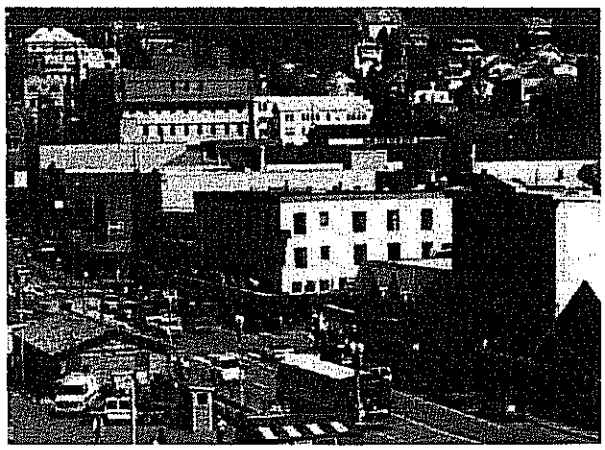
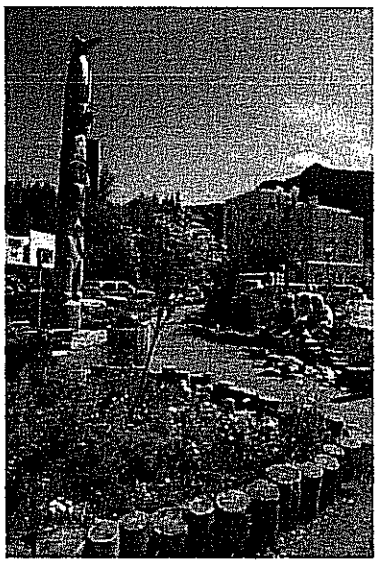
Ketchikan Gateway Borough

FY 2004 - 2008
TRANSIT DEVELOPMENT PLAN
UPDATE





Final Report
October 2003

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consulting associates

Ketchikan Gateway Borough
FY 2004 – 2008 Transit Development Plan
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This report was prepared by Nelson\Nygaard Consulting Associates under contract to the Ketchikan Gateway Borough. Funding assistance was provided by the United States Department of Transportation, Federal Transit Administration (FTA), and the State of Alaska Department of Transportation and Public Facilities (ADOT/PF).

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Executive Summary

The FY 2004-2008 Transit Development Plan (TDP) is the result of a six-month process of formulating a short-range improvement program for the Ketchikan local bus system. The Ketchikan Gateway Borough has been responsible for public transit since 1986. The system has evolved considerably over the years, from a single bus running along Tongass Avenue into the present two-route, four-bus fixed route service, and complementary paratransit service per the requirements of the Americans with Disabilities Act (ADA). Local route coverage expanded into Bear Valley in 1989, into the Baranof-Carlanna neighborhoods in 1997, and to Saxman and the North Shoreline in 2002.

Annual fixed route passenger boardings rose to nearly 192,000 in FY 2003, reflecting a 30% increase over FY 2002, and a 44% cumulative increase since FY 2001. These data indicate strong demand for transit service in Ketchikan, among both residents and summertime visitors. Not surprisingly, transit ridership is heavily oriented to the Tongass Avenue corridor and downtown Ketchikan. The most common transit destinations are in the vicinity of Tongass and Jefferson, including Plaza Mall and Tongass Towers, and at various downtown stops such as the Public Library, Front Street, and the Federal Building. Other relatively popular destinations include Ketchikan General Hospital, Saxman, Walmart, and the Woodside Apartments in Bear Valley.

Customer survey results suggest that a majority of resident transit customers use the system frequently. Over 55% of respondents ride five or more days per week, and 83% ride at least twice per week. Nevertheless, just four percent indicated that they would not make their trip if *The Bus* were not available. Forty percent would walk as an alternative to taking the bus; 20% would take a taxi; 16% would arrange for a ride with a friend or family member; and eight percent would hitchhike. Less than four percent would drive alone if the bus were not available, which tends to confirm that most regular bus riders do not have regular access to an automobile.

An additional 6,500 passengers with disabilities rode complementary paratransit service operated under contract to the Borough by Ketchikan Senior Center. Eligibility for this service is restricted to those persons with mobility limitations as defined by ADA.

Optimism about further transit system expansion in the next five years must be tempered with the recognition that the approved FY 2004 transit operating budget is 35% less than FY 2003 actual transit operating expenses, and that

short-term fiscal expectations for the Borough are not necessarily positive. Given the dependence of the transit system on local revenues, the practical course for the Borough is to strategically reduce service levels and administrative costs to levels sustainable by available resources.

The approach of this TDP is to provide the Borough Assembly with some flexibility in defining the five-year horizon for the public transit system. Three system development scenarios are offered to address the uncertain fiscal conditions that likely will cloud the transit planning process for the next several years:

- *Unconstrained System Development* – Recommendations are based on recent past performance and demand considerations, without specific concern for the approved FY 2004 transit operating budget.

- *Constrained System Development* – Recommendations are based on providing the best possible transit service within the limitations of the approved FY 2004 operating budget, adjusted for inflation.

- *System Growth Opportunities* – Preliminary recommendations for geographic expansion of the transit system are presented for discussion purposes, and should be considered in addition to the unconstrained development scenario as funding permits.

The recommended five-year service plan assumes the constrained system development scenario, and defines a maximum annual output of 15,000 service hours annually through FY 2007. Recognizing that fiscal conditions could improve by FY 2008, the plan also identifies incremental steps required to upgrade to the unconstrained system level of 23,500 annual service hours. During FY 2003, the system operated 23,768 scheduled service hours.

The system evaluation observed that the transit program is well managed on a day-to-day basis, and is in compliance with all applicable laws and regulations. Functionally, transit is part of the Public Works Department. This is a common form of organization among public transit systems under the purview of small cities or rural county governments. Management and supervisory responsibilities are concentrated under a full-time transit manager, with some assistance from a lead driver. This is considered an appropriate staffing level for the Ketchikan transit system, and is consistent with peer system practices. Under more favorable budget conditions, no significant changes in organizational location or management staffing approach would be recommended.

However, the likelihood of downsized operations in FY 2004 is reasonable cause to conclude that the transit system may no longer be able to afford a full-time

manager. Given that appropriate reductions in system overhead expenses will lessen the need for service cuts, it is suggested that the transit manager be reduced to a half-time position for the foreseeable future. Full-time status presumably would be restored in FY 2008, or when the unconstrained system plan is implemented.

The Borough currently owns and operates six buses, leases a garage at 715 Stedman Street, conducts most transit maintenance at the Borough's central garage in Ward Cove, and maintains passenger shelters erected in the last few years along Tongass Avenue by ADOT&PF. A proposed five-year, $2.9 million capital improvement plan is designed to replace and supplement these assets.

Consistent with the previous TDP and the preferences of transit staff, it is recommended that the Borough replace its three medium, light-duty International buses and rehabilitate one or both standard, heavy-duty Gillig buses in FY 2006. These actions are necessary to support transit operations at the constrained system level of service. The projects coincide with the approved FY 2004-06 State Transportation Improvement Program (STIP), which provides $1,188,000 of federal Surface Transportation Program (STP) and State matching funds to purchase three new low floor heavy-duty buses and refurbish the two Gilligs.

Two additional new buses would be needed to support operations at the unconstrained system service level. Assuming that adequate funding is available to support the unconstrained service plan in FY 2008, funding for the additional buses would need to be programmed in the FY 2007 STIP.

A continuing concern for the Borough is that the transit system lacks a permanent facility capable of housing operations and maintenance at a common location. The Stedman garage cannot effectively accommodate vehicle maintenance, which is performed in the Borough garage in Ward Cove, and is isolated from transit operations. The recommended short-range strategy is to vacate the Stedman garage, and consolidate transit operations and maintenance activities in a single facility already owned by the Borough. Preferably, the facility should be situated on one or both bus routes, or otherwise within the current transit service area. Transit management staff considers the Schoenbar warehouse property as a viable interim site. Alternatively, vehicle operations could relocate to the Borough central garage in Ward Cove, where vehicle maintenance already is performed.

As a longer term strategy, the Borough should definitively assess the need for a new transit operations and maintenance facility, possibly in context of other publicly operated vehicle fleets in the Ketchikan area. The desirability of a new facility owned by the Borough is highly contingent upon whether the Borough

continues to operate the transit system directly, or alternatively considers contracting with the private sector for vehicle operations and maintenance.
The recommended capital plan provides for the installation of additional passenger shelters at local bus stops. Shelters are uniquely beneficial in the Ketchikan climate, and contribute directly to enhanced customer safety and comfort. A total of $265,000 in FY 2004 and FY 2005 were previously incorporated into approved STIP, and an additional $100,000 is suggested in both FY 2007 and FY 2008.

Total transit operating costs are expected to increase from the budgeted $581,700 in FY 2004, to approximately $653,800 by FY 2007, assuming a constant service level and a 4% inflation rate. Operating costs would rise sharply in FY 2008 to an estimated $1,039,000, assuming that the unconstrained system service level is implemented in July 2007.

Since Ketchikan fares already are high relative to peer transit systems, no fare increase is suggested until FY 2006. A 15% across-the-board fare increase is proposed to take effect on July 1, 2005. In the interim, fare restructuring is proposed to rationalize fare categories and simplify fare payment for transit customers. Given the physical layout of the transit service area, a three-zone fare concept is recommended.

The service and fare changes contemplated in this plan would impose significant changes on existing transit customers. An effective public information effort is strongly recommended to advise transit customers and the general public of route and schedule changes, and the new fare structure. This should be undertaken in the context of a moderate marketing plan that recognizes staffing and budget realities.

1 INTRODUCTION

The Ketchikan Gateway Borough is the local public transit service provider in the Southeast Alaskan cities of Ketchikan and Saxman, and portions of the unincorporated North Shoreline area along the Tongass Highway. The Transit Development Plan (TDP) is both a process and a document that incorporates a comprehensive evaluation of fixed route and complementary paratransit services operating in Ketchikan, and a short-range plan for maintaining and improving the system. The TDP is updated every five years. The previous plan was completed in September 1999. This TDP addresses FY 2004 through FY 2008.

1.1 Purpose of the TDP

The TDP is useful is several respects. As a practical matter, a documented five-year plan is a prerequisite for receiving Federal Transit Administration (FTA) grant funds through the State of Alaska Department of Transportation & Public Facilities (ADOT/PF). Ketchikan is a recipient of FTA Section 5311 funds that typically pay for 80% or more of all capital expenses, and a much smaller portion of system operating and administrative costs. The Borough also is potentially eligible for FTA Section 5310 and 5320 funds, although has not received such funds in recent years. ADOT/PF allocates federal funds to Alaska's non-urbanized area transit systems and human service transportation providers as part of a statewide planning process mandated by the federal government.

Secondly, the TDP is the localized extension of statewide transportation planning efforts, including the *Vision: 2020* Statewide Transportation Policy Plan, and Southeast Alaska Area Transportation Plan. State plans collectively describe a multi-modal transportation system for Ketchikan and Southeast Alaska, generally focusing on roadway and ferry system development. Public transit systems in Alaska typically are under the control of local governments, which are responsible for appropriate planning as necessary to ensure that they are well run and meet the public need.

Third, the TDP offers the Borough with an objective and professional method of assessing transit system performance in considerable detail once every five years. The process leads to recommendations for improving the efficiency and effectiveness of transit services consistent with locally adopted goals and objectives. Thus, the TDP is a key resource that the Borough can utilize to confirm that directly-operated fixed route and contract-operated paratransit

services are well-designed, efficiently delivered and effectively managed on an ongoing basis. The TDP is funded by ADOT/PF, using primarily federal transportation planning funds.

1.2 Community and Demographic Conditions

Bounded by British Columbia on the east and the Gulf of Alaska on the west, the Ketchikan Gateway Borough encompasses 1,233 square miles of the southeastern tip of the Alaska panhandle. The Borough had an estimated 2001 population of 13,782[1] persons. Population has been declining for several years, due to the 1997 closure of the Ketchikan Pulp Mill, multiple years of price weakness in the fishing industry, recent public workforce reductions, and other factors. A more recent population estimate is about 12,000 persons.[2]

Two-thirds of all Borough residents live in two principal cities located on the southwest shore of Revillagigedo Island, including Ketchikan (7,951 residents) and Saxman (401 residents). Smaller population centers consist of the North Shoreline and Ward Cove to the north of Ketchikan, and Mountain Point and Herring Cove to the south of Saxman.

The Ketchikan area is economically dependent on fishing, seafood processing, logging, government and tourism. Economic conditions have deteriorated during the last five to ten years, with resulting job losses in all sectors except tourism. Recent state data indicates that there were about 570 employers and 7,000 employees in the Ketchikan Borough in 2001. Nearly 80% of all employers had a small workforce consisting of nine or fewer employees, and only 23 employers had a workforce of over 50 employees.[3]

Ketchikan's largest employers include Ketchikan General Hospital, Ketchikan Borough School District, and the City of Ketchikan, each with over 250 employees. Local employers with 100-249 employees include: Walmart; Community Connections; Ketchikan Gateway Borough; Ketchikan Indian Corporation; ADOT/PF; and the US Department of Agriculture. Those with 50-99 employees include: Alaska Airlines; Alaska Ship & Drydock; Cape Fox Corporation; 1st Bank; McDonalds; Norquest Seafoods; Pacific Log & Lumber; Safeway Markets; Ward Cove Packing; and Williams, Inc.

[1] Source: Ketchikan Borough QuickFacts from the US Census Bureau. Posted on census.gov website, August 2003.
[2] Discussion with R. Eckert and S. Corporon, September 9, 2003.
[3] Alaska Department of Labor website; Workforce Info; Ketchikan Gateway Borough Regional Profile, 2001.

The 2000 federal census data reported an average commute travel time of 14.8 minutes, relatively short in comparison to small communities elsewhere in the United States. More than 15% of the local population is native Alaskan, and many rely on subsidence activities to supplement work-related income.

Ketchikan plays an important role as a regional center for medical, education, government and business services. Medical facilities include Ketchikan General Hospital, US Public Health Service, and the KIC Tribal Health Center. Major public facilities include the US Coast Guard Integrated Support Command, Tongass National Forest administrative headquarters, University of Alaska-Southeast (UAS) campus, and various federal, state and local offices concentrated primarily in downtown Ketchikan. Major retail stores include Walmart, Carr's Grocery in the Plaza Mall, Tatsuda's IGA, and A&P Family Market. Many downtown shops, restaurants and hotels increasingly cater to the seasonal cruise ship industry, which brought over 650,000 visitors to Ketchikan last year during the four-month summer season. Employment opportunities in recreational services and retail trade have grown considerably in recent years.

Ketchikan also serves as the transportation hub for the region, with an international airport located across the Tongass Narrows on the east shore of Gravina Island, and direct commercial jet service to Juneau and Seattle. Ketchikan is a regular stop on the Alaska Marine Highway System (AMHS), and a terminal for the Inter-Island ferry service to Prince of Wales Island. The community is also served by several general aviation and ocean freight providers.

The demographics of the Ketchikan Borough, which reflect unique conditions in Alaska, play a significant role in defining local public transportation needs. The average age of the local population is considerably younger than many Lower 48 communities, as shown by 2000 census data, which reported that persons under 18 years of age accounted for 35.1% of all residents, while those 65 years of age and older accounted for just 7.9% of the total population.

Several local development initiatives are expected to have an effect on public transportation needs in the foreseeable future. First, it is anticipated that new ferry service will be inaugurated on the 16.5 nautical mile run between Ketchikan and Metlakatla to the south. A new vessel with a capacity for 149 passengers and 18 passenger vehicles is expected to begin service in FY 2004 or FY 2005. An interim ferry terminal will be located at the Saxman Seaport, which is already served by the fixed route bus system. However, a permanent terminal may be constructed south of Saxman, beyond the reaches of the current transit route network.

A second project of local significance is the construction of the new Third Street extension in the City of Ketchikan. This new roadway link will connect the Bear Valley neighborhood more directly to the business district in the vicinity of Plaza Mall, and may offer improved transit routing opportunities in the future. A third project that could eventually have a major effect on the transit system is the Gravina Access Project. Construction of a bridge to Gravina Island is under discussion, but is unlikely to be completed before the end of the current five-year planning period.

1.3 Organization of this Report

The remaining chapters and appendices document the transit development planning process for the Ketchikan Gateway Borough, and define the FY 2004-2008 TDP.

Chapter 2 presents the results of a comprehensive evaluation of the existing transit system, including *'The Bus'* fixed route service and complementary paratransit service provided by the Ketchikan Senior Center under contract to the Borough.

An updated performance measurement process is described in Chapter 3. This provides an evaluation framework for the transit program, including goals, objectives, measures and standards appropriate for monitoring and assessing performance on a routine basis.

Inter-related service, management, capital, financial and marketing recommendations are presented in Chapter 4. These plan elements contain detailed proposals for route and schedule modifications, fare restructuring, facility improvements, and management initiatives.

The technical appendices at the end of the document provide selected data on which these recommendations are based.

2 EXISTING TRANSIT SERVICES

The Ketchikan Borough assumed responsibility for public transportation in 1986, following discontinuation of a privately operated service that began three years earlier with a bus funded by the State of Alaska. A single bus operating on Tongass Avenue in the City of Ketchikan briefly was extended to Saxman, but reverted to the original route after several weeks due to low ridership. Subsequent adjustments were minor until 1989, when a second bus was added and the route was extended via Deermount Street into Bear Valley. One-way loop service was introduced in the Baranof-Carlanna neighborhood in late 1997, forming the basic structure of the route that became known as the Green Line in January 2002, when a third bus was added to begin Blue Line service to Saxman and the North Shoreline. A second bus was added to the Blue Line in May 2002, bringing the system up to the present four vehicles in daily service.

2.1 The Bus - Fixed Route System

The Green Line operates within the City of Ketchikan, linking the predominantly residential Bear Valley and Carlanna Lake Road neighborhoods with commercial business and retail destinations along Tongass Avenue and in the downtown area. Two buses support a 30-minute frequency on weekdays and Saturdays from 5:15 am until 9:45 pm, and on Sundays between 8:45 am and 3:45 pm. No service is provided on New Year's Day, Independence Day, Thanksgiving Day and Christmas Day.

Seen in Figure 2-1, southbound Green Line service originates in the Airport Ferry parking lot near the north end of the city, and travels southeast on Tongass Avenue to Carlanna Lake Road. The route turns north on Carlanna, heading up the hill to Baranof Avenue, and turns northwest to run a one-way loop consisting of Buren Road, Alaska Avenue, Tower Road and Baranof. The route continues east on Baranof across Carlanna to Jackson and Seventh Street to the UAS campus on College Court. Looping through the campus parking lot, Green Line buses pass Ketchikan High School as they return to Tongass Avenue via College and Jefferson Street.

Green Line service runs in both directions on Tongass Avenue and Water Street between Jefferson and downtown Ketchikan. Departing downtown, southbound service proceeds via Stedman Street to Deermount Street, near Tatsuda's Market. Turning north on Deermount, the Green Line passes City Park on Fair Street and Park Avenue before turning onto Schoenbar Road toward Bear Valley. The route ends in a loop comprised of Fairy Chasm, Brown Deer Road, and returning to Schoenbar. The scheduled terminal point for southbound service is on Schoenbar Road, adjacent to Valley Elementary School.

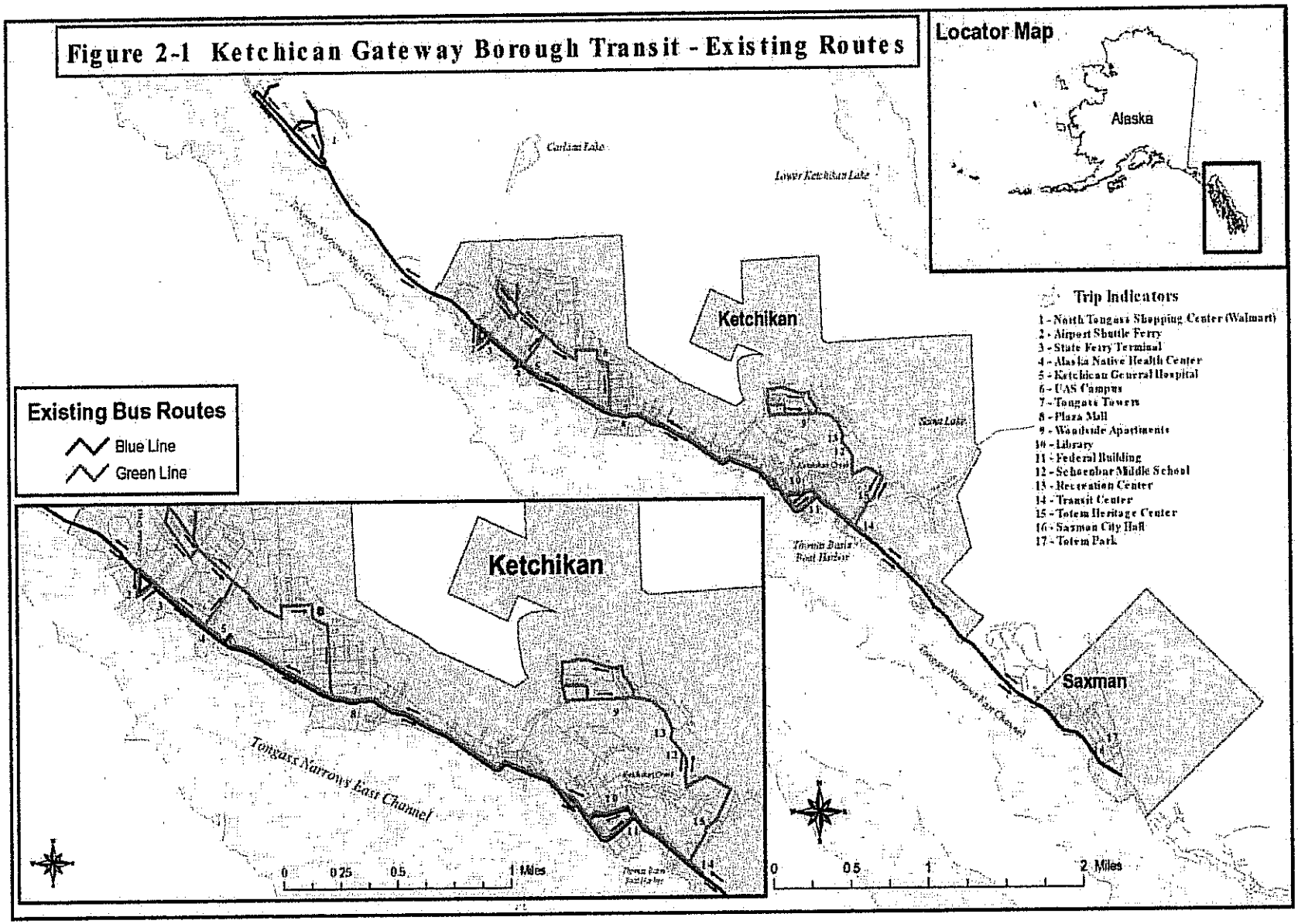


Figure 2-1 Ketchican Gateway Borough Transit - Existing Routes

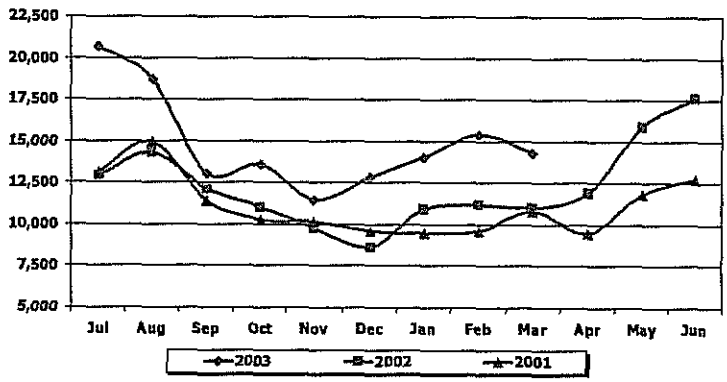
Northbound service from Bear Valley follows the reverse alignment to the intersection of Tongass and Jefferson, near the Plaza Mall. The route becomes one-way at this point, proceeding north on Tongass Avenue via Ketchikan General Hospital to the Airport Ferry parking lot.

The Blue Line runs almost exclusively in the Tongass Highway corridor, from Spaeth Road on the North Shoreline through the city to the Saxman Seaport at Meridian Street, south of the Saxman City Hall and Totem Park. The route was implemented in two phases, beginning in January 2002 with one bus running on an hourly schedule. A second bus was added in May 2002, and the schedule frequency was improved to half-hourly. Blue Line buses operate on weekdays and Saturdays from 6:00 am until 11:00 pm, and on Sundays between 9:00 am and 4:00 pm. Schedules are coordinated with the Green Line to provide even spacing between southbound trips departing from the Plaza Mall toward downtown Ketchikan.

Ridership and Productivity

Local bus ridership increased by 44% over the last two fiscal years, indicating strong demand for transit service in Ketchikan. The four-bus system generated 134,130 total passenger boardings through the first nine months of FY 2003, reflecting a 31.5% over the comparable period in FY 2002. The system generated 147,513 boardings in FY 2002, which was 10.5% above the previous FY 2001. Monthly ridership trends since July 2001 are illustrated in Figure 2-2, and reveal considerably higher ridership during the summer months. For example, monthly ridership was nearly 20,700 passengers in July 2002, compared with 11,500 passengers in November 2002.

Figure 2-2
Total Monthly Ridership
FY 2001 - 2003

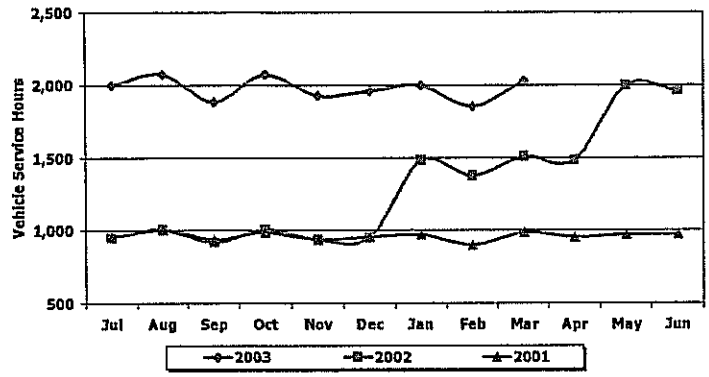


While the recent ridership gains are impressive, the productivity of the system actually declined by 34% in the last two fiscal years. This drop is the result of a nearly 105% increase in the annual number of vehicle service hours operated between FY 2001 and FY 2003. This change is seen in Figure 2-3. Local buses are projected to carry an average 7.6 passengers per vehicle service hour in FY 2003, compared to 9.5 passengers per hour in FY 2002, and 11.6 passengers per hour in FY 2001. Base operating statistics are provided in Tables D-1 through D-3 in Appendix D.

The Bus carried 584 one-way passengers per average weekday through the first nine months of FY 2003, of which approximately 55% rode the Green Line. Average

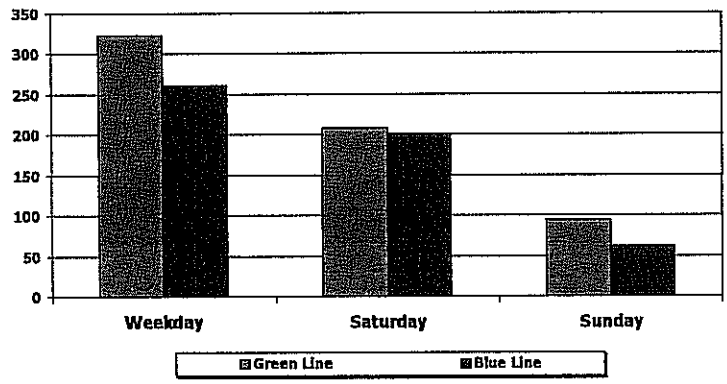
Saturday ridership during this period was 409 one-way passengers, and almost evenly distributed between the two routes. Average Sunday ridership was 156 passengers, of which 61% rode the Green Line. These data are displayed in Figure 2-4.

Figure 2-3
Monthly Service Hours
FY 2001 - 2003



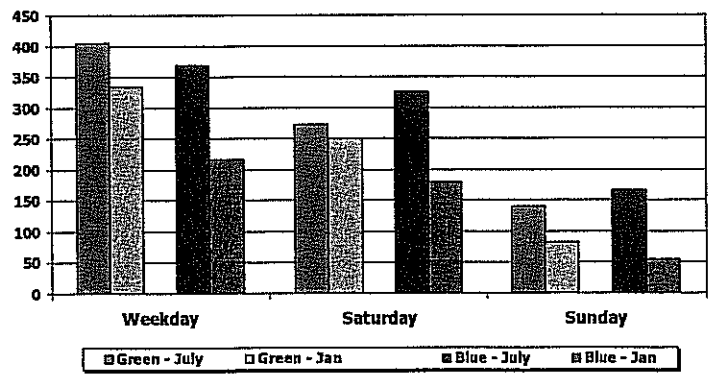
Daily ridership data show that the Blue Line garners a large share of the additional summer patronage generated on the system. This appears true on weekdays, Saturdays and Sundays, as seen in Figure 2-5. Average weekday boardings on the Blue Line declined from 369 in July 2002 to 217 in January 2003, a 41% drop. Meanwhile, average weekday Green Line boardings declined just 17.5% in the same monthly comparison, from 405 to 334. On Saturdays, Blue Line ridership in January 2003 was 45% below the previous July, compared with an 8.3% decrease on the Green Line. Similarly, Sunday Blue Line ridership in January 2003 was 66.7% lower than during the previous July, compared with a 41.6% decrease on the Green Line. These data confirm that while both the Blue and Green Lines experience ridership gains in the summer months, the Blue Line is much more appealing to visitors. Transit drivers suggest that the Saxman Totem Park and Walmart are the two destinations most sought by visitors who ride the bus.

Figure 2-4
Average Daily Ridership
FY 2003



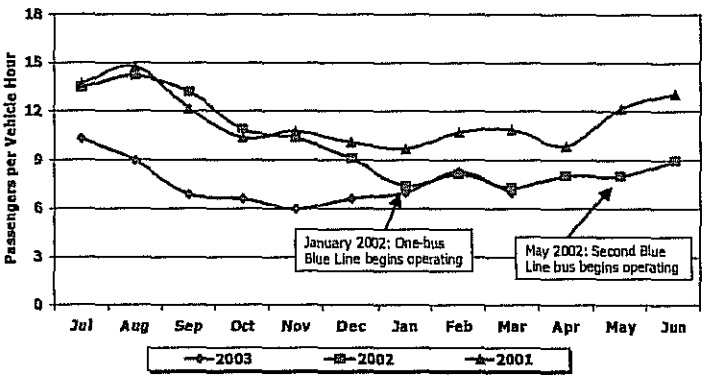
Three-year trends in Blue and Green Line service productivity are displayed in Figure 2-6. These data show that *The Bus* operated in the range of 10 to 14 passengers per

Figure 2-5
Seasonal Variations in Average Daily Ridership
FY 2003



vehicle service hour during FY 2001, and during the first six months of FY 2002 through December 31, 2001. Blue Line service to Saxman began in January 2002, adding a third bus to daily operation that increased the number of monthly vehicle service hours operated by 50%. System productivity declined by 30% during the second half of FY 2002, to between seven and nine passengers per service hour. Following the addition of the fourth bus to the system in May 2002, productivity declined further, to a low of six passengers per service hour in November 2002. This trend appears to have leveled off in the recent months of January through March 2003, as service productivity was the same in the year-over-year comparison to FY 2002.

Figure 2-6
Monthly Service Productivity
FY 2001 - 2003



Average weekday passenger boardings by route and one-way trip are summarized in Figures A-1 and A-2 in Appendix A. Detailed boardings and alightings by one-way trip and bus stop are compiled in Tables A-1 through A-4. These data, which are based on system ridership counts collected on April 8-9, 2003, suggest no significant capacity issues during the months of September through May. Green Line traffic is somewhat higher than the Blue Line, although standees or pass-ups caused by overloading on either route are rare occurrences except in summer months. Green Line buses typically carry four to ten passengers per one-way trip on weekdays, while Blue Line buses pick up from two to seven passengers per one-way trip. The maximum number of boardings on any weekday trip during the two days surveyed was 15, occurring shortly after 5:00 pm on the Green Line. Generally, ridership was higher during the P.M. peak than at other times of the service day.

It should be noted that these data do not necessarily reflect summertime conditions, when average daily ridership is about one-third higher than during April. Transit drivers report occasional overcrowding on individual trips during the months of June through August, primarily on Blue Line buses departing downtown within the first two hours following the arrival of a cruise ship. Up to five ships per day call at Ketchikan in the height of the summer season.

Schedule Reliability

Comparative scheduled and actual travel times by route and direction are compiled in Figures B-1 and B-2 in Appendix B. These data, which are based on system running times observed by on-board data collectors on April 8-9, 2003, highlight the extent to which actual running times deviate from the scheduled times published in the public timetable. The existing Blue Line schedule appears to have adequate or slightly excess

running time on morning and early afternoon trips. Beginning at about 1:00 pm, northbound trips may run two to four minutes late until 5:00 pm. The data suggests that weeknight trips after 7:00 pm may run significantly behind schedule.

The existing Green Line schedule appears to have sufficient running time, although adjustments may be needed to balance running times by direction. For example, while there appears to be excess running time on northbound trips until approximately 12:00 noon, the extra time is offset by insufficient time on southbound trips. The same condition seems to occur on late evening and weeknight trips. Only during the PM peak does it appear that additional time may need to be added to the schedule cycle to ensure a high level of schedule adherence.

Passenger and Travel Characteristics

An onboard passenger survey was conducted aboard Blue and Green Line buses in April 2003. Its purpose was to develop a profile of current riders, and to better understand their perceptions of the existing system. The questionnaire was designed to elicit origin-destination information, mode of access, perceptions of transit travel time, preferences toward a number of potential future service improvements, and demographic information from respondents. Copies of the questionnaire and response distributions are contained in Appendix C. A total of 302 completed surveys were returned, representing an estimated two-thirds to three-quarters of the unduplicated weekday riders who actually used the bus on the survey days.

Survey results suggest that a majority of transit customers use the system frequently. Over 55% of respondents ride five or more days per week, and 83% ride at least twice per week. Nevertheless, just four percent indicated that they would not make their trip if *The Bus* were not available. Forty percent would walk as an alternative to taking the bus; 20% would take a taxi; 16% would arrange for a ride with a friend or family member; and eight percent would hitchhike. Less than four percent would drive alone if the bus were not available, suggesting a relatively low level of auto availability among frequent bus riders. Just over half of all respondents made a round trip on *The Bus* on the days surveyed, indicating that transit customers frequently use a combination of travel modes to fulfill their daily travel needs. The overwhelming majority of respondents surveyed were area residents, which was expected in the spring.

On-board data collection personnel also counted 100% of the passengers boarding and alighting all trips on two weekdays during April 2003. Data from the two days were averaged to provide an accurate representation of the distribution of boardings and alightings by bus stop for analysis purposes. These data reflected average ridership of 529 boardings per day.

Not surprisingly, transit ridership is heavily oriented to the Tongass Avenue corridor and downtown Ketchikan. Nearly 70% of all weekday boardings occur at 11 bus stops listed

in Table 2-1. Cumulative boardings and alightings at these locations are displayed in Figure 2-7.

The most common transit destinations are in the vicinity of Tongass and Jefferson, where the pair of bus stops serving the Plaza Mall (southbound) and Tongass Towers (northbound) generate approximately 125 weekday boardings, or about 21% of average weekday ridership. A similar number are generated at four downtown stops, including the Public Library, Front Street, and the Federal Building. Other common destinations include Ketchikan General Hospital, Saxman, Walmart, and the Woodside Apartments in Bear Valley. A mapped distribution of boardings at all bus stops is provided in Figure 2-8 for the Green Line, and in Figure 2-9 for the Blue Line.

Figure 2-7
Common Transit Destinations
Boardings & Alightings per Average Weekday

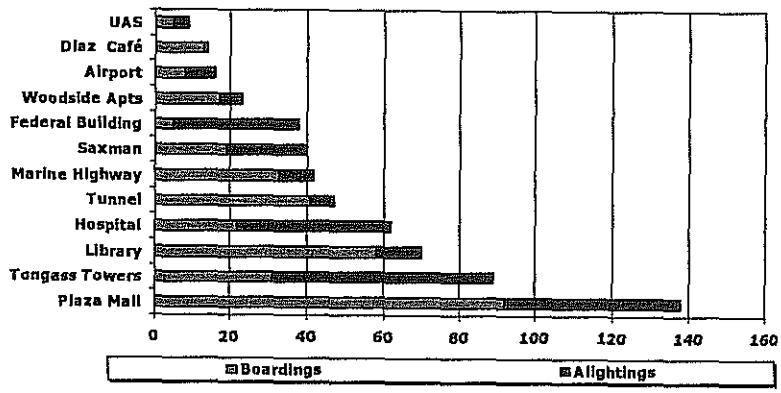


TABLE 2-1
KETCHIKAN BOROUGH TRANSIT
WEEKDAY TOP TEN BOARDING LOCATIONS
APRIL 2003

Bus Stop	Weekday Boardings	Percent of Total
Plaza Mall (SB)	92	17.4
Library (NB)	58	11.0
Front & Grant (Tunnel) (NB)	41	7.8
Marine Highway dock (SB)	33	6.2
Tongass Towers (NB)	31	5.9
Walmart	26	4.9
General Hospital	22	4.2
Saxman (all stops)	19	3.6
Woodside Apartments	17	3.2
Airport Ferry (NB & SB)	15	2.8
Subtotal	**354**	**67.0**
Other Stops	175	33.0
Total	**529**	**100.0**

Reported trip origins and destinations were cross-tabulated to identify prevailing travel patterns among Green and Blue Line passengers. These data indicate the direct

service linkages desired by existing transit riders. The ten most prevalent origin-destination combinations reported by survey respondents are listed in Table 2-2.

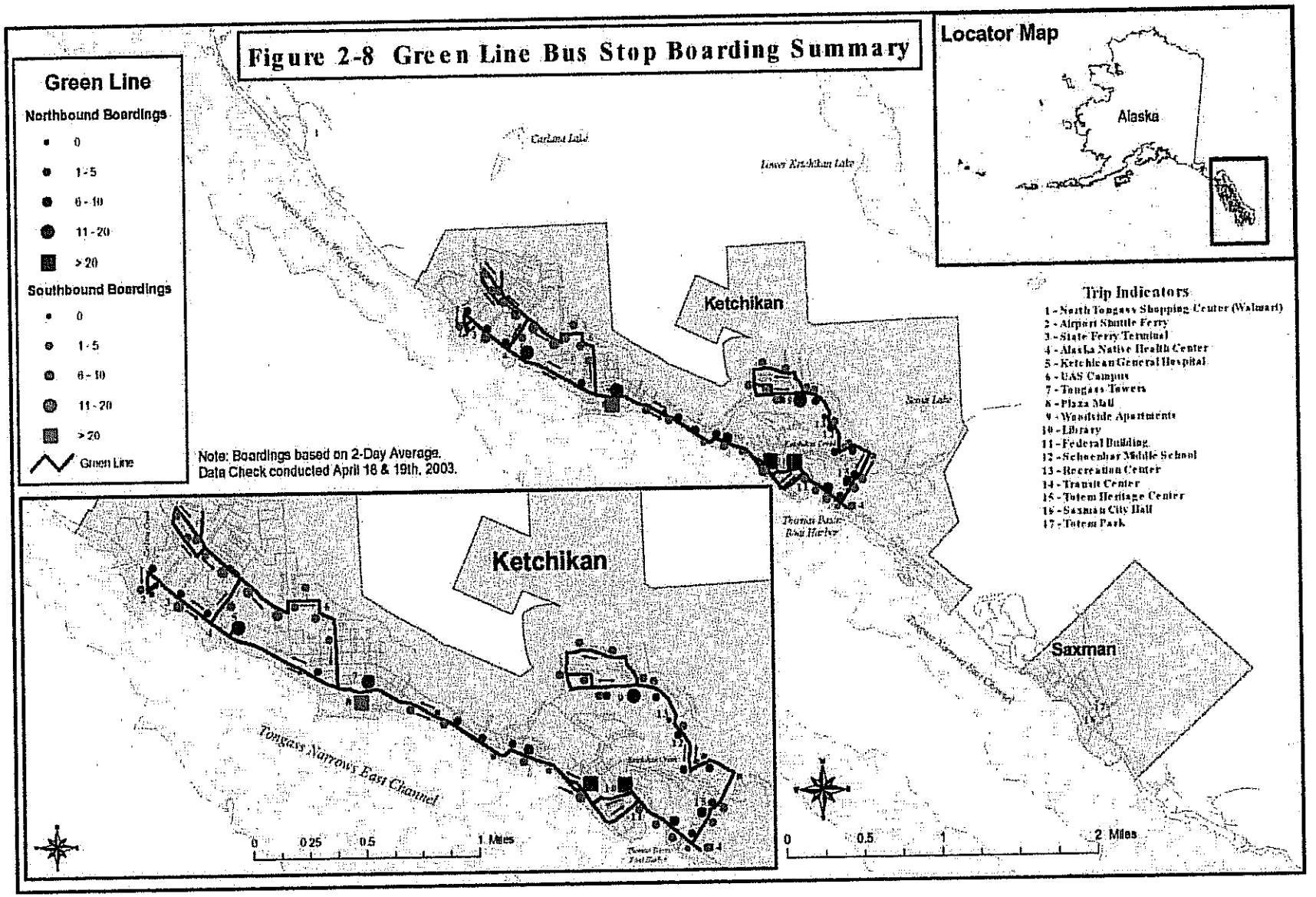


Figure 2-8 Green Line Bus Stop Boarding Summary
Green Line
Northbound Boardings
0
1-5
6-10
11-20
>20
Southbound Boardings
0
1-5
6-10
11-20
>20
Green Line
Note: Boardings based on 2-Day Average.
Data Check conducted April 18 & 19th, 2003.
Locator Map
Alaska
Ketchikan
Saxman
Tongass Narrows East Channel
Trip Indicators
1 - North Tongass Shopping Center (Walmart)
2 - Airport Shuttle Ferry
3 - State Ferry Terminal
4 - Alaska Native Health Center
5 - Ketchikan General Hospital
6 - UAS Campus
7 - Tongass Towers
8 - Plaza Mall
9 - Woodside Apartments
10 - Library
11 - Federal Building
12 - Schoenbar Middle School
13 - Recreation Center
14 - Transit Center
15 - Totem Heritage Center
16 - Saxman City Hall
17 - Totem Park
0 0.25 0.5 1 Miles
0 0.5 1 2 Miles

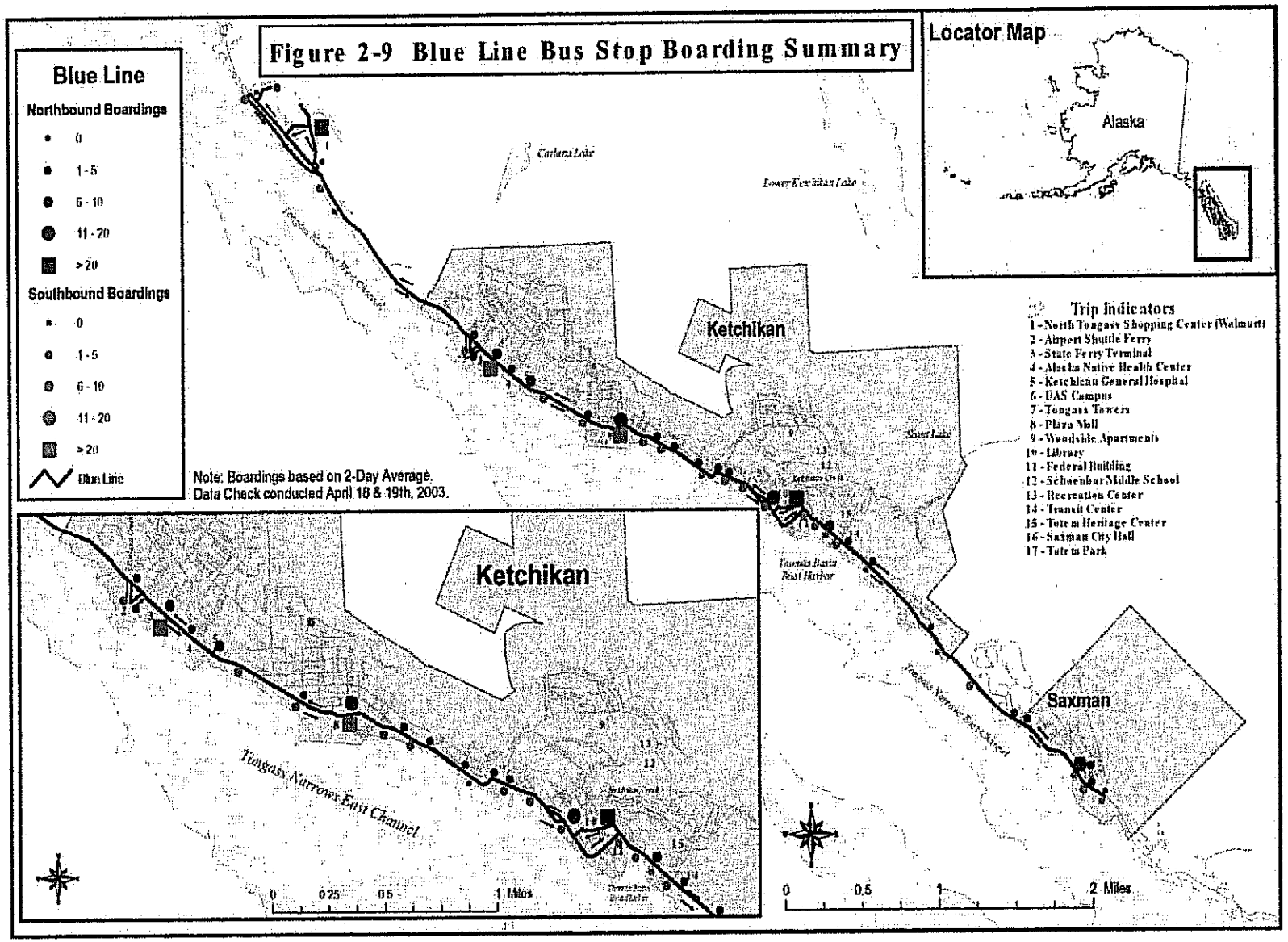


Figure 2-9 Blue Line Bus Stop Boarding Summary

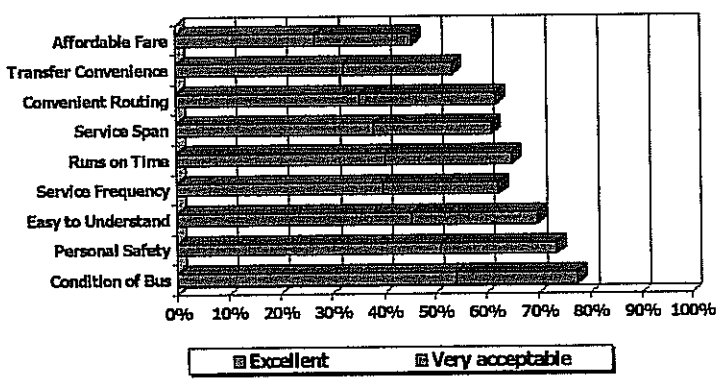
The relative index calculated in Table 2-2 provides a means of distinguishing linked origin-destination pairs by level of passenger traffic occurring between these points. These data show the predominance of the Tongass Avenue corridor,[4] the area around Plaza Mall, downtown, and Bear Valley.

TABLE 2-2
PREVAILING ORIGIN – DESTINATION LINKAGES AMONG LOCAL TRANSIT PASSENGERS

Origin/Destination Zone	Origin/Destination Zone	Relative Index
Plaza Mall	Downtown	100
Upper Tongass	Downtown	74
Upper Tongass	Bear Valley	67
Downtown	Bear Valley	48
Upper Tongass	Lower Tongass	44
Upper Tongass	Plaza Mall	33
Bear Valley	Plaza Mall	30
Lower Tongass	Plaza Mall	30
Walmart	Downtown	26
Upper Tongass	Stedman	26

Onboard survey respondents were queried concerning their relative level of satisfaction with various transit system characteristics. Generally, transit customers are satisfied with *The Bus*. Over 75% of bus riders generally are very satisfied with the condition of buses and personal safety when using the system. Between one-half and two-thirds of riders are positive about the ease of understanding how to use the system, the frequency of scheduled service, adherence to public schedules, the days and hours during which buses are available, and the convenience of routing and transfers. Fewer than half of all respondents are satisfied with the affordability of bus fares. Relative customer satisfaction with various system characteristics is shown graphically in Figure 2-10.

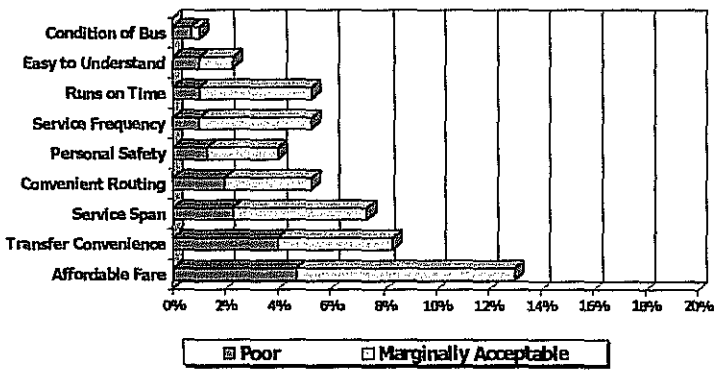
Figure 2-10
Level of Satisfaction with Selected Transit System Characteristics



[4] Upper Tongass includes the segment between Plaza Mall and the Airport ferry parking lot. Lower Tongass includes the segment between Plaza Mall and the north portal of the Tunnel.

Conversely, the level of customer dissatisfaction with various transit system characteristics is displayed in Figure 2-11. These data confirm that affordability is the primary concern of current transit riders. To a lesser extent, transfer convenience, service span, and the convenience of bus routes also are concerns.

Figure 2-11
Level of Dissatisfaction with Selected Transit System Characteristics



Fares and Passes

The Ketchikan Borough Assembly has statutory authority to establish and periodically adjust transit fares as necessary to maintain the financial viability of the system. The present fare structure was enacted in May 2002 under Chapter 14.10.010 of the Borough Code of Ordinances. Current rates are summarized in Table 2-3. In addition to cash fares, a number of prepaid fare instruments are offered.

TABLE 2-3
KETCHIKAN BOROUGH TRANSIT
FARE STRUCTURE
APRIL 2003

Fare Media	Fare Type	Rate
Cash	Green Line – Regular	$1.50
	Green Line - Discount	1.25
	Blue Line – Regular	2.25
	Blue Line - Discount	2.00
Prepaid	Monthly Pass – Adult	50.00
	Monthly Pass – Discount	40.00
	25-Ride Pass – Regular	30.00
	25-Ride Pass - Discount	25.00
	3-Day Pass – Regular	15.00
	3-Day Pass – Discount	12.00
	Day Pass – Regular	8.00
	Day Pass – Discount	6.50
	Transfer Token – Regular	1.50
	Transfer Token – Discount	1.25
Free	Children under 4	0.00

Discount fares are available to three customer groups, notably children ages 4 to 11, persons over 65 years, and students with a valid student ID from a junior/middle school, high school or college. The ordinance also authorizes special fares for youth groups, and special promotional fares at discretion of the borough manager. Children under four years of age ride free when accompanied by an adult.

A distribution of FY 2003 passenger boardings by fare type is provided in Table 2-4. Slightly over half of all boarding passengers pay cash upon boarding. The 25-ride ticket is also a popular payment method among recurring customers, since it offers a fixed discount price of $1.20 per ride, and the tickets do not expire. Nearly 27% of boarding customers used a ticket to pay their fare. Unlimited ride passes were used by approximately 22% of transit patrons. Use of the transfer token is negligible.

TABLE 2-4
KETCHIKAN BOROUGH TRANSIT
PASSENGER BOARDINGS BY FARE CATEGORY
FY 2003 (9 months)

Fare Category	Total Boardings	Percentage of Total Boardings
Cash – Regular	51,285	38.3
Cash – Discount	17,286	12.9
Passes	29,240	21.8
Tickets	35,863	26.7
Tokens	456	0.3
Total	**134,130**	**100.0**

Analysis of passenger boardings and fare revenues associated with each fare type highlights several issues. First, some confusion is caused by a perceived disparity between cash fares charged on the Blue and Green Lines. Under the present system, it is possible to travel between the same origin and destination on either route, but pay a different fare on each. The transfer token is designed to reconcile this disparity; however, they rarely are used. Bus operators report occasional disputes with passengers concerning the appropriate fare to be paid. Guidelines for using the token are unwritten, and may be confusing to customers and even some bus operators.

A second area of concern pertains to the pricing of pre-paid unlimited ride passes. Typically, these passes are priced to offer a significant discount to regular riders in exchange for buying the passes in advance. Transit systems usually benefit not only by encouraging patrons to ride more frequently, but also by reducing the administrative cost of handling cash, avoiding underpayment by cash fare customers, and minimizing fare evasion. In Ketchikan, where the use of Canadian currency by transit patrons is more common than in most U.S. communities, prepayment also reduces the loss of revenue caused by the exchange rate for U.S. currency.

However, Ketchikan's unlimited ride passes do not offer any significant discount to most customers. A regular price one-day pass, for example, costs $8.00, which is equivalent to 5.3 one-way cash fares on the Green Line, or 3.6 cash fares on the Blue Line. Day passes sold by other transit systems more typically are priced at about 2.5 one-way cash fares. This explains why very few day passes are sold in Ketchikan. This concern also extends to a lesser extent for three-day unlimited ride passes, which are priced at 3.3 cash fares per day on the Green Line and 2.2 cash fares per day on the Blue Line. Beyond the pricing issue, there is no significant market for the three-day pass, given the duration of cruise ship calls, and that Ketchikan does not attract weekend visitors in significant numbers. Unlimited monthly ride passes appear to be priced more reasonably, although the level of discount extended to buyers tends to fluctuate with the number of work days in any calendar month.

2.2 Complementary Paratransit Service

As an operator of a fixed route public transit system, the Borough is required under the Americans with Disabilities Act (ADA) to provide complementary paratransit services for customers who are unable to use regular route buses because of a physical, mental or developmental disability. The Borough meets this obligation by contracting with the Ketchikan Senior Center, a division of Catholic Community Services, which operates demand responsive transportation services through the Southeast Senior Services program.

Complementary paratransit service is available during the same days and hours that fixed route buses are in service. The advertised operating hours are Monday through Saturday from 5:15 am to 10:30 pm, and Sunday from 9:45 am to 3:45 pm. No service is provided on New Year's Day, Independence Day, Thanksgiving Day or Christmas Day. The paratransit service area also is the same as the fixed route service area, including the cities of Ketchikan and Saxman, and the unincorporated North Shoreline.

Paratransit operations are housed at the Ketchikan Senior Center, located at 1016 Water Street in Ketchikan. Vehicle operations are blended to serve both ADA-eligible complementary paratransit customers and older adults eligible for transportation under Title III-B of the Older Americans Act. The program focuses on transportation to weekday congregate lunches served at the Senior Center, and essential personal trips such as grocery shopping, medical appointments, pharmacy visits, and social events. Senior Center drivers also deliver prescriptions and meals to homebound individuals on a regular weekday basis.

The Senior Center site manager is responsible for day-to-day oversight of complementary paratransit services, which are administered by a scheduler/dispatcher and an office assistant. These individuals handle incoming calls for reservations, book trips, dispatch drivers and vehicles, schedule maintenance and repairs, and tabulate

daily and monthly operating statistics. Both the scheduler/dispatcher and office assistant also handle other Senior Center functions as necessary.

There are two regular drivers and one back-up driver assigned to the senior center transportation program. The scheduler/dispatcher serves as an additional back-up driver when the regular backup driver is unavailable.

Senior transportation and ADA complementary paratransit services are provided on a "door-to-door" basis. If required, drivers provide assistance to passengers going between the vehicle and an exterior entrance at the trip origin or destination. Drivers may assist by carrying parcels, helping customers walk to or from the vehicle, or pushing a wheelchair at the customers' request. Drivers are not required to assist a person using a wheelchair up or down more than four steps at the trip origin or destination.

Ridership and Productivity

As the Senior Center does not maintain separate operating statistics by funding source, it is not possible to verify ridership and level of service specifically related to Borough-funded complementary paratransit. Cumulative ridership volumes for both Title III-B and ADA services are summarized in Table 2-5 for the three-year period from FY 2000 to FY 2002. Senior Center vehicles provided 13,197 passenger trips in FY 2002, nearly 26% more than in FY 2001, and 30% more than in FY 2000. Average weekday ridership in FY 2002 was 53 one-way trips.

Driver manifests and client records covering a seven-day period in April 2003 were compiled and analyzed to develop a reasonable estimate of complementary paratransit ridership. As seen in Table 2-6, the split is almost equal between ADA-eligible customers and senior citizens who are not registered with the Borough. Based on these sample data, it is estimated that approximately 6,500 complementary paratransit trips were provided in FY 2002. Actual ADA-eligible ridership may be higher than this estimate, given that some portion of the unregistered senior citizens who qualify for Title III-B funded service might also qualify under ADA if they were to apply for certification.

It is not possible to calculate service productivity, given the level of information recorded on the daily driver logs. Although drivers do record the number of passengers transported on their daily trip sheets, they typically do not record pick up or drop off times. Hence, the number of service hours dedicated to complementary paratransit service can only be estimated. Average productivity is approximately two passengers per service hour.

Eligibility Certification

Currently there are 93 individuals registered with the Borough for ADA complementary paratransit service, equivalent to 0.7% of the population of the Ketchikan area. These persons make an average of 70 one-way trips per year, or 5.8 one-way trips per month.

TABLE 2-5
KETCHIKAN SENIOR CENTER
ANNUAL PARATRANSIT RIDERSHIP
FY 2000 - 2002

	2000		2001		2002		2-Year Change	
	Trips	%	Trips	%	Trips	%	Trips	%
Ketchikan								
Over 60 Years of Age	8,807	88.3	9,477	94.5	12,064	96.2	3,257	37.0
Under 60 Years of Age	1,167	11.7	553	5.5	471	3.8	-696	-59.6
Subtotal, Ketchikan	**9,974**	100	**10,030**	100	**12,535**	**100**	**2,561**	**25.7**
Average Trips per Day	40.1		40.3		50.1		10.0	25.2
Percent of Total Passengers		98.0		95.7		95.0		
Saxman								
Over 60 Years of Age	205	100	448	100	662	100	457	222.9
Under 60 Years of Age	0		0		0			
Subtotal, Saxman	**205**	100	**448**	100	**662**	100	**457**	222.9
Average Trips per Day	0.8		1.8		2.6		1.8	221.6
Percent of Total Ridership		2.0		4.3		5.0		
TOTAL RIDERSHIP	**10,179**		**10,478**		**13,197**		**3,018**	**29.6**
Average Trips per Day	40.9		42.1		52.8		11.9	29.1
Total Service Days	249		249		250			

Federal regulations strictly define the eligibility certification process, which is administered by a Borough employee within the Finance Department. A written application form must be completed by the applicant or caregiver, and includes a functional assessment questionnaire designed to explain how applicant disability affects the use of fixed route transit service.

Borough staff generally determines eligibility principally on the basis of information provided on the application. However, the Borough retains the right to request verification of disability by a medical professional when additional explanation and tangible evidence of disability is appropriate. Although written instructions are not provided to applicants, the form implies that the service is restricted to those who have difficulty using fixed route transit services because of a disability.

Once an application is submitted, the Borough has 21 days to make a determination regarding eligibility and inform the applicant of the result. Applicants are presumed to be eligible pending a formal determination by the Borough, and applicants have the right to appeal an unfavorable ruling. These practices are consistent with federal law.

TABLE 2-6
KETCHIKAN SENIOR CENTER TRANSPORTATION PROGRAM
DISTRIBUTION OF ADA AND NON-ADA CERTIFIED CUSTOMERS
APRIL 2003

Date (Day)	ADA Passengers		Non ADA Passengers		Passengers Using Wheelchair		Total Passengers
	Number	%	Number	%	Number	%	
April 6 (Sun)	14	46.7%	16	53.3%	1	3.3%	30
April 13 (Sun)	10	76.9%	3	23.1%	1	7.7%	13
April 15 (Tue)	14	60.9%	9	39.1%	0	0.0%	23
April 16 (Wed)	19	61.3%	12	38.7%	0	0.0%	31
April 17 (Thu)	7	36.8%	12	63.2%	3	15.8%	19
April 18 (Fri)	30	42.3%	41	57.7%	3	4.2%	71
April 21 (Mon)	5	35.7%	9	64.3%	1	7.1%	14
Total	**99**	**49.3%**	**102**	**50.7%**	**9**	**4.5%**	**201**

Customer Profile

The vast majority of Senior Center transportation passengers are over 60 years of age (96%) and reside within the City of Ketchikan (95%). Five percent of all bus riders live in Saxman, of which nearly all are elders. Compiled data for calendar year 2002 shows that 86% of all riders required some form of driver assistance. Yet, non-ambulatory persons make only five percent of all trips. These data suggest that the paratransit customer base is comprised heavily of older adults with varying degrees of frailty that make it difficult or impossible to use fixed route transit service to travel within the Ketchikan service area. Comments by one human service agency suggest at least anecdotally that younger persons with disabilities may experience difficulty when attempting to access the service.

Destinations generally are not documented on paratransit driver trip sheets and daily dispatch logs, and the collection of trip purpose information is discouraged by federal

regulation. However, the scheduler/dispatcher affirmed her belief that most trips are for medical purposes. This is supported by travel patterns, which are dominated by trips between residential homes and the clinics and medical offices in the vicinity of Ketchikan General Hospital. The Senior Center is also a key destination for the nutrition program and daily activities.

Fares and Passes

The cash fare charged for complementary paratransit service is $1.50 for passengers under 60 years of age, and $1.25 for passengers 60 years of age and older. This is the same as cash fares charged to ride the Green Line, which is fairly unusual among complementary paratransit service providers. Federal regulations allow complementary fares to be as high as twice the fare charged for comparable fixed route trips, primarily to encourage persons who could ride a fixed route bus for some or all of their trips to do so. As currently priced, passengers have no financial incentive to use the fixed route system instead of complementary paratransit when possible.

All other Ketchikan Gateway Borough Transit passes are accepted on the ADA complementary paratransit service. Older adults who are not registered for ADA service are not charged a fare, but are requested to make a donation. This is consistent with Older Americans Act Title III-B funding regulations, which prohibit charging a fare or requiring a donation.

Reservations, Dispatching and Operating Procedures

Complementary paratransit customers may reserve a trip by calling the Senior Center on weekdays from 8:00 a.m. until 4:30 p.m., or by leaving a message on Saturdays, Sundays or holidays. Reservations may be made in advance or for same-day service. Customers are encouraged to call at least 24 hours in advance to reserve a trip, and there is no maximum limit on the number of days in advance that trip requests are accepted. Same-day trip requests are accommodated on a space available basis, as are "will-call" bookings for return trips from medical appointments when an exact pickup time cannot readily be determined. Same-day and will call trips are infrequent. Given the low volume of daily trips and the availability of the back-up vehicle to handle overloads when needed, the dispatcher usually is able to have a vehicle available when a will-call trip is expected or a same-day trip request is made. Subscription requests (standing orders for recurring trips) are accepted as well. Approximately 17 subscription trips are served each weekday.

Dispatch and office support staff book trip requests immediately and confirm trip times with customers at the time trips are booked via telephone. An appointment book (day-timer) is maintained for each driver. When a trip request is made, space availability is confirmed in the driver appointment books. Weekday bookings are accepted until 4:00 p.m. Trip requests are then transferred to a wall-mounted dry erase board showing the driver schedules for service on the following day. Each bus is assigned one-half of the

schedule board, and passenger names and pick up/drop off locations are organized by 15-minute time slots. A second dry erase board is utilized to record trip assignments for the back-up driver. Prescription pickups and deliveries also are recorded on the schedule board with "post-it" notes.

Compared to most paratransit systems in larger communities, the transportation provided by the Senior Center staff is a highly personalized, unhurried service. Customers are advised to be ready 15 minutes before their desired drop-off time for trips that start and finish inside the City of Ketchikan, or 30 minutes before their desired drop-off time for trips that start or finish outside of the city. There is no established dwell time policy for ADA or non-ADA services. Drivers generally wait for an individual until they come out, or arrange to return later if the passenger is not ready when the bus initially arrives. There are no written policies concerning last-minute cancellations or no-shows, neither of which appear to occur often enough to impact productivity and service quality received by other passengers. Reported trip cancellations average approximately one per week, and no-shows average one per month.

Under typical conditions, one vehicle is deployed in the north half of the service area, and the other is assigned to the south half. The dispatcher assigns same day trip requests and notifies drivers of cancellations by radio throughout the service day. Drivers generally return to the Senior Center when there are gaps between scheduled passenger trips. They are then available for Center visitors who need to make an unscheduled trip.

Because of low demand, trips to and from Saxman are generally limited to four times per day; at 9:00 a.m.; 11:00 a.m.; 1:00 p.m.; and 3:00 p.m. Saxman trip requests are consolidated into these time slots to enhance productivity. Similarly, the dispatcher organizes a weekly shopper bus to Wal-Mart on Wednesdays to more efficiently accommodate shopping trips. Passengers are encouraged to focus their Wal-Mart trips on Wednesdays.

Drivers complete and submit log sheets each day for compilation into daily and monthly summary reports. Completed driver log sheets show the driver's name, service date, shift start and finish mileages, passenger names, ADA registration numbers, and personal characteristics. Drivers record daily passenger counts according to three characteristics: (1) Over or under 60 years of age; (2) disabled or non-disabled; and (3) ambulatory or non-ambulatory.

Compliance with ADA

All complementary paratransit systems are required to meet the requirements of 49 CFR §37, which define minimum standards for service offered to ADA-eligible persons. These standards do not necessarily apply to the non-ADA eligible older adults served by the Senior Center transportation program with Title III-B funding. As with many paratransit systems serving small communities, Ketchikan exceeds the basic regulatory

mandates of ADA in several aspects. This is partly a response to local objectives and priorities, and has not yet led to paratransit capacity constraints or service denials. However, operating practices may need to be reconsidered in the future if demand for complementary paratransit service increases beyond present capacity. This has been a common progression in larger cities.

Table 2-7 outlines the key provisions of ADA complementary paratransit regulations, including a summary of the Borough's current performance, and provides a determination of whether Borough service meets or exceeds the requirements of federal law.

Service Area – ADA requires that the complementary paratransit service area be equivalent to the fixed route service area. Equivalency is defined as the geographic area located within 3/4 mile on either side of a local bus route. The physical layout of Ketchikan more or less assures the Borough's compliance with this provision.

Service Span - Complementary paratransit service must be offered during the days and hours when fixed route service is provided. The service contract between the Borough and Catholic Community Services states that ADA paratransit service must be available between 5:15 a.m. and 10:30 p.m. on weekdays and Saturdays, and from 9:45 a.m. until 3:45 p.m. on Sundays. While paratransit service hours exceed fixed route service hours by 45 minutes on weekday and Saturday nights, paratransit service hours on Sundays and holidays begin one hour later than the fixed route system. Therefore, the Borough technically is not in full compliance with regard to this service characteristic.

Fares – Recognizing that it costs substantially more to serve a passenger on paratransit than on fixed route service, ADA regulations preclude the paratransit cash fare from being more than twice the adult cash fare for an equivalent fixed route trip. The Borough clearly exceeds the minimum requirement by allowing a fare of $1.50 for eligible passengers under 60 years of age, and $1.25 for passengers 60 years and older. The Borough could charge up to $3.00 per one-way trip within the City of Ketchikan, and $4.50 per trip in Saxman and the North Shoreline area.

Eligibility - In communities where fixed route transit service is provided, ADA complementary paratransit service must be provided for individuals who are unable to use fixed route transit service due to a disability or functional mobility impairment. ADA allows for a strict functional certification program that actually tests an individual's mobility level. Under ADA regulations, conditional eligibility is also permitted, recognizing that some individuals may not be able to use fixed route transit under certain conditions, such as during the colder winter months, but otherwise might be able to utilize accessible fixed route service.

Generally, the Borough exceeds the minimum ADA standard as defined. Although there is no functional testing, ADA registration and certification processes are

required for the Borough's ADA complementary paratransit service. Self-certification is allowed, although the Borough may request third party verification of disability by a medical practitioner if an applicant's disability is not readily apparent. Conditional eligibility is not enforced.

TABLE 2-7
COMPLEMENTARY PARATRANSIT SERVICE
STATUS OF ADA COMPLIANCE

ADA Minimum Requirement	Ketchikan Performance	Compliance Status
	Service Area	
Paratransit service must be offered in all areas defined as being within 3/4 mile of a fixed route.	ADA paratransit service is provided throughout the developed areas of the Borough, including all areas within 3/4 mile of a fixed route.	Meets requirements.
	Service Span (Temporal Coverage)	
Service must be offered during the same days and hours that fixed route service is offered.	ADA paratransit operates 45 minutes later than the fixed route system on weekdays and Saturdays, but begins one hour later than the fixed route system on Sundays and holidays.	Exceeds requirement on weekdays and Saturdays. Does not meet requirement on Sundays and holidays.
	Fares	
Fares for paratransit may be up to twice the full cash fare for an equivalent fixed route trip.	Cash fares for ADA registrants are $1.50 per one-way trip for passengers under 60 years of age, and $1.25 for those 60 and older. Fixed route adult cash fares are $1.50 to $2.25.	Exceeds requirement. The Borough could charge $3.00 per one-way trip within the City of Ketchikan, and $4.50 per trip in Saxman and the North Shoreline area.
	Eligibility	
Individuals who are unable to use fixed route transit due to a disability or mobility impairment must be eligible for paratransit.	ADA registration and certification is required for persons less than 60 years of age.	Exceeds requirement. Conditional eligibility is not enforced.
	Reservations	
Must be able to make a "next" day reservation. Longer reservations and standing reservations may be offered.	ADA paratransit offers both subscription and same day bookings.	Exceeds requirement.
	Trip Purpose and Trip Limit Restrictions	
There may be no prioritization or limitation placed on trip purposes, and there may be no limits on the number of trips an individual may take on paratransit.	There are no trip purpose or trip limits on ADA paratransit.	Meets requirements.

TABLE 2-7 (continued)
COMPLEMENTARY PARATRANSIT SERVICE
STATUS OF ADA COMPLIANCE

ADA Minimum Requirement	Ketchikan Performance	Compliance Status
	Subscription Trips or Standings Orders	
Subscription trips or standing orders may not exceed 50% of capacity during any time period when capacity is limited.	ADA paratransit offers subscription service. Approximately 17 subscription trips (32% of total daily trips) are accommodated.	Meets requirements.
	Passenger Assistance	
Curb-to-curb service may be provided, which requires that passengers be capable of traveling between the vehicle and an origin or destination without driver assistance.	ADA paratransit operates on a door-to-door basis.	Exceeds requirement.
	Capacity Limitations	
No trip request booked at least one day in advance can be denied. However, agencies can offer travel time alternatives within one hour before or after the originally requested drop off or pick up time.	ADA paratransit does not deny any trips and generally can provide an alternative travel time within 15 to 30 minutes of the requested drop off time or return trip pick up time.	Meets requirements. Problems may arise if ADA registrants have difficulty making bookings when the service is busy.
	Guests and Attendants	
Guests who may or may not have mobility limitations may ride the paratransit service provided they have reserved in advance, pay the full fare for their ride and are subject to capacity constraints. Attendants who are required to assist a rider with mobility may ride at no charge, provided they are registered as a PCA and have reserved in advance.	Guests are accommodated. Personal care attendants (PCA) accompanying a passenger pay no fare.	Meets requirement.

Reservations – The Act requires that eligible customers be allowed to make reservations for next-day service at any time during normal business hours. Reservations must also be accommodated farther in advance, although regulations no longer specify how far in advance reservations must be accepted. The next day reservation requirement was implemented to respond to consumer demand for more spontaneous trip planning and travel using complementary paratransit.

Borough-sponsored paratransit service exceeds current requirements to the extent that it accommodates same-day trip requests and subscription service. Senior Center staff are exceptionally helpful, which facilitates a user-friendly service that accommodates spontaneous trips more often than comparable systems in other communities.

Trip Purpose Restrictions and Trip Limitations - Prior to ADA, many paratransit services allocated scarce paratransit resources by limiting the number of trips an individual could make, or prioritizing service by trip purpose. Under the Act, there may be no such limits or restrictions on complementary paratransit services. For example, a medical trip may not be prioritized above a trip to the supermarket or beauty shop. The service provided in Ketchikan currently meets these requirements.

Subscriptions or Standing Orders – ADA regulations require that subscription trips not consume more than 50% of available paratransit service capacity during any time period. Subscription trips generally include all recurring travel, but most often are associated with trips related to social service agency programs, schools, nutrition programs, adult day health programs, structured employment, occupational training and education. This requirement was established to balance the need for regular, frequent transportation by some with the need for occasional and spontaneous transportation by others. Subscription bookings currently consume approximately 32% of all scheduled paratransit trips in Ketchikan, which is comfortably within the ADA requirement.

Passenger Assistance – The Act requires that "curb-to-curb" service be offered to eligible persons using complementary paratransit. This means that passengers must be able to travel between the bus and their origin or destination without driver assistance. This requirement was established to support higher service productivity, reasonable onboard travel times for all passengers, and to avoid the potential safety concern created when drivers leave passengers unattended in the vehicle while escorting others to the door. Borough paratransit service exceeds the minimum standard established by federal regulations, because door-to-door assistance is provided to those who need it.

Capacity Limitations - Earlier interpretations of the Act defined the capacity requirement to mean that, while some trips could be denied, no individual could be subjected to a consistent pattern of trip denials resulting from capacity limitations.

Under this interpretation, it was required that adequate capacity be available during all hours of the day so that eligible riders would not be routinely denied service. However, a recent interpretation suggests that the capacity requirement means that there must be no ADA eligible trip denials whatsoever.[5] ADA does permit the negotiation of travel time alternatives within one hour of the desired drop off or return trip pick up time.

There are currently no trip denials on Borough-sponsored complementary paratransit service. While some pick-up times are negotiated, passengers generally are picked up within 15 to 30 minutes of the times requested. The back-up bus is used to accommodate trips that cannot otherwise be serviced by either of the two regularly assigned paratransit runs.

Guests and Attendants - Under ADA regulations, eligible customers may take one or more guests along with them on their paratransit trip, provided that the guests pay a fare, reserve their trip in advance, and space is available. Borough-sponsored paratransit service meet these requirements. Similarly, ADA-eligible riders who require additional mobility assistance are entitled to bring an attendant along at no charge, provided that the customer is "pre-authorized" to have an attendant and the attendant's trip is reserved at the same time as the eligible rider's reservation is made. Ketchikan complementary paratransit service meets this requirement.

2.3 Capital Assets

This section describes the existing rolling stock, facilities and equipment owned or leased by the Ketchikan Borough to operate the local transit system.

Rolling Stock

The Borough owns six transit vehicles deployed in fixed route service, including two large heavy-duty (35') Gillig coaches with a 12-year useful life, three medium-light duty International (25') buses with a five-year useful life,[6] and a fully depreciated Ford small, light-duty bus that is used mostly as a spare. The Gilligs are deployed primarily on the Green Line, and the Internationals are deployed primarily on the Blue Line. The Borough also provides one small light-duty Goshen coach to the Senior Center as part of the complementary paratransit service contract. A roster of active revenue vehicles owned by the Ketchikan Borough is provided in Table 2-8.

[5] On January 4, 2001, the U.S. District Court of the Eastern District of Pennsylvania ruled against the South East Pennsylvania Transportation Authority (SEPTA), finding that an annual trip denial rate of 2.2% suggested that SEPTA "failed to meet its statutory and regulatory obligations because it denied rides to a substantial number of ADA-eligible patrons". The court also held that SEPTA was also "obligated to plan to attempt to provide a paratransit ride to every ADA-eligible patron who requests such a ride". APTA Memorandum, ADA Paratransit Ruling, issued February 12, 2001.

[6] Federal Transit Administration Circular C 9300.1. Pages III-5, 6.

TABLE 2-8
KETHIKAN BOROUGH TRANSIT
ROSTER OF ACTIVE REVENUE VEHICLES

Model Year	Make / Model	Seats	Fleet No.	Odometer Miles	Useful Life (Years)	Replacement Funding Year
	Fixed Route					
1995	Ford	23	69	161,751	5	—
1995	Gillig	35	72	331,435	12	2007
1995	Gillig	35	74	319,503	12	2007
2001	International	30	76	95,957	5	2006
2002	International	30	78	51,289	5	2006
2002	International	30	80	85,520	5	2006
	Paratransit					
1998	Goshen	8	—	N/A	5	2003

The fixed route fleet appears to be in good operating condition, and sufficient to accommodate the present and short-term future needs of the existing four-bus system. Two vehicles are available as spares to support timely preventive maintenance and repairs. The spare vehicles represent 33% of the fixed route fleet, however, which is above the 20% spare level typically allowed by FTA. By not replacing the 1995 small Ford bus that is already beyond its federally defined useful life, the Borough effectively is operating with the 20% spare factor. The five other buses will be eligible for replacement in FY 2006 and FY 2007.

The Ketchikan Senior Center has a fleet of four accessible vehicles, including two vans and two small light-duty (22') buses. Catholic Community Services owns three of the vehicles, and the fourth is supplied by the Borough as part of the service contract. All four vehicles are defined as small light-duty models by FTA, and have a minimum useful life of five years. The three vehicles owned by Catholic Community Services are identified as follows:

- One 2003 Ford E350 Cutaway with capacity for eight ambulatory passengers and one passenger using a wheelchair;
- One 2000 Ford E350 Super XL Club Wagon with capacity for eight ambulatory passengers and one;
- One 1993 Ford E350 Club Wagon with capacity for 10 passenger ambulatory and two passengers using wheelchairs;

Daily complementary paratransit service normally requires the use of two vehicles, leaving two spares to accommodate scheduled preventive maintenance, vehicle breakdowns and accidents. A third vehicle sometimes is deployed with the back-up driver to provide same-

day trips that do no fit into the two regular runs. According to the site manager, Senior Center drivers prefer using the smaller vans rather the bus supplied by the Borough, which is considered too large for circulation on narrow downtown streets and in the hilly residential neighborhoods. Capacity limitations characteristic of the smaller vans typically do not lead to service denials, since groups larger than two or three traveling together are relatively infrequent. Trip distances are generally short in Ketchikan, and there are no apparent capacity problems with the many-to-one nutrition and shopping runs.

Operating Facilities

Bus operations are housed in a leased garage located at 715 Stedman Street, near Deermount Street, in Ketchikan. The 4,200 square foot building accommodates the dispatch office, driver ready room and conference area, and overnight bus parking area. The lease includes daily use of the adjacent car wash at no additional cost.

At the time the facility was leased early in 2002, it was intended that vehicle maintenance would also be accommodated. This proved impractical, chiefly because the drywall ceiling in the building is not high enough to allow the use of the portable lift owned by the Borough. The transit mechanic ultimately was reassigned to Borough central garage in Ward Cove, where most vehicle maintenance and repair work is performed. The Borough terminated the Stedman facility lease on December 31, 2002, but continues to occupy the facility on a month-to-month basis.

Bus Stops

Borough Transit buses stop only at posted locations, which typically are designated with a standard sign mounted on a pole. Physical conditions and passenger amenities at bus stops vary considerably. A number of stops along Tongass Avenue are equipped with passenger shelters that were installed by ADOT/PF in conjunction with sidewalk improvements and street reconstruction.

2.4 Organizational Structure

The transit system is organized as a function of the Borough Public Works Department under the general supervision of the department director. The present organizational structure was recommended in the previous TDP. Day-to-day transit operations are the responsibility of a full-time transit manager, who supervises the bus drivers with the assistance of a lead driver, coordinates training and safety activities, carries out limited marketing efforts, and coordinates administrative activities, data compilation and reporting with other Borough departments. The transit manager also monitors the complementary paratransit service contract with the Ketchikan Senior Center.

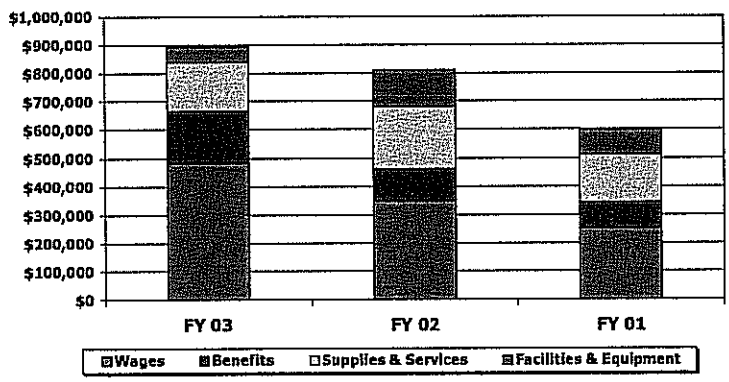
Transit operating employees include one lead driver, who divides her time between administrative and supervisory tasks during morning hours, and driving in regular route

maintenance and repair activities. Transit administrative functions are divided among the transit manager and other Borough departments. A number of support functions, including accounting, human resources, payroll, revenue handling, and risk management are provided through the Borough's centralized administrative services.

2.5 Financial Status

The transit system operates under budgetary oversight of the Ketchikan Borough Assembly, and is administered as a cost center within the Public Works Department. Current year operating expenses were budgeted initially at $823,509, and adjusted upward to $894,882 after eight months of actual operating experience. The adjusted FY 2003 budget is 10.4% higher than actual FY 2002 expenses of $810,402, and nearly 50% more than FY 2001 expenses of $599,224. A summary of system expenses and revenues is provided in Table 2-9. A budget distribution by major object expense is shown in Figure 2-12.

Figure 2-12
Annual Transit Operating Expenses
FY 2001 - 2003



Typical of the transit industry, wages and fringe benefits comprise a majority of system operating expenses. In both FY 2001 and FY 2002, they were an identical 57% of total actual operating expenses. These costs rose significantly in FY 2003, and could comprise up to 73% of the total operating budget by the end of the fiscal year. Fuel and leasing expenses also showed substantial year-over-year cost increases.

Figure 2-13
Annual Transit Revenues
FY 2001 - 2003

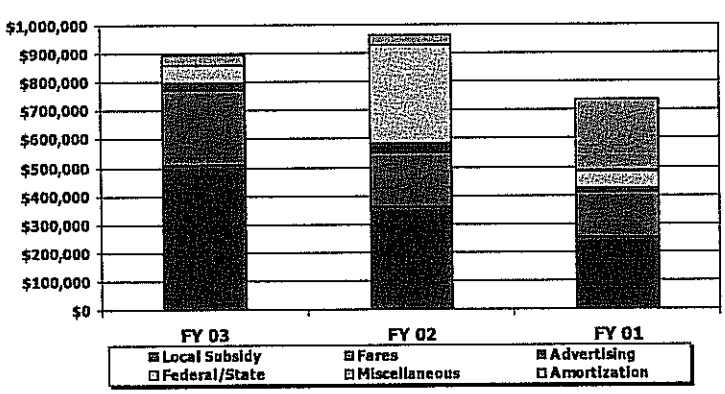


Figure 2-13 illustrates the distribution of capital and operating revenues by source for the years FY 2001-2003. Transit system revenues are derived from four significant sources: passenger fares, advertising sales, Federal Transit Administration (FTA) Section 5311 non-urbanized area grant proceeds, and local funds. Fixed

non-urbanized area grant proceeds, and local funds. Fixed

TABLE 2–9
KETCHIKAN GATEWAY BOROUGH
TRANSIT SYSTEM EXPENSES AND REVENUES
FY 2001 - 2003

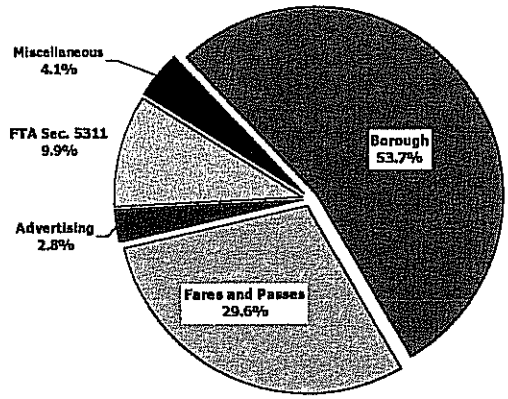
Expense Category	FY 03 Projected	FY 02 Actual	Change 1 Year	FY 01 Actual	Change 2 Years
Wages	$ 480,902	$ 347,377	38.4%	$ 249,772	92.5%
Fringe Benefits	176,930	111,704	58.4%	87,214	102.9%
Training & Travel	7,500	0	---	2,259	232.0%
Subtotal, Personnel	**665,332**	**459,081**	**44.9%**	**339,245**	**96.1%**
Materials and Supplies	7,650	17,723	-56.8%	11,363	-32.7%
Fuel and Lubricants	45,000	29,218	54.0%	31,423	43.2%
Vehicle & Equipment Maintenance	40,000	38,820	3.0%	35,148	13.8%
Insurance	17,000	19,379	-12.3%	8,611	97.4%
Utilities	4,300	4,026	6.8%	1,635	163.0%
Contract Services	60,000	71,457	-16.0%	39,695	51.2%
Other Expenses	0	41,245	-100.0%	45,660	-100.0%
Subtotal, Supplies & Services	**173,950**	**221,868**	**-21.6%**	**173,535**	**0.2%**
Leases and Rentals	51,600	37,800	36.5%	11,800	337.3%
Equipment Purchase	4,000	0	---	0	---
Depreciation	0	91,653	-100.0%	74,644	-100.0%
Subtotal, Facilities & Equipment	**55,600**	**129,453**	**-57.1%**	**86,444**	**-35.7%**
Total	**894,882**	**810,402**	**10.4%**	**599,224**	**49.3%**

Revenue Category	FY 03 Projected	FY 02 Actual	Change 1 Year	FY 01 Actual	Change 2 Years
Farebox Revenue	265,000	188,778	40.4%	158,990	66.7%
Advertising	25,000	32,338	-22.7%	14,053	77.9%
FTA Sec. 5311 – Operating	70,669	62,220	13.6%	57,147	23.7%
FTA Sec. 5311 – Administration	17,668	0	---	0	---
Miscellaneous	1,000	670	49.3%	2,865	-65.1%
Amortization of Contributed Capital	35,339	35,339	0.0%	40,202	-12.1%
Transfer Payments (Borough Subsidy)	480,207	491,057	-2.2%	252,299	90.3%
Total	**894,882**	**810,402**	**10.4%**	**525,556**	**70.3%**
Non-Operating Revenue					
FTA Sec. 5311 – Capital	0	288,324	---	0	---
Planning	61,000	0	---	0	---

route farebox revenues of $147,513 recovered approximately 23% of total fixed route operating costs in FY 2002.

FY 2003 revenues by source are highlighted in Figure 2-14. Passenger fares are projected to recover nearly 30% of FY 2003 system operating expenses, which is higher than the previous year FY 2002, and well above peer systems in the US. The Borough pays for the bulk of net operating expenses. FTA funding increased significantly in FY 2003 through the redistribution of funds allocated in past years to Fairbanks, which shifted from the Sec. 5311 non-urbanized area program funding to the Sec. 5307 urbanized area program in FY 2003.

Figure 2-14
Transit Revenue by Source
FY 2003



The Borough contracts with the Ketchikan Senior Center to provide complementary paratransit service at an annual cost of $47,500, plus the use of a vehicle. While most service contracts specify a projected number or range of service hours to be provided during the year, the Borough's agreement stipulates only that service coverage must be available during a span of 5,608 annual hours. The nature of this agreement recognizes that ADA paratransit demand may not occur during all hours when service coverage is available. Since Senior Center transportation services blend passengers eligible under the Older Americans Act Title III-B and Borough-funded ADA complementary paratransit programs, it is not possible to determine a cost per revenue vehicle hour. The cost per coverage hour is calculated to be $8.47.

2.6 Peer Analysis

The Ketchikan Borough transit system was compared to nine peer systems in the western US and Canada to provide a sense of whether the scope of local transit system operations is commensurate with other communities similar in size and demographic characteristics. The nine peers selected are listed in Table 2-10.

Comparative FY 2002 performance statistics for Ketchikan and its peers are summarized in Table 2-11. Ketchikan's relative position in unit cost, productivity and farebox recovery is as follows:

- Eighth highest in productivity (9.45 passengers per hour)
- Sixth lowest cost per passenger ($5.49)
- Fifth lowest cost per hour ($51.91)
- Third highest farebox recovery percentage (23.3%)

- Third highest farebox recovery percentage (23.3%)

TABLE 2-10
KETCHIKAN BOROUGH TRANSIT
PEER TRANSIT SYSTEM CHARACTERISTICS

Transit System	Service Area	Principal Trip Generators	Population
Capital Transit	Juneau	Ferry Terminal, shopping malls, University, Government buildings	30,700
Jefferson Transit	Port Townsend & Jefferson Co, WA	P&R Lots, Retail, Commuter Ferry, Connects with Clallam, Kitsap and Mason Counties	26,100
Clallam Transit	Port Angeles & Clallam Co, WA	Ferry to BC, Retail, High Schools and Community College, Connect with Jefferson Transit	64,500
Island Transit	Oak Harbor & Whidbey Island, WA	Ferry Terminal, P&R lots, Retail, State Park	72,400
Pacific Transit	Pacific County, WA	Community college, intercity	21,000
SETD	Astoria and Clatsop County, OR	Intercity, Community college, Retail	22,400
Prince Rupert	Prince Rupert, BC	Retail,	14,300
Arcata	Arcata, CA	Larger University	16,600
Kitimat	Kitimat, BC	Ferry Terminal, shopping malls, Univ, Govt buildings	10,400

TABLE 2-11
COMPARATIVE SYSTEM PERFORMANCE STATISTICS
KETCHIKAN AND EIGHT PEER SYSTEMS

Transit System	FY Reported	Total Passengers	Operating Cost	Fare Revenue	Revenue Hours	Passengers per Hour	Farebox Recovery	Cost Per Pass	Cost per Hour
Capital Transit	2002	991,075	$3,099,800	$523,100	32,963	30.07	16.9%	$ 3.13	$ 94.04
Jefferson Transit	2001	167,395	$1,016,421	$70,161	13,327	12.56	6.9%	$6.07	$76.27
Clallam Transit	2002	683,257	$3,964,000	$322,697	45,000	15.18	8.1%	$5.80	$88.09
Island Transit	2001	518,650	$2,396,977	—	30,087	17.24	—	$4.62	$79.67
Pacific Transit	2002	123,000	$889,000	$45,000	21,000	5.86	5.1%	$7.23	$42.33
Prince Rupert	2003	332,400	$429,706	$196,461	9,905	33.56	45.7%	$1.29	$43.38
Arcata	2000	175,302	$247,649	$71,176	6,792	25.81	28.7%	$1.41	$36.46
Kitimat	2003	188,700	$582,817	$125,883	12,342	15.29	21.6%	$3.09	$47.22
Ketchikan	2002	147,513	$810,402	$188,778	15612	9.45	23.3%	$5.49	$51.91

Table 2-12 shows comparative service span provided by Ketchikan and the peer systems. Weekday service begins earlier in Ketchikan than all locations except Island Transit, which operates commuter feeder buses to the Seattle ferry system. Similarly, weeknight service ends as late or later than all others except Capital Transit in Juneau. Weekend transit operations also are more extensive in Ketchikan than in other peer communities.

TABLE 2-12
COMPARATIVE SERVICE SPAN
KETCHIKAN AND NINE PEER SYSTEMS

Transit System	Weekday Span	Saturday Span	Sunday Span
Capital Transit	7:00 AM - 11:30 PM	7:00 AM - 11:30 PM	9:00 AM - 6:30 PM
Jefferson Transit	6:00 AM - 6:30 PM	7:00 AM - 6:30 PM	9:00 AM - 6:00 PM
Clallam Transit	6:30 AM - 8:00 PM	7:00 AM - 8:00 PM	---
Island Transit	4:00 AM - 8:30 PM	7:15 AM - 6:30 PM	---
Pacific Transit	5:30 AM - 7:30 PM	10:00 AM - 6:00 PM	---
SETD	6:30 AM - 8:00 PM	6:30 AM - 8:00 PM	---
Prince Rupert (Mon – Thu)	7:15 AM - 6:45 PM	8:30 AM - 6:45 PM	---
Prince Rupert (Friday)	7:15 AM - 10:00 PM	8:30 AM - 6:45 PM	---
Arcata	7:00 AM - 7:00 PM	10:00 AM - 5:00 PM	---
Kitimat	5:45 AM - 10:00 PM	5:45 AM - 10:00 PM	5:45 AM - 10:00 PM
Ketchikan	5:15:00 AM - 10:00 PM	5:15:00 AM - 10:00 PM	8:45 M - 3:45 PM

Table 2-13 provides a comparison of current base fares charged in Ketchikan and among nine peers. Ketchikan presently has the highest fare in the group.

TABLE 2-13
COMPARATIVE BASE FARE
KETCHIKAN AND EIGHT PEER SYSTEMS

Transit System	Base Fare
Capital Transit	$1.25 per trip (one-way)
Jefferson Transit	$0.50 per trip
Clallam Transit	$0.75 in Port Angeles, $0.25 for additional zones
Island Transit	None
SETD	$0.75 local, $2.25 max intercity
Prince Rupert	$0.90 per trip US$
Arcata	$1.00, HSU students ride free
Kitimat	$0.97 per trip US$
Ketchikan	$1.50 / $2.25

3 PERFORMANCE MEASUREMENT

Monitoring and evaluating system performance are essential aspects of the transit development process. The 1999 TDP defined a series of goals, objectives, measures and standards to facilitate the ongoing evaluation and periodic modification of the transit system. The purpose of this chapter is to update and refine the performance measurement process, based on actual performance in recent years, current fiscal realities, and perceptions of need among bus riders and the general community.

The transit performance measurement process is comprised of four components:

- ***Goals*** are broad statements of purpose that are grounded in the basic values and aims of the Borough. Goals are intended to be achieved over an extended period of time. They may not measurable in a quantifiable sense, but are useful to reflect and reinforce local perceptions that a program or service is meeting the need for which it was originally intended.

- ***Objectives*** are specific statements that describe the desired results of pursuing a stated goal. These are the means by which goal attainment is measured. Objectives should be measurable over time, and subject to periodic adjustment or recalibration in response to short term results.

- ***Measures*** are the criteria by which specific achievements consistent with system objectives are determined. They provide a quantitative means to assess whether actual performance is meeting or has met adopted objectives. It is suggested that selected performance measures be monitored on a month-to-month basis by transit staff, and reported to the Borough Assembly.

- ***Standards*** define the acceptable thresholds of accomplishment that represent attainment of an objective at a given point in time. Standards may be quantitative (*e.g.,* 20 passengers per revenue hour) or qualitative (*e.g.,* service should be user-friendly).

Updated goals, objectives, measures and standards are presented in the following pages and summarized in Table 3-1. Four goals carry over from the 1999 TDP:

- System safety
- Operating efficiency
- Service effectiveness
- Social equity

TABLE 3-1
TRANSIT PERFORMANCE MEASUREMENT PROCESS
FY 2004 - 2008

Goal	Objective	Measure	Standard
System Safety	Minimize personal injuries	Number of incidents on buses and facilities.	Target zero injuries
	Minimize property loss	Number of preventable vehicle accidents.	< 1 per 100,000 fleet miles
	Safety awareness	Active safety awareness program.	Safety meetings; driver awards
	Vehicle capacity	Occupancy per trip	< 133% of seating
Operating Efficiency	Productivity	Passengers per revenue service hour	12 per hour in FY 05; 15 per hour by FY 08. Paratransit = 2 per hr.
	Cost control	Operating budget	Balanced on an annual basis
	Farebox recovery	Percentage of gross operating costs.	> 33%
	Vehicle condition & availability	Revenue vehicles	Replace at end of useful life; HVAC functional; 1 spare per 5 vehicles of a single type
Service Effectiveness	Service coverage	Route spacing	90% of residents within 660' of a bus stop
	Service span	Hours of operation	Wkdy: 5:30a – 9:30p Sat: 6:30a – 8:30p Sun: 8:30a – 3:30p
	Service frequency	Interval between consecutive buses	30 min. on Tongass 60 mins elsewhere
	Service reliability	– Missed trips – Schedule adherence	< 1% target > 95% target
	Bus shelters	Boarding volumes	> 10 boardings
Social Equity	Transit dependency	Passenger mobility	Adequate consideration
	Public information	Timetable distribution	> 10 = schedule info
	Complementary paratransit	Paratransit service	Meet ADA requirements

A fifth goal included in the FY 1999 TDP -- system growth – arguably should not be retained. The growth of a needs-based public service such as the public transit is more appropriately a result of other goals, rather than itself a goal. Moreover, current state and local fiscal conditions are not conducive to a growth-based TDP. The approved FY 2004 operating budget indicates that the disposition of the Borough is to reduce, rather than grow the transit system in the foreseeable future.

The following pages describe several proposed refinements of the objectives, measures and standards to be used to assess the transit system. Adjustments are intended to reflect recent system performance, transit industry norms, and reasonable expectations for improvement by FY 2008. These are the components of a performance measurement process that should be used to monitor transit system development on a regular basis. Together, they allow the Borough to quantify how well the transit system is achieving its adopted goals.

3.1 System Safety

Safety is an overriding concern in the provision of most public services, and warrants particular focus in the context of public transit operations. The Ketchikan service area presents challenging operating conditions, including hilly terrain, frequent precipitation, long winters, substantial vehicular traffic and pedestrian activity, particularly on Tongass. The Borough should continually implement safety, training and loss prevention activities designed to avoid injuries, and minimize property loss caused by vehicle accidents and incidents involving transit customers, employees and pedestrians.

Four specific objectives are recommended to achieve the goal of providing the safest possible transit service.

- Avoid Injuries: Events on board Ketchikan transit buses that result in injuries to passengers, employees or pedestrians should be avoided through ongoing driver training, timely vehicle maintenance, and raising employee and customer awareness. No standard is applicable; however, the obvious target is to achieve zero injuries on a continuing basis.

- Minimize Property Loss: Vehicle accidents, which are the principal cause of transit property losses, are a bottom-line indicator of how safely the transit system operates. The 1999 TDP stated that an accident rate below the national average of 17,000 fleet miles should be maintained. While the objective is highly applicable, this standard is not adequately stringent. Accidents should be considered in two categories: preventable and non-preventable. Fixed route and complementary paratransit vehicles should operate more than 100,000 vehicle miles between preventable accidents.

- Safety Awareness: The Borough should implement and maintain an ongoing safety awareness program that extends to all transit employees. At a minimum, this should include quarterly operator safety meetings, formal recognition for safe driving records, and timely response to safety concerns raised by customers and employees. A safety committee should convene quarterly or as necessary to evaluate accident preventability.

- Vehicle Capacity: Transit service supply should be adequate to avoid serious overcrowding on board local buses. Overcrowding is not a common occurrence on the Ketchikan system, except on selected Blue Line trips during the summer months. Some standees should be reasonably anticipated during peak operating periods; however, passenger loads should not be excessive and standing times should not exceed 15 minutes. The 1999 TDP defined a standard that the number of passengers on board a bus should not exceed 133% of the seated capacity of the bus. This standard would allow up to six standees on an 18-passenger bus, and ten standees on a 29-passenger bus, and should be considered the maximum loading standard for any one-way trip. This is a reasonable standard and should be retained. Based on past experience, few if any non-ambulatory customers have not had a seat or wheelchair securement available when boarding. Therefore, no accessible capacity appears to be necessary at this time.

3.2 Operating Efficiency

Recognizing the dependence of the transit system on external funding, including Borough general revenues, a second important goal is to operate the transit system as efficiently as possible within defined parameters. Transit operating efficiency is measured both in terms of passenger utilization and cost-revenue criteria, and is influenced by service level, ridership, and the fare structure. Three objectives are proposed:

- Service Productivity: A basic objective of Borough government is to maximize the productivity of services it provides. Setting a minimum standard for the productivity of local transit service is appropriate to assure taxpayers that bus service is well utilized. The most common measure of transit service productivity is the average number of passengers carried on the system per revenue service hour.

  Although the 1999 TDP defined a minimum productivity standard of 20 passengers per vehicle service hour, actual system performance both before and after the 2002 system expansion suggests that this is an unattainable level. As noted in chapter 2, system productivity declined significantly during the past three years, from 11.5 passengers per service hour in FY 2001 to 8.1 passengers per hour[7] in FY 2003. The drop was attributable primarily to the expansion of a two-bus system to three

[7] Based on 23,768 annual vehicle service hours, and approximately 191,990 passenger boardings.

buses in January 2002, and to four buses in May 2002. Recognizing that the productivity standard established in the FY 1999 TDP is an unrealistic expectation for the present system, revised standards are recommended. The regular route system should carry a minimum average of 12 passengers per revenue service hour by FY 2005, and 15 passengers per revenue service hour by FY 2008. Complementary paratransit service should carry a minimum average of two passengers per vehicle hour.

- Cost Control: The transit system operating budget must be sustainable from year to year by a combination of farebox revenues, federal and state grants, local operating assistance, advertising and other revenues as available. An annually balanced operating budget is a basic cost control standard. To avoid further service reductions in future years, the Borough should actively manage the rate of increase in system operating expenses from year to year. This should include the periodic reconsideration of service delivery arrangements, facility costs and other overhead expenses. As a guideline, the average hourly cost of providing transit service should not increase faster than the general inflation rate from year to year, adjusted for negotiated labor and fringe benefit increases, sudden market variations in fuel costs, or other factors.

- Farebox Recovery: The percentage of gross operating expenses recovered through direct system revenues, including fares, advertising and miscellaneous local revenues, is a common indicator of transit cost efficiency.[8] The 1999 TDP set a 33% cost recovery standard, which is near the high end of the range experienced by small transit systems in the western United States and Canada. However, actual performance during the preceding two years drifted below this level, to 27.4% in FY 2002, and 31% in FY 2003. The standard is still considered attainable and should be pursued through FY 2008.

- Vehicle Condition and Availability: All buses operating in revenue service must be dependable to minimize service disruptions. Vehicle age, condition and upkeep all contribute to overall vehicle reliability and availability. To guide capital programming decisions, no vehicle should be regularly assigned to revenue service beyond its useful life as defined by FTA. One spare vehicle should be available at all times to support operation of up to five vehicles of a single type.

3.3 Service Effectiveness

Transit system effectiveness is a function of how well residents and visitors are able to get around Ketchikan using the bus. Several factors influence the perception of transit effectiveness, including: proximity of routes and bus stops to residents; the time span during which bus services are available; the scheduled frequency between consecutive buses operating on a given route; adherence to published timetables; and waiting

[8] Unlike Ketchikan, most transit systems exclude advertising and other non-farebox revenues from their cost recovery calculations.

conditions at bus stops. It is understood that transit service coverage, span and frequency generally should be consistent with consumer demand for service. Increases or decreases in service levels should be made in consideration of total residents served, actual and anticipated ridership, community demographics and other factors.

- Service Coverage: This measure addresses the physical distribution of transit resources within the service area. It is commonly accepted that bus routes should be designed to offer access to largest possible number of service area residents and employers, subject to practical constraints. A key measure of transit service coverage is the percentage of residents within defined walking distance to the nearest bus stop. The 1999 TDP established a service design standard to ensure that most residents of the City of Ketchikan live within one-eighth of a mile, or five minutes walking distance of a bus route. While this standard is aggressive relative to industry norms,[9] it probably is reasonable considering local weather and topographic conditions. Similarly, "most" residents typically is interpreted to mean upwards of 90%, rather than a bare majority. It is also accepted that transit coverage should reach most commercial and institutional trip generators, including the downtown area, work sites with 25 or more daytime employees, Ketchikan General Hospital, UAS campus facilities and all secondary schools, shopping centers and government services.

- Service Span: Transit system operating days and hours are particularly important to those who use the bus as their primary travel mode. The 1999 TDP asserted that Borough transit services should run from 6:00 am until 9:00 pm, Monday through Saturday, and from 7:30 am until 9:30 pm on Sunday. Actual weekday and Saturday service hours are slightly longer, extending from 5:15 am until 9:45 pm, while Sunday service day is shorter, operating from 8:45 am until 3:45 pm only. Given prevailing budget conditions, it is recommended that system operating hours should remain substantially similar to FY 2003 levels on weekdays and Saturdays. However, Sunday service span should be extended later into the late afternoon and evening hours. Recommended minimum service spans are:

  - Weekday: 5:30 am - 9:30 pm
  - Saturday: 5:30 am – 9:30 pm
  - Sunday: 8:30 am – 7:30 pm

  By law, the span of complementary paratransit service must be comparable to local fixed route service.

- Service Frequency: Route frequency refers to the interval of time between consecutive buses passing any given bus stop. The 1999 TDP established a minimum frequency standard of 60 minutes, and suggested even intervals between buses. This standard is consistent with industry norms, and suitable to local conditions. Hence, it should be retained. It is further recommended that a minimum 30-minute frequency standard

[9] More typically, the access standard is defined as one-quarter mile from the nearest bus stop.

apply to the Tongass Avenue corridor within the City of Ketchikan. Higher frequencies should be considered when warranted by consumer demand, and as affordable.

- Schedule Reliability: Bus riders are highly sensitive to the on-time performance of the transit system. The 1999 TDP identified two system reliability measures: Missed trips and schedule adherence. A missed trip is a one-way trip not completed for any reason, or one that arrives to end of the line late by more than one-half of the route frequency (*e.g.* - 31 minutes or more late on a route operating every 60 minutes). The total number of missed trips should not exceed one percent (1%) of all scheduled trips in any given month.

  The current standard for schedule adherence is that 90% of all scheduled trips should run on time.[10] This should be viewed as an absolute minimum, and a 95% or higher target should be considered. Currently, the transit system does not have an ongoing process for monitoring or reporting on-time performance. The April 2003 ride check indicated that running time adjustments may be warranted during afternoon and early evening hours. However, customer survey results suggested that most riders feel that buses generally adhere to published schedules. Given the existing schedule cycle times of the existing Blue and Green Lines, route adjustments may ultimately be required to resolve running time problems if they become chronic.

- Bus Shelters: The 1999 TDP established standards for placement of passenger shelters and posted schedule information displays at bus stops. Generally, bus stops that generate 20 or more boardings per day, and stops that are particularly exposed to inclement weather, should be equipped with a shelter. Ridership data collected in April 2003 indicate that seven locations qualify for a shelter using this criterion: Plaza Mall; Library; Front & Grant; Marine Highway dock; Tongass Towers; Walmart and Ketchikan General Hospital. Unique weather conditions in Ketchikan may justify a lower minimum threshold for shelter placement. A minimum of ten daily boardings is suggested as a more appropriate local standard.

3.4 Social Equity

Although the goal of the Borough is to make the transit system uniformly accessible to the public, it must also be recognized that defined population groups are far more likely to need bus service than others. It is appropriate that persons with mobility challenges caused by age, income, disability, or limited access to a personal automobile should receive particular consideration in service allocation decisions. Three related objectives are proposed:

- Public Information: Accurate and complete information concerning local transit routes and schedules, bus stop and fare information should be readily available to service

[10] "On time" typically is defined as zero minutes before to five minutes after the published time of departure.

area residents and visitors. Route maps and timetables should be updated and reprinted regularly, and distributed aboard all buses, via the Borough's Internet website, and at popular destinations in the community. Schedule information should be available by telephone whenever buses are in operation and the number of incoming calls average three or more per hour. Stops that generate ten or more boardings per day should be equipped with a shelter-mounted schedule information display.

- Transit Dependency: The transit system should recognize and address when possible the unique mobility requirements of persons who are dependent on public transportation. Those more likely to be fully dependent on the bus include persons with physical or developmental disabilities, older adults, and residents of low income and zero-auto ownership household members.

- Complementary Paratransit: The Borough will continue to meet all Americans with Disabilities Act requirements concerning provision of complementary paratransit service to eligible persons.

3.5 Additional Complementary Paratransit Guidelines

Given its many differences from fixed route service, it is useful to consider additional performance measures applicable to complementary paratransit services operated by the Ketchikan Senior Center.

- Capacity: Because demand responsive service does not operate on a fixed schedule, a minimum service level relative to demand is best defined by the percentage of passenger demand that cannot be accommodated on the system. At least ninety-nine percent (99%) of ADA complementary paratransit trips should be accommodated.

- On-board Travel Time: When scheduling and dispatching paratransit service, a trade-off exists between the number of riders who can be accommodated into the schedule and the amount of time each passenger remains on board before arriving at his/her destination. At one extreme of this trade-off is exclusive ride taxi service, in which a passenger typically is picked up and transported directly to the desired destination with no intervening pickups or drop-offs. This type of service generates a high level of passenger satisfaction, but yields a low level of service productivity. At the opposite extreme would be a "shared ride" service with no associated limit on how long a rider might remain on board before reaching his/her destination. This type of dispatching would yield a low level of passenger satisfaction, but greater scheduling efficiency. A suggested guideline for Ketchikan is that 90% of all one-way paratransit trips should be completed within 30 minutes. No passenger trip should require longer than 45 minutes of on-board travel between origin and destination within the current fixed route service area.

- Paratransit Schedule Adherence: Each passenger who reserves a demand responsive trip should be given an estimated scheduled pickup time. Variations between scheduled and actual pickup times should be minimized. Generally, at least ninety-five percent (95%) of all actual pickups should occur not more than 15 minutes before or after their scheduled time. This standard does not apply to return trips scheduled on a "will call" basis.

- Paratransit Reservations Capacity: The Borough should provide adequate telephone capacity and personnel to handle incoming calls for paratransit service information and reservations. Reservations for subscription and incidental trips should be accepted. At least ninety-five percent (95%) of all incoming calls should be answered by the fourth ring. When a recorded message is used to intercept and hold incoming calls, no caller should be placed on hold for more than three (3) minutes before connecting with reservations personnel. Not more than five percent (5%) of all attempted incoming information and reservations calls should receive a busy signal. Subscription reservations for regularly recurring trips for employment, school, and medical trips should be accepted up to the ADA limitation of 50% of total system capacity, calculated by time of day.

4 FINDINGS AND RECOMMENDATIONS

4.1 Overview

Changing fiscal conditions in the Ketchikan Borough present significant challenges to the transit planning process. Local transit operations essentially doubled in scope in FY 2002, with the addition of Blue Line service on the Tongass Highway between Saxman and the North Shoreline. Ridership increased by 30% during the first 12 months following the service expansion, and 44% over a two-year period to reflect strong demand for transit service in the community. Independent of budget considerations, it would be reasonable to conclude that the Borough's transit program has been quite successful in recent years, and is on track in terms of implementing many of the recommendations adopted in the previous TDP.

However, such optimism must be tempered with the recognition that the approved FY 2004 transit operating budget is 35% less than FY 2003 actual transit operating expenses. In view of the short-term fiscal expectations of the Borough, and the relative dependence of the transit system on local revenues, the only practical course is a strategic downsizing of service levels and administrative costs.

The approach of this TDP is to respond to the Borough Assembly's need for flexibility in defining the five-year horizon for the public transit system. Three system development scenarios are offered to accommodate the uncertain fiscal conditions that likely will cloud the transit planning process for the next several years:

- *Unconstrained System Development* – Recommendations are based on recent past performance and demand considerations, without specific concern for the approved FY 2004 transit operating budget.

- *Constrained System Development* – Recommendations are based on providing the best possible transit service within the limitations of the approved FY 2004 operating budget, adjusted for inflation.

- *System Growth Opportunities* – Preliminary recommendations for geographic expansion of the transit system are presented for discussion purposes, and should be considered in addition to the unconstrained development scenario as funding permits.

Scenario 1: Unconstrained System Development

The focus of this scenario is on maintaining, refining and enhancing the expanded system inaugurated in May 2002. This assumes that transit service would continue to operate seven days per week, for approximately 16 hours per weekday and Saturday as at present, and for 12 hours on Sunday, rather than seven hours at present. The estimated 23,500 annual vehicle service hours required to operate the system would remain very nearly the same as the FY 2003 total, although two additional buses would be required to support a six-bus peak period from 11:30 am until 6:30 pm on weekdays and Saturdays. Three buses would operate at other times. Conceptual schedules for the unconstrained system appear in Appendix E.

While all existing route segments would continue to be covered, restructuring of the current Blue and Green Line alignments is recommended. The modified route network is shown in Figure 4-1. The changes are intended to achieve four important design objectives:

1. Reduce transit travel times for residents in the Baranof-Carlanna neighborhood, as well as for UAS and Ketchikan High School students, by installing bi-directional service on the existing one-way Green Line alignment comprised of Carlanna Lake Road, Baranof Avenue, Jackson Street, 7th Street, College Court, and Jefferson Street. One-way loop service would be maintained on the short loop consisting of Buren Road, Alaska Avenue, Tower Road, and Baranof Avenue.

2. Integrate the two routes into a common schedule within a defined Tongass transit corridor extending from North Tongass Highway at Signal Road to Stedman Street at Deermount Street. Integrated scheduling would ensure that the time intervals between consecutive buses operating in the transit corridor remain evenly spaced for the entire length of the corridor.

3. Avoid inconvenient transfers between the existing Blue and Green Lines at Plaza Mall. Transfers presently are required to complete bus trips between densely populated residential neighborhoods in Ketchikan and North Shoreline commercial destinations, including Walmart.

4. Extend service further south on South Tongass Highway in Saxman, from the existing terminus at Bear Clan/Meridian Street to Rotary Beach Park at Bugge Road.

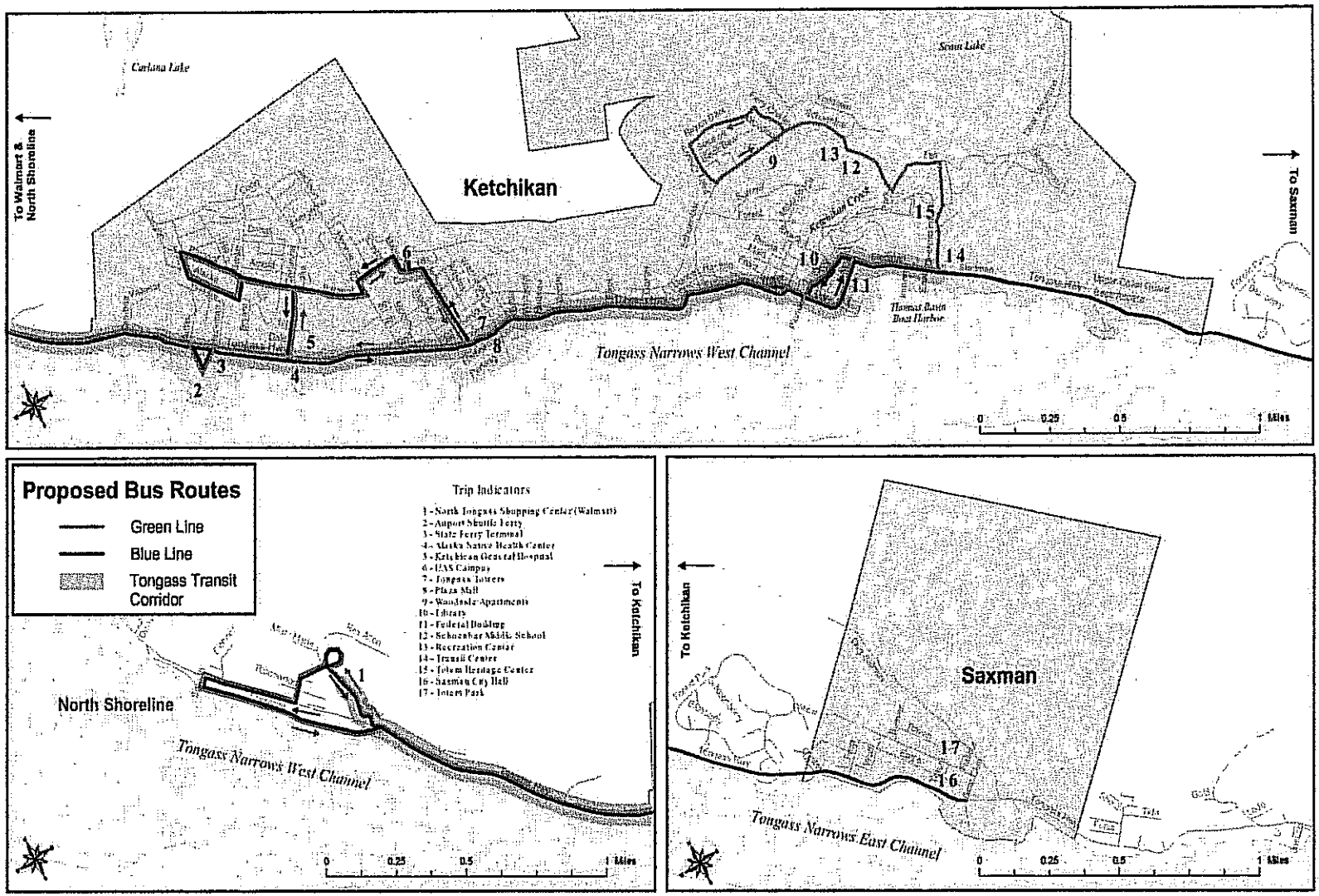


Figure 4-1: Option 1 Service Plan - Unconstrained System Route Network

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Scenario 2: Constrained System Development

The focus of this scenario is to consolidate the gains of the recent system expansion within the practical limitations imposed by the FY 2004 approved budget of $581,170. This amount is 35% less than actual FY 2003 operating expenses, before inflation. Targeted savings of approximately $330,000 are recommended to bring budgeted revenues and expenses into balance on an annualized basis, although not necessarily by the conclusion of FY 2004. These savings would be attained through a combination of service reductions worth at least $255,000 in net direct operating expenses (after revenue loss), plus fixed cost reductions of at least $75,000.

The constrained system service plan deploys two, three or four buses at various times, and assumes a maximum scheduled output of 15,000 annual service hours. Service span would remain comparable to conditions prevailing in FY 2003; approximately 16 hours per weekday and Saturday, and eight hours per Sunday. The needed service reductions would be accomplished through incremental frequency reductions on existing routes, or in conjunction with the alignment modifications proposed for implementation under the unconstrained system plan.

Scenario 3: System Growth Opportunities

Given momentary fiscal and demographic conditions in Ketchikan, it is premature to suggest further expansion of the transit service area. Nevertheless, it is useful to highlight the likely directions of future system growth even if they presently seem unlikely to occur by FY 2008. Three short to medium range needs may warrant detailed consideration at the appropriate time:

- Ward Cove and Totem Bight – Originally proposed as part of Phase II of the FY 1999-2003 TDP service plan, a new route was to serve the North Tongass Highway from approximately Mile 10 south to the library in downtown Ketchikan. As a practical matter, the new route could overlay the existing Blue Line south of Walmart, and the existing Green Line south of the Airport Ferry terminal as suggested, or alternatively could be designed as an extension of an existing route. Service presumably would operate morning and afternoon commute-oriented schedules coordinated with work shift times at the Ward Cove Industrial Park. Service would consist of up to four southbound trips and three northbound trips in the morning, and four northbound and three southbound trips in the afternoon. Despite reduced economic activity in Ward Cove in recent years, limited peak service on Tongass north of Spaeth Road still warrants consideration in the future.

- Mountain Point – Customer and general public surveys conducted in April 2003 indicated moderate interest in new service on the South Tongass Highway, extending from Saxman south to approximately Mile 7 in Mountain Point. Currently, the Blue Line operates south of the Saxman City Hall to Clan Bear and

Meridian Streets. This is the interim terminal location for the Annette Island ferry, which is expected to begin operating in FY 2005. The unconstrained plan includes a 0.5-mile extension south to Rotary Beach Park, near Bugge Road. Once implemented, this segment area would incorporate Shoup Street into the fixed route service area, which was specifically requested by a small number of survey respondents. Subsequent extension from Bugge Road to Mountain Point may be warranted as the population and development density of the area increase.

- Pennock Island and Gravina Island – The proposed construction of a new bridge from Ketchikan to Gravina Island via Pennock Island likely would spur the need for a bus connection to the Airport and new development facilitated by the bridge. The level of transit service required would depend on whether the existing airport ferry operation would be retained or discontinued following the opening of a new bridge, as well as the character of eventual land uses on Gravina Island.

4.2 Recommended Service Plan

This section describes the recommended five-year transit service plan for the Ketchikan Gateway Borough. The plan assumes the constrained system development scenario, with a maximum annual output of 15,000 annual service hours through FY 2007. Recognizing that fiscal conditions could improve by FY 2008, the plan also identifies the incremental steps required to upgrade to the unconstrained system level of 23,500 annual service hours.

FY 2004 through FY 2007

To achieve the financial objectives associated with the FY 2004 approved budget, the Borough must enact a service reduction of 8,500 - 9,000 annual vehicle service hours in FY 2004. Practically speaking, the service reduction should be implemented as soon as possible following conclusion of the 2003 visitor season. Two alternative perspectives on service reduction are discussed in the following pages.

Option 1: Three Buses Operating on Modified Routes

One approach would be implement the route network recommended in the unconstrained system development scenario, as shown in Figure 4-1. This would require that service frequencies be reduced to 30 minutes in the Tongass transit corridor, and to 60 minutes on most other route segments. Service frequencies would remain constant by time period throughout the service day. Conceptual operating schedules for the redesigned Blue and Green Lines are provided in Appendix E. These schedules require the deployment of three buses at all times, rather than the current four.

Option 2: Reduce Frequency on Existing Routes

An alternative approach would be to leave the existing routes intact, and focus on selectively reducing service frequencies commensurate with passenger volumes generated by season, day of week, and time of day. Existing Blue and Green Line operating alignments are shown in Figure 4-2. As suggested by Borough transit staff, the following reductions would result in schedules operating approximately 14,100 annual service hours:

- Reduce Green Line service frequency from the present 30 minutes to 60 minutes on weekday and Saturday mornings until 11:30 am, and after 6:30 pm in the evening.

- Reduce Blue Line service frequency from the present 30 minutes to 60 minutes at all times during for eight months per year (from September 15th through May 15th).

Sample operating schedules for the Green and Blue Line are contained in Appendix E. These schedules would require the deployment of two, three, or four buses at various time periods, as summarized in Table 4-1.

TABLE 4-1
FY 2004 SERVICE OPTION 2
BUSES IN SERVICE BY TIME PERIOD

Season	Service Day	Time Period	Blue Line	Green Line	Total Buses
Summer (4 mos.)	Weekday/Saturday	5:15a – 11:30a	2	1	3
		11:30a – 6:30 p	2	2	4
		6:30p – 10:00p	2	1	3
	Sunday	8:45a – 3:45p	1	1	2
Winter (8 mos.)	Weekday/Saturday	5:15a – 11:30a	1	1	2
		11:30a – 6:30 p	1	2	3
		6:30p – 10:00p	1	1	2
	Sunday	8:45a – 3:45p	1	1	2

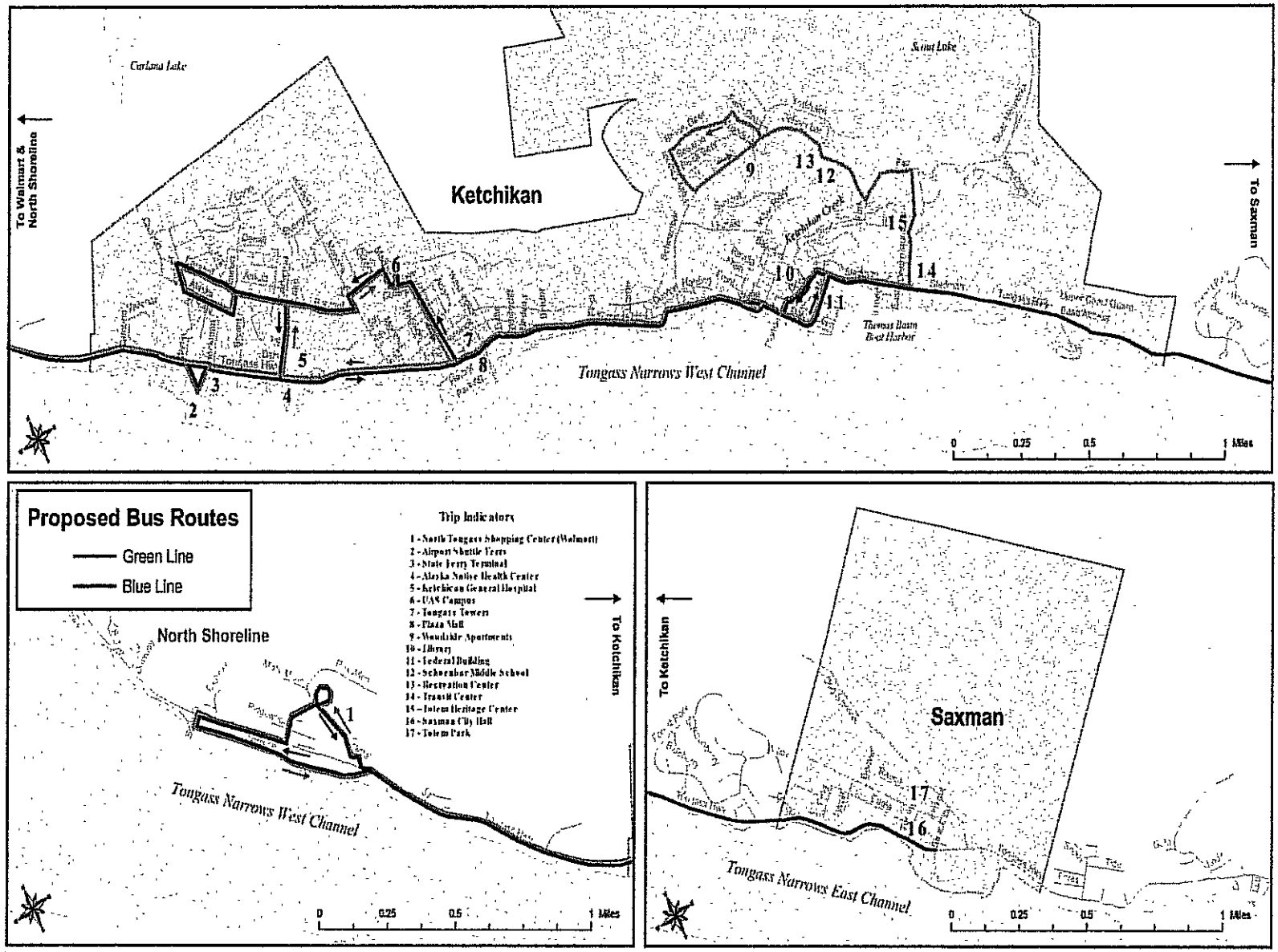

Figure 4-2: Option 2 Service Plan - Proposed Routing

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Retention of the existing route structure presents positive and negative trade-offs for transit users. On one hand, it may seem initially less disruptive for existing customers, who will face service frequency reductions in any event. Changing the routes could amplify short-term ridership losses, at least until customers become accustomed to the changes. Option 2 would leave afternoon and early evening Green Line riders unaffected, and most Blue Line riders in the summer months. This includes many thousands of Ketchikan visitors who make use of the transit system when the cruise ships are in port.

These issues must be weighed against the perceived weaknesses in the present route structure. As noted earlier, bus travel from Ketchikan's relatively populous Baranof-Carlanna and Bear Valley neighborhoods to Walmart and other North Shoreline businesses currently requires a transfer between the Green and Blue Lines on Tongass Avenue. Under existing schedules, passengers must wait 15 minutes between buses at Plaza Mall. The reduced service frequencies inherent in either constrained service option will increase transfer wait times to 30 minutes for many passengers, which in some cases would be longer than the combined on-board travel time required to make the trip in two buses. Moreover, restructuring would improve service quality in the Baranof-Carlanna neighborhood, which currently is covered by a large, one-way loop yielding unattractive bus travel times relative to comparable personal auto travel. This design weakness impacts not only neighborhood residents, but deters UAS and Ketchikan High School students coming from other parts of the service area as well.

FY 2008

Full implementation of unconstrained development scenario service level is recommended within the five-year planning period, assuming that fiscal conditions in the Borough improve. The service upgrade would require the Borough to add two more buses to the fleet to sustain a six-bus peak operation with at least one spare.

4.3 Recommended Management Plan

This section discusses three major aspects of transit system management, including organizational design, management staffing, and institutional method of service delivery.

Regardless of year-to-year changes in service level, the Borough transit program requires effective oversight of day-to-day operations and maintenance activities and personnel. The transit manager currently oversees fixed route transit operations, which entails recurring tasks such as assignment and supervision of bus drivers, vehicle dispatching and radio control, accident/incident investigation, training, safety awareness, revenue monitoring, pass and ticket accounting, and related documentation and reporting. The transit manager also has maintenance oversight responsibilities, including coordinating vehicle availability with the Ward Cove-based transit mechanic,

monitoring bus assignments and pre-trip inspections, and reporting to federal/state granting agencies.

Management stability and continuity also is desirable to expedite various administrative, planning, and grant-related tasks, and to ensure that vendors and contractors fulfill their obligations to the Borough. Principal responsibilities of the transit manager include customer service and public information, grant management and procurement activities, liaison with ADOT/PF staff, service planning and scheduling, compilation of ridership and operating reports, and monitoring complementary paratransit services provided by the Ketchikan Senior Center under contract to the Borough.

The system evaluation documented in Chapter 2 generally observed that the local transit system is well managed on a day-to-day basis, and is in compliance with all applicable laws and regulations. Functionally, the transit program is part of the Borough Public Works Department. This is a common form of organization found among public transit systems sponsored by municipalities and rural county governments. Management and supervisory responsibilities are concentrated under a full-time transit manager, with some assistance from a lead driver. This is an appropriate staffing level for the Ketchikan transit system, based on peer system practices. Under more favorable budget conditions, significant changes in organizational location or management staffing level would less likely have been proposed.

However, the likelihood of downsized operations in FY 2004 is reasonable cause to conclude that the transit system may no longer be able to afford a full-time manager. Given that appropriate reductions in system overhead expenses will lessen the need for service cuts, it is suggested that the transit manager be reduced to a half-time position for the foreseeable future. This action may require a partial transfer of responsibilities to other Borough staff, and there is some possibility that less critical tasks might no longer be performed. Selected operational functions could be transitioned from the manager to the Lead Driver. However, decisions affecting overtime and leave authorization, performance issues, and disciplinary actions must be retained by the manager. As fiscal conditions improve, the Borough should reassess if and when the transit manager would be restored to full-time status.

The third key transit management issue concerns the Borough's method of delivering service. Since assuming responsibility for local fixed route transit in 1986, the Borough continuously has operated the service directly, using Borough employees to drive, fuel and maintain the buses. Following the enactment of federal requirements for complementary paratransit service in the 1990's, the Borough chose to contract with the Ketchikan Senior Center for service delivery instead of operating it directly. These service delivery arrangements presumably were selected because they were the most cost effective options available at the time.

Since these arrangements have been in place for many years, it may be appropriate for the Borough to determine whether they are still the most cost effective methods available. It should be noted that contracting for service delivery does not separate the

Borough from transit ownership and financing obligations. Therefore, the decision to "make or buy" fixed route and paratransit services should hinge primarily on the relative cost assuming comparable service quality. The analysis should include both capital and operating costs.

There are numerous examples of both directly operated systems and service contract arrangements among small transit systems. A typical contracting scenario would assign responsibility for day-to-day transportation service delivery to a competent vendor, which would supply drivers, dispatch and supervision, telephone information, and usually, although not always vehicle maintenance. Meanwhile, Borough staff would retain responsibility for policy direction, planning, grant management and administrative tasks, liaison with state transportation officials, community relations and customer information.

Under a contracting scenario, the transit manager would be considerably less involved in direct transit operations, but considerably more engaged in regularly monitoring contractor performance relative to defined service measures and standards. The Borough logically would provide rolling stock for restricted use by the contractor, as vehicles typically have been funded entirely through federal and state grants. However, it would not necessarily be financially advantageous to supply an operating facility to the contractor. Ketchikan is relatively fortunate for a community its size to have two or more viable private providers with a local base of operations. While the presence of these resources does not necessarily guarantee cost savings to the Borough, they do offer a positive indication that there may be competitive interest among potential contractors in providing transit operations and maintenance services under contract to the Ketchikan Borough.

It is suggested that the Borough consider a competitive solicitation within the next one to two years, in order to determine whether contracting for vehicle operations and maintenance would reduce the Borough's cost of providing transit service by a significant margin. The process should invite comparable bids from for-profit vendors, private, not-for-profit agencies, and the Borough itself. Acceptance of bids or proposals should not necessarily obligate the Borough to take any particular action.

Similarly, the Borough should review the terms of its current contract with the Ketchikan Senior Center governing provision of ADA-mandated complementary paratransit service. A competitive reselection process would identify whether the present contract represents the most cost-effective option for paratransit service delivery, or alternatively whether it would be better to consolidate fixed route and paratransit operations under Borough or another contractor.

4.4 Recommended Capital Plan

This section describes the capital assets required to support transit system operations at proposed levels during the next five years. Capital assets are considered in three categories:

- Rolling stock
- Operations and maintenance facilities
- Bus stop improvements

The Borough currently owns and operates six buses, leases a garage at 715 Stedman Street, conducts most transit maintenance at the Borough's central garage in Ward Cove, and maintains passenger shelters erected in recent years along Tongass Avenue by ADOT&PF. A proposed five-year, $2.9 million capital improvement plan designed to replace and supplement these assets as necessary, is summarized in Table 4-2 and described in the following paragraphs.

TABLE 4-2
KETCHIKAN BOROUGH TRANSIT
FIVE-YEAR CAPITAL IMPROVEMENT SUMMARY
FY 2004 - 2008

FY Asset	2004	2005	2006	2007	2008	Total
Rolling Stock						
• Replacement	0	0	1,188,000	0	0	1,188,000
• Expansion	0	0	0	550,000	0	550,000
Operating Facility						
• A&E/Design	0	0	0	75,000	0	75,000
• Implementation	0	0	0	0	750,000	750,000
Bus Stops						
• Shelters	50,000	215,000	0	100,000	100,000	465,000
Total	**50,000**	**215,000**	**1,188,000**	**725,000**	**750,000**	**2,928,000**
Revenue Source						
FTA Section 5309	0	0	0	60,000	600,000	660,000
FHWA - STP	45,500	195,600	1,080,700	585,000	0	1,906,800
State of Alaska	4,500	19,400	107,300	80,000	150,000	361,200
Ketchikan Borough	0	0	0	0	0	0

Rolling Stock

The Borough owns and operates five active revenue vehicles, including three 2001 and 2002 International 22' small light-duty buses, and two 1995 Gillig 35' standard heavy-duty buses. Four buses are deployed in daily revenue service, and the fifth is used to support preventive maintenance activities and necessary repairs. A fully depreciated sixth vehicle is retained as an additional spare in the event of emergencies.

Consistent with the previous TDP and the preferences of transit management staff, it is recommended that the Borough replace the three Internationals and rehabilitate one or both Gilligs in FY 2006. These actions are necessary to support transit operations at the constrained system level of service, and coincide with the approved FY 2004-06 State Transportation Improvement Program (STIP), which includes $1,188,000 of federal Surface Transportation Program (STP) and State matching funds to purchase three new heavy duty low floor buses and refurbish the two Gilligs.

At least two additional new buses would be needed to support operations at the unconstrained system service level. Assuming that adequate funding is available to fund the unconstrained service plan in FY 2008, funding for the additional buses would need to be programmed in the FY 2007 STIP.

The previous TDP included a detailed discussion of bus sizes and styles considered best suited to operating conditions in Ketchikan. It was recommended in 1999 that the Borough purchase low-floor heavy duty buses to replace the Gilligs in FY 2006, contingent upon the Borough constructing a new garage considered necessary to maintain these relatively specialized vehicles. The move toward low floor buses is industry-wide, and motivated by a desire to improve the accessibility, convenience and reliability of transit buses. In recent years, neighboring systems in Juneau (Capital Transit), Prince Rupert, and Kitimat (BC Transit) have purchased low floor bus models. Nationwide, low floor models now constitute a majority of all heavy duty buses purchased by US transit agencies.

Meanwhile, the Internationals acquired in 2002 were intended to supply greater passenger capacity than the previous generation of small, light-duty vehicles operated by the Borough. One reason cited in the prior TDP for having some small buses was that the grade on Jefferson Street tended to cause the Gilligs to bottom out. However, transit operators and maintenance staff subsequently concluded that the Internationals are not well suited to operating conditions in Ketchikan, citing both safety and durability concerns. Maintenance records show at least two tail swing accidents and one brake failure in the past two years. Several bus operators stated that the Internationals do not handle well on the narrow, hilly, and frequently wet roads in Ketchikan.

Operating Facility

A continuing concern for the Borough is that the transit system lacks a permanent facility capable of housing operations and maintenance at a common location. In February 2002, the Borough leased a 4,200 square foot garage at 715 Stedman Street with the intention that operations and maintenance would be consolidated there. However, low ceiling clearance in the building precluded the use of portable hoists, and after some months the transit mechanic was relocated to the Borough central garage in Ward Cove. Since then, use of the Stedman garage has been limited to the dispatch office, driver ready room, and indoor bus parking area.

The previous TDP concluded in 1999 that the physical separation of the operations and maintenance functions was inconvenient and, at times, disruptive to smooth transit operations. At the time, the buses were maintained by Borough mechanics at the Airport on Gravina Island, but parked overnight in an outdoor location on Revilla Island. The plan recommended that the Borough construct a new facility designed to meet short and long term needs.

Despite the recommendation, the current situation is not significantly different from five years ago. While transit maintenance was shifted from the Airport to Revilla Island, the Ward Cove facility is characterized by some of the same constraints of remote location. In December, 2002, Borough staff considered relocating the dispatch function to Ward Cove, but rejected the idea because of the increased vehicle deadheading and labor costs that would have resulted.

As a practical matter, the annual lease cost of the Stedman building facility represents one-twelfth of the total FY 2004 budget, a high cost relative to the benefits provided by the facility. In consideration of proposed service and management downsizing actions, the need for the dispatch office and driver ready room reasonably may be called into question. Even at present operating levels, the dispatch office is closed for significant portions of the service day, including times when the transit manager is involved in meetings or other business away from the office, when the lead driver is on the road, and in between driver shift changes. The need for the dispatch office likely will become even more marginal if the transit manager is reduced to a part-time position. Similarly, the need for heated indoor vehicle parking may warrant reconsideration, given that other fleet operators in the area do not park vehicles indoors overnight.

The recommended capital plan reiterates the preference for a consolidated facility to house transit operations and vehicle maintenance in a common location. The permanent facility preferably should be situated on one or both bus routes, or at the very least located within the current transit service area. Transit management considers the Schoenbar warehouse property, which is owned by the Borough, as a viable interim site. Alternatively, vehicle operations could relocate for the short term to the Borough central garage in Ward Cove, where vehicle maintenance already is conducted. This would accomplish the basic objective of consolidating transit under one roof, but would also add $15,000 annually in driver wages, fuel and maintenance costs.

As a longer term strategy, the Borough should definitively assess the need for a new transit operations and maintenance facility, possibly in context of other publicly operated vehicle fleets in the Ketchikan area. The desirability of a new facility owned by the Borough is highly contingent upon whether the Borough continues to operate the transit system directly, or alternatively considers contracting with the private sector for vehicle operations and maintenance.

Assuming the Borough continues its role as direct operator, future FTA discretionary funds could be sought to pay for up to 80% of the cost of a new transit facility in Ketchikan. This could be either a stand-alone facility for the transit system, or a shared-use complex to house multiple fleets used for Borough, City or other public functions. Borough staff should initiate discussions with ADOT/PF to sponsor a request for an earmark of FTA Section 5309 discretionary capital funds to design and construct a permanent operating and maintenance facility. Pending such discussions, the plan suggests that the Borough solicit funding in FY 2007 and FY 2008 for design and construction in two phases.

However, the suggested course of action could be quite different if the Borough prefers instead to contract for transit operations and maintenance services. At least two qualified transportation companies already doing business in Ketchikan possess operating facilities that could readily absorb the small transit fleet if the Borough were to choose a contracting approach over direct operation. Under these circumstances, it likely would be more cost effective to pay the contractor for the incremental use of an existing facility, rather than to provide a new facility owned by the Borough as part of the service contract.

Bus Stop Improvements

Tongass Avenue provides a challenging physical environment for transit riders and bus operators alike. Comparatively high afternoon and evening traffic volumes, roadway and intersection geometrics, curb and sidewalk conditions, and extended periods of rain and darkness collectively influence the safety and convenience of using the bus in Ketchikan.

The recommended capital plan provides for the installation of additional passenger shelters at local bus stops. Shelters are uniquely beneficial in the Ketchikan climate, and contribute directly to enhanced customer safety and comfort. A number of shelters were incorporated into reconstruction projects on Tongass Avenue in recent years, with demonstrated results. Project features included wider sidewalks, curb cuts to improve accessibility, pedestrian crosswalks, bus pullouts, and passenger shelters. A total of $265,000 in FY 2004 and FY 2005 are incorporated into approved STIP, and an additional $200,000 is suggested in FY 2007 and FY 2008. Specific projects should be prioritized on the basis of passenger boarding volumes discussed in chapter 2 of this TDP.

As noted in chapter 3, it is recommended that all existing bus stops that generate at least ten passenger boardings per average weekly ultimately should be equipped with a shelter.

In addition to shelters and sidewalk improvements at existing bus stops, the Borough should consider several new stops needed to improve passenger access. New stop locations requested by customers surveyed in April 2003 include Stedman at Deermount (both directions), and North Tongass opposite the A&P Family Market (southbound).

4.5 Recommended Financial Plan

This section provides a five-year forecast of transit system revenues and expenses, consistent with the recommended operating and capital plans described earlier in this chapter. Annual transit operating budget estimates through FY 2008 are shown in Table 4-3. Total operating costs are projected to increase from the budgeted $581,700 in FY 2004, to approximately $653,800 by FY 2007, assuming a constant service level and a 4% inflation rate. Operating costs would rise sharply in FY 2008 to an estimated $1,039,000 if the unconstrained system service level is implemented in July 2007.

Estimated revenues needed to maintain a balanced operating budget on a year-to-year basis also are shown in Table 4-3. Revenue trends are not necessarily positive for Ketchikan Borough Transit. Short-range planning is made more difficult by uncertainty relative to future local subsidy levels from the Borough, which fulfilled nearly 54% of the FY 2003 transit budget. The TDP assumes that local subsidy will stabilize slightly below the FY 2001 level in FY 2004, and then rise moderately with inflation through FY 2007. Contingent upon the improvement of local economic conditions and implementation of the unconstrained service plan, Borough subsidy would rise sharply in FY 2008.

Federal funding levels beyond FY 2003 are yet to be determined through enactment of a new six-year transportation bill to replace the expiring TEA-21.[11] The new legislation was initially to be acted upon by Congress by October 1, 2003, but subsequently was deferred until April 2004. There are indications that transit funding levels nationwide may decline slightly from the last several years under TEA-21. Pending determination of FTA Section 5311 annual funding levels through FY 2008, it is assumed for planning purposes that federal funding will decline by two percent from FY 2002 level in FY 2004, and then remain constant through FY 2007. A small increase is assumed in FY 2008, assuming that the Borough moves ahead and implements the unconstrained service level.

[11] Transportation Equity Act for the 21st Century, which covered FY 1998 through FY 2003

TABLE 4 -3
Ketchikan Gateway Borough
Estimated Expenses and Revenues
FY 2004 - 2008

Expense Category	FY 01 Actual	FY 02 Actual	FY 03 Projected	FY 04 Budget	FY 05 Est.	FY 06 Est.	FY 07 Est.	FY 08 Est.
Wages	249,772	347,377	480,902	284,997				
Fringe Benefits	87,214	111,704	176,930	116,403				
Training & Travel	2,259	0	7,500	2,835				
Subtotal, Personnel	339,245	459,081	665,332	404,235	420,404	437,221	454,709	742,450
Materials and Supplies	11,363	17,723	7,650	9,300				
Fuel and Lubricants	31,423	29,218	45,000	0				
Vehicle & Equipment Maintenance	35,148	38,820	40,000	0				
Insurance	8,611	19,379	17,000	0				
Utilities	1,635	4,026	4,300	4,364				
Contract Services	39,695	71,457	60,000	50,000				
Central Garage Charge	0	0	0	70,620				
Other Expenses	45,660	41,245	0					
Subtotal, Supplies & Services	173,535	221,868	173,950	134,284	139,655	145,242	151,051	246,636
Leases and Rentals	11,800	37,800	51,600	42,000				
Equipment Purchase	0	0	4,000	651				
Depreciation	74,644	91,653	0	0				
Subtotal, Facilities & Equipment	86,444	129,453	55,600	42,651	44,357	46,131	47,977	49,896
Total	**599,224**	**810,402**	**894,882**	**581,170**	**604,417**	**628,593**	**653,737**	**1,038,982**

Revenue Category	FY 01 Actual	FY 02 Actual	FY 03 Projected	FY 04 Budget	FY 05 Est.	FY 06 Est.	FY 07 Est.	FY 08 Est.
Farebox Revenue	158,990	188,778	265,000	175,000	178,500	205,275	209,381	266,960
Advertising	14,053	32,338	27,500	25,000	25,000	25,000	25,000	35,000
FTA Sec. 5311 – Operating	57,147	62,220	70,669	61,000	61,000	61,000	61,000	73,200
FTA Sec. 5311 - Administration	0	0	17,668	0	0	0	0	0
Miscellaneous	2,865	670	1,000	1,000	1,000	1,000	1,000	1,000
Amortization of Contributed Capital	40,202	35,339	35,339	0	0	0	0	0
Transfer Payments (Borough Subsidy)	325,967	491,057	477,706	319,170	338,917	336,318	357,357	662,821
Total	**599,224**	**810,402**	**894,882**	**581,170**	**604,417**	**628,593**	**653,737**	**1,038,982**

Assumptions:

4% inflation in FY 05 through FY 08

Farebox revenue increases 2% in FY 05 and 07. Fare increase in FY 06 increases revenue by 15%.

Service expansion in FY 08 increases revenue by 25%.

FTA Sec. 5311 funding level is 98% of FY 02 authorization through FY 07; plus 20% in FY 08.

It should be anticipated that farebox revenues will decline in proportion to ridership losses that occur in response to the recommended service reductions. FY 2004 farebox revenues (including prepaid sales) are estimated at approximately $175,000, assuming 137,000 passenger boardings and an average fare of $1.28. This estimate may be further influenced by both the selection of a service plan, and implementation of the fare restructuring proposed described in the next section of this chapter.

Since Ketchikan fares already are high relative to peer transit systems, no fare increase is suggested until FY 2006. A 15% across-the-board fare increase is assumed to take effect on July 1, 2005. Fare restructuring is proposed in FY 2004 to rationalize fare categories and simplify fare payment for transit customers.

4.6 Fare Restructuring

Ketchikan bus fares are high by transit industry standards. Local riders paid an average fare of almost $1.28, compared with a range of 37¢ to 67¢ among seven peer systems operating in Pacific coastal communities in Alaska, British Columbia, Washington and Oregon.[12] This suggests that further fare increases in conjunction with a major service reduction in FY 2004 could be counterproductive to both ridership and total fares collected.

Nevertheless, revenue-neutral adjustments to the existing fare structure are recommended to clarify cash fares, adjust pass and ticket prices, and increase the discount for persons with disabilities and older adults who ride the fixed route system. The present cash fare structure is unusual in that fares are associated primarily with the route used, rather than distance traveled. Trips taken between the same origin and destination along Tongass Avenue are priced differently on the Blue Line than the Green Line, and the existing transfer token sold to equalize the difference between fares is virtually ignored by customers.

Pre-paid passes are priced too high relative to cash fares to be attractive to most bus riders. For example, a regular price one-day pass, for example, costs $8.00, which is equivalent to 5.3 one-way cash fares on the Green Line, or 3.6 cash fares on the Blue Line. Day passes sold by other transit systems more typically are priced equivalent to 2.0 to 2.5 one-way cash fares. This explains why very few day passes are sold in Ketchikan. The concern also extends to a lesser extent for three-day unlimited ride passes, which are priced at 3.3 cash fares per day on the Green Line and 2.2 cash fares per day on the Blue Line. Unlimited monthly ride passes appear to be priced more reasonably, although the level of discount fluctuates depending on the number of calendar weekdays in the month.

[12] See Section 2.6, Peer Analysis.

Given the physical layout of the transit service area, a simplified three-zone fare concept is recommended. As seen in Figure 4-3, Zone 1 encompasses nearly all of the incorporated City of Ketchikan. Zone 2 includes North Shore origins and destinations north of the Airport ferry terminal, and Zone 3 includes all destinations south of the Coast Guard base to Saxman.

The proposed base (adult) fare for a single-zone trip is $1.50, with a discount fare of $1.00 for older adults, persons with disabilities and youth. Similarly, the cost of a two-zone trip is $2.00 for adults and $1.25 for discount fare passengers, and a three-zone trip is $2.50 and $1.50, respectively.

A free paper transfer, validated by time and direction to restrict fare evasion, should replace the current transfer token. The unconstrained system route network would significantly reduce the need for transfers, which would be accepted only at Tongass Tower by northbound buses, and at the downtown Federal Building by southbound buses. Except for bus travel between Bear Valley and Saxman, passengers would have a direct connection between most origins and destinations.

Rather than offering a broad array of prepaid fare instruments, it is recommended that the Borough curtail pass offerings and focus on selling tokens or tickets[13] at a standard 20% discount. This approach would provide an easily recognized value to frequent customers, while reducing the level of administrative and accounting effort required to print, sell and reconcile the various passes that currently are available. Use of prepaid tickets would lower the fare for a single zone one-way trip to $1.20 for adults, or 80¢ for children, older adults, and persons with disabilities. A two-zone trip would cost $1.60 for adults and $1.00 for discount passengers, and a three-zone trip would cost $2.00 for adults and $1.20 for discount passengers.

To further simplify the process, only two ticket denominations should be used. One token valued at 50¢ should be available for use by base fare customers, and the second valued at 25¢ should be used by discount fare passengers. Under this method, the cost of a one-zone trip would be three tickets; a two-zone trip would be four tickets; and a three-zone trip would cost five tickets. The two fare media should be designed to be easily distinguishable from each other transit customers and operators.

[13] Tokens and tickets are used interchangeably in this discussion, with the major distinction being that tokens are reusable, but must be processed somewhat like cash, while tickets are disposable, but more difficult to handle for customers and bus operators.

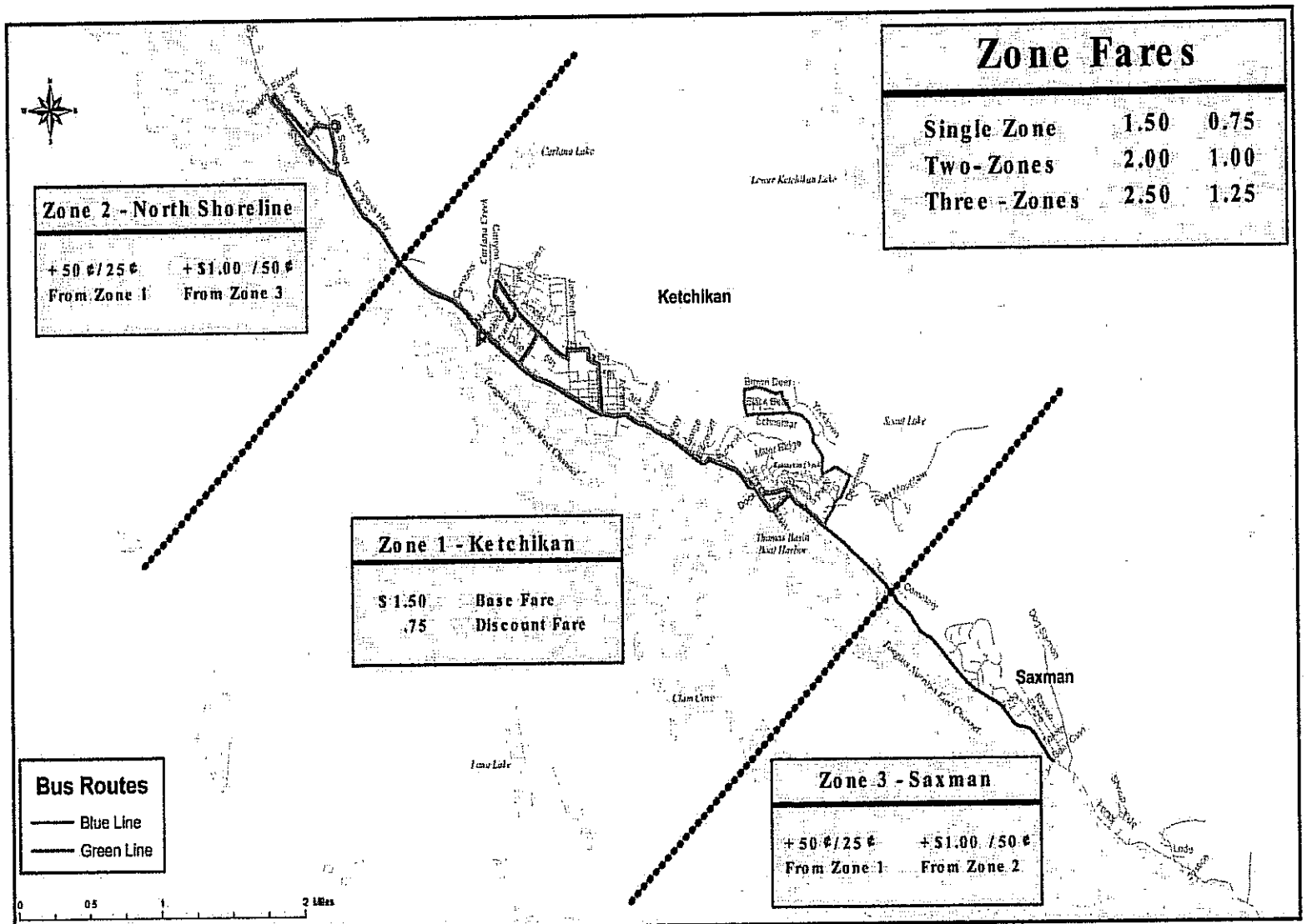


Figure 4-3: Proposed Zone Fare Structure

nelson\nygaard consulting associates

It is suggested that the Borough discontinue sale of one-day, three-day and monthly unlimited ride passes, unless new markets for these fare instruments can be identified. For example, the day pass might be retained if the cruise ship industry and Visitors Bureau are supportive and willing to assist with direct distribution of day passes to visitors who want them. Otherwise, it would be more economical for the Borough to encourage residents and unaffiliated visitors to purchase discount tickets instead of offering a day pass.

The market for the three-day pass probably is minimal under any circumstances, given the duration of most cruise ship calls and the absence of weekend-oriented tourism. The use of monthly passes is discouraged. Pass sales fluctuate widely from month to month based on calendar distribution, and Borough staff must be responsible for printing, distributing and accounting for the passes, regardless of how few are sold.

Subject to customer interest, the Borough could offer an extended pass at a discount greater than 20%, with a quarterly or monthly auto-debit payment feature. For example, an annual pass priced at $600 for base fare customers, or $300 for discount fare customers, would offer 35%-40% savings to transit-dependent and other frequent bus riders[14] capable of paying by means of electronic auto-payment. While the market for a long-term unlimited ride pass probably is quite small, the administrative cost of making the pass available and collecting the associated revenue would be relatively low as well.

4.7 Recommended Marketing Plan

The service and fare changes contemplated in this plan would impose significant changes on existing transit customers. An effective public information effort is strongly recommended to advise transit customers and the general public of route and schedule changes, and the new fare structure. This should be undertaken in the context of a moderately aggressive marketing plan that recognizes staffing and budget realities. The primary objective of transit marketing should be to minimize short-term ridership and revenue losses in FY 2004, and pursue strategic partnerships with community organizations to promote new transit ridership in the remaining plan years. The following elements are proposed for inclusion in the five-year marketing plan.

- ***Expanded System Map and Timetable*** – The existing brochure should be improved to clarify when and where the buses go relative to common destinations, and how to use the system. Consideration should be given to increasing brochure paper size from the current 8.5" x 11" to 11" x 17," to provide more space for schedule and fare information, a more accurate map, riding tips, and possibly commercial advertising. For example, it would be useful to include a table listing major time points, and the number of minutes past the hour that buses pass each point.

[14] Assuming 12 one-way single zone trips per week for 51 weeks; total of 612 trips per year.

- ***Prepaid Fare Sales and Distribution*** – The Borough should work cooperatively with area merchants to distribute prepaid fare tickets at popular retail outlets, such as the three large supermarkets in Ketchikan. This likely would require that the Borough pay a negotiated sales commission to participating vendors. This approach avoids the need for direct distribution, which is often inconvenient for customers, and onboard sales, which are problematic for bus operators attempting to keep on schedule and drive safely. Other prepaid fare distributions points could include the AMHS terminal, Saxman City Hall, UAS campus center, Ketchikan High School, and the Borough office in downtown Ketchikan. Direct distribution to human service agencies is an option as well.

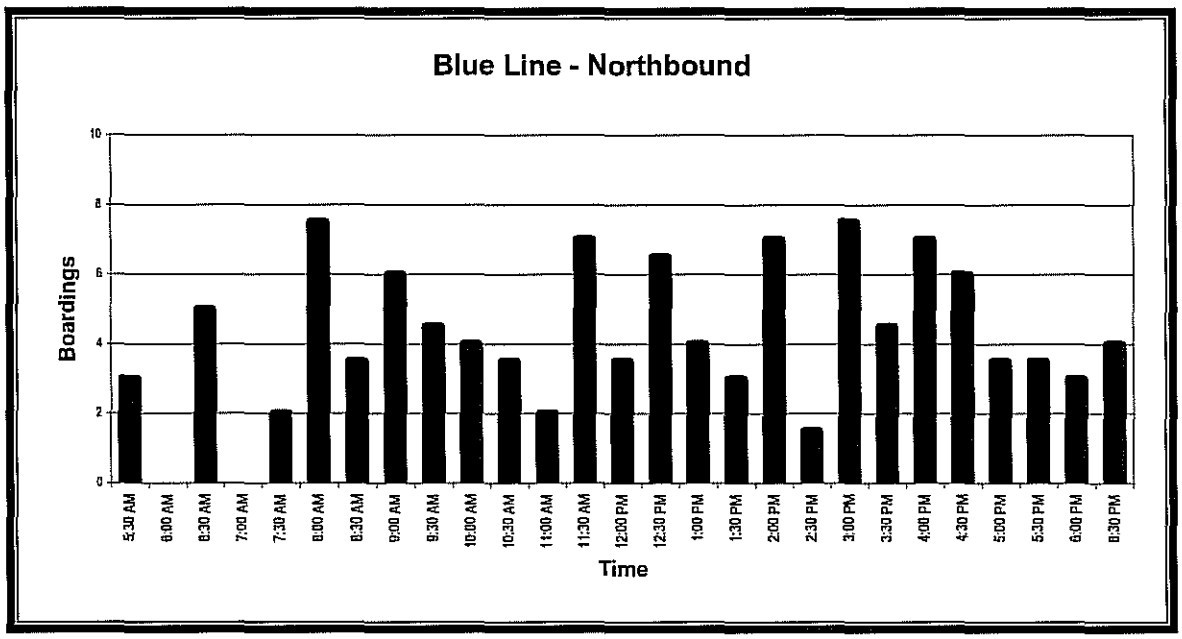
- ***Exterior Bus Design*** – The Borough should consider a new vehicle exterior paint scheme and logo to give the transit system a "fresh look." The new design would be phased with planned bus acquisitions in FY 2006 and FY 2007. It is suggested that the green and blue route colors be included the vehicle paint scheme.

- ***Community Relations*** – Comments were received during interviews with community leaders that the transit system seemingly had become less visible to the public in recent years. The transit manager should more assertively seek opportunities to communicate with local business organizations, community groups, and the media to develop a favorable image in the community. The manager should develop an informative slide show for use during speaking engagements and meetings with interested audiences.

APPENDIX A

WEEKDAY BOARDINGS BY TRIP
APRIL 2003

TABLE A –1
BLUE LINE BOARDINGS BY ONE-WAY TRIP
WEEKDAYS, APRIL 2003



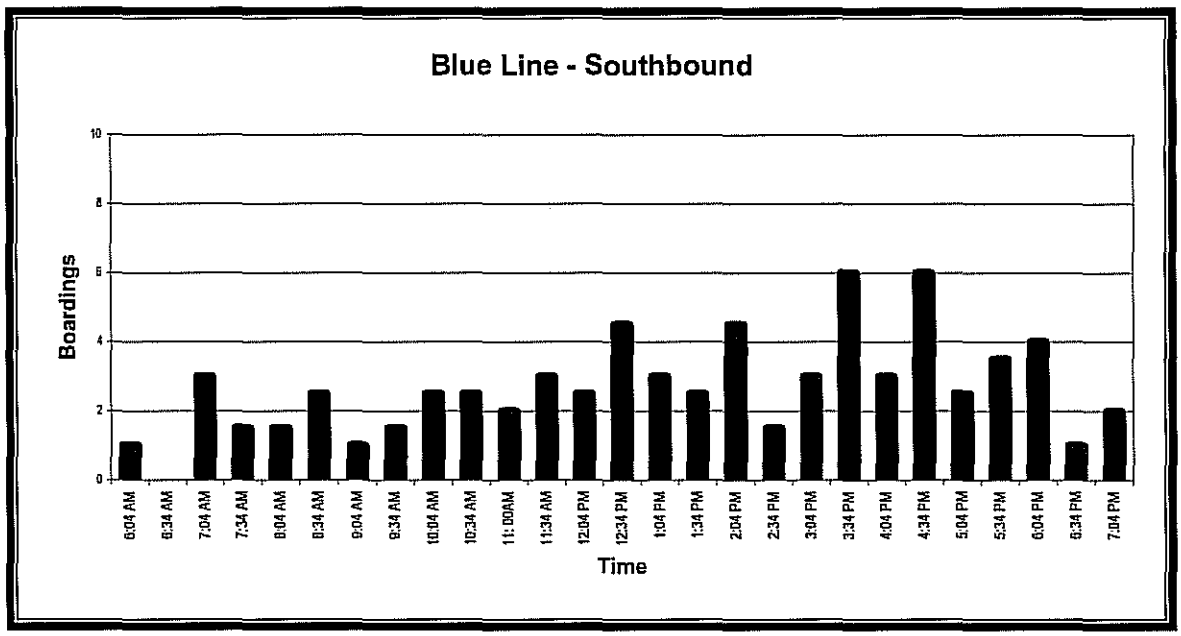
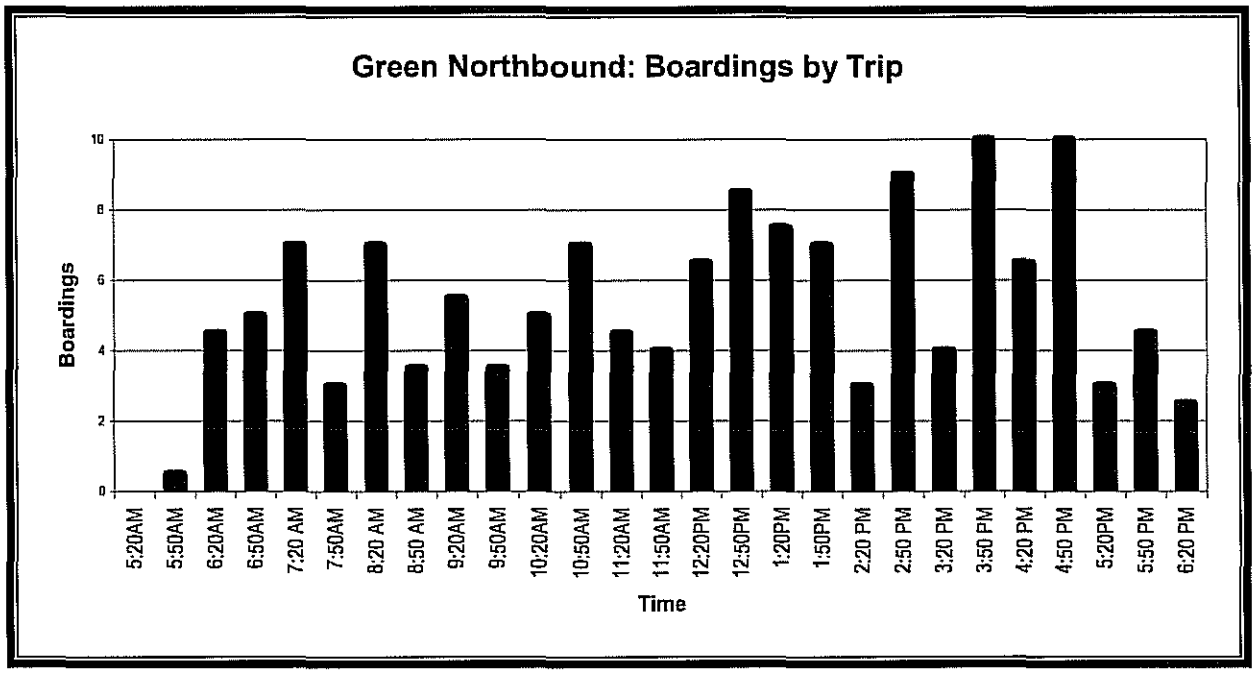
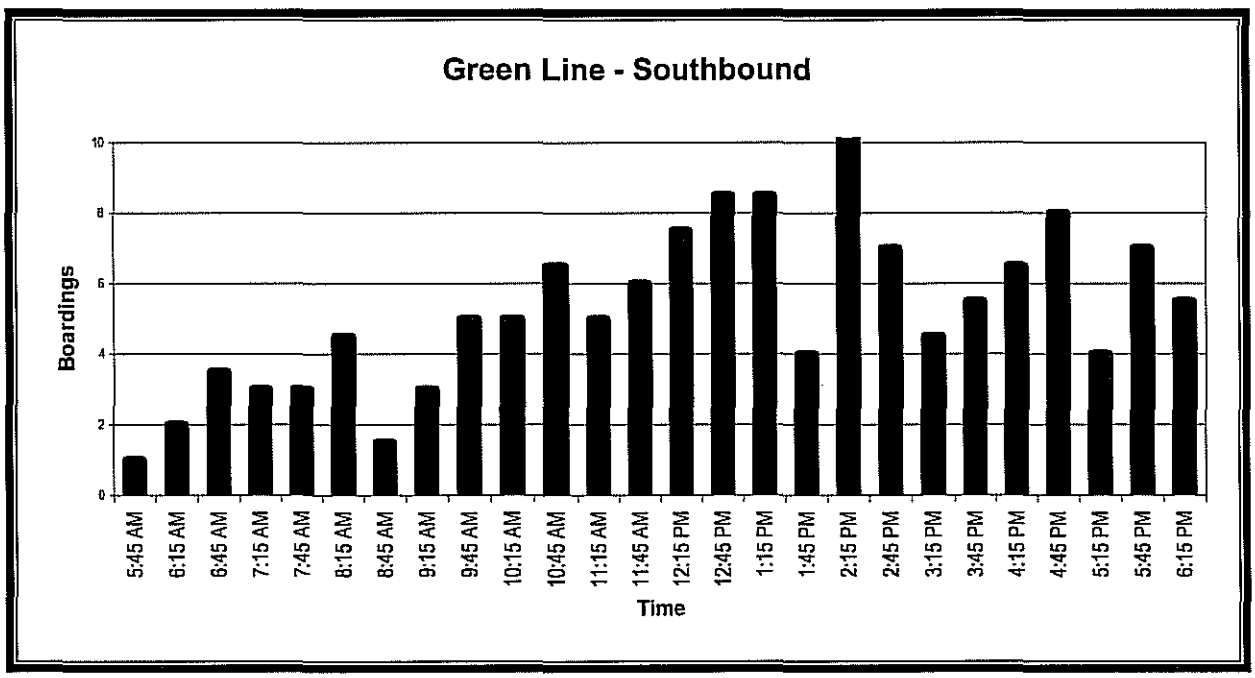


TABLE A – 2
GREEN LINE BOARDINGS BY ONE-WAY TRIP
WEEKDAYS, APRIL 2003

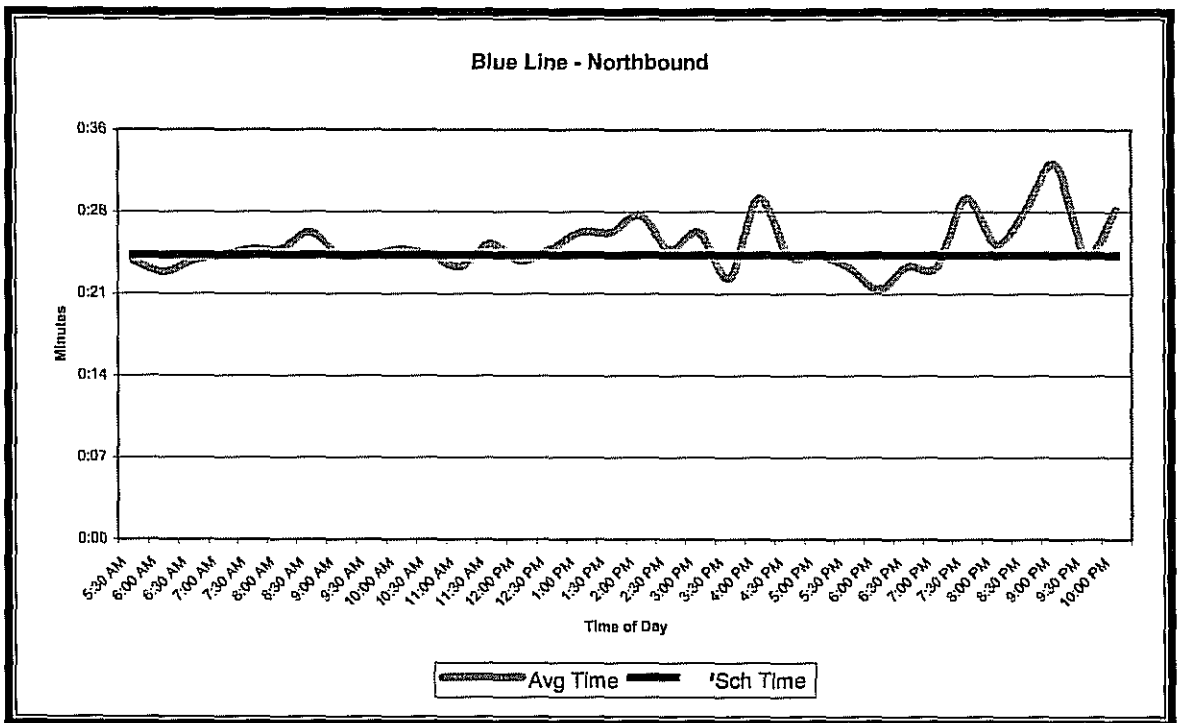




APPENDIX B

WEEKDAY RUNNING TIMES BY TRIP
APRIL 2003

TABLE B –1
BLUE LINE RUNNING TIMES BY ONE-WAY TRIP
WEEKDAYS, APRIL 2003



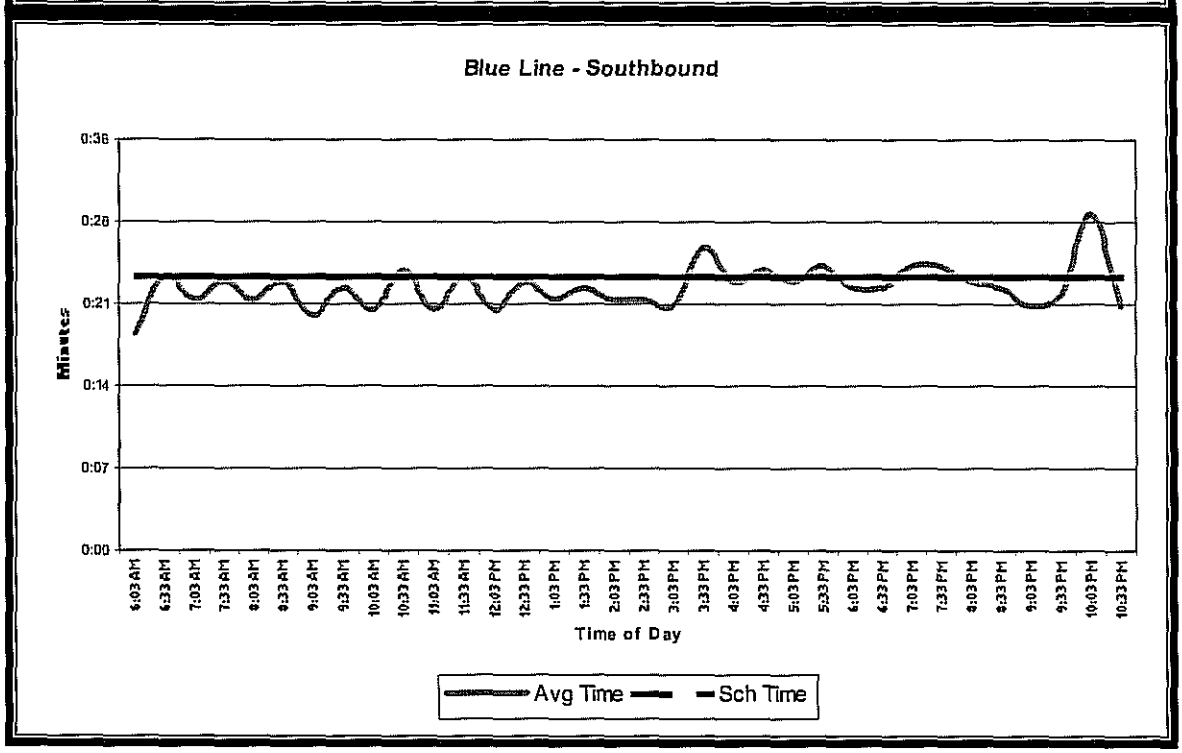
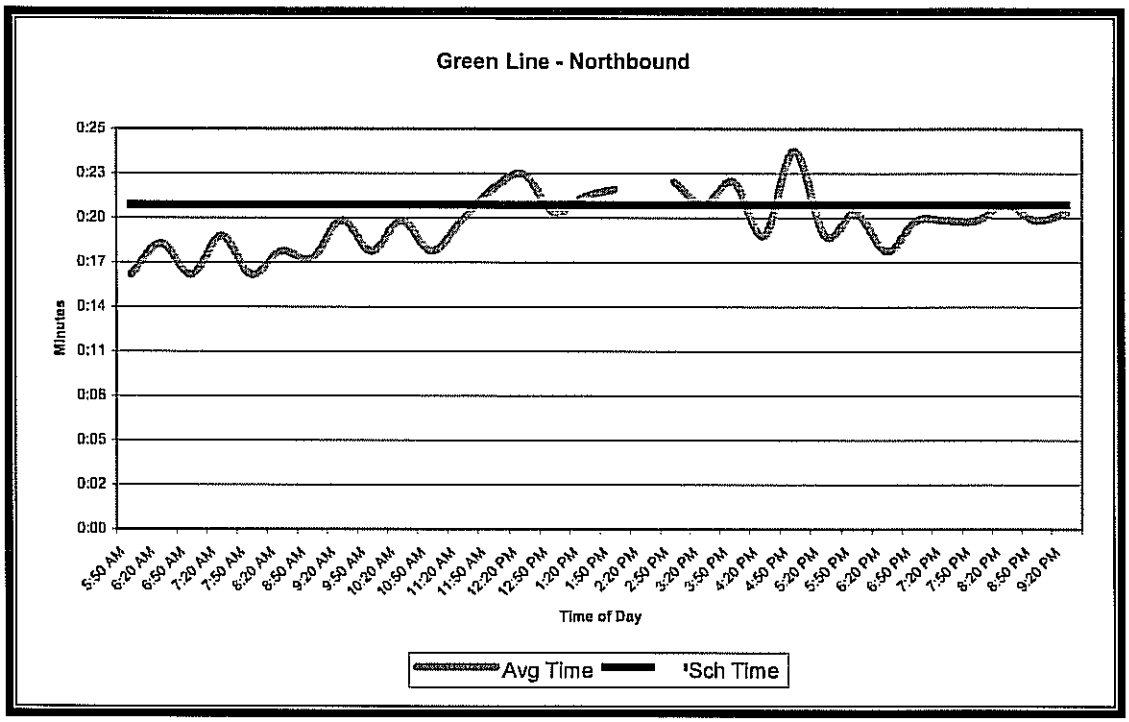
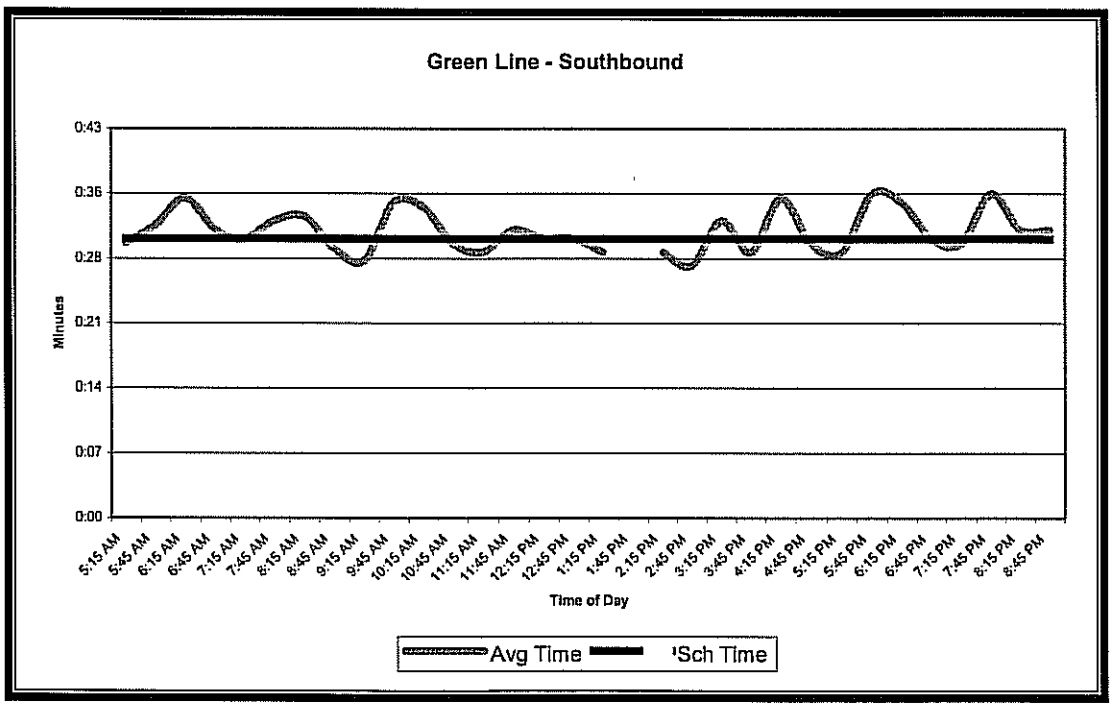


TABLE B –2
GREEN LINE RUNNING TIMES BY ONE-WAY TRIP
WEEKDAYS, APRIL 2003





APPENDIX C

ONBOARD SURVEY QUESTIONNAIRE AND FREQUENCY DISTRIBUTIONS

KETCHIKAN BOROUGH REQUESTS YOUR HELP PLANNING BUS SERVICE!!!

PLEASE FILL OUT THIS BRIEF SURVEY.

☐1 Green ☐2 Blue
Trip Time ___:___ AM / PM

IMPORTANT Please tell us about the one-way trip you are making now.
If you have already completed a survey, DO NOT complete another.

1. *Where are you coming FROM?*
   - ☐1 Home
   - ☐2 Work
   - ☐3 Recreation or social
   - ☐4 School/College (Name of School:_____)
   - ☐5 Other (Specify:_____)
   - ☐6 Shopping
   - ☐7 Medical/Dental

2. *Where is this PLACE?*
   List nearest intersection (For Example: Deermount & Tongass)
   OR Name of unique location or landmark
   (For Example: Plaza Mall, General Hospital, UAS campus, etc.)
   _____
   (street) & (cross street)

3. *How did you GET TO the bus stop to board this bus?*
   - ☐1 Transferred from another bus route
   - ☐2 Walked (How many minutes?_____)
   - ☐3 Biked
   - ☐4 Drove alone then parked
   - ☐5 Was dropped off
   - ☐7 Other (Specify:_____)

4. *Where are you going TO?*
   - ☐1 Home
   - ☐2 Work
   - ☐3 Recreation or social
   - ☐4 School/College (Name of School:_____)
   - ☐5 Other (Specify:_____)
   - ☐6 Shopping
   - ☐7 Medical/Dental

5. *Where is this PLACE?*
   List nearest intersection (For Example: Deermount & Tongass)
   OR Name of unique location or landmark
   (For Example: Plaza Mall, General Hospital, UAS campus, etc.)
   _____
   (street) & (cross street)

6. *How will you GET FROM this bus to your destination?*
   - ☐1 Transfer to another bus route
   - ☐2 Walk (How many minutes?_____)
   - ☐3 Bike
   - ☐4 Drive alone
   - ☐5 Get picked up
   - ☐7 Other (Specify:_____)

7. *Are you making a round trip on The Bus today?*
   ☐1 Yes ☐2 No

8. *How did you pay your fare when you boarded this bus?*
   - ☐1 $1.50 regular cash fare
   - ☐2 $2.25 regular cash fare
   - ☐3 $1.25 student/senior discount cash fare
   - ☐4 $2.00 student/senior discount cash fare
   - ☐5 $1.50 transfer token
   - ☐6 $1.25 discount transfer token
   - ☐7 Punch ticket – regular
   - ☐8 Punch ticket – student/senior
   - ☐9 Day pass - regular
   - ☐10 Day pass – student/senior
   - ☐11 3-day pass – regular
   - ☐12 3-day pass – student/senior
   - ☐13 Monthly pass– regular
   - ☐14 Monthly pass – student/senior
   - ☐15 Other (please specify: _____)

9. *If The Bus were not available, how would you make this trip?*
   - ☐1 Drive alone
   - ☐2 Someone would drive me
   - ☐3 Carpool or vanpool
   - ☐4 Taxi
   - ☐5 Other (Specify _____)
   - ☐6 Hitchhike
   - ☐7 Walk
   - ☐8 Bike
   - ☐9 Would not make this trip

10. *Are you a:* ☐1 Resident ☐2 Visitor

Tell us HOW YOU FEEL about your trip on this bus.
Please circle the number that most closely reflects your experience

	Poor		Acceptable		Excellent
11. Affordable fare	1	2	3	4	5
12. Service frequency	1	2	3	4	5
13. Days/hours of operation	1	2	3	4	5
14. Transfer convenience	1	2	3	4	5
15. Bus runs on time	1	2	3	4	5
16. Convenience of routing	1	2	3	4	5
17. Service easy to understand	1	2	3	4	5
18. Condition of bus	1	2	3	4	5
19. Personal safety	1	2	3	4	5

Please rank the relative priority you would give to the following possible future changes to Ketchikan Bus service.
Please circle the number that most closely reflects your priority

	High		Moderate		Low
20. Simplify fares / passes	1	2	3	4	5
21. Streamline bus routes	1	2	3	4	5
22. Extend to Ward Cove	1	2	3	4	5
23. More bus stops	1	2	3	4	5
24. More shelters at stops	1	2	3	4	5

25. *How often do you ride The Bus?*
   - ☐1 5 or more days/week
   - ☐2 2 to 4 days/week
   - ☐3 1-4 days/month
   - ☐4 Less than 1 day per month
   - ☐5 First time

Do you have any other comments? Please write them here:_____

THANK YOU FOR YOUR TIME! Please return this completed form to the surveyor on the bus.

Ketchikan Onboard Survey
Frequency Distributions

Riding which route when surveyed?

	Number	Percent
Green	167	55.5 %
Blue	132	43.9 %
Total	299	99.3 %

Time period when surveyed:

	Number	Percent
5:15 am - 8:59 am	61	20.3 %
9:00 am - 2:59 pm	116	38.5 %
3:00 pm - 5:59 pm	60	19.9 %
6:00 pm - 10:30 pm	29	9.6 %
Total	266	88.4 %

Where are you coming from?

	Number	Percent
Home	181	60.1 %
Work	46	15.3 %
Recreation or social	11	3.7 %
School/College	12	4.0 %
Other	17	5.6 %
Shopping	22	7.3 %
Medical/Dental	11	3.7 %
Total	300	99.7 %

Where is this place? (Origin)

	Number	Percent
Upper Tongass Ave	38	12.6 %
Lower Tongass Ave	27	9.0 %
Walmart	7	2.3 %
North Shoreline	4	1.3 %
Airport Ferry	4	1.3 %
Alaska Loop	8	2.7 %
Carlanna Lake Road	7	2.3 %
UAS/Kayhi	6	2.0 %
Plaza Mall	41	13.6 %
Downtown	64	21.3 %
Bear Valley	42	14.0 %
Transit Center / Tatsudas	14	4.7 %
Forest Park	4	1.3 %
Saxman	12	4.0 %
Total	278	92.4 %

How did you get to the bus stop to board this bus?

	Number	Percent
Transferred to another bus route	8	2.7 %
Walked	267	88.7 %
Biked	0	0.0 %
Drove alone	2	0.7 %
Dropped off	2	0.7 %
Other	15	5.0 %
Total	294	97.7 %

How many minutes walking?

	Number	Percent
1-4 minutes	140	46.5 %
5-9 minutes	47	15.6 %
10-14 minutes	23	7.6 %
15-19 minutes	9	3.0 %
20 minutes or more	3	1.0 %
Total	222	73.8 %

Where are you going to?

	Number	Percent
Home	85	28.2 %
Work	86	28.6 %
Recreation or social	16	5.3 %
School/College	12	4.0 %
Other	47	15.6 %
Shopping	44	14.6 %
Medical/Dental	11	3.7 %
Total	301	100.0 %

Where is this place? (Destination)

	Number	Percent
Upper Tongass Ave	53	17.6 %
Lower Tongass Ave	24	8.0 %
Walmart	26	8.6 %
North Shoreline	4	1.3 %
Airport Ferry	3	1.0 %
Alaska Loop	9	3.0 %
Carlanna Lake Road	2	0.7 %
UAS/Kayhi	6	2.0 %
Plaza Mall	50	16.6 %
Downtown	41	13.6 %
Bear Valley	19	6.3 %
Transit Center / Tatsudas	9	3.0 %
Forest Park	2	0.7 %
Saxman	18	6.0 %
Total	266	88.4 %

How will you get from this bus to your destination?

	Number	Percent
Transfer to another bus route	26	8.6 %
Walk	244	81.1 %
Bike	1	0.3 %
Drive alone	0	0.0 %
Get picked up	2	0.7 %
Other	9	3.0 %
Total	282	93.7 %

How many minutes walking?

	Number	Percent
1-4 minutes	111	36.9 %
5-9 minutes	32	10.6 %
10-14 minutes	17	5.6 %
15-19 minutes	8	2.7 %
20 minutes or more	4	1.3 %
Total	172	57.1 %

Are you making a round trip on The Bus today?

	Number	Percent
Yes	161	53.5 %
No	129	42.9 %
Total	290	96.3 %

How did you pay your fare when you boarded this bus?

	Number	Percent
$1.50 regular cash fare	100	33.2 %
$2.25 regular cash fare	26	8.6 %
$1.25 discount cash fare	16	5.3 %
$2.00 discount cash fare	4	1.3 %
$1.50 transfer token	1	0.3 %
$1.25 discount cash fare	0	0.0 %
Punch ticket - regular	72	23.9 %
Punch ticket - discount	12	4.0 %
Day pass - regular	0	0.0 %
Day pass - discount	1	0.3 %
3 day pass - regular	1	0.3 %
3 day pass - discount	0	0.0 %
Monthly pass - regular	39	13.0 %
Monthly pass - discount	16	5.3 %
Other	3	1.0 %
Total	291	96.7 %

If The Bus were not available, how would you make this trip?

	Number	Percent
Drive alone	11	3.7 %
Someone would drive me	49	16.3 %
Carpool or vanpool	3	1.0 %
Taxi	60	19.9 %
Other	5	1.7 %
Hitchhike	24	8.0 %
Walk	124	41.2 %
Bike	5	1.7 %
Would not make this trip	12	4.0 %
Total	293	97.3 %

Are you a resident or visitor?

	Number	Percent
Resident	256	85.0 %
Visitor	10	3.3 %
Total	266	88.4 %

How do you feel - affordable fare?

	Number	Percent
Poor	14	4.7 %
Marginally acceptable	25	8.3 %
Acceptable	105	34.9 %
Very acceptable	56	18.6 %
Excellent	82	27.2 %
Total	282	93.7 %

How do you feel - service frequency?

	Number	Percent
Poor	3	1.0 %
Marginally acceptable	13	4.3 %
Acceptable	64	21.3 %
Very acceptable	68	22.6 %
Excellent	120	39.9 %
Total	268	89.0 %

How do you feel - days & hours of operation?

	Number	Percent
Poor	7	2.3 %
Marginally acceptable	15	5.0 %
Acceptable	61	20.3 %
Very acceptable	69	22.9 %
Excellent	115	38.2 %
Total	267	88.7 %

How do you feel - transfer convenience?

	Number	Percent
Poor	12	4.0 %
Marginally acceptable	13	4.3 %
Acceptable	51	16.9 %
Very acceptable	65	21.6 %
Excellent	97	32.2 %
Total	238	79.1 %

How do you feel - bus runs on time?

	Number	Percent
Poor	3	1.0 %
Marginally acceptable	13	4.3 %
Acceptable	59	19.6 %
Very acceptable	74	24.6 %
Excellent	122	40.5 %
Total	271	90.0 %

How do you feel - convenience of routing?

	Number	Percent
Poor	6	2.0 %
Marginally acceptable	10	3.3 %
Acceptable	64	21.3 %
Very acceptable	80	26.6 %
Excellent	107	35.5 %
Total	267	88.7 %

How do you feel - service easy to understand?

	Number	Percent
Poor	3	1.0 %
Marginally acceptable	4	1.3 %
Acceptable	46	15.3 %
Very acceptable	73	24.3 %
Excellent	137	45.5 %
Total	263	87.4 %

How do you feel - condition of bus?

	Number	Percent
Poor	2	0.7 %
Marginally acceptable	1	0.3 %
Acceptable	32	10.6 %
Very acceptable	70	23.3 %
Excellent	163	54.2 %
Total	268	89.0 %

How do you feel - personal safety?

	Number	Percent
Poor	4	1.3 %
Marginally acceptable	8	2.7 %
Acceptable	33	11.0 %
Very acceptable	67	22.3 %
Excellent	154	51.2 %
Total	266	88.4 %

Rank the relative priority - Simplify fares/passes

	Number	Percent
High	57	18.9 %
Moderately high	32	10.6 %
Moderate	92	30.6 %
Low to moderate	25	8.3 %
Low	41	13.6 %
Total	247	82.1 %

Rank the relative priority - Streamline bus routes

	Number	Percent
High	27	9.0 %
Moderately high	35	11.6 %
Moderate	88	29.2 %
Low to moderate	28	9.3 %
Low	47	15.6 %
Total	225	74.8 %

Rank the relative priority - Extend to Ward Cove

	Number	Percent
High	89	29.6 %
Moderately high	16	5.3 %
Moderate	59	19.6 %
Low to moderate	24	8.0 %
Low	48	15.9 %
Total	236	78.4 %

Rank the relative priority - Extend to Mountain Point

	Number	Percent
High	77	25.6 %
Moderately high	16	5.3 %
Moderate	61	20.3 %
Low to moderate	24	8.0 %
Low	59	19.6 %
Total	237	78.7 %

Rank the relative priority - More bus stops

	Number	Percent
High	54	17.9 %
Moderately high	37	12.3 %
Moderate	64	21.3 %
Low to moderate	33	11.0 %
Low	39	13.0 %
Total	227	75.4 %

Rank the relative priority - More shelters at stops

	Number	Percent
High	112	37.2 %
Moderately high	34	11.3 %
Moderate	54	17.9 %
Low to moderate	11	3.7 %
Low	29	9.6 %
Total	240	79.7 %

How often do you ride The Bus?

	Number	Percent
5 or more days per week	166	55.1 %
2 to 4 days per week	84	27.9 %
1to 4 days per month	28	9.3 %
Less than 1 day per month	6	2.0 %
First time	5	1.7 %
Total	289	96.0 %

Do you have any other comments?

	Number	Percent
Yes	59	19.6 %
No	241	80.1 %
Total	300	99.7 %

APPENDIX D

FIXED ROUTE SYSTEM OPERATING STATISTICS

TABLE D-1
Ketchikan Gateway Borough
Transit Passenger Boardings by Fare Type
FY 2001 - 2003

rev. 091903

FY 2003	JUL '02	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN '03	Total
Green Line													
Regular Cash Fares	4,794	4,381	3,197	2,734	2,405	2,460	2,787	2,915	2,761		3,479	3,793	35,706
Discount Cash Fares	1,533	1,357	846	896	845	732	823	1,017	1,059		1,074	1,567	11,769
Passes	1,922	1,466	1,574	2,257	1,584	1,616	2,137	2,047	1,939		2,416	2,604	21,562
Tickets	2,242	1,958	1,713	1,917	1,792	2,012	2,593	2,705	2,541		3,206	2,786	25,465
Tokens	81	20	21	8	8	14	3	3	13		20	20	211
Subtotal	**10,572**	**9,182**	**7,351**	**7,812**	**6,634**	**6,834**	**8,343**	**8,687**	**8,313**	**0**	**10,195**	**10,790**	**94,713**
Blue Line													
Regular Cash Fares	4,570	4,260	2,433	2,187	1,669	1,955	1,564	2,221	1,992		4,647	4,240	31,738
Discount Cash Fares	1,769	1,684	873	652	488	661	601	762	688		1,256	1,921	11,357
Passes	1,627	1,717	1,068	1,377	1,163	1,430	1,524	1,526	1,266		1,836	1,915	16,449
Tickets	2,075	1,821	1,273	1,529	1,499	1,955	2,009	2,190	2,039		2,756	2,602	21,748
Tokens	57	33	45	42	35	21	13	17	22		79	102	466
Subtotal	**10,098**	**9,515**	**5,692**	**5,787**	**4,854**	**6,022**	**5,711**	**6,716**	**6,007**	**0**	**10,576**	**10,780**	**81,758**
System Total													
Regular Cash Fares	9,364	8,641	5,630	4,921	4,074	4,415	4,351	5,136	4,753	0	8,126	8,033	67,444
Discount Cash Fares	3,302	3,041	1,719	1,548	1,333	1,393	1,424	1,779	1,747	0	2,332	3,508	23,126
Passes	3,549	3,183	2,642	3,634	2,747	3,046	3,661	3,573	3,205	0	4,252	4,519	38,011
Tickets	4,317	3,779	2,986	3,446	3,291	3,967	4,602	4,895	4,580	0	5,962	5,388	47,213
Tokens	138	53	66	50	43	35	16	20	35	0	99	122	677
Total	**20,670**	**18,697**	**13,043**	**13,599**	**11,488**	**12,856**	**14,054**	**15,403**	**14,320**	**15,519**	**20,771**	**21,570**	**191,990**
Pecent Change	60.1%	30.5%	7.7%	23.2%	17.5%	48.7%	28.4%	37.4%	29.8%	30.0%	30.3%	22.4%	30.2%

FY 2002	JUL '01	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN '02	Total
Green Line													
Regular Cash Fares	5,986	6,606	5,136	4,459	3,883	3,261	3,095	3,417	2,987	3,330	4,001	4,177	50,338
Discount Cash Fares	1,978	2,171	1,597	1,264	1,168	1,161	1,028	1,117	1,028	973	1,200	1,305	15,990
Passes	4,945	5,555	5,373	5,313	4,730	4,225	2,249	1,957	1,784	2,296	1,985	1,764	42,176
Tickets							2,331	2,024	2,015	2,311	2,645	2,100	13,426
Tokens							24	31	40	28	7	19	149
Subtotal	**12,909**	**14,332**	**12,106**	**11,036**	**9,781**	**8,647**	**8,727**	**8,546**	**7,854**	**8,938**	**9,838**	**9,365**	**122,079**
Blue Line													
Regular Cash Fares	*Single bus operation on 1/2/02*						767	995	914	900	2,327	3,571	9,474
Discount Cash Fares	*Two-bus operation on 5/1/02*						172	252	367	292	618	1,484	3,185
Passes							668	673	832	740	1,249	1,320	5,482
Tickets							596	717	1,055	1,044	1,891	1,836	7,139
Tokens							15	30	13	24	19	53	154
Subtotal							**2,218**	**2,667**	**3,181**	**3,000**	**6,104**	**8,264**	**25,434**
System Total													
Regular Cash Fares	5,986	6,606	5,136	4,459	3,883	3,261	3,862	4,412	3,901	4,230	6,328	7,748	59,812
Discount Cash Fares	1,978	2,171	1,597	1,264	1,168	1,161	1,200	1,369	1,395	1,265	1,818	2,789	19,175
Passes	4,945	5,555	5,373	5,313	4,730	4,225	2,917	2,630	2,616	3,036	3,234	3,084	47,658
Tickets	0	0	0	0	0	0	2,927	2,741	3,070	3,355	4,536	3,936	20,565
Tokens	0	0	0	0	0	0	39	61	53	52	26	72	303
Total	**12,909**	**14,332**	**12,106**	**11,036**	**9,781**	**8,647**	**10,945**	**11,213**	**11,035**	**11,938**	**15,942**	**17,629**	**147,513**
Pecent Change	-1.6%	-4.2%	5.9%	7.4%	-3.5%	-10.0%	15.5%	16.4%	2.1%	25.6%	34.4%	38.6%	

FY 2001	JUL '00	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN '01	Total
Green Line													
Regular Cash Fares	6,683	7,778	5,269	4,282	3,943	3,914	3,762	3,906	4,599	3,997	4,920	5,705	58,758
Discount Cash Fares	1,764	2,191	1,665	1,621	1,379	1,567	1,271	1,298	1,352	1,225	1,618	2,000	18,951
Passes	4,673	4,999	4,501	4,371	4,819	4,126	4,444	4,428	4,862	4,279	5,327	5,013	55,842
Total	**13,120**	**14,968**	**11,435**	**10,274**	**10,141**	**9,607**	**9,477**	**9,632**	**10,813**	**9,501**	**11,865**	**12,718**	**133,551**
Pecent Change							-26.3%	-24.9%	-23.7%	-22.6%	-24.7%	-22.5%	

FY 2000	JUL '99	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN '00	Total
Green Line													
Regular Cash Fares							5,890	5,454	6,410	5,814	8,099	8,955	40,622
Discount Cash Fares							1,136	1,160	1,398	1,301	1,567	1,978	8,540
Passes							5,834	6,217	6,356	5,158	6,081	5,471	35,117
Total							**12,860**	**12,831**	**14,164**	**12,273**	**15,747**	**16,404**	**84,279**

TABLE D-2
Ketchikan Gateway Borough
Transit System Operating Hours
FY 2001 - 2003

rev. 050603

Green	FY 2003	FY 2002	FY 2001
Jul	974	955	955
Aug	1,009	1,009	1,009
Sep	920	920	939
Oct	1,009	1,009	990
Nov	939	939	939
Dec	955	955	955
Jan	974	974	974
Feb	904	904	904
Mar	990	990	990
Apr	974	974	955
May	974	974	974
Jun	955	955	974
Total	11,577	11,558	11,558

Blue	FY 2003	FY 2002	FY 2001
Jul	1,026	0	0
Aug	1,063	0	0
Sep	968	0	0
Oct	1,063	0	0
Nov	989	0	0
Dec	1,005	0	0
Jan	1,026	513	0
Feb	952	476	0
Mar	1,042	521	0
Apr	1,026	513	0
May	1,026	1,026	0
Jun	1,005	1,005	0
Total	12,191	4,054	0

Total	FY 2003	FY 2002	FY 2001
Jul	2,000	955	955
Aug	2,072	1,009	1,009
Sep	1,888	920	939
Oct	2,072	1,009	990
Nov	1,928	939	939
Dec	1,960	955	955
Jan	2,000	1,487	974
Feb	1,856	1,380	904
Mar	2,032	1,511	990
Apr	2,000	1,487	955
May	2,000	2,000	974
Jun	1,960	1,960	974
Total	23,768	15,612	11,558

Schedules Effective May 2002

Route	Service Day	Peak Buses	Service Span	Daily Revenue Hours	Daily Deadhead Hours	Daily Vehicle Hours	Operating Days	Annual Revenue Hours	Annual Vehicle Hours
Green	Weekday	2	16.5	33	2	35	255	8,415	8,925
	Saturday	2	16.5	33	2	35	52	1,716	1,820
	Sunday	2	7.0	14	2	16	58	812	928
	Subtotal							10,943	11,673
Blue	Weekday	2	17.5	35	2	37	255	8,925	9,435
	Saturday	2	17.5	35	2	37	52	1,820	1,924
	Sunday	2	7.0	14	2	16	58	812	928
	Subtotal							11,557	12,287
Total								22,500	23,960
Hours per Month								1,875	1,997

Schedules Effective January 2002

Route	Service Day	Peak Buses	Service Span	Daily Revenue Hours	Daily Deadhead Hours	Daily Vehicle Hours	Operating Days	Annual Revenue Hours	Annual Vehicle Hours
Green	Weekday	2	16.5	33	2	35	255	8,415	8,925
	Saturday	2	16.5	33	2	35	52	1,716	1,820
	Sunday	2	7.0	14	2	16	58	812	928
	Subtotal							10,943	11,673
Blue	Weekday	1	17.5	17.5	1	18.5	255	4,463	4,718
	Saturday	1	17.5	17.5	1	18.5	52	910	962
	Sunday	1	7.0	7	1	8	58	406	464
	Subtotal							5,779	6,144
Total								16,722	17,817
Hours per Month								1,393	1,485

Schedules Effective July 2000

Route	Service Day	Peak Buses	Service Span	Daily Revenue Hours	Daily Deadhead Hours	Daily Vehicle Hours	Operating Days	Annual Revenue Hours	Annual Vehicle Hours
Green	Weekday	2	16.5	33	2	35	255	8,415	8,925
	Saturday	2	16.5	33	2	35	52	1,716	1,820

TABLE D-3
Ketchikan Gateway Borough
Monthly Service Productivity by Route
FY 2001 - 2003

Green Line

		JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	9 Mos.	12 Mos.
FY 2003	Passengers	10,572	9,182	7,351	7,812	6,634	6,834	8,343	8,687	8,313		10,195	10,790	73,728	
	Vehicle Hours	974	1009	920	1,009	939	955	974	904	990	974	974	955	8,674	11,577
	Productivity	**10.9**	**9.1**	**8.0**	**7.7**	**7.1**	**7.2**	**8.6**	**9.6**	**8.4**		**10.5**	**11.3**	**8.5**	
FY 2002	Passengers	12,909	14,332	12,106	11,036	9,781	8,647	8,727	8,546	7,854	8,938	9,838	9,365	93,938	122,079
	Vehicle Hours	955	1,009	920	1,009	939	955	974	904	990	974	974	955	8,655	11,558
	Productivity	**13.5**	**14.2**	**13.2**	**10.9**	**10.4**	**9.1**	**9.0**	**9.5**	**7.9**	**9.2**	**10.1**	**9.8**	**10.9**	**10.6**
FY 2001	Passengers	13,120	14,968	11,435	10,274	10,141	9,607	9,477	9,632	10,813	9,501	11,865	12,718	99,467	133,551
	Vehicle Hours	955	1,009	939	990	939	955	974	904	990	955	974	974	8,655	11,558
	Productivity	**13.7**	**14.8**	**12.2**	**10.4**	**10.8**	**10.1**	**9.7**	**10.7**	**10.9**	**9.9**	**12.2**	**13.1**	**11.5**	**11.6**

Blue Line

		JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	6 Mos.	9 Mos.
FY 2003	Passengers	10,098	9,515	5,692	5,787	4,854	6,022	5,711	6,716	6,007		10,576	10,780		60,402
	Vehicle Hours	1026	1063	968	1063	989	1005	1026	952	1042	1026	1026	1005		9,134
	Productivity	**9.8**	**9.0**	**5.9**	**5.4**	**4.9**	**6.0**	**5.6**	**7.1**	**5.8**		**10.3**	**10.7**		**6.6**
FY 2002	Passengers							2218	2667	3181	3000	6104	8264	25,434	
	Vehicle Hours							513	476	521	513	1026	1005	4,054	
	Productivity							**4.3**	**5.6**	**6.1**	**5.8**	**5.9**	**8.2**	**6.3**	

System Total

		JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	9 Mos.	12 Mos.
FY 2003	Passengers	20,670	18,697	13,043	13,599	11,488	12,856	14,054	15,403	14,320				134,130	
	Vehicle Hours	2,000	2,072	1,888	2,072	1,928	1,960	2,000	1,856	2,032	2,000	2,000	1,960	17,808	23,768
	Productivity	**10.3**	**9.0**	**6.9**	**6.6**	**6.0**	**6.6**	**7.0**	**8.3**	**7.0**				**7.5**	
FY 2002	Passengers	12,909	14,332	12,106	11,036	9,781	8,647	10,945	11,213	11,035	11,938	15,942	17,629	102,004	147,513
	Vehicle Hours	955	1,009	920	1,009	939	955	1,487	1,380	1,511	1,487	2,000	1,960	10,165	15,612
	Productivity	**13.5**	**14.2**	**13.2**	**10.9**	**10.4**	**9.1**	**7.4**	**8.1**	**7.3**	**8.0**	**8.0**	**9.0**	**10.0**	**9.4**
FY 2001	Passengers	13,120	14,968	11,435	10,274	10,141	9,607	9,477	9,632	10,813	9,501	11,865	12,718	99,467	133,551
	Vehicle Hours	955	1,009	939	990	939	955	974	904	990	955	974	974	8,655	11,558
	Productivity	**13.7**	**14.8**	**12.2**	**10.4**	**10.8**	**10.1**	**9.7**	**10.7**	**10.9**	**9.9**	**12.2**	**13.1**	**11.5**	**11.6**

APPENDIX E

CONCEPTUAL OPERATING SCHEDULES

TABLE E-1
UNCONSTRAINED SYSTEM DEVELOPMENT SCENARIO
PROPOSED OPERATING SCHEDULE

Block	PO	LV Public Library	Plaza Mall	UAS Campus	Alaska Tower	Ketchikan Hospital	Airport Ferry	Spaeth Shoreline	AR Wal mart	LV Wal mart	Spaeth Shoreline	Airport Ferry	Ketchikan Hospital	Alaska Tower	UAS Campus	Plaza Mall	Federal Building
1	4:46 AM																
2	5:13 AM																
3	5:46 AM																
1		5:00 AM	5:07 AM	—	—	5:10 AM	5:13 AM	5:19 AM	5:21 AM	5:25 AM	—	5:31 AM	5:34 AM	5:39 AM	5:42 AM	5:46 AM	5:53 AM
2		5:30 AM	5:37 AM	5:41 AM	5:44 AM	5:49 AM	5:52 AM	—	5:56 AM	6:00 AM	6:02 AM	6:08 AM	6:11 AM	—	—	6:14 AM	6:21 AM
3		6:00 AM	6:07 AM	—	—	6:10 AM	6:13 AM	6:19 AM	6:21 AM	6:25 AM	—	6:31 AM	6:34 AM	6:39 AM	6:42 AM	6:46 AM	6:53 AM
1		6:30 AM	6:37 AM	6:41 AM	6:44 AM	6:49 AM	6:52 AM	—	6:56 AM	7:00 AM	7:02 AM	7:08 AM	7:11 AM	—	—	7:14 AM	7:21 AM
2		7:00 AM	7:07 AM	—	—	7:10 AM	7:13 AM	7:19 AM	7:21 AM	7:25 AM	—	7:31 AM	7:34 AM	7:39 AM	7:42 AM	7:46 AM	7:53 AM
3		7:30 AM	7:37 AM	7:41 AM	7:44 AM	7:49 AM	7:52 AM	—	7:56 AM	8:00 AM	8:02 AM	8:08 AM	8:11 AM	—	—	8:14 AM	8:21 AM
1		8:00 AM	8:07 AM	—	—	8:10 AM	8:13 AM	8:19 AM	8:21 AM	8:25 AM	—	8:31 AM	8:34 AM	8:39 AM	8:42 AM	8:46 AM	8:53 AM
2		8:30 AM	8:37 AM	8:41 AM	8:44 AM	8:49 AM	8:52 AM	—	8:56 AM	9:00 AM	9:02 AM	9:08 AM	9:11 AM	—	—	9:14 AM	9:21 AM
3		9:00 AM	9:07 AM	—	—	9:10 AM	9:13 AM	9:19 AM	9:21 AM	9:25 AM	—	9:31 AM	9:34 AM	9:39 AM	9:42 AM	9:46 AM	9:53 AM
1		9:30 AM	9:37 AM	9:41 AM	9:44 AM	9:49 AM	9:52 AM	—	9:56 AM	10:00 AM	10:02 AM	10:08 AM	10:11 AM	—	—	10:14 AM	10:21 AM
2		10:00 AM	10:07 AM	—	—	10:10 AM	10:13 AM	10:19 AM	10:21 AM	10:25 AM	—	10:31 AM	10:34 AM	10:39 AM	10:42 AM	10:46 AM	10:53 AM
4	11:31 AM																
3		10:30 AM	10:37 AM	10:41 AM	10:44 AM	10:49 AM	10:52 AM	—	10:56 AM	11:00 AM	11:02 AM	11:08 AM	11:11 AM	—	—	11:14 AM	11:21 AM
5	12:01 PM																
1		11:00 AM	11:07 AM	—	—	11:10 AM	11:13 AM	11:19 AM	11:21 AM	11:25 AM	—	11:31 AM	11:34 AM	11:39 AM	11:42 AM	11:46 AM	11:53 AM
6	12:31 PM																
2		11:30 AM	11:37 AM	11:41 AM	11:44 AM	11:49 AM	11:52 AM	—	11:56 AM	12:00 PM	12:02 PM	12:08 PM	12:11 PM	—	—	12:14 PM	12:21 PM
4		11:45 AM	11:52 AM	—	—	11:55 AM	11:58 AM	12:04 PM	12:06 PM	12:10 PM	—	12:16 PM	12:19 PM	12:24 PM	12:27 PM	12:31 PM	12:38 PM
3		12:00 PM	12:07 PM	12:11 PM	12:14 PM	12:19 PM	12:22 PM	—	12:26 PM	12:30 PM	12:32 PM	12:38 PM	12:41 PM	—	—	12:44 PM	12:51 PM
5		12:15 PM	12:22 PM	—	—	12:25 PM	12:28 PM	12:34 PM	12:36 PM	12:40 PM	—	12:46 PM	12:49 PM	12:54 PM	12:57 PM	1:01 PM	1:08 PM
1		12:30 PM	12:37 PM	12:41 PM	12:44 PM	12:49 PM	12:52 PM	—	12:56 PM	1:00 PM	1:02 PM	1:08 PM	1:11 PM	—	—	1:14 PM	1:21 PM
6		12:45 PM	12:52 PM	—	—	12:55 PM	12:58 PM	1:04 PM	1:06 PM	1:10 PM	—	1:16 PM	1:19 PM	1:24 PM	1:27 PM	1:31 PM	1:38 PM
2		1:00 PM	1:07 PM	1:11 PM	1:14 PM	1:19 PM	1:22 PM	—	1:26 PM	1:30 PM	1:32 PM	1:38 PM	1:41 PM	—	—	1:44 PM	1:51 PM
4		1:15 PM	1:22 PM	—	—	1:25 PM	1:28 PM	1:34 PM	1:36 PM	1:40 PM	—	1:46 PM	1:49 PM	1:54 PM	1:57 PM	2:01 PM	2:08 PM
3		1:30 PM	1:37 PM	1:41 PM	1:44 PM	1:49 PM	1:52 PM	—	1:56 PM	2:00 PM	2:02 PM	2:08 PM	2:11 PM	—	—	2:14 PM	2:21 PM
5		1:45 PM	1:52 PM	—	—	1:55 PM	1:58 PM	2:04 PM	2:06 PM	2:10 PM	—	2:16 PM	2:19 PM	2:24 PM	2:27 PM	2:31 PM	2:38 PM
1		2:00 PM	2:07 PM	2:11 PM	2:14 PM	2:19 PM	2:22 PM	—	2:26 PM	2:30 PM	2:32 PM	2:38 PM	2:41 PM	—	—	2:44 PM	2:51 PM
6		2:15 PM	2:22 PM	—	—	2:25 PM	2:28 PM	2:34 PM	2:36 PM	2:40 PM	—	2:46 PM	2:49 PM	2:54 PM	2:57 PM	3:01 PM	3:08 PM
2		2:30 PM	2:37 PM	2:41 PM	2:44 PM	2:49 PM	2:52 PM	—	2:56 PM	3:00 PM	3:02 PM	3:08 PM	3:11 PM	—	—	3:14 PM	3:21 PM
4		2:45 PM	2:52 PM	—	—	2:55 PM	2:58 PM	3:04 PM	3:06 PM	3:10 PM	—	3:16 PM	3:19 PM	3:24 PM	3:27 PM	3:31 PM	3:38 PM
3		3:00 PM	3:07 PM	3:11 PM	3:14 PM	3:19 PM	3:22 PM	—	3:26 PM	3:30 PM	3:32 PM	3:38 PM	3:41 PM	—	—	3:44 PM	3:51 PM
5		3:15 PM	3:22 PM	—	—	3:25 PM	3:28 PM	3:34 PM	3:36 PM	3:40 PM	—	3:46 PM	3:49 PM	3:54 PM	3:57 PM	4:01 PM	4:08 PM
1		3:30 PM	3:37 PM	3:41 PM	3:44 PM	3:49 PM	3:52 PM	—	3:56 PM	4:00 PM	4:02 PM	4:08 PM	4:11 PM	—	—	4:14 PM	4:21 PM
6		3:45 PM	3:52 PM	—	—	3:55 PM	3:58 PM	4:04 PM	4:06 PM	4:10 PM	—	4:16 PM	4:19 PM	4:24 PM	4:27 PM	4:31 PM	4:38 PM
2		4:00 PM	4:07 PM	4:11 PM	4:14 PM	4:19 PM	4:22 PM	—	4:26 PM	4:30 PM	4:32 PM	4:38 PM	4:41 PM	—	—	4:44 PM	4:51 PM
4		4:15 PM	4:22 PM	—	—	4:25 PM	4:28 PM	4:34 PM	4:36 PM	4:40 PM	—	4:46 PM	4:49 PM	4:54 PM	4:57 PM	5:01 PM	5:08 PM
3		4:30 PM	4:37 PM	4:41 PM	4:44 PM	4:49 PM	4:52 PM	—	4:56 PM	5:00 PM	5:02 PM	5:08 PM	5:11 PM	—	—	5:14 PM	5:21 PM
5		4:45 PM	4:52 PM	—	—	4:55 PM	4:58 PM	5:04 PM	5:06 PM	5:10 PM	—	5:16 PM	5:19 PM	5:24 PM	5:27 PM	5:31 PM	5:38 PM
1		5:00 PM	5:07 PM	5:11 PM	5:14 PM	5:19 PM	5:22 PM	—	5:26 PM	5:30 PM	5:32 PM	5:38 PM	5:41 PM	—	—	5:44 PM	5:51 PM
6		5:15 PM	5:22 PM	—	—	5:25 PM	5:28 PM	5:34 PM	5:36 PM	5:40 PM	—	5:46 PM	5:49 PM	5:54 PM	5:57 PM	6:01 PM	6:08 PM
2		5:30 PM	5:37 PM	5:41 PM	5:44 PM	5:49 PM	5:52 PM	—	5:56 PM	6:00 PM	6:02 PM	6:08 PM	6:11 PM	—	—	6:14 PM	6:21 PM
4		5:45 PM	5:52 PM	—	—	5:55 PM	5:58 PM	6:04 PM	6:06 PM	6:10 PM	—	6:16 PM	6:19 PM	6:24 PM	6:27 PM	6:31 PM	6:38 PM
3		6:00 PM	6:07 PM	6:11 PM	6:14 PM	6:19 PM	6:22 PM	—	6:26 PM	6:30 PM	6:32 PM	6:38 PM	6:41 PM	—	—	6:44 PM	6:51 PM
5		6:15 PM	6:22 PM	—	—	6:25 PM	6:28 PM	6:34 PM	6:36 PM	6:40 PM	—	6:46 PM	6:49 PM	6:54 PM	6:57 PM	7:01 PM	7:08 PM
1		6:30 PM	6:37 PM	6:41 PM	6:44 PM	6:49 PM	6:52 PM	—	6:56 PM	7:00 PM	7:02 PM	7:08 PM	7:11 PM	—	—	7:14 PM	7:21 PM
2		7:00 PM	7:07 PM	—	—	7:10 PM	7:13 PM	7:19 PM	7:21 PM	7:25 PM	—	7:31 PM	7:34 PM	7:39 PM	7:42 PM	7:46 PM	7:53 PM
3		7:30 PM	7:37 PM	7:41 PM	7:44 PM	7:49 PM	7:52 PM	—	7:56 PM	8:00 PM	8:02 PM	8:08 PM	8:11 PM	—	—	8:14 PM	8:21 PM
1		8:00 PM	8:07 PM	—	—	8:10 PM	8:13 PM	8:19 PM	8:21 PM	8:25 PM	—	8:31 PM	8:34 PM	8:39 PM	8:42 PM	8:46 PM	8:53 PM
2		8:30 PM	8:37 PM	8:41 PM	8:44 PM	8:49 PM	8:52 PM	—	8:56 PM	9:00 PM	9:02 PM	9:08 PM	9:11 PM	—	—	9:14 PM	9:21 PM
3		9:00 PM	9:07 PM	—	—	9:10 PM	9:13 PM	9:19 PM	9:21 PM	9:25 PM	—	9:31 PM	9:34 PM	9:39 PM	9:42 PM	9:46 PM	9:53 PM

Weekday / Saturday Blocks

Block	In	Out	RVH	DH	VSH	
1	4:56 AM	8:18 PM	16:22:00	0:10:00	16:32:00	16:32:00
2	5:23 AM	9:53 PM	16:30:00	0:10:00	16:40:00	16:40:00
3	5:50 AM	9:59 PM	16:03:00	0:10:00	16:13:00	16:13:00
4	11:41 AM	7:03 PM	7:22:00	0:10:00	7:32:00	
5	12:11 PM	7:33 PM	7:22:00	0:10:00	7:32:00	
6	12:41 PM	6:33 PM	5:52:00	0:10:00	6:02:00	
Total	—	—	69:31:00	1:00:00	70:31:00	49:25:00

Sunday Blocks = 3 x 8 hours = 36:00:00 24:00:00

TABLE E-1
UNCONSTRAINED SYSTEM DEVELOPMENT SCENARIO
PROPOSED OPERATING SCHEDULE

LV Public Library	Federal Building	Stedman Deermount	Brown Deer Fairy Chasm	Saxman City Hall	Saxman Seaport	AR Rotary Beach	LV Rotary Beach	Saxman Seaport	Saxman City Hall	Brown Deer Fairy Chasm	Stedman Deermount	AR Public Library	PI
											4:56 AM	4:59 AM	
											5:23 AM	5:26 AM	
											5:56 AM	5:59 AM	
6:00 AM	6:01 AM	6:04 AM	6:10 AM	—	—	—	—	—	—	6:12 AM	6:18 AM	6:21 AM	
6:30 AM	6:31 AM	6:34 AM	—	6:39 AM	6:41 AM	6:43 AM	6:44 AM	6:46 AM	6:48 AM	—	6:53 AM	6:56 AM	
7:00 AM	7:01 AM	7:04 AM	7:10 AM	—	—	—	—	—	—	7:12 AM	7:18 AM	7:21 AM	
7:30 AM	7:31 AM	7:34 AM	—	7:39 AM	7:41 AM	7:43 AM	7:44 AM	7:46 AM	7:48 AM	—	7:53 AM	7:56 AM	
8:00 AM	8:01 AM	8:04 AM	8:10 AM	—	—	—	—	—	—	8:12 AM	8:18 AM	8:21 AM	
8:30 AM	8:31 AM	8:34 AM	—	8:39 AM	8:41 AM	8:43 AM	8:44 AM	8:46 AM	8:48 AM	—	8:53 AM	8:56 AM	
9:00 AM	9:01 AM	9:04 AM	9:10 AM	—	—	—	—	—	—	9:12 AM	9:18 AM	9:21 AM	
9:30 AM	9:31 AM	9:34 AM	—	9:39 AM	9:41 AM	9:43 AM	9:44 AM	9:46 AM	9:48 AM	—	9:53 AM	9:56 AM	
10:00 AM	10:01 AM	10:04 AM	10:10 AM	—	—	—	—	—	—	10:12 AM	10:18 AM	10:21 AM	
10:30 AM	10:31 AM	10:34 AM	—	10:39 AM	10:41 AM	10:43 AM	10:44 AM	10:46 AM	10:48 AM	—	10:53 AM	10:56 AM	
11:00 AM	11:01 AM	11:04 AM	11:10 AM	—	—	—	—	—	—	11:12 AM	11:18 AM	11:21 AM	
											11:41 AM	11:44 AM	
11:30 AM	11:31 AM	11:34 AM	—	11:39 AM	11:41 AM	11:43 AM	11:44 AM	11:46 AM	11:48 AM	—	11:53 AM	11:56 AM	
											12:11 PM	12:14 PM	
12:00 PM	12:01 PM	12:04 PM	12:10 PM	—	—	—	—	—	—	12:12 PM	12:18 PM	12:21 PM	
											12:41 PM	12:44 PM	
12:30 PM	12:31 PM	12:34 PM	—	12:39 PM	12:41 PM	12:43 PM	12:44 PM	12:46 PM	12:48 PM	—	12:53 PM	12:56 PM	
12:45 PM	12:46 PM	12:49 PM	12:55 PM	—	—	—	—	—	—	12:57 PM	1:03 PM	1:06 PM	
1:00 PM	1:01 PM	1:04 PM	—	1:09 PM	1:11 PM	1:13 PM	1:14 PM	1:16 PM	1:18 PM	—	1:23 PM	1:26 PM	
1:15 PM	1:16 PM	1:19 PM	1:25 PM	—	—	—	—	—	—	1:27 PM	1:33 PM	1:36 PM	
1:30 PM	1:31 PM	1:34 PM	—	1:39 PM	1:41 PM	1:43 PM	1:44 PM	1:46 PM	1:48 PM	—	1:53 PM	1:56 PM	
1:45 PM	1:46 PM	1:49 PM	1:55 PM	—	—	—	—	—	—	1:57 PM	2:03 PM	2:06 PM	
2:00 PM	2:01 PM	2:04 PM	—	2:09 PM	2:11 PM	2:13 PM	2:14 PM	2:16 PM	2:18 PM	—	2:23 PM	2:26 PM	
2:15 PM	2:16 PM	2:19 PM	2:25 PM	—	—	—	—	—	—	2:27 PM	2:33 PM	2:36 PM	
2:30 PM	2:31 PM	2:34 PM	—	2:39 PM	2:41 PM	2:43 PM	2:44 PM	2:46 PM	2:48 PM	—	2:53 PM	2:56 PM	
2:45 PM	2:46 PM	2:49 PM	2:55 PM	—	—	—	—	—	—	2:57 PM	3:03 PM	3:06 PM	
3:00 PM	3:01 PM	3:04 PM	—	3:09 PM	3:11 PM	3:13 PM	3:14 PM	3:16 PM	3:18 PM	—	3:23 PM	3:26 PM	
3:15 PM	3:16 PM	3:19 PM	3:25 PM	—	—	—	—	—	—	3:27 PM	3:33 PM	3:36 PM	
3:30 PM	3:31 PM	3:34 PM	—	3:39 PM	3:41 PM	3:43 PM	3:44 PM	3:46 PM	3:48 PM	—	3:53 PM	3:56 PM	
3:45 PM	3:46 PM	3:49 PM	3:55 PM	—	—	—	—	—	—	3:57 PM	4:03 PM	4:06 PM	
4:00 PM	4:01 PM	4:04 PM	—	4:09 PM	4:11 PM	4:13 PM	4:14 PM	4:16 PM	4:18 PM	—	4:23 PM	4:26 PM	
4:15 PM	4:16 PM	4:19 PM	4:25 PM	—	—	—	—	—	—	4:27 PM	4:33 PM	4:36 PM	
4:30 PM	4:31 PM	4:34 PM	—	4:39 PM	4:41 PM	4:43 PM	4:44 PM	4:46 PM	4:48 PM	—	4:53 PM	4:56 PM	
4:45 PM	4:46 PM	4:49 PM	4:55 PM	—	—	—	—	—	—	4:57 PM	5:03 PM	5:06 PM	
5:00 PM	5:01 PM	5:04 PM	—	5:09 PM	5:11 PM	5:13 PM	5:14 PM	5:16 PM	5:18 PM	—	5:23 PM	5:26 PM	
5:15 PM	5:16 PM	5:19 PM	5:25 PM	—	—	—	—	—	—	5:27 PM	5:33 PM	5:36 PM	
5:30 PM	5:31 PM	5:34 PM	—	5:39 PM	5:41 PM	5:43 PM	5:44 PM	5:46 PM	5:48 PM	—	5:53 PM	5:56 PM	
5:45 PM	5:46 PM	5:49 PM	5:55 PM	—	—	—	—	—	—	5:57 PM	6:03 PM	6:06 PM	
6:00 PM	6:01 PM	6:04 PM	—	6:09 PM	6:11 PM	6:13 PM	6:14 PM	6:16 PM	6:18 PM	—	6:23 PM	6:26 PM	
6:15 PM	6:16 PM	6:19 PM	6:25 PM	—	—	—	—	—	—	6:27 PM	6:33 PM		6:35 PM
6:30 PM	6:31 PM	6:34 PM	—	6:39 PM	6:41 PM	6:43 PM	6:44 PM	6:46 PM	6:48 PM	—	6:53 PM	6:56 PM	
6:45 PM	6:46 PM	6:49 PM	6:55 PM	—	—	—	—	—	—	6:57 PM	7:03 PM		7:05 PM
7:00 PM	7:01 PM	7:04 PM	—	7:09 PM	7:11 PM	7:13 PM	7:14 PM	7:16 PM	7:18 PM	—	7:23 PM	7:26 PM	
7:15 PM	7:16 PM	7:19 PM	7:25 PM	—	—	—	—	—	—	7:27 PM	7:33 PM		7:35 PM
7:30 PM	7:31 PM	7:34 PM	—	7:39 PM	7:41 PM	7:43 PM	7:44 PM	7:46 PM	7:48 PM	—	7:53 PM	7:56 PM	
8:00 PM	8:01 PM	8:04 PM	8:10 PM	—	—	—	—	—	—	8:12 PM	8:18 PM	8:21 PM	
8:30 PM	8:31 PM	8:34 PM	—	8:39 PM	8:41 PM	8:43 PM	8:44 PM	8:46 PM	8:48 PM	—	8:53 PM	8:56 PM	
9:00 PM	9:01 PM	9:04 PM	9:10 PM	—	—	—	—	—	—	9:12 PM	9:18 PM		9:20 PM
9:30 PM	9:31 PM	9:34 PM	—	9:39 PM	9:41 PM	9:43 PM	9:44 PM	9:46 PM	9:48 PM	—	9:53 PM		9:55 PM
9:55 PM	9:56 PM	9:59 PM											10:01 PM

TABLE E-2
CONSTRAINED OPTION 1 - RESTRUCTURED 3-BUS SYSTEM
PROPOSED OPERATING SCHEDULE

Block	LV Wal mart	Airport Ferry	Ketchikan Hospital	Alaska Tower	UAS Campus	Plaza Mall	AR Federal Building	LV Federal Building	Stedman Deermount	Brown Deer Fairy Chasm	Saxman City Hall	AR Saxman Seaport
2									5:38 AM	5:44 AM		
3									6:08 AM		6:13 AM	6:15 AM
1	6:00 AM	6:08 AM	6:11 AM	6:16 AM	6:19 AM	6:23 AM	6:30 AM	6:35 AM	6:38 AM	6:44 AM		
2	6:30 AM	6:38 AM	6:41 AM	---	—	6:47 AM	6:54 AM	7:05 AM	7:08 AM		7:13 AM	7:15 AM
3	7:00 AM	7:08 AM	7:11 AM	7:16 AM	7:19 AM	7:23 AM	7:30 AM	7:35 AM	7:38 AM	7:44 AM		
1	7:30 AM	7:38 AM	7:41 AM			7:47 AM	7:54 AM	8:05 AM	8:08 AM		8:13 AM	8:15 AM
2	8:00 AM	8:08 AM	8:11 AM	8:16 AM	8:19 AM	8:23 AM	8:30 AM	8:35 AM	8:38 AM	8:44 AM		
3	8:30 AM	8:38 AM	8:41 AM			8:47 AM	8:54 AM	9:05 AM	9:08 AM		9:13 AM	9:15 AM
1	9:00 AM	9:08 AM	9:11 AM	9:16 AM	9:19 AM	9:23 AM	9:30 AM	9:35 AM	9:38 AM	9:44 AM		
2	9:30 AM	9:38 AM	9:41 AM			9:47 AM	9:54 AM	10:05 AM	10:08 AM		10:13 AM	10:15 AM
3	10:00 AM	10:08 AM	10:11 AM	10:16 AM	10:19 AM	10:23 AM	10:30 AM	10:35 AM	10:38 AM	10:44 AM		
1	10:30 AM	10:38 AM	10:41 AM			10:47 AM	10:54 AM	11:05 AM	11:08 AM		11:13 AM	11:15 AM
2	11:00 AM	11:08 AM	11:11 AM	11:16 AM	11:19 AM	11:23 AM	11:30 AM	11:35 AM	11:38 AM	11:44 AM		
3	11:30 AM	11:38 AM	11:41 AM			11:47 AM	11:54 AM	12:05 PM	12:08 PM		12:13 PM	12:15 PM
1	12:00 PM	12:08 PM	12:11 PM	12:16 PM	12:19 PM	12:23 PM	12:30 PM	12:35 PM	12:38 PM	12:44 PM		
2	12:30 PM	12:38 PM	12:41 PM			12:47 PM	12:54 PM	1:05 PM	1:08 PM		1:13 PM	1:15 PM
3	1:00 PM	1:08 PM	1:11 PM	1:16 PM	1:19 PM	1:23 PM	1:30 PM	1:35 PM	1:38 PM	1:44 PM		
1	1:30 PM	1:38 PM	1:41 PM			1:47 PM	1:54 PM	2:05 PM	2:08 PM		2:13 PM	2:15 PM
2	2:00 PM	2:08 PM	2:11 PM	2:16 PM	2:19 PM	2:23 PM	2:30 PM	2:35 PM	2:38 PM	2:44 PM		
3	2:30 PM	2:38 PM	2:41 PM			2:47 PM	2:54 PM	3:05 PM	3:08 PM		3:13 PM	3:15 PM
1	3:00 PM	3:08 PM	3:11 PM	3:16 PM	3:19 PM	3:23 PM	3:30 PM	3:35 PM	3:38 PM	3:44 PM		
2	3:30 PM	3:38 PM	3:41 PM			3:47 PM	3:54 PM	4:05 PM	4:08 PM		4:13 PM	4:15 PM
3	4:00 PM	4:08 PM	4:11 PM	4:16 PM	4:19 PM	4:23 PM	4:30 PM	4:35 PM	4:38 PM	4:44 PM		
1	4:30 PM	4:38 PM	4:41 PM			4:47 PM	4:54 PM	5:05 PM	5:08 PM		5:13 PM	5:15 PM
2	5:00 PM	5:08 PM	5:11 PM	5:16 PM	5:19 PM	5:23 PM	5:30 PM	5:35 PM	5:38 PM	5:44 PM		
3	5:30 PM	5:38 PM	5:41 PM			5:47 PM	5:54 PM	6:05 PM	6:08 PM		6:13 PM	6:15 PM
1	6:00 PM	6:08 PM	6:11 PM	6:16 PM	6:19 PM	6:23 PM	6:30 PM	6:35 PM	6:38 PM	6:44 PM		
2	6:30 PM	6:38 PM	6:41 PM			6:47 PM	6:54 PM	7:05 PM	7:08 PM		7:13 PM	7:15 PM
3	7:15 PM	7:23 PM	7:26 PM	7:31 PM	7:34 PM	7:38 PM	7:45 PM	7:50 PM	7:53 PM	7:59 PM		
2	8:00 PM	8:08 PM	8:11 PM			8:17 PM	8:24 PM	8:35 PM	8:38 PM		8:43 PM	8:45 PM
3	8:45 PM	8:53 PM	8:56 PM	9:01 PM	9:04 PM	9:08 PM	9:15 PM	9:20 PM	9:23 PM	9:29 PM		
2	9:30 PM	9:38 PM	9:41 PM			9:47 PM	9:54 PM	10:05 PM	10:08 PM			

TABLE E-2 (Continued)
CONSTRAINED OPTION 1 - RESTRUCTURED 3-BUS SYSTEM
PROPOSED OPERATING SCHEDULE

Block	LV Saxman Seaport	Saxman City Hall	Brown Deer Fairy Chasm	Stedman Deermount	AR Public Library	LV Public Library	Plaza Mall	UAS Campus	Alaska Tower	Ketchikan Hospital	Airport Ferry	AR Wal mart
1				5:25 AM	5:28 AM	5:30 AM	5:37 AM	5:41 AM	5:44 AM	5:49 AM	5:52 AM	5:58 AM
2			5:45 AM	5:51 AM	5:54 AM	6:00 AM	6:07 AM			6:10 AM	6:13 AM	6:19 AM
3	6:17 AM	6:19 AM		6:24 AM	6:27 AM	6:30 AM	6:37 AM	6:41 AM	6:44 AM	6:49 AM	6:52 AM	6:58 AM
1			6:45 AM	6:51 AM	6:54 AM	7:00 AM	7:07 AM			7:10 AM	7:13 AM	7:19 AM
2	7:17 AM	7:19 AM		7:24 AM	7:27 AM	7:30 AM	7:37 AM	7:41 AM	7:44 AM	7:49 AM	7:52 AM	7:58 AM
3			7:45 AM	7:51 AM	7:54 AM	8:00 AM	8:07 AM			8:10 AM	8:13 AM	8:19 AM
1	8:17 AM	8:19 AM		8:24 AM	8:27 AM	8:30 AM	8:37 AM	8:41 AM	8:44 AM	8:49 AM	8:52 AM	8:58 AM
2			8:45 AM	8:51 AM	8:54 AM	9:00 AM	9:07 AM			9:10 AM	9:13 AM	9:19 AM
3	9:17 AM	9:19 AM		9:24 AM	9:27 AM	9:30 AM	9:37 AM	9:41 AM	9:44 AM	9:49 AM	9:52 AM	9:58 AM
1			9:45 AM	9:51 AM	9:54 AM	10:00 AM	10:07 AM			10:10 AM	10:13 AM	10:19 AM
2	10:17 AM	10:19 AM		10:24 AM	10:27 AM	10:30 AM	10:37 AM	10:41 AM	10:44 AM	10:49 AM	10:52 AM	10:58 AM
3			10:45 AM	10:51 AM	10:54 AM	11:00 AM	11:07 AM			11:10 AM	11:13 AM	11:19 AM
1	11:17 AM	11:19 AM		11:24 AM	11:27 AM	11:30 AM	11:37 AM	11:41 AM	11:44 AM	11:49 AM	11:52 AM	11:58 AM
2			11:45 AM	11:51 AM	11:54 AM	12:00 PM	12:07 PM			12:10 PM	12:13 PM	12:19 PM
3	12:17 PM	12:19 PM		12:24 PM	12:27 PM	12:30 PM	12:37 PM	12:41 PM	12:44 PM	12:49 PM	12:52 PM	12:58 PM
1			12:45 PM	12:51 PM	12:54 PM	1:00 PM	1:07 PM			1:10 PM	1:13 PM	1:19 PM
2	1:17 PM	1:19 PM		1:24 PM	1:27 PM	1:30 PM	1:37 PM	1:41 PM	1:44 PM	1:49 PM	1:52 PM	1:58 PM
3			1:45 PM	1:51 PM	1:54 PM	2:00 PM	2:07 PM			2:10 PM	2:13 PM	2:19 PM
1	2:17 PM	2:19 PM		2:24 PM	2:27 PM	2:30 PM	2:37 PM	2:41 PM	2:44 PM	2:49 PM	2:52 PM	2:58 PM
2			2:45 PM	2:51 PM	2:54 PM	3:00 PM	3:07 PM			3:10 PM	3:13 PM	3:19 PM
3	3:17 PM	3:19 PM		3:24 PM	3:27 PM	3:30 PM	3:37 PM	3:41 PM	3:44 PM	3:49 PM	3:52 PM	3:58 PM
1			3:45 PM	3:51 PM	3:54 PM	4:00 PM	4:07 PM			4:10 PM	4:13 PM	4:19 PM
2	4:17 PM	4:19 PM		4:24 PM	4:27 PM	4:30 PM	4:37 PM	4:41 PM	4:44 PM	4:49 PM	4:52 PM	4:58 PM
3			4:45 PM	4:51 PM	4:54 PM	5:00 PM	5:07 PM			5:10 PM	5:13 PM	5:19 PM
1	5:17 PM	5:19 PM		5:24 PM	5:27 PM	5:30 PM	5:37 PM	5:41 PM	5:44 PM	5:49 PM	5:52 PM	5:58 PM
2			5:45 PM	5:51 PM	5:54 PM	6:00 PM	6:07 PM			6:10 PM	6:13 PM	6:19 PM
3	6:17 PM	6:19 PM		6:24 PM	6:27 PM	6:30 PM	6:37 PM	6:41 PM	6:44 PM	6:49 PM	6:52 PM	6:58 PM
1			6:45 PM	6:51 PM	6:54 PM	7:00 PM	7:07 PM			7:10 PM	7:13 PM	7:19 PM
2	7:17 PM	7:19 PM		7:24 PM	7:27 PM	7:30 PM	7:37 PM	7:41 PM	7:44 PM	7:49 PM	7:52 PM	7:58 PM
3			8:00 PM	8:06 PM	8:09 PM	8:15 PM	8:22 PM			8:25 PM	8:28 PM	8:34 PM
2	8:47 PM	8:49 PM		8:54 PM	8:57 PM	9:00 PM	9:07 PM	9:11 PM	9:14 PM	9:19 PM	9:22 PM	9:28 PM
3			9:30 PM	9:36 PM	9:39 PM	9:42 PM	9:49 PM					

Weekday / Saturday Blocks

	In	Out	RVH	DH	VSH
1	5:25 AM	7:19 PM	13:54:00	0:10	14:04:00
2	5:38 AM	10:08 PM	16:30:00	0:10	16:40:00
3	6:08 AM	9:29 PM	15:21:00	0:10	15:31:00
Total			45:45:00	0:30	46:15:00

Sunday Blocks

In	Out	RVH	DH	VSH
8:51 AM	5:38 PM	8:47:00	0:10	8:57:00
9:08 AM	4:51 PM	7:43:00	0:10	7:53:00
		16:30:00	0:20	16:50:00

255 Weekdays	11793:45:00
52 Saturdays	2405:00:00
52 Sundays	875:20:00
6 Holidays	0
Total	15074:05:00

TABLE E-3
CONSTRAINED OPTION 2 - REDUCED FREQUENCY EXISTING ROUTE SYSTEM
PROPOSED OPERATING SCHEDULE

GREEN LINE

Block	LV Brown Deer Fairy Chasm	Stedman Deermount	AR Public Library	LV Public Library	Plaza Mall	Ketchikan Hospital	Airport Ferry	Alaska Tower	UAS	Plaza Mall	AR Federal Building	LV Federal Building	Stedman Deermount	Brown Deer Fairy Chasm
													5:53 AM	5:59 AM
1	6:00 AM	6:06 AM	6:09 AM	6:15 AM	6:22 AM	6:25 AM	6:28 AM	6:33 AM	6:36 AM	6:40 AM	6:47 AM	6:50 AM	6:53 AM	6:59 AM
1	7:00 AM	7:06 AM	7:09 AM	7:15 AM	7:22 AM	7:25 AM	7:28 AM	7:33 AM	7:36 AM	7:40 AM	7:47 AM	7:50 AM	7:53 AM	7:59 AM
1	8:00 AM	8:06 AM	8:09 AM	8:15 AM	8:22 AM	8:25 AM	8:28 AM	8:33 AM	8:36 AM	8:40 AM	8:47 AM	8:50 AM	8:53 AM	8:59 AM
1	9:00 AM	9:06 AM	9:09 AM	9:15 AM	9:22 AM	9:25 AM	9:28 AM	9:33 AM	9:36 AM	9:40 AM	9:47 AM	9:50 AM	9:53 AM	9:59 AM
1	10:00 AM	10:06 AM	10:09 AM	10:15 AM	10:22 AM	10:25 AM	10:28 AM	10:33 AM	10:36 AM	10:40 AM	10:47 AM	10:50 AM	10:53 AM	10:59 AM
1	11:00 AM	11:06 AM	11:09 AM	11:15 AM	11:22 AM	11:25 AM	11:28 AM	11:33 AM	11:36 AM	11:40 AM	11:47 AM	11:50 AM	11:53 AM	11:59 AM
2		11:36 AM	11:39 AM	11:45 AM	11:52 AM	11:55 AM	11:58 AM	12:03 PM	12:06 PM	12:10 PM	12:17 PM	12:20 PM	12:23 PM	12:29 PM
1	12:00 PM	12:06 PM	12:09 PM	12:15 PM	12:22 PM	12:25 PM	12:28 PM	12:33 PM	12:36 PM	12:40 PM	12:47 PM	12:50 PM	12:53 PM	12:59 PM
2	12:30 PM	12:36 PM	12:39 PM	12:45 PM	12:52 PM	12:55 PM	12:58 PM	1:03 PM	1:06 PM	1:10 PM	1:17 PM	1:20 PM	1:23 PM	1:29 PM
1	1:00 PM	1:06 PM	1:09 PM	1:15 PM	1:22 PM	1:25 PM	1:28 PM	1:33 PM	1:36 PM	1:40 PM	1:47 PM	1:50 PM	1:53 PM	1:59 PM
2	1:30 PM	1:36 PM	1:39 PM	1:45 PM	1:52 PM	1:55 PM	1:58 PM	2:03 PM	2:06 PM	2:10 PM	2:17 PM	2:20 PM	2:23 PM	2:29 PM
1	2:00 PM	2:06 PM	2:09 PM	2:15 PM	2:22 PM	2:25 PM	2:28 PM	2:33 PM	2:36 PM	2:40 PM	2:47 PM	2:50 PM	2:53 PM	2:59 PM
2	2:30 PM	2:36 PM	2:39 PM	2:45 PM	2:52 PM	2:55 PM	2:58 PM	3:03 PM	3:06 PM	3:10 PM	3:17 PM	3:20 PM	3:23 PM	3:29 PM
1	3:00 PM	3:06 PM	3:09 PM	3:15 PM	3:22 PM	3:25 PM	3:28 PM	3:33 PM	3:36 PM	3:40 PM	3:47 PM	3:50 PM	3:53 PM	3:59 PM
2	3:30 PM	3:36 PM	3:39 PM	3:45 PM	3:52 PM	3:55 PM	3:58 PM	4:03 PM	4:06 PM	4:10 PM	4:17 PM	4:20 PM	4:23 PM	4:29 PM
1	4:00 PM	4:06 PM	4:09 PM	4:15 PM	4:22 PM	4:25 PM	4:28 PM	4:33 PM	4:36 PM	4:40 PM	4:47 PM	4:50 PM	4:53 PM	4:59 PM
2	4:30 PM	4:36 PM	4:39 PM	4:45 PM	4:52 PM	4:55 PM	4:58 PM	5:03 PM	5:06 PM	5:10 PM	5:17 PM	5:20 PM	5:23 PM	5:29 PM
1	5:00 PM	5:06 PM	5:09 PM	5:15 PM	5:22 PM	5:25 PM	5:28 PM	5:33 PM	5:36 PM	5:40 PM	5:47 PM	5:50 PM	5:53 PM	5:59 PM
2	5:30 PM	5:36 PM	5:39 PM	5:45 PM	5:52 PM	5:55 PM	5:58 PM	6:03 PM	6:06 PM	6:10 PM	6:17 PM	6:20 PM	6:23 PM	6:29 PM
1	6:00 PM	6:06 PM	6:09 PM	6:15 PM	6:22 PM	6:25 PM	6:28 PM	6:33 PM	6:36 PM	6:40 PM	6:47 PM	6:50 PM	6:53 PM	6:59 PM
2	6:30 PM	6:36 PM												
1	7:00 PM	7:06 PM	7:09 PM	7:15 PM	7:22 PM	7:25 PM	7:28 PM	7:33 PM	7:36 PM	7:40 PM	7:47 PM	7:50 PM	7:53 PM	7:59 PM
1	8:00 PM	8:06 PM	8:09 PM	8:15 PM	8:22 PM	8:25 PM	8:28 PM	8:33 PM	8:36 PM	8:40 PM	8:47 PM	8:50 PM	8:53 PM	8:59 PM
1	9:00 PM	9:06 PM	9:09 PM	9:15 PM	9:22 PM	9:25 PM	9:28 PM	9:33 PM	9:36 PM	9:40 PM	9:47 PM	9:50 PM	9:53 PM	

BLUE LINE

Block	Wal mart	Airport Ferry	Ketchikan Hospital	Plaza Mall	Federal Building	Stedman Deermount	Saxman Seaport	Saxman Seaport	Stedman Deermount	Public Library	Public Library	Plaza Mall	Ketchikan Hospital	Airport Ferry	Wal mart
3									6:35 AM	6:38 AM	6:38 AM	6:45 AM	6:48 AM	6:51 AM	6:57 AM
3	6:58 AM	7:04 AM	7:07 AM	7:10 AM	7:17 AM	7:20 AM	7:27 AM	7:28 AM	7:35 AM	7:38 AM	7:38 AM	7:45 AM	7:48 AM	7:51 AM	7:57 AM
3	7:58 AM	8:04 AM	8:07 AM	8:10 AM	8:17 AM	8:20 AM	8:27 AM	8:28 AM	8:35 AM	8:38 AM	8:38 AM	8:45 AM	8:48 AM	8:51 AM	8:57 AM
3	8:58 AM	9:04 AM	9:07 AM	9:10 AM	9:17 AM	9:20 AM	9:27 AM	9:28 AM	9:35 AM	9:38 AM	9:38 AM	9:45 AM	9:48 AM	9:51 AM	9:57 AM
3	9:58 AM	10:04 AM	10:07 AM	10:10 AM	10:17 AM	10:20 AM	10:27 AM	10:28 AM	10:35 AM	10:38 AM	10:38 AM	10:45 AM	10:48 AM	10:51 AM	10:57 AM
3	10:58 AM	11:04 AM	11:07 AM	11:10 AM	11:17 AM	11:20 AM	11:27 AM	11:28 AM	11:35 AM	11:38 AM	11:38 AM	11:45 AM	11:48 AM	11:51 AM	11:57 AM
3	11:58 AM	12:04 PM	12:07 PM	12:10 PM	12:17 PM	12:20 PM	12:27 PM	12:28 PM	12:35 PM	12:38 PM	12:38 PM	12:45 PM	12:48 PM	12:51 PM	12:57 PM
3	12:58 PM	1:04 PM	1:07 PM	1:10 PM	1:17 PM	1:20 PM	1:27 PM	1:28 PM	1:35 PM	1:38 PM	1:38 PM	1:45 PM	1:48 PM	1:51 PM	1:57 PM
3	1:58 PM	2:04 PM	2:07 PM	2:10 PM	2:17 PM	2:20 PM	2:27 PM	2:28 PM	2:35 PM	2:38 PM	2:38 PM	2:45 PM	2:48 PM	2:51 PM	2:57 PM
3	2:58 PM	3:04 PM	3:07 PM	3:10 PM	3:17 PM	3:20 PM	3:27 PM	3:28 PM	3:35 PM	3:38 PM	3:38 PM	3:45 PM	3:48 PM	3:51 PM	3:57 PM
3	3:58 PM	4:04 PM	4:07 PM	4:10 PM	4:17 PM	4:20 PM	4:27 PM	4:28 PM	4:35 PM	4:38 PM	4:38 PM	4:45 PM	4:48 PM	4:51 PM	4:57 PM
3	4:58 PM	5:04 PM	5:07 PM	5:10 PM	5:17 PM	5:20 PM	5:27 PM	5:28 PM	5:35 PM	5:38 PM	5:38 PM	5:45 PM	5:48 PM	5:51 PM	5:57 PM
3	5:58 PM	6:04 PM	6:07 PM	6:10 PM	6:17 PM	6:20 PM	6:27 PM	6:28 PM	6:35 PM	6:38 PM	6:38 PM	6:45 PM	6:48 PM	6:51 PM	6:57 PM
3	6:58 PM	7:04 PM	7:07 PM	7:10 PM	7:17 PM	7:20 PM	7:27 PM	7:28 PM	7:35 PM	7:38 PM	7:38 PM	7:45 PM	7:48 PM	7:51 PM	7:57 PM
3	7:58 PM	8:04 PM	8:07 PM	8:10 PM	8:17 PM	8:20 PM	8:27 PM	8:28 PM	8:35 PM	8:38 PM	8:38 PM	8:45 PM	8:48 PM	8:51 PM	8:57 PM
3	8:58 PM	9:04 PM	9:07 PM	9:10 PM	9:17 PM	9:20 PM									

Weekday / Saturday Blocks

	In	Out	RVH	DH	VSH
Green 1	5:53 AM	9:53 PM	16:00:00	0:10	16:10:00
Green 2	11:36 AM	6:36 PM	7:00:00	0:10	7:10:00
Blue	6:35 AM	9:20 PM	14:45:00	0:10	14:55:00
Total			30:45:00	0:30	38:15:00 hours per day

Sunday Blocks

In	Out	RVH	DH	VSH
8:53 AM	4:53 PM	8:00:00	0:10	8:10:00
9:35 AM	5:20 PM	7:45:00	0:10	7:55:00
		15:45:00	0:20	16:05:00 hours per S

255 Weekdays	9753:45:00
52 Saturdays	1989:00:00
52 Sundays	836:20:00
6 Holidays	0
Total	12579:05:00

Seasonal Additional Blue Line (May 15 - Sep 15)

84 Weekdays	1253:00:00
17 Saturdays	253:35:00

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Ketchikan Gateway Borough
Transit Development Plan Update
FY 2004 -2008

Findings and Recommendations

Presentation to
Ketchikan Borough Assembly
September 2, 2003

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Purpose of the TDP

- Analyze past performance relative to adopted goals and objectives in the FY 99-03 TDP.
- Recommend system adjustments.
- Set new objectives for ongoing system development.
- Meet federal and state transportation planning guidelines.

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Five TDP Elements

- *Operating Plan* – Routes & schedules
- *Management Plan* – Organization & responsibility
- *Capital Plan* – Vehicles & facilities
- *Financial Plan* – Balanced budget & fare restructuring
- *Marketing Plan* – Customer information & community relations

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Service Plan

- Reduce operating schedules by 35% in FY 2004.
- Two options:
  1. Reduce frequency on existing routes
     - Less impact on customers
     - Adjusts capacity to demand
  2. Restructure routes
     - Fewer transfers required
     - Requires one less bus

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Management Plan

- Reduce Transit Manager to half-time position.
- Consolidate vehicle operations and maintenance in a common location.
- Consider contracting for fixed route operations and maintenance.
- Revisit complementary paratransit service contract terms with Ketchikan Senior Center.

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Financial Plan

- Balanced FY 04 budget requires timely service reduction and fixed cost savings.
- No further service level adjustments during FY 2005 through FY 2008 are assumed.
- Recover at least 33% of total operating costs through farebox and advertising revenues.
- Increase communication with ADOT/PF concerning distribution of FTA and AMHTA funds.

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Capital Plan

- Acquire three 30' low-floor buses in FY 2005.
- Rehabilitate Gilligs sequentially in FY 2006 and FY 2007.
- Shelters and bus stop improvements on Tongass Avenue.
- Consolidate vehicle operations and maintenance in an affordable location in FY 2004.
- Assess long term need for permanent operations and maintenance facility.

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Fare Restructuring

- Zone fare concept:
  - Zone 1 – Ketchikan
  - Zone 2 – North Shoreline
  - Zone 3 – Saxman
- Fares
  - $1.50/1.00 single zone
  - $0.50/0.25 per additional zone
  - Prepaid ten-ride tickets sold at 20% discount

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Marketing Plan

- Short-term focus on upcoming service change.
- Revise system map and timetable.
- Develop cooperative merchant relationships.
- Effective community relations.

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Contact:

David Sharfarz

Project Manager

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DRAFT

Executive Summary

The Ketchikan Gateway Borough has operated the local public transit system continuously since 1986. The Transit Development Plan (TDP) is an integral part of the transit program, allowing the Borough an opportunity every five years to objectively evaluate past performance, make appropriate adjustments to suit changing needs, and redefine short-range objectives for system development.

The FY 2004-2008 TDP documents a comprehensive analysis of fixed route and complementary paratransit services provided by the Borough during the past three years, and recommends short-range actions pertaining to five functional components of the transit program. The most immediate recommendations focus on the need to accommodate a 35% transit operating budget reduction in FY 2004. This requires cost savings of nearly $314,000 compared to FY 2003 actual expenditures, to be achieved by a major service reduction in early FY 2004, as well as defined reductions in system overhead expenses.

Service Plan

Two service reduction alternatives are presented for consideration. Option 1 (see Figure S-1) would to leave the existing Green and Blue Line routes unchanged, but would reduce service frequency during lower ridership periods. On the Green Line, service frequency would be reduced from half-hourly to hourly on weekday and Saturday mornings before 11:30 am, and evenings after 6:30 pm. On the Blue Line, service would be reduced from half-hourly to hourly at all times for eight months of the year.

Option 2 (see Figure S-2) would modify the Green and Blue Lines to increase direct connections between Ketchikan's densely populated residential neighborhoods and preferred community destinations. For example, Bear Valley and Baranof-Carlanna neighborhood residents could ride directly to Walmart and the North Shoreline Post Office, rather than transferring between routes at Plaza Mall as at present. Adopted service frequencies would be maintained on a year-round basis to benefit area residents.

Management Plan

Budget realities and the expectation of downsized transit operations in FY 2004 reasonably suggest that the system can no longer afford maintaining a full-time transit manager. A viable short-term response would be to reduce the manager position to half-time. It is recognized that this approach would lead to the deferral

of some current transit management activities. However, the half-time position should be sufficient to carry forward those tasks most critical to the success of the transit system, including monitoring operating safety and service reliability, maintaining grant funding relationships with ADOT/PF, and providing accountability to Borough management and the taxpayers.

Moving beyond immediate budget concerns, the Borough should assess whether contracting with a private sector transportation provider for vehicle operations and maintenance is a cost-effective alternative to the present direct operating approach using Borough employees. There are initial indications that contracting might result in incremental cost savings, and would allow the Borough to avoid future facility costs. It is recommended that the Borough undertake a competitive solicitation process within the next two years to determine the comparative costs of direct and contract operations. Similarly, the Borough should revisit the terms of its present contract with Ketchikan Senior Center to provide ADA-mandated complementary paratransit service.

Capital Plan

The Borough owns and operates five active revenue vehicles, including two 1995 Gillig 35' standard heavy-duty buses, and three 2001 and 2002 International 25' small light-duty buses. Transit personnel have concluded that the International buses are not well suited to operating conditions in Ketchikan, citing both safety and durability concerns. These vehicles should be eligible for federally-assisted replacement funding in FY 2005. Responding to staff preferences for 30' low-floor transit buses, the five-year capital plan includes $750,000 to purchase three units in FY 2005. A 12 to 15 month delivery schedule should be expected for low floor heavy duty transit vehicles. Additional funds to rehabilitate one or both Gillig buses at the end of their 12-year service life are proposed in FY 2006 and FY 2007.

An unresolved capital concern is that the transit system lacks a permanent operations and maintenance facility with adequate capacity to accommodate all transit system functions at a single location. This issue was raised initially in the FY 1999-2003 TDP, and while the Borough did take action to relocate bus maintenance from the airport to the Ketchikan side of the Tongass Narrows as recommended, the Stedman garage leased since February 2002 to house the consolidated transit system has proven inadequate to accommodate vehicle maintenance and repair activities. Hence, the transit mechanic is now located in Ward Cove, while the buses are garaged and dispatched at 715 Stedman Street.

It is recommended that the Borough relocate from the Stedman garage to one of two alternative locations in order to reduce short-term facility expenses. The preferred approach would be to consolidate vehicle operations and maintenance in a facility situated along one or both bus routes, or at least within the current

transit service area. The Schoenbar warehouse property, which is owned by the Borough, is regarded as a viable potential site by transit operating staff. Alternatively, vehicle operations could be moved to the Borough central garage in Ward Cove. However, the remote location would increase deadheading and costs by about $15,000 annually.

As a longer term strategy, the Borough should evaluate the need for a permanent transit operations and maintenance facility in context of other publicly operated vehicle fleets in the Ketchikan area. A preferred direction is highly contingent upon whether the Borough continues to operate the transit system directly, or alternatively considers contracting for vehicle operations and maintenance.

Tongass Avenue provides a challenging physical environment for transit riders and bus drivers alike. Given the positive response to passengers shelters installed on Tongass several years ago, it is recommended that the Borough pursue funding for similar improvements at additional bus stops. Individual projects could include shelters, lighting, and sidewalk improvements to eliminate physical barriers to accessibility.

Financial Plan

The recommended service, management and capital plan elements are intended to produce balanced budgets during each of the next five years. Estimated transit expenses and revenues by year are shown in Table S-1. This scenario assumes a constant level of service constrained to the approved FY 2004 budget, and also that federal and state funding will continue to be available at or near the allocation levels provided in recent years under the Transportation Equity Act for the 21st Century (TEA-21).

Fare Restructuring

Revenue-neutral adjustments to the current fare structure are recommended to ensure that fares are equitable and understandable, and to encourage greater use of prepaid fare media. A three-zone fare concept is recommended, as shown in Figure S-3. Zone 1 encompasses nearly all of the incorporated City of Ketchikan. Zone 2 includes North Shoreline origins and destinations north of the Airport ferry terminal, and Zone 3 includes all destinations south of the Coast Guard base to Saxman.

The proposed base (adult) cash fare for a single-zone trip is $1.50, with a $1.00 discount fare available to older adults, persons with disabilities and youth. The cost of a two-zone trip is $2.00 for adults and $1.25 for discount fare passengers, and a three-zone trip is $2.50 and $1.50, respectively. One, two and three-zone tickets should be sold in lots of ten at a standard 20% discount off the cash fare.

TABLE S - 1
Ketchikan Gateway Borough
Estimated Expenses and Revenues
FY 2004 - 2008

Expense Category	FY 01 Actual	FY 02 Actual	FY 03 Projected	FY 04 Budget	FY 05 Est.	FY 06 Est.	FY 07 Est.	FY 08 Est.
Wages	249,772	347,377	460,902	284,997				
Fringe Benefits	87,214	111,704	176,930	116,403				
Training & Travel	2,259	0	7,500	2,835				
Subtotal, Personnel	339,245	459,081	665,332	404,235	420,404	437,221	454,709	472,898
Materials and Supplies	11,363	17,723	7,650	9,300				
Fuel and Lubricants	31,423	29,218	45,000	0				
Vehicle & Equipment Maintenance	35,148	38,820	40,000	0				
Insurance	8,611	19,379	17,000	0				
Utilities	1,635	4,026	4,300	4,364				
Contract Services	39,695	71,457	60,000	50,000				
Central Garage Charge	0	0	0	70,620				
Other Expenses	45,660	41,245	0					
Subtotal, Supplies & Services	173,535	221,868	173,950	134,284	139,655	145,242	151,051	157,093
Leases and Rentals	11,800	37,800	51,600	42,000				
Equipment Purchase	0	0	4,000	651				
Depreciation	74,644	91,653	0	0				
Subtotal, Facilities & Equipment	86,444	129,453	55,600	42,651	44,357	46,131	47,977	49,896
Total	**599,224**	**810,402**	**894,882**	**581,170**	**604,417**	**628,593**	**653,737**	**679,887**

Revenue Category	FY 01 Actual	FY 02 Actual	FY 03 Projected	FY 04 Budget	FY 05 Est.	FY 06 Est.	FY 07 Est.	FY 08 Est.
Farebox Revenue	158,990	188,778	265,000	175,000	178,500	182,070	209,381	213,568
Advertising	14,053	32,338	27,500	25,000	25,000	25,000	25,000	25,000
FTA Sec. 5311 - Operating	57,147	62,220	70,669	61,000	61,000	61,000	61,000	61,000
FTA Sec. 5311 - Administration	0	0	17,668	0	0	0	0	0
Miscellaneous	2,865	670	1,000	1,000	1,000	1,000	1,000	1,000
Amortization of Contributed Capital	40,202	35,339	35,339	35,339	35,339	35,339	35,339	35,339
Transfer Payments (Borough Subsidy)	325,967	491,057	477,706	283,831	303,578	324,184	322,018	343,980
Total	**599,224**	**810,402**	**894,882**	**581,170**	**604,417**	**628,593**	**653,737**	**679,887**

Assumptions:
4% inflation in FY 05 through FY 08
Farebox revenue increases 2% in FY 05, 06 and 08. Fare increase in FY 07 increases revenue by 15%
FTA Sec. 5311 funding level is 98% of FY 02 authorization

Marketing Plan

The service and fare changes contemplated in this plan represent substantial changes for a majority of customers now using the transit system. An effective public information effort is recommended to properly inform transit customers and the general public of impending changes. This should be undertaken in the context of a moderate marketing plan that recognizes staffing and budget realities.

The primary objective of transit marketing should be to minimize short-term ridership and revenue losses in FY 2004, and pursue strategic partnerships with community organizations to promote new transit ridership in the remaining plan years. Key products of the marketing plan include an expanded system map and timetable, a prepaid fare media distribution effort involving local retail outlets, and a new color scheme and logo for new buses anticipated in early FY 2006.

Rev. 8/29/03

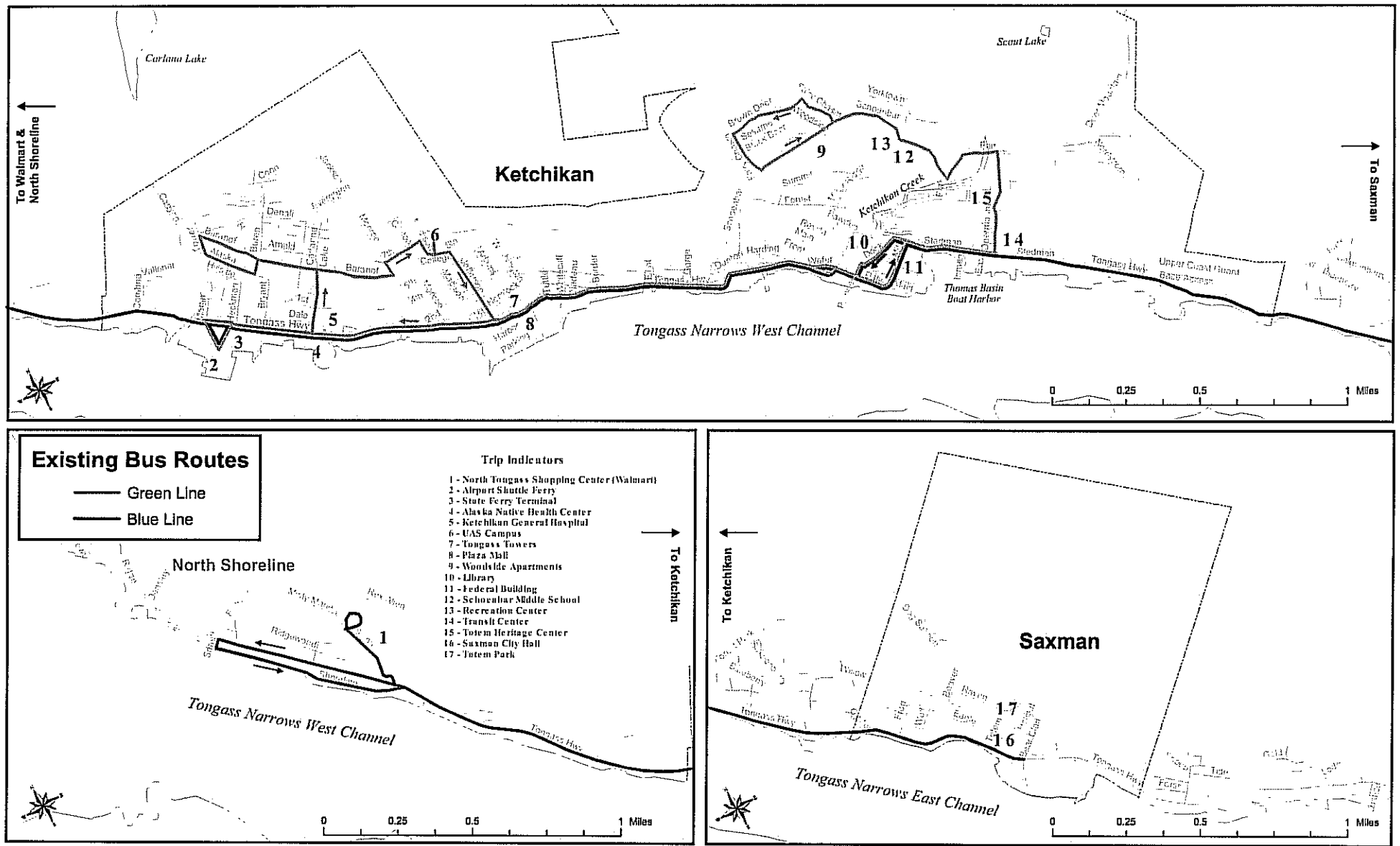

Figure 4-1: Option 1 Service Plan - Existing Routing

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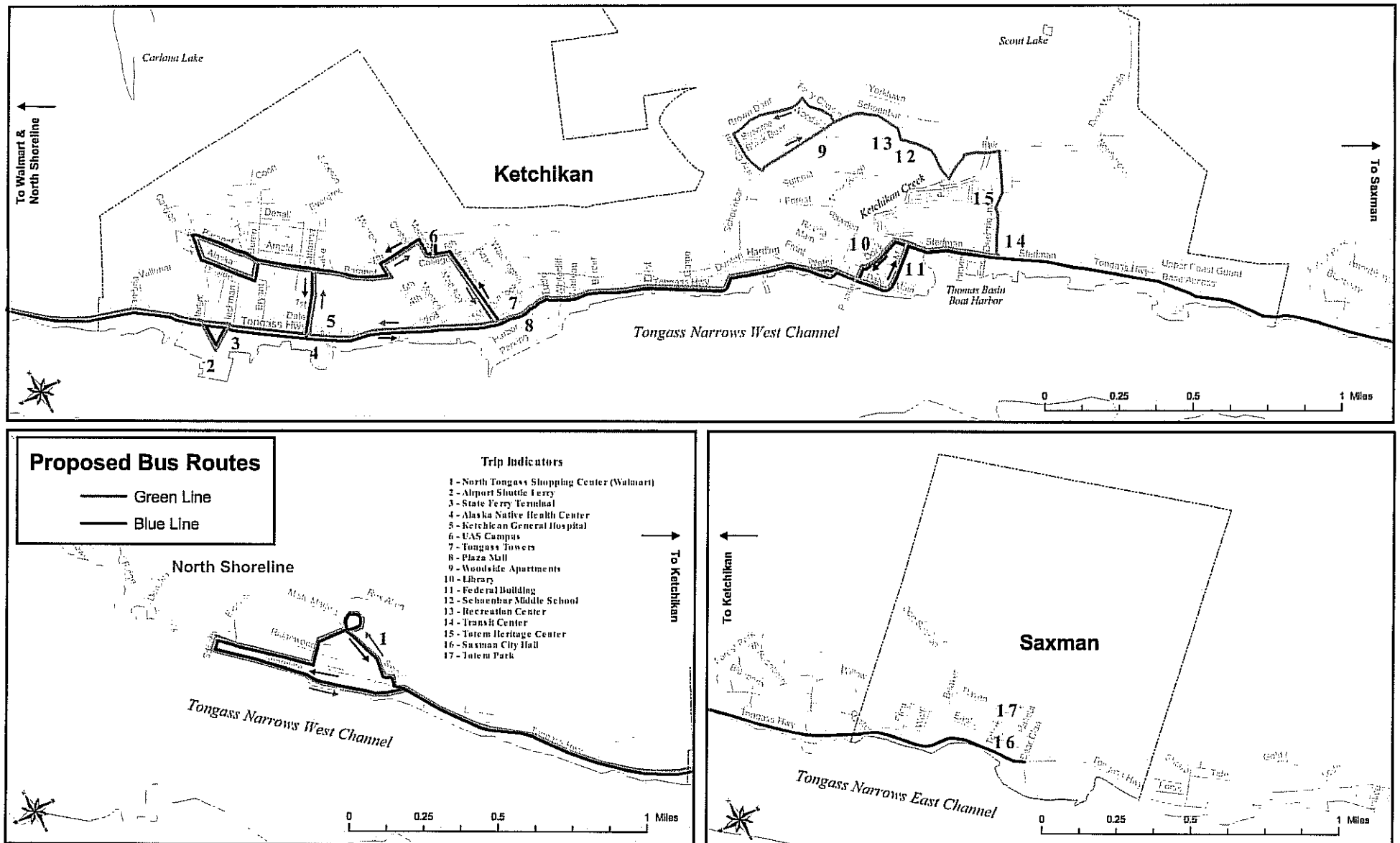

Figure 4-2: Option 2 Service Plan - Proposed Routing

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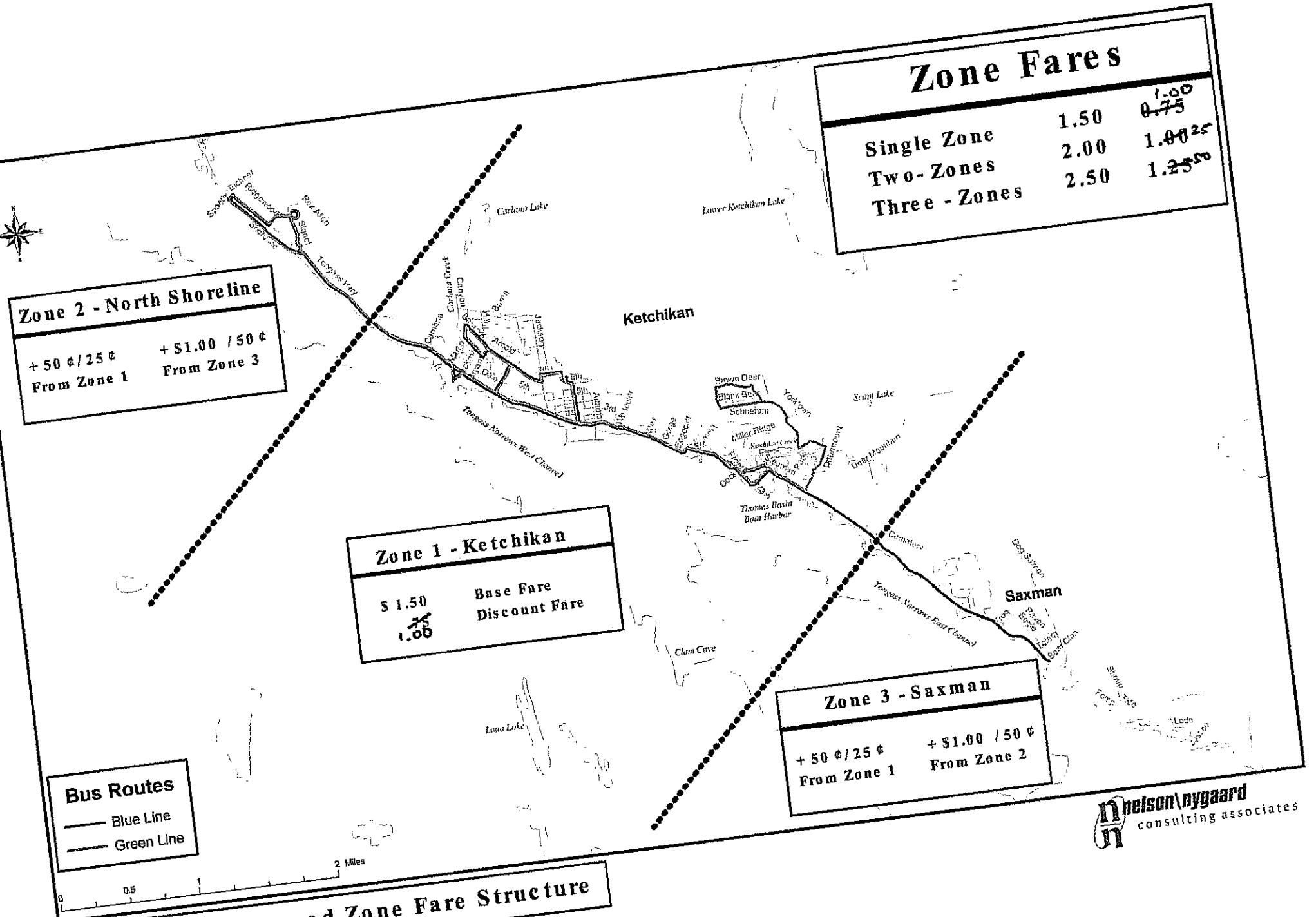
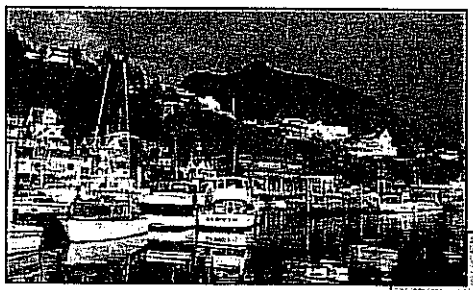


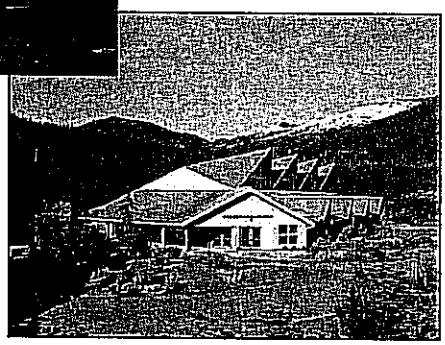
Figure 4-3: Proposed Zone Fare Structure

KETCHIKAN GATEWAY BOROUGH, ALASKA

TRANSIT DEVELOPMENT PLAN UPDATE

Proposal





Nelson\Nygaard Consulting Associates
614 SW 11th Avenue, Suite 400
Portland, Oregon 97205

January 9, 2003

nelson\nygaard
consulting associates

January 7, 2003

Dick Smith, Public Works Director
Ketchikan Gateway Borough
Borough Manager's Office
344 Front Street
Ketchikan, Alaska 99901

Dear Mr. Smith:

On behalf of my colleagues at Nelson\Nygaard Consulting Associates, I am pleased to submit our proposal to the Ketchikan Gateway Borough to prepare the borough's five-year Transit Development Plan Update. I believe we have put together a strong proposal that will achieve the goals of this study.

As a relatively young system, The Bus has already become an integral resource for the Ketchikan Gateway Borough. The system's recent expansion from two to four buses, relatively high service frequencies, and long operating hours are all signs that transit has great potential and will become an increasingly important element of the local transportation picture. Given the implementation of recent service changes and the increasing demand for transit and multi-modal services, we believe that this TDP will provide an important foundation for future planning.

Nelson\Nygaard is a medium sized planning firms specializing exclusively in transit and alternative transportation. Over the last 10 years the firm has grown steadily from a staff of four to a staff of nearly 30 divided between San Francisco, Portland, Anchorage and New York. We offer a diverse range of expertise in alternative transportation issues, but the primary focus of our practice is planning for public transit systems, accounting for approximately 90 percent of our work. We offer integrated planning and management services covering a full range of transit system functions, including operational analysis and service planning, capital programming, financial management, marketing and public involvement.

Nelson\Nygaard is well qualified to prepare the Ketchikan Gateway Borough's Transit Development Plan Update. We are very familiar with this type of

specialists in transit and alternative transportation
614 SW 11th Avenue, Suite 400, Portland, OR 97205 (503) 227-3463 FAX (503) 224-3626 nnportland@aol.com

project and have a long track record of developing successful TDP's up and down the West Coast. Just a few months ago we completed a TDP and CIP update for the City and Borough of Juneau, one of Ketchikan's most proximate SE Alaska neighbors. We have prepared plans for many cities and counties in the Northwest. In Oregon, our TDP's include those for Bend, Klamath Falls, Wilsonville and McMinnville. In Washington, we have produced TDP's for Clallam and Jefferson Counties on the Olympic Peninsula and Wenatchee in central Washington. A few of our recent TDP studies in coastal northwest California include those for the cities of Eureka, Arcata, and Fortuna and for Del Norte County.

The following individuals are partners or senior staff of Nelson\Nygaard Consulting Associates and are authorized to represent our firm during contract negotiations and term of contract:

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All proposed activities and cost information outlined in this document are binding for 90 days from time of receipt.

Thank you for the opportunity to propose on this project. We look forward to hearing from you. Please contact myself, David Sharfarz or Thomas Brennan should you have any questions.

Regards,

Jarrett Walker
Partner

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Appendix A: Sample Ridership Survey Data Capture Sheets and On-Board Surveys

Appendix B: Proof of Financial Stability

Appendix C: Client List

1. The Proposer

NELSON\NYGAARD CONSULTING

Nelson\Nygaard Consulting is a relatively small firm of 25 professionals specializing exclusively in mass transit and alternative transportation services since 1986. We offer integrated planning and management services covering a full range of transit system functions, including operational analysis and service planning, capital programming, financial management, marketing and public involvement.

Our background and expertise are focused on surface passenger transportation, which commonly is not found among the specialized capabilities of traffic, civil or "full service" engineering firms. We are able to offer our services at rates significantly lower than many larger engineering firms, and provide customized attention to the details that make your community unique. With offices in San Francisco, Portland and Anchorage, Nelson\Nygaard is well positioned to serve the Ketchikan Gateway Borough.

Nelson\Nygaard is well known among our clients for producing creative yet cost-effective solutions to local problems and concerns. Our experts have been in your shoes, as transit managers and staff to local governments, funding agencies and private sector companies with internal transportation functions. We understand how plans get implemented in small communities like Ketchikan, and always work in close partnership with our clients to ensure mutual success. The consultant staff included in our proposal to the Ketchikan Gateway Borough possess extensive experience in all key areas required to complete the Transit Development Update, including:

- Fixed-route and paratransit service planning and scheduling;
- Operational analysis, service evaluation and route restructuring;
- Facility and rolling stock needs analyses;
- Long and short range plans;
- Fare policy and service standards development;
- Ridership data collection;
- Customer and general public surveys;
- Marketing and community involvement programs.

Our technical experts are supported by an in-house mapping and graphics department, survey processing and administrative support, and project management oversight.

Through this proposal, we hope to assure the Ketchikan Gateway Borough that Nelson\Nygaard is well suited to assist with your project. We work hard to understand in great depth our clients' purpose, priorities, organizational capacity and data structures. We have a highly successful track record with clients throughout the Western United States, including current and recent projects in Juneau (AK), Bremerton (WA), Santa Fe (NM), Fort Collins and Grand Junction (CO), and in numerous small

coastal communities in California. We encourage you to contact the references we have incorporated into our proposal, and would be pleased to provide additional references as desired by the proposal evaluation team.

DBE PARTICIPATION

Nelson\Nygaard is a certified Women Owned Business and Disadvantaged Business Enterprise. One hundred percent of this study will be a DBE effort.

2. Project Understanding

The Ketchikan Gateway Borough Public Works Department operates the local transit system known as *"The Bus"* in the cities of Ketchikan and Saxman, as well as unincorporated development along the north shoreline of the Tongass Narrows. Public transit is an important resource in Ketchikan, which like other Southeast Alaskan communities is facing major economic challenges triggered by the erosion of timber and fishing industry jobs, constrained state spending, and a growing dependence on seasonal tourism. Despite these conditions, the Borough has successfully expanded fixed-route bus service from two to four vehicles, acquired larger buses to handle passenger loads, and opened the transit center on Steadman Street -- all within the last two years.

Given the relatively rapid growth of the transit system, and the relatively short time since the most recent service change in May 2002, we believe that a comprehensive analysis of existing routes, schedules and operating conditions is an important foundation for future planning. It is noted that *The Bus* operates an impressive service span relative to most comparably transit systems. The two-route system operates seven days per week, from 5:15 AM until 11:00 PM Monday through Saturday, and from 8:45 AM until 4:00 PM on Sundays. In fact, few small systems serving non-urbanized communities run regularly scheduled services much past 6:30 PM, and many do not operate on Sundays. This suggests at least initially that we should look carefully at passenger volumes by service day and time period to validate that extended service hours running at daytime service frequencies are needed to accommodate the unique travel characteristics of Ketchikan and Southeast Alaska residents.

A cursory look at current Green and Blue Line maps and schedules shows that both routes follow a mostly common alignment on Tongass Avenue through central Ketchikan. Major subdivisions and commercial destinations situated to the north, south and east of the central city are covered by one route or the other. The schedules are designed with the objective of achieving an even 15-minute service frequency on the common segment of Tongass Avenue, roughly between the Plaza Mall and the Transit Center. Indeed, Plaza arrival and departure times are every 15 minutes on the printed timetable. However, frequencies become less even at other points in the common corridor, due to alignment variations caused by neighborhood service loops. For example, Blue and Green Line southbound departures from the Airport Parking Lot alternate between five minutes apart and 25 minutes apart. Similarly, northbound

departures from the Transit Center alternate between two minutes apart and 28 minutes apart.

Based on these initial observations, we believe that there may be significant opportunity to simplify and improve transit service consistent with local goals and objectives, making the *The Bus* more attractive to resident customers and first-time visitors alike. Our approach during the project will be to identify and describe the possibilities in terms that people will understand, using maps and graphics to illustrate our recommendations. We will work in close cooperation with Borough staff to present these options to transit customers and the community through a vigorous, pro-active outreach process, and stand ready to facilitate consensus on a plan that makes sense for Ketchikan.

Nelson\Nygaard consultants recognize that financial conditions and transit service design have a strong interrelationship. We suspect that system funding will be a major consideration to this TDP Update, as it is common among public transit systems in Alaska and many other places. Our budget proposal contains ample resources to support detailed analyses of passenger revenue, federal and state grant programs, existing and potential intergovernmental agreements, and service contracts with local industry, institutions and other third parties.

The focus of our revenue analysis will be to assure the Borough that it has a well considered fare policy that is equitable to all customers and meets local farebox recovery expectations. Currently, adult cash fares are $1.50 in town, and $2.25 outside of Ketchikan. Senior citizens over 65 years old and children under 12 receive a 25¢ discount off adult fares. A discount transfer token is available for Green Line customers who transfer to the Blue Line. Four pre-paid pass options are available as well, including one-day, three-day, and monthly unlimited ride passes, and a 25-ride pass used by infrequent riders.

Our project manager will confer with State of Alaska DOT/PF staff in Juneau to confirm the availability and Borough eligibility for various Federal Transit Administration funds under Sections 5309, 5310, 5311 and 5320, and State of Alaska community transportation, TRAAK and Mental Health Trust funds, and other funds as available. In recent years, ADOT/PF has been strongly encouraging coordination of community transportation services at the local level, a preference that may influence the methodology the State for distribution of federal and state transit grants in the future.

In addition to the Borough, Southeast Senior Services (SESS) and the Alaska Pioneers Home also provide transportation services using publicly funded vehicles. We understand that SESS provides complementary paratransit service under contract to the Borough, and will look for additional ways to coordinate common transportation functions. This could include a range of collaborative efforts involving maintenance, purchasing, vehicle sharing, service contracts, or new facilities as required to meet future needs.

We also propose to work closely with Borough staff and key stakeholders to identify possible local funding sources, whether they be major employers, governmental units, cruise ship operators, local merchants or other entities. It will be beneficial for the

Borough to demonstrate to existing and potential funding partners that recent system expansion is functioning efficiently and productively. Similarly, stakeholders would benefit from a clear picture of who rides transit and complementary paratransit services, why they ride, and where they go. Accordingly, our proposal dedicates significant resources to support an accurate and comprehensive analysis of existing transit and complementary paratransit services, based on fresh ridership data and an onboard survey to be conducted by the consultant team.

Inter-modal transportation is another important theme in Ketchikan, due both to the unique topography of Southeast Alaska and growing linkage between tourism and the local economy. Convenient surface bus connections should be available to serve the harbor area and the airport ferry, both to facilitate economic growth and build community support for the transit system. Ketchikan ferry services include the Alaska Marine Highway System, Inter-Island Ferry Authority service to Hollis, and the Metlakatla Shuttle until new terminal facilities are constructed at Saxman. Ketchikan is also the first port of call in Alaska for seasonal cruise ships from the Lower 48 and elsewhere. Future ferry and road projects will bring Annette Island and Metlakatla residents more directly into the Ketchikan sphere of influence, and many will depend on *The Bus* to get them to jobs, medical facilities and retail stores in Ketchikan.

Although Ketchikan International Airport is situated on Gravina Island across the Tongass Narrows from the city, it is accessible via a 10-minute ferry ride from Ketchikan. The fact that the airport and ferries are accessible to the local transit system at a common location is a unique advantage from the perspective of intermodal transportation.

In the following section, our proposed work scope presents in detail Nelson\Nygaard's technical approach and specific project objectives. These include:

- Gathering accurate ridership, transfer and on-time performance data for the Blue and Green Lines;
- Collecting statistically valid data on ridership demographics and trip patterns through an onboard survey;
- Performing a detailed route-by-route analysis of important performance indicators, with a comparison against peer systems;
- Reviewing the complementary paratransit service operated under contract to the Ketchikan Gateway Borough;
- Analyzing ridership demographics against the overall demographic makeup of the service area;
- Developing a comprehensive set of service standards and measurements for on-going use by *The Bus*; and
- Recommending alternative route and schedule improvements changes for system, using quantifiable measures such as ridership, revenue and cost to support each recommendation.

Since it is not possible for us to fully understand local conditions and issues at the proposal stage, the work scope discussion presumes that some or all of the following potential issues may be significant to Ketchikan:

- **What community mobility needs are effectively served now?** In developing service strategies, it is important not to lose sight of existing customer needs and markets, particularly those who rely on public transit as their primary transportation mode.

- **What community mobility needs are not effectively served?** Are there groups or sectors within the study area that need better service? Could targeted marketing raise awareness of available services or could enhanced scheduling, routing and dial-a-ride trip assignment expand the availability of existing services? Special attention has to be paid to the unincorporated areas where unmet needs are not as clearly defined.

- **What are the strengths of the individual services?** Nelson\Nygaard strongly believes that service delivery frameworks evolve to meet unique local mobility problems, reflecting local character, service philosophies, priorities and opportunities. Critical strengths and innovation are often inherent in local adaptation and evolution. Our assessments and strategies remain sensitive to local service strengths and key characteristics.

- **What is the expected role of transit in the individual communities?** In the development of service strategies it is critical to know what a community expects of public transit services. Do the individual communities want to focus service on specific groups? Should the service support specific community programs and social services? Or should transit services support more general community development and quality of life goals? What are the individual community service priorities?

- **What are the key trip generators and attractors?** Successful transit systems serve key trip destinations. Service strategies must consider the relative importance of local facilities, residential concentrations, schools, medical facilities, retail concentrations, intermodal transfer centers, and recreation facilities.

- **Is there any service overlap or redundancy?** Is there any duplication of service along corridors or within the individual service areas? If so, how could the overlap be reduced or eliminated? Could overlapping resources be redirected to serve other areas or markets? Could local paratransit services be more effectively focused if some trips were transferred to fixed-route services?

3. Scope of Work (Proposal)

Nelson\Nygaard is pleased to provide this detailed presentation of our proposed work scope for the Ketchikan Gateway Borough. Our response is intended to meet or exceed the requirements of the RFP concerning methodology and management approach, and to accommodate your time frame and budget. We will address the needs of the project in eight tasks.

1.0 Data Collection and Research

1.1 Initial Meeting, System Overview & Fieldwork

As a standard practice, Nelson\Nygaard recommends that a project kick-off meeting be held involving key Borough staff and the three-member Nelson\Nygaard team at the outset of the project. This meeting has multiple purposes from our perspective:

- Meet Borough staff and establish a common understanding of project management and reporting procedures;
- Clarify project objectives, priorities, products, formats and document content expectations;
- Collect background documentation and identify supplemental data requirements;
- Gain insight toward Borough administrative, operating, planning and data collection issues; and
- Fine-tune the schedule for meetings, deliverables and presentations.

To gain momentum quickly and conserve travel expenses, the consultant team will remain in Ketchikan in the days immediately following the kickoff meeting to observe transit system operations in the field, review origins and destinations in the community, and undertake an initial round of meetings with system employees, including the Transit Manager, supervisors, drivers and maintenance personnel as appropriate. We will compile and review pertinent documents and reports, system ridership and operating data, and background information about the service area and constituents, and will communicate to Borough staff any supplemental data needs.

Time permitting, we also prefer to begin interviews with selected stakeholders at this time. Early stakeholder contacts might include pivotal Borough Assembly members, funding partners, community leaders and representatives of major transit consumers, such as the Chamber of Commerce, Southeast Senior Services, Pioneers Home and other social service providers. This activity is described further in Task 2.

1.2 Peer Systems Review

Consistent with the RFP requirement, Nelson\Nygaard will conduct an in-depth survey of peer transit systems, including up to eight communities with similar topographic,

demographic, and operating characteristics as Ketchikan. The peer review will provide valuable context to local community leaders and taxpayers concerning the performance *The Bus* relative to comparable transit systems in the U.S. and Canada. The findings will serve to highlight those attributes of the local system that work well, as well as those that warrant improvement.

Our approach toward selection of peer systems will be to look for comparably sized coastal and mountain communities that may be located near resort destinations, national parks, institutions, and have similar demographic and land use characteristics. The review will encompass a number of key parameters, including:

- System characteristics, such as service coverage, span and frequency;
- Key transit and complementary paratransit operating statistics (*e.g.,* ridership, service productivity, vehicle hours and miles operated, peak vehicles, per capita operating budget);
- Application and use of goals, objectives, performance standards and measures to manage the system;
- Fare structure; farebox recovery ratio and passenger subsidy;
- Recent history of fare and service changes, and associated ridership and productivity effects;
- Extent of coordination with other transit and specialized transportation providers.

Deliverable: *We will provide the results of the peer review in summary tables that will provide clear and concise data comparisons.*

1.3 Collect Onboard Ridership and Running Time Data

Ridership Data - We recognize the need for accurate passenger boarding and alighting data as the basis for effective service planning. An important purpose of this subtask is to conduct onboard counts of passengers boarding and alighting *The Bus* vehicles. Once collected, we will compile the data into electronic tables organized by one-way trip and bus stop, and produce graphic summaries to highlight what is significant about the data. Appendix A contains samples of ridership data collection instruments from previous Nelson\Nygaard project efforts.

Sample size is a key consideration in the data collection process. We routinely perform comprehensive operating analyses on the basis of either 100%, 200% or 300% samples of weekday schedules, often supplemented by 100% samples of Saturday and Sunday schedules. (A 100% sample means that every one-way trip in the daily schedule is checked; a 200% sample means that every trip is checked twice, etc.). Among the trade-offs to be considered when contemplating sample size are accuracy versus the cost of data collection. It is suggested that we finalize the data collection plan during the project kick-off meeting.

In the meantime, our proposal includes resources sufficient to two full service days of data collection. Within this budget level, we recommend that we conduct a 200% sample of weekday service for Ketchikan, meaning that every trip operated by the

Green Line and Blue Line would be checked twice on separate weekdays within a one-week period. The primary benefit of the 200% sample is that it provides us with a high, low and average of two samples. When a single count must be relied upon, there is a greater risk that ridership activity at the bus stop and trip level can be overstated or understated.

We would refrain from collecting data at the bus stop level on weekends, unless there are reasons to suspect that ridership patterns differ widely from weekdays. Assuming that route design changes will be largely driven by the weekday ridership patterns proposed, we feel that total trip counts should be sufficient to determine the appropriate span and frequency of weekend service.

Transfer Data – The project team will conduct a transfer analysis during this subtask to provide the Borough with a comprehensive picture of how the two routes function to create an integrated system. This analysis will focus on analyzing transfer patterns at Steadman Street Transit Center, Plaza Mall, and other significant transfer points throughout the system. The analysis will provide a basis for determining potential interlining opportunities, improving timed-connections at key transfer locations and developing other service modifications. Although some transfer information will be captured in the field, we believe the most effective way to examine transfer patterns is via the onboard survey. This is discussed in further detail in Task 2. Transfer data will be compiled in a simple database that sorts the data as "from / to" by route and direction. We will then be able to run any desired report on this data. The survey approach also gives us an ability to cross-tabulate transfer results with other data such as trip purpose, fare type, perception and satisfaction, and demographic characteristics.

Running Time Data - While our temporary surveyors are aboard Ketchikan buses, they will also record trip start and end times, and arrival/departure times at intermediate time points to assess schedule reliability. Point checks will also be used to generate a reasonably accurate picture of schedule reliability.

Data Collection Methodology - Quality assurance throughout the data collection process is crucial for a high level of accuracy and completeness. Nelson\Nygaard has refined procedures for every stage of data collection, including preparation, field supervision, compilation and data entry. Thomas Brennan, our proposed deputy project manager, has led ridership surveys for Nelson\Nygaard in several comparable and larger systems, including Juneau, Santa Fe (NM), Del Norte County, Humboldt County and Lancaster-Palmdale (CA). He will be on-site in Ketchikan throughout the data collection process to resolve issues and problems that might develop in progress.

We will collect ridership data on customized paper forms, from which we will then enter the data into Excel spreadsheets (see Appendix B for a sample of our data capture sheets). At the Borough's option, we could utilize off-duty drivers and other Borough personnel as surveyors to the extent available. Additional surveyors will be retained through a local employment service, the University of Alaska Southeast campus job board, or other source. All checkers will be trained and supervised by experienced Nelson\Nygaard staff associates. Following is an overview of our survey management approach:

1. All surveyors will receive comprehensive training prior to live data collection. The training session allows us to screen for individual abilities while providing classroom instruction and supervised apprentice checking in the field. We want to be confident that our surveyors will do the job accurately and completely in the field.
2. All surveyors will use forms customized for the route they are checking. Our forms insure that surveyors record the date; run, vehicle and operator numbers; weather and road conditions; passengers on board before the trip starts; and initial time of departure. At each stop, surveyors will count boarding and alighting passengers. At major timepoints, surveyors will also record actual arrival and departure times. Surveyors will also report any unusual circumstances or conditions encountered during the trip. These include formal bus stops missing from the check sheet, flag stops, accidents, inclement weather, vehicle breakdowns, and other factors that might affect operation of the route and, thus, ridership and schedule data. Checks will be redone as necessary to maximize accuracy.
3. Completed data will be randomly spot-checked with impromptu inspections at various locations in the field. In addition, a complete review and edit of each data sheet will be done on-site immediately following the completion of each checker's shift. We have found that this approach provides the highest quality information. Surveyors who fail to meet performance standards will be retrained or replaced in a timely manner.

Nelson\Nygaard will work with Borough staff to identify a room (preferably at the transit dispatch facility) where we can match each surveyor with each driver. We assume that the Borough will furnish clear and accurate stop lists and run relief information during the project kick-off meeting. At the completion of work, we will provide all survey forms, copies of all data and report forms to the Borough.

Deliverables: *Comprehensive system-wide ridership and on-time performance data for The Bus fixed routes; ridecheck training manual; ridership data collection sheets; tabular data in MS Excel or other spreadsheet format.*

1.4 Analyze Fixed Route System

Nelson\Nygaard will synthesize pertinent ridership and operating information, field observations and the results of exploratory meetings with Borough staff to support a comprehensive analysis of the Ketchikan transit system. The fixed route service evaluation will include the following elements, among others:

- System overview;
- Transit facilities and amenities;
- Rolling stock evaluation;
- Route design and schedules;
- Fixed route system performance;

- Fare structure;
- Farebox recovery;
- Operating costs;
- Operating revenues; and
- Field observations.

The comprehensive operating analysis will address the following needs:

- Review 1999 Transit Development Plan and assess the extent to which earlier recommendations have been implemented;
- Review existing community and transportation plans;
- Interview drivers and road supervisors to better understand intricacies and unique features of existing system;
- Compare number and nature of trips generated during Summer and Winter seasons (this will require monthly ridership data from the Borough);
- Analyze travel patterns in the central area and the region as a whole;
- Develop detailed service maps;
- Examine existing Borough operating facilities and bus inventory; and
- Visually survey route and bus stop conditions, including accessibility, safety, compliance and customer comfort.

1.5 Assess Complementary Paratransit Service

Because the Borough is responsible under federal law to provide complementary paratransit service, Nelson\Nygaard believes it is useful to conduct an analysis of existing paratransit ridership and operations at an appropriate level of detail. Our approach relies heavily on on-site observation, input from customers, drivers and other staff, and a comprehensive review of system documents, including driver manifests, dispatch logs, reservations, standing orders, service denial and complaint records, on-time performance logs, or other records as relevant. We prefer to observe dispatch center activity to enhance our understanding of the data, and to become familiar with current practices and procedures governing telephone reservations, trip assignment, and vehicle dispatching. Additionally, we will ride along with selected drivers for a first-hand look at how the service really works on the street.

Our service assessment will include existing contract arrangements, reservations, scheduling and communications technologies used to operate paratransit services. There is a wide range of software and hardware options available to enhance even the smallest paratransit operations. Nelson\Nygaard has no affiliation with any providers, but we are familiar with advantages and disadvantages associated with most major software and hardware packages. We can provide a neutral analysis of your needs and help you optimize your existing resources and/or provide specs designed to improve system efficiency.

During the stakeholder outreach process described in Section 2, we will talk with key representatives of elderly and disabled residents who are eligible to use complementary paratransit services in Ketchikan. Since it is a small community, representatives such as senior center directors and key social service personnel will be able to speak to the issues and unmet transportation needs of paratransit eligible residents.

1.6 Document Existing Service Findings

Using the information acquired in preceding subtasks, the consultant team will prepare a comprehensive technical memorandum highlighting transit and paratransit operating conditions. Route analyses will examine ridership volumes, origin-destination patterns, on-time performance analysis, transfer activity and other important performance indicators. The document will address service area and performance issues to be mitigated or resolved during the five year planning period.

Route Level Ridership Analysis

We will develop a complete profile of fixed route ridership on a typical weekday. This will include narrative, tabular and graphic presentation of the following information:

a. Weekday passengers per hour by route, segment, one-way trip, and bus stop;
b. Weekend passengers per hour by route and one-way trip;
c. Load factors and maximum load points;
d. Time and location or passenger overloading or pass-ups;
e. Underutilized or unproductive route segments;
f. Bus stop and operational issues that contribute to on-time performance issues.

To facilitate a stronger appreciation of the data, we will prepare maps illustrating stop level boarding information for each route. Our unique stop level boarding maps place a dot at each fixed stop scaled to represent a defined range of daily boardings. These maps produce a strong visual picture of where ridership is generated on each route and across the system. They provide a valuable tool in identifying unproductive route segments and low ridership areas (see sample Boarding Map on Page 13). Density information in the background of the map also enables the viewer to see the relationship between ridership and land use, if any.

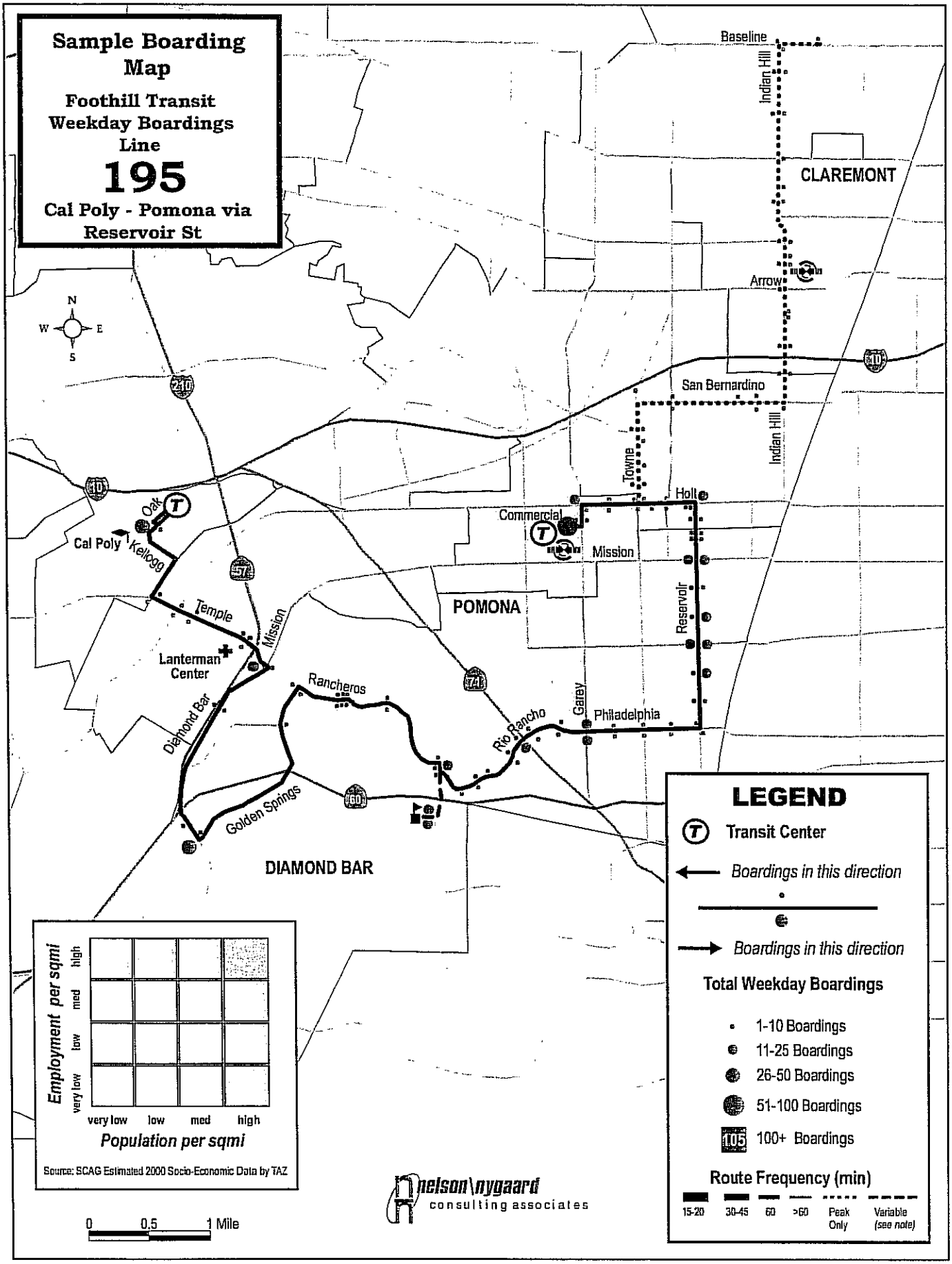
Route Level On-Time Performance Analysis

This task will use arrival and departure time data collected during the ride check to analyze on-time performance by time of day for both the Green and Blue Lines. Using this information we will develop summary tables that will include the following route-specific information:

a. Scheduled run time;
b. Average actual run time;

c. Average deviation;
d. Max run time (w/o outliers);
e. Min run time (w/o outliers);
f. Total daily timed stops;
g. Total stops on time;
h. Total stops late; and
i. Percent late.

In addition to these running time and on-time performance summaries, we will provide a route-by-route discussion of specific problems on entire routes, at specific timed-transfer points or at individual stops.


Sample Boarding Map
Foothill Transit
Weekday Boardings
Line
195
Cal Poly - Pomona via Reservoir St
Baseline
Indian Hill
CLAREMONT
Arrow
San Bernardino
Indian Hill
Towne
Holt
Commercial
Mission
POMONA
Reservoir
Cal Poly
Oak
Kellogg
Temple
Mission
Lanterman Center
Diamond Bar
Rancheros
Rio Rancho
Garey
Philadelphia
Golden Springs
DIAMOND BAR
N
W
E
S
210
10
57
71
60
LEGEND
Transit Center
Boardings in this direction
Boardings in this direction
Total Weekday Boardings
1-10 Boardings
11-25 Boardings
26-50 Boardings
51-100 Boardings
105 100+ Boardings
Route Frequency (min)
15-20
30-45
60
>60
Peak Only
Variable (see note)
Employment per sqmi
very low
low
med
high
Population per sqmi
Source: SCAG Estimated 2000 Socio-Economic Data by TAZ
nelson\nygaard
consulting associates
0
0.5
1 Mile

Prepare Summary Reports

We will prepare a comprehensive summary report for each route operated by The Bus and for complementary paratransit service. For each fixed route we will include information from the Ridership Analysis, On-Time Performance Analysis and the Transfer Analysis. The paratransit summary will include detail on all operational, booking, scheduling and dispatch functions. Route summaries will include individual route maps, as described above.

We will organize and provide the following data for each route:

a. Revenue and deadhead miles operated;

b. Revenue, Platform and Pay Time;

c. Operating costs;

d. Ratio of revenue miles to total miles operated;

e. Ratio of revenue time to platform time and to pay time;

f. Significant origin-destination combinations (we will develop a system wide origin-destination matrix);

g. Transfer patterns and specific issues which may affect route interlining;

h. Operating costs per passenger;

i. Farebox recovery ratio.

Deliverable: *Technical Memorandum #1: Service Analysis - Route Level Ridership Analysis, Route Level Boarding Maps, Route Level On-Time Performance Analysis, Transfer Analysis.*

2.0 Outreach

2.1 Conduct Stakeholder Interviews

Focused personal interviews with a chosen group of stakeholders in the TDP Update process are recommended to get a sense of what local communities think about public transit. Our proposal includes up to ten such interviews with individuals identified in close cooperation with Borough staff. Our perspective is that stakeholder interviews are most effective near the beginning of the study process, a time when the broad direction of the TDP Update is being cast. We suggest that interviews focus on the "movers and the shakers" in the community, potentially including key elected officials, major employers and business leaders, Ketchikan Indian Community leaders, the editors of the Ketchikan Daily News and local television news, merchants, social service agency directors, advocates for rider groups, ecumenical leaders, or others as appropriate. Participants should reflect a broad spectrum of thought concerning public transportation and its role in community life.

These interviews are intended to supply early guidance and insight on transit service expectations, unmet needs, defining a reasonable level of service and local funding level. The interviews should focus on the prevailing perceptions of the transit system held by these individuals as reflective of particular population or organizational groups. We should not hesitate to ask pertinent questions directly. For example, how much public support exists for additional transit funding through potential taxes or fees?

Deliverable: *A narrative summation of comments for each stakeholder interviewed will be provided to Borough staff as a technical memorandum. This material will be included as an appendix to the TDP Update.*

2.2 Design and Implement Onboard Survey

Nelson\Nygaard will design an on-board customer survey for distribution to bus riders on board the Green and Blue Lines. We believe that a majority of Ketchikan transit customers can be sampled by distributing survey questionnaires to all boarding passengers for three to four consecutive days during a non-holiday week. We would request that passengers fill out the questionnaire only once to control duplicate responses. Respondents will have the choice of returning completed questionnaires by handing them to a surveyor or bus operator, depositing them into a collection box at the Transit Center, or mailing them to the Borough.[1] Appendix A shows sample onboard surveys from a recent project.

Experience tells us to expect approximately a 60% - 65% response rate for on-board surveys distributed in this manner. Assuming distribution to a ridership of approximately 500 unduplicated passengers cumulatively over several days of surveying, we should expect the return of approximately 300 completed questionnaires. We will be responsible for survey processing and analysis of results.

[1] Our budget assumes consultant reimbursement to the Borough for use of its postal permit.

The survey will focus on collecting the following types of information:

Origin-Destination Information: The survey will ask passengers to identify their trip origin and destination. We propose to divide the service area into zones that may be easily identified as distinct neighborhoods or common travel destinations. This will ensure that all trip origins and destinations can be geocoded efficiently and cost-effectively for analysis purposes.

Trip Purpose: The on-board survey will collect trip purpose information for each passenger surveyed. Trip purpose data will be categorized in a logical format and analyzed to inform the Borough what the most common trip purposes are by route. The availability of route specific information will provide important information for identifying target ridership markets, restructuring services and developing effective advertising strategies.

Passenger Satisfaction and Additional Comments: One of the primary goals of the on-board survey will be to develop an accurate assessment of overall passenger satisfaction with *The Bus* service and complementary paratransit services. The questionnaire will include multi-part questions to assess specific attributes as well as overall satisfaction. Passengers will also have an opportunity to provide open-ended comments or suggestions about the service.

Transfer Information: We propose to use data collected through the on-board survey to conduct the transfer analysis. The survey will collect detailed transfer information that will be used to develop the comprehensive and accurate transfer analysis. Because we are surveying every rider on both routes, we believe that this method will result in more accurate data than a paper transfer analysis. Paper transfers and tokens do not reflect the transfer activity of passengers riding on unlimited ride passes. Moreover, cash fare passengers may not be fully representative of the general ridership, since pass users are most likely to be residents and frequent users.

Fare Category: Passengers will be asked to respond to questions about the type of fare they paid to make their current trips. This question will provide information about the number of passengers eligible for discount fares, the number of daily pass users, and the number of monthly pass holders.

Demographic Profile: To the extent desired by Borough staff, we will collect detailed demographic information including: income, age, area of residence, primary language, and any other demographics important to the study.

On many trips, the same Nelson\Nygaard temporary survey will collect ridership data and distribute on-board surveys. When necessary on high ridership trips, especially during peak hours, a second surveyor will be provided to handle on-board survey administration to ensure that ridership and on-time data is collected accurately. We will accommodate any client interest in bilingual surveyors to the extent needed or desired.

Deliverable: *Nelson\Nygaard will analyze survey data and develop a detailed report describing overall passenger demographics, origin-destination patterns, trip purpose, and overall passenger satisfaction by route and for the entire system. A detailed report of survey findings; onboard survey instrument; complete tabulation of survey data will be provided initially as a technical memorandum, and subsequently incorporated into the TDP Update.*

2.3. Conduct General Public Survey

The purpose of this subtask is to solicit information from the majority of area residents who do not typically use the local public transit service. In the past, our approach to this effort was to conduct a random telephone survey yielding statistically valid results. However, we have found through recent projects that the ever-increasing public resistance to telemarketing calls may contribute to skewed findings, incomplete and at times marginal responses.

Alternatively, Nelson\Nygaard will develop and distribute a paper questionnaire at key locations throughout the service area communities, through the local newspaper, and on the Borough website subject to client approval. The survey instrument will be designed for quick completion and easy return at selected drop box locations, or postage-paid and pre-addressed via regular mail. The questionnaire itself will include 12 to 15 questions about residents' perceptions of the transit system; its role in local mobility; reasons they do not use transit; gaps in service or unmet mobility needs; and other local mobility issues.

Deliverables: *General public survey instrument; a detailed evaluation of survey results by question and overall findings; and complete tabulation of survey data. Narrative and tabular results will be included in the TDP Update.*

2.4 Facilitate Community Meetings

Public meetings are an important element of a pro-active outreach effort. We prefer to use the "open house" style of workshop as a highly effective tool for soliciting public input on specific service scenarios, as well as to draw out more general public input on existing services and unmet needs. This forum allows the public to view visual displays of alternative service concepts and to talk one-on-one with consultants and Borought about various alternatives. We find that the open house forum elicits a much broader and more accurate range of opinions than group meetings, since participants can ask questions and make comments privately.

Our proposal includes personnel and budget resources sufficient to facilitate up to four community meetings. To encourage public attendance, it is suggested that the meetings be convened under the auspices of public bodies or community organizations that are recognized and supported within the community. Meetings should be held at common destinations that are accessible by the transit system at the time the meetings are held. We suggest two meetings fairly early in the study process to assess the direction of the public interest, and two meetings to introduce the preferred system plan

later in the process. Nelson\Nygaard project staff will be available to facilitate these or additional meetings as desired during scheduled trips for data collection and service planning.

Deliverables: *Meeting agendas and meeting notes. A summary transcript of each community meeting will be included as an appendix to the TDP Update.*

2.5 Media Releases

Nelson\Nygaard has observed in numerous circumstances that even minimal efforts to keep the media informed of study objectives, milestones and conclusions often produce beneficial effects. Therefore, our proposal includes up to three media releases or fact sheets for use by the Ketchikan Gateway Borough at key milestones in the study process. The timing and focus of these products will support client public information needs and the desired level of visibility for the study process.

Releases will be customized for use primarily by print and broadcast media, including the Ketchikan Daily News, local television and radio, community web pages, and posting on community bulletin boards at local retail shops around town. A draft of each release will be submitted in advance by Nelson\Nygaard for review and approval by Borough management. When authorized by Borough staff, our project manager will grant interviews or make direct contacts with media sources to more effectively communicate detailed service alternatives, meeting notice reminders, and other project information.

Deliverable: *Three finalized media releases in electronic and hardcopy formats, or content backgrounders for use by Borough public relations staff.*

3.0 Needs Analysis

3.1 Update Transit Goals, Objectives, Measures and Standards

Nelson\Nygaard will work with Borough staff and others as necessary to update the community's goals and objectives for the local transit system. A complete and effective goal setting process is hierarchical and should encompass the following main elements:

- ***Goals*** set the tone by establishing the overall policy direction and organization philosophy;
- ***Objectives*** define each goal in terms of specific programs, actions and outcomes that are attainable and measurable.
- ***Performance measures*** provide the means for determining whether progress is being made toward achievement of defined objectives. Passive measures are used to monitor service design, and are often qualitative. Active measures are needed to track system performance, and generally are quantifiable.

- ***Standards and guidelines*** set the level of attainment desired for each performance measure. Standards provide firm thresholds while guidelines offer targets for the transit system to achieve and should be recalibrated annually to reflect changing circumstances in market, funding operational conditions.

If Ketchikan, like most communities, has a preference for continuity at the policy level, our starting point for this subtask should appropriately be goals and objectives previously defined in the 1999 TDP. We will review the goals and objectives in context of the events of the past several years to confirm that they are still relevant, and will recommend adjustments as appropriate. It is likely that some of the 1999 goals have been achieved, while others may be longer term or possibly no longer apply. Similarly, updated service standards and performance measures will be recalibrated to reflect current conditions. These are crucial for monitoring system performance and assuring funding partners that transit resources are deployed wisely.

One approach is to solicit input from stakeholders through personal interviews and survey findings to identify a common framework for measuring the success of the transit system. We would also assess public support for various policy choices through the passenger and general public surveys.

Deliverable: *The result of this task will be a comprehensive set of service goals, objectives, standards and measurements. We will present this information as a technical memorandum to Borough staff for review, including a hierarchical table showing how overall goals and objectives are addressed through performance measures and standards. This material will be integrated into the final TDP Update document.*

3.2 Update Demographic and Community Development Assumptions

During this subtask, Nelson\Nygaard will compile demographic data and undertake a thorough analysis of demographic, employment and commercial trends in the transit service area. We understand how demographic patterns shape transit ridership demand. Starting with 2000 census data, we will examine current and projected demographic trends for the following important demographic categories:

- Population
- Employment
- Household income and auto ownership
- Senior and Youth Population
- Persons with Disabilities

Our approach is to present the results of demographic analyses graphically to the extent possible, using ArcView-based maps and traffic analysis zone (TAZ) data if available, or the best local estimates available if Ketchikan census data is unavailable by TAZ. We develop maps that overlay demographic data with stop-level and route segment ridership information to clearly illustrate the relationship between transit service and the physical composition of your neighborhoods and major trip generators.

Combined with stop-level ridership maps, these maps provide a useful tool for matching route structure with transit demand and developing service goals. A sample of a Nelson\Nygaard density map combined with one of our unique stop level boarding maps can be viewed on Page 13.

Deliverables: *Analysis of local demographic variables impacting transit usage, including density maps and a route level comparison of service area demographics by zone will be provided as a technical memorandum to Borough staff for review. This material will be integrated into the final TDP Update document.*

3.3 Estimate Transit and Complementary Paratransit Demand

While transit demand estimation is an inexact science at best, we recognize the absolute need for reasonably accurate system level ridership projections to support farebox revenue estimates, capital facilities planning, and monitoring of system performance. Because so many Nelson\Nygaard clients are small communities without a functioning transportation model, we developed a relatively simple spreadsheet model to predict ridership demand in a specific corridor or subsection of the transit service area. The demand estimates we generate will be sensitive to land use density, population and demographic patterns and propensity to use transit services.

Deliverable: *Demand estimates will be presented in tabular format and integrated into the final TDP update document.*

4.0 Service Plan Recommendations

4.1 Fixed Route System

Nelson\Nygaard practices an intensive on-site service planning process to generate service design alternatives, because we believe that a group of experts working together usually generates better ideas than working alone. Our three-member Ketchikan core planning team will be led by David Sharfarz and supported by Tom Brennan and Doug Langille. Collectively, they have nearly 60 years of service planning experience. Borough staff are encouraged to participate in the planning process as well, so that they can contribute their own experience and ideas.

We recognize that among the issues the Borough already sees as central to the service planning process are the following:

- Transit schedule coordination with existing and proposed ferry operations;
- Streamlining bus routes and schedules to make the system more understandable for existing customers, other residents, and visitors;
- Potential viability of new service along the Tongass Highway north to Ward Cove, Mud Bay and Point Higgins; south of Saxman toward Herring Bay, and eventually to Gravina Island.

Our five-year development plan for *The Bus* will consider these and additional issues based on the findings of our existing conditions analysis, updated performance measurement criteria, and projections of future demand for transit service. For each of up to three funding scenarios, the N\N project team we will develop affordable service scenarios that include:

- Conceptual new route maps color-coded by frequency;
- Service level tables by day time period;
- Operating cost estimates;
- Incremental rolling stock requirements;
- Physical (facility) requirements to support proposed changes;
- Additional staffing needs and costs;
- Estimated ridership and revenue changes;
- Projected incremental effect on system productivity.

N\N will develop a detailed proposed service map that identifies recommended services on a line-by-line basis (see sample proposed service map on following page). The proposed service map will display precise routings, major transfer points and landmarks in the proposed system.

Deliverables: *Service Plan for up to three funding scenarios, including proposed services maps, conceptual schedules, tabular presentation of proposed service levels and costs, capital and staffing requirements.*

Sample Service Plan Map with Color-Coded Frequency Information

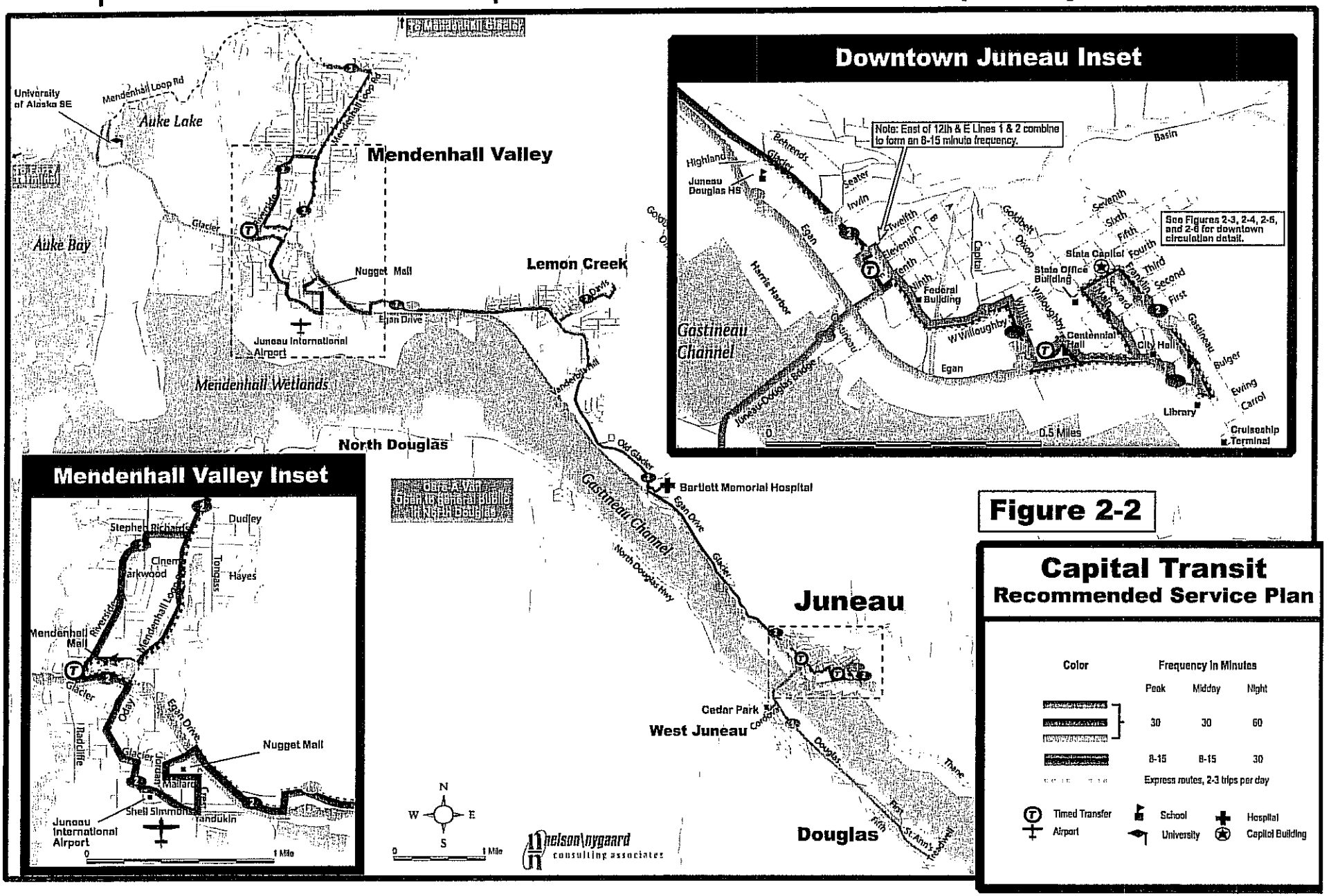


Figure 2-2

Capital Transit
Recommended Service Plan

Color	Frequency in Minutes		
	Peak	Midday	Night
	30	30	60
	8-15	8-15	30

Express routes, 2-3 trips per day

Timed Transfer · School · Hospital · Airport · University · Capital Building

4.2 Complementary Paratransit Service

Using the data collected from the paratransit analysis detailed in subtask 1.5, supplemented by driver interviews, surveys and other outreach efforts, we will develop a five-year complementary paratransit service plan that is compatible with the preferred fixed route plan. Understandably, the Borough is concerned about ADA compliance and operating cost. We also suggest that we take a fresh look at complementary paratransit eligibility guidelines as a means of assuring that people who are functionally capable to ride the fixed route system do not depend overly on complementary service simply because it is more convenient than the regular route bus.

Our recommendations will include contract and service related strategies for improving paratransit system capacity, reliability and convenience as necessary. Particular areas of concern include:

- Schedule adherence;
- Cancellations and trip denials;
- Trip grouping (scheduling efficiency);
- Trip booking, scheduling and vehicle dispatching (including software and hardware issues);
- Eligibility policies;
- Cancellation and no-show policies;
- Fare policies; and
- Fleet management and replacement.

5.0 Capital Plan

This purpose of this task is to document an integrated capital plan to support the recommended five-year transit service scenario. We understand that the Borough is interested in a consolidated operations and maintenance facility to accommodate the future needs of the transit system and possibly the vehicle fleets of other departments or external agencies. Our proposal provides sufficient resources to develop a complete capital plan and devote specific attention to the facility issue. The plan will include a detailed vehicle replacement schedule needed to support capital funding applications to the State of Alaska and FTA. Recommendations will comprehensively address three functional elements:

Street Operations: Based on our analysis of the physical operating environment, we will provide a series of detailed recommendations on how to improve stop facilities, street furniture, and transit centers. This element may also include street improvements necessary to improve operations or accommodate service plan recommendations.

Bus Fleet Expansion: Nelson\Nygaard will conduct a review of *The Bus'* current rolling stock and develop a fleet replacement and expansion plan. Fleet expansion needs will be consistent with service plan recommendations.

Maintenance and Operations Facilities: We will evaluate existing facilities and make recommendations for future facility needs and requirements based on projected fleet acquisition. The 1999 TDP recommended the construction of such a facility as part of its Capital Plan Phase II recommendations. The Borough is currently in the process of developing a central garage to house *The Bus* vehicles and maintenance. We will review 1999 TDP recommendations and discuss current development plans with Borough staff before pursuing any additional facility related recommendations.

6.0 Implementation Phasing & Marketing Plan

This task will address the need to develop and prioritize implementation strategies to support the preferred service alternative developed in Task 4. Implementation phasing will provide the Borough with a step-by-step approach to get our detailed service recommendations up and running. The implementation plan will show all anticipated activities for three phases: a) prior to the start of new services; b) upon implementation of new services; and c) a period of one year following the start of service. A matrix will provide an estimate of staff effort (hours) on a quarterly basis and include a schedule of priorities and implementation roles and responsibilities.

6.1 Customer Marketing and Public Information

This subtask will provide an integrated marketing strategy designed to support the service plan changes, increase system visibility, perceived user-friendliness, and ridership. We recognize that most small transit systems have limited financial capacity to carry out complex marketing and public relations activities. Accordingly, our focus will be primarily on the genre of marketing and public relations activities that are low-cost and relatively easy to implement with limited staff time and financial resources.

The customer marketing and public information plan will provide specific recommendations, a suggested timeline for implementation and estimated costs. The plan will address the following objectives:

- Disseminate information about transit service throughout each community;
- Improve user information at stops and transit centers;
- Target and distributing low-cost advertising materials to the rider markets with the greatest potential;
- Maintain and increase ridership.

6.2 Community Relations

Beyond marketing transit service to customers, we believe it is also important to define and work to enhance the role of the transit system as a community institution. As a

relatively new and expanding system, *The Bus* may enjoy widespread community support at present because of the potential it holds in the eyes of many residents, but also because it hasn't yet disappointed segments of the community who may have an unrealistic view or expectations as to what transit can do for Ketchikan and its surrounding area.

Over a period of time, some transit systems acquire the stigma of failing to meet community expectations for a wide cross-section of the public. This can occur for a variety of reasons, whether it is a reputation for circuitous and time consuming routes, undependable operating schedules, unreliable vehicles, surly drivers, or simply the frustration among people who conclude the system is too confusing to use before they even try it. If such perceptions of transit were to become pervasive in Ketchikan, it would more become difficult for the Borough to secure stable funding to support an expanded future transit system proposed in this TDP Update.

The purpose of this subtask will be to assist Borough staff and key stakeholders who currently are supportive of local transit in the Ketchikan area to devise and implement a community relations strategy to insure that the transit system remains an asset to a majority of residents and businesses, regardless of whether they use the bus on a regular basis. To be successful, this strategy must embrace internal quality standards and responsive service planning, as well as conscious efforts to position the transit system near the maintstream of community life and institutions. Examples of actions that could serve to build a positive image for the local transit system include:

- Deployment of transit buses as shuttles to reduce traffic jams caused by special events;
- Seasonal adjustment of service levels to reflect increased tourist activity during the summer months;
- Increased visibility of transit system participation in Borough emergency preparedness plans;
- Regular communication with local media editors and reporters through media releases and fact sheets.
- Cooperative effort with local schools to educate children about the bus system and how to use it;
- Frequent and effective reporting of transit ridership and productivity results to the Borough Assembly and its funding partners.
- Periodic news events developed around customer testimonials, helpful drivers, etc.

7.0 Financing Plan

This key task is designed to generate a realistic approach for funding the recommended operating and capital plans defined in Tasks 4 and 5. Our project manager will work closely with Borough staff to develop five-year revenue forecasts to clarify the system's

fiscal outlook and guide our service planning efforts. Based on budget information collected earlier in the study and interviews with Borough management and finance staff, we will identify all existing and potential revenue sources available over the next five years.

We are familiar with all federal and Alaska public transportation funding programs for which the Borough transit system is potentially eligible. We will work with Borough staff to develop realistic revenue forecasts for the next five years and to identify potential funding sources not currently utilized. Revenue forecasts will take into account any proposed or planned increase in fares.

Nelson\Nygaard recently completed a peer review of fare and operating budget levels for transit agencies throughout Alaska as part of the Juneau TDP project. We will update this information and use it as background for our analysis of *The Bus* fare policy and potential revenue sources that are not currently maximized.

This task will result in a clear picture of the annual operating resources, staffing requirements and costs and capital projects cost for the next six years. We will also discuss the economic benefits of transit to the community and describe the role of Borough transit services as a vital element of the local economy. We understand from our work in Juneau the increasing importance of tourism and the challenges to mobilizing cruiseship passengers desiring to make local trips. Nelson\Nygaard was also recently hired as part of the consulting team that will be evaluating tourism related transportation issues for the City and Borough of Juneau. This concurrent work will provide valuable insight into the economic benefits of public transportation and the role of transit in serving tourists.

Deliverable: *A financial plan that outlines operating and capital costs for the next five years and discusses strategies for gaining operating and capital funding to implement recommended service and capital scenarios; A plan for gaining support from business and community leaders, as well as Local, State and Federal agencies.*

8.0 Final Report and Presentation

8.1 Draft Final Report

Nelson\Nygaard will incorporate the results of all previous work tasks into a Draft TDP update that will include an executive summary, technical appendices, and supporting charts. We will present sufficient copies of the draft document to meet the needs of Ketchikan Gateway Borough officials and staff.

8.2 Final Report

Two to three weeks after we receive and reconcile one full set of comments on the Draft Report, we will present 25 bound copies and one unbound original Transit Development Plan to Borough staff. In addition, we will provide 25 copies of all supplemental tables, graphs and maps. Supplemental materials will be organized by route and presented in ring binders or other convenient format.

8.3 Presentations

Nelson\Nygaard will make up to two presentation of the final Transit Development Plan update to Borough staff and Assembly, the general public or other interested stakeholders. Presentations will include Powerpoint and color handouts for key attendees. Presentation materials will be made available to the Borough on a CD-Rom.

8.4 Monthly Progress Reports

Our project manager will submit a one-page status report to designated Borough staff every 30 days while the project is in progress.

4. Project Team, Experience and Qualifications

NELSON\NYGAARD PROJECT TEAM

The fact that we specialize in transit and paratransit enables Nelson\Nygaard to staff our proposal with a highly experienced team of professionals combining a working knowledge of communities throughout the Pacific Northwest with a long record of accomplishment in the transit industry. The following paragraphs highlight the qualifications of David Sharfarz, our proposed project manager, and Thomas Brennan and Doug Langille. Detailed resumes for these individuals are provided in Section 5 (Resumes for N\N Personnel). A table of organization appears as Figure 1 at the end of this section.

David Sharfarz, N\N Principal Associate based in Anchorage, will manage the consultant team effort and be responsible for the successful completion of all project tasks. David has been in the public transit industry since 1976 and has broad experience in service development and scheduling, transit operations, financial analysis, customer and community relations. David's background is based on 12 years of staff experience with public transit systems in St. Louis (MO), Syracuse and Rochester (NY), suburban San Francisco and Anchorage. He also has 15 years of consulting experience with a diverse range of assignments with small and large transit systems primarily in the Midwest and Western United States.

While serving as Planning Manager for the Anchorage People Mover system (1986-88), David was responsible for implementing a federally funded shared-ride taxi service demonstration in the Eagle River/Chugiak, restructuring portions of the local route system, and revitalizing the municipal rideshare program. He currently serves as planning consultant for Madison County Transit District (MCT) in metropolitan St. Louis, an ongoing role since 1990. David has worked closely with MCT's Managing Director and Board over the years to completely restructure the fixed-route network, adopt comprehensive performance measures and standards, comply with federal mandates for complementary paratransit service, and implement a service contract with Southern Illinois University for campus shuttle service. Last year, he facilitated a six-month study of MCT's 30-vehicle complementary paratransit system, and served a project steering committee comprised of representatives of nearly 30 human service agencies, consumer groups, funding entities and customers. The process drew praise from Illinois DOT's statewide disabilities coordinator, who attended the four half-day workshops convened during the course of the study. David currently is working on a series of service development initiatives for MCT, including proposed flex-routes in low density areas currently served by marginally productive fixed routes.

Thomas Brennan, *N\N Senior Associate* located in the Portland office, will serve as deputy project manager, oversee consultant data collection efforts, and participate in the service planning process and outreach activities. He will also coordinate the efforts of Portland office support staff working on data compilation, the peer review, and report preparation.

At Nelson\Nygaard, Thomas has worked on many successful service planning, service design and system marketing projects. He is currently developing a system restructuring for the Antelope Valley Transit Authority in southern California, and is working with on a bus rapid transit corridor and bus system restructuring study for Kitsap Transit in the Puget Sound region. Other ongoing bus system restructuring studies that he is involved in include The "T" in Fort Worth and VIA Metropolitan Transit in San Antonio, Texas. He recently completed work on bus system restructuring studies in Santa Fe, New Mexico, Humboldt and Del Norte Counties in California. Mr. Brennan served as the Deputy Project Manager for the City and Borough of Juneau Transit Development Plan and Capital Improvement Plan update, completed in September 2002. He managed the existing conditions element of the project and worked closely with Mr. Langille during the service planning work.

Thomas has also managed numerous transit development plan projects in Washington, Oregon, Idaho and Northern California. He has worked on several restructuring studies to design feeder service around rail corridors, including Metro Transit in the Twin Cities and Spokane Transit in Washington. Thomas' work also includes an innovative analysis of peak fleet needs for a facilities study in the Minneapolis-St. Paul metropolitan area.

Doug Langille, N\N Senior Associate based in the San Francisco office, will serve lead paratransit planner and will participate in the collaborative fixed-route service planning process. He will also coordinate the production of project graphics with main office support staff.

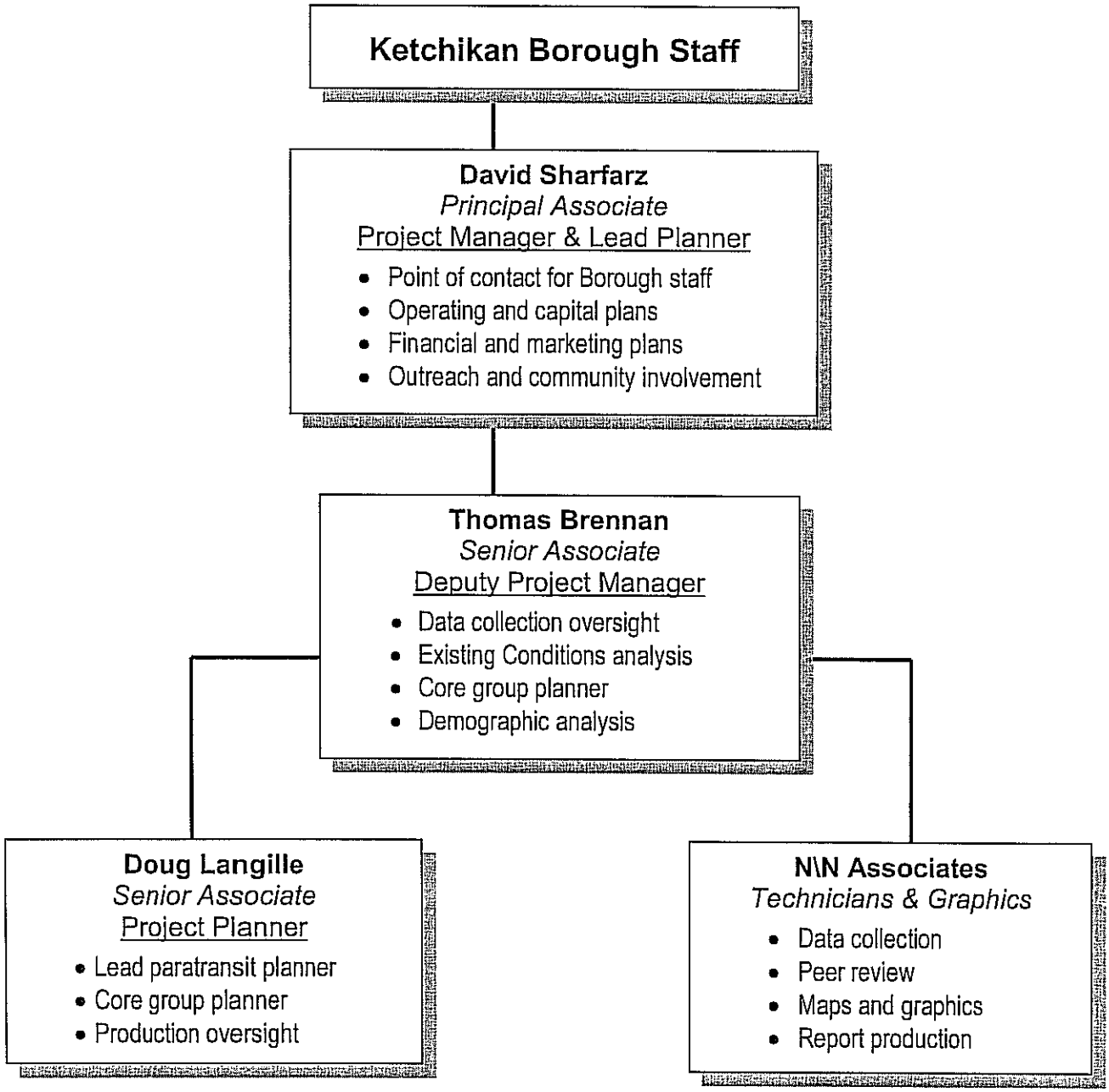
Doug Langille brings 25 years of fixed-route transit and paratransit planning and operations management to the team. From 1985 to 1993, he served as Director of the Disabled Adult Transit System (DATS) in Edmonton, Alberta, and had hands-on responsibility for both planning and day-to-day operations. During his tenure, the DATS program evolved from a single contract service administered at arm's length by the City, to a centralized brokerage with 75 contracts and providing scheduling, dispatch and maintenance under the City's direct control. Annual ridership increased from 265,000 trips to 700,000 trips during these years.

Between 1993 and 1998, Doug supervised Edmonton Transit's fixed route scheduling and service planning section, and managed the successful but politically charged city-wide route restructuring project in 1997. This effort entailed changes affecting over 1.5 million annual vehicle service hours. He also designed and implemented several neighborhood-based community bus routes to complement existing paratransit and fixed route services.

Since joining Nelson\Nygaard in 1999, Doug has focused primarily on service evaluation leading to practical service solutions and detailed implementation plans. He has managed or provided core planning services for urban and suburban operators of both fixed route and paratransit service, including Pomona Valley Transportation Authority, Stanislaus County (Modesto), City of Vallejo, South Coast Area Transit (Ventura County), San Diego Metropolitan Transit Development Board, San Bernadino OMNITRANS, San Antonio VIA Transit, Texas, Jacksonville (FL) Transportation

Authority, Metro Transit in Minneapolis, OC Transpo in Ottawa, Canada, and TransLink in British Columbia. He is currently completing work on the Tulare and Porterville TDPs and the Santa Cruz Master Transportation Plan, and assisting the San Diego County Health and Human Services Agency with a "Wheels to Work" pilot project. Doug also served as the lead demand response service planner for City and Borough of Juneau Transit Development Plan completed in September 2002.

Figure 1 Organizational Chart



PROJECT TEAM QUALIFICATIONS

The following section provides a brief description of a number of recent, relevant projects completed by proposed N\N Project Team staff. We include client references and contacts and encourage you to contact any of our references for various perspectives on our work. Specific references are provided in the following section.

Juneau Transit Development Plan **04/02 – 09/02**

City/Borough of Juneau
155 South Seward Street
Juneau, AK 99801
John Kern, Transit Manager, (907) 789-6903

Nelson\Nygaard was contracted by the City and Borough of Juneau to update the Capital Transit Five-Year Transit Development Plan. This study provided a comprehensive overview of fixed-route and paratransit services. Paratransit recommendations focused on dispatch efficiency and policies, while the fixed-route plan developed five alternatives that went through public and policy-board review. A key issue in this study were the transit operations in downtown Juneau, a rapidly growing tourist destination.

N\N Staff: Thomas Brennan, Doug Langille

Madison County Transit – Planning & Scheduling Services **4/90 - Present**

Madison County Transit District
One Transit Way
P.O. Box 7500
Granite City, Illinois 62040-7500
Contact: Jerry J. Kane, Managing Director, (618) 874-7433

David Sharfarz provides comprehensive planning staff augmentation services to MCT, a suburban St. Louis local transit operator of 107 fixed route and paratransit buses in a service area of 250,000 residents. He has ongoing responsibility for service development, fixed route scheduling, general planning and special projects administration. MCT restructured its fixed route network substantially during 1991-95; replacing traditional line haul radial routes to downtown St. Louis with a hub-and-spoke network designed around five transfer centers at key locations in the service area. Seventeen neighborhood, countywide and regional routes are pulse-scheduled in and out of these transfer centers. MCT is actively engaged in short and long-range transit planning, grant bicycle trail acquisition and development, and administers the RideFinders regional rideshare program for the eight-county, 2.4 million-resident St. Louis region.

N\N Staff: David Sharfarz

Del Norte Transit Development Plan **02/02 – 07/02**

Del Norte Local Trans. Commission
508 H Street
Crescent City, CA 95531

Susan Morrison, Director, (707) 465-3878

Nelson\Nygaard was awarded a contract to develop a Five-Year Transit Development Plan for this rural northern California County (pop 23,000) early in 2002. Redwood Coast Transit provides Dial-A-Ride and minimal fixed route service in this low-density coastal area. The plan effort included an intensive survey of existing conditions and services, an on-board passenger survey, an organizational assessment, service plan, financial plan and capital-purchasing plan.

N\N Staff: Thomas Brennan

Washington University – Transportation Planning Services (8/01 – 11/02)

Washington University in St. Louis
Campus Box 1200
One Brookings Drive
St. Louis, MO 63130-4899
Contact: Lisa P. Underwood, Manager of Parking & Transportation, (314) 935-7782

Nelson\Nygaard conducted an assignment for Washington University in St. Louis to evaluate campus shuttle routes and schedules, operations and maintenance. N\N developing new routes and schedules for the 14-bus shuttle system, and completed a detailed operating analysis to support management deliberations concerning system expansion and possible outsourcing of service delivery. N\N assisted WU staff concerning service and operational issues, data collection methods, and market research conducted in Spring 2002.

N\N Staff: David Sharfarz

Kitsap Co WA Bus Rapid Transit Corridor Study 03/02 - Ongoing

Kitsap Transit
200 Charleston Blvd.
Bremerton, WA 98312
Contact: John Clauson, Service Development Director, (360) 478-6223

NN is the lead transit operations consultant on the team that developed and refined alternatives for a Bus Rapid Transit project in Kitsap County, Washington, a suburban area west of Seattle that is linked to the city only by ferries. The proposed project connects the main ferry terminal in downtown Bremerton with the suburban commercial center of Silverdale. N\N tasks include: technology review considering BRT and Light Rail options; identification of station and profile alternatives; operations plan including conceptual bus network both within the corridor and connecting to it; assistance with public outreach.

N\N Staff: Thomas Brennan

Antelope Valley Transit Authority
Local Transit Needs Assessments 1996 & 1999 & 2002 07/02 - Ongoing

Antelope Valley Transit Authority
1031 West Avenue L-12
Lancaster, CA 93534

Contact: Debbie Mrstik, Transit Analyst, (661) 726-2616 ext. 204

Nelson\Nygaard has conducted the last three system-wide studies of transit performance for the Antelope Valley Transit Authority and is again under contract to update the fixed route system in this rapidly growing area. N\N developed a service plan designed to improve system productivity in Lancaster, Palmdale and surrounding communities. The studies also provided recommendations for market expansion opportunities, extending service to meet evening and weekend service demand, providing direct route service and enhancing coordination between lines. N\N's most recent service plan developed timed-connections at major transfer points and provided more frequent core service to high demand areas. Mr. Brennan is managing this study from N\N's Portland office.

N\N Staff: Thomas Brennan

Cities of Eureka, Arcata Transit Development Plans **01/01 – 06/01**

City of Eureka
531 K Street
Eureka, CA 95501-1165
Contact: Sanna Wood, Finance Manager, (707) 441-4117

Nelson/Nygaard recently completed Transit Development Plans for the Cities of Eureka and Arcata in Humboldt County California. These plans provide a comprehensive look at current and future public transportation needs in Humboldt County's two largest cities. Arcata & Mad River Transit operates a small but highly productive bus system in Arcata. The system's primary client group is Humboldt State University students, staff and faculty. The Nelson\Nygaard plan proposed several options for improving transit circulation between major university markets (i.e., campus, housing, retail). Mr. Brennan acted as Deputy Project Manager for this study and Mr. Walker was lead planner for the effort.

N\N Staff: Thomas Brennan

Rogue Valley Transit District ADA Paratransit Feasibility Study **09/00 – 08/01**

Rogue Valley Transit District
3200 Crater Lake Avenue
Medford, OR 97504
Contact: Scott Chancey, Senior Planner (541) 608-2425

Nelson\Nygaard conducted a comprehensive ADA Paratransit Evaluation Study for the Rogue Valley Transit District (RVTD). This analysis considered options ranging from providing all services in-house to contracting out some services to providing turnkey service with a single contractor. N\N studied the economic, operational and political feasibility of each option and made recommendations for future service provision. Among the proposed organizational changes was the development of an in-house brokerage designed to increase program oversight and efficiency.

N\N Staff: Thomas Brennan, Doug Langille

Tucson Performance Audits **7/1/2000 - 6/1/2001**

City of Tucson, AZ
225 West Alameda, 6th Floor West
Tucson, AZ 85701
Contact: Tom Amparano, , (520) 791-4001

Nelson\Nygaard conducted an audit programmatic evaluation of the city of Tucson's ADA paratransit program, known as Van Tran, and made recommendations for productivity improvements. While the audit found that the operation was generally well managed, and the facility and fleet were excellent, there were certain operational procedures that resulted in a high denial rate and other features which did not serve the customers well. N\N made a series of recommendations that included changes in driver "book-off" policies, real-time confirmation of trips, expansion of subscription service, and monitoring of on-time performance. Within three months the operator developed an Action Plan in response to the recommendations and had taken measures to expand operating hours and reduce trip denials.

N\N Staff: Doug Langille

Pomona PVTA Service Evaluation **04/2001 – 12/2001**

Pomona Valley Transportation Authority
2120 Foothill Boulevard, Suite 116
Pomona, CA 91750
Contact: George Sparks, PVTA Administrator, (909) 596-7664

The purpose of the project was to evaluate the efficiency and service quality of PVTA's family of services in the cities of Claremont, Pomona, La Verne, and San Dimas, and to identify unserved markets and opportunities for improvement in the areas of contractor performance, service monitoring, administrative oversight, customer services, service design and policies, and operating practices and procedures. The work plan included staff and key community stakeholder interviews, driver surveys and an in-depth, onsite operations and policy assessment. An additional task addressed an emergent issue, focusing on the development of a strategy to meet unmet needs in Pomona without negatively impacting the balance of services and overall cost efficiency for the other members of the PVTA joint powers agreement. Final recommendations covered enhanced service monitoring, ongoing customer outreach and contract oversight, a reduction in the Get About fleet size and pull out, changes to scheduling procedures, demand management strategies (service area and eligibility restrictions for San Dimas Dial-a-Cab and Claremont Dial-a-Ride), changes to the Get About cost allocation formula, and the introduction of service within the current Get About framework to low income residents of Pomona. Many recommendations have or are being implemented, while others are under consideration for future budget years.

N\N Staff: Doug Langille

Pierce Transit Paratransit Allocation Study **05/1998 – 11/1998**

Pierce Transit
3701 96th Street, SW
Tacoma, WA 98499
Contact: Dave Anderson, Senior Transit Planner, (253) 581-8131

This study provided a comprehensive assessment of Pierce Transit's ADA paratransit service. The objective of the study was to determine the optimal allocation of service between contracted and in-house provided services. Recommendations covered all areas of service including operating policies, schedule and dispatch, and allocation between contractors.

N\N Staff: Doug Langille

5. Staff Resumes

The following pages provide detailed resumes for proposed Nelson\Nygaard project staff.

David Sharfarz

Principal Associate

Over twenty-five years of transit and paratransit planning and operations experience with urban, suburban and rural systems.

Master of Arts, Chinese Studies, Washington University, St. Louis

Master of Public Administration, Community Development, University of New York, Albany

Bachelor of Arts, Political Science, City University of New York, Brooklyn College

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Anchorage, AK
907-250-3749

dsharfarz@nelsonnygaard.com
www.nelsonnygaard.com

Experience

Nelson\Nygaard Consulting Associates
Principal Associate, July 2000-Present

Extensive background in passenger transportation management, planning and operations; specializing in fixed route transit service development and scheduling; paratransit operations management; transit system management and administration; rideshare/TDM program development; and market research.

- Transit Service Development and Scheduling. Providing ongoing service planning and scheduling services to Madison County (IL) Transit District; training on-site staff; Trapeze software user. Recent N\N projects include: Shuttle system restructuring, scheduling, runcutting and rostering for Washington University in St. Louis (2002); Fixed route restructuring plans for Napa (CA) 9and Grand Junction (CO); Reno (NV) Virginia Street corridor analysis. Prepared consecutive Transit Development Plans and Transportation Master Plan element for Loveland (CO); comprehensive route restructuring plan for the City of Tucson (AZ). Provided interim management of Cleveland RTA scheduling department. Managed scheduling and, operations planning functions for Central Contra Costa (CA) Transit Authority; restructured 90-vehicle fixed route local bus network to coordinate with BART and regional express bus services. Previous staff positions include Planning Manager with Bi-State St. Louis (MO) Transit system; Anchorage (AK) municipal transit department; Rochester-Genesee (NY) RTA.

- Prepared short-range transit plans for several San Francisco Bay Area operators; Southern Ute Indian Nation (CO). Paratransit Operations Management. Conducted performance audits of Agency for Community Transit in Madison County (IL); ASI in Los Angeles (CA), Community Regional Transit in Cleveland (OH); Citi-Lift in Pueblo (CO). Conducted scheduling and in-vehicle technology assessment of four Smart Shuttle demonstrations in Los Angels County.

- Directed year-long specialized service consolidation project for Medina County (OH) consortium of 12 human service agencies; integrated four operations into a new county-wide rural transit system; developed computerized reservations system, trained dispatchers and drivers; developed service agreements with eight agencies. Implemented FTA innovative services grant to establish shared ride taxi (SRT) service in low-density suburban areas of Anchorage (AK); assisted municipal regulatory agencies with taxi ordinance revisions. Served as Paratransit Services Manager for Rochester-Genesee (NY) RTA and Rural Transit Director for Central New York (Syracuse) RTA. Developed ADA complementary paratransit plans for Madison County (IL) and Modesto (CA), and paratransit consolidation plan for Santa Cruz (CA). Facilitated ADA eligibility workshop in San Diego (CA).

- Transit System Management and Administration. Ongoing responsibility to Madison County Transit for grant management, major procurements, organizational and policy development, and special projects. Conducting campus shuttle program assessment and ten year plan for Washington University. Conducted preparatory assessments of FTA Triennial Review program compliance for the Alaska Railroad Corporation and Madison

County Transit District (IL). Prepared civil rights compliance programs submittals for Madison County Transit; annual NTD submittal for City of Santa Fe (NM); capital grant application for Los Angeles DOT. Administered competitive procurements for transit and paratransit services; monitored service contractors in Rochester (NY), St. Louis (MO). Prepared service proposals for private transit contract service providers. Prepared environmental assessments for FTA-funded facilities in Los Angeles (CA), Collinsville, Edwardsville, New Baden and Peoria, (IL). Prepared A&E procurement documents for City of Colorado Springs (CO).

- Rideshare/TDM Program Development. Co-facilitated task force responsible for developing a citywide Trip Reduction Plan for Pleasanton (CA). Designed and provided ongoing technical support to RideFinders regional rideshare program serving the eight-county St. Louis metro area. Conducted TMA feasibility studies in Mountain View (CA) and San Mateo County (CA). Oversaw the municipal rideshare program in Anchorage (AK). Prepared site-specific trip reduction plans for Bay Area employers; ETC training materials in Houston and St. Louis. Assisted with development of Transportation Systems Management plans in Pleasant Hill (CA) and Clark County (NV).

- Market Research. Administered agency and community leaders surveys, focus groups and personal interviews for projects in Charlotte (NC), Loveland (CO), Modesto (CA); unmet needs surveys in Highland (IL), Loveland (CO), Ignacio, (CO) and Wadsworth, (OH). Administered on-board passenger surveys for various transit systems in conjunction with planning studies.

Employment History

- Transportation & Logistics, Principal Associate (1989-present). Extended contract arrangements with Madison County Transit District, Director of Planning (1993-present); Planning Consultant (1990-93); Medina County Transportation Consortium, Project Director (1992-93); Greater Cleveland Regional Transit Authority, Interim Manager of Schedules (1991-92)

- Transportation Management & Design, Inc. Principal (1998-2000); Senior Consulting Associate (1993-98).

- Bi-State Development Agency, Manager of Service Planning (1988-89)

- Anchorage Public Transit, Manager, Planning & Special Projects (1986-88)

- DKS Associates, Senior Transportation Planner (1984-86)

- Central Contra Costa Transit Authority, Manager of Service Development and Operations Planning (1982-84)

- JHK & Associates, Senior Transportation Planner (1981-82)

- Rochester-Genesee Regional Transportation Authority, Planning Manager (1980-81); Paratransit Project Manager (1978-80)

- Central New York Regional Transit Authority, Rural Transit Project Manager (1976-78)

- People's Equal Action and Community Effort, Inc., Procurement & Transportation Officer (1975-76)

Thomas Brennan

Associate Project Manager

Responsible for all phases of project management and project completion. Special expertise in fixed route service design, scheduling, and short-and long-range transit planning.

B.A. English Literature,
Hamilton College

Masters in Community and Regional Planning,
University of Oregon, Eugene Oregon

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Portland, OR 97205
503-227-3463
FAX 503-224-3626

tbrennan@nelsonnygaard.com

Experience

Nelson\Nygaard Consulting Associates
Associate Project Manager, 1999-2002; Senior Associate 2002 - Present

- Deputy Project Manager for a comprehensive service evaluation and service design for Santa Fe Trails in Santa Fe, New Mexico.
- Deputy Project Manager for the City and Borough of Juneau2002 Transit Development Plan and Capital Improvement Plan Update.
- Led Northwest research component for TCRP B-24 Research Study examining the Benefits of Rural Transportation Coordination efforts.
- Managed development of last two Antelope Valley Transit Authority Service Plans, including the coordination of existing conditions and planning processes.
- Led the Northwest research component for TCRP H-26 Research Study examining the Economic Benefits of Coordinating public transit and other transportation resources in rural areas. This research included public transit/ school bus coordination efforts in Washington State.
- Analyzed existing conditions and developed service recommendations for intercity and intracity service in Idaho Falls, Idaho. This project focused primarily on the needs of elderly and disabled passengers.
- Managed paratransit feasibility study for Rogue Valley Transportation Authority in Oregon to determine optimal service delivery model. This analysis included a cost benefit analysis of in-house vs. contracted service models and an audit of system compliance with ADA regulations.
- Managed the development of a Mobility Action Plan for Wasco County, Oregon. This study examined rural intracity and intercity transportation needs for elderly and disabled citizens.
- Managed development of Five-Year Transit Development Plans for the cities of Eureka, Arcata, and Fortuna, California. This project included paratransit and fixed-route service planning recommendations.
- Managed development of new intracity service design for South Clackamas Transit District in Oregon. This service is designed primarily to provide local service and connections to regional services to elderly and disabled passengers in the City of Molalla.
- Project Manager for the Del Norte County, California Transit Development Plan. This project included the design of complementary fixed-route, deviated route and demand response services in this rural Northern California County.
- Develop survey instrument and analyzed survey data for general public telephone surveys in Idaho Falls and South Clackamas.
- Provided mapping, service planning and data analysis assistance for the Minneapolis-St. Paul Northeast Area Restructuring Study. This included the development of complementary paratransit services for the entire northeast area.
- Provided service planning assistance for North County Transit District (San Diego).
- Developed fleet needs estimates in support of a facilities study for the Minneapolis-St. Paul metropolitan area.
- Developed parking management and employee commute trip reduction recommendations including employee transit program for the State of Oregon Capital Mall in Salem.
- Conducted performance related peer analyses for AVTA and Clallam Transit in Washington.

- Assisted in an assessment of transit funding priorities for Lane Transit District in Eugene/Springfield, Oregon.

University of Oregon Community Planning Workshop
Project Manager, June 1998-September 1999

- Development of proposals and work programs for potential projects.
- Management of four to five person work teams in completing comprehensive, multi-stage planning projects.
- Scheduling, client negotiations, and administration of $100,000 budgets.
- Development of a market analysis and facility plan for the relocation and expansion of BRING Recycling (Lane County, OR).

Linn County Affordable Housing
Program Developer, October 1998-September 1999

- Program development for an Oregon Economic Development Department sponsored demonstration program.
- Researching potential model for recycling CDBG housing rehabilitation funds.

City of Lebanon, Oregon
Planning/Public Works Assistant, 11/97 – 06/99

- Updated the City's complete Comprehensive Plan and all Comprehensive Plan Policy sections.
- Developed and wrote a new Smart Development Element and updated Comprehensive Plan policies to meet Transportation and Growth Management Program "Smart Development" guidelines.
- Reviewed and updated policies and zoning ordinances to ensure compliance with the Transportation Planning Rule.
- Researched and wrote a Street Tree/Urban Forest Master Plan for the City.

Peace Corps, Niger, West Africa
Community Development Agent, 07/94 - 11/96

- Conducted needs assessment surveys to identify economic and infrastructure needs for 5 cities.
- Assisted in the organization, development and supervision of public infrastructure projects including water, sewer, and school construction.
- Developed and managed public involvement and education programs for local city governments.
- Appointed as a Regional Manager to supervise and coordinate activities of 6 volunteers and numerous community development projects.

Awards

- Awarded the 1998 American Planning Association, Oregon Chapter, Student Achievement in Planning Award for "Siting Affordable Housing in Oregon Communities" report.

Doug Langille

Senior Associate

Experienced in a wide range of transportation topics, including paratransit & fixed route planning for small and medium-sized transit operations, as well as larger urban operators.

Master of Arts, Geography, University of Guelph, Ontario

Honors Bachelor of Arts, Geography, University of Guelph, Ontario

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New York, NY
646-375-2306

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dlangille@nelsonnygaard.com
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Experience

Nelson\Nygaard Consulting Associates
Senior Associate, 1998-Present

Paratransit Service Evaluation and Planning

- Project manager and senior planner for the Duval County Consulting Services Project (2001) to assist the Jacksonville Transportation Authority develop a paratransit improvement plan and an implementation strategy to assume direct administration of the Community Transportation Coordinator (CTC) function. Key objectives included the development of a detailed workscope for a brokerage service contract RFP, clear definitions of participant roles and responsibilities to ensure comprehensive public oversight of the CTC services, and the development of a demand management strategy to shift ridership from paratransit to fixed route services.
- Project manager for the Pomona Valley Transportation Authority (PTVA) Service Evaluation (2001). The project scope included the evaluation of the PVTA family of services in Claremont, La Verne, Pomona and San Dimas, and the identification of unserved markets and opportunities for service improvement. Final recommendations covered a wide range of eligibility, policy, oversight, efficiency enhancement, cost allocation formula and service expansion issues.
- Senior planner participating in the Stanislaus County Regional Transit Short and Long Range Study (2000). Responsibilities included the evaluation of the current rural general public dial-a-ride service, the evaluation of existing service contract documentation, and the development of new contract specifications and service strategies to improve service efficiency and quality. Recommendations lead to the conversion of the dial-a-ride services to a series of more productive flex-routes.
- Project manager and senior planner for the San Diego ADA Complementary Paratransit Service Options Study (1999) including the evaluation of the current service delivery framework and strategies to improve the cost/efficiency of the two area ADA paratransit services. Study objectives included the improvement of service productivity, the reduction of the subsidy per passenger and the recommendation of a feasible service delivery framework for the provision of ADA paratransit services beyond July 1, 2000.
- Senior planner for the CLIPPER Short Range Transit Plan (1999). As part of the Butte County SRTP, was responsible for the evaluation of the City of Chico paratransit service, CLIPPER and the identification of service enhancements to ensure ADA compliance and improved cost effectiveness.
- Senior planner for the SCAT Coordinated Paratransit Implementation Plan (1999). Responsibilities included the assessment of the five existing paratransit services in the South Coast Area Transit, the identification of service policy and organizational issues, the development of five-year demand and vehicle requirement estimates, the evaluation of service delivery options and the development of an implementation schedule.
- Senior planner participating in the Great Falls Transit District (GFTD) Transit Development Plan (1998). Responsibilities included an evaluation of the GFTD Access paratransit service, an assessment of service coordination

opportunities with other paratransit service providers in the district, and the development of a recommended service model for the continued delivery of paratransit services in the GFTD service area.

- Service analyst for the Butte County Association of Governments CLIPPER Triennial Performance Audit (1998). Conducted a TDA performance audit on the City of Chico CLIPPER paratransit service.
- Deputy project manager for the Pierce Transit Paratransit Allocation Study (1998). This study evaluated alternative methods of delivering service to elders and persons with disabilities in the Tacoma, WA, metropolitan area. Demand management techniques were also evaluated to determine their applicability in an ADA environment.

Fixed Route and Shuttle Bus Projects

- Senior planner on the Vallejo Short Range Transit Plan (2001). Responsibilities included the evaluation of the on time performance of the existing local fixed route and commute services, and the development of a service plan to address critical running time problems within existing funding levels.
- Project manager and senior planner for the OMNITRANS Comprehensive Public Transit Needs Study (2000). The workscope included the assessment of transit needs in the diverse communities of Chino Hills, South Colton, Grand Terrace and Redlands and to develop strategies to efficiently and effectively serve identified needs. Four community shuttle strategies were developed. These strategies incorporated dial-a-ride, fixed route community bus and flex-route design elements depending on local needs and service area characteristics.
- Senior planner for the Livermore/Amador Valley Authority 1999/00 SRTP and Transportation Plan Vision 2000 Study (1999). Responsibilities included the evaluation of the existing DART services and the development of flex-route concept plans to reduce demand responsive service hours and improve existing service capacity.
- Senior Planner for the Metro Transit Service Sector Studies in Minneapolis/St. Paul (1999). Responsibilities included the evaluation of the existing general population dial-a-ride and community shuttle services and the development of flex-route service plans to improve service capacity, reduce trip request denials, complement fixed route services and to better meet community travel requirements.
- Deputy project manager for the San Francisco Airport Shuttle Bus Study (1998). Based on extensive new development at the San Francisco Airport, this study prepared a dynamic bus operating plan that serves passengers and employees throughout the development period. Development included the expansion and reallocation of parking facilities and the implementation of an automated people mover system. In addition, the study includes a recovery plan for the potential of a rail system failure. This project led to additional assignments to develop a series of schedules for the parking shuttle service to accommodate the phased opening of the new SFO International Terminal, and to develop new SFO/Caltrain shuttle bus schedules to improve productivity and train/bus connections, as well as to introduce simplified, clock face schedules.

Edmonton Transit
Senior Transit Planner, 1993-1998

Responsibilities included the supervision of the Regular Services Planning Unit in the day-to-day resolution of scheduling and routing problems, the review of development applications to ensure compliance with transit servicing standards, the development of annual service plans within approved operating budget guidelines and the subsequent definition of more detailed service plans for each of Edmonton Transit's seasonal operator sign-up periods.

As Planning Coordinator for the Edmonton Transit System Review, ongoing responsibilities included project management in the development and implementation of a city-wide restructuring of 1.5 million bus service hours. The intended objectives of the plan were to improve cost/efficiency, adapt to a shifting transit market and to provide more community focused off-peak services. The plan incorporated a layered service structure with a consistent base system servicing major travel corridors, supplemental services targeted to peak hour capacity requirements and off-peak services that are more closely in line with specific neighborhood travel needs. Responsibilities included the coordination of the initial phase of the public outreach process, the development of the detailed service plan and schedules for implementation in June 1997, and the development and administration of an ongoing service monitoring, evaluation and improvement process. The plan also included the expansion of small bus routes in off-peak periods and as community bus routes designed to provide a more cost-efficient alternative to door-to-door paratransit services.

Edmonton Transit
Director, Custom Transportation Services, 1985-1993

Managed the implementation and operation of the Disabled Adult Transit System (DATS) Brokerage. Responsibilities included the preparation of annual capital and operating budgets, the development of annual three- and five-year plans, the preparation of monthly cash flows as a guide to service scheduling, the establishment and approval of service standards, policies, and operating procedures, staff supervision and performance appraisals, client eligibility approval, service contracting and contract administration. There was also a major leadership role in the liaison with contractor and consumer advisory committees, and with the development of a positive "customer service" philosophy amongst both City and contract staff.

During this management tenure, the DATS Program evolved from a single contract service administered at arm's length by the City serving 265,000 trips annually, to a centralized brokerage with scheduling and dispatch under the direct control of the City and 75 service contracts serving approximately 700,000 trips annually. During this period, the cost of a trip was reduced by approximately 20% through the implementation of more cost-effective demand management strategies. The DATS Program won the Federation of Canadian Municipalities Star Community Award for improved service quality in 1989 and 1993.

As project manager and senior planner, was responsible for the planning, implementation and evaluation of accessible taxi and community bus demonstration projects for the City of Edmonton and the initial operation audit of the DATS Program that led to the introduction of a brokerage management framework for this Program.

City of Edmonton Transportation Department
Supervisor of Projects, 1979-1985

Responsibilities included the project management of a comprehensive Persons With Disabilities and Elderly Transportation Study outlining a strategic plan for a "family of services" to more cost-effectively address the anticipated growth in demand for specialized transit services. Other major projects included the development of a disabled parking policy, a transit training program for persons with mental disabilities, a pararamp standards and prioritization program, the drafting of a bylaw to establish The Custom Transportation Services Advisory Board, and a traffic noise attenuation policy.

Systems Approach Ltd. Ottawa
Consultant, 1976-1978

Made major analytical and written contributions to the following studies: A Program of Research and Development For The Transportation Disadvantaged (Transport Canada), The Mobility Club Feasibility Study (Transport Canada), and An Impact Analysis of the Alaska Highway Pipeline on the City of Whitehorse (Northern Affairs).

Past Affiliations

- Planning Advisor, Edmonton Transit Planning and Operational Coordinating Committee
- Planning Advisor, Edmonton Transit Bus Specification Committee
- Chairman of the Canadian Urban Transit Association (CUTA) Committee on Urban Transit for Disabled Persons
- Member, CUTA Committee on Urban Transit for Disabled Persons
- Technical Advisor, Custom Transportation Services Advisory Board, City of Edmonton
- Technical Advisor, DATS Advisory Council, City of Edmonton

Awards

- Federation of Canadian Municipalities Star Community Award for improved service quality in 1989 and 1993.
- The City of Edmonton Quality Performance Award for Innovation in 1989.

6. Key References

Although we have provided a series of valid references in the Qualifications section (Section 4) above, in this section we highlight a few key references for each of our project staff.

DAVID SHARFARZ REFERENCES:

Jerry J. Kane, Managing Director
Madison County Transit
P.O. Box 7500
Granite City, IL 62040-7500
(618) 874-7433

Lisa Underwood, Manager of Parking and Transportation
Washington University
Campus Box 1200
One Brookings Drive
St. Louis, MO 63130-4899
(314) 935-7782

Ann Courtney, Senior Attorney
Alaska Railroad Corporation
327 W. Ship Creek Avenue
Anchorage, AK 99501
(907) 265-2433

THOMAS BRENNAN REFERENCES:

Susan Morrison, Director
Del Norte Local Transportation Commission
508 H Street
Crescent City, CA 95531
(707) 465-3878

Debbie Mrstik, Transit Analyst
Antelope Valley Transit Authority
1031 West Avenue L-12
Lancaster, CA 93534
(661) 726-2616 ext. 204

Scott Chancey, Senior Planner
Rogue Valley Transit District
3200 Crater Lake Avenue
Medford, OR 97504
(541) 608-2425

John Kern, Transit Manager, (907) 789-6903
City & Borough of Juneau
155 South Seward Street
Juneau, AK 99801

DOUG LANGILLE REFERENCES:

Tom Amparano
City of Tucson, AZ
225 West Alameda, 6th Floor West
Tucson, AZ 85701
(520) 791-4001

John Kern, Transit Manager, (907) 789-6903
City & Borough of Juneau
155 South Seward Street
Juneau, AK 99801

George Sparks, PVTA Administrator
Pomona Valley Transportation Authority
2120 Foothill Boulevard, Suite 116
Pomona, CA 91750
(909) 596-7664

7. Financial Stability

Nelson\Nygaard Consulting has been profitable in each of its 13 years in business. The company has followed a controlled growth program for the last 10 years to ensure quality service to all our existing and perspective clients. Our business is rooted in alternative transportation and bus system planning and we have built a business plan around the core mission of improving those services. Attached in Appendix B are the firms most recent tax documents and profit & loss statements as proof of Nelson\Nygaard's financial stability.

8. Acceptance of Conditions

Nelson\Nygaard has reviewed all terms and conditions of the RFP and other listed requirements. We comply with these requirements and find no reason to list acceptance to any of the conditions.

9. Client List

A client list showing all related project clients over the last three years is provided in Appendix C.

10. Project Schedule

PROJECT SCHEDULE

We propose a project schedule beginning in early March with the submission of a Draft Final Report on the week of August 4, 2002. The final The Bus Comprehensive Operations Analysis would be submitted the week of August 25, 2003. Nelson\Nygaard has the staff availability to complete the project within this six-month timeline. Figure 2 shows the proposed project timeline.

PROJECT PRIORITY

We understand that the importance of work that is timely and of high quality. As a small firm that specializes in a particular field, our reputation for completing work on time and within budget is important to us. Nelson/Nygaard does not leave transit plans or data collection efforts on the back burner. However, like any consulting firm, we do multiple projects at once. We can assure the Borough that each team member included in our proposal will have enough time to work on this project, giving it full and complete attention. We are committed to the number of hours shown in the proposed project budget, and will negotiate in good faith the commitment of additional hours as necessary to perform additional work if requested by the Borough.

The following is a list of other N\N projects underway or anticipated for our Portland and Anchorage offices during the proposed project timeline:

- Juneau Tourism Transportation Plan, Alaska
- Missoula-Ravalli TMA Development Plan, Montana
- Salt Lake County Bus System Study, Utah
- Fort Worth Transit Authority "The T" Productivity Evaluation, Texas
- Antelope Valley Transit Authority Comprehensive Operations Plan, California
- Kirkland Downtown Parking Management Study, Washington
- Madison County Transit Planning Staff Augmentation, Illinois

FIGURE 2
KetchikanTransit Development Plan Update
Proposed Project Schedule

Proposal Task	Task Name	March					April				May				June					July				August			
		3/3	3/10	3/17	3/24	3/31	4/7	4/14	4/21	4/28	5/5	5/12	5/19	5/26	6/2	6/9	6/16	6/23	6/30	7/7	7/14	7/21	7/28	8/4	8/11	8/18	8/25
1.0	DATA COLLECTION & RESEARCH																										
1.1	Initial Meeting, System Overview & Fieldwork																										
1.2	Peer Systems Review																										
1.3	Collect Onboard Ridership, Transfer & Running Time Data																										
1.4	Analyze Fixed Route System																										
1.5	Analyze Complementary Paratransit Service																										
1.6	Document Existing Services													<-- Technical Memoradum: Existing Services Analysis													
2.0	OUTREACH																										
2.1	Conduct Stakeholder Interviews																										
2.2	Conduct On-Board Survey																										
2.3	Conduct General Public Survey																										
2.4	Facilitate Community Meetings																										
2.5	Media Releases						<-- Media Releases																				
3.0	NEEDS ANALYSIS																										
3.1	Update System Objectives																										
3.2	Update Community Development Assumpotions																										
3.3	Estimate Transit/Paratransit Demand																										
4.0	SERVICE PLAN RECOMMENDATIONS																										
4.1	Fixed Route System																			<-- Service Plan							
4.2	Complementary Paratransit Service																										
5.0	CAPITAL PLAN																										
5.1	Rolling Stock																										
5.2	Operations and Maintenance Facility																										
5.3	Stops and Terminals																										
6.0	MARKETING PLAN																										
6.1	Customer Marketing and Public Information																										
6.2	Community Relations																										
7.0	FINANCING PLAN																										
7.1	Farebox Revenue Analysis/Fare Options																										
7.2	Federal/State Funding Projections																										
7.3	Local Revenue Options																										
8.0	FINAL PLAN AND PRESENTATION																										
8.1	Draft Final Report																							<-- Draft TDP			
8.2	Staff and Committee Meetings																									<-- Final TDP	
8.3	Presentations																					FINAL Report Presentation -->					

Indicates Key Deliverable Due Date

11. Cost of Proposed Service

Nelson\Nygaard proposed to complete the Transit Development Plan Update for the Ketchikan Gateway Borough for $60,916. You will find that our overhead rates are low compared to many of our competitors and our competitive pricing allows us to provide a high number of professional hours. The budget for this project includes over 600 professional hours, including over 200 from our project manager and lead planner, David Sharfarz.

Figure 3 on the following page provides a detailed breakdown of our project budget, showing staff hours and cost by task as well as direct costs.

FIGURE 3
KetchikanTransit Development Plan Update
Proposed Project Budget

			N\N PARTNERS, PRINCIPALS, SR STAFF			ASSOCIATE, GRAPHICS & TEMP			
Proposal Task	Task Name		David Sharfarz	Thomas Brennan	Doug Langille	N\N Associate	N\N Graphics	Temporary Surveyors	Total N\N Labor
		Rate	*$46.00*	*$33.10*	*$43.00*	*$22.00*	*$29.19*		
		Overhead (118%)	*$54.28*	*$39.06*	*$50.74*	*$25.96*	*$34.44*		
		Profit (10%)	*$10.03*	*$7.22*	*$9.37*	*$4.80*	*$6.36*		
		Total Billing Rate:	$110.31	$79.37	$103.11	$52.76	$70.00	$15.00	
1.0	DATA COLLECTION & RESEARCH								
1.1	Initial Meeting, System Overview & Fieldwork		16	16	4				$ 3,447
1.2	Peer Systems Review			4		16			$ 1,162
1.3	Collect Onboard Ridership & Running Time Data		2	8		32		150	$ 4,794
1.4	Analyze Fixed Route System		16	12	8	8			$ 3,964
1.5	Analyze Complementary Paratransit Service		4		8				$ 1,266
1.6	Document Existing Service Findings		4	4	4				$ 1,171
2.0	OUTREACH								
2.1	Conduct Stakeholder Interviews		12	12					$ 2,276
2.2	Conduct On-Board Survey		4	12		16		50	$ 2,988
2.3	Conduct General Public Survey		4	16		16			$ 2,555
2.4	Facilitate Community Meetings		16	8					$ 2,400
2.5	Media Releases		8						$ 882
3.0	NEEDS ANALYSIS								
3.1	Update System Objectives		4	8	4				$ 1,489
3.2	Update Community Development Assumpotions			12			8		$ 1,512
3.3	Estimate Transit/Paratransit Demand		8	8					$ 1,517
4.0	SERVICE PLAN RECOMMENDATIONS								
4.1	Fixed Route System		16	16	8	12	8		$ 5,053
4.2	Complementary Paratransit Service		4		8		4		$ 1,546
5.0	CAPITAL PLAN								
5.1	Rolling Stock		4	8					$ 1,076
5.2	Operations and Maintenance Facility		12		4				$ 1,736
5.3	Stops and Terminals		4	8	4				$ 1,489
6.0	MARKETING PLAN								
6.1	Customer Marketing and Public Information Element		4	12					$ 1,394
6.2	Community Relations Element		8						$ 882
7.0	FINANCING PLAN								
7.1	Farebox Revenue Analysis/Fare Options		12						$ 1,324
7.2	Federal/State Funding Projections		8						$ 882
7.3	Local Revenue Options		12						$ 1,324
8.0	FINAL PLAN AND PRESENTATION								
8.1	Draft Final Report		4	8		8	4		$ 1,778
8.2	Staff and Committee Meetings		12	8					$ 1,959
8.3	Presentations		12	8					$ 1,959
8.4	Monthly Progress Reports			4					$ 317
			210	192	52	108	24	200	$ 54,144
DIRECT EXPENSES									
	Communications		$250						
	Printing		$800						
	Supplies		$400						
	Travel		$5,000						
	Fee (5%)		$323						
	Subtotal, Direct Expenses								$6,773
TOTAL PROJECT COST									$60,916

Appendix A Sample Ridership Survey Data Capture Sheets and On-Board Surveys

This appendix includes sample ridecheck data entry forms and samples of on-board surveys from a recent TDP project.

Douglas to Juneau

Date:	Job No:
Start Time:	
Your Name:	

	LOCATION	OFFS	ONS	TOTAL ON BUS	COMMENTS
RIDERS LEFT FROM PREVIOUS ROUTE →					
	St. Ann's & Treadwell				
	St. Ann's @ Stairs, 420 St. Ann's				
	St. Ann's @ 620 St. Ann's				
	St. Ann's @ Savikko Road				
	Third Street @ Douglas Post Office				
	Third Street @ Douglas Library				
	Third Street @ WaterWheel, F Street				
	Third Street Flag Stop				
	Third Street @ Gastineau Elementary School				
	Douglas Highway @ Geneva Woods				
	Douglas Highway & Crow Hill Drive				
	Douglas Highway & Creek Street				
	Douglas Highway @ 2520 Douglas Highway				
	Douglas Highway & David Street				
	Douglas Highway @ 2990 Douglas Highway				
	Douglas Highway @ 3090 Douglas Highway				
	Douglas Highway @ 3220 Douglas Highway				
	Cedar Park Housing				
	Douglas Highway & Cordova Street				
	Twelfth Street @ Mountainview Senior Center				
	Glacier Avenue & Ninth Street, Federal Building				
	Willoughby Avenue @ A&P Market				
	Willoughby Avenue & Whittier Street				
	Willoughby Avenue & West 3rd Street				
	Main Street & Front Street				
	Fourth Street @ Capitol Building, Flag Stop				
	Seward Street & Third Street, Flag Stop				

CONTINUE ON NEXT PAGE

Douglas to Juneau

Douglas to Juneau

LOCATION	OFFS	ONS	TOTAL ON BUS	COMMENTS
IDERS LEFT FROM LAST PAGE →				
Seward Street & Second Street, Flag Stop				
Seward Street & Front Street, Flag Stop				
Marine Way @ Parking Garage				
Cruiseship Terminal				
RIDERS LEFT ON BUS AT END →				

END OF ROUTE

Douglas to Juneau

Date:

Stop Time:

Your Name:

Capital Transit
City and Borough of Juneau

Fixed Route Passenger Survey

Please Complete Both Sides

IMPORTANT: Please tell us about the one-way trip you are making now. If you have already filled out a survey, DO NOT fill out another.

1. *Where are you coming FROM?*

- ☐1 Home
- ☐2 Work
- ☐3 Recreation or social
- ☐4 School/College (Name of School: _____)
- ☐5 Other (_____)
- ☐6 Shopping
- ☐7 Medical/Dental

2. *Where is this PLACE?*

Please list nearest intersection (for example: 2nd & Franklin)

OR

Name the location or landmark (for example: Capitol Bldg., K-Mart, Hospital, Cruiseship Terminal, etc.)

_____

(STREET) & (CROSS STREET)

3. *How did you GET TO the bus stop to board this bus?*

- ☐1 Transferred from another bus - (Route _____)
- ☐2 Walked (_____ blocks)
- ☐3 Biked
- ☐4 Drove alone then parked
- ☐5 Dropped off by car
- ☐6 Used wheelchair or scooter (_____ blocks)
- ☐7 Other (_____)

4. *Where are you going TO?*

- ☐1 Home
- ☐2 Work
- ☐3 Recreation or social
- ☐4 School/College (Name of School: _____)
- ☐5 Other (_____)
- ☐6 Shopping
- ☐7 Medical/Dental

5. *Where is this PLACE?*

Please list nearest intersection (for example: 2nd & Franklin)

OR

Name the location or landmark (for example: Capitol Bldg., K-Mart, Hospital, Cruiseship Terminal, etc.)

_____

(STREET) & (CROSS STREET)

6. *How will you GO FROM this bus to the end of your trip?*

- ☐1 Transfer to another bus - (Route _____)
- ☐2 Walk (_____ blocks)
- ☐3 Bike
- ☐4 Drive alone
- ☐5 Get picked up
- ☐6 Use wheelchair or scooter (_____ blocks)
- ☐7 Other (_____)

7. *How far is your Capital Transit bus stop from your home?*

- ☐1 Less than 2 blocks
- ☐2 2-4 blocks
- ☐3 4-6 blocks
- ☐4 6-8 blocks
- ☐5 More than 8 blocks

8. *Are you making a ROUND TRIP on the bus today?*

- ☐1 Yes
- ☐2 No

9. *How often do you ride Capital Transit?* (Please count all one-way trips you make in a week)

- ☐1 10 or more times per week
- ☐2 5 – 10 times per week
- ☐3 2 - 5 times per week
- ☐4 Several times per month
- ☐5 Several times per year

10. *On average, how long do you spend waiting each time you catch Capital Transit?* (✔ check one only)

- ☐1 Less than 2 Minutes
- ☐2 2 – 5 minutes
- ☐3 6 – 7 minutes
- ☐4 8 – 10 minute
- ☐5 More than 10 minutes

11. *On average, how long do you spend actually traveling on Capital Transit for each one-way trip?* (✔ check one only)

- ☐1 Less than 10 minute
- ☐2 11 – 15 minutes
- ☐3 16 – 20 minutes
- ☐4 21 – 30 minutes
- ☐5 31 – 40 minutes
- ☐6 41 – 50 minutes
- ☐7 More than 51 minutes

12. *If there was no Capital Transit bus service, how would you make this trip?* (✔ check one only)

- ☐1 Drive alone
- ☐2 Someone would drive me
- ☐3 Carpool or vanpool
- ☐4 Taxi
- ☐5 Other (_____)
- ☐6 Hitchhike
- ☐7 Walk
- ☐8 Bike
- ☐9 Would not make this trip

13. *Please rate Capital Transit Service in the following areas:* (Circle one response for each)

	Poor		Average		Very Good	No Opinion
13a. Overall Service	1	2	3	4	5	0
13b. Courtesy of Drivers	1	2	3	4	5	0
13c. Cleanliness of Bus	1	2	3	4	5	0
13d Comfort On Board	1	2	3	4	5	0
13e. Noise On Board	1	2	3	4	5	0
13f. Condition of Bus	1	2	3	4	5	0
13g. Price of Passes	1	2	3	4	5	0
13h. Price of Tokens	1	2	3	4	5	0
13i. Route & Schedule Info	1	2	3	4	5	0
13j. Availability of Shelters	1	2	3	4	5	0
13k. Cleanliness of Shelters	1	2	3	4	5	0

Continue on other side

14. *During which part of the year do you ride most frequently?*

- ☐1 Summer
- ☐2 Fall
- ☐3 Same all year
- ☐4 Winter
- ☐5 Spring

15. *How did you pay your fare when you boarded today?*

- ☐1 Tokens
- ☐2 VIP Bus Pass
- ☐3 User Senior Exemption Card
- ☐4 Monthly Pass
- ☐5 Paid Full Fare
- ☐6 Child Under 5

16. *How much money do you spend on bus fares (cash, token, pass) each month?* (✔ check one only)

- ☐1 None
- ☐2 Less than $5
- ☐3 $5 - $10
- ☐4 $11 - $15
- ☐5 $16 - $20
- ☐6 $21 - $30
- ☐7 More than $30

17. *What is your age?* _____

18. *Gender:* ☐1 Male ☐2 Female

19. *Are you an:* ☐1 Resident ☐2 Seasonal Resident ☐3 Visitor to Juneau

20. *What was the TOTAL INCOME (before taxes) of all persons in your household last year?*

- ☐1 Under $15,000
- ☐2 $15,000 - $29,999
- ☐3 $30,000 – $44,999
- ☐4 $45,000 – $59,999
- ☐5 $60,000 or more

Do you have any other comments? Please write them here.

_____

_____

_____

_____

_____

_____

THANK YOU FOR YOUR TIME! Please return this completed form to the surveyor on the bus.

f you were not able to complete the survey on the bus, please fold in half using the line below and drop in the US Mail. Postage is Paid.

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO. 106 JUNEAU, AK

POSTAGE WILL BE PAID BY ADDRESSEE

City and Borough of Juneau
Transit Division
155 South Seward Street
Juneau, Alaska 99801

Attn: John Kern

Care-A-Van

2002 Passenger Survey

We need your help to plan for better service!

Capital Transit
City and Borough of Juneau

Important: Please tell us about your trip.
If you have already filled out one survey this week, DO NOT fill out another.

1. How long have you been using Care-A-Van?
(✔ check one only)
- ☐1 This is my first time
- ☐2 One year or less
- ☐3 More than one year

2. How often do you use Care-A-Van?
(✔ check one only)
- ☐1 5 or more days/week
- ☐2 1 to 3 days per month
- ☐3 3 to 4 days/week
- ☐4 Less than 10 days a year
- ☐5 1 to 2 days/week

3. What are the key places that you use Care-A-Van to get to? Please name facility and give cross streets.

_____

_____

_____

_____

4. If Care-A-Van was late or early for your pick-up, how much did the pick-up time differ from when the dispatcher said it would arrive?
- ☐1 Less than 5 minutes
- ☐2 5 to 10 minutes
- ☐3 10 to 15 minutes
- ☐4 Over 15 minutes_____

5. Have you ever been denied service by Care-A-Van?
- ☐1 Yes
- ☐2 No

5a. If **Yes**, does this happen often? ☐1 Yes ☐2 No

5b. If **Yes** to 5a, when does this usually happen?
(Day of week/Time of Day)_____

6. Has Care-A-Van ever failed to pick you up?
- ☐1 Yes
- ☐2 No

5a. If **Yes**, does this happen often? ☐1 Yes ☐2 No

5b. If **Yes** to 6a, when does this usually happen?
(Day of week/Time of Day)_____

7. If Care-A-Van was not available, how would you make this trip?
- ☐1 Drive alone
- ☐2 Use fixed route bus
- ☐3 Ask family or friend
- ☐4 Walk
- ☐5 Carpool
- ☐6 Bike
- ☐7 Taxi
- ☐8 Would not make this trip
- ☐9 Other (Specify _____)

8. Have you ever used other Capital Transit Services?
- ☐1 Yes
- ☐2 No

If NO, why not?

_____

_____

9. Do you use a mobility aid?
- ☐1 Yes
- ☐2 No

9a. If **YES**, what?
- ☐1 Wheelchair
- ☐2 Cane
- ☐3 Walker
- ☐4 Guide Dog
- ☐5 Other _____

10. What is your age? _____

11. What is your gender: ☐1 Male ☐2 Female

Tell us HOW YOU FEEL about your trip today.
Circle the number that reflects your preference...

	Poor		Neutral		Excellent
12. Fare	1	2	3	4	5
13. Condition of bus	1	2	3	4	5
14. Driver courtesy	1	2	3	4	5
15. Driver competence	1	2	3	4	5

Do you have any other comments?

_____

_____

_____

_____

Cont. on back if needed...

THANK YOU!! Once your form is complete, please return to a Care-A-Van driver OR fold in thirds and drop in US Mail. Postage is paid.

Appendix B Proof of Financial Stability

This appendix includes evidence of Nelson Nygaard Consulting Associates financial stability.

Department of the Treasury Internal Revenue Service

Form **1120S** **U.S. Income Tax Return for an S Corporation** **2001** OMB No. 1545-0130

IRS use only — Do not write or staple in this space.

► Do not file this form unless the corporation has timely filed Form 2553 to elect to be an S corporation.
► See separate instructions.

For calendar year 2001, or tax year beginning , 2001, and ending , 20

A Effective Date of Election as an S Corporation: 1/01/2001

B Business Code No. (see instructions): 541600

Use IRS label. Otherwise, print or type.

NELSON NYGAARD CONSULTING ASSOCIATES
833 MARKET STREET, SUITE 900
SAN FRANCISCO, CA 94103-1814

C Employer identification number: 58-2592493

D Date incorporated: 1/01/2001

E Total assets (see instructions): $ 104,030.

F Check applicable boxes: (1) ☐ Initial return (2) ☐ Final return (3) ☐ Name change (4) ☐ Address change (5) ☐ Amended return

G Enter number of shareholders in the corporation at end of the tax year ► 3

Caution: *Include only trade or business income and expenses on lines 1a through 21. See the instructions for more information.*

INCOME	1a Gross receipts or sales	3,748,168.	b Less returns and allowances	c Bal ► 1c	3,748,168.
	2 Cost of goods sold (Schedule A, line 8)			2	
	3 Gross profit. Subtract line 2 from line 1c			3	3,748,168.
	4 Net gain (loss) from Form 4797, Part II, line 18 *(attach Form 4797)*			4	
	5 Other income (loss) *(attach schedule)*			5	
	6 **Total income (loss).** Combine lines 3 through 5			► 6	3,748,168.
DEDUCTIONS (SEE INSTRUCTIONS)	7 Compensation of officers			7	273,213.
	8 Salaries and wages (less employment credits)			8	1,483,244.
	9 Repairs and maintenance			9	630.
	10 Bad debts			10	
	11 Rents			11	170,363.
	12 Taxes and licenses			12	163,222.
	13 Interest			13	
	14a Depreciation *(if required, attach Form 4552)*	14a	9,941.		
	b Depreciation claimed on Schedule A and elsewhere on return	14b			
	c Subtract line 14b from line 14a			14c	9,941.
	15 Depletion **(Do not deduct oil and gas depletion.)**			15	
	16 Advertising			16	1,093.
	17 Pension, profit-sharing, etc, plans			17	128,044.
	18 Employee benefit programs			18	83,935.
	19 Other deductions *(attach schedule)* See Statement 1			19	1,326,557.
	20 **Total deductions.** Add the amounts shown in the far right column for lines 7 through 19			► 20	3,640,242.
	21 Ordinary income (loss) from trade or business activities. Subtract line 20 from line 6			21	107,926.
TAX AND PAYMENTS	22 Tax: a Excess net passive income tax *(attach schedule)*	22a			
	b Tax from Schedule D (Form 1120S)	22b			
	c Add lines 22a and 22b (see instructions for additional taxes)			22c	
	23 Payments: a 2001 estimated tax payments and amount applied from 2000 return	23a			
	b Tax deposited with Form 7004	23b			
	c Credit for federal tax paid on fuels *(attach Form 4136)*	23c			
	d Add lines 23a through 23c			23d	
	24 Estimated tax penalty. Check if Form 2220 is attached ► ☐			24	
	25 **Tax due.** If the total of lines 22c & 24 is larger than line 23d, enter amount owed. See instrs for depository method of payment			► 25	0.
	26 **Overpayment.** If line 23d is larger than the total of lines 22c and 24, enter amount overpaid			► 26	
	27 Enter amount of line 26 you want: **Credited to 2002 estimated tax** ►		**Refunded**	27	

Sign Here

Under penalties of perjury, I declare that I have examined this return, including accompanying schedules and statements, and to the best of my knowledge and belief, it is true, correct, and complete. Declaration of preparer (other than taxpayer) is based on all information of which preparer has any knowledge.

► Signature of Officer | Date | ► Treasurer Title

May the IRS discuss this return with the preparer shown below (see instructions)? [X] Yes ☐ No

Paid Preparer's Use Only

Preparer's Signature ► Claudia Fitch, EA | Date | Check if self-employed ☐ | Preparer's SSN or PTIN 223-64-2417

Firm's Name (or yours if self-employed), Address, and ZIP Code ► Fitch/Financial Advisors, 2627 Chestnut St., San Francisco, CA 94123 | EIN 74-3030253 | Phone No. 415 928-3499

BAA For Paperwork Reduction Act Notice, see separate instructions.

SPSA0105L 12/19/01 Form 1120S (2001)

Bank,Cash,CC Accounts

1/7/03

Cash Flow Report

1/1/02 Through 12/31/02

Category Description	1/1/02-12/31/02	
INFLOWS		
ADP CREDIT		14,328.52
Interest Inc		196.72
REBATE CHECK		250.00
RECEIVABLES:		
ALASKA	60,391.44	
ARIZONA	58,202.47	
AZ	13,251.36	
COLORADO	46,638.36	
FLORIDA	1,309.20	
MISSOURI	2,991.00	
NEVADA	4,898.70	
NEW MEXICO	34,817.61	
OREGON	69,368.64	
TEXAS	170,310.67	
WASHINGTON	64,452.07	
RECEIVABLES-Other	2,977,986.69	
TOTAL RECEIVABLES		3,506,618.21
REIMBURSEMENT		526.70
TAX REFUND		123.25
TOTAL INFLOWS		3,522,043.40
OUTFLOWS		
401k		88,668.47
ACCOUNTING		7,813.00
ACQUISTIONS		3,434.00
ADMIN ASST		4,327.97
ADP CHARGES		4,406.51
ADVERTISING		363.00
BANK CHARGES		141.59
BUSINESS LICENSE		1,454.40
COMMUTER CHECKS		11,421.20
CONFERENCES		4,890.00
DELIVERY		2,072.53
DIVIDEND		56,525.00
DONATION		1,214.00
DUES		12,557.98
EQUIPMENT:		
1 COMPUTER	5,332.82	
COMPUTER	2,206.08	
RENTAL	13,840.27	
EQUIPMENT-Other	6,598.87	
TOTAL EQUIPMENT		27,978.04
FAX		1,306.25
FEDERAL EXPRESS		7,851.64
INSURANCE:		
BOND	90.00	
DENTAL	13,883.21	
HEALTH	76,924.76	
LIFE	0.00	
PROFESSIONAL LIABILITY	10,717.68	
VISION	893.10	
WORKERS COMP	35,009.79	
TOTAL INSURANCE		137,518.54
INTEREST INCOME		-1,078.56

Cash Flow Report

1/1/02 Through 12/31/02

Category Description	1/1/02-12/31/02	
INTERNET		5,722.77
LICENSE		35.00
NOTARY		650.00
PAYROLL TAXES		193,061.44
POSTAGE		7,710.24
PROFESSIONAL DEVELOPMENT		2,153.85
PROFIT SHARING		37,405.04
PUBLICATION		168.00
RENT		143,880.88
REPAIRS		7,578.83
REPRODUCTION		57,036.05
SECURITY DEPOSIT		3,100.00
SUBCONSULTANT		767,119.54
SUBSCRIPTIONS		1,768.72
SUPPLIES		56,868.99
TAX:		
PROPERTY	283.12	
STATE	42.74	
TOTAL TAX		325.86
TAX PREPARATION		3,420.00
TAXES:		
ALASKA	322.76	
CORPORATE	335.27	
EVERETT	29.34	
NEW MEXICO	687.83	
OAKLAND	1,027.23	
SAN LEANDRO	95.00	
WASHINGTON	1,065.46	
TAXES-Other	37.91	
TOTAL TAXES		3,600.80
TAXES INCOME		479.00
TRAVEL EXPENSES		140,701.39
UTILITIES:		
TELEPHONE	34,963.61	
TOTAL UTILITIES		34,963.61
VOID		0.00
WAGES:		
CHECKS	188,064.41	
DIRECT DEPOSIT	1,007,056.95	
WAGES-Other	10,157.39	
TOTAL WAGES		1,205,278.75
WITHHELD TAXES		474,986.51
Uncategorized Outflows		0.00
TOTAL OUTFLOWS		3,520,891.83
OVERALL TOTAL		1,151.57

Appendix C Client List

This appendix includes a list of nelson\nygaard consulting associates clients over the last three years for comparable projects - Transit development plans and Comprehensive Operational Analyses.

efferson County (WA) Transit Development Plan
efferson Transit
615 West Sims Way
ort Townsend, WA 98368

San Carlos Transportation Plan
City of San Carlos, CA
600 Elm Street
San Carlos, CA 94070

laricopa County High Capacity Transit Plan
laricopa Association of Goverments
02 North First Avenue, 3rd Floor
hoenix, AZ 85003

Visitacion Valley Specific Plan
Planning Department, City/County San Francisco
1660 Mission Street, 5th Floor
San Francisco, CA 94103

nion City Short Range Transit Plan
ity of Union City, CA
4009 Alvarado Niles Road
nion City, CA 94587

Clallam Transit Six Year Plan
Clallam Transit System
830 West Lauridsen Boulevard
Port Angeles, WA 98363

acific Commons TDM Plan
ity of Fremont, CA
9550 Liberty Street P.O. Box 5006
remont, CA 94537-5006

Isla Vista Master Plan
County of Santa Barbara, CA
123 East Anapamu Street
Santa Barbara, CA 93101

ocky Mtn NP Transit Plan
ocky Mountain National Park
stes Park, CO

San Francisco Welfare to Work Transportation Plan
Metropolitan Transportation Commission
101 Eighth Street
Oakland, CA 94607

larin County Expenditure Plan
larin County Congestion Management Agency
.O. Box 4186
an Rafael, CA 94913

Moffett TDM Plan
NASA Ames Research Center
Mail Stop: 204-2
Moffett Field, CA 94035

tanislaus Long Range Plan
tanislaus County Department of Public Works
010 Tenth Street, Suite 3500
lodesto, CA 95354

unset Empire Transportation District Public
ransportation Strategic Plan
unset Empire Transportation District & ODOT
00 Marine Drive
storia, OR 97103

owntown Oakland Transportation and Parking
lan
ity of Oakland, CA
50 Frank H Ogawa Plaza, Suite 3330
akland, CA 94612

os Angeles County Regional Short Range Transit
lan
ity of Santa Monica, CA Big Blue Bus
12 Colorado Avenue
anta Monica, CA 90401

ity of Tulare Transit Development Plan
ulare County Association of Governments
961 South Mooney Boulevard
isalia, CA 93277

oulder Transportation Master Plan
ublic Works Dept., Trans Div., Boulder CO
ity of Boulder Department of Public Works P.O
ox 791
oulder, CO 80306

Fort Collins-Colorado State University Area
Strategic Plan
City of Fort Collins, CO Transportation Planning
210 East Olive Drive
Fort Collins, CO 80524

Palo Alto Transportation Master Plan
City of Palo Alto, CA
250 Hamilton Avenue
Palo Alto, CA 94301

Napa County Transportation Planning Agency
Short Range Transit Plan
Napa County Transportation Planning Agency
1804 Soscol Avenue, Suite 200
Napa, CA 94559

Porterville Transit Development Plan
Tulare County Association of Governments
5961 South Mooney Boulevard
Visalia, CA 93277

LA MTA INTP Strategic Plan
Los Angeles Metropolitan Transportation Authority
1 Gateway Place, 23rd Floor
Los Angeles, CA 90012

Ten-Year SRTP and Strategic Plan for CalTrain
CalTrain/JPB - San Mateo County, San Carlos, CA
1250 San Carlos Avenue
San Carlos, CA 94070

)el Norte TDP
)el Norte Local Transportation Commission
08 H Street
Crecent City, CA 95531

)CTA Transportation Planning Support
)range County Transportation Authority
00 South Main Street
)range, CA 92868

San Leandro Measure B Paratransit Plan
San Leandro Recreation and Human Services
)ept.
Civic Center, 835 East 14th Street
San Leandro, CA 94577

Marin County General Plan Background Reports
Marin County Community Development
)epartment
501 Civic Center Dr., Rm. 308
San Rafael, CA 94903

Reno Comprehensive Operations Analysis
Reno Transit
Reno, NV

Santa Fe Trails Comprehensive Operations
Analysis
Santa Fe Trails
Santa Fe, NM

Samtrans Strategic Plan and SRTP
Samtrans
1250 San Carlos Avenue
San Carlos, CA 94070

Redwood City East of 101 Area Plan
Redwood City, CA Planning Department
1020 Middlefield Road
Redwood City, CA 94064

UCSF Mount Zion Master Plan
UCSF
3333 California Street Suite 11
San Francisco, CA 94143-0286

BART Balboa Park Master Plan
BART
1000 Broadway, Suite 620
Oakland, CA 94607

SCAT Comprehensive Operational Analysis
South Coast Area Transit (SCAT)
P.O. Box 1146
Oxnard, CA 93032-1146

Reno Survey & Operational Analysis
Reno Regional Transportaton Commission
600 Sutro Street
Reno, NV 89512

IA Comprehensive Service Assessment
IA Metropolitan Transit
.O. Box 12489
an Antonio, TX 78212

Antelope Valley Transit Authority Local TNA
Antelope Valley Transit Authority
1031 West Avenue L-12
Lancaster, CA 93534