negligible impacts on solid waste disposal in Juneau and Haines. During the summer months, the City of Skagway operates at capacity due to the heavy cruise traffic. The City of Skagway currently has plans to expand its landfill capacity, and those plans will not be affected by any of the proposed access improvements.

#### **3.2.1.4. General Effects of Improved Access on Hazardous Waste**

Given current hazardous waste programs in Juneau, Haines, and Skagway, the projected increase in population from any of the project alternatives, all of the Juneau Access project alternatives would have negligible impacts on hazardous waste disposal in these communities.

#### **3.2.1.5. General Effects of Improved Access on Electricity**

None of the project alternatives would impact Juneau electrical power supplies. Currently, there is sufficient installed capacity to accommodate projected population growth. As a result, any population increases attributable to the Juneau Access project alternatives would have a negligible impact.

None of the project alternatives would impact electrical power supplies in the Haines Borough or the City of Skagway. With construction of the Kasidaya Creek Hydroelectric project, the North Lynn Canal area will have surplus energy available for an estimated 30 years (Hittle, 2003).

### **3.2.2. Alternative 1 – No Build Alternative**

#### **3.2.2.1. General Effects of No Build Alternative**

The No-Build alternative would have no effect on public utilities in Juneau, Haines, or Skagway. See Section 3.2.1 – General Effects of Improved Access.

### **3.2.3. Alternative 2 – East Lynn Canal Highway**

#### **3.2.3.1. General Effects Common to All East Lynn Canal Highway Alternatives**

Hazardous waste and electrical utilities would not be impacted by any of the East Lynn Canal highway alternatives. Public utility effects for the East Lynn Canal highway alternatives are expected to be negligible for all communities except the City of Skagway which may experience the need for additional water, solid waste, and wastewater and sewer treatment capacity.

#### **3.2.3.2. Effects of the East Lynn Canal Alternatives on the City and Borough of Juneau**

Effects on Juneau's public utilities would be negligible under any of the East Lynn Canal highway alternatives. See Section 3.2.1 – General Effects of Improved Access.

#### **3.2.3.3. Effects of the East Lynn Canal Alternatives on the Haines Borough**

Solid waste, hazardous waste, and electric utilities would not be affected in the Haines borough by the development of an East Lynn Canal highway alternative. Water usage and wastewater and sewer treatment would be affected, however, because a net increase in traffic is anticipated.

Haines' water supply is adequate to accommodate a 10 percent growth in population (Bradford, 2003). An East Lynn Canal highway alternative could generate some population growth over the long-term, and therefore would contribute to the need for expansion of water supply facilities.

Haines' wastewater system could also accommodate a 10 percent increase in demand (Bradford, 2003). Over the long term, if Haines population grows, additional treatment facilities may be required. To the extent that an East Lynn Canal highway alternative contributes to population growth in Haines, the need for additional wastewater treatment capacity would expand.

The Haines solid waste site has an expected life of 20 to 25 years, therefore impacts to the collection of solid waste are negligible for the East Lynn Canal alternatives.

#### **3.2.3.4. Effects of the East Lynn Canal Alternatives on Skagway**

The East Lynn Canal highway alternatives would increase demands on utilities in the City of Skagway. Hazardous waste and electric utility capacity would not be affected by these alternatives. Water supply, solid waste, and sewer treatment would be affected, however.

Current water supply capacity in Skagway is adequate for the next two to three years, but probably not much longer at current rates of growth (Gladden, 2003). Design work is underway for a booster station for North end users above 15<sup>th</sup> street. This project would install another well with a 550 gpm capacity and dramatically increase water pressure in the area. Cruise ships essentially take whatever water is available to them. The city allows the cruise ships to deplete the water supply down to 40 percent of total reserves. Increased non-cruise ship-related demand could be accommodated by further limiting cruise ship purchases.

Skagway's incinerator is adequate for non-peak demand but use is maximized during the summer peak. Maximum demand during the summer is approximately 8 tons per day and averages between 8 and 16 tons per week for the remainder of the year. Anticipated growth in cruise ship traffic will place additional demands on the system. (Cruise ships do not dispose of garbage directly in Skagway; however, shore-side



passenger-related commercial activity generates a large volume of waste.) It is likely that Skagway will address peak demand capacity issues before an East Lynn Canal highway would be constructed and completed.

Skagway's wastewater treatment system operates at near full hydraulic capacity (630,000 gallons per day) for short periods of time during the fall wet season (average daily flow is approximately 200-300 thousand gallons per day). Increased summer visitor traffic associated with the highway alternatives would not measurably affect this fall peak. Overall, the system is adequate for the next 10 to 15 years. The treatment facility is currently upgrading its system to improve performance and treatment capabilities. Regulatory requirements in the next 10 to 15 years will probably require significant upgrades to operations (Gladden, 2003).

### **3.2.4. Alternative 3 – West Lynn Canal Highway**

#### **3.2.4.1. General Effects of the West Lynn Canal Highway Alternative**

Solid waste, hazardous waste, and electrical utilities would not be impacted by the West Lynn Canal highway alternative. Public utility effects for the West Lynn Canal highway alternatives are expected to be negligible for all communities except the Haines Borough, which may experience the need for additional water and wastewater and sewer treatment capacity.

#### **3.2.4.2. Effects of the West Lynn Canal Alternative on the City and Borough of Juneau**

Juneau's public utilities would not be impacted by the West Lynn Canal highway alternative. See Section 3.2.1 – General Effects of Improved Access.

#### **3.2.4.3. Effects of the West Lynn Canal Alternative on the Haines Borough**

Solid waste, hazardous waste, and electric utilities would not be affected in the Haines Borough by the development of the West Lynn Canal highway alternative. Water and wastewater and sewer treatment would be affected.

Haines' water supply is adequate to accommodate a 10 percent growth in population (Bradford, 2003). Population growth associated with the West Lynn Canal highway, which is expected to range between 8 and 10 percent, would contribute to the need for expansion of water supply facilities. When water demand is high, the city purchases water from privately-owned Crystal Cathedrals Water and Sewer Inc. Last year (2003) the city did not need to purchase any additional water, with the plant running at about 80 percent of capacity.

Haines' wastewater system could also accommodate a 10 percent increase in demand (Bradford, 2003). Over the long term, as Haines' population grows, additional treatment facilities may be required. Population growth associated with a West Lynn Canal highway would add to the long-term need for additional treatment facilities.

A study of water/sewer utility needs in Haines is expected to be completed in February 2004.

The Haines solid waste site has an expected life of 20 to 25 years. Given the expected population increase, impacts to the collection of solid waste is negligible.

#### **3.2.4.4. Effects of the West Lynn Canal Alternative on Skagway**

Skagway's public utilities would not be impacted by the West Lynn Canal highway alternative. See Section 3.2.1 – General Effects of Improved Access.

### **3.2.5. Alternative 4 – Improved AMHS Service**

#### **3.2.5.1. General Effects of Improved AMHS Alternatives**

Public utilities in the communities of Juneau, Haines, and Skagway would not be substantially affected with improved AMHS service. Alternative 4B would generate the most traffic among the all-marine alternatives. That alternative would result in increased traffic to Juneau, Haines and Skagway, placing additional demands on local utilities.

See Section 3.2.1 – General Effects of Improved Access for additional discussion.

#### **3.2.5.2. Effects of Improved AMHS Alternatives on the City and Borough of Juneau**

The improved AMHS alternatives would have no effect on public utilities in Juneau. See Section 3.2.1 – General Effects of Improved Access.

#### **3.2.5.3. Effects of Improved AMHS Alternatives on Haines**

Alternative 4B would increase traffic to and through Haines (the greatest increase among the all-marine alternatives). The increased traffic could place additional demands on local utilities. Water and wastewater systems in Haines can accommodate some additional demand, according to utility managers. Additional traffic associated with improved access would hasten the need for additional investment in these systems.

See Section 3.2.1 – General Effects of Improved Access.

#### **3.2.5.4. Effects of Improved AMHS Alternatives on Skagway**

The improved AMHS alternatives would have negligible effects on public utilities in Skagway. See Section 3.2.1 – General Effects of Improved Access.

### **3.2.6. Impact on the Economic Feasibility of a Juneau-Haines-Skagway Electrical Intertie**

This section provides a brief overview of the potential effects of the Juneau Access project on the economic feasibility of a Juneau-Haines-Skagway electrical transmission line. The most recent study on the issue was a 2003 project sponsored by Southeast Conference, the *Southeast Alaska Intertie Study*, prepared by Hittle & Associates. That study proposes an option to interconnect Juneau, Haines, and Skagway with a 69-kV overhead line from Auke Bay to a point east of Haines (82.5 miles of transmission line) where the line would be transformed to 34.5-kV and continue underwater to Haines to tap the existing 34.5-kV underwater cable connecting Skagway and Haines (Hittle, 2003). The \$70 million cost estimate is based on roadless construction along the east side of Lynn Canal.

A 1992 study addressing the economic feasibility of the Lake Tyee-Swan Lake transmission intertie found potential intertie construction cost savings of about \$70,000 per mile for highway construction as opposed to helicopter construction (Beck, 1992). Assuming that cost savings would be about \$90,000 per mile in current dollars, an East Lynn Canal highway would reduce the cost of Lynn Canal intertie construction by approximately \$4.5 million. The Southeast Conference report indicated that with a highway, line maintenance would be easier; however, reliability would be low due to avalanches (Hittle, 2003).

The Southeast Conference study suggests that the benefit of a Juneau-Haines-Skagway intertie would be the sale of surplus hydroelectric energy generated at the

Kasidaya Creek project to Alaska Electric Light & Power (AEL&P). With construction of the Kasidaya project, the upper Lynn Canal area would have surplus hydroelectric energy for an estimated 30 years, based on assumed load growth. The report concludes that the project was not needed within the 30-year study period, though the intertie could be economically beneficial earlier if the Kasidaya project is not constructed. In any case, an East Lynn Canal highway would not affect the timing of intertie development.

### 3.3. Social Environment

#### 3.3.1. General Social Effects of Improved Access

##### 3.3.1.1. General Effects on Education

Improved access, whether by ferry or highway, generally benefits educational programs and organizations. While there is already some exchange between the communities of Juneau, Haines, and Skagway, it is expected that improved access will allow more frequent, more convenient, and less costly exchanges between the communities. Training opportunities for educators in all three communities are expected to be more heavily attended with improved access. In addition, more training opportunities may become available as a result of better attendance. Sports programs and events will be enhanced, both with athlete and audience participation if cheaper, more reliable transportation services are offered. The relative benefit of different alternatives on Haines, Skagway, and Juneau will vary.

##### *Local School Districts*

**Enrollment:** School enrollment is a function of population. Since population impacts are expected to be very small, this would also be true of impacts on enrollment. The maximum impact on Juneau population of any alternative is estimated at only about 1 percent. This would mean an additional 40 to 45 students, spread across all grades. Increases in Haines and Skagway enrollment are not expected to be significant. Haines enrollment could increase by a maximum of 20 students and Skagway enrollment by maximum of about 13 students, assuming enrollment increases at the same rate as population.

**Budget:** Improved access would reduce the cost of goods and services purchased by Haines and Skagway schools from suppliers in Juneau. It would also make such purchases more convenient and therefore more likely, relative to purchases from suppliers outside the region. Lower cost transportation between Juneau and Haines and Skagway would reduce the cost of professional services exchanged between the three school districts. It would also make centralized training and conferences somewhat less expensive. School board members and administrators from nearby districts would benefit from better vehicle access to the state capital, whether by ferry or highway. However, driving to Juneau would likely remain unattractive to busy board members and administrators from further away than Haines and Skagway.

**Facility Capacity:** Enrollment impacts are not expected to be large enough to be a factor in decisions regarding the maintenance, design, construction or expansion of new facilities.

**Educational Programs:** Opportunities for coordination and cooperation between school districts would be enhanced by improved access by highway or ferry. Haines and Skagway staff would have better access to training, technical assistance, and professional exchange with colleagues in Juneau.

Easier, faster, or cheaper travel by students for school-related activities would be an important benefit of improved access to Juneau. An important benefit of some, but not all, alternatives would be less missed class time and reduced need for overnight stays. Students would also have better access to cultural resources in all three U.S. communities, as well as Whitehorse. While student cultural trips, including travel to view the capital and legislature, are currently possible, lower cost and more convenient scheduling would encourage more travel.

#### *University of Alaska*

The University of Alaska Southeast (UAS) does not anticipate major impacts from improved access, either by highway or ferry. Travel to Haines and Skagway by instructors occurs, but is infrequent. UAS provides courses by distance delivery to students outside Juneau; this would not likely be affected. It is possible that UAS recruitment would benefit, if more prospective students from around the state were able to visit the campus (Meyers, 2003).

With improved access, especially by road, the Juneau branch of the Cooperative Extension Service of the University of Alaska Fairbanks would be able to offer more courses, conferences, and activities, such as the 4-H youth program, in Haines and Skagway. Attendance at events in Juneau by residents of Haines and Skagway would also increase.

#### *Community Education and Education Services*

Improved access would benefit organizations and agencies providing educational and related services to Haines and Skagway directly from Juneau. The Vocational Training and Resource Center estimates that a few more students from outlying communities might enroll, but notes that availability of affordable student housing in Juneau is more of an issue than transportation access.

### **Comparison of Effects of Alternatives on Education**

The effects of different alternatives correlate closely with travel convenience. Convenience is discussed below in the section on quality of life. In general, the highway alternatives make intra-community travel cheaper and more convenient. This would encourage more travel by school athletic teams and other groups. To some extent it would encourage travel by staff and administrators, though air would continue to be an attractive alternative due to the high value of time for these professionals. As noted above, highway alternatives would encourage attendance at special events somewhat better than ferry alternatives.

Highway alternatives are more convenient for obtaining supplies from Juneau. However, this would only apply when a vehicle is taken to Juneau for purposes of shopping. The marine alternatives still allow supplies to be ordered and delivered by ferry with a frequency that varies from daily to more than twice a day. Delivery of items for shipment by ferry is much more convenient for alternatives that use the Auke Bay terminal (Alternatives 4A and 4C), rather than the Sawmill Cove terminal.

#### **3.3.1.2. General Effects on Health Care and Social Services**

Health and social services demand is mainly a function of population, and would therefore not be expected to change measurably. Additional visitors to Juneau, particularly older retirees, will place some new demands on emergency room and other services in Juneau. Demand for health care services resulting from additional highway accidents would be negligible, compared with existing demand.

Improved access would make it somewhat easier and faster to transport patients – either on an emergency or scheduled basis -- to Juneau from Haines or Skagway.

However, air transport would remain the method of choice (Gunnel, 1994). Similarly, family and friends from those communities would find it easier to visit patients in Juneau. Both highway and ferry access are somewhat dependent on weather. Improved transportation might encourage more inter-community service travel by medical specialists, but this is speculative.

The medical clinics in Haines and Skagway are operated by Southeast Alaska Regional Health Consortium (SEARHC). SEARHC is a regional organization with large presence in Juneau. Improved access between Juneau, Haines, and Skagway would reduce cost and increase the efficiency of SEARHC operations in northern Southeast.

### **3.3.1.3. General Effects on Public Safety**

Local impacts on public safety from improved access are expected to be minor in Haines or Skagway. Fire, EMS, and police in those communities restrict coverage mainly to the local road system. Any influx of new traffic is not likely to be large enough to affect the basic level of local demand for safety services in Haines or Skagway. Juneau will likely experience a small increase in local police and EMS calls as a result of additional visitors in town (Gummow, 2003).

As with any rural Alaska road system, emergency situations occurring far from downtown areas will create response challenges for fire, EMS, and police departments. Depending on the nature and location of the emergency, personnel and equipment will be pulled away from normal duties, possibly for extended periods. The agencies with the most resources available – State Troopers, Juneau Police Department, and Juneau Fire Department – say they are already operating at minimal staffing levels given the extent of their current responsibilities and service areas. The Troopers, in particular, are thinly staffed, with just 18 uniformed officers covering all of Southeast Alaska.

Highway alternatives would add to the responsibilities of emergency response agencies in all communities. An East Lynn Canal highway would add approximately 35 miles to the Juneau road system, beginning at Echo Cove and ending in the area of Eldred Rock. From Eldred Rock to the Taiya Inlet somewhat north of Taiya Point the highway would pass through the Haines Borough before entering the Skagway city limits for its final 9 miles. A West Lynn Canal highway would add approximately 4 miles to the Juneau road system, ending at Sawmill Cove. For the West Lynn Canal, all the highway from William Henry Bay north would be located within the Haines Borough.

Neither the State Troopers nor the police in any of the three communities anticipate regular patrols of highway segments between Echo Cove and either Skagway or Haines. The new highway segments would be outside the fire service districts for both the Haines and Juneau boroughs. However, all public safety agencies in the area say they will do their best to respond to emergency situations.

Based on the average number of accidents per million miles for rural Alaska highways, if an East Lynn Canal highway were in service today, one would expect approximately 35 accidents per year to occur somewhere between the Auke Bay Ferry Terminal and Skagway as a result of through traffic moving between Juneau and Skagway.

#### **Juneau**

**Fire Protection and EMS:** Traffic increases resulting from improved access are not expected to have an effect on fire and emergency medical services within the current service areas (Lundfelt, 1994; Ethridge, 2003). Currently, the Juneau fire service

area is bounded by Cohen Drive to the north. The northernmost fire station is the Lynn Canal station at Lena Cove, which is unmanned, but holds a fire response vehicle. Fire officials say a highway to Skagway or Haines might warrant consideration of another station further north and/or redeployment of a light-duty/fast-response vehicle to the Lynn Canal station (Ethridge, 2003).

**Police Protection:** Improved access would have only a modest impact on police services. Historically, visitors to Juneau have not been a significant source of crime. However, the Juneau Police Department (JPD) is currently operating at the limits of its capacity and would need additional personnel to incorporate new responsibilities without affecting current services. Impacts expected would be of two types: 1) a small increase in local traffic congestion, vehicle infractions, and traffic accidents, and 2) for highway alternatives, the need to respond to occasional emergency calls on the new highway areas within CBJ boundaries. Though not anticipated or required, because of the way police shifts must be staffed, it would take an additional 6 officers for a 24-hour, year-round patrol of the area (Gummow, 2003). In the absence of some additional staffing, there would likely be some effect on current services in the rest of the Borough, when calls take officers to areas outside their current patrol areas. Increases in costs associated with police services would be offset by increases in sales tax revenues associated with increased visitor traffic.

In response to concerns voiced by members of the public, the JPD has discussed whether connecting Juneau to the outside highway system would result in new types of crime or more serious crime. Currently, a very small percentage of local crime is associated with non-residents. Only 5 percent of arrests involve non-Juneau residents and less than 2 percent involve people from outside Alaska. Juneau also has very low rates for many of the crimes associated with more “connected” communities, such as gang activity and car theft. It has relatively higher incidence of crime that may be associated with isolation, e.g. domestic and alcohol-related crimes. One possibility that has been raised is that ending either a highway or mainline ferry service in Juneau would precipitate an “end-of-the-road” effect bringing to town more transients who are unable to support themselves and individuals with mental and behavioral problems. However, the U.S. and Canadian customs stations on the Haines and Skagway highways act as a significant filter in this regard. Existing screens include license plate, driver license and passport checks. Depending on the level of security alert, additional checks may be implemented.

While these may be valid concerns, the JPD believes there is not enough evidence or precedent to suggest that simply improving access would affect the nature and rates of local crime. Much more of a factor than access is Juneau’s distance from other population centers, particularly large cities. The JPD believes a highway connection might be associated with some increase in teen runaways and perhaps some additional auto theft and credit card incidents. There could be an increase in importation of illegal drugs; however, it is already relatively easy to move these substances in and out of Juneau. Adoption by Alaska of the Amber Alert system for child disappearance incidents would be one helpful mitigation, if a highway connection is built (Gummow, 2003).

The three Alaska State Troopers stationed in Juneau provide no local enforcement services and are fully occupied with responsibilities in surrounding rural communities. The equipment available to the Juneau-based troopers is limited to patrol cars and one 4-wheel drive vehicle (Tracy, 2003).

## Haines

**Fire Protection and EMS Services:** Increased traffic to and through Haines will place additional demands on the community's fire protection and EMS services. If fire and EMS personnel respond to incidents outside current service areas, it will reduce capacity to deliver normal services while those personnel and equipment are occupied. This would be most important with the West Lynn Canal alternative, which would result in a large increase in local traffic.

**Police Protection:** The Haines Police department does not expect any substantial impact from improved Juneau access. Most crime in Haines is local, in spite of their highway connection to the north. The department has 5 uniformed officers and 5 patrol cars and operates within the Townside Service Area from just beyond the airport to Mud Bay and Small Tracts Roads and 6 miles north to Lutak Inlet. Officers respond to areas outside of the Townside Service area on an availability basis. Depending on the emergency and officers existing responsibilities, personnel may be dispatched to outside areas. The department does not anticipate responding to incidents on an East Lynn Canal highway, but would respond to emergencies on a West Lynn Canal highway (Goodman, 2003).

The single Alaska State Trooper currently in Haines would have very little capacity to respond to any incidents resulting from improved access. The Troopers would anticipate a memorandum of understanding (MOU) between all regional enforcement agencies to define responsibilities for any new highway segments.

## Skagway

**Fire Protection and EMS Services:** Emergency response demands from additional highway traffic and a new roadway south of Skagway would impact the Skagway fire department (Beckner, 2003). Primarily, this is because the department's size and reliance on volunteers makes responding to multiple emergencies very challenging. Continued growth in demands on the department would mean a need for more paid staff (Beckner, 2003). A highway on the east side of Lynn Canal would improve access to some fire and rescue areas currently accessible only by water.

**Police Protection:** Skagway police would not expect a substantial increase in activity as a result of improved access. The department already adds two seasonal officers to address the influx of summer population and visitors, and this is enough to handle whatever additional demand is generated by a highway or improved ferry service. The department typically has two officers on duty around the clock. If a highway were built to Juneau, under most circumstances at least one officer would be available to respond to incidents on the additional 9 miles that would fall within Skagway city limits (Spurrier, 2003).

Police incidents in Skagway tend to involve one of four groups: residents, seasonal workers, cruise visitors, or Canadian visitors. Since three of the four groups constitute non-residents, the proportion of non-resident arrests is fairly high, perhaps 75 percent by department estimates. Police activity occasionally correlates with celebration of Canadian holidays by visitors driving down the Klondike Highway (Sexton, 1994; Spurrier, 2003).

## Comparison of Effects of Alternatives on Public Safety

In general, all-marine alternatives would have very little impact on public safety. Historically, the need to send fire and emergency personnel to address a ferry incident has arisen very infrequently. Marine alternatives calling for new terminals north of Auke Bay would be more challenging for safety personnel than the baseline

case. Incident response time would increase in proportion to the distance of the new terminals from either downtown Juneau or downtown Skagway.

To the extent that a marine alternative offers more frequent or faster service than the No Build Alternative, it would be slightly more useful for evacuation of emergency cases from Skagway and Haines to Juneau. However, air transport would remain the best evacuation method in most cases, weather permitting.

Of the highway alternatives, Alternatives 2 and 2C are the simplest for emergency response, because emergency personnel do not have to coordinate with shuttle ferry schedules. Currently, none of the emergency response agencies in the three communities own air or marine response equipment. Ferry terminals in remote areas may also be the site of vandalism and related incidents. Alternatives 2 and 2C would also have a slightly greater probability of highway-related emergencies, since it involves the most miles of driving. The implications of avalanche hazard for the various highway alternatives are addressed in the *Snow Avalanche Technical Studies*.

#### **3.3.1.4. General Effects on Quality of Life**

Improved access is viewed as having a positive impact on quality of life by most, but not all, residents of the three communities. The benefits of highway access are generally seen as stronger than those of the marine alternatives; however, so are the drawbacks. Travel between the three communities by local residents is projected to increase substantially if an East Lynn Canal highway is built.

The quality of life may be most improved for those Juneau residents who can't afford ferry fares or airfare associated with travel to outside destinations. Another quality of life benefit would simply be associated with having the alternative of driving to and from Juneau.

Overall, a highway would alter the character of the region in ways that are seen by some as mainly positive and by others as mainly negative. The prospect of eliminating ferry service in Lynn Canal altogether has not been explored in the public attitude research performed for either the initial Juneau Access DEIS or this supplementary analysis. Since Lynn Canal has had regular ferry service for more than 40 years, and a portion of residents in all three communities prefer ferry service to highway construction, it seems likely that elimination of ferry service north of Juneau would be seen by these residents as a negative impact on quality of life.

Residents of all three communities say that the main benefit of better access would be economic growth and more recreation opportunities, both of which would be best served by a highway alternative. Loss of wilderness and scenic values is seen as a drawback to highway construction in all three communities. This would be amplified if a highway led to visible logging or other industrial activity. Traffic impacts vary by community.

#### **Juneau**

**Overview:** More than three-quarters of Juneau residents agree that improved access to their community is important. There is less agreement on whether quality of life is best served by access via highway or via ferry service. Many proponents of a highway acknowledge that better ferry service would improve quality of life, but not enough. Many proponents of ferry service believe that, while better access is important, only ferry access would result in an overall improvement in quality of life.

The reasons for these differing views are complex and interwoven with how individuals view Juneau's unique status as the only state capital without highway



access. Research and public comment over the past two decades have shown that some residents cherish this condition while others deplore it. Further, improved transportation is generally associated with growth opportunities, and growth impacts quality of life. Finally, as was noted in the 1994 Juneau Access Socioeconomic Effects report, the isolation associated with lack of highway access induces a sense of psychological comfort in some residents and a feeling of frustration and “claustrophobia” in others.

**Survey Results:** In 2003, 32 percent of residents surveyed said improved transportation is important, and 46 percent said it is very important. Nearly three quarters of those surveyed said they would travel to or through Haines or Skagway more often if it were more convenient. Recreation is the most important reason for having improved access (cited by 73 percent of respondents).<sup>33</sup> Other reasons for better access include visiting friends and family (cited by 22 percent), combination business/recreation trips (cited by 19 percent), shopping (cited by 14 percent), and business or medical (cited by 5 percent each) (McDowell Group, 2003).

In the 1994 *Juneau Access Household Survey*, Juneau residents said benefits of improved access would include economic growth (41 percent), enhanced recreation (31 percent), and access to Juneau’s job market (29 percent). Negative impacts anticipated by respondents include social changes such as increased crime and transients in town (55 percent) and traffic from increased tourism (15 percent). Seventeen percent said they expected no negative impacts.

**Traffic Impacts:** Overall vehicle traffic between Juneau and either Haines or Skagway under a marine alternative is projected to be between 100 AADT to about 170 AADT in 2008, leaving substantial unmet Lynn Canal demand (the highest highway alternative is Alternative 2, with 510 AADT in 2008). The all-marine alternatives would also do little to increase local recreation traffic (i.e., day trips to the Berners Bay area, see below).

Highway alternatives would have a much larger impact on traffic, but still small relative to overall traffic in Juneau. The impact would be most noticeable in particular areas of town. The following discussion compares existing traffic (measured in 2002) with the traffic estimated to result if the highway alternatives were implemented (as of 2008).<sup>34</sup>

If the highway alternatives were placed in service, it is estimated that annual average daily traffic (AADT) between Juneau and both Haines and Skagway would increase from 80 AADT (the current ferry traffic) to a range of 310 to 510 AADT in 2008, depending on the highway alternative. The largest increase would result from Alternative 2. Traffic would be about twice as heavy in summer and half as heavy in winter as the annual daily average. In addition to this through traffic, local day trips for recreation along the roadway would also increase, as described below.

For reference, the AADT at Egan Drive near the Douglas Bridge in 2002 was approximately 19,000. South Franklin Street in the area of the Juneau Library had 4,500 AADT. Glacier Highway at Engineer’s Cutoff had 12,000 AADT and at the Auke Bay Ferry Terminal, 4,150 AADT.<sup>35</sup> North of the ferry terminal, traffic declines steadily, reaching about 800 AADT near Cohen Drive and 200 AADT as the road approaches Echo Cove.

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<sup>33</sup> Respondents were given the option of multiple answers.

<sup>34</sup> The actual implementation date for any new access alternative would be approximately 2008, assuming financing, design and construction move forward without unforeseen delays. Maximum projected traffic for a road in 2008 would be up to 50 AADT higher than the estimates below, reflecting approximately 2 percent per year growth in baseline demand that would occur regardless of Juneau Access.

<sup>35</sup> DOT&PF data for 2002.

Negative effects of traffic are most likely to be felt in the sparsely populated areas north of Auke Bay. The 510 AADT projected new through traffic represents a 55 percent increase near Cohen Drive, and a 150 percent increase at Echo Cove. The incremental increase in more populated areas, such as downtown Juneau, would be much less important. However, traffic on South Franklin Street is already recognized as badly congested and alternatives are under discussion to widen the street or provide a second route south to Thane Road.

The number of self-contained recreational vehicles (RVs) visiting Juneau would increase with improved access. The largest increase would result from Alternative 2, a continuous East Lynn Canal highway. It is estimated that the number of RVs visiting Juneau would increase from the current level of 900 per year to approximately 3,400 per year, if an East Lynn Canal highway were constructed by 2008. Ninety percent would visit during the summer, and they would stay in Juneau an average of about 3 days.

This means that, during the summer months in 2008, one would expect to encounter an average of about 60 RVs traveling on an East Lynn Canal highway in both directions. Peak weeks in the summer might yield 120 to 150 RVs traveling on the new highway. On average, the total number of RVs in Juneau on a summer day would be approximately 90. This is not enough to affect Egan Drive traffic. However, the RVs would slow traffic on two-lane roadways and contribute somewhat to congestion, particularly in the downtown core. Improved marine access would have much less impact on the number of RVs in Juneau, assuming ferry fares remain at current levels.

The 510 AADT traffic volume reported above for Alternative 2 represent vehicles traveling from Juneau through to Haines and Skagway and vice versa. In addition, alternatives with highway segments would generate more local traffic, since they would create opportunities for recreational day and camping trips by Juneau residents that would involve driving part way to Haines or Skagway and returning. The most obvious of these opportunities within the CBJ is the area of Berners Bay. Detailed analysis of this additional traffic has not been done, but local recreational trips resulting from Alternative 2 might add another 30 percent to the 200 existing AADT at Echo Cove. Combined with the 510 AADT from through traffic, this would mean a total of perhaps 800 AADT at what is now the northern end of the Juneau road system. This is comparable to the existing traffic at Cohen Drive and also at the central portion of Thane Road. It is also similar to traffic on the North Douglas Highway just before the Eaglecrest turnoff. Traffic on North Douglas after the Eaglecrest turnoff is approximately 400 AADT.

The amount of traffic actually observed on a day-to-day basis would vary considerably from the annual average daily traffic depending on the season. Traffic between Juneau and Haines or Skagway on a winter day would average as much as 250 vehicles if Alternative 2 were implemented, about half the AADT of 510. In the summer, traffic would increase to an average of about 900 vehicles, or nearly double the AADT.

By 2038, traffic between Juneau and Haines or Skagway would increase to 430 per day in winter and 1,645 per day in summer, under Alternative 2. Day recreation trips by Juneau residents could add another 600 to 700 AADT in summer in the area of Echo Cove and Berners Bay by 2038.

**Other Quality of Life Impacts:** Recreational areas between Auke Bay and Echo Cove would receive greater use as a result of the additional traffic associated with highway alternatives. This is particularly true of the Eagle Beach area, which is highly attractive and is visible and readily accessible from the road. Other popular local

recreation areas would also receive some additional use. In general, new highway segments would degrade the wilderness character of the areas they pass through. However, they would make access easier to the water and to backcountry areas between Echo Cove and Skagway or Haines.

Construction of a ferry terminal at Sawmill Cove and/or Slate Cove would also change the wilderness character of the area. Further alteration would occur, if a highway to the Berners Bay area precipitates industrial development on nearby private land, for example on property owned by Goldbelt, Inc. near Sawmill Creek. However, highway segments would also create access to new areas for hunting, fishing, and back country travel.

Improved access to Juneau and the small (approximately 1 percent) population increase associated with it, is not expected to alter residential and shopping patterns, though an overall increase in local spending will result from new visitors to town. The new traffic would encourage some residential and commercial development, particularly on private land north of Cohen Drive. Cultural institutions and opportunities would be largely unaffected. Some professional service providers in Juneau will find it easier to serve customers in Haines and Skagway, and, potentially, Whitehorse. This additional economic activity would benefit the community as a whole to the extent that it produces tax revenues in excess of the costs associated with increased traffic and visitors.

## Haines

**Overview:** Haines quality of life would benefit in a number of ways from improved access to Juneau. Better access to shopping, health care and other services; economic growth; increased tourism; and more recreation opportunities are potential benefits cited by Haines residents. Overall negative impacts cited include increases in crime, undesirable transients, traffic, and loss of local business sales (*Juneau Access Household Survey*, 1994).

The impacts of individual alternatives differ, however. The West Lynn Canal highway alternative would lead to the largest increase in Haines visitor traffic. An East Lynn Canal highway would tend to funnel traffic through Skagway. However, the overall increase in traffic would extend to Haines as well. Assuming that ferry service between Haines and Katzehin is relatively frequent and inexpensive, Alternative 2 would bring an estimated 48,000 additional visitors to Haines. An issue for any alternative would be how increased visitor spending in town would balance increased resident spending in Juneau. This report indicates Alternative 2 would result in net increase in spending in Haines of just under \$2 million in 2008.

Any improvement in access would increase travel to Haines by Juneau residents, primarily for weekend recreation. Here again, the West Lynn route favors visits to Haines, the East Lynn route favors visits to Skagway and its environs. Key factors are the cost and frequency of shuttle ferries, the type and number of recreation opportunities, and, to some extent, availability and cost of second-home and camping sites.

Improved access would increase the attractiveness of Haines as a retirement community – mainly through better access to Juneau health care – and as a location for vacation homes owned by Juneauites. The former is seen as an enhancement to quality of life by most Haines residents. The latter is viewed by some as a benefit (mainly economic) and by others a detraction, in view of more traffic and higher real estate costs.

All highway alternatives would result in some degradation of local views and wilderness character. This effect would be most pronounced with an East Lynn Canal highway, which would be visible from many places in Haines, as well as parts of Battery Point State Recreation Area and Chilkat State Park. A West Lynn Canal highway would alter views from the southwest side of Chilkat Peninsula, including Chilkat State Park.

**Traffic Impacts:** Haines is already oriented toward serving and accommodating visitor vehicle traffic. Over time, the additional traffic from a West Lynn Canal highway would cause some congestion in the downtown area. Parking is not likely to be an issue, as options for expanding downtown parking are fairly numerous. Partly as a result of Juneau recreational travel, there would be additional traffic on roads near Haines scenic attractions, for example Mud Bay Road and the Haines Highway in the vicinity of the Chilkat Bald Eagle Preserve.

**Survey Results:** When surveyed in 2003, 87 percent of Haines residents said improved access to Juneau is important (22 percent) or very important (65 percent). Most (67 percent) said ferry service is the best way to improve access; 29 percent chose a highway. Haines residents say they make an average of 8.8 trips per household per year to or through Juneau, according to survey results. The main reasons for traveling are business (19 percent), medical (19 percent), to connect with jet flights at Juneau Airport (18 percent), shopping (17 percent), vacation/recreation (16 percent), and visiting friends and relatives (10 percent).

### **Skagway**

**Overview:** In 1994, Skagway residents said that increased tourism, economic growth and enhanced recreation would be the main benefits. Negative impacts cited include increased crime, undesirable transients, and loss of spending in local businesses. Skagway is well located to act as an interim shopping/dining spot for travelers between Juneau and Whitehorse. This study indicates that the increase in visitor spending in Skagway would total \$5 million annually in 2008, far more than any potential increase in leakage.

Quality of life would decline to the extent that a highway corridor is visible from Skagway and nearby recreation areas.

**Survey Results:** In the 2003 survey, most Skagway residents said that improved access to Juneau is important (24 percent) or very important (59 percent). Residents said the best way to provide access is by ferry (60 percent); 35 percent chose a highway. On average Skagway residents make an average of 10.1 trips per household per year to Juneau. The main reasons for traveling are vacation/recreation (27 percent), to connect with jet flights at Juneau Airport (17 percent), business (17 percent), medical (16 percent), shopping (15 percent), and visiting friends and relatives (8 percent).

**Traffic Impacts:** Improved access would increase traffic in Skagway, with the East Lynn Canal highway alternatives having the biggest impact. An East Lynn Canal highway would produce new visitor traffic to and through Skagway of 100 to 320 AADT soon after the highway is built. The largest source of new traffic would be from Juneau resident travel, including through travel between Juneau and Whitehorse.

Traffic impacts would be most noticeable in the port/waterfront area and along Broadway Street. Since the majority of new traffic would occur in summer, and Skagway is already largely oriented around summer tourists, traffic impacts in the downtown area are not considered negative by many local residents (*Juneau Access Household Survey*, 1994). Similarly, land use patterns would not be expected to

change except for intensified use of what is already zoned for commercial use. However, there will be additional pressure on downtown parking. Additional parking may also be needed near the small boat harbor. The likelihood of new residential, commercial, or industrial use along any new roadway south of town is low because of the steep terrain.

### **Comparison of Effects of Alternatives on Quality of Life**

Overall, the highway alternatives have greater positive and negative impacts on quality of life than the marine alternatives. All the highway alternatives provide more convenient access than the marine alternatives. The cost of this convenience is greater impact on traffic, the character of the environment, public safety, and other areas described above, including loss of ferry service in Lynn Canal.

The marine alternatives do less to improve quality of life through convenient access than the highway alternatives. However, they have very few negative impacts on quality of life. The major negative impacts are associated with building a new terminal at Sawmill Cove, which would have some of the same traffic and environmental impacts as the highway alternatives, though to a lesser extent.

In addition to the complex and often confounding implications of the highway vs. marine debate, specific highway alternatives have different quality of life implications for all three communities. The character of Berners Bay is much more affected by East Lynn Canal highway alternatives than by the West Lynn highway alternative. In order of impact on Berners Bay, Alternatives 2, 2 B, and 2C have the most impact, since they call for a highway around the perimeter of the bay. Alternative 2A has somewhat less impact, since it calls for two ferry terminals in the bay – at Sawmill Cove and Slate Cove – and thereby eliminates need for a highway along much of the bay's shoreline. Alternative 3 has the least impact on the bay of the highway alternatives, since all traffic on the East Side of Lynn Canal would end at Sawmill Cove.

All the highway alternatives and two of the marine alternatives (Alternative 4B and 4D) call for new highway construction at least as far as Sawmill Cove, and therefore make it more likely that there will be commercial or industrial development along Glacier Highway north of Auke Bay and on Goldbelt Inc. property near Sawmill Cove. Kensington Mine officials say that highway development is not a requirement for operation of the mine, which is currently being evaluated for development, just north of Berners Bay. However, once the mine is open, an East Lynn Canal highway would make employment there more feasible for Skagway and Haines residents, who could then commute to work. An East Lynn Canal highway would also facilitate purchases of occasional supplies in Juneau and make medevac of mine workers less weather dependent. Most of the industrial supplies needed to operate the mine would be transported directly to the site by water, regardless of improved highway or ferry access to Juneau.

The No Build Alternative, following, discusses the unusual nature of the baseline alternative. Sections on the other alternatives, below, address mainly the relative impact of the alternatives on travel convenience, which is one aspect of quality of life. Judged purely by convenience – a combination of the number of opportunities to travel and the overall time needed to get from one point to another, Alternative 2 is the most convenient, followed in descending order by 2C, 2A, 2B, 3, 4B, 4A, 4D, and 4C. This ranking for a blend of all user of the Lynn Canal surface transportation infrastructure.

### **3.3.2. Alternative 1 – No Build**

Alternative 1, the No Build alternative, is not synonymous with existing service. Rather, it incorporates some existing ferry service and some new service (FVF voyages between Juneau and Haines and Juneau and Skagway), that will commence in summer of 2004 (the No Build Alternative also includes a dedicated Haines/Skagway shuttle ferry). In that respect, the social impacts of the No Build Alternative are not known. For example, ferry service is viewed, rightly or wrongly, as somewhat undependable. To an extent, this is a result of tidal, mechanical, navigation, and loading/unloading delays that may or may not affect the new FVFs. As a result, perceptions of ferry dependability may change under Alternative 1.

In addition to the uncertain impacts of FVF service, a number of other actions by the Alaska Marine Highway System could affect traffic independently of the alternatives. These actions could alter the social impacts of ferry service. Among these are better reservations procedures and equipment that would make it easier to get reservations on short notice, better load management that would make it less likely that a particular voyage is sold out, and lower or special fares resulting from more efficient service (including better load management) or government policy.

### **3.3.3. Alternative 2 – East Lynn Canal Highway**

An East Lynn Canal highway is the most attractive alternative for vehicle travelers between Skagway and Juneau. For travelers between Haines and Juneau, Alternative 2 and Alternative 3 are approximately equal with respect to the balance of user cost, time, and convenience. Alternative 2B results in approximately equal convenience for all travelers, regardless of destination, since everyone must ferry from Katzechin to either Haines or Skagway. Alternative 2C requires driving through Skagway to travel between Haines and Juneau, and is therefore less attractive as a highway alternatives for residents of Haines and for residents of Juneau who are primarily interested in traveling to Haines.

Since large groups tend to have less scheduling flexibility than individuals and small groups, Alternative 2 is particularly attractive for students, cultural groups, the military, tour groups, and others who travel by bus or on the same schedule in multiple vehicles.

Where speed and reliability are priorities, such as with medical transfers, Alternatives 2 and 2C provides the best route between Juneau and Skagway, but again are less attractive between Juneau and Haines.

### **3.3.4. Alternative 3 – West Lynn Canal Highway**

For travelers between Haines and Juneau, the East Lynn Canal highway (Alternative 2) and the West Lynn highway (Alternative 3) are approximately equal with respect to the balance of cost, time, and convenience. Both the east and west highway alternatives provide more convenient access at lower cost to users than the marine alternatives.

### **3.3.5. Alternative 4 – Improved AMHS Service**

As with the No Build alternative, perceptions of ferry dependability may change given the proposed addition of the FVF Fairweather beginning in 2004 and the other procedure and equipment changes about to be implemented by AMHS. Under Alternative 4, the perception of reliability, dependability, and convenience may be greatly enhanced. If that is the case, the social aspects would be improved.