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Alaska State Legislature

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State Senate

MEMORANDUM

Date: April 11, 1983

Subject: SB 217, SB 201

To: All Committee Members
Senate Transportation Committee

From: Senator H. Pappy Moss, Chairman *moss*
Senate Transportation Committee *ARM*

Please find attached back-up material presented for your consideration of SB 217. The white packet entitled "Assessment of Jetfoil Service for Alaska" is to be orally presented to the Committee at the hearing. The blue booklet entitled "Economic Assessment of Jetfoil Service for Southeast Alaska" was prepared to show how the Jetfoil would fit into the Marine Highway System.

Also before the Committee will be SB 201, an appropriation bill for airport lighting at Tok. This appropriation is a follow-up on a previous appropriation for the purchase and upgrading of the airport in Chapter 82 SLA 1981. The Tok airport is a vital support facility for an extended population of 1800 people.

As you probably know, the community of Tok is centered on the junction of the Alaska Highway and the Tok Cut-off to the Glenn Highway, about 90 miles from the Canadian border and 200 miles from Fairbanks. Because of this central location, Tok has become the major support community for a geographic area extending from Mentasta Lake in the south to Chicken in the North. The Tok airport is especially important to this area as an air evacuation point to the Fairbanks hospitals.

At the present time, night flights are a very hazardous undertaking from and into the Tok airport. Currently, at least one air service from the Tok airport has an FCC exemption to allow it to offer night flight service from Tok using flare pots. With a routine flight, this type of lighting may be adequate but when an emergency exists, it is not always possible to make prior arrangements to have flare pots put out on the runway for an incoming flight. In addition, if the flight is expected, local residents will sometimes shine their car lights on the runway to assist incoming flights. As mentioned previously, this may be adequate in a normal situation, but where an emergency exists, it is woefully inadequate.

**Economic Assessment
of Jetfoil Service
for Southeast Alaska**

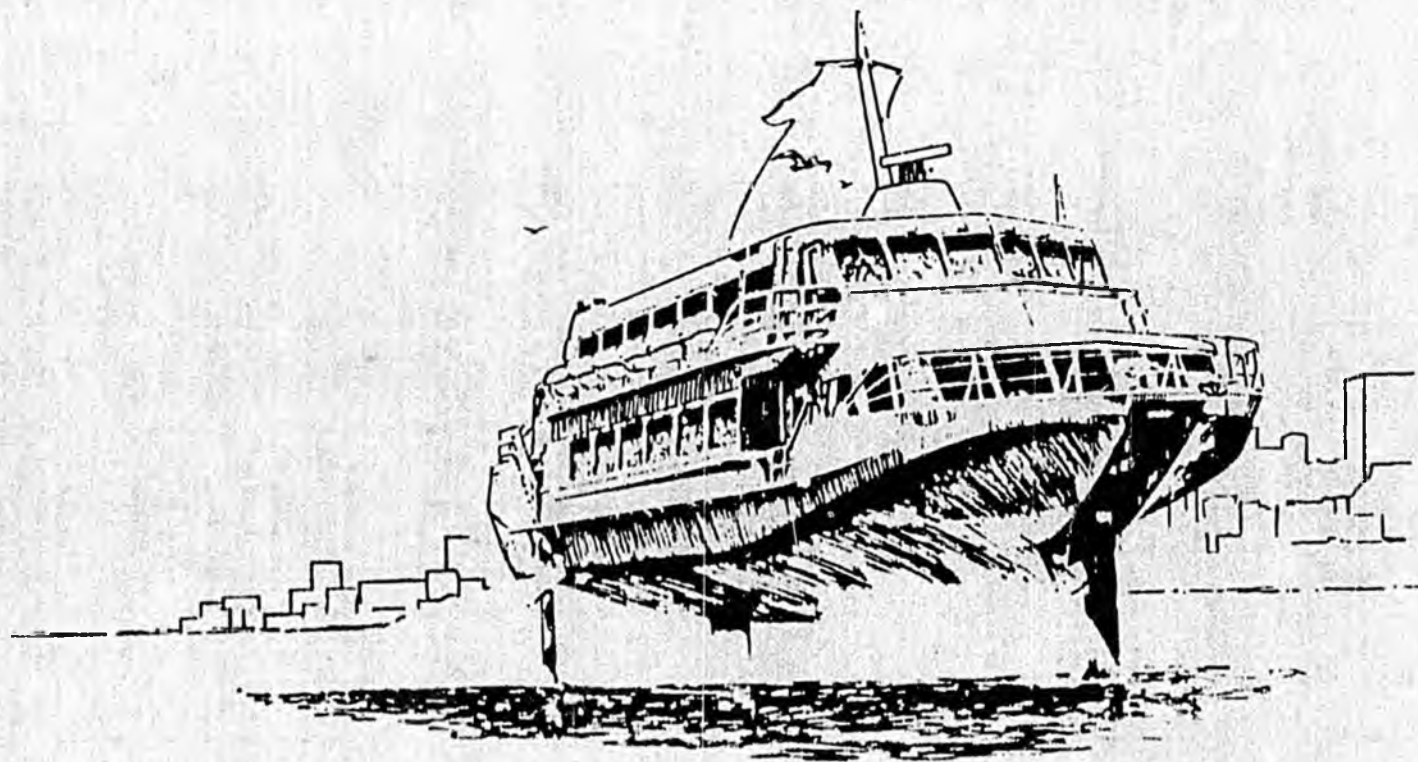
ECONOMIC ASSESSMENT OF
JETFOIL SERVICE
FOR SOUTHEAST ALASKA

STUDY NUMBER H-1400-201
MARCH 1983

PREPARED BY BOEING MARINE SYSTEMS
AND IN COOPERATION WITH ALASKA DEPARTMENT
OF TRANSPORTATION AND PUBLIC FACILITIES

INDEX

	<u>PAGE</u>
I. INTRODUCTION	2
II. SUMMARY OF RESULTS	8
III. PROPOSED SOUTHEAST ALASKA FERRY SERVICE	27
TOTAL SERVICE SUMMARY	32
IMPACT ON COMMUNITIES SUMMARY	33
JETFOIL SERVICE	39
JETFOIL SCHEDULES	44
MAINLINE FERRY SCHEDULE	49
LE CONTE FERRY SCHEDULE	50
AURORA FERRY SCHEDULE	51
IV. CAPITAL AND OPERATING COSTS	53
JETFOIL COST ASSUMPTIONS	54
CAPITAL COST COMPARISON	55
JETFOIL OPERATING COST BUILDUP	56
FLEET OPERATING COST COMPARISON	60
OPERATING COSTS VERSUS PASSENGERS	61
V. EXISTING TRAFFIC ANALYSIS	64
JET AIRCRAFT	67
AIR TAXI	68
FERRY PASSENGERS AND VEHICLES	71
VI. TRAFFIC FORECAST	84
JET AIRCRAFT	90
AIR TAXI	91
FERRY PASSENGERS AND VEHICLE	93
VII. FARE AND REVENUE ANALYSIS	100
PASSENGER FARE ANALYSIS	101
JETFOIL MARKET SHARE	108
PASSENGER REVENUE	115
FREIGHT REVENUE	123
VIII. APPENDIX	126



Introduction

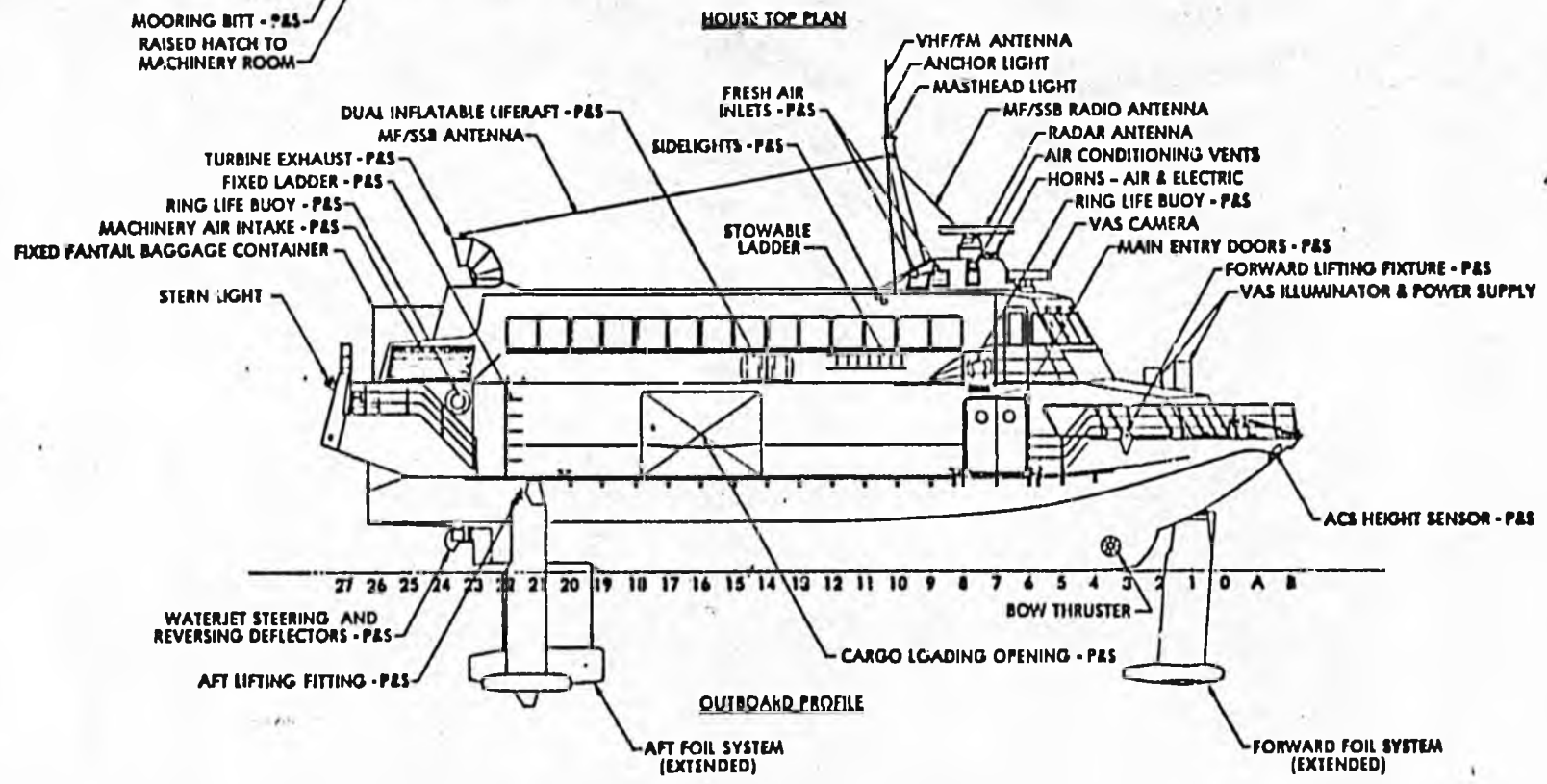
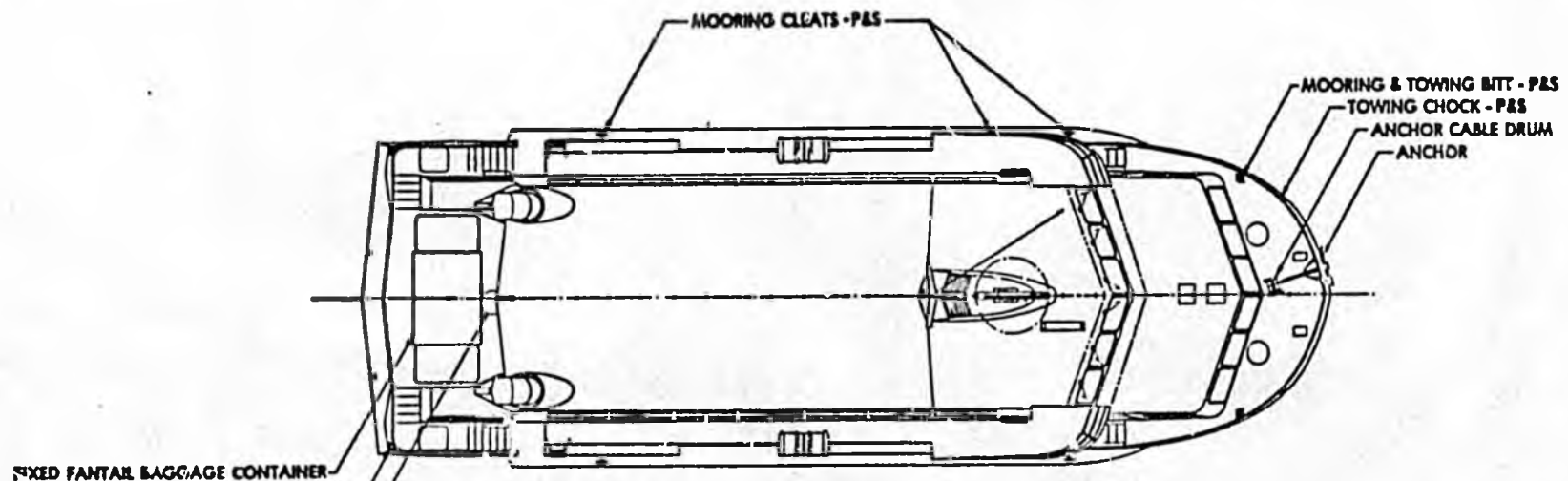
INTRODUCTION

THIS ASSESSMENT OF JETFOIL OPERATIONAL AND ECONOMICS FEASIBILITY IS PREPARED IN SUPPORT OF A PROPOSAL BY BOEING MARINE SYSTEMS TO THE STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES FOR THE PURCHASE OF THREE BOEING JETFOILS (H-1100-LTRA-170, DATED MARCH 9, 1983). THE THREE JETFOILS OFFERED FOR DELIVERY IN 1985 AND 1986 HAVE BEEN CONFIGURATED SPECIFICALLY TO THE REQUIREMENTS OF THE SOUTHEAST ALASKA MARKET AND ENVIRONMENT.

THIS REPORT ANALYZES THE MOST EFFECTIVE WAY TO UTILIZE JETFOIL CAPACITY AND CHARACTERISTICS AS WELL AS HOW JETFOIL SERVICE CAN COMPLEMENT FERRYBOAT SERVICE. CURRENT FERRY SERVICE IS REVIEWED AND REFINEMENTS TO THE FERRYBOAT SERVICE ARE PROPOSED SO THAT BETTER UTILIZATION CAN BE MADE OF THE FERRYBOATS IN CONJUNCTION WITH JETFOILS.

JETFOIL CONFIGURATION

EACH JETFOIL HAS THE CAPACITY TO CARRY 135 PASSENGERS WITH BAGS IN CABIN ACCOMMODATIONS SIMILAR TO WIDE BODY JET AIRCRAFT. IT ALSO HAS THE ABILITY OF TRANSPORTING 25 TONS OF EITHER FREIGHT (CONTAINERIZED OR BULK) AND/OR PASSENGER VEHICLES (MAXIMUM 3). THE JETFOIL, LIKE AN AIRCRAFT, IS WEIGHT LIMITED SO RANGE, PASSENGERS, AND FREIGHT ARE TRADED TO STAY WITHIN THE MAXIMUM OPERATIONAL WEIGHT LIMIT. AS AN EXAMPLE, FOR A TYPICAL ROUTE LENGTH OF APPROXIMATELY 90 NAUTICAL MILES AND 135 PASSENGERS ONBOARD, THE FREIGHT CAPACITY IS APPROXIMATELY 19 TONS. MANY TIMES DURING THE YEAR WHEN THE PASSENGER SEATS ARE NOT COMPLETELY FILLED, ADDITIONAL FREIGHT COULD BE CARRIED UP TO THE LIMIT OF 25 TONS. THIS IS SIMILAR TO OPERATIONS BY ALASKA AIRLINES WITH THEIR 737 AIRCRAFT CONFIGURED FOR COMBINATION PASSENGER/FREIGHT LOADS. PASSENGERS AND FREIGHT ARE LOADED THROUGH DOORS ON THE MAIN DECK, PAGE 4.



ALASKA JETFOIL DEMO (SUMMER 1982)

LAST SUMMER'S JETFOIL DEMONSTRATION IN SOUTHEAST ALASKA IN ELEVEN COMMUNITIES FOR THE GENERAL PUBLIC PROVIDED AN EXCELLENT FORUM FOR DETERMINING THE PUBLIC PERCEPTION OF TRANSPORTATION NEEDS IN SOUTHEAST ALASKA AND THEIR REACTION TO THE JETFOIL ABILITY TO FULFILL THOSE NEEDS. GILMORE RESEARCH GROUP OF SEATTLE SURVEYED NOT ONLY THE 15,585 PASSENGERS ABOARD THE JETFOIL BUT ALSO RANDOMLY SAMPLED THE GENERAL POPULATION BEFORE AND AFTER THE DEMONSTRATIONS TO DETERMINE THEIR ASSESSMENT. THE FOLLOWING STATEMENTS HIGHLIGHT SOME OF THE MAJOR CONCLUSIONS FOUND IN THE FINAL REPORT, A STUDY OF PUBLIC ATTITUDES TOWARD THE JETFOIL IN SOUTHEAST ALASKA, GILMORE RESEARCH GROUP, OCTOBER 1982.

- o 90% OF RESIDENTS INDICATED INTEREST IN TRYING THE JETFOIL BECAUSE OF ITS PERCEIVED BENEFITS OVER CURRENT TRANSPORTATION (E.G., SPEED, FREQUENCY, SCHEDULING, ETC.)
- o JETFOIL DEMO RIDERS WERE REPRESENTATIVE OF ALL SOUTHEAST ALASKA RESIDENTS (51% FEMALE; 39% AGES 35-64; 44% WHITE COLLAR; 90% RESIDENTS)
- o 75% OF SOUTHEAST ALASKA RESIDENTS SAY THEY WILL LIKELY USE THE JETFOIL IF IMPLEMENTED. (92% OF JETFOIL DEMO RIDERS WILL USE IT)
- o 99% OF SMALL COMMUNITY RESIDENTS ON BOARD FAVOR JETFOIL INTRODUCTION AND 70% OF ALL SOUTHEAST ALASKA FAVOR INTRODUCTION (92% OF SOUTHEAST ALASKA RESIDENTS ON BOARD JETFOIL FAVOR INTRODUCTION)
- o 66% OF HEAVY FERRY USERS WILL USE JETFOIL MORE OFTEN THAN REGULAR FERRY IF IT IS IMPLEMENTED.

THE GENERAL CONSENSUS WAS VERY FAVORABLE INDICATING A HIGH SHARE OF THE MARKET WOULD USE THE JETFOIL AND IN FACT WOULD TRAVEL MORE FREQUENTLY. THUS, SHOWING CONSIDERABLE MORE TRAFFIC DEMAND THAN IS BEING MET WITH CURRENT SERVICES. IN ADDITION, IT WAS ALSO SUCCESSFULLY DEMONSTRATED THAT THE JETFOIL CAN OPERATE IN SUMMER DURING LOW VISIBILITY AND IN WINTER IN SEVERE WEATHER WHEN AIRCRAFT ARE GROUNDED. IT CAN PROVIDE A GOOD ALTERNATE TRANSPORTATION MODAL

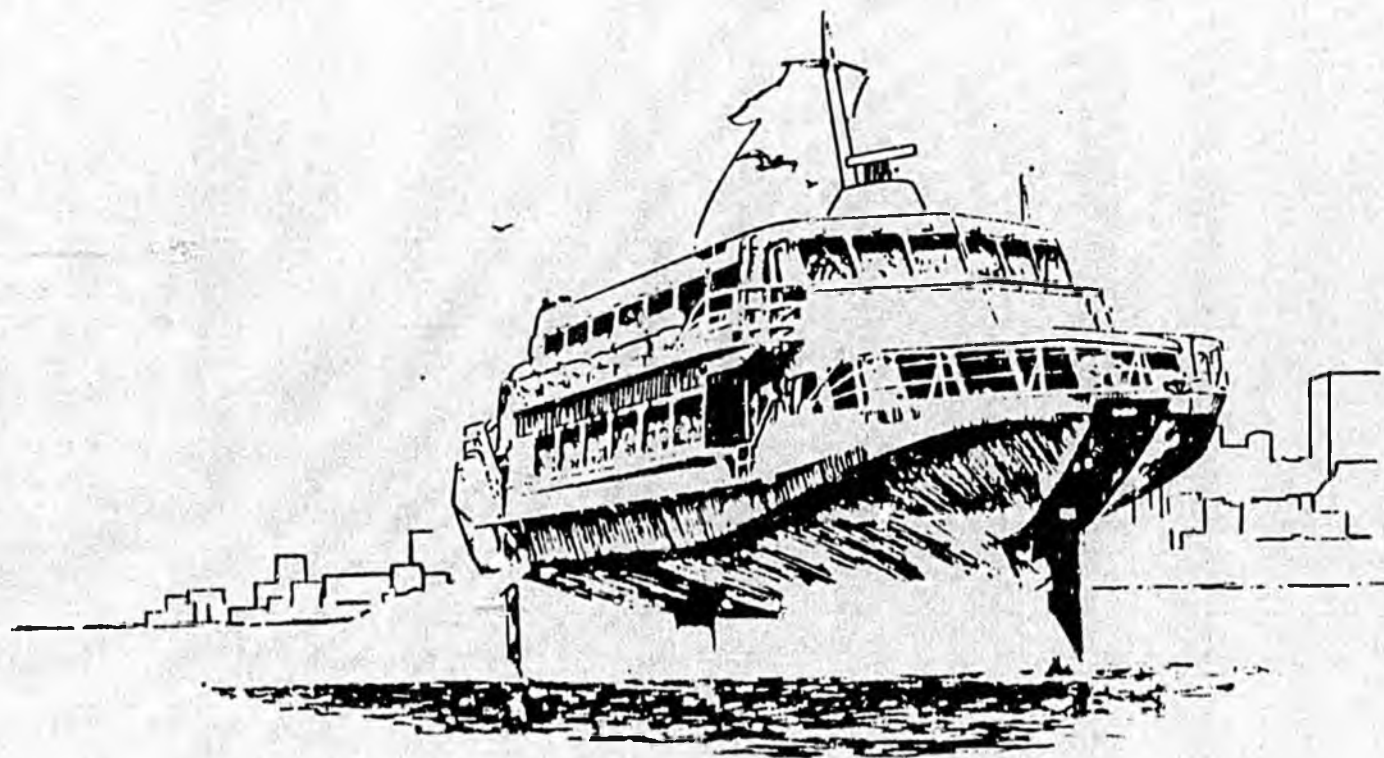
ANALYSIS BASE

ALL COST ANALYSIS HAVE BEEN DONE IN 1983 U.S. DOLLARS. THIS ALLOWED THE EVALUATION OF ALL COST ASPECTS IN CURRENT KNOWN DOLLARS USING 1983 FARES, MATERIAL COST, LABOR RATES, ETC. JETFOIL OPERATING COST ESTIMATES INCLUDE LABOR COSTS WHICH REFLECT LABOR RATES OF SIMILAR JOB CLASSIFICATIONS CURRENTLY IN THE ALASKA MARINE HIGHWAY.

AN EXTENSIVE ANALYSIS WAS MADE OF THE PASSENGER MARKET IN SOUTHEAST ALASKA. THIS WAS BASED ON CURRENTLY AVAILABLE TRAFFIC DATA AS FOLLOWS:

- FERRY TRAFFIC - ALASKA D.O.T. MARINE HIGHWAY TRAFFIC VOLUMES REPORT, 1970-1982.
- JET AIRCRAFT TRAFFIC - CIVIL AERONAUTICS BOARD "SERVICE SEGMENT DATA", 1973-1981.
- AIR TAXI TRAFFIC - SCHEDULED SERVICE; ALASKA TRANSPORTATION COMMISSION REPORTS 1976: SOUTHEAST ALASKA TRANSPORTATION STUDY, 1979.

*ALL ASSESSMENTS IN THIS REPORT HAVE BEEN EXTENSIVELY DISCUSSED AND REVIEWED IN DETAIL WITH THE APPROPRIATE PERSONNEL IN THE ALASKAN DEPARTMENT OF TRANSPORTATION AND ALASKA MARINE HIGHWAY.



Summary of Results

SUMMARY OF RESULTS

THE FOLLOWING PAGES SUMMARIZE :

THE PROPOSED JETFOIL SERVICE AND ITS MERITS

PROPOSED FERRY BOAT SERVICE

IMPACT OF PROPOSED SERVICE

TRAFFIC ANALYSIS AND PROJECTION

JETFOIL FARES AND TRAFFIC

CAPITAL COSTS

OPERATING COSTS

JETFOIL SERVICE SYNOPSIS

- o IT IS PROPOSED THAT THE JETFOILS BE BASED PRIMARILY IN JUNEAU. A SECONDARY OVERNIGHT BASE WILL BE KETCHIKAN (4 NIGHTS PER WEEK). SERVICE WILL BE REDUCED TO 2 JETFOILS IN WINTER.
- o JETFOILS WILL PROVIDE PASSENGER, FREIGHT, AND VEHICLE SERVICE ON WEEKLY CYCLES TO 17 COMMUNITIES OF SOUTHEAST ALASKA.
- o TYPES OF DAILY SCHEDULES:
 - JUNEAU, SITKA, ANGOON, TENAKEE, HOONAH AND RETURN.
 - JUNEAU, HAINES, SKAGWAY, JUNEAU, GLACIER BAY AND RETURN.
 - JUNEAU, EXCURSION INLET, HOONAH, ELFIN COVE, PELICAN AND RETURN.
 - JUNEAU, KAKE, PETERSBURG, WRANGELL AND RETURN.
 - JUNEAU, PETERSBURG, WRANGELL, HOLLIS, KETCHIKAN, METLAKATLA AND KETCHIKAN.
 - KETCHIKAN, METLAKATLA, KETCHIKAN, HOLLIS, WRANGELL, HOLLIS, KETCHIKAN, METLAKATLA AND KETCHIKAN.
 - KETCHIKAN, METLAKATLA, KETCHIKAN, HOLLIS, WRANGELL, PETERSBURG AND JUNEAU.
- o JETFOIL TRIP TIMES:

- HAINES TO JUNEAU	2:25
- SKAGWAY TO JUNEAU	3:30 (WITH STOP)
- SITKA TO JUNEAU	4:05 AND 7:25 (WITH THREE STOPS)
- HOONAH TO JUNEAU	1:50
- KAKE TO JUNEAU	2:25
- PETERSBURG TO JUNEAU	2:45
- WRANGELL TO JUNEAU	4:25 (WITH STOP)
- KETCHIKAN TO JUNEAU	8:55 (WITH THREE STOPS)
- ANGOON TO SITKA (ALSO KAE - PSG)	1:45
- KETCHIKAN TO PETERSBURG	5:40 (WITH TWO STOPS)
- KETCHIKAN TO HOLLIS	1:05

JETFOIL SERVICE SYNOPSIS (CONTINUED)

- o JETFOIL SERVICE WILL BE DURING NORMAL HOURS (7:30 A.M. TO 11:00 P.M.).
- o SERVICE CAN BE PROVIDED FROM DOWNTOWN WATERFRONT.
- o NUMBER OF WEEKLY DEPARTURES FROM EACH COMMUNITY GENERALLY RANGE FROM SIX TO EIGHT (JUNEAU 22; PELICAN AND ELFIN COVE 1).
- o NUMBER OF DAYS PER WEEK EACH COMMUNITY GETS SERVICE GENERALLY RANGE BETWEEN THREE AND SIX (JUNEAU 7; PELICAN, ELFIN COVE AND EXCURSION INLET 1).
- o MORNING AND EVENING SERVICE
 - 4 PER WEEK -- HOONAH
 - 3 PER WEEK -- HAINES, SKAGWAY, TENAKEE, ANGOON, SITKA
 - 2 PER WEEK -- GLACIER BAY, KAKE, PETERSBURG, HOLLIS, METLAKATLA, KETCHIKAN
 - 1 PER WEEK -- EXCURSION INLET
- o DAY TRIPS TO COMMUNITIES WITH TWICE A DAY JETFOIL SERVICE GENERALLY ALLOWS A VISIT OF THREE TO NINE HOURS.

PROPOSED FERRY BOAT SERVICE (SUMMER)

REVISIONS ARE PROPOSED TO THE SCHEDULE OF SOME SOUTHEAST ALASKA FERRY BOATS TO MORE FULLY TAKE ADVANTAGE OF THE JETFOIL SERVICE AND IMPROVE THE FERRYBOAT PRODUCTIVITY. IN THIS MANNER, THE ENTIRE SYSTEM HAS AN INCREASE IN FREQUENCY OF SERVICE AND CAPACITY. THE REVISIONS ARE AS FOLLOWS:

o COLUMBIA FERRY:

- SEATTLE TO SKAGWAY SERVICE WITH STOPS AT KETCHIKAN, WRANGELL, PETERSBURG, JUNEAU, HAINES AND SITKA (SAME AS CURRENT).

o YAKU, MALASPINA, AND MATANUSKA FERRIES

- PRINCE RUPERT TO SKAGWAY SERVICE WITH STOPS AT KETCHIKAN, WRANGELL, PETERSBURG, JUNEAU AND HAINES. (EXCLUDES SITKA WHICH ALLOWS THE FERRIES TO MAKE ONE ADDITIONAL ROUND TRIP PER MONTH.)

PROPOSED FERRY BOAT SERVICE (CONTINUED)

o LE CONTE FERRY BOAT

- JUNEAU TO SITKA SERVICE WITH STOPS AT HOONAH, TENAKEE AND ANGOON (SIMILAR TO CURRENT SERVICE EXCEPT 27 DIRECT SITKA - JUNEAU TRIPS. HOONHA, TENAKEE AND ANGOON STOPS REDUCED TO LESS THAN HALF).
- WEEKLY SERVICE FROM KAKE TO PETERSBURG AND JUNEAU.

o AURORA FERRY BOAT

- HOLLIS TO KETCHIKAN SERVICE (SAME AS CURRENT SERVICE).
- KETCHIKAN TO METLAKATLA SERVICE (SUBSTITUTE FOR CHILKAT FERRY).
- PRINCE RUPERT TO JUNEAU SERVICE (SAME AS CURRENT SERVICE).

o CHILKAT FERRY BOAT

- NO SERVICE
(BECAUSE OF THE ADDITIONAL JETFOIL SERVICE TO METLAKATLA AND THE CURRENT LOW UTILIZATION OF THE AURORA, FOUR DAYS PER WEEK, THE TWO VESSELS TOGETHER CAN SUPPLY SATISFACTORY SERVICE TO METLAKATLA), (SIX DAYS PER WEEK SERVICE; THREE DAYS HAVE MORNING AND EVENING SERVICE).

IMPACT OF PROPOSED SERVICE
(SUMMER)

- o NEW SERVICE -- THREE COMMUNITIES (EXCURSION INLET, ELFIN COVE, GLACIER BAY).
- o WEEKLY SERVICE -- FOUR COMMUNITIES (PELICAN PLUS ABOVE THREE COMMUNITIES).
- o MORNING AND EVENING JETFOIL SERVICE -- THIRTEEN COMMUNITIES.
- o CAPACITY IMPACT:

	PASSENGER SERVICE* (TRIPS AVAILABLE PER MONTH)	VEHICLES*	
		JULY CAPACITY	JULY** LOAD FACTOR
MAINLINE SERVICE (JUNEAU - KETCHIKAN)	+37%	+17%	63%
SITKA SERVICE	+133%	+21%	57%
HOONAH SERVICE (INCLUDING ANGOON & TENAKEE)	+250%	-5%	46%
HOLLIS SERVICE	+83%	+24%	45%
METLAKATLA SERVICE	+49%	+22%	18%
SKAGWAY SERVICE	+95%	+9%	42%

*JETFOIL AND FERRY BOAT SERVICE

**NO CREDIT TAKEN FOR TRANSFER OF FREIGHT FROM VEHICLES (VANS) TO CONTAINERS.

EXISTING TRAFFIC SUMMARY
SOUTHEAST ALASKA

- o LARGE PASSENGER MARKET -- 480,000 PASSENGER TRIPS (1982) (EXCLUDING PASSENGERS TO/FROM PRINCE RUPERT OR SEATTLE).
 - 40% FERRY PASSENGERS (55% WALK-ON, 45% MOTORIST).
 - 40% AIR TAXI PASSENGERS.
 - 20% JET AIRCRAFT PASSENGERS.

- o RAPID GROWTH IN MARKET OVER LAST DECADE.
 - FERRY TRAFFIC: 7% GROWTH PER YEAR.
 - JET AIR TRAFFIC: 5% GROWTH PER YEAR.

- o MOST RAPID GROWTH -- SITKA AND SECONDARY COMMUNITIES.
 - PRINCE OF WALES ISLAND -- 24% GROWTH PER YEAR IN FERRY TRAFFIC SINCE 1976.
 - HOONAH/TENAKEE/ANGOON -- 17% GROWTH PER YEAR IN FERRY TRAFFIC SINCE 1978.

PASSENGER TRAFFIC FORECAST
SOUTHEAST ALASKA

- o TRAFFIC GROWTH, AS EXPECTED, HAS FOLLOWED CLOSELY THE GROWTH IN ITS PRIMARY USERS, LOCAL RESIDENTS AND VISITORS.

(GROWTH PER YEAR)
1975 - 1982

TOTAL VISITORS (STATEWIDE SINCE 1976)	9%
FERRY TRAFFIC	7%
JET AIR TRAFFIC	5%
POPULATION AND EMPLOYMENT (SOUTHEAST ALASKA)	3%

- o FUTURE TRAFFIC GROWTH SHOULD FOLLOW PROJECTED TRENDS IN POPULATION, EMPLOYMENT AND TOURISM.

	<u>(1983 - 1985)</u>	<u>(GROWTH PER YEAR)</u> <u>(1986 - 1990)</u>	<u>(1991 - 1995)</u>
TOTAL VISITORS - STATEWIDE (TOURISM DIVISION ESTIMATE)	13%	--	--
FERRY PASSENGERS	5%	7%	5%
AIR PASSENGERS	4%	4.5%	4%
EMPLOYMENT - STATEWIDE (ALASKA DEPT. OF LABOR FORECAST)	5%	5%	--
POPULATION - STATEWIDE (U.S. CENSUS FORECAST)	2%	1.5%	1%

- o FORECASTS MADE FOR EACH INDIVIDUAL ORIGIN AND DESTINATION BASED ON PAST TRENDS AND LOCAL GROWTH PROJECTIONS.

- RAPID GROWTH ROUTES: KETCHIKAN TO PRINCE OF WALES ISLAND
JUNEAU TO SITKA
MAINLINE TO HAINES
- MODERATE GROWTH ROUTES: JUNEAU/SITKA TO SMALL NORTHERN COMMUNITIES
MAINLINE TO PETERSBURG/WRANGELL
- SLOW GROWTH ROUTES: KETCHIKAN TO METLAKATLA
MAINLINE TO SKAGWAY

JETFOIL FARES

- o COMPETITIVE JETFOIL FARE LEVEL DETERMINED BY USING TRAVEL TIME/COST ANALYSIS WHICH INCLUDES:
 - PRESENT AIR AND FERRY FARES AND TRAVEL TIME
 - GROUND TRANSPORTATION TIME AND COST TO/FROM TERMINAL
 - CHECK-IN AND BAGGAGE PICK-UP TIME
 - FOOD PURCHASED ON BOARD

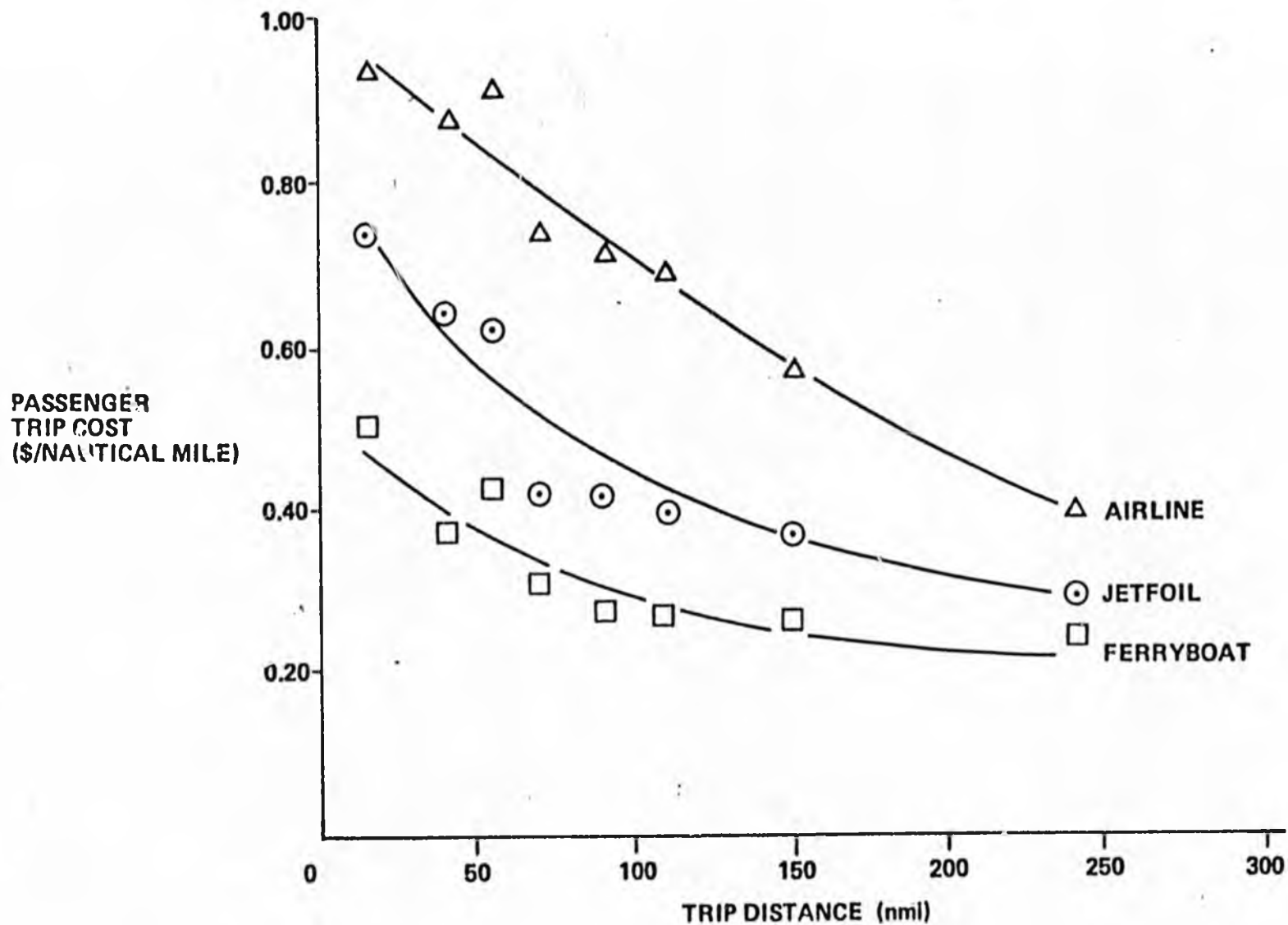
- o JETFOIL FARE LEVEL IS CONSISTENT WITH EXISTING JETFOIL OPERATIONS. ON AN AVERAGE, TRAVEL BY JETFOIL WOULD COST 50 PERCENT MORE THAN FERRY COMPARED TO AIR WHICH COSTS 150 PERCENT MORE THAN FERRY.

PERCENT ABOVE FERRY FARE (BY ROUTE LENGTH)

	<u>20 N.M.</u>	<u>60 N.M.</u>	<u>100 N.M.</u>	<u>160 N.M.</u>
JETFOIL	56%	50%	50%	40%
AIR	106%	186%	150%	120%

Passenger Trip Cost Southeast Alaska

(1983 Dollars)



JETFOIL ECONOMIC SCENARIOS

THE FOLLOWING THREE ECONOMIC SCENARIOS WERE ESTABLISHED FOR THIS ANALYSIS SO THAT POSSIBLE CHANGES IN TRAFFIC DEMAND, ECONOMIC CLIMATE, AND FARE STRUCTURE WOULD BE CONSIDERED.

	<u>MEDIUM CASE</u>	<u>LOW CASE</u>	<u>HIGH CASE</u>
PASSENGER TRAFFIC	ANALYSIS OF INDIVIDUAL ROUTES AND TRAFFIC REQUIREMENTS	-15%	+15%
PASSENGER FARES	FARES COMPETITIVE TO OTHER MODES	BETWEEN FERRY AND MEDIUM CASE	BETWEEN AIR AND MEDIUM CASE
FREIGHT RATES	RATES COMPETITIVE TO OTHER MODES	SURFACE RATES	AIR RATES
COSTS	(SAME FOR ALL CASES) BASED ON ALASKA LABOR AND MATERIAL RATES, ALASKA DEMO, AND OTHER JETFOIL OPERATIONS.		
JETFOIL SCHEDULE	(SAME FOR ALL CASES) 3 JETFOILS PROVIDING SERVICE TO 17 COMMUNITIES ON WEEKLY CYCLE (2800 HOURS PER YEAR PER BOAT).		

PASSENGER REVENUE AND MARKET SUMMARY (1986)
SOUTHEAST ALASKA

	WITH PRINCE RUPERT	WITHOUT PRINCE RUPERT	
FORECASTED TOTAL MARKET*	590,000	540,000	
FORECASTED WALK-ON MARKET*	465,000	440,000	
JETFOIL REVENUE/TRAFFIC SCENARIOS			
	<u>MEDIUM CASE</u>	<u>LOW CASE</u>	<u>HIGH CASE</u>
JETFOIL MARKET SHARE	29%	-15%	+15%
JETFOIL INDUCEMENT FACTOR	22%**		
JETFOIL PASSENGERS (WALK-ON PASSENGERS WITHOUT PRINCE RUPERT)	156,400	133,000	179,900
JETFOIL PASSENGER LOAD FACTOR	31%	26%	36%
JETFOIL FARE YIELD/NAUTICAL MILE (AVERAGE ROUTE LENGTH - 60 N.M.)	\$.53	\$.41 (-20%)	\$.64 (+20%)
JETFOIL REVENUE	\$5,020,000	\$3,265,000 (-35%)	\$6,945,000 (+35%)

*DOES NOT INCLUDE PASSENGERS TO/FROM SEATTLE.

**REPRESENTS 28,000 PASSENGERS OR 6% INDUCEMENT OF WALK-ON MARKET.

CAPITAL COSTS

- o THE JETFOIL IS MORE EFFICIENT PER DOLLAR OF INVESTMENT THAN A CONVENTIONAL FERRY. JETFOIL'S ANNUAL EQUIVALENT PASSENGER MILES OFFERED ARE 48 PERCENT OF THE TUSTUMENA'S, WHILE THE JETFOIL INVESTMENT REQUIRED IS ONLY 38 PERCENT OF THE REPLACEMENT VESSEL (26 PERCENT MORE EFFICIENT PER DOLLAR OF CAPITAL COST).

- o BASED ON ONE YEARS PRODUCTIVITY, THE INVESTMENT PER PASSENGER MILE OFFERED IS \$.68 FOR THE JETFOIL VERSUS \$.86 FOR THE REPLACEMENT VESSEL* (PLUS 25 PERCENT).

- o ON 20-YEAR PAY BACK BASIS: JETFOIL FARE PER PASSENGER MILE OFFERED WOULD HAVE TO INCREASE \$.06 VERSUS \$.07 FOR THE REPLACEMENT VESSEL* (PLUS 17 PERCENT).

*TUSTUMENA

CAPITAL COST COMPARISON

o PRODUCTIVITY

	<u>PURCHASE PRICE</u>	<u>ANNUAL DISTANCE</u>	<u>EQUIVALENT REVENUE PASS. CAPACITY</u>	<u>\$/PASSENGER N. MILE</u>
JETFOIL	\$18.3 MILLIONS (\$55M ÷ 3)	105,600 N. MI.	256 (135 PAX + 19 TONS FREIGHT)	.68
REPLACEMENT VESSEL (TUSTUMENA)	\$47.5 MILLION (ESTIMATE)	65,000 N. MI. (1)	848 (500 PAX + 116 VEHICLES)	.86

o PAYBACK	<u>ANNUAL (2) AMORTIZATION</u>	<u>ADDITIONAL \$/PAX MILE REQUIRED 20 YEAR PAYBACK</u>
JETFOIL	\$1.6 M ÷ 105,600 N.M. ÷ 256 PASSENGERS =	.06
REPLACEMENT VESSEL (TUSTUMENA)	\$4.1 M ÷ 65,000 N.M. ÷ 848 PASSENGERS =	.07

(1) MAINLINE FERRIES AVERAGE (1978 - 1982).

(2) ASSUMES 20 YEAR PAYBACK AT 6% INTEREST (ESTIMATED LONG TERM ALASKA GOVERNMENT BOND RATE).

OPERATING COSTS

- o JETFOIL COSTS HAVE BEEN CALCULATED CONSERVATIVELY ON A STAND-ALONE OPERATION BASIS USING ALASKA MARINE HIGHWAY COSTS AND DATA.

- o CONVENTIONAL FERRY BOAT COSTS AND UTILIZATION CAME FROM FISCAL YEAR 1982 DATA ADJUSTED (PLUS 8 PERCENT) TO 1983, PROVIDED BY THE ALASKA MARINE HIGHWAY SYSTEM.

- o ANNUAL JETFOIL OPERATING COST IS \$.16 PER PASSENGER MILE OFFERED VERSUS \$.16 FOR THE AVERAGE OF ALL SOUTHEAST ALASKA FERRY BOATS.

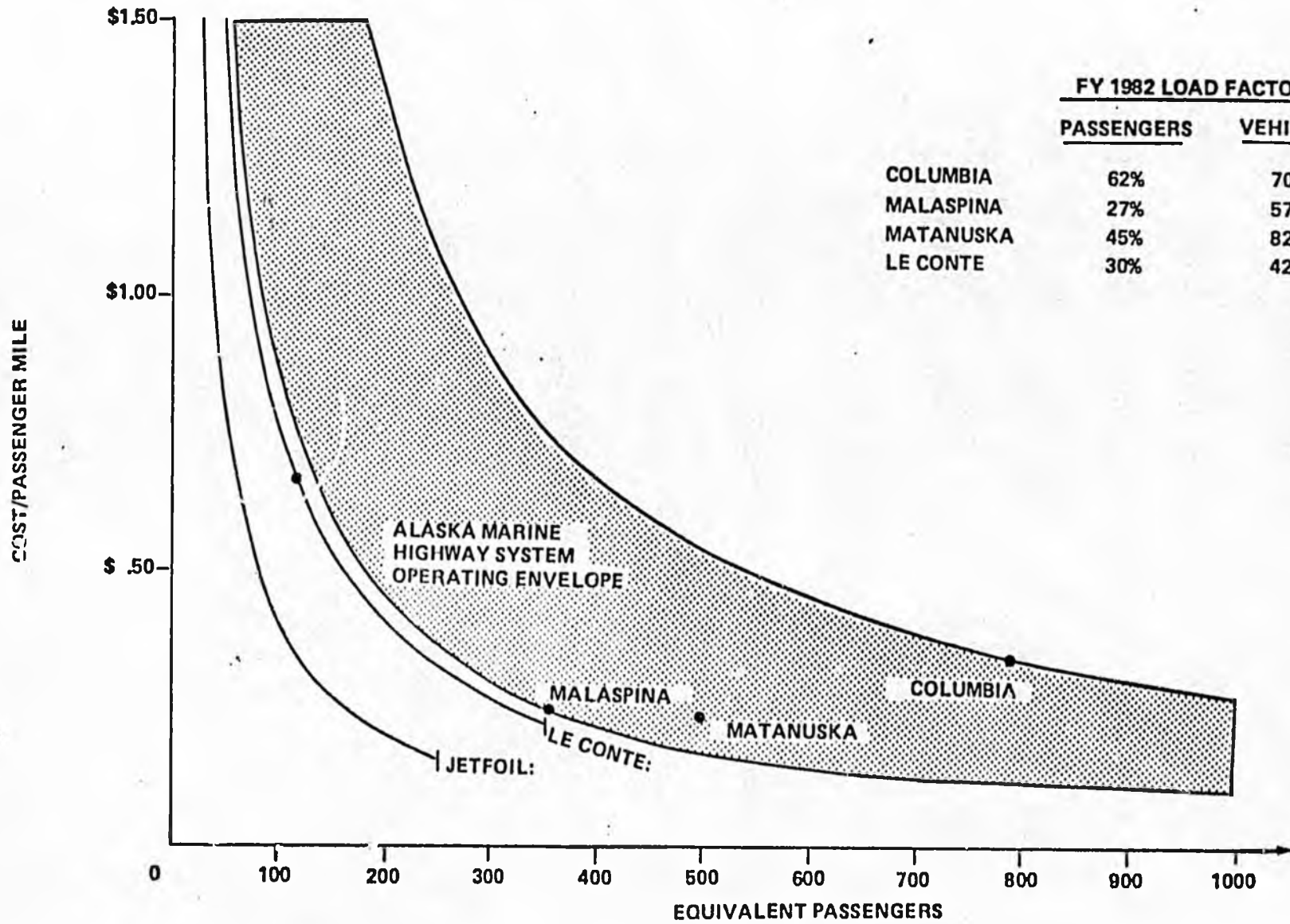
OPERATING COST COMPARISON

<u>BOAT</u>	<u>TOTAL* EQUIVALENT PAX CAPACITY</u>	<u>ANNUAL OPERATING DISTANCE</u>	<u>ESTIMATED 1983 COSTS</u>	<u>COST PER NAUTICAL MILE</u>	<u>COST PER NAUTICAL SEAT MILE</u>
MAINLINE FERRIES (4)	1,002	260,000 N.M. (AVG. 65,000 N.M.)	\$38,000,000 (AVG. \$9,500,000)	\$146	\$.15
SECONDARY FERRIES (2)	355	126,000 N.M. (AVG. 62,000 N.M.)	\$10,400,000 (AVG. \$5,200,000)	\$ 83	\$.23
FLEET AVERAGE (WEIGHTED)	786	386,000 N.M. (AVG. 64,000 N.M.)	\$48,400,000 (AVG. \$8,076,000)	\$125	\$.16
JETFOIL	256	316,800 N.M. (AVG. 105,600 N.M.)	\$12,900,000 (AVG. \$4,300,000)	\$ 41	\$.16

*EQUIVALENT PASSENGER CAPACITY HAS BEEN USED IN ORDER TO MAKE A MEANINGFUL ECONOMIC COMPARISON OF EACH VESSEL. THE EQUIVALENT PASSENGER CAPACITY REPRESENTS REVENUE FOR AN ALL PASSENGER VESSEL EQUIVALENT TO REVENUE GENERATED BY A MIXED PASSENGER VEHICLE AND FREIGHT CONFIGURATION.

**BASED ON FISCAL YEAR 1982 UTILIZATION (MAINLINE -- 33 MONTHS; SECONDARY -- 17 MONTHS). 1983 COSTS ESTIMATED USING FISCAL YEAR 1982 COSTS +8%.

Operating Cost vs Passengers



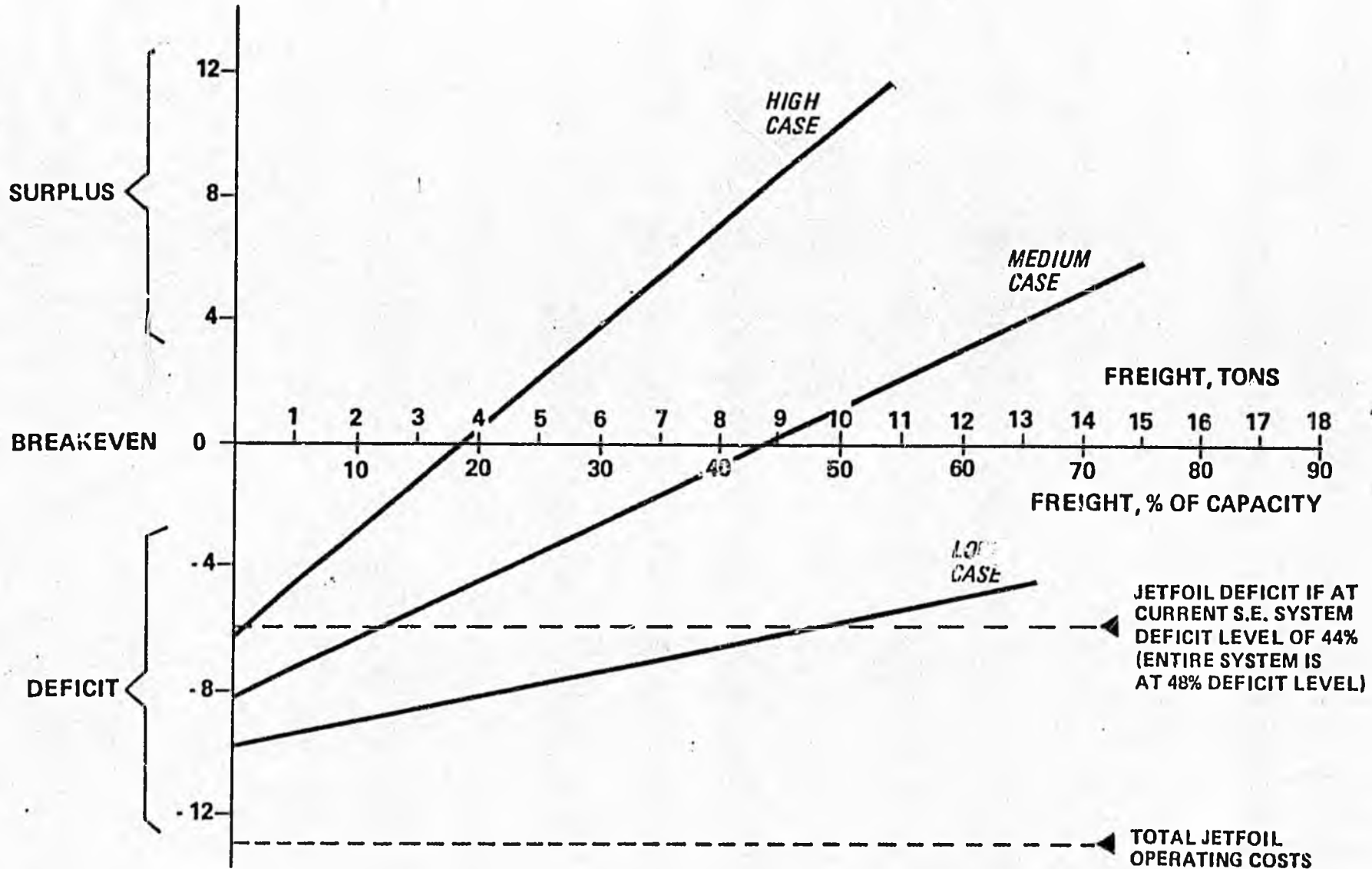
ASSUMES A PASSENGER:VEHICLE REVENUE TRADE-OFF OF 3:1

● DENOTES EXPECTED EQUIVALENT PASSENGER LOADS (BASED ON FY 1982 DATA)

Annual Cash Flow

3 JETFOILS

(1983 Dollars in Millions)



JETFOIL REVENUE SCENARIOS

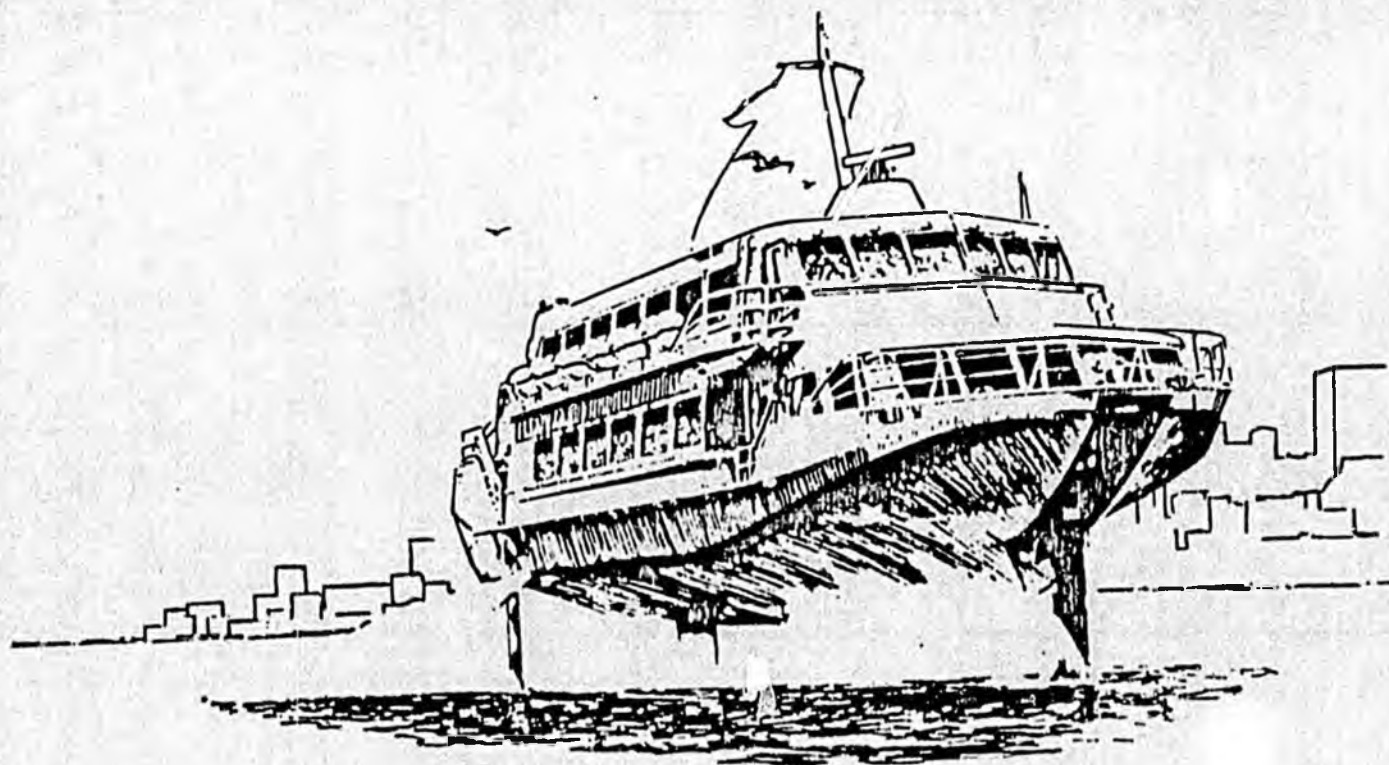
	ANNUAL CARGO REVENUE			TOTAL ANNUAL REVENUE*** (CARGO & PASSENGER)	ANNUAL PROFIT**** (LOSS)
	VEHICLE REVENUE*	FREIGHT REVENUE**	TOTAL REVENUE		
<u>LOW CASE</u>					
3 VEHICLES 1 TON OF FREIGHT	\$934,243	\$887,000	\$1,821,243	\$6,841,399	(\$6,069,001) 47% DEFICIT
<u>MEDIUM-LOW CASE</u>					
2 VEHICLES 2 TONS OF FREIGHT	\$622,829	\$1,734,000	\$2,356,909	\$7,377,065	(\$5,533,335) 43% DEFICIT
<u>MEDIUM CASE</u>					
2 VEHICLES 4 TONS OF FREIGHT	\$622,829	\$3,548,160	\$4,170,989	\$9,191,145	(\$3,719,255) 29% DEFICIT
<u>MEDIUM-HIGH CASE</u>					
2 VEHICLES 8 TONS OF FREIGHT	\$622,829	\$7,096,320	\$7,719,149	\$12,739,305	(\$171,095) 1% DEFICIT
<u>HIGH CASE</u>					
0 VEHICLES 15 TONS OF FREIGHT	0	\$13,305,600	\$13,305,600	\$18,325,756	\$5,415,356 42% GAIN

*(3 VEHICLES/JETFOIL) X (3 JETFOILS) X (105,600 N.M./YEAR) X (\$.983/VEHICLE N.M.) = \$934,243/YEAR.

** (1/2 TON/JETFOIL) X (3 JETFOILS) X (105,600 N.M./YEAR) X (\$2.80/TON MILE) = \$443,520/YEAR.

***USES MEDIUM PASSENGER REVENUE SCENARIO OF \$5,020,156 ANNUALLY.

****BASED ON AN ANNUAL OPERATING COST OF \$12,910,400 FOR 3 JETFOILS.



Proposed Southeast Alaska Ferry Service

PROPOSED SOUTHEAST ALASKA FERRY SERVICE

INTRODUCTION

IN THE PROCESS OF DEVELOPING A SCHEDULE FOR JETFOIL SERVICE IN SOUTHEAST ALASKA, CURRENT FERRY SERVICE WAS ALSO CONSIDERED AND THE IMPROVEMENTS THAT COULD BE MADE IN CONJUNCTION WITH THE IMPLEMENTATION OF JETFOIL SERVICE. IN THE PROPOSED SERVICE DESCRIBED HEREIN, THE EMPHASIS AND ANALYSIS HAS BEEN PRIMARILY PLACED ON THE SUMMER SERVICE SINCE THAT IS WHEN THERE IS THE HEAVIEST DEMAND FOR PASSENGER, VEHICLES, AND FREIGHT TRAFFIC.

JETFOIL SERVICE

THE JETFOIL SERVICE PROPOSED HERE SERVES SEVENTEEN COMMUNITIES OF SOUTHEAST ALASKA WITH THREE BOATS. ALL THREE JETFOILS ARE HOME PORTED IN JUNEAU. SERVICE IS PROVIDED DAILY DURING NORMAL HOURS (7:30 A.M. TO 11:00 P.M.). TWO JETFOILS SERVE THE NORTHERN PANHANDLE AND WILL OPERATE EVERY DAY OUT OF JUNEAU, WHILE THE THIRD JETFOIL SERVES MAINLY THE SOUTHERN PANHANDLE AND WILL OVERNIGHT IN KETCHIKAN FOUR NIGHTS PER WEEK AND THREE NIGHTS IN JUNEAU PER WEEK.

THE WEEKLY JETFOIL SCHEDULES THAT HAVE BEEN DEVELOPED FOR THIS STUDY ARE DESIGNED FOR: INCREASING FREQUENCY OF SERVICE, MORNING AND EVENING SERVICE, INITIATE SERVICE TO NEW MARKETS, CONVENIENCE OF SERVICE, AND PROVIDING SATISFACTORY PASSENGER AND VEHICLE CAPACITY TO THE COMMUNITIES OF SOUTHEAST ALASKA.

JETFOIL TRIP TIMES ARE BASED ON ACTUAL EXPERIENCE OF THE JETFOIL DURING THE 1982/83 ALASKA DEMONSTRATIONS. TURN-AROUND TIMES ARE ALSO BASED ON JETFOIL EXPERIENCE ALTHOUGH THE PROCEDURES FOR HANDLING FREIGHT HAVE NOT BEEN DEMONSTRATED. THE PROJECTED TURN-AROUND TIMES ARE BELIEVED TO BE ADEQUATE, BUT IF IT WERE NECESSARY TO EXTEND THESE TIMES, NO SIGNIFICANT IMPACT WOULD OCCUR TO THE DAILY SCHEDULES. ALL TRIP TIMES AND DISTANCES FOR THE JETFOIL ASSUME THE JUNEAU TERMINAL IS DOWNTOWN SO ALL TRIPS NORTH INCLUDE THE TRAVERSE AROUND DOUGLAS ISLAND.

THE DAILY JETFOIL SCHEDULES HAVE BEEN STRUCTURED SO THAT A REPETITIVE TYPE OF SERVICE OCCURS DURING THE WEEK AS WELL AS FROM WEEK TO WEEK. FOR INSTANCE, THREE DAYS OF THE WEEK (MONDAY, WEDNESDAY AND FRIDAY), TWO JETFOILS PROVIDE SERVICE TO HOONAH, TENAKEE, ANGOON, AND SITKA. ONE JETFOIL SERVES HOONAH FIRST IN THE MORNING AND THE OTHER COMMUNITIES IN SEQUENCE WHILE THE SECOND JETFOIL SERVES SITKA FIRST AND THE OTHER COMMUNITIES IN SEQUENCE, PAGE 44 . THIS TYPE OF SERVICE ALLOWS PASSENGERS TO GET MORNING AND EVENING SERVICE FROM THESE COMMUNITIES OR MAKE DAY TRIPS TO THESE COMMUNITIES (5-1/2 HOURS AT SITKA; 7-1/2 HOURS AT HOONAH; 3-1/2 HOURS AT TENAKEE; 1-1/2 HOURS AT ANGOON). ANOTHER MORNING AND EVENING SERVICE IS PROVIDED TO HAINES, SKAGWAY AND GLACIER BAY ON TUESDAYS AND SUNDAYS EACH WEEK WHEN ONE JETFOIL GOES FIRST TO HAINES AND SKAGWAY AND THEN RUNS TO GLACIER BAY VIA JUNEAU. THE SECOND JETFOIL SERVES GLACIER BAY FIRST IN THE MORNING AND THEN TO HAINES AND SKAGWAY VIA JUNEAU. THIS ALLOWS 8-1/2 HOURS AT HAINES; 6-1/2 HOURS AT SKAGWAY; AND 9 HOURS AT GLACIER BAY. ONCE A WEEK SERVICE IS PROVIDED TO EXCURSION INLET, ELFIN COVE, AND PELICAN. THIS SERVICE ALSO ALLOWS A LAYOVER OF 7 HOURS AT EXCURSION INLET, AND 5 HOURS AT HOONAH. ON THURSDAYS AND SATURDAYS, ONE JETFOIL PROVIDES SERVICE TO WRANGELL VIA KAKE AND PETERSBURG AND RETURNS. THIS ALLOWS A PASSENGER TO LAYOVER IN KAKE FOR 9 HOURS AND PETERSBURG FOR 4-1/2 HOURS.

SERVICE TO THE SOUTHERN PANHANDLE BY THE THIRD JETFOIL IS PROVIDED DURING TWO CYCLES OF THREE DAYS EACH. ON MONDAY, THE JETFOIL MAKES THE RUN FROM JUNEAU TO KETCHIKAN VIA PETERSBURG, WRANGELL, AND HOLLIS. THAT EVENING, THE JETFOIL ALSO PROVIDES ROUND TRIP SERVICE TO METLAKATLA. ON THE SECOND DAY OF THE CYCLE, THE JETFOIL PROVIDES MORNING AND EVENING SERVICE TO METLAKATLA (ALLOWS A LAYOVER OF 11-1/2 HOURS IN METLAKATLA OR 9-1/2 HOURS IN KETCHIKAN), AND THEN MAKES A RUN TO HOLLIS AND WRANGELL WHICH ALLOWS A PASSENGER TO LAYOVER 6-1/4 HOURS IN HOLLIS. ON THE THIRD DAY, (WEDNESDAY), OF THE CYCLE, THE JETFOIL MAKES A MORNING ROUND TRIP TO METLAKATLA AND THEN RETURNS TO KETCHIKAN FOR THE RUN TO JUNEAU VIA HOLLIS, WRANGELL, AND PETERSBURG. THIS SAME CYCLE IS REPEATED ON FRIDAY, SATURDAY AND SUNDAY.

THIS SERVICE WITH THREE JETFOILS IS PLANNED FOR THE PEAK SUMMER SIX MONTHS (APRIL THROUGH SEPTEMBER). THE WINTER SERVICE (OCTOBER THROUGH MARCH), IS SIMILAR BUT WITH ONLY TWO JETFOILS IN SERVICE. DETAILS OF THESE SCHEDULES FOLLOW STARTING ON PAGE 39 .

FERRYBOAT SERVICE

FERRYBOAT SERVICE IN SOUTHEAST ALASKA AS PROPOSED HERE IS ESSENTIALLY THE SAME AS CURRENTLY OPERATED WITH THE EXCEPTION THAT MORE FERRYBOAT SERVICE IS SHIFTED TO THE LARGER COMMUNITIES WHERE THERE IS GREATER DEMAND FOR VEHICLE CAPACITY. THE REDUCTION IN CAPACITY IN THE SMALLER COMMUNITIES LIKE HOONAH, ANGOON, PELICAN, TENAKEE, AND METLAKATLA IS OFFSET BY THE IMPROVED JETFOIL SERVICE.

IN THE PROPOSED SERVICE, THE MAINLINE FERRIES (MATANUSKA, MALASPINA AND TAKU), WHICH CURRENTLY PROVIDE SERVICE FROM PRINCE RUPERT TO SKAGWAY INCLUDING THE INTERMEDIATE COMMUNITIES, WILL CONTINUE TO PROVIDE SUCH SERVICE BUT WITH INCREASED FREQUENCY. THIS CAN BE DONE BY NOT ROUTING THESE THREE MAINLINE FERRIES THROUGH SITKA. EACH TIME THE MAINLINE FERRY IS SCHEDULED THROUGH SITKA, THE TRANSIT TIME FROM PRINCE RUPERT TO SKAGWAY IS INCREASED BY 17-1/2 HOURS. BY ELIMINATING THE FOUR MONTHLY SITKA RUNS EACH MONTH, A SAVINGS OF SEVENTY HOURS OF UNDERWAY TIME PER MONTH IS MADE. THIS IS SUFFICIENT TIME FOR ONE ADDITIONAL ROUND TRIP FROM PRINCE RUPERT TO SKAGWAY AND RETURN WITHOUT ANY CHANGE IN TURN-AROUND TIMES AT EACH TERMINAL OR CHANGES IN OPERATING SPEED AND RESULTING TRANSIT TIMES. THIS IS SHOWN ON PAGE 48A AND A SUGGESTED SCHEDULE FOR ONE FERRYBOAT IS ON PAGE 49 . PROVIDING A SIMILAR SCHEDULE FOR THE OTHER TWO MAINLINE FERRIES RESULTS IN A DAILY DEPARTURE OUT OF PRINCE RUPERT AND ALSO IN IMPROVED SERVICE TO KETCHIKAN, WRANGELL, PETERSBURG, JUNEAU, HAINES, AND SKAGWAY. FREQUENCY OF SERVICE ON THE MAINLINE, WITH THE INCLUSION OF THE COLUMBIA SERVICE FROM SEATTLE AND THE JETFOIL SERVICE, INCREASES FREQUENCY OF TRIPS BY +37% OVER THE CURRENT SERVICE AND VEHICLE CAPACITY ON THE MAINLINE INCREASES BY +17%. THE INCREASE IN CAPACITY REFLECTS NOT ONLY THE INCREASED FREQUENCY OF THE MALASPINA, MATANUSKA, AND TAKU, BUT ADDITIONAL SPACE AVAILABLE ON EACH FERRY FOR MAINLINE TRAFFIC, PAGE 34 .

THE ADDITIONAL SPACE IS DUE TO NO SITKA TRAFFIC. ANALYSIS OF 1982 FERRY VEHICLE TRAFFIC THROUGH SITKA SHOWS THAT 61% OF VEHICLE TRAFFIC ABOARD THE MAINLINE FERRIES ORIGINATES AND TERMINATES AT PORTS OTHER THAN SITKA AND 39% OF THE TRAFFIC IS SITKA TRAFFIC. THEREFORE, IF THE THREE FERRIES ARE REMOVED FROM SITKA SERVICE, 39% OF ADDITIONAL SPACE IS AVAILABLE FOR MAINLINE VEHICLES.

AT SITKA, ALTHOUGH THREE MAINLINE FERRIES DO NOT PROVIDE SERVICE, THE COLUMBIA DOES STILL PROVIDE SERVICE AND IN ADDITION, THE LE CONTE INCREASES FREQUENCY OF JUNEAU AND SITKA TRIPS. THESE CHANGES IN FERRYBOAT SERVICE AND INCLUDING THE JETFOIL SERVICE, RESULTS IN MORE THAN DOUBLING (+133%) FREQUENCY OF SITKA TRIPS AND INCREASING VEHICLE CAPACITY BY +21% IN A SUMMER MONTH.

IT IS PROPOSED THAT THE LE CONTE FERRY WILL INCREASE THE NUMBER OF TRIPS TO SITKA BY REDUCING THE FREQUENCY OF STOPS AT HOONAH, TENAKEE AND ANGOON. THIS ALLOWS THE LE CONTE TO MAKE A TRIP FROM JUNEAU TO SITKA IN TEN HOURS INSTEAD OF FIFTEEN HOURS. THE REDUCTION IN FERRYBOAT SERVICE TO HOONAH, TENAKEE AND ANGOON IS OFFSET BY THE JETFOIL WHICH PROVIDES A SUBSTANTIAL (+250%) INCREASE IN TRIPS TO HOONAH. THE RESULTING CHANGE IN VEHICLE CAPACITY ON THE FERRIES IS APPROXIMATELY 5% LESS THAN CURRENT CAPACITY; HOWEVER, WITH CURRENT LOADS ONLY APPROXIMATELY 46% OF THE SPACE IS OCCUPIED ON A TYPICAL TRIP.

IN THE SOUTHERN PANHANDLE, THE CURRENT SERVICE TO MATLAKATLA IS PROVIDED MORNING AND EVENING, FOUR DAYS PER WEEK BY THE CHILKAT FERRY. THE AURORA FERRY PROVIDES ONE ROUND TRIP FROM HOLLIS TO KETCHIKAN AND RETURN, FOUR DAYS PER WEEK, AND IN ADDITION, IT MAKES ONE ROUND TRIP FROM PRINCE RUPERT TO JUNEAU AND RETURN WITH STOPS AT KETCHIKAN, HOLLIS, WRANGELL, AND PETERSBURG. WITH THE ADDITION OF JETFOIL SERVICE TO BOTH MATLAKATLA AND HOLLIS, IT IS BELIEVED THAT THE CHILKAT FERRY IS NO LONGER NEEDED. THE AURORA FERRY, WHICH IS UNDERWAY ONLY FIVE HOURS PER DAY FOR FOUR DAYS OF THE WEEK CAN PROVIDE SATISFACTORY SERVICE, IN CONJUNCTION WITH THE JETFOIL, TO BOTH MATLAKATLA AND HOLLIS, AS WELL AS MAINTAINING ITS WEEKLY RUN FROM PRINCE RUPERT TO JUNEAU. THE SCHEDULE IS SHOWN ON PAGE 51

THE RESULTS OF THE PROPOSED SERVICE ARE THAT METLAKATLA TRIP FREQUENCY INCREASES BY 49% AND MORNING AND EVENING SERVICE IS PROVIDED THREE DAYS PER WEEK. VEHICLE CAPACITY IS INCREASED 22% WITH RESULTING AVERAGE VEHICLE LOAD OF 18%. HOLLIS TRIP FREQUENCY IS INCREASED 66% AND VEHICLE CAPACITY IS INCREASED 24% WITH RESULTING AVERAGE VEHICLE LOAD OF 45%.

SUMMARY OF
PROPOSED SOUTHEAST ALASKA FERRY SERVICE
(JULY)

JETFOIL SERVICE

- 2 JETFOILS - SERVE NORTHERN PANHANDLE (BASED IN JUNEAU AND SERVICE TO SKAGWAY, HAINES, HOONAH, SITKA, TENAKEE, ANGOON, EXCURSION INLET, ELFIN COVE, PELICAN, KAKE, PETERSBURG, AND WRANGELL).
- 1 JETFOIL - SERVICE MAINLINE AND SOUTHERN PANHANDLE (PETERSBURG, WRANGELL, HOLLIS, KETCHIKAN, METLAKATLA, HAINES, AND SKAGWAY).

FERRYBOAT SERVICE

- COLUMBIA - SEATTLE TO SKAGWAY SERVICE INCLUDING SITKA (SAME AS CURRENT).
- TAKU - PRINCE RUPERT TO SKAGWAY (INCREASED FREQUENCY AND EXCLUDES SITKA).
- MALASPINA - PRINCE RUPERT TO SKAGWAY (INCREASED FREQUENCY AND EXCLUDES SITKA).
- MATANUSKA - PRINCE RUPERT TO SKAGWAY (INCREASED FREQUENCY AND EXCLUDES SITKA).
- LE CONTE - JUNEAU TO SITKA (INCREASED SITKA SERVICE AND REDUCE HOONAH, TENAKEE, ANGOON AND KAKE SERVICE).
- AURORA - KETCHIKAN TO HOLLIS, METLAKATLA, PRINCE RUPERT AND JUNEAU SERVICE (INCREASED FREQUENCY AND ADDS METLAKATLA SERVICE).
- CHILKAT - NO SERVICE.

IMPACT OF PROPOSED SERVICE
(JULY)

	PASSENGER SERVICE (FERRY TRIPS AVAILABLE PER MONTH)	VEHICLES	
		CAPACITY	JULY LOAD FACTOR
<u>PRESENT COMMUNITIES</u>			
MAINLINE SERVICE (JUNEAU - KETCHIKAN)	+37%	+17%	63%
SITKA SERVICE	+133%	+21%	57%
HOONAH SERVICE (INCLUDING ANGOON & TENAKEE)	+250%	-5%	46%
HOLLIS SERVICE	+66%	+3%	54%
METLAKATLA SERVICE	+49%	+22%	18%
SKAGWAY SERVICE	+95%	+9%	42%
 <u>NEW SERVICES</u>			
EXCURSION INLET	NEW FERRY SERVICE (WEEKLY)		
ELFIN COVE			
GLACIER BAY			
PELICAN	WEEKLY SERVICE (FROM MONTHLY)		
HOONAH	MORNING AND EVENING SERVICE FROM JUNEAU (3 PER WEEK)		
TENAKEE			
ANGOON			
SITKA			
RAINES			
SKAGWAY			
GLACIER BAY			

*ASSUMES NO TRANSFER OF FREIGHT FROM VEHICLES TO CONTAINERS.

NOTE: INCLUDING JETFOIL SERVICE.

MAINLINE FERRY SERVICE
(KTN - WGL - PSG - JNU - HNS - SGY)

	<u>CURRENT SUMMER SERVICE</u>		<u>PROPOSED SUMMER SERVICE</u>	
<u>FERRY</u>		<u>TRIPS / MONTH**</u>		<u>TRIPS / MONTH**</u>
COLUMBIA (SEA - SGY)		4	(SEA - SGY)	4
(VIA SITKA)		4	(VIA SITKA)	4
TAKU (YPR - SGY)		14	(YPR - SGY)	20
(VIA SITKA)		5		
MALASPINA (YPR - SGY)		15	(YPR - SGY)	20
(VIA SITKA)		4		
MATANUSKA (YPR - SGY)		13	(YPR - SGY)	20
(VIA SITKA)		5		
JETFOIL		0	(KTN - SGY)	18
		<u>63</u>		<u>86</u> (+37%)
		<u>VEHICLE CAPACITY / MONTH</u>		<u>VEHICLE CAPACITY / MONTH</u>
COLUMBIA (140)		560		560
		342*		342*
TAKU (80)		1,120		1,600
		244*		
MALASPINA (92)		1,380		1,840
		224*		
MATANUSKA (92)		1,196		1,840
		281*		
JETFOIL (3)		0		54
		<u>5,347</u>		<u>6,236</u> (+17%)
NOMINAL JULY VEHICLE LOAD FACTOR (KTN-HNS)		74%		63%

* 61% OF CAPACITY, REMAINDER OF CAPACITY ALLOCATED TO SITKA TRAFFIC
** ROUNDED TO NEAREST WHOLE TRIP

SKAGWAY FERRY SERVICE

CURRENT SUMMER SERVICE

PROPOSED SUMMER SERVICE

<u>FERRY</u>	<u>TRIPS / MONTH</u>	<u>TRIPS / MONTH</u>
COLUMBIA (SEA-SGY)	8	8
TAKU (YPR-SGY)	19	20
MALASPINA (YPR-SGY)	19	20
MATANUSKA (YPR-SGY)	18	20
JETFOIL (JNU-SGY)	0	53
	<u>64</u>	<u>121 (+95%)</u>
COLUMBIA (140)	1,120	1,120
TAKU (80)	1,520	1,600
MALASPINA (92)	1,748	1,840
MATANUSKA (92)	1,656	1,840
JETFOIL (3)	0	159
	<u>6,044</u>	<u>6,559 (+9%)</u>
AVG. JULY VEHICLE LOAD FACTOR	46%	42%

SITKA FERRY SERVICE

CURRENT
SUMMER
SERVICE

PROPOSED
SUMMER
SERVICE

<u>FERRY</u>	<u>TRIPS / MONTH***</u>		<u>TRIPS / MONTH***</u>
COLUMBIA (SEA-SGY)	4	(SEA-SGY)	4
TAKU (YPR-SGY)	5	(YPR-HNS)	0
MALASPINA (YPR-SGY)	4	(YPR-HNS)	0
MATANUSKA (YPR-SGY)	5	(HPR-HNS)	0
LE CONTE (SIT-JNU)	0	(SIT-JNU)	27
LE CONTE (SIT-JNU INCL. HNH)	<u>27</u>	(SIT-JNU INCL. H.T.A.)	12
JETFOIL (SIT-JNU)	0	(SIT-JNU)	<u>62</u> →
	<u>45</u>		105 (+133%)

VEHICLE CAPACITY / MONTH

VEHICLE CAPACITY / MONTH

COLUMBIA (140)	218 *	218 *
TAKU (80)	156 *	0
MALASPINA (92)	144 *	0
MATANUSKA (92)	179 *	0
LE CONTE (35)	0	945
	425 **	189 **
	<u>1,122</u>	<u>1,352</u> (+21%)

AVERAGE JULY VEHICLE LOAD FACTOR 69%

57%

*39% OF CAPACITY, REMAINDER OF CAPACITY ALLOCATED TO OTHER ROUTES.

**45% OF CAPACITY, REMAINDER OF CAPACITY ALLOCATED TO HNH & ANG.

***ROUNDED TO NEAREST WHOLE TRIP.

****PROPOSED SERVICE REDUCES SOUTHBOUND SERVICE TO ONLY COLUMBIA, HOWEVER COLUMBIA CAPACITY IS ADEQUATE FOR CURRENT TRAFFIC.

HOONAH FERRY SERVICE

	<u>CURRENT SUMMER SERVICE</u>		<u>PROPOSED SUMMER SERVICE</u>	
<u>FERRY</u>	<u>TRIPS / MONTH**</u>		<u>TRIPS / MONTH**</u>	
	<u>HNH-JNU</u>	<u>HNH-SIT</u>	<u>HNH-JNU</u>	<u>HNH-SIT</u>
LE CONTE	26	22	73	13
JETFOIL	<u>0</u>	<u>0</u>	<u>71</u>	<u>62</u>
	26	22	89	80
			(+240%)	(+263%)
	<u>VEHICLE CAPACITY / MONTH</u>		<u>VEHICLE CAPACITY / MONTH</u>	
LE CONTE (35)	501*	424*	250 *	250 *
JETFOIL (3)	<u>0</u>	<u>0</u>	<u>213</u>	<u>186</u>
	501	424	463	436
			(-8%)	(+3%)
AVG. JULY VEHICLE LOAD FACTOR	46%	43%	50%	42%

*55% OF CAPACITY, REMAINDER OF CAPACITY
ALLOCATED TO SITKA THROUGH TRAFFIC
**ROUNDED TO NEAREST WHOLE TRIP

7

HOLLIS / METLAKATLA FERRY SERVICE

CURRENT
SUMMER
SERVICE

PROPOSED
SUMMER
SERVICE

<u>FERRY</u>	<u>TRIPS / MONTH**</u>	
	<u>METLAKATLA</u>	<u>HOLLIS</u>
AURORA	0	35
CHILKAT	71	0
JETFOIL	<u>0</u>	<u>0</u>
	71	53

<u>TRIPS / MONTH**</u>	
<u>METLAKATLA</u>	<u>HOLLIS</u>
27	35
8	18
0	0
<u>71</u>	<u>35</u>
106	88

(+49%) (+66%)

	<u>VEHICLE CAPACITY / MONTH</u>	
	<u>METLAKATLA</u>	<u>HOLLIS</u>
AURORA (35)	0	1,225
CHILKAT (15)	1,065	0
JETFOIL (3)	<u>0</u>	<u>0</u>
	1,065	1,540

<u>VEHICLE CAPACITY / MONTH</u>	
<u>METLAKATLA</u>	<u>HOLLIS</u>
945	1,225
140*	315*
0	0
<u>213</u>	<u>53*</u>
1,298	1,593

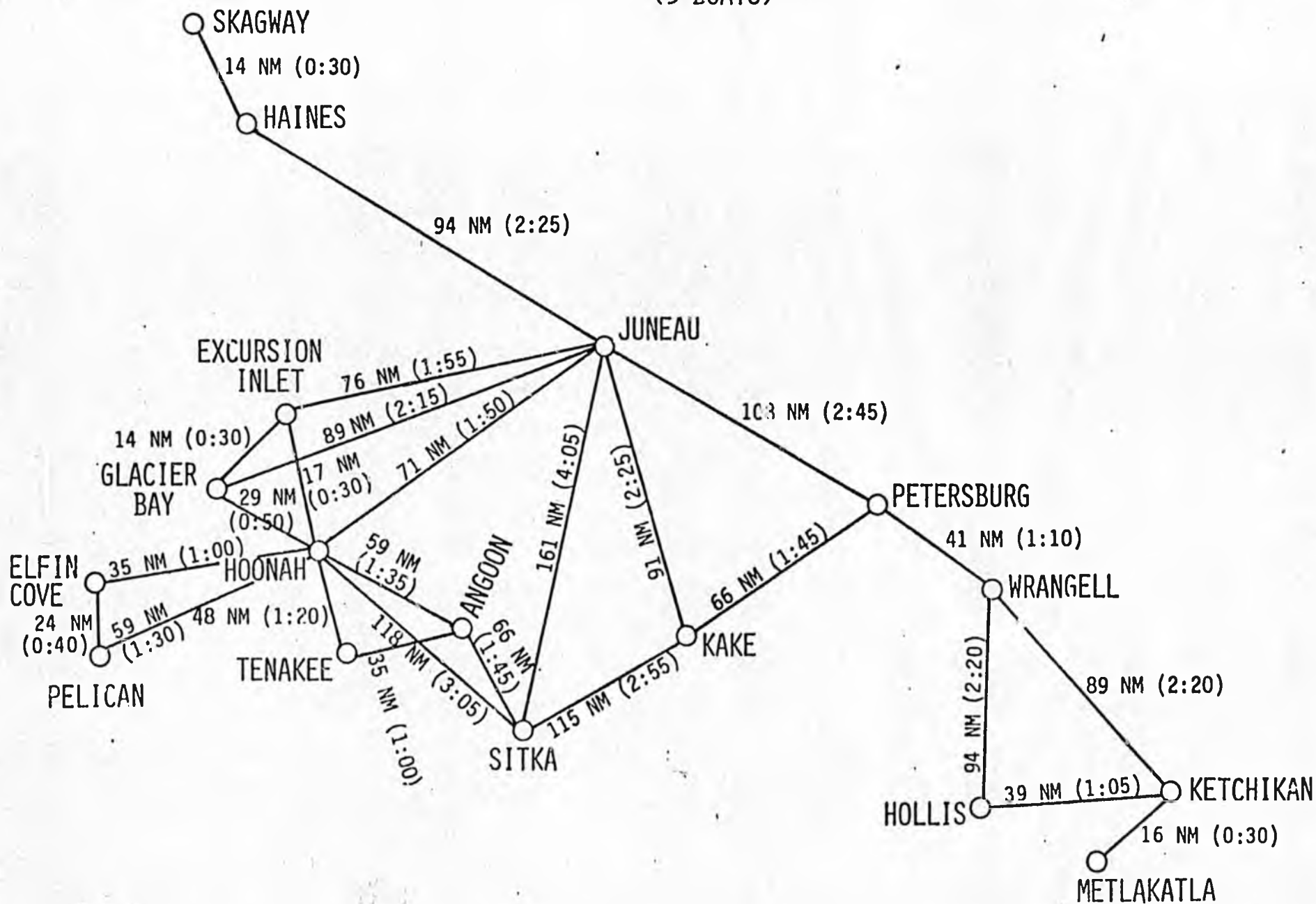
(+22%) (+3%)

AVG JULY VEHICLE LOAD FACTOR 22% 56%

18% Est. 54% Est.

*@ 50% OF CAPACITY
REMAINDER CAPACITY USED FOR OTHER MARKETS
**ROUNDED TO NEAREST WHOLE TRIP

JETFOIL SERVICE
SOUTHEAST ALASKA
(3 BOATS)



JETFOIL SUMMER SCHEDULE

	<u>BOAT #1</u>	<u>BOAT #2</u>	<u>BOAT #3</u>
MONDAY	HNH/SIT	SIT/HNH	JNU/KTN
TUESDAY	SGY/GLB	GLB/SGY	MET/WGL
WEDNESDAY	HNH/SIT	SIT/HNH	KTN/JNU
THURSDAY	HNH/PEL	KAK/WGL	2 SGY
FRIDAY	HNH/SIT	SIT/HNH	JNU/KTN
SATURDAY	SIT/HNH	KAK/WGL	MET/WGL
SUNDAY	SGY/GLB	GLB/SGY	KTN/JNU

JETFOIL WINTER SCHEDULE

	<u>BOAT #1</u>	<u>BOAT #2</u>
MONDAY	HNI/SIT	JNU/KTN
TUESDAY	SGY/HNH	KTN/JNU
WEDNESDAY	SIT/HNH	KAK/WGL
THURSDAY	SGY/HNH	JNU/KTN
FRIDAY	HNH/SIT	HET/HOL
SATURDAY	HNH/PEL (OR KAK/WGL)	KTN/JNU
SUNDAY	SIT/HNH	OFF

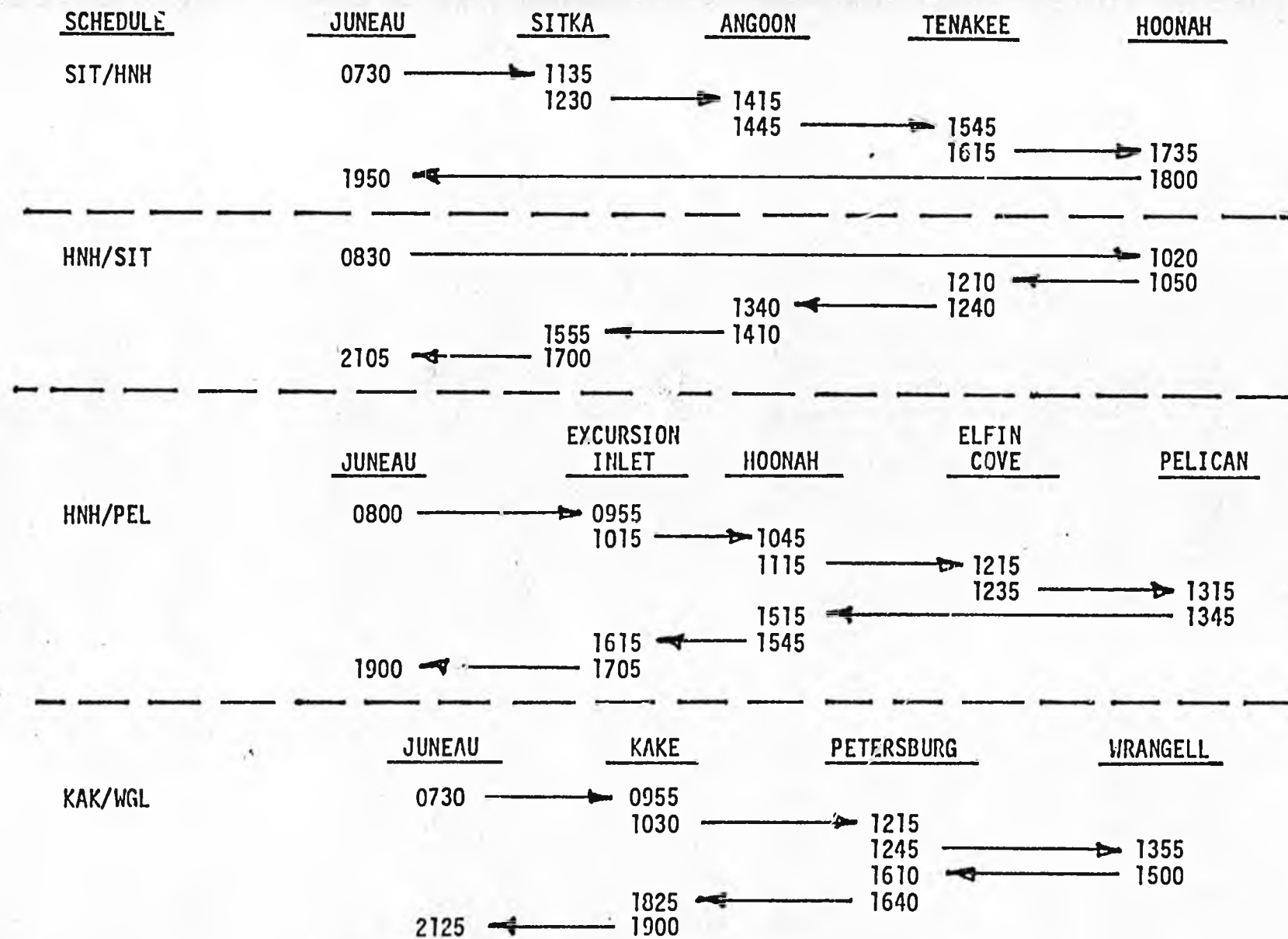
TYPES OF DAILY JETFOIL SERVICE

ROUTE	<u>HNH/SIT</u>	<u>SIT/HNH</u>	<u>2 SGY</u>	<u>KAK/WGL</u>	<u>JNU/KTN</u>	<u>KTN/JNU</u>
MORNING DEPARTURE	JUNEAU	JUNEAU	JUNEAU	JUNEAU	JUNEAU	KETCHIKAN
SERVICE TO	HOONAH	SITKA	HAINES	KAKE	PETERSBURG	NETLAKATLA
	TENAKEE	ANGOON	SKAGWAY	PETERSBURG	WRANGELL	KETCHIKAN
	ANGOON	TENAKEE	HAINES	WRANGELL	HOLLIS	HOLLIS
	SITKA	HOONAH	JUNEAU	PETERSBURG	KETCHIKAN	WRANGELL
			HAINES	KAKE	NETLAKATLA	PETERSBURG
			SKAGWAY			
			HAINES			
EVENING RETURN	JUNEAU	JUNEAU	JUNEAU	JUNEAU	KETCHIKAN	JUNEAU

TYPES OF DAILY JETFOIL SERVICE

ROUTE	<u>MET/WGL</u>	<u>GLB/SGY</u>	<u>SGY/GLB</u>	<u>SGY/HNH</u>	<u>HNH/PEL</u>	<u>MET/HOL</u>
MORNING DEPARTURE	KETCHIKAN	JUNEAU	JUNEAU	JUNEAU	JUNEAU	KETCHIKAN
SERVICE TO	METLAKATLA	GLACIER BAY	HAINES	HAINES	EXCURSION INLET	METLAKATLA
	KETCHIKAN	JUNEAU	SKAGWAY	SKAGWAY	HOONAH	KETCHIKAN
	HOLLIS	HAINES	HAINES	HAINES	ELFIN COVE	HOLLIS
	WRANGELL	SKAGWAY	JUNEAU	JUNEAU	PELICAN	KETCHIKAN
	HOLLIS	HAINES	GLACIER BAY	HOONAH	HOONAH	METLAKATLA
	KETCHIKAN				EXCURSION INLET	KETCHIKAN
	METLAKATLA					HOLLIS
EVENING RETURN	KETCHIKAN	JUNEAU	JUNEAU	JUNEAU	JUNEAU	KETCHIKAN

JETFOIL SCHEDULES



JETFOIL SCHEDULES

<u>SCHEDULE</u>	<u>JUNEAU</u>	<u>HAINES</u>	<u>SKAGWAY</u>	<u>GLACIER BAY</u>
SGY/GLB	0800	→ 1025		
		1100	→ 1130	
		1230	← 1200	
	1525	← 1300		
	1630	→ 1845		
2130	← 1915			

GLB/SGY	0800	→ 1015		
	1300	← 1045		
	1400	→ 1625		
		1700	→ 1730	
		1830	← 1800	
2125	← 1900			

SGY/HNH	<u>JUNEAU</u>	<u>HAINES</u>	<u>SKAGWAY</u>	<u>HOONAH</u>
	0800	→ 1025		
		1100	→ 1130	
		1230	← 1200	
	1525	← 1300		
1600	→ 1750			
1940	← 1820			

2 SGY	<u>JUNEAU</u>	<u>HAINES</u>	<u>SKAGWAY</u>	
	0730	→ 0955		
		1030	→ 1100	
		1200	← 1130	
	1455	← 1230		
1530	→ 1755			
	1830	→ 1900		
	2000	← 1930		
2255	← 2030			

JETFOIL SCHEDULES

<u>SCHEDULE</u>	<u>JUNEAU</u>	<u>PETERSBURG</u>	<u>VRANGELL</u>	<u>HOLLIS</u>	<u>KETCHIKAN</u>	<u>METLAKATLA</u>
JNU/KTN	0800	1045 1115	1225 1300	1520 1550	1655 1730 1900	1800 1830
KTN/JNU	1355	1540 1610	1355 1430	1105 1135	0800 0930 1000	0830 0900
MET/WGL			1355 1430	1105 1135 1650 1720	0800 0930 1000 1825 1900 2030	0830 0900 1930 2000
MET/HOL				1105 1135 1905 1930	0800 0930 1000 1240 1600 1730 1800 2005	0830 0900 1630 1700

SUMMER JETFOIL SERVICE

	<u>DEPARTURES PER WEEK</u>	<u>SERVICE DAYS PER WEEK</u>	<u>MORNING AND EVENING SERVICE</u>	<u>LAYOVER TIME</u>
JUNEAU	22 (BASE)	7	7/WEEK	OVERNIGHT
HAINES	12	3	3	2.5 - 10.5 HOURS
SKAGWAY	6	3	3	6.5 - 8.5 HOURS
HOONAH	9	5	4	7.5 HOURS
TENAKEE	7	4	3	3.5 HOURS
ANGOON	7	4	3	1.5 HOURS
EXCURSION INLET	2	1	1	7.0 HOURS
ELFIN COVE	1	1	0	--
PELICAN	1	1	0	--
GLACIER BAY	4	2	2	9.0 HOURS
SITKA	7	4	3	5.5 HOURS
KAKE	4	2	2	8.5 HOURS
PETERSBURG	8	5	2	4.0 HOURS
WRANGELL	8	7	0	--
HOLLIS	8	6	2	6.25 - 8.25 HOURS
METLAKATLA	8	6	2	8.5 - 11.5 HOURS
KETCHIKAN	8	6	2	6.5 - OVERNIGHT

JETFOIL SERVICE FREQUENCY
(3 JETFOILS)

<u>COMMUNITY</u>	<u>DEPARTURES PER WEEK (SUMMER)</u>	<u>DEPARTURES PER WEEK (WINTER)</u>
JUNEAU	22 (BASE)	12 (BASE)
HAINES	12	4
SKAGWAY	6	2
HOONAH	9	7
TENAKEE	7	4
ANGOON	7	4
EXCURSION INLET	2	1/2* (AVERAGE)
ELFIN COVE	1	1/2* (AVERAGE)
PELICAN	1	1/2* (AVERAGE)
GLACIER BAY	4	1/2* (AVERAGE)
SITKA	7	4
KAKE	4	3* (AVERAGE)
PETERSBURG	8	7* (AVERAGE)
WRANGELL	8	5-1/2* (AVERAGE)
HOLLIS	8	6
METLAKATLA	8	4
KETCHIKAN	8	6

(17 COMMUNITIES)

*DEPARTURES ON ALTERNATE WEEKS

MAINLINE FERRY SERVICE

TRANSIT TIME

- o PRINCE RUPERT TO SKAGWAY, WITHOUT SITKA
(INCLUDES KETCHIKAN, WRANGELL, PETERSBURG, JUNEAU AND HAINES)
TIME: 32:45
- o PRINCE RUPERT TO SKAGWAY WITH SITKA, ETC.
TIME: 49:15
- o NET TIME SAVINGS EXCLUDING SITKA
17:30

TIME SAVINGS PER MONTH

MAINLINE FERRY AVERAGES 4 SITKA TRIPS PER MONTH

$$4 \times 17.5 = 70 \text{ HOURS}$$

EXTRA ROUND TRIP REQUIREMENTS

TURN-AROUND TIME (YPR)	3.5 HOURS
YPR - SGY	32.75
TURN-AROUND TIME (SGY)	1.5
SGY - YPR	<u>32.75</u>

70.00 HOURS

PROPOSED
MALASPINA, MATANUSKA, TAKU SCHEDULE
(YPR, KTN, WGL, PSG, JNU, HNS, SGY SERVICE ONLY)
(WEEKLY, SUMMER)

<u>PRINCE RUPERT (DAY/TIME)</u>	<u>SKAGWAY (DAY/TIME)</u>
1/0930	2/1815
4/0430	2/1945
4/0930	5/1815
7/0430	5/1945
7/0930	8/1815
10/0430	8/1945
10/0930	11/1815
13/0430	11/1945
13/0930	14/1815
16/0430	14/1945
16/0930	17/1815
19/0430	17/1945
19/0930	20/1815
22/0430	20/1945
22/0930	23/1815
25/0430	23/1945
25/0930	26/1815
28/0430	26/1945
28/0930	29/1815
31/0430	29/1945

TOTAL: 20 TRIPS PER FERRY

NOTE: IT MAY BE NECESSARY TO ROUTE MAINLINE FERRIES THROUGH
AUKE BAY FOR ALL JUNEAU STOPS.

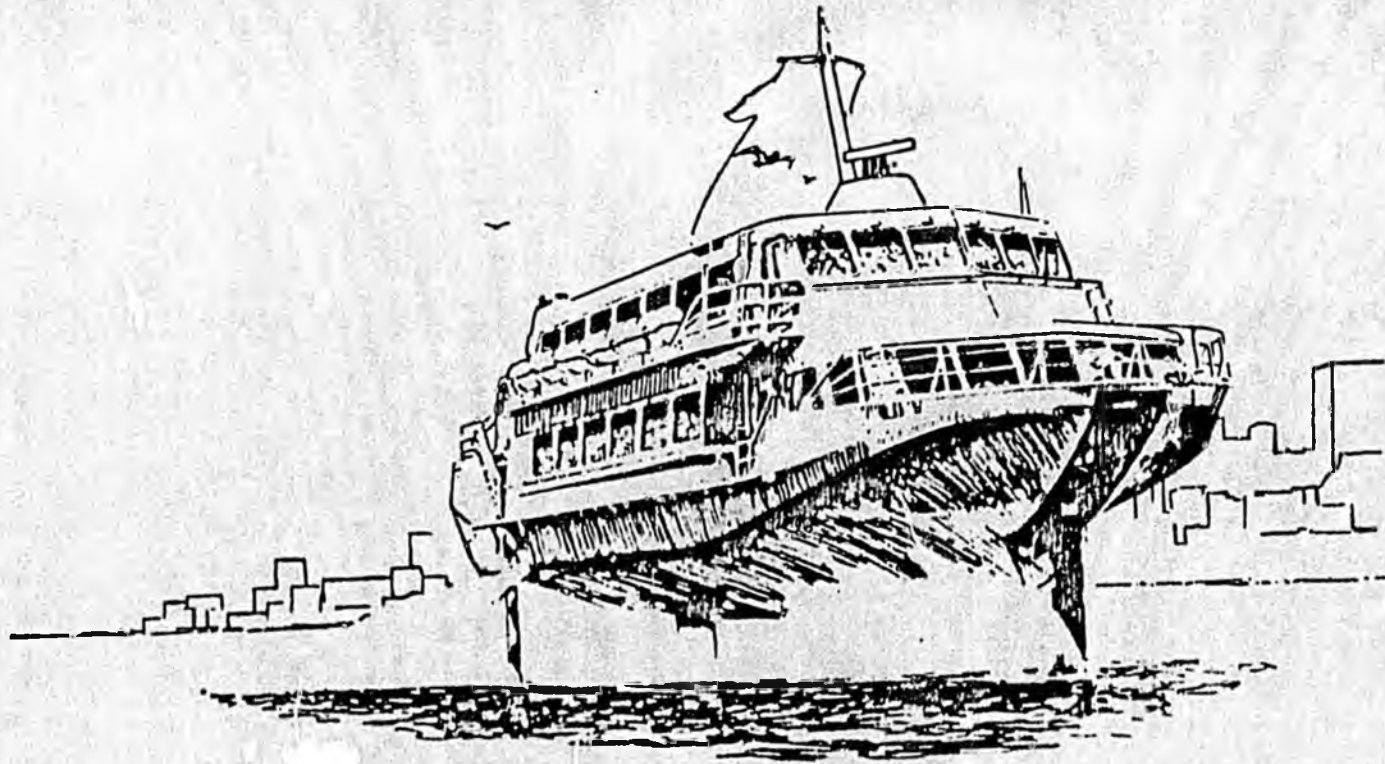
PROPOSED
LE CONTE FERRY SCHEDULE
(WEEKLY, SUMMER)

<u>WEEK DAY</u>	<u>SITKA</u>	<u>HOONAH, TENAKEE & ANGOON</u>	<u>AUKE BAY</u>	<u>KAKE</u>	<u>PETERSBURG</u>
MON, TUES,	1800	←—————→	080J		
SAT, SUN *	2000	—————→	060C		
WED	2330/W	←—————→ STOPS ←—————→	0800/W		
THURS	0130/T	—————→ STOPS —————→	1700/T		
THURS			2300/T	—————→ 0600/F	
FRI				0700/F	—————→ 1130/F
				2200/F	←————— 1750/F
			0600/SA	←————— 2300/F	
SAT *	2300/SA	←—————→ STOPS ←—————→	0800/SA		
SUN	0130/SU	—————→ STOPS —————→	1700/SU		

* ALTERNATE WEEK SCHEDULE

PROPOSED
AURORA SCHEDULE
(WEEKLY)

WEEK DAY	PRINCE RUPERT	METLAKATLA	KETCHIKAN	HOLLIS	JUNEAU (VIA WGL & PSG)
① WED & FRI		1155 ← 1230 →	1000 ← 1045 → 1340 → 1530 →	0715 ← 1815 →	
② FRI			2145F ←	1900 ←	
SAT	0615S ← 0830 →	2340 ← 2415 → 1430 → 1515 →	2230 ← 1625 → 1730 →	2015 → 2100 →	1530 SU → 1730 ←
SUN MON		1640 ← 1715 →	1445 ← 1530 → 1825 → 1930 →	1200 ← 2215 →	
③ TUES & THURS			1000 ← 1045 → 1715 ← 180C →	0715 ← 1330 → 1430 → 2045 →	THURSDAY ONLY



Capital and Operating Costs

CAPITAL AND OPERATING COSTS

THE FOLLOWING INFORMATION PROVIDES AN EVALUATION OF THE OPERATING COSTS OF THE JETFOIL. THE DATA IS BASED ON THE OPERATING CHARACTERISTICS OF THE JETFOIL, CURRENT ALASKA MARINE HIGHWAY SYSTEM SALARIES, CURRENT FUEL PRICES AND THE INDIRECT COSTS OF THE PROPOSED OPERATION.

JETFOIL COST ASSUMPTIONS
(1983 U.S. DOLLARS)

INVESTMENT PACKAGE ESTIMATE*

BOAT PRICE (3)	\$46,300,000
OPTIONS	2,900,000
SPARES AND SUPPORT	<u>5,800,000</u>
	\$55,000,000

CREW

3 CREW/BOAT
6 MEMBERS/CREW

FUEL

\$1.10/GALLON

MAINTENANCE

MATERIAL: \$158.00 PER OPERATING HOUR
LABOR: 29 PERSONNEL FOR 3 BOATS

INSURANCE

2% OF BOAT VALUE

INDIRECT COSTS

OVERHEAD LABOR, TERMINAL, ADVERTISING, SUPPLIES, EQUIPMENT,
UTILITIES, AND MISCELLANEOUS EXPENSES.

*BOEING PROPOSAL INCLUDES COST OF JETFOILS ONLY (E.G., COST OF
ADDITIONAL FACILITIES REQUIRED IS NOT INCLUDED.)

CAPITAL COST COMPARISON

o PRODUCTIVITY

	<u>PURCHASE PRICE</u>	<u>ANNUAL DISTANCE</u>	<u>EQUIVALENT REVENUE PASSENGER CAPACITY</u>	<u>\$/PASSENGER N. MILE</u>
JETFOIL	\$18.3 MILLION (\$55M ÷ 3)	105,600 N. MI.	256 (135 PAX + 19 TONS FREIGHT)	.677
REPLACEMENT VESSEL (TUSTUMENA)	\$47.5 MILLION (ESTIMATE)	65,000 N. MI. (1)	848 (500 PAX + 116 VEHICLES)	.86

o PAYBACK

	<u>ANNUAL (2) AMORTIZATION</u>	<u>ADDITIONAL \$/PAX MILE REQUIRED 20 YEAR PAYBACK</u>
JETFOIL	\$1.6 M ÷ 105,600 N. MI. ÷ 256 PASSENGERS =	.06
REPLACEMENT VESSEL (TUSTUMENA)	\$4.1 M ÷ 65,000 N. MI. ÷ 848 PASSENGERS =	.07

(1) MAINLINE FERRIES AVERAGE (1978 - 1982).

(2) JETFOIL: 19 TON CARGO CAPACITY
 X \$2.80 CARGO REVENUE/TON MILE
 ÷ \$.44 REVENUE/PASSENGER MILE
121 EQUIVALENT PASSENGER CAPACITY
 + 135 ACTUAL PASSENGER CAPACITY
256 TOTAL EQUIVALENT PASSENGER CAPACITY

(3) REPLACEMENT VESSEL (TUSTUMENA)
 116 VEHICLE CAPACITY
 X 3 EQUIVALENT PASSENGER REVENUE/VEHICLE
348 EQUIVALENT PASSENGER CAPACITY
 + 500 ACTUAL PASSENGER CAPACITY
848 TOTAL EQUIVALENT PASSENGER CAPACITY

(4) ASSUMES 20 YEAR PAYBACK AT 6% INTEREST (ESTIMATED LONG TERM ALASKA GOVERNMENT BOND RATE).

JETFOIL OPERATING COST
(1983 U.S. DOLLARS)

o CREW

THE JETFOIL HAS BEEN APPROVED BY THE U.S. COAST GUARD TO BE OPERATED BY 2 PERSONNEL IN THE WHEELHOUSE AND 2 PERSONNEL IN THE CABIN. A LARGER CREW SIZE WILL BE ASSUMED FOR THIS ANALYSIS DUE TO USE OF THE VISION AUGMENTATION SYSTEM (VAS) FOR NIGHT SERVICE AND IMPROVED CABIN SERVICE.

<u>CREW</u>	<u>PER CREW</u>	<u>NO. CREWS</u>	<u>MAN YEARS</u>	<u>ANNUAL SALARY*</u>	<u>TOTAL</u>
CAPTAIN	1	9	9	58,944	530,496
FIRST MATE	1	9	9	45,756	411,804
OBSERVER	1	6 HALF**	3	34,764	104,272
ATTENDANTS	3	5 FULL, 4 HALF***	21	29,400	617,400
					<u>1,663,992</u>

$$1,663,992 \times 1.37 \text{ FRINGE} = \$2,279,700$$

o FUEL

FUEL CONSUMPTION PER HOUR WILL VARY WITH ROUTE DEPENDING ON ROUTE DISTANCE, HULLBORNE DISTANCE, WIND AND WAVES, AND AVERAGE PASSENGER LOADS. BASED ON THE 1982-83 DEMONSTRATION, 485 GALLONS PER HOUR OF OPERATION IS EXPECTED. THE CURRENT COST OF NO. 2 DIESEL IS \$1.10/GALLON.

$$(8,400 \text{ HOURS/YEAR}) \times (485 \text{ GALLONS/HOUR}) \times (\$1.10/\text{GALLON}) = \$4,481,400$$

* BASED ON FY 1983 ALASKA MARINE HIGHWAY SYSTEM DATA FOR THE LE CONTE AND AURORA FERRY BOATS (CAPTAIN AND FIRST MATE) AND THE AVERAGE FOR ALL S.E. VESSELS (OBSERVER AND ATTENDANTS).

** TWO OBSERVERS PER BOAT WILL BE REQUIRED FOR SUMMER SERVICE ONLY.

*** REDUCED WINTER SCHEDULE WILL NOT REQUIRE FULL CREW COMPLEMENT OF ATTENDANTS.

o MAINTENANCE

MATERIAL

COST OF CONSUMABLE MATERIALS (FLUIDS, GASKETS, ROSES, BOLTS, ETC.), REPAIRABLE PARTS (INCLUDING RESERVES FOR ENGINE AND GEARBOX REPAIR), OUTSIDE SERVICES FOR OVERHAUL OF MAJOR COMPONENTS AND ANNUAL HAUL-OUT OF THE JETFOIL HAVE BEEN ESTIMATED FROM OPERATIONAL EXPERIENCE OF THE JETFOIL TO BE \$158 PER HOUR OF OPERATION.

$$(8,400 \text{ HOURS/YEAR}) \times (\$158/\text{HOUR}) = \$1,327,200$$

LABOR

THE JETFOIL MAINTENANCE SCHEDULE IS BASED ON A REPLACE AND REPAIR CONCEPT WITH SIGNIFICANT ATTENTION TO PREVENTIVE MAINTENANCE. THE JETFOIL IS MAINTAINED AND SERVICED PRIMARILY BY A DOCKSIDE MAINTENANCE CREW. THE PRINCIPAL EFFORT IS GENERALLY AT NIGHT WHILE THE BOAT IS OUT OF SERVICE. MAINTENANCE TASKS INCLUDE SERVICING, CLEANING, PERFORMING PRE-PLANNED DAILY INSPECTIONS ON THE BOAT EQUIPMENT, AND ACCOMPLISHING CORRECTIVE MAINTENANCE AS NECESSARY. A STAFF OF 29 PERSONNEL IS RECOMMENDED FOR A 3 BOAT STAND-ALONE OPERATION WHERE THE BOATS ARE UTILIZED 2500 HOURS TO 3000 HOURS PER YEAR. THE DETAILS OF THIS REQUIREMENT ARE SHOWN ON THE SUBSEQUENT PAGE.

	<u>NO.</u>	<u>ANNUAL SALARY*</u>	<u>TOTAL</u>
SUPERVISION	1	62,616	62,616
PLANNING/ADMINISTRATIVE	1	34,764	34,764
STORES	2	33,348	66,696
JANITORIAL	4	30,048	120,192
ELECTRICAL TECHNICIAN	7	50,280	351,960
MECHANICAL TECHNICIAN	14	50,280	703,920
	<u>29</u>		<u>1,340,148</u>

$$1,340,148 \times 1.37 \text{ FRINGE} = \$1,036,000$$

* BASED ON FY 1983 ALASKA MARINE HIGHWAY SYSTEM DATA FOR THE LE CONTE AND AURORA FERRY BOATS (SUPERVISION AND TECHNICIANS) AND THE AVERAGE FOR ALL S.E. VESSELS (JANITOR AND STORES).

JETFOIL MAINTENANCE LABOR REQUIREMENTS

MODEL 929-155

1983

A. MANPOWER ESTIMATES Annual Hours Utilization	Total Direct & Indirect Number of Boats in Fleet			
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
2000	14	20	27	33
2500	16	22	28	34
3000	17	22	29	35
3500	17	22	29	36
4000	18	23	30	36

<u>Manhour Allocation</u>	
Preventive Maintenance	35%
Corrective Maintenance	35%
Janitorial Tasks	30%

B. SKILL TYPES (3000 Hrs)	<u>Number of Boats in Fleet</u>			
<u>Indirect</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Supervision	1	1	1	1
Planning/Administrative	0	0	1	1
Stores/Supply	2	2	2	2
Janitorial	2	3	4	6
<u>Direct Technicians</u>				
Electrical	4	6	7	9
Mechanical	<u>8</u>	<u>10</u>	<u>14</u>	<u>16</u>
TOTAL PERSONNEL	17	22	29	35

<u>Preventive Maintenance Concept</u>	
<u>Item</u>	<u>Manhours/Day</u>
Daily Preflight	0.8
Daily Postflight	6.0
Servicing	1.4
Weekly Inspection	1.6
Monthly Inspection	1.0
Quarterly Inspection	0.4
Semi-Annual Inspection	0.2
Annual Inspection	<u>0.3</u>

11.7

JETFOIL OPERATING COSTS
(1983 U.S. DOLLRS)

o INSURANCE

TYPICAL JETFOIL RATE IS 2% OF HULL PRICE

$$(2\% \text{ RATE}) \times (\$49,200,000 \text{ 3-BOAT PRICE}) = \$984,000$$

o INDIRECT COSTS

INDIRECT OPERATING COSTS ARE GENERALLY QUITE DIFFICULT TO ESTIMATE UNLESS ONE IS COMPLETELY FAMILIAR WITH THE DETAILS OF OPERATION. IT DEPENDS ON LABOR ARRANGEMENTS (I.E., FULL TIME, PART TIME, CONTRACT), LEVEL OF PASSENGER SERVICES, AND TYPE OF TERMINAL FACILITIES. THE FOLLOWING, HOWEVER, HAS BEEN ESTIMATED AS REASONABLE FOR AN ONGOING STAND-ALONE OPERATION:

LABOR

GENERAL MANAGER	65,000	
MARKETING/ASSISTANT MANAGER	50,000	
CLERK	26,000	
JUNEAU TICKET OFFICE (MAIN)		
6 CASHIERS/RESERVATIONS		
AT \$28,000 + 37% FRINGE	230,200	
JUNEAU TERMINAL SERVICE:		
DOCKING AND FREIGHT		
TOTAL 10 PEOPLE		
10 x \$29,000 x 1.37 =	397,300	
OTHER TERMINALS		
4 PEOPLE PER DEPARTURE		
4 HOURS PER DAY		
\$16 PER HOUR		
4 x 4 x \$16 x 3100 DEPARTURES	<u>793,600</u>	\$1,562,100

ADVERTISING	50,000
EQUIPMENT	45,000
OFFICE SUPPLIES AND UNIFORMS	45,000
FACILITIES COST*	250,000
UTILITIES	20,000
TRAVEL AND EXPENSES	<u>30,000</u>
	<u>\$2,002,100</u>

o TOTAL ANNUAL 3-JETFOIL OPERATING COST:

\$12,910,400

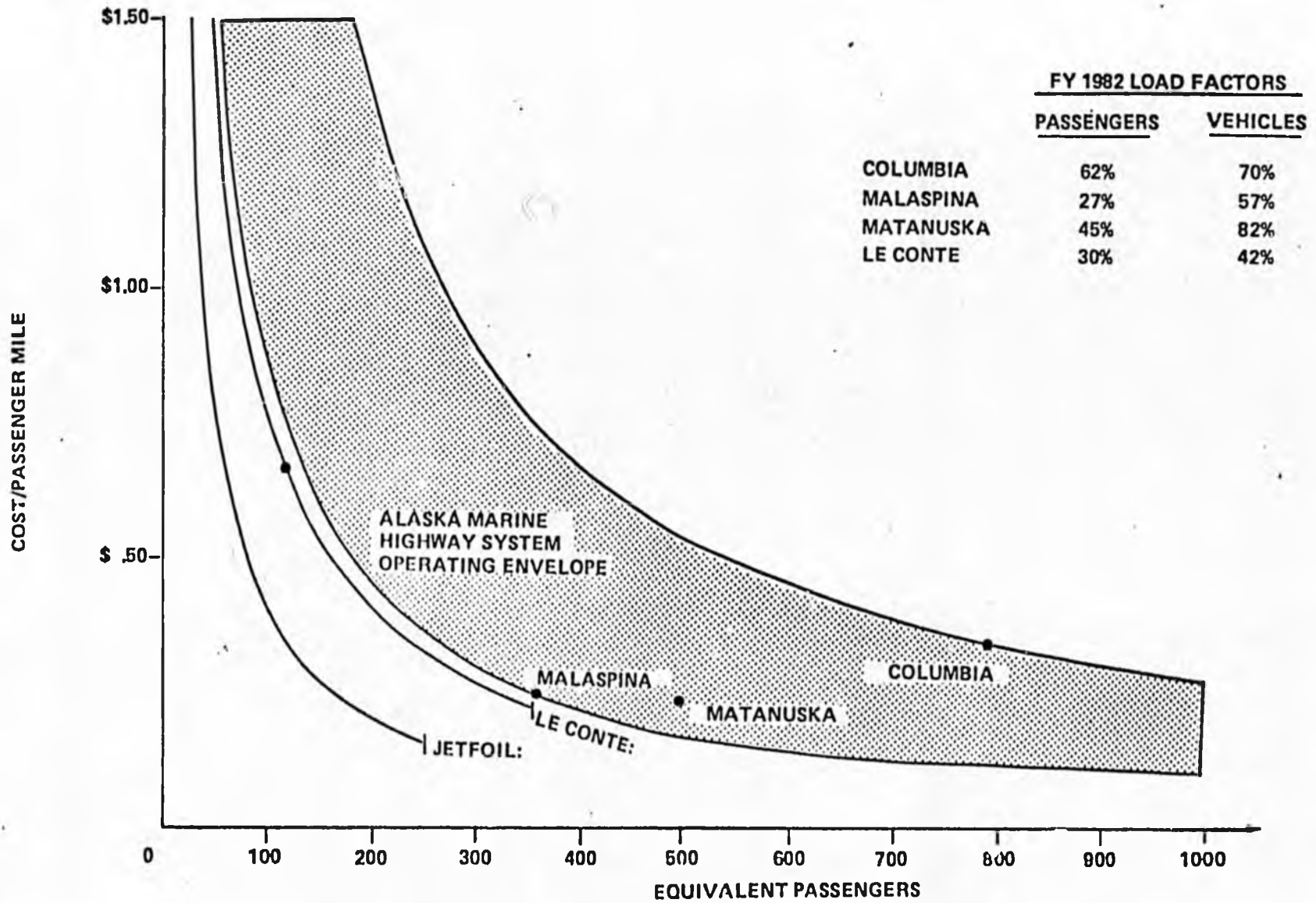
*BASED ON AN AMORITZATION OVER A 30-YEAR TERM AT 6% INTEREST. TOTAL FACILITIES COST WOULD BE \$3.4 MILLION.

OPERATING COST COMPARISON

BCAT	CARGO/VEHICLE CAPACITY	CONVERSION TO EQUIVALENT PAX	ACTUAL PAX CAPACITY	TOTAL EQUIVALENT PAX CAPACITY	ANNUAL* OPERATING DISTANCE	1982 COSTS**	1983 COSTS	COST PER NAUTICAL MILE	COST PER NAUTICAL SEAT MILE
MAINLINE FERRIES (4)	100.5 X 3 =	302	700	1,002	260,000 N.M. (65,000 N.M. AVERAGE)	\$35,200,000 X 1.08 =	\$38,000,000	\$146	\$.15
SECONDARY	35 X 3 =	105	250	335	126,000 N.M. (62,000 N.M. AVERAGE)	\$9,650,000 X 1.08 =	\$10,400,000	\$ 83	\$.23
FLEET AVERAGE				786	386,000 N.M. (64,000 N.M. AVERAGE)		\$48,400,000 (\$8,067,000 AVERAGE)	\$125	\$.16
JETFOIL		19 TON CARGO CAPACITY x \$2.80/TON MILE -- \$.44 PAX = 121 EQUIVALENT PAX	135	256	316,800 N.M.		\$12,900,000	\$ 40.75	\$.16

*BASED ON FISCAL YEAR 1982 UTILIZATION (MAINLINE 33 MONTHS, SECONDARY -- 17 MONTHS). 1983 COSTS ESTIMATED.
 **ACTUAL 1982 FISCAL YEAR FERRY COSTS.

Operating Cost vs Passengers



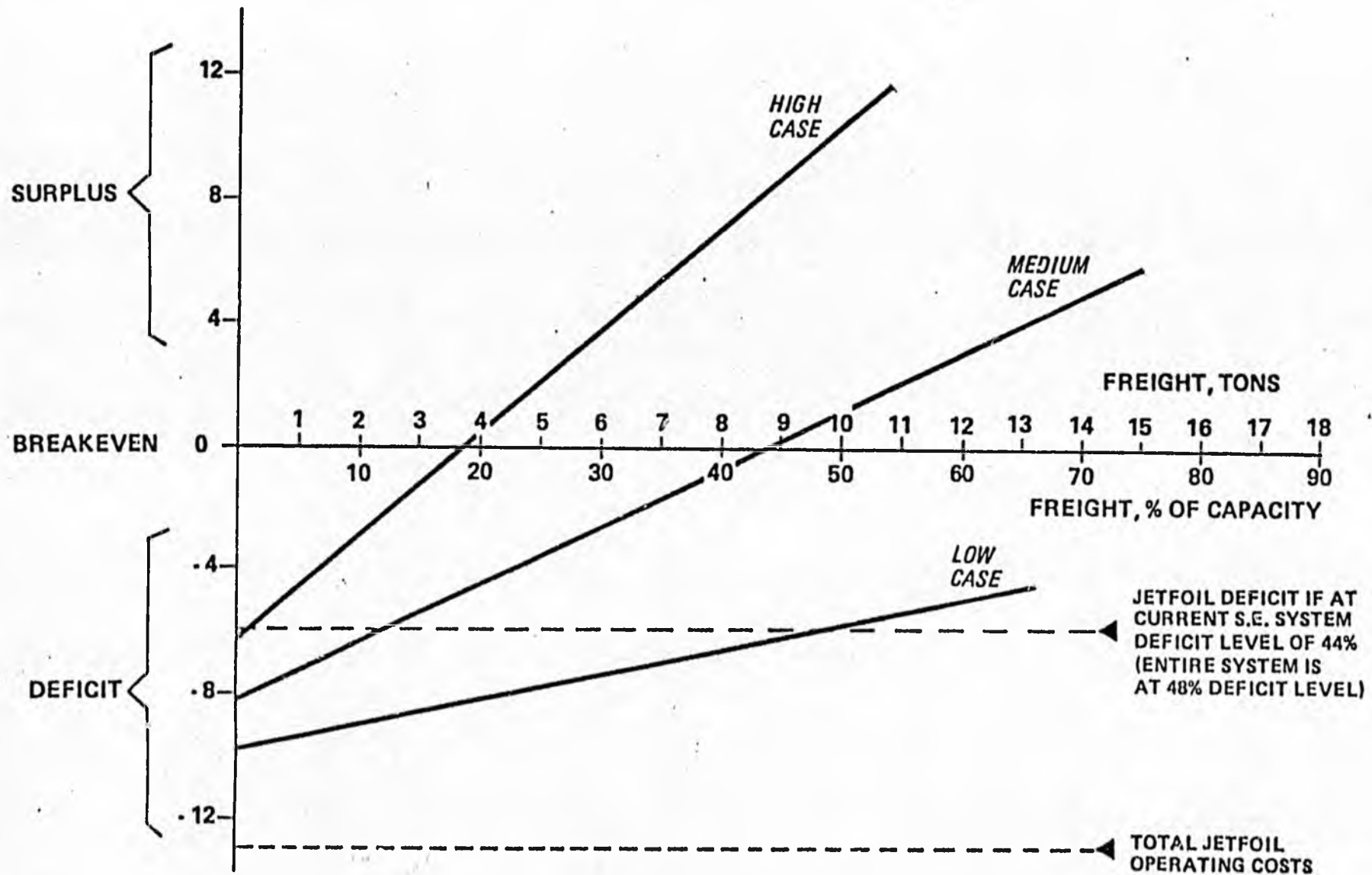
ASSUMES A PASSENGER:VEHICLE REVENUE TRADE-OFF OF 3:1

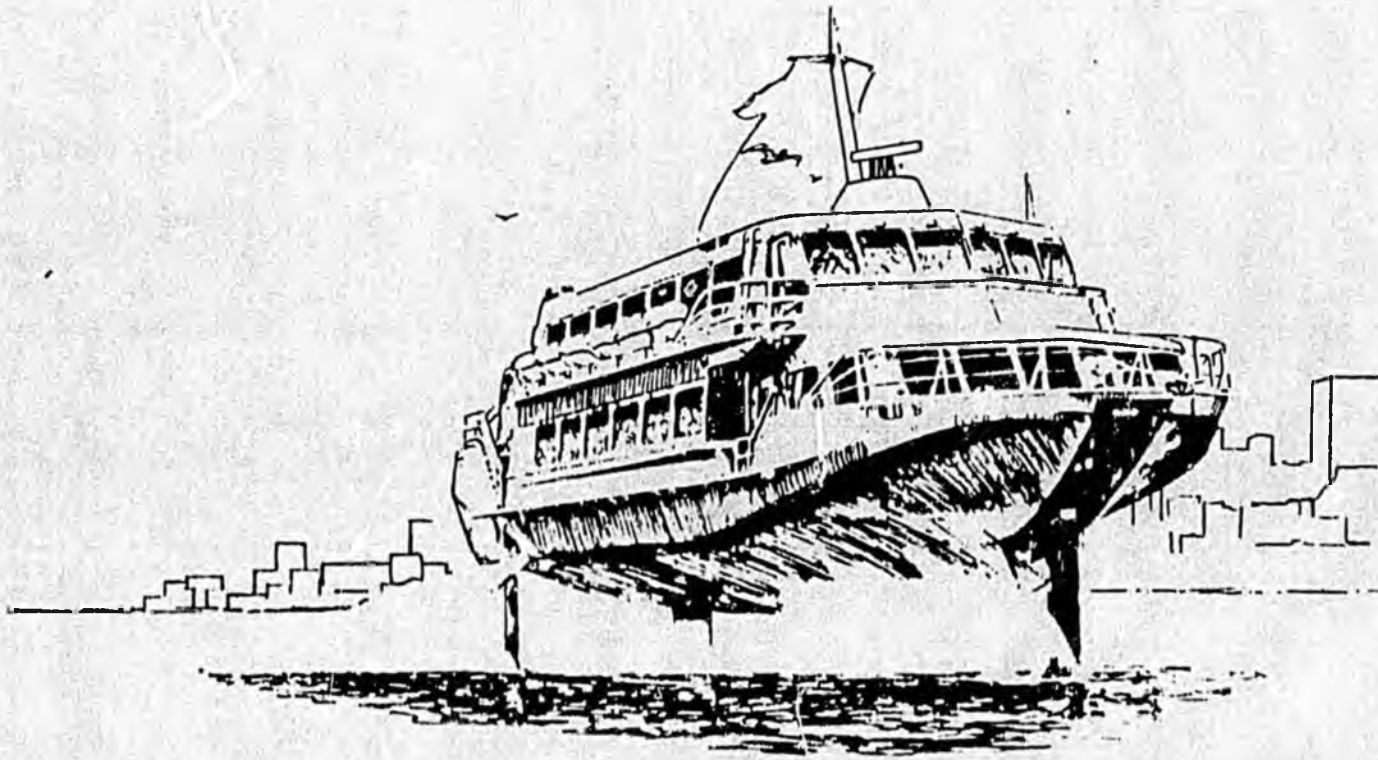
● DENOTES EXPECTED EQUIVALENT PASSENGER LOADS (BASED ON FY 1982 DATA)

Annual Cash Flow

3 JETFOILS

(1983 Dollars in Millions)





Existing Market Analysis

EXISTING TRAFFIC

SUMMARY

PASSENGER AND VEHICLE TRAFFIC WITHIN SOUTHEAST ALASKA HAS EXPERIENCED A STEADY, STRONG GROWTH OVER THE LAST DECADE. FERRY PASSENGERS AND VEHICLES HAVE GROWN BY OVER 7% PER YEAR AND JET AIR PASSENGERS BY 5% PER YEAR. IN 1982, THERE WERE OVER 450,000 PASSENGERS TRAVELING WITHIN SOUTHEAST ALASKA AND CLOSE TO 500,000 WHEN PASSENGERS TO/FROM PRINCE RUPERT ARE INCLUDED (SEE CHART ON PAGE). FERRY PASSENGERS REPRESENT 40% - 45% OF THIS TOTAL AND ARE ESTIMATED TO BE ROUGHLY DIVIDED EQUALLY BETWEEN WALK-ON AND MOTORISTS. JET AIR PASSENGERS ACCOUNT FOR 20% OF THE TRAFFIC AND ARE PRIMARILY TRAVELING BETWEEN THE MAJOR COMMUNITIES, (JUNEAU, KETCHIKAN AND SITKA). MOST AIR SERVICE IS PROVIDED BY MANY SMALL AIR TAXI OPERATORS WHICH ARE ESTIMATED TO ACCOUNT FOR CLOSE TO 40% OF PASSENGER TRAFFIC. MOST OF THIS AIR TAXI SERVICE IS BY CHARTER FLIGHTS BETWEEN THE MANY SMALL, ISOLATED COMMUNITIES IN THIS AREA. IN ADDITION, THERE WERE OVER 50,000 VEHICLES CARRIED PRIMARILY ON THE MAINLINE FERRY ROUTES BETWEEN PRINCE RUPERT AND HAINES/SKAGWAY.

TOTAL PASSENGER TRAFFIC
1982 - SOUTHEAST ALASKA

ROUTE AREA	FERRY		JET	AIR TAXI	TOTAL
	WALK-ON	MOTORIST			
JUNEAU - SKAGWAY	40,412	35,912	--	42,588	118,912
JUNEAU - GUSTAVUS	--	--	23,431	1,820	25,251
JUNEAU - SITKA	25,161	8,096	32,351	45,994	111,602
JUNEAU - KETCHIKAN	23,229	14,510	37,117	21,255	96,111
KETCHIKAN - METLAKATLA/HOLLIS	20,299	19,696	--	62,552	102,547
TOTAL WITHOUT PRINCE RUPERT*	109,101	78,214	92,899	174,209	454,423
% OF TOTAL	41%		20%	39%	
TOTAL WITH PRINCE RUPERT*	125,304	98,084	92,899	175,964	492,251
% OF TOTAL	45%		19%	36%	

*EXCLUDING PASSENGERS WITH ORIGIN OR DESTINATION IN SEATTLE WHICH DO NOT DISEMBARK FROM THE FERRY AT ANY INTERMEDIATE PORTS IN SOUTHEAST ALASKA (ALL PORTS BUT HAINES AND SKAGWAY).

EXISTING TRAFFIC

SOURCES AND METHODOLOGY

JET AIR PASSENGERS (P. 67)

THE SOURCE OF THIS DATA WAS THE CIVIL AERONAUTICS BOARD "SERVICE SEGMENT DATA" FOR ALASKA AIRLINES PASSENGERS TRAVELING WITHIN SOUTHEAST ALASKA. DATA WAS AVAILABLE THROUGH SEPTEMBER 1981 AND AN ESTIMATE MADE FOR 1981 AND 1982.

AIR TAXI PASSENGERS (P. 68 - 69)

SCHEDULED AIR TAXI TRAFFIC WAS ESTIMATED USING ACTUAL SCHEDULES FROM THE LOCAL OPERATORS, AN ESTIMATE OF THEIR AVERAGE AIRCRAFT CAPACITY AND ASSUMPTION OF 50% LOAD FACTOR.

CHARTER PASSENGERS WERE ESTIMATED USING THE RELATIONSHIP OF CHARTER VERSUS SCHEDULED PASSENGERS DETERMINED IN THE SOUTHEASTERN ALASKA TRANSPORTATION STUDY (SEE P. 70). AIR TAXI TRAFFIC WITHIN SOUTHEAST ALASKA (PROVIDED BY THE ALASKA TRANSPORTATION COMMISSION) REACHED ALMOST 180,000 PASSENGERS IN 1976. OF THIS, 78% IS ESTIMATED TO BE CHARTER TRAFFIC. ASSUMING 4% GROWTH PER YEAR, THERE WOULD BE 165,000 CHARTER PASSENGERS IN 1982. FOR CONSERVATISM, 35% OF THIS TRAFFIC IS ASSUMED TO BE UNAVAILABLE TO THE JETFOIL EITHER BECAUSE IT IS BOUND TO DESTINATIONS NOT SERVED BY THE JETFOIL, OR CANNOT FIT INTO JETFOIL SCHEDULES. THE REMAINING CHARTER TRAFFIC IS DISTRIBUTED AMONG THOSE ROUTES WHICH ARE REGULARLY RECEIVING CHARTER SERVICE. IN MOST CASES, CHARTER PASSENGERS ARE ESTIMATED TO BE TWO TIMES SCHEDULED PASSENGERS IN SUMMER AND EQUAL TO SCHEDULED PASSENGERS IN WINTER. FOR ROUTES WITH NO SCHEDULED SERVICE, CHARTER PASSENGERS ARE ESTIMATED BASED ON SERVICE ON SIMILAR ROUTES.

FERRY PASSENGERS (PP. 71 - 73) AND VEHICLES (PP. 74 - 76)

FERRY PASSENGER AND VEHICLE TRAFFIC BY ORIGIN AND DESTINATION WAS PROVIDED FOR 1970 - 1982 BY THE ALASKA STATE DEPARTMENT OF TRANSPORTATION.

PASSENGER DISTRIBUTION BETWEEN MOTORIST AND WALK-ON PASSENGERS (PP. 80 - 82) WAS ESTIMATED FOR 1982 BY USING THE NUMBER OF ACCOMPANIED VEHICLES AND AVERAGES OF 1.5 - 3.0 PERSONS PER VEHICLE.

ACCOMPANIED VEHICLES WERE ESTIMATED FOR 1982 BY TAKING TOTAL VEHICLES AND SUBTRACTING COMMERCIAL VANS WHICH ARE UNACCOMPANIED (PP. 77 - 79). COMMERCIAL VANS ESTIMATES WERE BASED ON DISCUSSIONS WITH FERRY SYSTEM OFFICIALS.

ANNUAL JET AIRCRAFT PASSENGERS*
SOUTHEAST ALASKA

ACTUAL TRAFFIC

ROUTE	1973	1974	1975	1976	1977	1978	1979	1980	1981**	1982***
GST - JNU	2,250	7,028	8,005	11,499	11,833	15,529	22,220	21,684	22,749	23,431
% CHANGE	--	248	14	29	3	31	43	(2)	5	3
JNU - KTN	5,416	14,643	15,095	17,487	21,574	20,043	18,158	17,864	17,936	17,836
% CHANGE	--	170	9	10	23	(3)	(13)	(2)	--	--
JNU - PST	4,217	4,995	5,539	5,500	7,267	9,203	8,429	8,307	7,971	7,971
% CHANGE	--	18	11	1	30	27	(8)	(1)	(4)	--
JNU - SIT	11,315	17,612	20,372	22,309	25,730	28,000	32,354	30,273	31,409	32,351
% CHANGE	--	56	16	10	15	9	16	(6)	4	3
JNU - VRG	2,403	3,968	4,513	4,314	4,629	4,595	4,432	4,748	3,667	3,667
% CHANGE	--	60	14	(4)	7	(1)	(4)	7	(23)	--
KTN - PSG	3,037	7,291	7,557	3,009	3,100	2,446	3,571	3,366	3,349	3,249
% CHANGE	--	140	4	(60)	6	8	4	(6)	(1)	--
KTN - SIT	1,534	6,112	6,511	7,598	8,813	9,243	9,838	10,240	10,165	10,267
% CHANGE	--	298	7	17	16	5	6	4	(1)	1
KTN - VRG	2,159	5,090	5,142	3,031	3,122	3,178	2,993	3,043	2,898	2,898
% CHANGE	--	136	1	(41)	3	2	(6)	2	(5)	--
PSG - SIT	996	1,221	2,300	1,694	791	1,014	1,040	1,026	1,236	1,236
% CHANGE	--	23	80	(26)	(53)	20	3	(1)	20	--
PSG - VRG	1,117	1,630	2,459	1,649	1,405	1,463	1,224	1,281	1,296	1,296
% CHANGE	--	47	50	(33)	(15)	4	(16)	5	1	--
SIT - VRG	1,428	1,427	1,636	1,246	656	669	712	674	654	654
% CHANGE	--	--	15	(24)	(47)	2	6	(5)	27	--
TOTAL	35,952	71,825	80,809	79,416	89,000	97,183	104,971	102,506	103,520	105,256
% CHANGE	--	100	11	(2)	12	9	8	(2)	1	2

*SOURCE: C.A.B. SERVICE SEGMENT DATA

**ESTIMATE BASED ON JANUARY - SEPTEMBER 1981 ACTUAL DATA

***FORECAST BASED ON EVALUATION OF PAST TRAFFIC TRENDS, PROJECTED POPULATION AND TOURISM GROWTH AND ANTICIPATED ECONOMIC RECOVERY STARTING IN 1984 AND PEAKING IN 1986.

AIR TAXI

ESTIMATED 1983 AIR TAXI PASSENGERS*
SOUTHEAST ALASKA

ROUTE	PEAK SEASON (APRIL-SEPT.)			OFF-PEAK SEASON (OCT.-MAR.)			SCHEDULED	TOTAL YEAR CHARTER	TOTAL
	SCHEDULED	CHARTER	TOTAL	SCHEDULED	CHARTER	TOTAL			
JUNEAU - ANGOON/ TENAKEE % OF TOTAL	780 33	1,560 67	2,340	780 50	780 50	1,560	1,560 40	2,340 60	3,900
JUNEAU - EXCURSION INLET % OF TOTAL	103 33	364 67	546	102 50	182 50	364	364 40	546 60	910
JUNEAU - GUSTAVUS % OF TOTAL	364 33	728 67	1,092	364 50	364 50	720	728 40	1,092 60	1,820
JUNEAU - HAINES/ SKAGWAY % OF TOTAL	9,820 33	19,656 67	29,484	6,552 50	6,552 50	13,104	16,380 40	26,208 60	42,508
JUNEAU - HOONAH % OF TOTAL	9,028 33	9,028 67	19,656	6,552 50	3,276 50	9,028	16,380 40	13,104 60	29,484
JUNEAU - KAKE % OF TOTAL	780 33	1,560 67	2,340	780 50	780 50	1,560	1,560 40	2,340 60	3,900
JUNEAU - PELICAN % OF TOTAL	780 33	1,560 67	2,340	780 50	780 50	1,560	1,560 40	2,340 60	3,900
JUNEAU - PETERSBURG % OF TOTAL	-- --	1,560 100	1,560 --	-- --	780 100	780 --	-- --	2,340 100	2,340 --
KETCHIKAN - CRAIG/ KLAIOCK % OF TOTAL	7,007 33	14,014 67	21,021	3,022 50	3,022 50	7,644	10,029 40	17,036 60	28,665

*SCHEDULED PASSENGERS ARE ESTIMATED USING PUBLISHED SCHEDULES, AVERAGE SEAT CAPACITY AND 50% LOAD FACTOR. CHARTER PASSENGERS ARE ESTIMATED TO BE TWO TIMES SCHEDULED PASSENGERS IN SUMMER AND EQUAL TO SUMMER PASSENGERS IN WINTER. FOR ROUTES WITH NO SCHEDULED SERVICE CHARTER PASSENGERS ARE ESTIMATED BASED ON SERVICE ON SIMILAR ROUTES.

AIR TAXI

ESTIMATED 1983 AIR TAXI PASSENGERS*
SOUTHEAST ALASKA

ROUTE	PEAK SEASON (APRIL-SEPT.)			OFF-PEAK SEASON (OCT.-MAR.)			SCHEDULED	TOTAL YEAR CHARTER	TOTAL
	SCHEDULED	CHARTER	TOTAL	SCHEDULED	CHARTER	TOTAL			
KETCHIKAN - METLAKATLA % OF TOTAL	7,049 33	14,098 67	21,147	6,370 50	6,370 50	12,740	13,419 40	20,468 66	33,887
KETCHIKAN - PRINCE RUPERT % OF TOTAL	351 33	702 67	1,053	351 50	351 50	702	702 40	1,053 60	1,755
KETCHIKAN - UIRANGELL % OF TOTAL	-- --	3,120 100	3,120	-- --	1,560 100	1,560	-- --	4,600 100	4,600
PETERSBURG - KAKE % OF TOTAL	780 33	1,560 67	2,340	780 50	780 50	1,560	1,560 40	2,340 60	3,900
PETERSBURG - UIRANGELL % OF TOTAL	-- --	3,120 100	3,120	-- --	1,560 100	1,560	-- --	4,600 100	4,680
SITKA - ANGOON % OF TOTAL	-- --	2,340 100	2,340	-- --	700 100	700	-- --	3,120 100	3,120
SITKA - PELICAN % OF TOTAL	-- --	2,340 100	2,340	-- --	780 100	700	-- --	3,120 100	3,120
SITKA - TENAKEL % OF TOTAL	-- --	780 100	780	-- --	780 --	780	-- --	1,560 --	1,560
TOTAL	37,729	20,090	116,619	27,313	30,277	57,590	65,042	109,167	174,209
% OF TOTAL	30	70		45	55		35	65	

*SCHEDULED PASSENGERS ARE ESTIMATED USING PUBLISHED SCHEDULES, AVERAGE SEAT CAPACITY AND 50% LOAD FACTOR. CHARTER PASSENGERS ARE ESTIMATED TO BE TWO TIMES SCHEDULED PASSENGERS IN SUMMER AND EQUAL TO SUMMER PASSENGERS IN WINTER. FOR ROUTES WITH NO SCHEDULED SERVICE CHARTER PASSENGERS ARE ESTIMATED BASED ON SERVICE ON SIMILAR ROUTES.

SCHEDULED VERSUS CHARTER AIR PASSENGERS - 1976
AIR TAXI SYSTEM
SOUTHEAST ALASKA

REGION	PEAK SEASON (APRIL-SEPTEMBER)				OFF-PEAK SEASON (OCTOBER-MARCH)			
	SCHEDULED*	CHARTER	TOTAL**	TOTAL SCHEDULED	SCHEDULED*	CHARTER	TOTAL**	TOTAL SCHEDULED
NORTHERN (HOONAH NORTH)	10,000	17,100	27,900	2.6	6,000	8,900	14,900	2.5
CENTRAL (HOONAH - WRANGELL)	2,300	26,700	29,000	12.4	2,300	13,200	15,500	6.6
SOUTHERN (WRANGELL SOUTH)	9,500	49,700	59,200	6.2	6,000	24,700	31,500	4.6
TOTAL	22,600	91,200	116,100	5.1	15,100	46,800	61,900	4.1

*ESTIMATED BASED ON SCHEDULES IN OFFICIAL AIRLINE GUIDE FOR 1976, AVERAGE CAPACITY AND ASSUMPTION OF 50% LOAD FACTOR.

**DATA FROM ALASKA TRANSPORTATION COMMISSION AND PUBLISHED IN THE SOUTHEASTERN ALASKA TRANSPORTATION STUDY PREPARED FOR ALASKA DEPARTMENT OF TRANSPORTATION BY WILDER SMITH AND ASSOCIATES, 1979, P. 119

FERRY PASSENGERS

ANNUAL ALASKA FERRY PASSENGERS
SOUTHEAST ALASKA
ACTUAL TRAFFIC*

ROUTE	1970	1974**	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL CHANGE 1970-1982
JUNEAU - ANGOON % CHANGE	--	--	--	--	681	1,525	2,366	2,810	2,944	3,614	40% (SINCE 1977)
JUNEAU - HAINES % CHANGE	15,294	24,319	27,028	25,601	21,890	23,818	22,792	25,552	25,377	28,526	5%
JUNEAU - HOONAH % CHANGE	2,803	2,326	4,085	4,392	3,967	4,819	4,944	6,036	7,031	7,097	8%
JUNEAU - KAKE % CHANGE	--	149	560	332	306	330	719	618	644	738	16% (SINCE 1974)
JUNEAU - KETCHIKAN % CHANGE	5,209	6,409	5,654	6,351	5,195	6,012	6,416	7,702	8,165	8,293	4%
JUNEAU - PELICAN % CHANGE	--	--	--	191	718	739	577	276	418	849	28% (SINCE 1976)
JUNEAU - PETERSBURG % CHANGE	3,863	6,011	7,292	6,785	6,167	6,078	6,733	7,205	6,500	6,993	5%
JUNEAU - PRINCE RUPERT % CHANGE	8,877	9,928	13,352	11,612	6,279	8,400	7,161	7,790	8,390	10,446	1%
JUNEAU - SITKA % CHANGE	2,686	5,144	6,061	5,994	5,141	6,379	7,770	10,115	10,543	11,433	13%
JUNEAU - SKAGWAY % CHANGE	8,504	13,201	13,480	14,276	11,515	12,441	15,707	16,851	16,769	18,915	7%
JUNEAU - TENAKEE % CHANGE	--	--	--	--	--	1,259	947	1,345	1,699	2,047	13% (SINCE 1978)

*SOURCE: ALASKA STATE DEPARTMENT OF TRANSPORTATION, ORIGIN AND DESTINATION STATISTICS

**P.A. -- PER ANNUM

FERRY PASSENGERS

ANNUAL ALASKA FERRY PASSENGERS
SOUTHEAST ALASKA
ACTUAL TRAFFIC (CONTINUED)*

ROUTE	1970	1974**	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL CHANGE 1970-1982
JUNEAU - WRANGELL	1,056	2,529	2,663	2,351	2,033	2,118	2,056	2,127	2,370	2,149	1%
% CHANGE	--	0	5	(12)	(14)	4	(3)	3	12	(10)	
KETCHIKAN - HAINES	1,612	2,282	2,123	2,315	1,877	1,929	2,008	2,578	3,130	3,409	6%
% CHANGE	--	9	(7)	9	(19)	3	4	28	21	9	
KETCHIKAN - HOLLIS	--	816	5,623	5,165	4,920	8,258	11,593	13,612	20,117	24,946	53%
% CHANGE	--	--	591	(8)	(5)	60	40	17	48	24	(SINCE 1974)
KETCHIKAN - METLAKATLA	--	9,813	12,480	14,606	13,466	13,740	15,598	17,233	15,421	15,049	6%
% CHANGE	--	--	27	17	(8)	2	14	10	(10)	(2)	(SINCE 1974)
KETCHIKAN - PETERSBURG	3,035	5,251	4,518	4,595	4,223	4,489	4,770	4,932	4,640	5,066	4%
% CHANGE	--	15	(14)	2	(8)	6	6	3	(6)	9	
KETCHIKAN - PR. RUPERT	17,676	18,486	19,131	19,036	14,504	17,058	12,985	17,270	20,103	21,566	2%
% CHANGE	--	1	3	(1)	(24)	18	(24)	33	16	7	
KETCHIKAN - SKAGWAY	1,044	1,691	1,382	1,296	1,512	1,351	1,446	2,164	2,476	2,490	8%
% CHANGE	--	13	(18)	(6)	17	(11)	7	50	14	1	
KETCHIKAN - WRANGELL	4,011	5,867	7,183	5,651	4,343	4,736	5,061	5,838	4,690	5,757	3%
% CHANGE	--	10	22	(21)	(23)	9	7	15	(16)	18	
PETERSBURG - HAINES	818	1,160	1,204	1,329	1,106	1,394	1,080	1,136	1,341	1,271	4%
% CHANGE	--	9	3	10	(17)	26	23	5	18	5	
PETERSBURG - KAKE	--	841	2,527	4,075	3,681	3,319	4,941	5,073	4,596	4,576	24%
% CHANGE	--	--	200	61	(10)	(10)	49	3	10	--	(SINCE 1974)
PETERSBURG - PR. RUPERT	1,590	1,740	2,825	2,069	1,632	2,210	1,583	1,875	1,475	2,437	4%
% CHANGE	--	2	62	(27)	(21)	35	(20)	18	(21)	65	

*SOURCE: ALASKA STATE DEPARTMENT OF TRANSPORTATION, ORIGIN AND DESTINATION STATISTICS

**P.A. -- PER ANNUM

ANNUAL ALASKA FERRY PASSENGERS
SOUTHEAST ALASKA
ACTUAL TRAFFIC (CONTINUED)*

ROUTE	1970	1974**	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL CHANGE 1970-1982
PETERSBURG - SKAGWAY	229	442	624	491	509	460	713	803	691	644	9%
% CHANGE	--	18	41	(21)	4	(10)	55	13	(14)	(7)	
PETERSBURG - WRANGELL	2,643	4,539	3,975	3,601	2,988	3,941	4,187	4,118	3,386	4,172	4%
% CHANGE	--	14	(12)	(9)	(17)	32	6	(2)	18	23	
SITKA - ANGOON	--	--	--	--	632	1,013	3,366	5,366	6,626	6,624	60%
% CHANGE	--	--	--	--	--	187	66	59	24	--	(SINCE 1970)
SITKA - HAINES	1,026	1,539	1,559	2,100	1,403	1,805	1,952	2,053	2,052	1,939	6%
% CHANGE	--	11	1	35	(33)	29	8	5	--	(6)	
SITKA - HOONAH	--	105	432	814	601	1,297	1,132	1,667	2,381	1,437	29%
% CHANGE	--	--	134	88	(16)	89	(13)	47	43	(40)	(SINCE 1974)
SITKA - SKAGWAY	405	1,116	1,112	1,604	975	1,160	1,237	1,811	1,813	1,520	12%
% CHANGE	--	29	--	44	(39)	20	6	46	--	(16)	
WRANGELL - HAINES	497	877	1,170	951	853	694	632	610	754	667	3%
% CHANGE	--	15	23	(19)	(10)	(19)	(9)	(3)	24	(12)	
WRANGELL - PR. RUPERT	1,486	1,885	3,514	1,019	1,206	1,406	1,164	1,409	1,984	1,780	2%
% CHANGE	--	6	86	(40)	(34)	23	(22)	21	41	(10)	
WRANGELL - SKAGWAY	263	209	352	375	245	235	337	294	557	230	(1%)
% CHANGE	--	6	68	7	(35)	(4)	43	(13)	89	(59)	
HAINES - SKAGWAY	9,478	10,995	12,915	14,488	11,853	12,418	14,462	15,529	15,075	16,705	5%
% CHANGE	--	4	17	12	(18)	5	16	7	2	5	
TOTAL	94,905	139,808	164,737	164,264	136,507	157,422	168,515	193,048	205,166	22,380	7%
% CHANGE	--	10	18	--	(17)	15	7	15	6	9	

*SOURCE: ALASKA STATE DEPARTMENT OF TRANSPORTATION, ORIGIN AND DESTINATION STATISTICS

**P.A. -- PER ANNUM

ANNUAL VEHICLE TRAFFIC
SOUTHEAST ALASKA FERRY SYSTEM
ACTUAL TRAFFIC*

ROUTE	1970	1975**	1976	1977	1978	1979	1980	1981	1982	ANNUAL CHANGE 1970 - 1982
JUNEAU - ANGOON % CHANGE	-- --	-- --	-- --	62 --	265 327	340 31	363 4	434 20	732 69	64% (SINCE 1977)
JUNEAU - HAINES % CHANGE	5509 --	7989 8	7631 (4)	6420 (16)	7234 13	6705 (7)	7308 9	7519 3	8524 13	4%
JUNEAU - HOONAH % CHANGE	308 --	672 17	749 17	776 4	757 (2)	939 24	1,146 22	1,218 6	1,369 12	13%
JUNEAU - KAKE % CHANGE	-- --	79 --	56 (79)	81 45	85 5	106 25	137 29	159 16	173 9	12% (SINCE 1975)
JUNEAU - KETCHIKAN % CHANGE	923 --	770 4	944 23	823 (13)	906 10	1,009 11	1,130 12	1,304 15	1,183 (9)	2%
JUNEAU - PELICAN % CHANGE	-- --	-- --	6 --	32 433	31 (3)	49 58	52 6	64 23	84 31	55% (SINCE 1976)
JUNEAU - PETERSBURG % CHANGE	683 --	1,121 10	1,139 2	895 (21)	7,179 32	1,087 (8)	1,097 1	1,120 2	1,229 10	5%
JUNEAU - PRINCE RUPERT % CHANGE	1,893 --	3,347 12	2,921 (13)	1,944 (33)	2,329 20	1,949 (17)	2,273 17	2,631 16	3,518 34	5%
JUNEAU - SITKA % CHANGE	687 --	1,192 12	1,352 13	1,139 (16)	1,295 14	1,571 21	1,742 11	1,912 10	2,068 8	10%
JUNEAU - SKAGWAY % CHANGE	1,170 --	1,538 6	1,712 11	1,606 (6)	1,734 8	2,506 45	2,723 9	2,713 --	3,238 19	9%
JUNEAU - TENAKEE % CHANGE	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	--

* SOURCE: ALASKA STATE DEPARTMENT OF TRANSPORTATION, ORIGIN AND DESTINATION STATISTICS

** P.A. -- PER ANNUM

ANNUAL VEHICLE TRAFFIC
SOUTHEAST ALASKA FERRY SYSTEM
ACTUAL TRAFFIC* (Cont'd)

ROUTE	1970	1975**	1976	1977	1978	1979	1980	1981	1982	ANNUAL CHANGE 1970 - 1982
JUNEAU - WRANGELL	275	452	381	284	334	309	387	353	306	2%
% CHANGE	--	10	(16)	(25)	18	(7)	25	(9)	(5)	
KETCHIKAN - HAINES	483	630	780	632	580	662	757	988	835	5%
% CHANGE	--	5	24	(19)	(8)	14	14	24	(11)	
KETCHIKAN - HOLLIS	--	1,674	1,745	1,806	2,635	3,181	4,352	6,247	7,572	24% (SINCE 1975)
% CHANGE	--	--	4	4	46	21	37	44	21	
KETCHIKAN - METLAKATLA	--	3,011	3,489	3,143	2,795	3,707	4,344	3,400	3,100	.5% (SINCE 1975)
% CHANGE	--	--	16	(10)	(11)	33	17	(22)	(9)	
KETCHIKAN - PETERSBURG	452	549	566	507	654	694	692	702	779	5%
% CHANGE	--	4	3	(10)	29	6	--	1	11	
KETCHIKAN-PRINCE RUPERT	3,832	3,933	4,651	4,003	4,683	4,258	4,885	5,738	6,557	5%
% CHANGE	--	1	18	(14)	17	(9)	15	17	14	
KETCHIKAN - SKAGWAY	48	43	73	73	117	113	104	159	117	0%
% CHANGE	--	2	70	--	60	(3)	(8)	53	(26)	
KETCHIKAN - WRANGELL	679	2,008	995	792	907	1,028	1,035	899	1,137	4%
% CHANGE	--	24	(50)	(20)	15	13	1	(13)	26	
PETERSBURG - HAINES	235	332	421	316	374	332	309	355	311	2%
% CHANGE	--	7	27	(25)	18	(11)	(7)	15	(12)	
PETERSBURG - KAKE	--	335	576	429	394	701	839	966	987	17% (SINCE 1975)
% CHANGE	--	--		(17)	(8)	78	20	15	2	
PETERSBURG - PRINCE RUPERT	611	817	600	600	667	619	601	726	891	3%
% CHANGE	--	6	(17)	(12)	11	(7)	10	7	23	

* SOURCE: ALASKA STATE DEPARTMENT OF TRANSPORTATION, ORIGIN AND DESTINATION STATISTICS

** P.A. -- PER ANNUM

ANNUAL VEHICLE TRAFFIC
SOUTHEAST ALASKA FERRY SYSTEM
ACTUAL TRAFFIC* (Cont'd)

ROUTE	1970	1975**	1976	1977	1978	1979	1980	1981	1982	ANNUAL CHANGE 1970 - 1982
PETERSBURG - SKAGWAY	41	55	39	43	45	69	61	78	63	4%
% CHANGE	--	6	(29)	10	5	53	(12)	28	(20)	
PETERSBURG - WRANGELL	842	963	901	770	981	976	981	1,021	1,190	3%
% CHANGE	--	3	(6)	(14)	26	(1)	1	4	17	
SITKA - ANGOON	--	--	--	76	196	357	562	660	582	50%
% CHANGE	--	--	--	--	158	82	57	17	(12)	(SINCE 1977)
SITKA - HAINES	317	472	446	396	429	475	532	552	464	3%
% CHANGE	--	8	(6)	(11)	8	11	12	4	(16)	
SITKA - HOONAH	--	21	72	59	113	103	149	254	165	34%
% CHANGE	--	--	243	(18)	92	(9)	45	70	(35)	(SINCE 1975)
SITKA - SKAGWAY	115	464	470	340	491	367	403	442	378	10%
% CHANGE	--	22	3	(29)	44	(25)	32	(8)	(14)	
WRANGELL - HAINES	182	404	186	184	143	137	145	156	138	(2%)
% CHANGE	--	17	(54)	(1)	(22)	(4)	6	8	(12)	
WRANGELL - PRINCE RUPERT	650	1,802	840	531	505	445	509	636	781	2%
% CHANGE	--	23	(53)	(37)	(5)	(12)	14	25	23	
WRANGELL - SKAGWAY	16	41	40	25	32	34	24	29	14	(1%)
% CHANGE	--	21	(2)	(88)	28	6	(29)	21	(52)	
HAINES - SKAGWAY	1,723	2,197	2,530	2,113	2,066	3,738	3,967	4,143	4,737	9%
% CHANGE	--	5	15	(14)	(5)	81	6	4	14	
TOTAL	21,674	36,911	36,339	30,968	34,956	38,574	43,779	47,528	53,249	8%
% CHANGE	--	11	(2)	(15)	13	10	13	9	12	

* SOURCE: ALASKA STATE DEPARTMENT OF TRANSPORTATION, ORIGIN AND DESTINATION STATISTICS

** P.A. -- PER ANNUM

1982 VEHICLE TRAFFIC BY TYPE & ROUTE *
SOUTHEAST ALASKA FERRY SYSTEM

ROUTE	PEAK SEASON (APRIL-SEPT)			WINTER (OCT-MARCH)			TOTAL YEAR		
	VANS	CARS	TOTAL	VANS	CARS	TOTAL	VANS	CARS	TOTAL
JUNEAU - WRANGELL	25	193	218	25	93	118	50	286	336
% OF TOTAL	11	88		20	80		15	85	
KETCHIKAN - HAINES	60	538	598	40	197	237	100	735	835
% OF TOTAL	10	90		17	83		12	80	
KETCHIKAN - HOLLIS	750	4,038	4,788	700	2,084	2,784	1,550	6,022	7,572
% OF TOTAL	16	84		25	75		20	80	
KETCHIKAN - METLAKATLA	209	1,539	1,739	200	1,161	1,361	400	2,700	3,100
% OF TOTAL	13	87		15	85		13	87	
KETCHIKAN - PETERSBURG	75	544	619	50	110	160	125	654	779
% OF TOTAL	12	88		31	69		16	84	
KETCHIKAN - PRINCE RUPERT	600	4,421	5,021	500	1,036	1,536	1,100	5,457	6,557
% OF TOTAL	12	88		33	67		17	83	
KETCHIKAN - SKAGWAY	6	94	100	4	13	17	10	107	117
% OF TOTAL	6	94		24	76		9	91	
KETCHIKAN - WRANGELL	98	719	817	80	240	320	178	959	1,137
% OF TOTAL	12	88		25	75		16	84	
PETERSBURG - HAINES	10	210	220	6	85	91	16	295	311
% OF TOTAL	5	95		7	93		5	95	
PETERSBURG - KAKE	40	561	601	40	343	383	80	904	984
% OF TOTAL	7	93		10	90		8	92	
PETERSBURG - PRINCE RUPERT	60	562	622	60	209	269	120	771	891
% OF TOTAL	10	90		22	78		13	87	

* ESTIMATE BASED ON ACTUAL VEHICLES ON FERRY AND ESTIMATE OF VANS CARRIED ON EACH ROUTE.
VAN IS DEFINED AS COMMERCIAL CARGO VEHICLE OVER 30 FT. IN LENGTH. CAR IS DEFINED AS ALL OTHER MOTOR VEHICLES.

1982 VEHICLE TRAFFIC BY TYPE & ROUTE *
SOUTHEAST ALASKA FERRY SYSTEM

ROUTE	PEAK SEASON (APRIL-SEPT)			WINTER (OCT-MARCH)			TOTAL YEAR		
	VANS	CARS	TOTAL	VANS	CARS	TOTAL	VANS	CARS	TOTAL
JUNEAU - ANGOON % OF TOTAL	45 10	387 90	432	45 15	255 85	300	90 12	642 88	732
JUNEAU - HAINES % OF TOTAL	936 15	5,153 85	6,089	848 35	1,587 65	2,435	1,784 19	6,740 81	8,524
JUNEAU - HOONAH % OF TOTAL	80 10	704 90	786	80 14	505 86	585	160 12	1,209 88	1,369
JUNEAU - KAKE % OF TOTAL	5 7	70 93	75	5 7	93 95	98	10 6	163 94	173
JUNEAU - KETCHIKAN % OF TOTAL	140 17	701 83	841	108 32	234 68	342	248 21	935 79	1,183
JUNEAU - PELICAN % OF TOTAL	6 10	57 90	63	4 19	17 81	21	10 12	74 88	84
JUNEAU - PETERSBURG % OF TOTAL	100 12	735 88	835	100 25	294 75	394	200 16	1,029 84	1,229
JUNEAU - PRINCE RUPERT % OF TOTAL	267 10	2,405 90	2,672	250 30	596 70	846	517 15	3,001 85	3,518
JUNEAU - SITKA % OF TOTAL	150 10	1,370 90	1,520	108 20	440 80	548	258 12.5	1,810 87.5	2,068
JUNEAU - SKAGWAY % OF TOTAL	312 12	2,346 88	2,652	150 25	436 75	586	462 14	2,776 86	3,238
JUNEAU - TENAKEE % OF TOTAL	-- --	-- --	--	-- --	-- --	--	-- --	-- --	--

* ESTIMATE BASED ON ACTUAL VEHICLES ON FERRY AND ESTIMATE OF VANS CARRIED ON EACH ROUTE.
VAN IS DEFINED AS COMMERCIAL CARGO VEHICLE OVER 30 FT. IN LENGTH. CAR IS DEFINED AS ALL OTHER MOTOR VEHICLES.

1982 VEHICLE TRAFFIC BY TYPE & ROUTE *
SOUTHEAST ALASKA FERRY SYSTEM

ROUTE	PEAK SEASON (APRIL-SEPT)			WINTER (OCT-MARCH)			TOTAL YEAR		
	VANS	CARS	TOTAL	VANS	CARS	TOTAL	VANS	CARS	TOTAL
PETERSBURG - SKAGWAY	4	48	52	2	9	11	6	57	63
% OF TOTAL	4	95		18	82		6	94	
PETERSBURG - WRANGELL	50	714	764	50	376	426	100	1,090	1,190
% OF TOTAL	7	93		12	88		8	92	
SITKA - ANGOON	10	228	238	10	234	244	20	552	572
% OF TOTAL	3	97		4	96		5	95	
SITKA - HAINES	25	307	332	25	107	132	50	414	464
% OF TOTAL	8	92		19	81		11	89	
SITKA - HOONAH	4	88	92	4	69	73	8	157	165
% OF TOTAL	4	96		5	95		5	95	
SITKA - SKAGWAY	20	212	232	20	126	146	40	338	378
% OF TOTAL	9	81		14	86		8	92	
WRANGELL - HAINES	6	103	109	6	23	29	12	126	138
% OF TOTAL	6	94		21	79		9	91	
WRANGELL - PRINCE RUPERT	60	472	532	60	189	249	120	661	781
% OF TOTAL	11	89		24	76		15	85	
WRANGELL - SKAGWAY	--	11	11	--	3	3	--	14	14
% OF TOTAL	--	100		--	100		--	100	
HAINES - SKAGWAY	120	4,045	4,105	100	512	632	220	4,517	4,737
% OF TOTAL	3	97		16	84		5	95	
TOTAL	4,306	33,569	37,875	3,600	11,694	15,374	7,906	45,263	53,249
% OF TOTAL	11	89		24	76		15	85	

* ESTIMATE BASED ON ACTUAL VEHICLES ON FERRY AND ESTIMATE OF VANS CARRIED ON EACH ROUTE.
VAN IS DEFINED AS COMMERCIAL CARGO VEHICLE OVER 30 FT. IN LENGTH. CAR IS DEFINED AS ALL OTHER MOTOR VEHICLES.

1982 PASSENGER TRAFFIC BY TYPE & ROUTE *
SOUTHEAST ALASKA FERRY SYSTEM

ROUTE	PEAK SEASON (APRIL-SEPT)			WINTER (OCT-MARCH)			TOTAL YEAR		
	WALK-ON	MOTORIST	TOTAL	WALK-ON	MOTORIST	TOTAL	WALK-ON	MOTORIST	TOTAL
JUNEAU - ANGOON % OF TOTAL	1,509 72	581 28	2090	1,014 67	510 33	1,524	2,523 70	1,019 30	3,614
JUNEAU - HAINES % OF TOTAL	10,698 51	10,306 49	21,004	3,951 53	3,571 47	7,522	14,649 51	13,877 49	28,526
JUNEAU - HOONAH % OF TOTAL	2,537 71	1,056 29	3,593	2,498 71	1,006 29	3,504	5,035 71	2,062 29	7,097
JUNEAU - KAKE % OF TOTAL	192 58	140 42	332	220 54	186 46	406	412 56	326 44	738
JUNEAU - KETCHIKAN % OF TOTAL	3,304 60	2,103 40	5,407	1,950 65	936 35	2,886	5,254 62	3,039 38	8,293
JUNEAU - PELICAN % OF TOTAL	487 81	114 19	601	205 82	43 18	248	692 82	157 18	849
JUNEAU - PETERSBURG % OF TOTAL	2,551 54	2,205 46	4,756	1,208 54	1,029 46	2,237	3,759 54	3,234 46	6,993
JUNEAU - PRINCE RUPERT % OF TOTAL	4,348 47	4,810 53	9,158	394 31	894 69	1,288	4,742 45	5,704 55	10,446
JUNEAU - SITKA % OF TOTAL	5,719 68	2,740 32	8,459	2,094 70	880 30	2,974	7,813 68	3,620 32	11,433
JUNEAU - SKAGWAY % OF TOTAL	9,917 59	7,020 41	16,937	1,106 56	872 44	1,978	11,023 58	7,892 42	18,915
JUNEAU - TENAKEE % OF TOTAL	1,215 100	-	1,215	832 100	-	832	2,047 100	-	2,047

* ESTIMATE BASED ON AMOUNT OF CAR TRAFFIC ON EACH ROUTE (SEE TABLE - IN APPENDIX), AN AVERAGE OF 1.5 - 3.0 PEOPLE PER VEHICLE AND ACTUAL PASSENGERS ON EACH ROUTE.

1982 PASSENGER TRAFFIC BY TYPE & ROUTE *
SOUTHEAST ALASKA FERRY SYSTEM

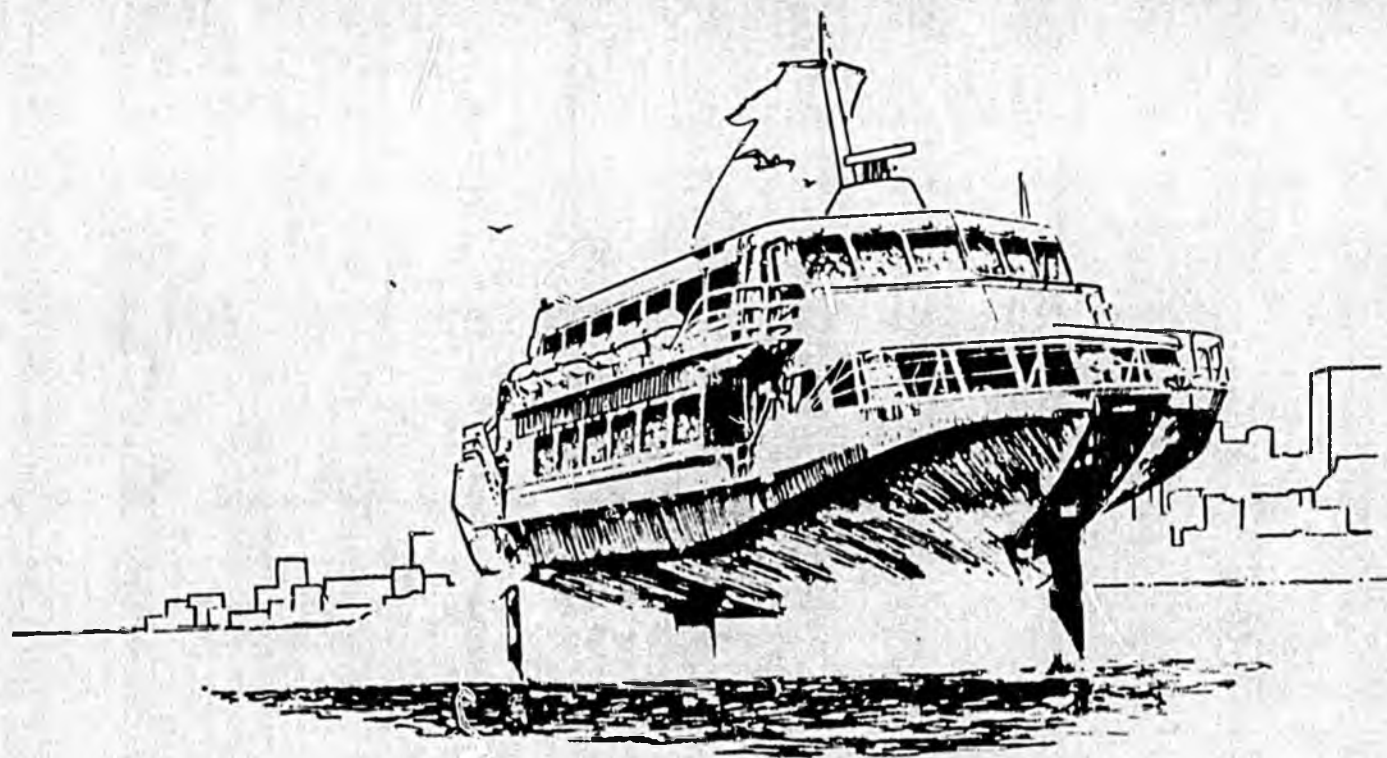
ROUTE	PEAK SEASON (APRIL-SEPT)			WINTER (OCT-MARCH)			TOTAL YEAR		
	WALK-ON	MOTORIST	TOTAL	WALK-ON	MOTORIST	TOTAL	WALK-ON	MOTORIST	TOTAL
JUNEAU - WRANGELL % OF TOTAL	323 56	579 44	1,302	521 61	325 39	845	1,244 58	905 42	2,149
KETCHIKAN - HAINES % OF TOTAL	1,280 49	1,345 51	2,625	390 50	394 50	784	1,670 49	1,739 51	3,409
KETCHIKAN - HOLLIS % OF TOTAL	6,348 41	9,086 59	15,434	4,302 45	5,210 55	9,512	10,650 43	14,296 57	24,946
KETCHIKAN - METLAKATLA % OF TOTAL	4,985 62	3,078 48	8,063	4,664 67	2,322 33	6,986	9,649 64	5,400 36	15,049
KETCHIKAN - PETERSBURG % OF TOTAL	1,905 58	1,360 42	3,265	1,321 73	480 27	1,801	3,226 64	1,840 36	5,066
KETCHIKAN - PRINCE RUPERT % OF TOTAL	8,713 50	6,42 50	17,555	1,421 35	2,590 65	4,011	10,134 47	11,432 53	21,566
KETCHIKAN - SKAGWAY % OF TOTAL	1,745 83	350 17	2,095	310 78	85 22	395	2,055 83	435 17	2,490
KETCHIKAN - WRANGELL % OF TOTAL	2,413 63	1,438 37	3,851	1,181 62	720 38	1,901	3,594 62	2,158 38	5,752
PETERSBURG - HAINES % OF TOTAL	445 51	421 49	866	192 48	213 52	405	637 50	634 50	1,271
PETERSBURG - KAKE % OF TOTAL	2,344 74	811 26	3,186	1,047 75	343 25	1,390	3,391 74	1,185 26	4,576
PETERSBURG - PRINCE RUPERT % OF TOTAL	792 41	1,124 59	1,916	207 40	314 60	521	999 41	1,438 59	2,437

* ESTIMATE BASED ON AMOUNT OF CAR TRAFFIC ON EACH ROUTE (SEE TABLE - IN APPENDIX), AN AVERAGE OF 1.5 - 3.0 PEOPLE PER VEHICLE AND ACTUAL PASSENGERS ON EACH ROUTE.

1982 PASSENGER TRAFFIC BY TYPE & ROUTE *
SOUTHEAST ALASKA FERRY SYSTEM

ROUTE	PEAK SEASON (APRIL-SEPT)			WINTER (OCT-MARCH)			TOTAL YEAR		
	WALK-ON	MOTORIST	TOTAL	WALK-ON	MOTORIST	TOTAL	WALK-ON	MOTORIST	TOTAL
PETERSBURG - SKAGWAY	339	168	507	101	36	137	440	201	644
% OF TOTAL	67	33		74	26		68	32	
PETERSBURG - WRANGELL	1,599	1,071	2,670	750	762	1,502	2,349	1,823	4,172
% OF TOTAL	60	40		50	50		56	44	
SITKA - ANCHORAGE	3,701	456	4,157	1,999	468	2,467	5,700	924	6,624
% OF TOTAL	89	11		81	19		86	14	
SITKA - HAINES	757	614	1,371	301	268	568	1,058	881	1,939
% OF TOTAL	55	45		53	47		55	45	
SITKA - HOONAH	675	179	851	448	138	586	1,123	314	1,437
% OF TOTAL	79	21		76	24		78	22	
SITKA - SKAGWAY	503	424	927	286	315	601	789	710	1,528
% OF TOTAL	54	46		48	52		52	45	
WRANGELL - HAINES	275	206	481	105	81	186	380	287	667
% OF TOTAL	57	43		56	44		57	43	
WRANGELL - PRINCE RUPERT	457	944	1,401	99	280	379	556	1,224	1,780
% OF TOTAL	33	67		26	74		31	69	
WRANGELL - SKAGWAY	133	55	188	27	15	42	160	70	230
% OF TOTAL	71	29		64	36		70	30	
HAINES - SKAGWAY	6,666	8,090	14,756	885	1,064	1,949	7,551	9,154	16,705
% OF TOTAL	45	55		45	55		45	55	
TOTAL	89,275	71,744	161,018	36,029	26,340	62,369	125,304	98,084	223,388
% OF TOTAL	55	45		56	44		56	44	

* ESTIMATE BASED ON AMOUNT OF CAR TRAFFIC ON EACH ROUTE (SEE TABLE - IN APPENDIX), AN AVERAGE OF 1.5 - 3.0 PEOPLE PER VEHICLE AND ACTUAL PASSENGERS ON EACH ROUTE.



Traffic Forecast

TRAFFIC FORECAST
METHODOLOGY

PAST TRENDS*

ASSUMING THAT ADEQUATE CAPACITY IS PROVIDED PASSENGER TRAFFIC GROWTH SHOULD FOLLOW CLOSELY THE GROWTH IN ITS PRIMARY USERS, LOCAL RESIDENTS AND VISITORS. AMONG LOCAL RESIDENTS, THE FREQUENCY WITH WHICH THEY WILL USE THE SERVICE WILL DEPEND GENERALLY ON THE PROSPERITY OF THE LOCAL ECONOMY, LOCAL EMPLOYMENT BEING A GOOD INDICATOR OF THIS.

		<u>GROWTH PER YEAR (1975 - 1982)</u>
TOTAL VISITORS (STATE-WIDE SINCE 1976) (DIVISION OF TOURISM)		9%
FERRY PASSENGERS		7%
JET AIR PASSENGERS		5%
EMPLOYMENT* (ALASKA DEPARTMENT OF LABOR)	SOUTHEAST (SINCE 1977) STATEWIDE	4% 3%
POPULATION* (ALASKA DEPARTMENT OF LABOR)	SOUTHEAST STATEWIDE	3% 3%

THE DIFFERENCE IN FERRY AND AIR TRAFFIC GROWTH IS PROBABLY DUE TO THE HIGHER PERCENTAGE OF VISITORS TRAVELING BY FERRY AND RESIDENTS TRAVELING BY AIR. (REFERENCE: SOUTHEASTERN ALASKA USER SURVEY, PREPARED FOR ALASKA D.O.T, SEE APPENDIX PAGE 212).

*SEE APPENDIX PAGES 185-202 FOR MORE DETAILS ON VISITOR, POPULATION AND EMPLOYMENT TRENDS.

TRAFFIC FORECAST
METHODOLOGY (CONTINUED)

FUTURE PROSPECTS*

FUTURE PASSENGER TRAFFIC DEMAND SHOULD FOLLOW THE PROJECTED TRENDS IN POPULATION, TOURISM AND EMPLOYMENT. THIS FORECAST ASSUMES THAT CAPACITY WILL BE ADDED AS IN THE PAST DECADE TO ADEQUATELY MEET RISING DEMAND.

	<u>(1983-85)</u>	GROWTH PER YEAR <u>(1986-90)</u>	<u>(1990-95)</u>
TOTAL VISITORS - STATEWIDE (TOURISM DIVISION ESTIMATE)	13%	NOT AVAILABLE	NOT AVAILABLE
FERRY PASSENGERS	5%	7%	5%
AIR PASSENGERS	3%	5%	4%
EMPLOYMENT - STATEWIDE (ALASKA DEPARTMENT OF LABOR FORECAST)	5% (THROUGH 1986)	5% (1)	--
POPULATION - STATEWIDE (U.S. CENSUS FORECAST)	2%	1.5%	1%

IN THE LAST FEW YEARS (SINCE 1980), AIR TRAFFIC GROWTH HAS BEEN SLOW (1.5% PER YEAR) REFLECTING THE SERIOUS EFFECT OF THE RECESSION IN SOUTHEAST ALASKA (4% PER YEAR DECLINE IN EMPLOYMENT). ALTHOUGH THE LONG AWAITED NATIONAL RECOVERY IS EXPECTED TO BEGIN IN 1983 AND STATEWIDE EMPLOYMENT EXPECTED TO RISE 5% PER YEAR THROUGH 1986, FOR CONSERVATISM, RECOVERY IN THE SOUTHEAST ECONOMY (AND AIR TRAFFIC GROWTH), IS EXPECTED TO BE SLOWER. THIS ESTIMATE IS BASED ON THE IMPORTANCE OF FOREIGN MARKETS FOR THE PRODUCTS OF SOUTHEAST ALASKA, (TIMBER, FISHING). THE RECOVERY IN THESE MARKETS WILL PROBABLY FOLLOW RECOVERY OF THE U.S. ECONOMY WHICH IS EXPECTED TO REACH PEAK RECOVERY IN 1985 (SEE CHASE ECONOMETRIC FORECAST IN APPENDIX ON PAGES 203-205).

IN CONTRAST, THE GROWTH IN TOURISM AND FERRY PASSENGERS SINCE 1980 HAS REMAINED QUITE RAPID, (BOTH EXPERIENCED 7% GROWTH PER YEAR). THIS MAY REFLECT A PENT UP DEMAND FOR TRAVEL TO ALASKA OR THE ECONOMIC DECISION BY RESIDENTS, PARTICULARLY OF THE WESTERN UNITED STATES TO VACATION CLOSER TO HOME. TOURISM GROWTH STATEWIDE IS EXPECTED TO REMAIN RAPID THROUGH 1985. TO BE CONSERVATIVE, SOUTHEAST FERRY TRAFFIC DEMAND IS EXPECTED TO FOLLOW MORE CLOSELY THE ANTICIPATED ECONOMIC TRENDS. GROWTH IS EXPECTED TO BE SLOW IN 1983 WITH FULL RECOVERY NOT BEGINNING UNTIL 1984. PEAK GROWTH WILL BE REACHED IN 1986 AFTER WHICH TRAFFIC GROWTH WILL SETTLE DOWN TO A LEVEL BETWEEN ANTICIPATED TOURISM AND POPULATION/EMPLOYMENT GROWTH.

(1) ALASKA PACIFIC BANK CORPORATION FORECAST

*SEE APPENDIX PAGES 185-202 FOR MORE DETAILS ON VISITOR, POPULATION AND EMPLOYMENT FORECASTS.

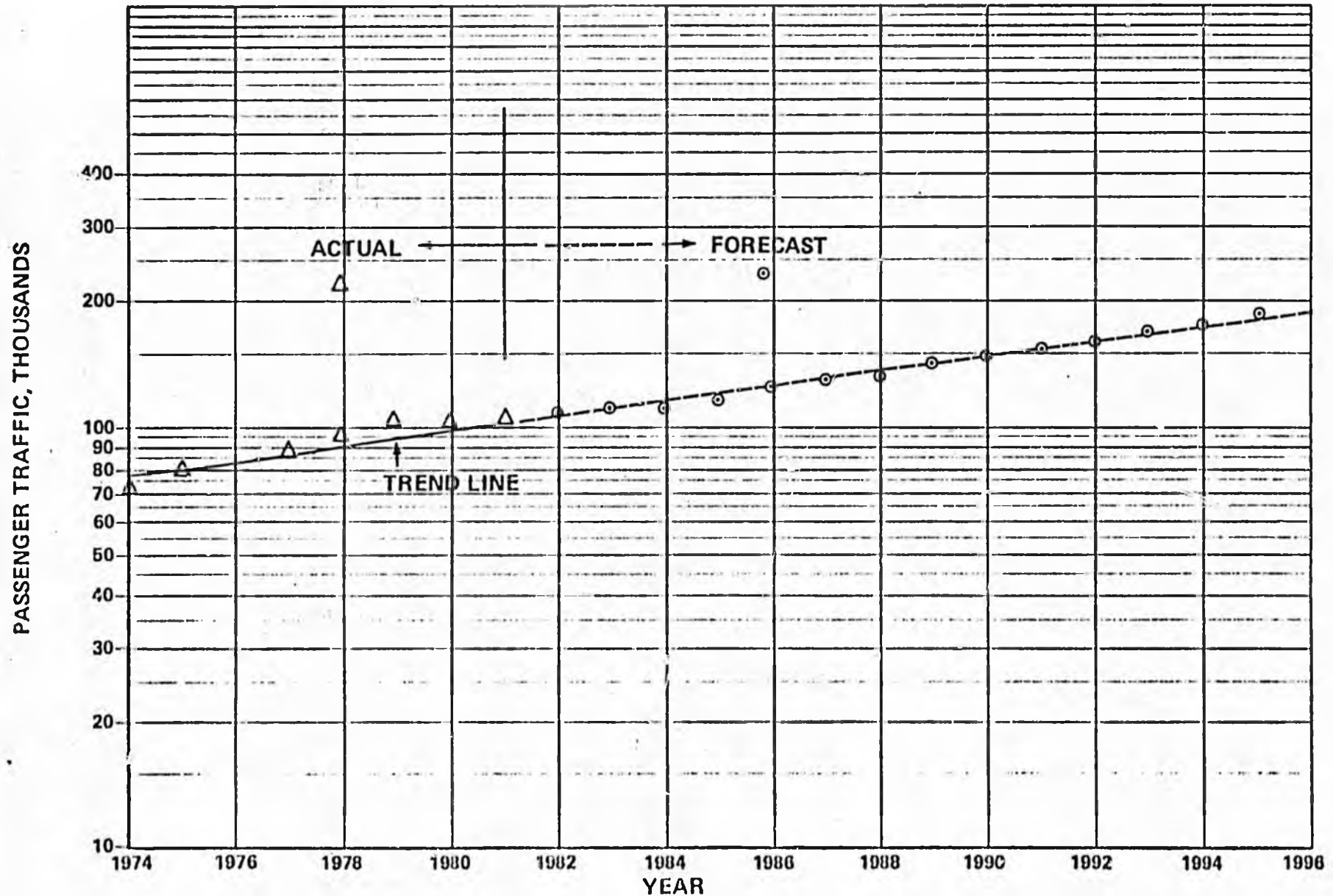
LOCAL TRENDS

ACTUAL TRAFFIC DEMAND FORECASTS WERE MADE ON A ROUTE BY ROUTE BASIS IN ORDER TO REFLECT MORE ACCURATELY LOCAL TRENDS. THE FOLLOWING IS A SUMMARY OF SIGNIFICANT TRENDS OF SOME MAJOR ROUTE SEGMENTS*.

- o KETCHIKAN - PRINCE OF WALES ISLAND
 - VERY RAPID GROWTH IN FERRY TRAFFIC -- 24% PER YEAR SINCE 1976.
 - ANTICIPATED HIGH GROWTH IN NEAR FUTURE IN LABOR INTENSIVE INDUSTRIES (TIMBER, MINERAL EXPLORATION).
 - TRAFFIC DEMAND FORECASTED TO CONTINUE GROWING AT RAPID RATE.
- o KETCHIKAN - METLAKATLA
 - SLOW GROWTH IN FERRY TRAFFIC -- 3% PER YEAR SINCE 1976.
 - ANTICIPATED CONTINUED SLOW GROWTH IN POPULATION AND EMPLOYMENT.
 - TRAFFIC DEMAND FORECASTED TO CONTINUE SLOW GROWTH.
- o MAINLINE TRAFFIC TO/FROM WRANGELL AND PETERSBURG
 - SLOW GROWTH IN FERRY TRAFFIC -- 3.5% PER YEAR SINCE 1970.
 - ECONOMIES HARD HIT BY RECESSION (TIMBER AND FISHING).
 - ANTICIPATED SLOW RECOVERY POSSIBLY SPURRED BY STIKINE HYDROELECTRIC PROJECT.
 - SLOW TRAFFIC GROWTH IN NEAR FUTURE, MODERATE GROWTH OVER LONG TERM.
- o JUNEAU - SITKA
 - RAPID GROWTH IN FERRY AND AIR TRAFFIC -- 9% PER YEAR SINCE 1975.
 - INCREASE PROBABLY DUE TO ITS DEVELOPMENT INTO TOURISM AND COMMERCE CENTER.
 - TRAFFIC GROWTH EXPECTED TO FOLLOW ANTICIPATED RAPID GROWTH IN TOURISM.
- o MAINLINE - HAINES
 - MODERATE GROWTH IN FERRY TRAFFIC -- 5% PER YEAR SINCE 1970.
 - TRAFFIC GROWTH CLOSELY TIED TO TOURISM -- EXPECTED TO FOLLOW ANTICIPATED RAPID GROWTH IN TOURISM.
- o JUNEAU - SKAGWAY
 - MODERATE GROWTH IN FERRY TRAFFIC -- 6% PER YEAR SINCE 1970.
 - TRAFFIC GROWTH EXPECTED TO BE DAMPENED IN NEAR FUTURE BY CLOSING OF RAILROAD.
 - TRAFFIC DEMAND EXPECTED TO EVENTUALLY RETURN TO MODERATE GROWTH.
- o SMALLER NORTHERN COMMUNITIES -- SITKA OR JUNEAU
 - RAPID FERRY TRAFFIC GROWTH -- 17% PER YEAR SINCE 1978 DESPITE EFFECT OF RECESSION ON LOCAL INDUSTRY -- DUE PROBABLY TO PENT UP DEMAND SINCE FERRY SERVICE WAS ADDED IN MID-1970'S.
 - GROWTH IN TRAFFIC DEMAND EXPECTED TO MODERATE IN NEAR FUTURE.

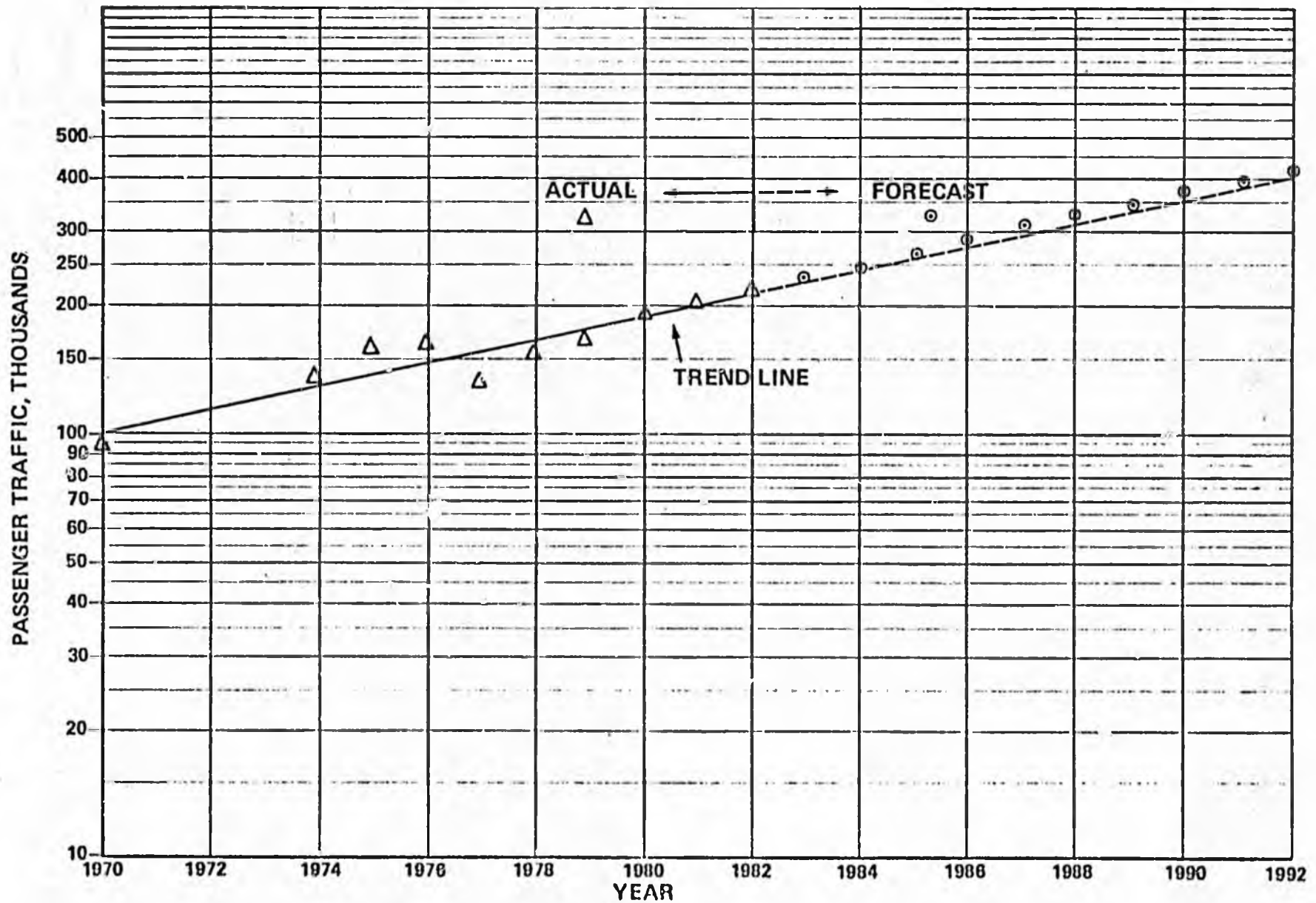
*LOCAL SOCIO-ECONOMIC TRENDS BASED ON DISCUSSIONS WITH DEPARTMENT OF COMMUNITY AND REGIONAL AFFAIRS OFFICIALS AND THE "COMMUNITY PROFILES" PUBLISHED BY THAT DEPARTMENT.

Annual Jet Aircraft Passengers Southeast Alaska Actual and Forecasted Traffic*



* ACTUAL DATA FROM CAB SERVICE SEGMENT DATA.
TRAFFIC FORECAST BASED ON PAST TRENDS AND ANTICIPATED FUTURE ENVIRONMENT

Annual Ferry Passengers Southeast Alaska Actual and Forecasted Traffic*



* SOURCE: ALASKA STATE DEPARTMENT OF TRANSPORTATION, ORIGIN AND DESTINATION STATISTICS.
TRAFFIC FORECAST BASED ON PAST TRENDS AND ANTICIPATED FUTURE ENVIRONMENT.

FORECASTED PASSENGER TRAFFIC DEMAND

1986 - SOUTHEAST ALASKA

ROUTE	FERRY		AIR		TOTAL
	WALK-ON	MOTORIST	JET	AIR TAXI	
JUNEAU - SKAGWAY	49,918	44,443	--	49,284	143,645
JUNEAU - GUSTAVUS	--	--	30,985	1,264**	32,249
JUNEAU - SITKA	33,534	11,005	38,571	50,244	133,354
JUNEAU - KETCHIKAN	28,615	17,905	42,747	21,553	110,820
KETCHIKAN - METLAKATLA/HOLLIS	26,306	26,487	--	70,185	122,978
TOTAL WITHOUT PRINCE RUPERT*	138,373	99,840	112,303	192,530	543,046
% OF TOTAL	44%		21%	35%	
TOTAL WITH PRINCE RUPERT*	158,912	124,706	112,303	194,447	590,368
% OF TOTAL	48%		19%	33%	

*EXCLUDING SEATTLE

**JUST PEAK SEASON

ANNUAL JET AIRCRAFT PASSENGERS*
SOUTHEAST ALASKA

JET AIR FORECAST

TRAFFIC FORECAST**

ROUTE	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
GST - JNU % CHANGE	24,603 5	26,325 7	28,958 10	30,985 7	32,224 5	33,835 5	35,189 5	36,596 5	38,426 5	40,340 5	42,365 5	44,403 5	46,707 5
JNU - KTN % CHANGE	10,115 1	18,658 3	20,963 7	22,010 5	22,891 4	23,807 4	24,759 4	25,750 4	26,780 4	27,850 4	28,965 4	30,123 4	31,323 4
JNU - PSG % CHANGE	8,050 1	8,211 2	8,540 4	9,053 6	9,415 4	9,791 4	10,183 4	10,590 4	11,014 4	11,454 4	11,913 4	12,389 4	12,885 4
JNU - SIT % CHANGE	33,322 3	34,655 4	36,734 6	38,571 5	40,499 5	42,524 5	44,225 4	45,904 4	47,834 4	49,747 4	51,737 4	53,806 4	55,958 4
JNU - WRG % CHANGE	3,704 1	3,778 2	3,929 4	4,165 6	4,331 4	4,504 4	4,685 4	4,872 4	5,067 4	5,270 4	5,480 4	5,700 4	5,928 4
KTN - PSG % CHANGE	3,382 1	3,450 2	3,588 4	3,803 6	3,956 4	4,114 4	4,278 4	4,449 4	4,627 4	4,813 4	5,005 4	5,205 4	5,413 4
KTN - SIT % CHANGE	10,472 2	11,786 3	11,325 5	12,118 7	12,724 5	13,233 4	13,762 4	14,313 4	14,885 4	15,481 4	16,100 4	16,744 4	17,414 4
KTN - WRG % CHANGE	2,827 1	2,986 2	3,105 4	3,291 6	3,423 4	3,560 4	3,702 4	3,850 4	4,004 4	4,164 4	4,331 4	4,504 4	4,684 4
PSG - SIT % CHANGE	1,248 1	1,273 2	1,324 4	1,404 6	1,460 4	1,510 4	1,579 4	1,642 4	1,708 4	1,776 4	1,847 4	1,921 4	1,998 4
PSG - WRG % CHANGE	1,309 1	1,335 2	1,389 4	1,472 6	1,531 4	1,592 4	1,656 4	1,722 4	1,791 4	1,862 4	1,937 4	2,014 4	2,095 4
SIT - WRG % CHANGE	863 1	880 2	915 4	970 6	1,009 4	1,049 4	1,091 4	1,135 4	1,180 4	1,227 4	1,276 4	1,327 4	1,380 4
TOTAL % CHANGE	107,995 3	112,337 4	119,398 6	126,795 6	132,502 5	138,601 5	144,157 4	149,922 4	156,286 4	162,922 4	169,841 4	177,050 4	184,585 4

*SOURCE: C.A.B. SERVICE SEGMENT DATA

**FORECAST BASED ON EVALUATION OF PAST TRAFFIC TRENDS, PROJECTED POPULATION AND TOURISM GROWTH AND ANTICIPATED ECONOMIC RECOVERY STARTING IN 1984 AND PEAKING IN 1986.

FORECASTED AIR TAXI PASSENGERS *
SOUTHEAST ALASKA

ROUTE	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
JUNEAU - ANGOON	3,900	4,017	4,218	4,513	4,739	4,976	5,175	5,382	5,597	5,821	6,034	6,296	6,548
% CHANGE	-	3	5	7	5	5	4	4	4	4	4	4	4
JUNEAU-EXCURSION INLET	910	919	947	994	1,024	1,054	1,086	1,119	1,152	1,175	1,194	1,223	1,247
% CHANGE	-	1	3	5	3	3	3	3	3	2	2	2	2
JUNEAU - GUSTAVUS	1,020	1,875	1,968	2,106	2,211	2,322	2,430	2,436	2,637	2,743	2,852	2,966	3,085
% CHANGE	-	3	5	7	5	5	5	4	4	4	4	4	4
JUNEAU-HAINES/SKAGWAY	42,588	43,066	46,059	49,203	51,747	54,335	57,051	59,904	62,899	65,415	68,032	70,753	73,503
% CHANGE	-	3	5	7	5	5	5	5	5	4	4	4	4
JUNEAU - HOONAH	29,484	30,360	31,086	34,119	35,025	37,616	39,497	41,471	43,545	45,287	47,099	48,983	50,942
% CHANGE	-	3	5	7	5	5	5	5	5	4	4	4	4
JUNEAU - KAKE	3,900	3,939	4,057	4,260	4,388	4,519	4,655	4,795	4,939	5,037	5,138	5,241	5,346
% CHANGE	-	1	3	5	3	3	3	3	3	2	2	2	2
JUNEAU - PELICAN	3,900	3,939	4,057	4,260	4,388	4,519	4,655	4,795	4,939	5,037	5,138	5,241	5,346
% CHANGE	-	1	3	5	3	3	3	3	3	2	2	2	2
JUNEAU-PETERSBURG	2,340	2,363	2,434	2,556	2,684	2,791	2,903	2,990	3,080	3,172	3,267	3,365	3,466
% CHANGE	-	1	3	5	5	4	4	3	3	3	3	3	3
KETCHIKAN-CRAIG/KLANOCK	28,665	29,525	31,001	33,171	34,830	36,571	38,400	40,320	42,336	44,453	46,675	49,009	51,460
% CHANGE	-	3	5	7	5	5	5	5	5	5	5	5	5

* FORECAST BASED ON COMPARISON OF 1982 AND 1976 SCHEDULED SERVICE, PROJECTED POPULATION AND TOURISM GROWTH AND ANTICIPATED ECONOMIC RECOVERY STARTING IN 1984 AND PEAKING IN 1986.

AIR TAXI FORECAST

FORECASTED AIR TAXI PASSENGERS *
SOUTHEAST ALASKA

ROUTE	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
KETCHIKAN-METLAKATLA % CHANGE	33,807 -	34,226 1	35,253 3	37,015 5	38,126 3	39,270 3	40,448 3	41,661 3	42,911 3	43,769 2	44,644 2	45,537 2	46,448 2
KETCHIKAN-PR. RUPERT % CHANGE	1,755 -	1,773 1	1,826 3	1,917 5	2,013 5	2,093 4	2,177 4	2,242 3	2,309 3	2,379 3	2,450 3	2,524 3	2,600 3
KETCHIKAN-WRANGELL % CHANGE	4,680 -	4,727 1	4,869 3	5,112 5	5,368 5	5,502 4	5,806 4	5,900 3	6,159 3	6,344 3	6,534 3	6,730 3	6,932 3
PETERSBURG - KAKE % CHANGE	3,900 -	3,939 1	4,057 3	4,260 5	4,308 3	4,519 3	4,655 3	4,795 3	4,939 3	5,037 2	5,138 2	5,241 2	5,346 2
PETERSBURG-WRANGELL % CHANGE	4,680 -	4,727 1	4,869 3	5,112 5	5,368 5	5,502 4	5,806 4	5,980 3	6,159 3	6,344 3	6,534 3	6,730 3	6,932 3
SITKA - ANGOON % CHANGE	3,120 -	3,151 1	3,246 3	3,408 5	3,578 5	3,722 4	3,871 4	3,987 3	4,107 3	4,230 3	4,357 3	4,487 3	4,622 3
SITKA - PELICAN % CHANGE	3,120 -	3,151 1	3,246 3	3,408 5	3,578 5	3,722 4	3,871 4	3,987 3	4,107 3	4,230 3	4,357 3	4,487 3	4,622 3
SITKA - TENAKEE % CHANGE	1,560 -	1,576 1	1,623 3	1,704 5	1,755 3	1,808 3	1,862 3	1,918 3	1,975 3	2,015 2	2,055 2	2,096 2	2,138 2
TOTAL	174,209	178,001	185,624	197,198	206,010	215,001	224,356	233,762	243,790	252,488	261,423	270,859	280,663
% CHANGE	-	2	4	6	5	4	4	4	4	4	4	4	4

* FORECAST BASED ON COMPARISON OF 1982 AND 1976 SCHEDULED SERVICE, PROJECTED POPULATION AND TOURISM GROWTH AND ANTICIPATED ECONOMIC RECOVERY STARTING IN 1984 AND PEAKING IN 1986.

ANNUAL ALASKA FERRY PASSENGERS
SOUTHEAST ALASKA
FORECASTED TRAFFIC*

ROUTE	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
JUNEAU - ANGOON % CHANGE	3,759 4	3,984 6	4,303 8	4,733 10	5,112 8	5,470 7	5,852 7	6,262 7	6,700 7	7,035 5	7,367 5	7,757 5	8,144 5
JUNEAU - HAINES % CHANGE	29,667 4	31,447 6	33,963 8	37,359 10	40,348 8	43,172 7	46,194 7	49,426 7	52,888 7	55,532 5	58,304 5	61,224 5	64,285 5
JUNEAU - HOONAH % CHANGE	7,381 4	7,824 6	8,450 8	9,295 10	10,038 8	10,741 7	11,493 7	12,297 7	13,158 7	13,816 5	14,507 5	15,232 5	15,994 5
JUNEAU - KAKE % CHANGE	768 4	814 6	879 8	967 10	1,043 8	1,117 7	1,195 7	1,279 7	1,368 7	1,437 5	1,509 5	1,584 5	1,653 5
JUNEAU - KETCHIKAN % CHANGE	8,542 3	8,969 5	9,597 7	10,460 9	11,402 9	12,314 8	13,299 8	14,230 7	15,226 7	15,487 5	16,787 5	17,626 5	18,507 5
JUNEAU - PELICAN % CHANGE	883 4	936 6	1,011 8	1,112 10	1,201 8	1,285 7	1,375 7	1,471 7	1,574 7	1,653 5	1,735 5	1,822 5	1,913 5
JUNEAU - PETERSBURG % CHANGE	7,203 3	7,563 5	8,092 7	8,821 9	9,526 8	10,193 7	10,907 7	11,670 7	12,254 5	12,866 5	13,510 5	14,185 5	14,894 5
JUNEAU-PRINCE RUPERT % CHANGE	10,759 3	11,297 5	12,008 7	13,176 9	14,230 8	15,226 7	16,292 7	17,433 7	18,304 5	19,219 5	20,180 5	21,109 5	22,249 5
JUNEAU - SITKA % CHANGE	12,233 7	13,334 9	14,667 10	16,135 10	17,748 10	19,345 9	21,006 9	22,773 8	24,595 8	26,317 7	28,159 7	30,130 7	32,239 7
JUNEAU - SKAGWAY % CHANGE	19,482 3	20,067 3	21,070 5	22,545 7	24,123 7	25,812 7	27,103 5	28,458 5	29,881 5	31,375 5	32,943 5	34,591 5	36,320 5
JUNEAU - TENAKEE % CHANGE	2,129 4	2,257 5	2,437 8	2,680 10	2,895 8	3,098 7	3,315 7	3,547 7	3,795 7	3,985 5	4,184 5	4,393 5	4,613 5

*FORECAST BASED ON EVALUATION OF PAST TRAFFIC TRENDS, PROJECTED POPULATION AND TOURIST GROWTH AND ANTICIPATED ECONOMIC RECOVERY STARTING IN 1984 AND PEAKING IN 1986.

ANNUAL ALASKA FERRY PASSENGERS
SOUTHEAST ALASKA
FORECASTED TRAFFIC* (Cont'd)

ROUTE	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
JUNEAU - WRANGELL % CHANGE	2,170 1	2,236 3	2,347 5	2,512 7	2,600 7	2,022 5	2,963 5	3,111 5	3,267 5	3,365 3	3,466 3	3,570 3	3,677 3
KETCHIKAN - HAINES % CHANGE	3,545 4	3,750 6	4,059 8	4,465 10	4,022 0	5,159 7	5,520 7	5,907 7	6,320 7	6,636 5	6,968 5	7,317 5	7,602 5
KETCHIKAN - HOLLIS % CHANGE	26,692 7	29,095 9	32,604 10	35,204 10	30,373 9	41,443 0	44,343 7	47,440 7	50,760 7	54,323 7	57,323 5	59,001 5	62,005 5
KETCHIKAN-METLAKATLA % CHANGE	15,199 1	15,655 3	16,438 5	17,509 7	18,460 7	19,392 5	19,974 5	20,573 5	21,190 5	21,826 3	22,400 3	23,155 3	23,850 3
KETCHIKAN-PETERSBURG % CHANGE	5,167 2	5,374 4	5,696 6	6,152 8	6,521 6	6,913 6	7,250 5	7,621 5	8,003 5	8,402 5	8,654 3	8,914 3	9,101 3
KETCHIKAN-PR. RUPERT % CHANGE	22,213 3	23,324 5	24,956 7	27,202 9	29,379 0	31,435 7	33,635 7	35,990 7	37,709 5	39,679 5	41,663 5	43,746 5	45,933 5
KETCHIKAN - SKAGWAY % CHANGE	2,564 3	2,642 3	2,774 5	2,968 7	3,176 7	3,398 7	3,568 5	3,746 5	3,934 5	4,130 5	4,337 5	4,554 5	4,701 5
KETCHIKAN - WRANGELL % CHANGE	5,067 2	6,102 4	6,468 6	6,905 8	7,404 6	7,849 6	8,241 5	8,653 5	9,006 5	9,549 5	10,017 5	10,518 5	11,044 5
PETERSBURG - HAINES % CHANGE	1,296 2	1,340 4	1,430 6	1,543 0	1,636 6	1,734 6	1,821 5	1,912 5	2,008 5	2,108 5	2,213 5	2,324 5	2,440 5
PETERSBURG - KAKE % CHANGE	4,668 2	4,854 4	5,145 6	5,577 8	5,091 6	6,244 6	6,556 5	6,804 5	7,220 5	7,590 5	7,969 5	8,310 5	8,706 5
PETERSBURG-PR. RUPERT % CHANGE	2,510 3	2,585 3	2,715 5	2,905 7	3,050 5	3,202 5	3,363 5	3,531 5	3,707 5	3,810 3	3,933 3	4,051 3	4,173 3

*FORECAST BASED ON EVALUATION OF PAST TRAFFIC TRENDS, PROJECTED POPULATION AND TOURIST GROWTH AND ANTICIPATED ECONOMIC RECOVERY STARTING IN 1984 AND PEAKING IN 1986.

ANNUAL ALASKA FERRY PASSENGERS
SOUTHEAST ALASKA
FORECASTED TRAFFIC* (Cont'd)

ROUTE	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
PETERSBURG - SKAGWAY % CHANGE	650 1	670 3	703 5	753 7	790 5	830 5	871 5	915 5	961 5	989 3	1,019 3	1,050 3	1,081 3
PETERSBURG - WRANGELL % CHANGE	4,255 2	4,426 4	4,691 6	5,066 8	5,370 6	5,693 6	5,977 5	6,276 5	6,590 5	6,919 5	7,266 5	7,629 5	8,010 5
SITKA - ANGOON % CHANGE	6,823 3	7,164 5	7,665 7	8,355 9	8,940 7	9,566 7	10,235 7	10,952 7	11,450 5	12,075 5	12,678 5	13,312 5	13,978 5
SITKA - HAINES % CHANGE	1,978 2	2,057 4	2,180 6	2,354 8	2,520 7	2,696 7	2,858 6	3,029 6	3,211 6	3,371 5	3,540 5	3,717 5	3,903 5
SITKA - HOONAH % CHANGE	1,480 3	1,554 5	1,663 7	1,813 9	1,939 7	2,075 7	2,220 7	2,376 7	2,495 5	2,619 5	2,750 5	2,888 5	3,032 5
SITKA - SKAGWAY % CHANGE	1,543 1	1,590 3	1,669 5	1,786 7	1,911 7	2,006 5	2,107 5	2,212 5	2,323 5	2,392 3	2,464 3	2,538 3	2,614 3
WRANGELL - HAINES % CHANGE	600 2	708 4	750 6	810 8	859 6	910 6	956 5	1,003 5	1,054 5	1,106 5	1,162 5	1,220 5	1,281 5
WRANGELL-PRINCE RUPERT % CHANGE	1,833 3	1,888 3	1,983 5	2,122 7	2,278 5	2,339 5	2,456 5	2,579 5	2,708 5	2,784 3	2,873 3	2,959 3	3,048 3
WRANGELL - SKAGWAY % CHANGE	232 1	235 1	242 3	254 5	264 4	274 4	285 4	294 3	303 3	312 3	321 3	331 3	341 3
HAINES - SKAGWAY % CHANGE	16,872 1	17,378 3	18,247 5	19,524 7	20,501 5	21,516 5	22,602 5	23,732 5	24,444 3	25,177 3	25,933 3	26,711 3	27,512 3
TOTAL % CHANGE	230,043 3	243,135 6	260,382 7	283,202 9	304,396 7	325,279 7	345,920 6	367,592 6	380,583 6	408,388 5	427,238 5	448,496 5	470,053 5

*FORECAST BASED ON EVALUATION OF PAST TRAFFIC TRENDS, PROJECTED POPULATION AND TOURIST GROWTH AND ANTICIPATED ECONOMIC RECOVERY STARTING IN 1984 AND PEAKING IN 1986.

ANNUAL VEHICLE TRAFFIC
SOUTHEAST ALASKA FERRY SYSTEM
FORECASTED TRAFFIC*

ROUTE	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
JUNEAU - ANGOON	761	807	872	959	1,035	1,100	1,185	1,268	1,357	1,425	1,496	1,571	1,650
% CHANGE	4	6	8	10	8	7	7	7	7	5	5	5	5
JUNEAU - HAINES	8,865	9,397	10,149	11,163	12,057	12,901	13,804	14,770	15,004	16,594	17,424	18,295	19,209
% CHANGE	4	6	8	10	8	7	7	7	7	5	5	5	5
JUNEAU - HOONAH	1,424	1,509	1,630	1,793	1,936	2,072	2,217	2,372	2,538	2,665	2,798	2,938	3,005
% CHANGE	4	6	8	10	8	7	7	7	7	5	5	5	5
JUNEAU - KAKE	180	191	206	227	245	262	280	300	321	337	354	371	390
% CHANGE	4	6	8	10	8	7	7	7	7	5	5	5	5
JUNEAU - KETCHIKAN	1,210	1,279	1,369	1,492	1,626	1,757	1,897	2,030	2,172	2,281	2,395	2,514	2,640
% CHANGE	3	5	7	9	9	8	8	7	7	5	5	5	5
JUNEAU - PELICAN	87	93	100	110	119	127	136	146	156	164	172	180	189
% CHANGE	4	6	8	10	8	7	7	7	7	5	5	5	5
JUNEAU - PETERSBURG	1,266	1,329	1,422	1,550	1,690	1,825	1,971	2,109	2,256	2,369	2,490	2,612	2,743
% CHANGE	3	5	7	9	9	8	8	7	7	5	5	5	5
JUNEAU-PRINCE RUPERT	3,624	3,805	4,071	4,437	4,792	5,120	5,487	5,871	6,164	6,473	6,796	7,136	7,493
% CHANGE	3	5	7	9	8	7	7	7	5	5	5	5	5
JUNEAU - SITKA	2,213	2,412	2,653	2,918	3,210	3,500	3,814	4,119	4,449	4,760	5,093	5,450	5,831
% CHANGE	7	9	10	10	10	9	9	8	8	7	7	7	7
JUNEAU - SKAGWAY	3,335	3,435	3,607	3,859	4,130	4,419	4,640	4,872	5,116	5,371	5,639	5,921	6,210
% CHANGE	3	3	5	7	7	7	5	5	5	5	5	5	5
JUNEAU - TENAKEE	--	--	--	--	--	--	--	--	--	--	--	--	--
% CHANGE	--	--	--	--	--	--	--	--	--	--	--	--	--

*FORECAST BASED ON EVALUATION OF PAST TRAFFIC TRENDS, PROJECTED POPULATION AND TOURIST GROWTH AND ANTICIPATED ECONOMIC RECOVERY STARTING IN 1984 AND PEAKING IN 1986.

ANNUAL VEHICLE TRAFFIC
SOUTHEAST ALASKA FERRY SYSTEM
FORECASTED TRAFFIC* (Cont'd)

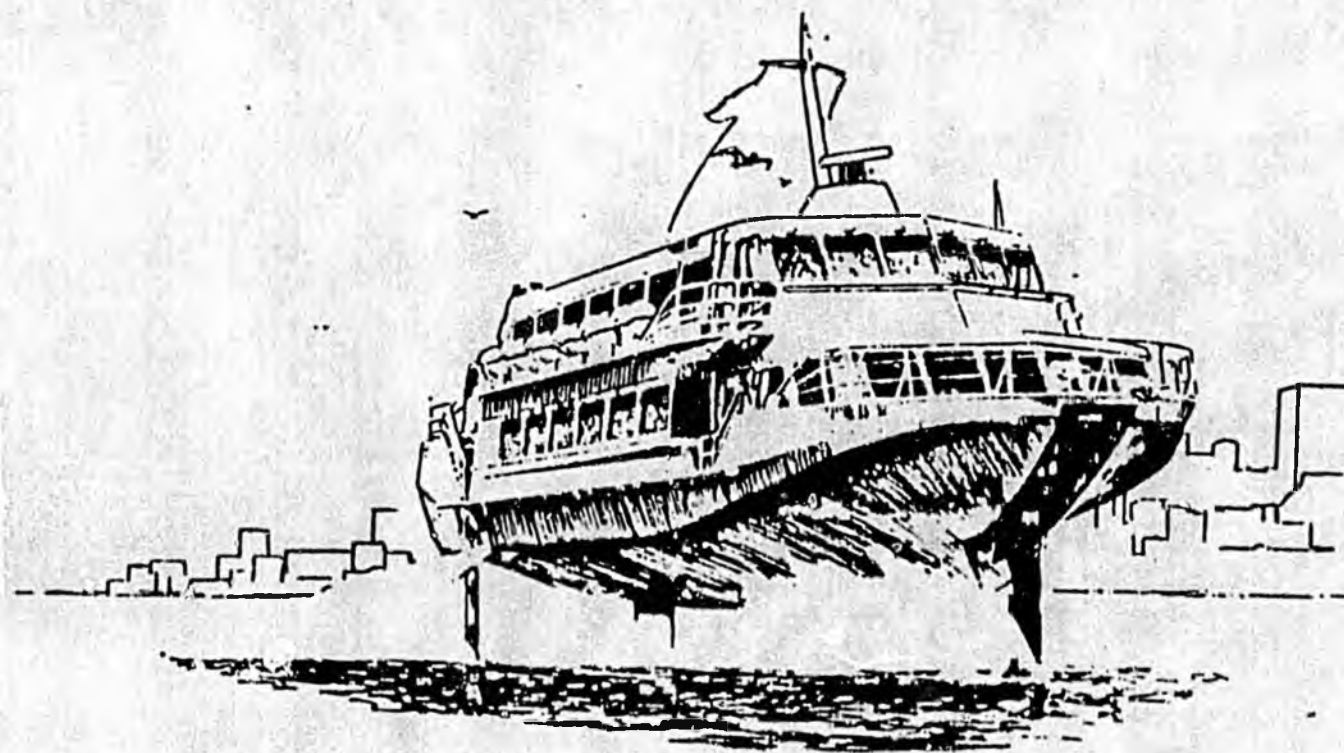
ROUTE	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
JUREAU - WRANGELL % CHANGE	339 1	350 3	367 5	393 7	420 7	441 5	463 5	406 5	511 5	526 3	542 3	558 3	575 3
KETCHIKAN - HAINES % CHANGE	868 4	921 6	994 8	1,094 10	1,181 8	1,264 7	1,352 7	1,447 7	1,548 7	1,626 5	1,707 5	1,792 5	1,882 5
KETCHIKAN - HOLLIS % CHANGE	8,102 7	8,831 9	9,714 10	10,686 10	11,648 9	12,579 8	13,460 7	14,402 7	15,410 7	16,409 7	17,313 5	18,179 5	19,088 5
KETCHIKAN-METLAKATLA % CHANGE	3,131 1	3,225 3	3,386 5	3,623 7	3,877 7	4,071 5	4,274 5	4,488 5	4,712 5	4,854 3	4,999 3	5,150 3	5,304 3
KETCHIKAN-PETERSBURG % CHANGE	795 2	826 4	876 6	946 8	1,003 6	1,063 6	1,116 5	1,172 5	1,231 5	1,292 5	1,331 3	1,371 3	1,412 3
KETCHIKAN-PR. RUPERT % CHANGE	6,754 3	7,091 5	7,588 7	8,271 9	8,932 8	9,558 7	10,227 7	10,943 7	11,490 5	12,064 5	12,667 5	13,301 5	13,966 5
KETCHIKAN - SKAGWAY % CHANGE	121 3	124 3	130 5	139 7	149 7	160 7	168 5	176 5	185 5	194 5	204 5	214 5	225 5
KETCHIKAN - WRANGELL % CHANGE	1,160 2	1,206 4	1,279 6	1,381 8	1,464 6	1,551 6	1,629 5	1,710 5	1,796 5	1,886 5	1,980 5	2,079 5	2,183 5
PETERSBURG - HAINES % CHANGE	317 2	330 4	350 6	378 6	400 6	424 6	446 5	468 5	491 5	516 5	542 5	569 5	597 5
PETERSBURG - KAKE % CHANGE	1,004 2	1,044 4	1,106 6	1,195 8	1,267 6	1,343 6	1,410 5	1,480 5	1,554 5	1,632 5	1,714 5	1,799 5	1,899 5
PETERSBURG-PR. RUPERT % CHANGE	918 3	945 3	993 5	1,062 7	1,115 5	1,171 5	1,229 5	1,291 5	1,355 5	1,396 3	1,430 3	1,481 3	1,526 3

*FORECAST BASED ON EVALUATION OF PAST TRAFFIC TRENDS, PROJECTED POPULATION AND TOURIST GROWTH AND ANTICIPATED ECONOMIC RECOVERY STARTING IN 1984 AND PEAKING IN 1986.

ANNUAL VEHICLE TRAFFIC
SOUTHEAST ALASKA FERRY SYSTEM
FORECASTED TRAFFIC* (Cont'd)

ROUTE	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
PETERSBURG - SKAGWAY	64	66	69	74	77	81	85	90	94	97	100	103	106
% CHANGE	1	3	5	7	5	5	5	5	5	3	3	3	3
PETERSBURG - WRANGELL	1,214	1,262	1,338	1,445	1,532	1,624	1,705	1,790	1,880	1,974	2,072	2,176	2,285
% CHANGE	2	4	6	8	6	6	5	5	5	5	5	5	5
SITKA - ANGOON	599	629	673	734	786	840	899	962	1,010	1,061	1,114	1,170	1,228
% CHANGE	3	5	7	9	7	7	7	7	5	5	5	5	5
SITKA - HAINES	473	492	522	563	603	645	684	725	768	807	847	889	934
% CHANGE	2	4	6	8	7	7	6	6	6	5	5	5	5
SITKA - HOONAH	170	178	191	208	223	238	255	273	286	301	316	332	348
% CHANGE	3	5	7	9	7	7	7	7	5	5	5	5	5
SITKA - SKAGWAY	302	393	413	442	473	496	521	547	575	592	610	628	647
% CHANGE	1	3	5	7	7	5	5	5	5	3	3	3	3
WRANGELL - HAINES	141	146	155	168	178	188	198	208	218	229	240	252	265
% CHANGE	2	4	6	8	6	6	5	5	5	5	5	5	5
WRANGELL - PR. RUPERT	804	829	870	931	977	1,026	1,078	1,132	1,188	1,224	1,260	1,298	1,337
% CHANGE	3	3	5	7	5	5	5	5	5	2	3	3	3
WRANGELL - SKAGWAY	14	14	15	15	16	17	17	18	18	19	20	20	21
% CHANGE	1	1	3	5	4	4	4	3	3	3	3	3	3
HAINES - SKAGWAY	4,784	4,928	5,174	5,537	5,813	6,104	6,409	6,730	6,932	7,139	7,354	7,574	7,802
% CHANGE	1	3	5	7	5	5	5	5	3	2	3	3	3
TOTAL	55,127	58,087	62,282	67,793	72,974	77,983	83,056	88,395	93,585	98,357	103,025	107,903	114,078
% CHANGE	3	5	7	9	7	7	6	6	6	5	5	5	5

*FORECAST BASED ON EVALUATION OF PAST TRAFFIC TRENDS, PROJECTED POPULATION AND TOURIST GROWTH AND ANTICIPATED ECONOMIC RECOVERY STARTING IN 1984 AND PEAKING IN 1986.



Fare and Revenue Analysis

FARE ANALYSIS

PASSENGER FARE ANALYSIS

METHODOLOGY

A TRAVEL TIME/COST ANALYSIS WAS PREPARED ON EACH ROUTE TO DETERMINE COMPETITIVE FARE LEVELS. THIS ESTIMATE INVOLVED ALL COSTS AND TIME SPENT TO TRAVEL FROM DOWNTOWN TO DOWNTOWN. THIS INCLUDES (SEE APPENDIX PAGES 229 - 233 FOR DETAILED ESTIMATES).

- GROUND TRANSPORTATION TIME AND COST TO/FROM TERMINAL.
- CHECK-IN AND BAGGAGE PICKUP TIME.
- PRESENT AIR AND FERRY FARES AND TRAVEL TIME.
- FOOD PURCHASED ON BOARD.

SUMMARY

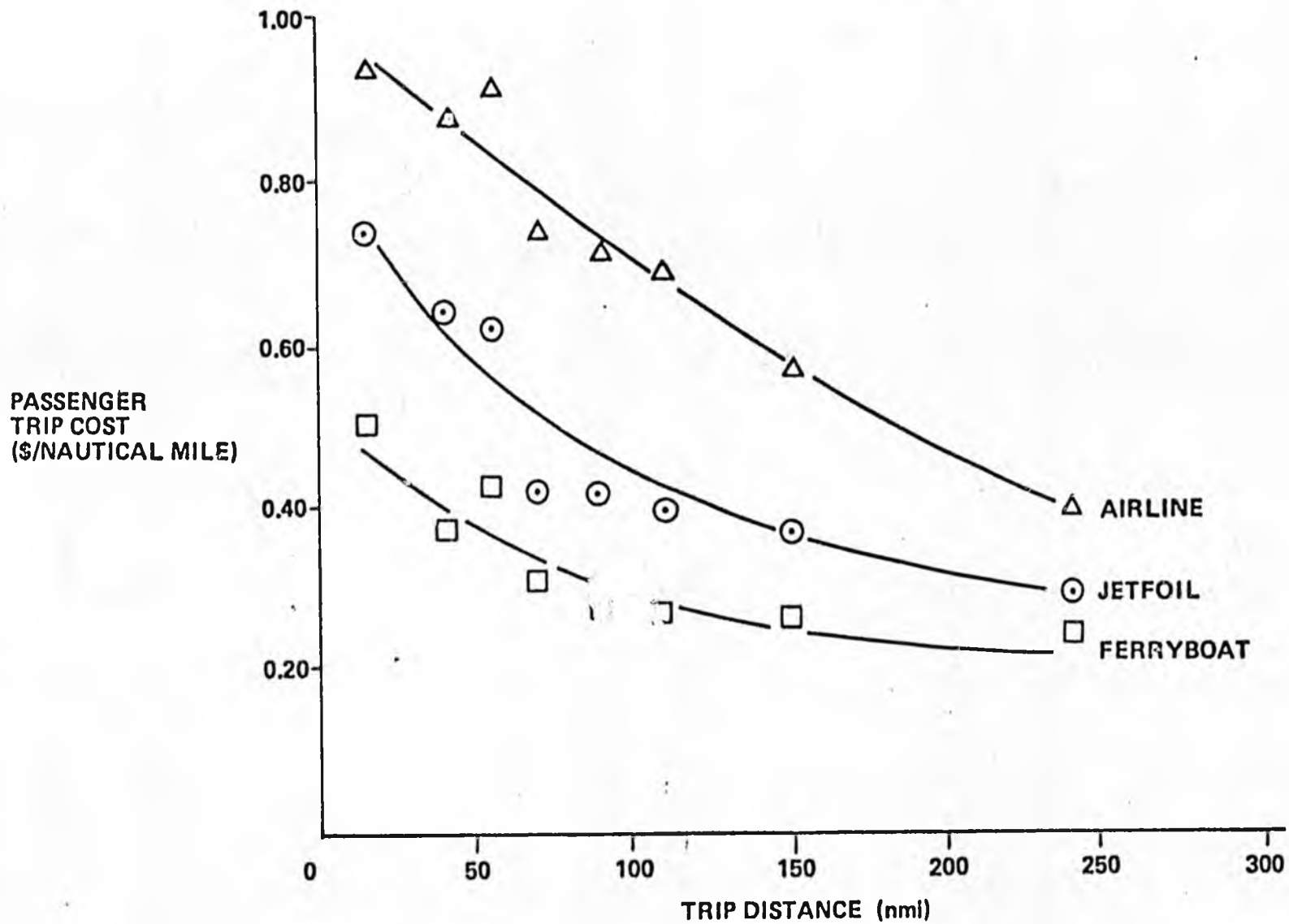
AS EXPECTED, THE COMPETITIVE JETFOIL FARE LEVEL LIES SOMEWHAT IN BETWEEN FERRY AND AIR FARES (SEE FOLLOWING CHART). JETFOIL SERVICE BEING IN MOST CASES DOWNTOWN TO DOWNTOWN WOULD ELIMINATE THE COST AND TIME INVOLVED IN TAKING GROUND TRANSPORTATION TO THE AIRPORT OF FERRY TERMINAL. ON AN AVERAGE, TRAVEL BY JETFOIL WOULD COST 50 PERCENT MORE THAN FERRY COMPARED TO AIR WHICH COSTS 150 PERCENT MORE THAN FERRY.

PERCENT ABOVE FERRY FARE (BY ROUTE LENGTH)

	<u>20 N.M.</u>	<u>60 N.M.</u>	<u>100 N.M.</u>	<u>160 N.M.</u>
JETFOIL	56%	50%	50%	40%
AIR	106%	186%	150%	120%

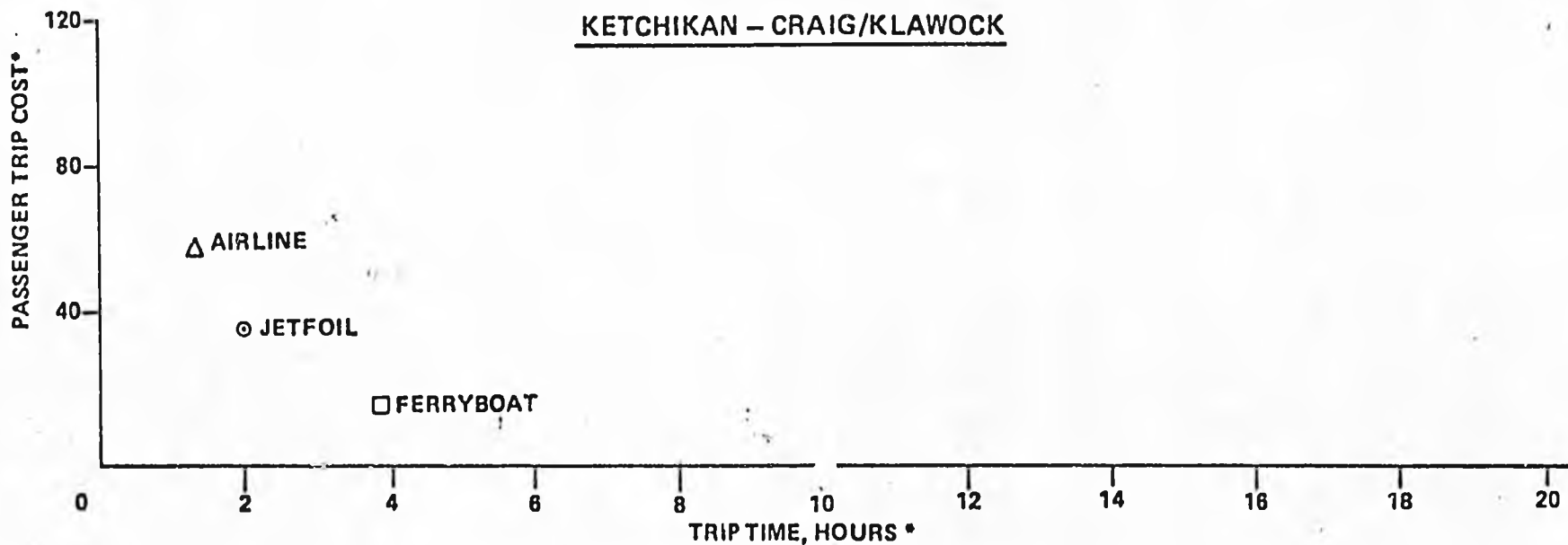
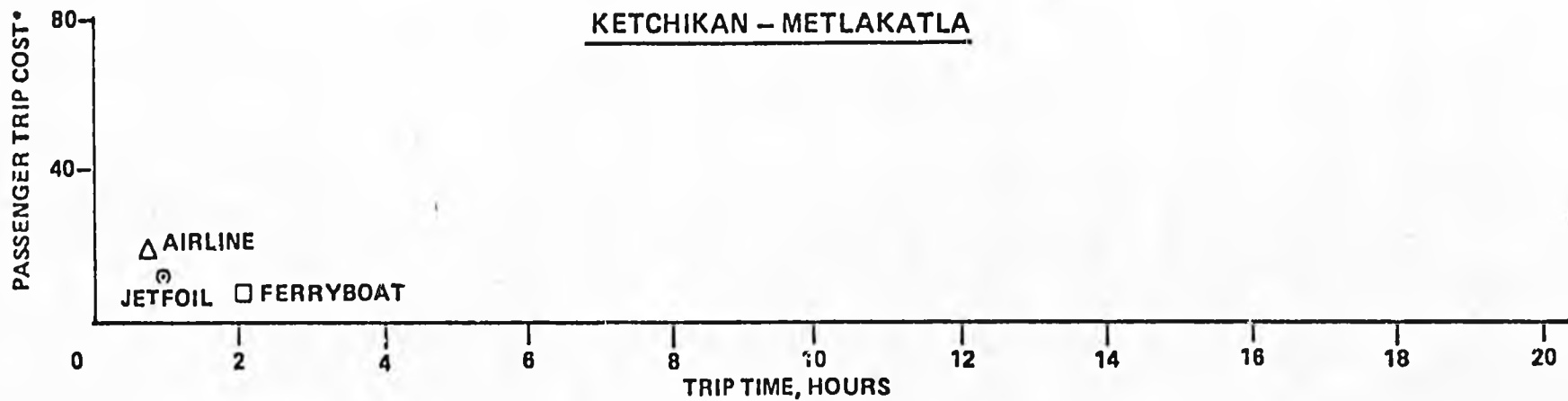
Passenger Trip Cost Southeast Alaska

(1983 Dollars)



Passenger Trip Cost* Comparison

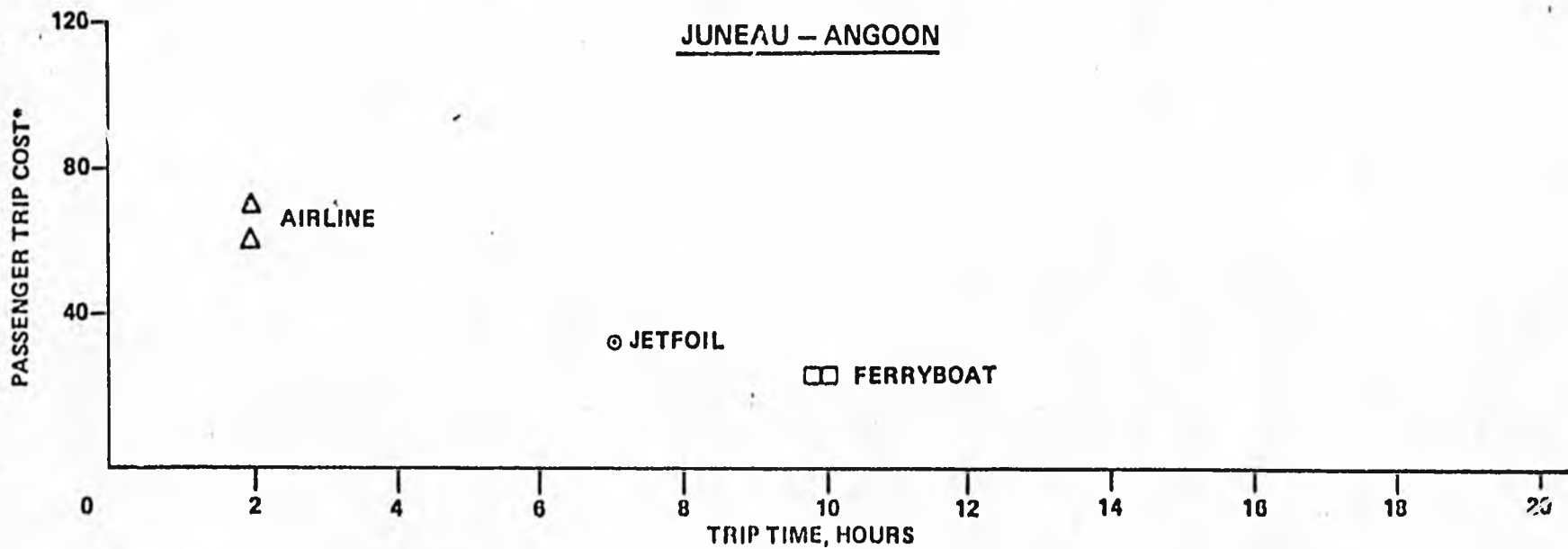
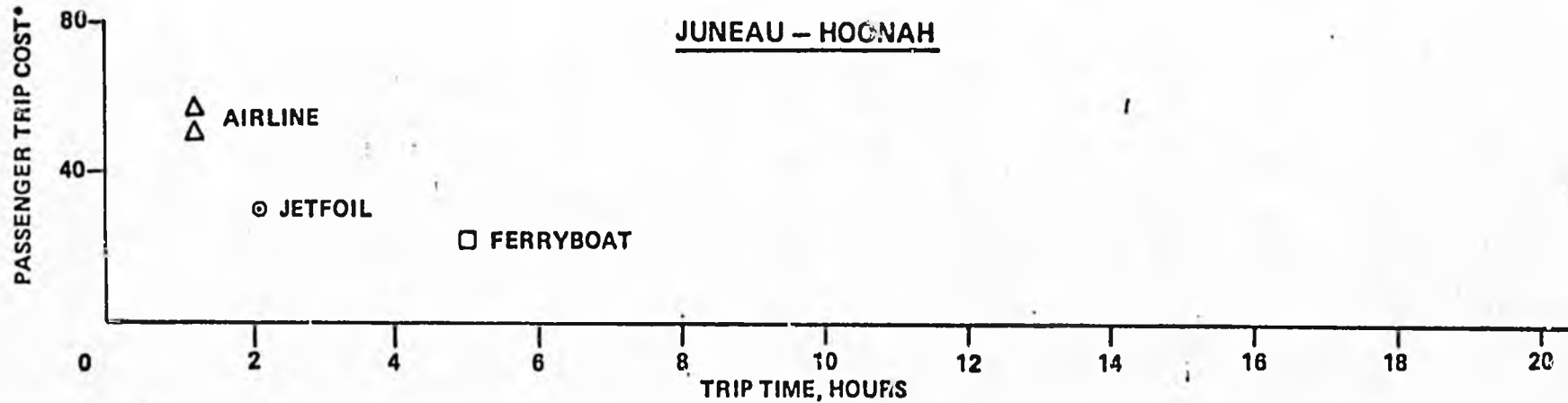
1983 Dollars



* INCLUDING GROUND TRANSPORTATION (DOWNTOWN-DOWNTOWN) AND FOOD

Passenger Trip Cost* Comparison

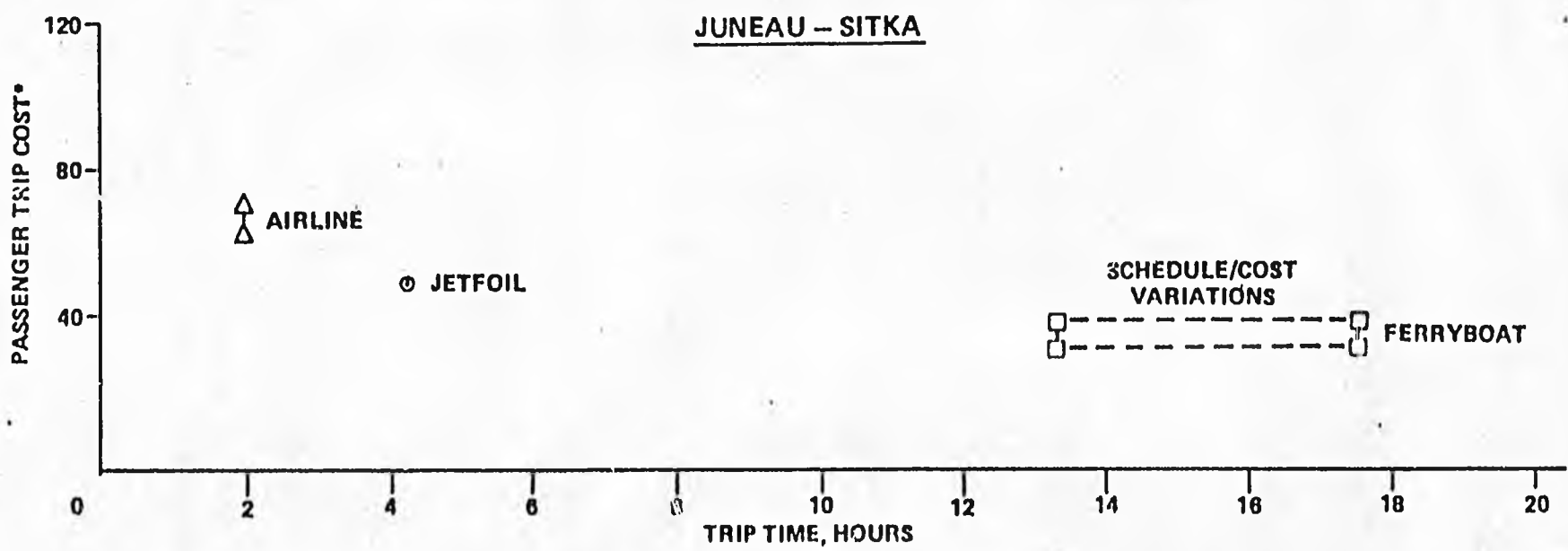
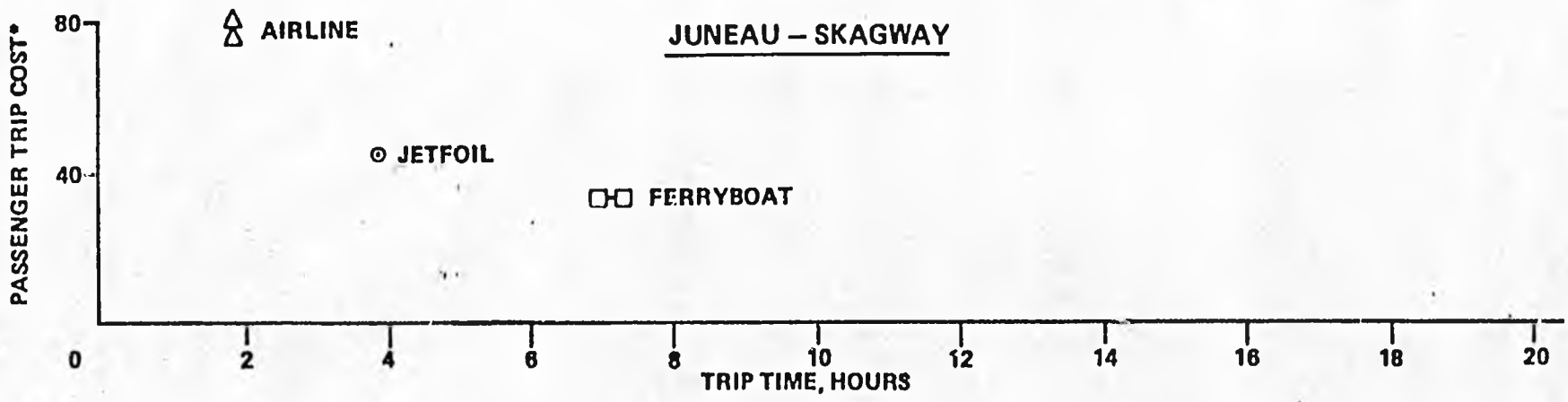
1983 Dollars



* INCLUDING GROUND TRANSPORTATION (DOWNTOWN-DOWNTOWN) AND FOOD

Passenger Trip Cost* Comparison

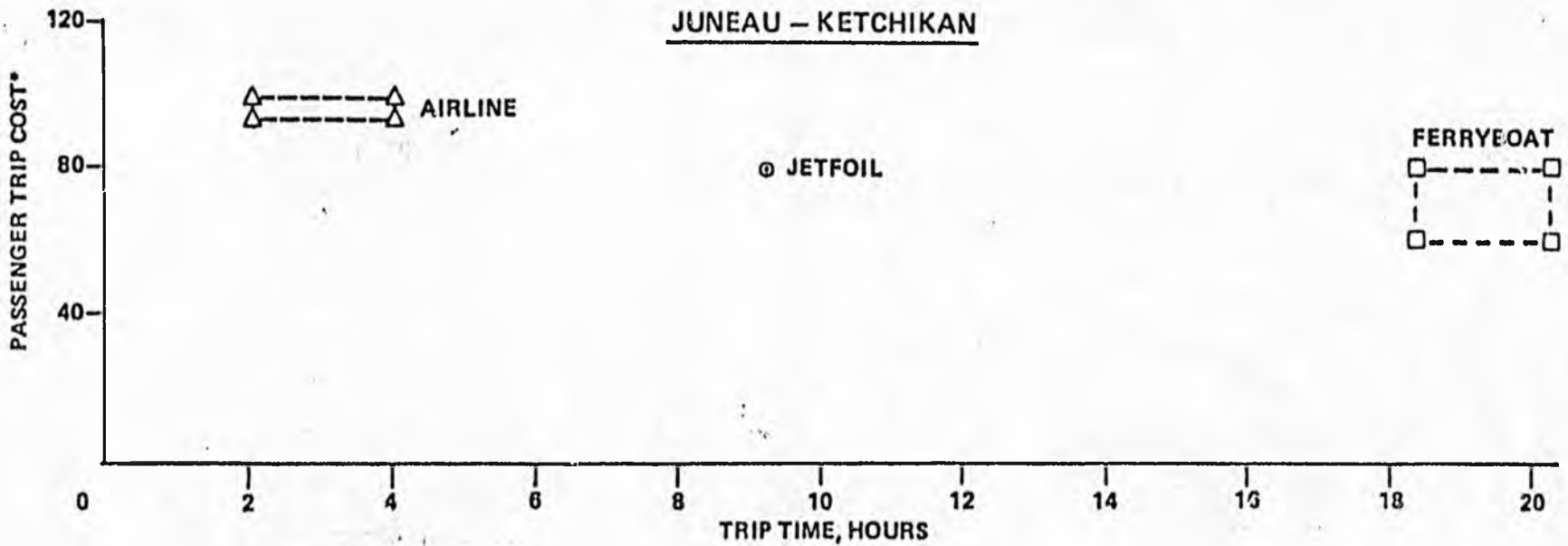
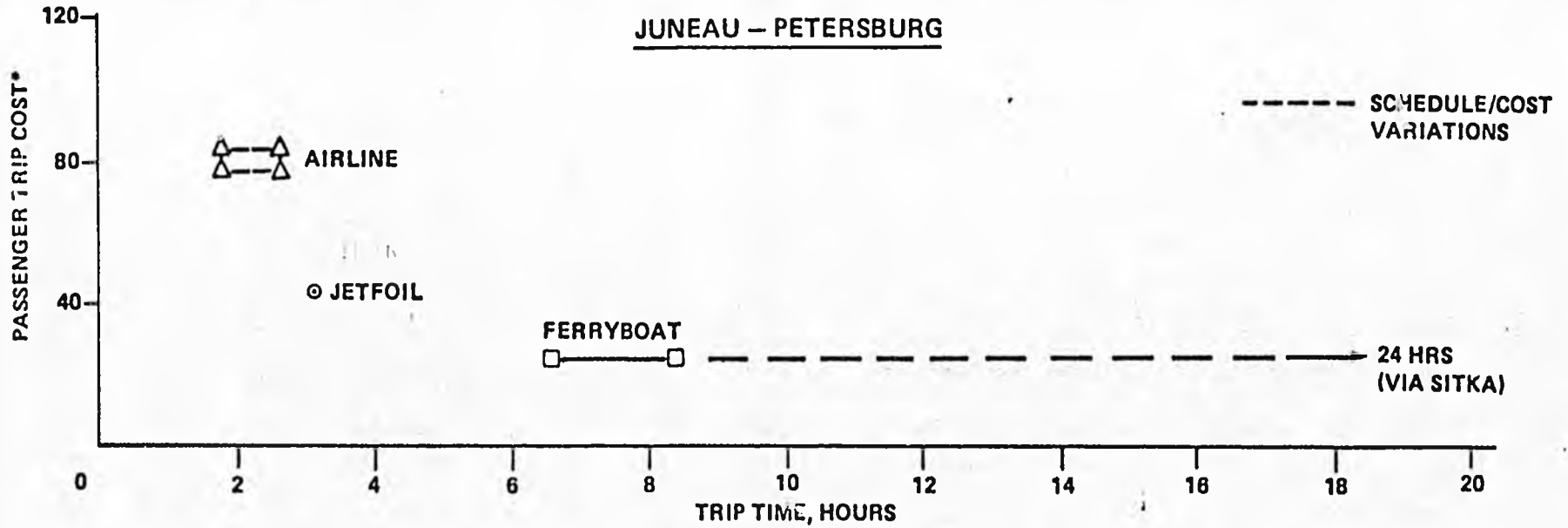
1983 Dollars



*INCLUDING GROUND TRANSPORTATION (DOWNTOWN-DOWNTOWN) AND FOOD

Passenger Trip Cost* Comparison

1983 Dollars



*INCLUDING GROUND TRANSPORTATION (DOWNTOWN-DOWNTOWN) AND FOOD

MARKET SHARE ANALYSIS

JETFOIL MARKET SHARE ANALYSIS

WALK-ON PASSENGER MARKET

METHODOLOGY

THE FIRST STEP USED IN DETERMINING THE JETFOIL MARKET SHARE WAS TO CALCULATE THE JETFOIL SHARE OF THE CAPACITY ON EACH ROUTE. THE ACTUAL PROPOSED JETFOIL AND FERRY SCHEDULES WERE USED TO CALCULATE THEIR CAPACITY SHARE. IN THE CASE OF THE FERRY, 50 PERCENT OF THE PASSENGER CAPACITY WAS ASSUMED OPEN TO WALK-ON PASSENGERS. IN THE CASE WHERE THE FERRY MADE NUMEROUS STOPS ON ONE TRIP (E.G. JUNEAU - PETERSBURG - WRANGELL - KETCHIKAN), THE CAPACITY WAS DIVIDED BETWEEN THE VARIOUS ORIGIN-DESTINATIONS BY USING THE ACTUAL STATISTICS FOR PASSENGERS BY ORIGIN AND DESTINATION IN 1982. TO MAKE THE MAINLINE FERRY CAPACITY COMPARABLE TO THE JETFOIL THE ESTIMATED PASSENGERS TO/FROM SEATTLE OR PRINCE RUPERT WERE REMOVED. IN THE CASE OF JET AIRCRAFT AND AIR TAXI, THEIR CAPACITY IS ASSUMED TO BE DOUBLE THE ESTIMATED PASSENGERS ON EACH ROUTE (SEE APPENDIX PAGES 234 - 235 FOR DETAILED CAPACITY SHARES).

ONCE THE JETFOIL CAPACITY SHARE IS DETERMINED THE MARKET SHARE IS ESTIMATED TO BE GREATER, EQUAL OR LOWER THAN THE CAPACITY SHARE BY EVALUATING THE JETFOIL'S COMPETITIVENESS ON THE FOLLOWING FACTORS:

- SCHEDULE CONVENIENCE/FREQUENCY
- COMPETITIVENESS OF FARE
- TRIP SPEED
- NEW OR EXPANDED SERVICE
- COMFORT AND SCENIC TOUR VALUE

THE RESULTS OF THE GILMORE RESEARCH GROUP'S STUDY OF PUBLIC ATTITUDES TOWARD THE JETFOIL IN SOUTHEAST ALASKA INDICATED "HEAVY FERRY AND AIRPLANE USERS, AS WELL AS THOSE ANTICIPATING JETFOIL USE FOR BUSINESS, SHOPPING/APPOINTMENTS AND FREIGHT ARE ALL PARTICULARLY APT TO USE THE JETFOIL WITH GREATER FREQUENCY THAN CURRENT FERRY USE" (P. 137). ALTHOUGH THIS STUDY INDICATED THE JETFOIL SHOULD INDUCE MANY PEOPLE TO TAKE ADDITIONAL TRIPS, TRYING TO DETERMINE THE ACTUAL INDUCEMENT FACTOR IS DIFFICULT. GENERALLY, FOR CONSERVATISM, THE INDUCEMENT FACTOR IS ASSUMED TO BE FAIRLY LOW (10% - 15%) EXCEPT WHERE THERE IS A LARGE RESIDENT POPULATION OR TOURIST MARKET AND THE JETFOIL SERVICE IS VERY COMPETITIVE WITH EXISTING MODES (AS DETERMINED BY THE FACTORS LISTED PREVIOUSLY). FOR THIS ANALYSIS, NO ATTEMPT IS MADE TO LOOK AT THE INFRA-STRUCTURE OF EACH COMMUNITY TO SEE IF IT COULD HANDLE THE INDUCED TRAFFIC. IT MAY BE POSSIBLE, PARTICULARLY IN THE SMALLER COMMUNITIES THAT THERE MIGHT BE AN INFRA-STRUCTURE CONSTRAINT IN THE EARLY YEARS OF JETFOIL SERVICE.

ESTIMATED WALK ON PASSENGER TRAFFIC

1966 - SOUTHEAST ALASKA

ORIGIN/DESTINATION	FERRY TRAFFIC*		JET A/R TRAFFIC		AIR TAXI TRAFFIC		TOTAL TRAFFIC		
	PEAK (APR-SEPT)	OFF PEAK (OCT-MAR)	PEAK (APR-SEPT)	OFF PEAK (OCT-MAR)	PEAK (APR-SEPT)	OFF PEAK (OCT-MAR)	PEAK (APR-SEPT)	OFF PEAK (OCT-MAR)	ALL YEAR
JUNEAU - ANGOON	1,976	1,328			1,354**	903**	3,330	2,231	5,561
JUNEAU - EXCURSION INLET					596	398	596	398	994
JUNEAU - GUSTAVUS			30,905		1,264	842	32,249	842	3,309
JUNEAU - HAINES	14,011	5,174			13,648***	7,582***	27,659	12,756	40,415
JUNEAU - HOONAH	3,323	3,272			22,746	11,373	26,069	14,645	40,714
JUNEAU - KAKE	252	288			2,708	1,805	2,960	2,093	5,053
JUNEAU - KETCHIKAN	4,167	2,460	10,905	9,978			15,152	12,438	27,590
JUNEAU - PELICAN	630	269			2,708	1,805	3,346	2,074	5,420
JUNEAU - PETERSBURG	3,218	1,524	5,097	3,956	1,704	852	10,019	6,332	16,351
JUNEAU - PR. RUPERT	5,484	497					5,484	497	5,981
JUNEAU - SITKA	8,071	2,955	22,911	15,660			30,902	18,615	49,597
JUNEAU - SKAGWAY	11,820	1,310			11,942***	3,033***	23,762	4,351	28,113
JUNEAU - TENAKEE	1,591	1,089			1,354**	903**	2,945	1,992	4,937
JUNEAU - WRANGELL	845	609	2,062	2,103			2,907	2,712	5,619
KETCHIKAN - HAINES	1,677	511					1,677	511	2,188
KETCHIKAN - HOLLIS	8,958	6,071			24,325	8,945	33,283	14,916	48,199
KETCHIKAN - METLAKATLA	5,826	5,451			23,099	13,916	28,925	19,367	48,292
KETCHIKAN - PETERSBURG	2,313	1,604	2,206	1,597			4,519	3,201	7,720

* WALK ON FERRY PASSENGERS

** JUNEAU - ANGOON ASSUMED 50% OF TRAFFIC AND JUNEAU - TENAKEE 50% OF TRAFFIC.

*** JUNEAU - HAINES ASSUMED 40% OF SUMMER TRAFFIC AND 50% OF WINTER TRAFFIC.
JUNEAU - SKAGWAY ASSUMED 35% OF SUMMER TRAFFIC AND 20% OF WINTER TRAFFIC.

ESTIMATED WALK ON PASSENGER TRAFFIC
1986 - SOUTHEAST ALASKA

ORIGIN/DESTINATION	FERRY TRAFFIC*		JET AIR TRAFFIC		AIR TAXI TRAFFIC		TOTAL TRAFFIC		
	PEAK (APR-SEPT)	OFF PEAK (OCT-MAR)	PEAK (APR-SEPT)	OFF PEAK (OCT-MAR)	PEAK (APR-SEPT)	OFF PEAK (OCT-MAR)	PEAK (APR-SEPT)	OFF PEAK (OCT-MAR)	ALL YEAR
KETCHIKAN - PR. RUPERT	10,990	1,752			1,150	767	12,140	2,559	14,699
KETCHIKAN - SKAGWAY	2,080	370					2,080	370	2,450
KETCHIKAN - WRANGELL	2,930	1,434	1,741	1,550	3,408	1,704	8,079	4,668	12,767
PETERSBURG - HAINES	540	233					540	233	773
PETERSBURG - KAKE	2,047	1,271			2,556	1,704	5,403	2,975	8,378
PETERSBURG - PR. RUPERT	944	247					944	247	1,191
PETERSBURG - SKAGWAY	396	118					396	118	514
PETERSBURG - WRANGELL	1,942	911	645	827	3,408	1,704	5,995	3,442	9,437
SITKA - ANGOON	4,668	2,521			2,556	852	7,224	3,373	10,597
SITKA - HAINES	919	365					919	365	1,284
SITKA - HOONAH	852	565					852	565	1,417
SITKA - SKAGWAY	588	334					588	334	922
SITKA - TENAKEE	238	178			852	852	1,090	1,030	2,120
WRANGELL - HAINES	334	128					334	128	462
WRANGELL - PR. RUPERT	457	128					457	128	585
WRANGELL - SKAGWAY	147	30					147	30	177
HAINES - SKAGWAY	7,791	1,034			8,530**	4,549**	16,321	5,503	21,904
TOTAL	112,833	46,079	76,632	35,671	126,436	67,861	319,373	146,139	465,512

* WALK ON FERRY PASSENGERS

** HAINES - SKAGWAY ASSUMED 25% OF SUMMER TRAFFIC AND 35% OF WINTER TRAFFIC.

**1986 Estimated Jetfoil Traffic
Southeast Alaska – Medium Scenario
Peak Season (April-September)**

Origin/Destination	Total Walk-on Market	Jetfoil Market Share	Inducement Factor	Jetfoil Traffic	Capacity Share	Convenience/Frequency	Low Fare vs Air	Speed	New/Expanded Service	Comfortable/Scenic Tour
JUNE/ U-SKAGWAY:										
JUNEAU-HAINES	27,659	25%	30%	8,989	X	X	X	X		X
JUNEAU-SKAGWAY	23,762	25%	30%	7,723	X	X	X	X		X
HAINES-SKAGWAY	16,321	20%	30%	4,243	X	X	X			X
KETCHIKAN-HAINES	1,677	10%	10%	185			X			
KETCHIKAN-SKAGWAY	2,080	10%	10%	229			X			
PETERSBURG-HAINES	540	10%	10%	59			X			
PETERSBURG-SKAGWAY	396	10%	10%	44			X			
SITKA-HAINES	919	20%	15%	211			X	X		X
SITKA-SKAGWAY	588	20%	15%	135			X	X		X
WRANGELL-HAINES	334	10%	10%	37			X			
WRANGELL-SKAGWAY	147	10%	10%	16			X			
JUNEAU-GUSTAVUS	32,249	30%	35%	13,061	X	X			X	X
JUNEAU-PELICAN:										
JUNEAU-EXCURSION INLET	596	40%	10%	262	X		X		X	X
JUNEAU-HOONAH	26,069	35%	25%	11,405	X	X		X		X
JUNEAU-ELFIN COVE	596	40%	10%	262	X		X		X	X
JUNEAU-PELICAN	3,346	40%	15%	1,539	X		X		X	X

1986 Estimated Jetfoil Traffic
Southeast Alaska – Medium Scenario
Peak Season (April-September)

Origin/Destination	Total Walk-on Market	Jetfoil Market Share	Inducement Factor	Jetfoil Traffic						
					Capacity Share	Convenience/Frequency	Low Fare vs Air	Speed	New/Expanded Service	Comfortable/Scenic Tour
JUNEAU-SITKA:										
JUNEAU-SITKA	30,982	35%	30%	14,097	X	X		X		X
JUNEAU-ANGOON	3,330	35%	25%	1,457	X	X		X	X	X
SITKA-HOONAH	852	40%	25%	426	X	X		X	X	X
SITKA-ANGOON	7,224	40%	25%	3,612	X	X		X	X	X
JUNEAU-TENAKEE	2,945	40%	10%	1,295	X	X		X	X	X
SITKA-TENAKEE	1,090	30%	10%	480	X	X		X	X	X
JUNEAU-KETCHIKAN:										
JUNEAU-PETERSBURG	10,019	25%	20%	3,006	X	X		X		
JUNEAU-WRANGELL	2,907	25%	20%	872	X	X		X		
JUNEAU-KAKE	2,960	40%	20%	1,421	X	X	X	X		
JUNEAU-KETCHIKAN	15,152	10%	10%	1,667	X					
PETERSBURG-KAKE	5,403	40%	20%	2,593	X	X	X	X		
PETERSBURG-WRANGELL	5,995	25%	20%	1,799	X	X	X	X		
PETERSBURG-KETCHIKAN	4,519	15%	10%	746	X					
KETCHIKAN-WRANGELL	8,079	25%	20%	2,424	X	X	X			
KETCHIKAN-HOLLIS	33,283	20%	25%	8,321	X		X			
KETCHIKAN-METLAKATLA	28,925	45%	20%	15,620	X	X				
TOTAL	300,942	29%	25%	108,236						

1986 Estimated Jetfoil Traffic

Southeast Alaska – Medium Scenario

Off-Peak Season (October-March)

Origin/Destination	Total Walk-on Market	Jetfoil Market Share	Inducement Factor	Jetfoil Traffic	Capacity Share	Convenience/Frequency	Low Fare vs Air	Speed	New/Expanded Service	Comfortable/Scenic Tour
JUNEAU-SKAGWAY:										
JUNEAU-HAINES	12,756	25%	20%	3,827	X	X	X	X		X
JUNEAU-SKAGWAY	4,351	25%	20%	1,197	X		X	X		X
HAINES-SKAGWAY	5,583	20%	10%	1,228	X		X			X
KETCHIKAN-HAINES	511	10%	10%	56			X			
KETCHIKAN-SKAGWAY	370	10%	10%	41			X			
PETERSBURG-HAINES	233	10%	10%	26			X			
PETERSBURG-SKAGWAY	118	10%	10%	13			X			
SITKA-HAINES	365	15%	10%	60			X	X		X
SITKA-SKAGWAY	334	15%	10%	55			X	X		X
WRANGELL-HAINES	128	10%	10%	14			X			
WRANGELL-SKAGWAY	30	10%	10%	3			X			
JUNEAU-GUSTAVUS										
	—	—	—	—						
JUNEAU-PELICAN:										
JUNEAU-EXCURSION INLET	398	40%	10%	175	X		X		X	X
JUNEAU-HOONAH	14,645	35%	15%	5,895	X	X			X	X
JUNEAU-ELFIN COVE	398	40%	10%	175	X		X		X	X
JUNEAU-PELICAN	2,074	40%	15%	954	X		X		X	X

1986 Estimated Jetfoil Traffic

Southeast Alaska – Medium Scenario

Off-Peak Season (October-March)

Origin/Destination	Total Walk-on Market	Jetfoil Market Share	Inducement Factor	Jetfoil Traffic						
					Capacity Share	Convenience/Frequency	Low Fare vs Air	Speed	New/Expanded Service	Comfortable/Scenic Tour
JUNEAU-SITKA:										
JUNEAU-SITKA	18,615	30%	25%	6,981	X	X		X		X
JUNEAU-ANGOON	2,231	35%	15%	898	X	X		X	X	X
SITKA-HOONAH	565	35%	15%	227	X	X		X	X	X
SITKA-ANGOON	3,373	35%	15%	1,358	X	X		X	X	X
JUNEAU-TENAKEE	1,992	35%	10%	767	X	X		X	X	X
SITKA-TENAKEE	1,030	35%	10%	397	X	X		X	X	X
JUNEAU-KETCHIKAN:										
JUNEAU-PETERSBURG	6,332	25%	15%	1,820	X		X	X		
JUNEAU-WRANGELL	2,712	25%	15%	780	X		X	X		
JUNEAU-KAKE	2,093	35%	15%	842	X		X	X		
JUNEAU-KETCHIKAN	12,438	10%	10%	1,368	X					
PETERSBURG-KAKE	2,975	35%	15%	1,197	X	X	X	X		
PETERSBURG-WRANGELL	3,442	25%	15%	990	X		X	X		
PETERSBURG-KETCHIKAN	3,201	15%	10%	352	X					
KETCHIKAN-WRANGELL	4,688	20%	15%	1,078	X		X			
KETCHIKAN-HOLLIS	14,916	25%	15%	4,288	X	X				
KETCHIKAN-METLAKATLA	19,367	50%	15%	11,136	X	X				
TOTAL	142,264	29%	16%	48,198						

REVENUE ANALYSIS

1986 ESTIMATED JETFOIL TRAFFIC
SOUTHEAST ALASKA - TRAFFIC SCENARIOS

ORIGIN/DESINTATION	PEAK SEASON (APRIL - SEPTEMBER)			OFF-PEAK SEASON (OCTOBER - MARCH)		
	LOW SCENARIO -15%	MEDIUM SCENARIO	HIGH SCENARIO +15%	LOW SCENARIO -15%	MEDIUM SCENARIO	HIGH SCENARIO +15%
JUNEAU - SKAGWAY						
JUNEAU - HAINES	7,641	8,989	10,337	3,253	3,827	4,401
JUNEAU - SKAGWAY	6,564	7,723	8,882	1,018	1,197	1,376
HAINES - SKAGWAY	3,606	4,243	4,880	1,044	1,228	1,412
KETCHIKAN - HAINES	157	185	213	48	56	64
KETCHIKAN - SKAGWAY	195	229	263	35	41	47
PETERSBURG - HAINES	50	59	68	23	26	30
PETERSBURG - SKAGWAY	37	44	51	11	13	15
SITKA - HAINES	179	211	243	51	60	69
SITKA - SKAGWAY	114	135	155	46	55	63
WRANGELL - HAINES	32	37	42	12	14	17
WRANGELL - SKAGWAY	14	16	18	2	3	4
JUNEAU - GUSTAVIUS	11,102	13,061	15,020	--	--	--
JUNEAU - PELICAN						
JUNEAU - EXCURSION INLET	223	262	302	148	175	201
JUNEAU - HOONAH	9,695	11,405	13,116	5,010	5,895	6,779
JUNEAU - ELFIN COVE	223	262	302	148	175	201
JUNEAU - PELICAN	1,308	1,539	1,770	311	954	1,098

1986 ESTIMATED JETFOIL TRAFFIC
SOUTHEAST ALASKA - TRAFFIC SCENARIOS

ORIGIN/DESINATION	PEAK SEASON (APRIL - SEPTEMBER)			OFF-PEAK SEASON (OCTOBER - MARCH)		
	LOW SCENARIO -15%	MEDIUM SCENARIO	HIGH SCENARIO +15%	LOW SCENARIO -15%	MEDIUM SCENARIO	HIGH SCENARIO +15%
JUNEAU - SITKA						
JUNEAU - SITKA	11,983	14,097	16,211	5,934	6,981	8,028
JUNEAU - ANGOON	1,239	1,457	1,675	764	898	1,033
SITKA - HOONAH	363	426	490	193	227	261
SITKA - ANGOON	3,070	3,612	4,154	1,155	1,358	1,562
JUNEAU - TENAKEE	1,100	1,295	1,489	652	767	882
SITKA - TENAKEE	408	480	552	338	397	456
JUNEAU - KETCHIKAN						
JUNEAU - PETERSBURG	2,556	3,006	3,457	1,547	1,820	2,093
JUNEAU - WRANGELL	741	872	1,003	663	780	897
JUNEAU - KAKE	1,208	1,421	1,634	716	842	969
JUNEAU - KETCHIKAN	1,417	1,667	1,917	1,163	1,368	1,573
PETERSBURG - KAKE	2,204	2,593	2,982	1,018	1,197	1,376
PETERSBURG - WRANGELL	1,529	1,799	2,069	842	990	1,139
PETERSBURG - KETCHIKAN	635	746	858	299	352	405
KETCHIKAN - WRANGELL	2,060	2,424	2,788	917	1,078	1,240
KETCHIKAN - HOLLIS	7,073	8,321	9,569	3,645	4,288	4,931
KETCHIKAN - METLAKATLA	13,277	15,620	17,963	9,466	11,136	12,806
TOTAL:	92,003	108,236	124,473	40,972	48,198	55,428

JETFOIL FARE AND REVENUE ANALYSIS
MEDIUM SCENARIO - 1986

ORIGIN/DESTINATION	1983 ADULT STANDARD FARE	PEAK SEASON			OFF-PEAK SEASON		
		FARE <u>1/</u> YIELD	JETFOIL TRAFFIC	JETFOIL REVENUE	FARE <u>2/</u> YIELD	JETFOIL TRAFFIC	JETFOIL REVENUE
JUNEAU - SKAGWAY							
JUNEAU - HAINES	\$ 40.00	\$39.16	8,989	\$352,009	\$37.44	3,827	\$143,283
JUNEAU - SKAGWAY	45.00	44.02	7,723	339,966	42.12	7,197	50,418
HAINES - SKAGWAY	15.00	14.69	4,243	62,330	14.04	7,228	17,241
KETCHIKAN - HAINES	100.00	97.90	185	18,111	93.06	56	5,211
KETCHIKAN - SKAGWAY	105.00	102.80	229	23,541	98.20	41	4,029
PETERSBURG - HAINES	75.00	73.43	59	4,332	70.20	26	1,825
PETERSBURG - SKAGWAY	80.00	78.32	44	3,446	74.88	13	973
SITKA - HAINES	60.00	78.32	211	16,526	74.88	60	4,493
SITKA - SKAGWAY	85.00	83.22	135	11,235	79.56	55	4,376
WRANGELL - HAINES	80.00	78.32	37	2,898	74.88	14	1,048
WRANGELL - SKAGWAY	85.00	83.22	16	1,337	74.88	3	225
				\$835,726			\$233,122
JUNEAU - GUSTAVUS	\$ 33.00	\$ 32.31	13,061	\$422,000	--	--	--
JUNEAU - PELICAN							
JUNEAU - ENCLISION INLET	\$ 30.00	\$ 29.37	262	\$ 7,695	\$28.08	175	\$ 4,914
JUNEAU - HOORAY	30.00	29.37	11,405	34,965	28.08	5,895	165,532
JUNEAU - ELGIN COVE	40.00	39.16	252	10,060	37.44	175	6,552
JUNEAU - BELLEFERN	45.00	44.02	1,539	6,874	42.12	954	40,182
				\$420,665			\$227,180

1/ ASSUMES 7% COMMISSION ON 25% OF TRAFFIC.

2/ ASSUMES 7% COMMISSION ON 10% OF TRAFFIC AND 15% OF TRAFFIC HAS 50% DISCOUNT.

JETFOIL FARE AND REVENUE ANALYSIS
MEDIUM SCENARIO - 1986

ORIGIN/DESTINATION	1983 ADULT STANDARD FARE	PEAK SEASON			OFF-PEAK SEASON		
		FARE <u>1/</u> YIELD	JETFOIL TRAFFIC	JETFOIL REVENUE	FARE <u>2/</u> YIELD	JETFOIL TRAFFIC	JETFOIL REVENUE
JUNEAU - SITKA							
JUNEAU - SITKA	\$50.00	\$48.95	14,097	\$ 690,048	\$46.80	6,981	\$ 326,711
JUNEAU - ANGOON	35.00	34.27	1,457	49,931	32.76	898	29,418
SITKA - HOONAH	35.00	34.27	426	14,599	32.76	227	7,437
SITKA - ANGOON	23.00	22.52	3,612	81,342	21.53	1,358	29,238
JUNEAU - TENAKEE	32.00	31.33	1,295	40,572	29.95	767	22,972
SITKA - TENAKEE	30.00	29.37	480	14,098	28.08	397	11,148
				<u>\$ 890,590</u>			<u>\$ 426,924</u>
JUNEAU - KETCHIKAN							
JUNEAU - PETERSBURG	\$45.00	\$44.02	3,006	\$ 132,324	\$42.12	1,820	\$ 76,658
JUNEAU - WRANGELL	55.00	53.82	872	46,931	51.43	780	40,115
JUNEAU - KAKE	45.00	44.06	1,421	62,609	42.12	842	35,465
JUNEAU - KETCHIKAN	75.00	73.43	1,667	122,408	70.20	1,368	96,034
PETERSBURG - KAKE	25.00	24.48	2,593	63,477	23.40	1,197	28,010
PETERSBURG - WRANGELL	20.00	19.58	1,799	35,224	18.72	990	18,533
PETERSBURG - KETCHIKAN	55.00	53.82	746	40,150	51.43	352	18,103
KETCHIKAN - WRANGELL	40.00	39.16	2,424	94,923	37.44	1,078	40,360
KETCHIKAN - HOLLIS	25.00	24.48	8,321	203,698	23.40	4,288	100,339
KETCHIKAN - METLAKATLA	12.00	11.75	15,620	183,529	11.23	11,136	125,057
				<u>\$ 985,273</u>			<u>\$ 578,674</u>
TOTAL:		\$32.83	108,236	\$3,554,256	\$30.41	48,198	\$1,465,900

1/ ASSUMES 7% COMMISSION ON 25% OF TRAFFIC.

2/ ASSUMES 7% COMMISSION ON 10% OF TRAFFIC AND 15% OF TRAFFIC HAS 50% DISCOUNT.

\$5,020,156

JETFOIL FARE AND REVENUE ANALYSIS

LOW SCENARIO - 1986

ORIGIN/DESTINATION	1983 ADULT STANDARD FARE	PEAK SEASON			OFF-PEAK SEASON		
		FARE ^{1/} YIELD	JETFOIL TRAFFIC	JETFOIL REVENUE	FARE ^{2/} YIELD	JETFOIL TRAFFIC	JETFOIL REVENUE
JUNEAU - SKAGWAY							
JUNEAU - HAINES	\$ 27.50	\$ 26.92	7,641	\$ 205,696	\$ 25.74	3,253	\$ 83,732
JUNEAU - SKAGWAY	32.50	31.82	6,564	208,866	30.42	1,018	30,968
HAINES - SKAGWAY	11.50	11.26	3,606	40,604	10.76	1,044	11,233
KETCHIKAN - HAINES	80.00	78.32	157	12,296	74.88	48	3,594
KETCHIKAN - SKAGWAY	85.00	83.22	195	16,228	79.56	35	2,785
PETERSBURG - HAINES	55.00	53.82	50	2,691	51.43	23	1,183
PETERSBURG - SKAGWAY	60.00	58.74	27	2,173	56.16	11	618
SITKA - HAINES	62.00	60.70	179	10,865	58.03	51	2,960
SITKA - SKAGWAY	67.00	65.59	114	7,477	62.71	46	2,885
WRANGELL - HAINES	62.00	60.70	32	1,942	58.03	12	696
WRANGELL - SKAGWAY	67.00	65.59	14	918	62.71	2	125
				\$ 509,756			\$ 140,779
JUNEAU - GUSTAVUS	\$ 25.00	\$ 24.48	11,102	\$ 271,777	--	--	--
JUNEAU - PELICAN							
JUNEAU - EXCURSION INLET	\$ 20.00	\$ 19.58	223	\$ 4,366	\$ 18.72	148	\$ 2,771
JUNEAU - HOONAH	24.00	23.50	9,695	227,833	22.46	5,010	112,527
JUNEAU - ELFIN COVE	30.00	29.37	223	6,550	28.08	148	4,156
JUNEAU - PELICAN	34.00	33.29	1,308	43,543	31.82	811	25,806
				\$ 282,292			\$ 145,258

^{1/} ASSUMES 7% COMMISSION ON 25% OF TRAFFIC.

^{2/} ASSUMES 7% COMMISSION ON 10% OF TRAFFIC AND 15% OF TRAFFIC HAS 50% DISCOUNT.

JETFOIL FARE AND REVENUE ANALYSIS

LOW SCENARIO - 1986

ORIGIN/DESTINATION	1983 ADULT STANDARD FARE	PEAK SEASON			OFF-PEAK SEASON		
		FARE <u>1/</u> YIELD	JETFOIL TRAFFIC	JETFOIL REVENUE	FARE <u>2/</u> YIELD	JETFOIL TRAFFIC	JETFOIL REVENUE
JUNEAU - SITKA							
JUNEAU - SITKA	\$ 40.00	\$ 39.16	11,983	\$ 469,254	\$ 37.44	5,934	\$ 222,169
JUNEAU - ANGOON	25.00	24.48	1,239	30,331	23.40	764	17,878
SITKA - HOONAH	25.00	24.48	363	8,886	23.40	193	4,516
SITKA - ANGOON	18.00	17.62	3,070	54,093	16.85	1,155	19,462
JUNEAU - TENAKEE	26.00	25.45	1,100	27,995	24.34	652	15,870
SITKA - TENAKEE	24.00	23.50	408	9,588	22.46	338	7,591
				<u>\$ 600,147</u>			<u>\$ 287,486</u>
JUNEAU - KETCHIKAN							
JUNEAU - PETERSBURG	\$ 35.00	\$ 34.27	2,556	\$ 87,594	\$ 32.76	1,547	\$ 50,680
JUNEAU - WRANGELL	45.00	44.02	741	32,619	42.12	663	27,926
JUNEAU - KAKE	35.00	34.27	1,208	41,398	32.76	716	23,456
JUNEAU - KETCHIKAN	59.00	57.76	1,417	81,846	55.22	1,163	64,221
PETERSBURG - KAKE	17.00	16.64	2,204	36,675	15.91	1,018	16,196
PETERSBURG - WRANGELL	15.00	14.69	1,529	22,461	14.04	842	11,822
PETERSBURG - KETCHIKAN	45.00	44.02	635	27,953	42.12	299	12,594
KETCHIKAN - WRANGELL	30.00	29.37	2,060	60,502	28.08	917	25,749
KETCHIKAN - HOLLIS	18.00	17.62	7,073	124,626	16.85	3,645	61,418
KETCHIKAN - METLAKATLA	10.00	9.79	13,277	129,394	9.36	9,466	88,602
				<u>\$ 645,068</u>			<u>\$ 382,664</u>
TOTAL:		\$ 25.10	92,003	\$2,309,040	\$23.33	40,972	\$ 956,187

1/ ASSUMES 7% COMMISSION ON 25% OF TRAFFIC.

2/ ASSUMES 7% COMMISSION ON 10% OF TRAFFIC AND 15% OF TRAFFIC HAS 50% DISCOUNT.

\$3,265,227

JETFOIL FARE AND REVENUE ANALYSIS

HIGH SCENARIO - 1986

ORIGIN/DESTINATION	1983 ADULT STANDARD FARE	PEAK SEASON			OFF-PEAK SEASON		
		FARE <u>1/</u> YIELD	JETFOIL TRAFFIC	JETFOIL REVENUE	FARE <u>2/</u> YIELD	JETFOIL TRAFFIC	JETFOIL REVENUE
JUNEAU - SKAGWAY							
JUNEAU - HAINES	\$ 50.00	\$ 48.95	10,337	\$ 505,996	\$ 46.80	4,401	\$ 205,967
JUNEAU - SKAGWAY	57.50	56.29	8,882	499,968	53.82	1,376	74,056
HAINES - SKAGWAY	20.00	19.58	4,880	95,550	18.72	1,412	26,433
KETCHIKAN - HAINES	120.00	117.48	213	25,023	112.32	64	7,188
KETCHIKAN - SKAGWAY	126.00	123.35	263	32,441	117.94	47	5,543
PETERSBURG - HAINES	95.00	93.01	68	6,325	88.92	30	2,668
PETERSBURG - SKAGWAY	100.00	97.90	51	4,993	93.06	15	1,396
SITKA - HAINES	100.00	97.90	243	23,790	93.06	69	6,421
SITKA - SKAGWAY	105.00	102.80	155	15,934	102.80	63	6,476
WRANGELL - HAINES	100.00	97.90	42	4,112	93.06	17	1,582
WRANGELL - SKAGWAY	105.00	102.80	18	1,850	102.80	4	411
				<u>\$1,215,982</u>			<u>\$ 338,141</u>
JUNEAU - GUSTAVIUS	\$ 40.00	\$ 39.15	15,020	\$ 588,183	--	--	--
JUNEAU - PELICAN							
JUNEAU - EXCURSION INLET	\$ 40.00	\$ 39.16	302	\$ 11,826	\$ 37.44	201	\$ 7,525
JUNEAU - HOONAH	37.00	36.22	13,116	475,061	34.66	6,779	234,550
JUNEAU - ELFIN COVE	50.00	48.95	302	14,783	46.80	201	9,407
JUNEAU - PELICAN	56.00	54.82	1,770	97,031	52.42	1,098	57,557
				<u>\$ 598,701</u>			<u>\$ 309,449</u>

1/ ASSUMES 7% COMMISSION ON 25% OF TRAFFIC.

2/ ASSUMES 7% COMMISSION ON 10% OF TRAFFIC AND 15% OF TRAFFIC HAS 50% DISCOUNT.

JETFOIL FARE AND REVENUE ANALYSIS

HIGH SCENARIO - 1986

ORIGIN/DESTINATION	1983 ADULT STANDARD FARE	PEAK SEASON			OFF-PEAK SEASON		
		FARE <u>1/</u> YIELD	JETFOIL TRAFFIC	JETFOIL REVENUE	FARE <u>2/</u> YIELD	JETFOIL TRAFFIC	JETFOIL REVENUE
JUNEAU - SITKA							
JUNEAU - SITKA	\$ 55.00	\$ 53.82	16,211	\$ 872,476	\$ 51.43	8,028	\$ 412,880
JUNEAU - ANGOON	45.00	44.02	1,675	73,734	42.12	1,033	43,510
SITKA - HOONAH	45.00	44.02	490	21,570	42.12	261	10,993
SITKA - ANGOON	28.00	27.41	4,154	113,861	26.21	1,562	40,940
JUNEAU - TENAKEE	38.00	37.20	1,489	55,391	35.57	882	31,372
SITKA - TENAKEE	36.00	35.24	552	19,452	33.70	456	15,367
				<u>\$1,156,484</u>			<u>\$ 555,062</u>
JUNEAU - KETCHIKAN							
JUNEAU - PETERSBURG	\$ 55.00	\$ 53.82	3,457	\$ 186,055	\$ 51.43	2,093	\$ 107,643
JUNEAU - WRANGELL	65.00	63.64	1,003	63,830	60.84	897	54,573
JUNEAU - KAKE	55.00	53.82	1,634	87,942	51.43	969	50,232
JUNEAU - KETCHIKAN	76.00	74.40	1,917	142,625	71.14	1,573	111,903
PETERSBURG - KAKE	33.00	32.31	2,982	96,348	30.89	1,376	42,505
PETERSBURG - WRANGELL	30.00	29.37	2,069	60,767	28.08	1,139	31,983
PETERSBURG - KETCHIKAN	63.00	61.68	858	52,921	58.97	405	23,883
KETCHIKAN - WRANGELL	50.00	48.95	2,788	136,473	46.80	1,240	58,032
KETCHIKAN - HOLLIS	33.00	32.31	9,569	309,174	30.89	4,931	152,318
KETCHIKAN - METLAKATLA	14.00	13.71	17,963	246,273	13.10	12,806	167,759
				<u>\$1,382,408</u>			<u>\$ 800,831</u>
TOTAL:		\$ 39.70	124,473	\$4,941,758	\$36.30	55,428	\$2,003,483

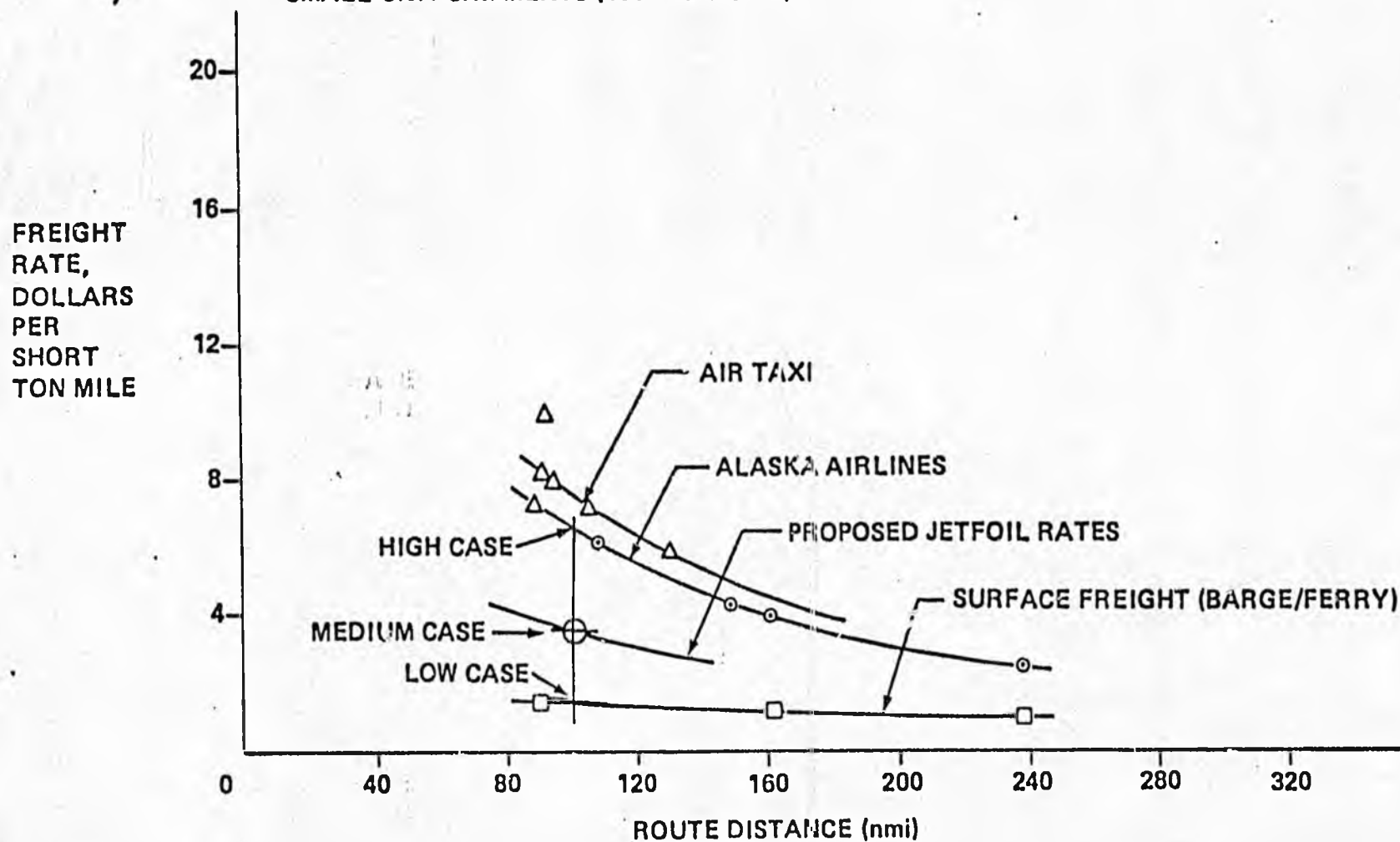
1/ ASSUMES 7% COMMISSION ON 25% OF TRAFFIC.

2/ ASSUMES 7% COMMISSION ON 10% OF TRAFFIC AND 15% OF TRAFFIC HAS 50% DISCOUNT.

\$6,945,241

Freight Rates Southeast Alaska

1983 RATES
SMALL UNIT SHIPMENTS (100 lb OR LESS)



FREIGHT REVENUE CALCULATION

MEDIUM CASE

FREIGHT LOAD: 25% OF JETFOIL CAPACITY (4.75 TONS)

FREIGHT RATE: \$3.50 PER TON NAUTICAL MILE

FREIGHT CONSOLIDATION COMMISSION: 20%

ANNUAL JETFOIL DISTANCE: 105,600 NAUTICAL MILES

105,600 NAUTICAL MILES X 4.75 TONS X \$3.50 X .80 X 3 BOATS = \$4,213,400

HIGH CASE

FREIGHT LOAD: 30% OF JETFOIL CAPACITY (5.7 TONS)

FREIGHT RATE: \$6.50 PER TON NAUTICAL MILE (SAME AS AIR)

105,600 NAUTICAL MILES X 5.7 TONS X \$6.50 X .80 X 3 BOATS = \$9,390,000

LOW CASE

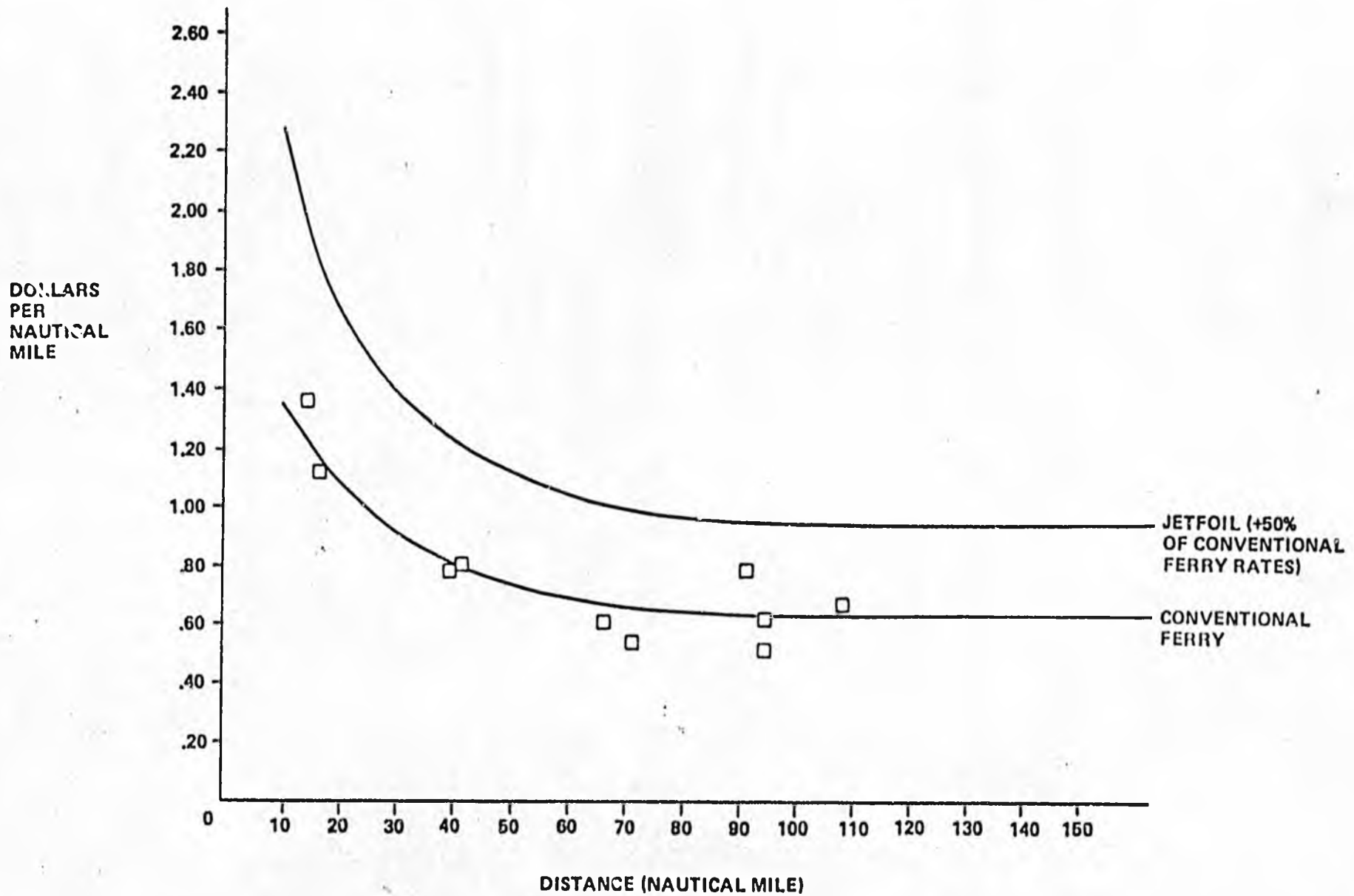
FREIGHT LOAD: 20% OF JETFOIL CAPACITY (3.8 TONS)

FREIGHT RATE: \$1.50 PER TON NAUTICAL MILE (SAME AS SEA)

105,600 NAUTICAL MILES X 3.8 TONS X \$1.50 X .80 X 3 BOATS = \$1,444,600

NOTE: THIS FREIGHT CALCULATION DOES NOT INCLUDE ANY VEHICLE REVENUE. PROJECTED VEHICLE RATES ARE ESTIMATED TO BE LESS THAN FREIGHT RATES.

Passenger Vehicle Fare Rates Per Nautical Mile



JETFOIL REVENUE SCENARIOS

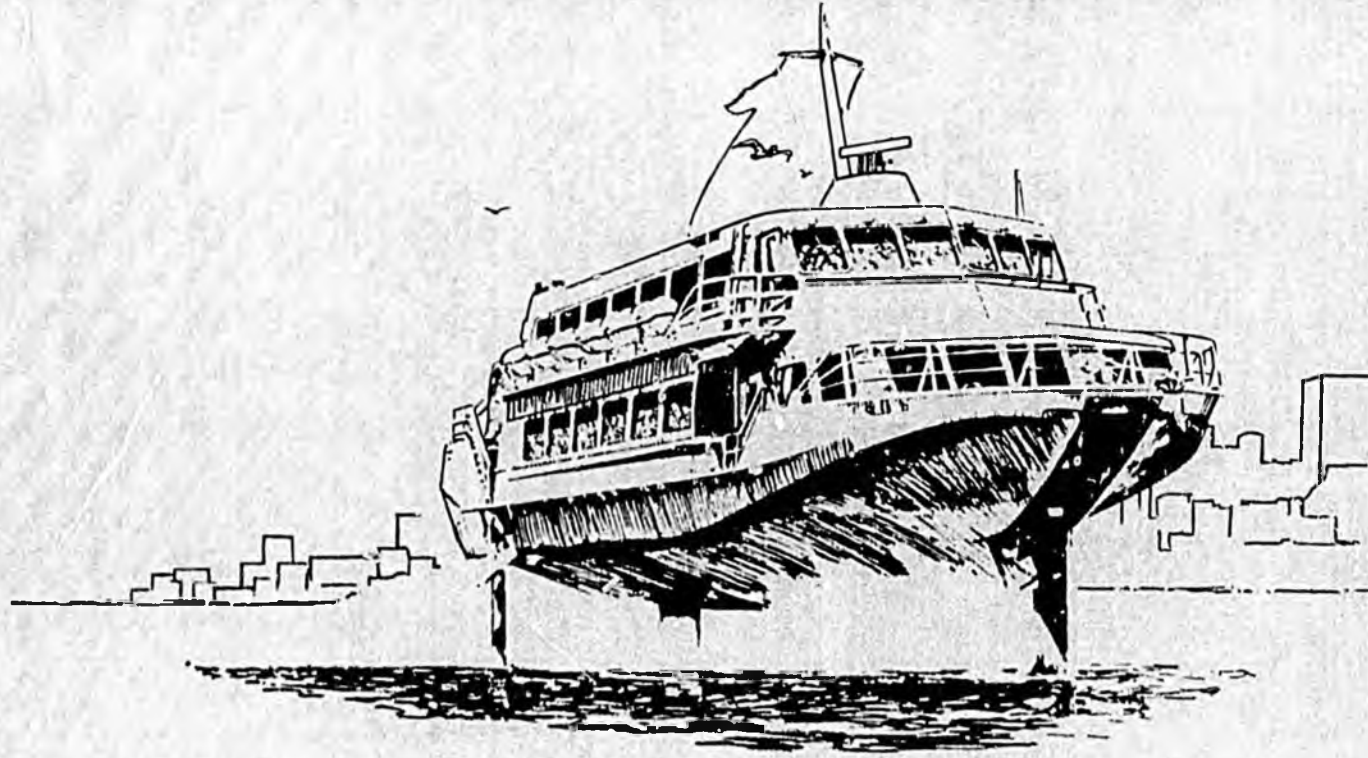
	ANNUAL CARGO REVENUE			TOTAL ANNUAL REVENUE*** (CARGO & PASSENGER)	ANNUAL PROFIT**** (LOSS)
	VEHICLE REVENUE*	FREIGHT REVENUE**	TOTAL REVENUE		
<u>LOW CASE</u>					
3 VEHICLES 1 TON OF FREIGHT	\$934,243	\$887,000	\$1,821,243	\$6,841,399	(\$6,069,001) 47% DEFICIT
<u>MEDIUM-LOW CASE</u>					
2 VEHICLES 2 TONS OF FREIGHT	\$622,829	\$1,734,000	\$2,356,909	\$7,377,065	(\$5,533,335) 43% DEFICIT
<u>MEDIUM CASE</u>					
2 VEHICLES 4 TONS OF FREIGHT	\$622,829	\$3,548,160	\$4,170,989	\$9,191,145	(\$3,719,255) 29% DEFICIT
<u>MEDIUM-HIGH CASE</u>					
2 VEHICLES 8 TONS OF FREIGHT	\$622,829	\$7,096,320	\$7,719,149	\$12,739,305	(\$171,095) 1% DEFICIT
<u>HIGH CASE</u>					
0 VEHICLES 15 TONS OF FREIGHT	0	\$13,305,600	\$13,305,600	\$18,325,756	\$5,415,356 42% GAIN

* (3 VEHICLES/JETFOIL) X (3 JETFOILS) X (105,600 N.M./YEAR) X (\$.983/VEHICLE N.M.) = \$934,243/YEAR.

** (1/2 TON/JETFOIL) X (3 JETFOILS) X (105,600 N.M./YEAR) X (\$2.80/TON MILE) = \$443,520/YEAR.

*** USES MEDIUM PASSENGER REVENUE SCENARIO OF \$5,020,156 ANNUALLY.

**** BASED ON AN ANNUAL OPERATING COST OF \$12,910,400 FOR 3 JETFOILS.



Appendix

APPENDIX CONTENTS

<u>SECTION</u>	<u>PAGE</u>
ALASKA JETFOIL DEMONSTRATION -- FACTS AND SURVEY	127
EXISTING FERRY SCHEDULES AND PROPOSED SCHEDULE DETAIL	139
CAPITAL AND OPERATING COSTS	150
EXISTING TRAFFIC ANALYSIS	166
TRAFFIC FORECAST	184
FARE AND REVENUE ANALYSIS	228

ALASKA JETFOIL DEMONSTRATION---FACTS AND SURVEY



JETFOIL
ALASKA SUMMER DEMO FACT SHEETS

4 WEEK DEMO AUGUST 14 - SEPTEMBER 12, 1982

- o 21 PUBLIC DEMO DAYS
- o 97 PUBLIC DEMO TRIPS (1/2 HOUR - 3/4 HOUR)
 - IN ADDITION: 2 FAMILIARIZATION TRIPS (KETCHIKAN AND JUNEAU)
 - 1 RESCUE OF MAJESTIC EXPLORER CRUISE SHIP
 - 23 TRANSITS BETWEEN PORTS
 - 26 TOTAL (NON PUBLIC DEMO)
- o 133 UNDERWAY HOURS
- o 4500 NAUTICAL MILES TRAVELED
- o 100% TRIP COMPLETION RATE RELIABILITY
 - ALASKA AIRLINES CANCELLED TRIPS ON 4 DEMO DAYS (LOW VISIBILITY)
- o 11 COMMUNITIES (KETCHIKAN, METLAKATLA, WRANGELL, PETERSBURG, KAKE, JUNEAU, HAINES, SKAGWAY, HOONAH, ANGOON, AND SITKA)
- o 276,900 PASSENGER MILES
- o 55,708 GALLONS FUEL USED (419 GPH)



JETFOIL
ALASKA SUMMER DEMO FACT SHEET

PASSENGER TRAFFIC

- o 15,585 PASSENGERS (27% OF TOTAL S E ALASKA RESIDENTS PARTICIPATED)
- o 99% AVERAGE LOAD FACTOR
- o 85% OF TICKET HOLDERS USED TICKETS
 - ALL TICKETS WERE PICKED UP BEFORE DEMONSTRATION
- o 14% OF ONBOARD PASSENGERS WERE FROM STANDBY LINE
 - HAINES HIGHEST, 22%; HOONAH LOWEST, 8%
 - STANDBY PASSENGERS LEFT ON DOCK, 20-40/TRIP

SEA CONDITIONS

- o TYPICAL WEATHER CONDITIONS: OVERCAST OR LOW CEILING WITH RAIN (OVERCAST 59%; RAIN 25%)
 - 4 DAYS ALASKA AIRLINES CANCELLED TRIPS (LOW VISIBILITY)
- o SEASTATE: MOSTLY CALM OR MINOR CHOP EXCEPT FOR 2 DAYS AT SITKA -- SEASTATE 4 CONDITIONS (6 - 10 FOOT WAVES).
- o DEBRIS: 3 SIGNIFICANT LOG STRIKES
 - METLAKATLA/KETCHIKAN: LOG LINE
 - CHATHAM STRAITS: 6" DIAMETER LOG
 - VANCOUVER HARBOR 28" DIAMETER DEADHEAD
- o WHALE SIGHTINGS: 8 SIGHTINGS
 - FREDERICK SOUND; STEPHENS PASSAGE; ICY STRAITS; CHATNAM STRAIT
SNOW PASSAGE



JETFOIL ALASKA SUMMER DEMO
COMMUNITY STATISTICAL SUMMARY

CITY	DEMO DAYS	DEMO TRIPS	SEAT CAPACITY	JETFOIL PASSENGERS	LOAD FACTOR	POPULATION*	PERCENT OF TOTAL POPULATION PASS./POPULATION	RAINY WEATHER
KETCHIKAN	4	21	3,360	3,355	100%	11,373	29%	8%
METLAKATLA	1	3	480	448	93%	1,056	42%	0
WRANGELL	1	4	640	640	100%	2,345	27%	0
PETERSBURG	1	6	960	958	100%	3,001	32%	36%
KAKE	1	2	320	280	88%	583	48%	0
JUNEAU	7	37	5,920	5,908	100%	21,080	28%	23%
HAINES	1	4	640	640	100%	1,712	37%	75%
SKAGWAY	1	3	480	434	90%	819	53%	0
HOONAH	1	2	320	296	93%	799	37%	100%
ANGOON	1	1	160	148	93%	445	33%	0
SITKA	<u>2</u>	<u>14</u>	<u>2,240</u>	<u>2,240</u>	<u>100%</u>	<u>7,927</u>	<u>28%</u>	<u>56%</u>
	21	97	15,520	15,347	99%*	51,140	30%**	25%
				<u>238</u>	FAMILIARIATION TRIPS			
			15,585					

*State Estimates, July 1, 1981

**Onboard Surveys indicate 10% Nonresidents resulting in 27% of Residents onboard JETFOIL.

Gilmore Research Group

Marketing Research and Consultation

A Study of Public Attitudes
Toward the Jetfoil in
Southeast Alaska

Summer 1982

for

The State of Alaska

Department of Public Transportation and Public Facilities

by

Gilmore Research Group

October, 1982

TABLE OF CONTENTS

Executive Summary	1
Purpose of Study	8
Objectives	9
Method of Study	10
 Detailed Findings	
I. Community Awareness	13
A. Awareness of Demonstration	13
B. Ridership	16
1. Interest - Pre-Demonstration	16
2. Actual - Post-Demonstration	18
II. Community Attitudes	19
A. Attitude Toward Potential Jetfoil Service	19
B. Acceptance of Jetfoil and Its Performance	25
C. Questions About and Perceptions of Jetfoil	29
1. General Questions/Concerns	29
2. Safety Perceptions	32
3. Perceived Advantages of Jetfoil	35
4. Perceived Disadvantages of Jetfoil	38
D. Perceived Effect of Jetfoil on SE Alaska	41
III. Perceived Jetfoil Use	43
A. Likelihood of Use	43
1. Overall Likelihood and Effect of Ferry and Airplane Use	43
2. Other Important Effects on Use Likelihood	47
B. Reasons for Jetfoil Use/Non-Use	49
1. Use Reasons	49
2. Non-Use Reasons	55
C. Use Comparisons Between Jetfoil and Other Transportation	58
D. Jetfoil Routes Desired	66
IV. The Jetfoil and Freight/Package Transport	70
A. Community Response	70
1. Perceived Shipping Problems	70
2. Nature of Perceived Problems	76
B. Business Response	80

Appendix A - Sample Characteristics

Appendix B - Detailed Methodology

Appendix C - Sampling of Verbatim Comments from On-Board
Demonstration Survey

Appendix D - Jetfoil Routes Desired by Community

Appendix E - Moderator Outline and Freight Handling Focus Group
Summary - Juneau and Ketchikan Business Persons

Appendix F - Discussion of & Procedure for Calculating Projected
Jetfoil Ridership

Appendix G - Questionnaire

Appendix H - Statistical Charts:

Possible Deviation of Results Due to Sample Size

Percentage Differences Significant at 95% Level
for Various Sample Sizes

EXECUTIVE SUMMARY

In order to determine public response to the Jetfoil in Southeast Alaska, this study was conducted among area residents and among participants in the public demonstration rides. The findings of the study are summarized as follows:

- o There was a high level of awareness of and interest in the public demonstration.

Nearly everyone in the area--95% of the residents--was aware that the demonstration had taken place and almost half (45%) had some first or second-hand experience with the Jetfoil. Southeast residents understood the nature of the craft ("hydrofoil"), that it has a fast, smooth ride and that it was in the area for a showing of what a possible transportation alternative would be like.

Over 90% of residents indicated interest in trying the Jetfoil because of perceived benefits over ferries (e.g., speed) and because it would be "fun" and "interesting." Those who had demonstration ride tickets indicated a high likelihood to use them, and it appears as if they did, as 85% of all ticket holders appeared for their ride. Approximately 27% of the Southeast population rode a demonstration ride.

- o People who participated in the demonstration were representative of all Southeast residents, except for being heavier ferry users than the average resident.

Riders were about evenly divided, men and women, with about 10% teenagers and 4% senior citizens - age 65 or over. (Children under age

12 are not incorporated into these figures; it is estimated that about a quarter of all the riders were children.) Many (43%) were white collar workers. Students, homemakers and retired or unemployed persons made up 21% of the teen/adult ridership. And fully 90% of all the riders were Southeast residents; only 6% reported being Alaska non-residents.

Jetfoil riders were more apt to be ferry users than the average Southeast resident: 83% of the riders reported having used a ferry over the past year compared to 68% of the randomly-selected residents who indicated ferry use. Riders were not, however, any more or less likely to be airplane users.

- o The people who rode the Jetfoil were well satisfied with its performance, particularly the speed, smoothness of ride and feeling of safety.

Cabin spaciousness and seating comfort were somewhat less satisfactory, likely because of the nearly full loads. Small community residents and heavy users of ferries and/or airplanes, however, were more likely to be satisfied with everything, including cabin and seat comfort.

- o One-third of all residents had no particular concerns about the Jetfoil. Questions about safety were significantly diminished after the demonstration and two-thirds of Southeast residents felt the Jetfoil would be able to operate safely in their area.

- o The primary advantage of the Jetfoil is seen as its speed and subsequent shorter travel time.

Eighty percent (80%) and more of all residents and riders agree on

this. The on-board respondents also felt the Jetfoil offers advantages of having "more trips/departure times" (64%) and "better scheduling" (51%). Only 1% of riders could think of no advantages.

- o The primary disadvantage of the Jetfoil seen by riders is fares. As seen by residents, as a whole, it is concern for safety.

About one-third (34%) of all riders agree that "fares somewhere between ferry and airplane" is a disadvantage, but this is not to say that level is unacceptable. Another one-third (32%) of riders could think of no disadvantages.

Over one-third (36%) of randomly-selected residents named some specific concerns for safety, but another 25% could think of no disadvantages.

- o Southeast residents indicate a high likelihood to use the Jetfoil.

Three-quarters (75%) of residents say they will likely use the Jetfoil, if implemented. Because of the heavier concentration of ferry users on the demonstration runs, the Jetfoil riders are even more likely to be future riders: 92% say they will use it. The greatest likelihood of use is among these groups:

- current heavy users of ferries and airplanes
- residents of smaller communities
- those most satisfied with its performance and confident of its safety and speed
- those who would use it for business purposes and for shopping/appointments

Those not likely to use the Jetfoil (7% of demonstration riders and 24% of total residents) report "lack of need to travel" as the primary reason.

- o A majority of those likely to use the Jetfoil in the future indicate use at a level greater than current ferry use.

Heavy ferry and airplane users, as well as those anticipating Jetfoil use for business, shopping/appointments and freight are all particularly apt to use the Jetfoil with greater frequency than current ferry use.

- o Seven in ten (70%) Southeast residents favor introduction of Jetfoil service. This level of favorability is even higher among those who took a demonstration ride - nine in ten favor Jetfoil introduction.

People see the Jetfoil as an improvement over the present ferry system because of the speed offered. The few residents who are opposed or undecided about the Jetfoil introduction indicate concern over cost and safety issues.

When asked, 75% of the residents said they felt the Jetfoil would have a positive effect on their area.

- o The Jetfoil is particularly well accepted by the small community residents - Metlakatla, Kake, Angoon and Hoonah.

They are just about unanimously (99%) in favor of Jetfoil introduction, fully 42% can think of no disadvantages, and significantly more than average would use the Jetfoil to get to services not available locally (shopping, doctor and other appointments).

- o A variety of prospective Jetfoil routes were named by demonstration riders. Nearly every community named Ketchikan and/or Juneau among their top choices, but routes servicing the smaller and middle-sized communities were named by high proportions of people very likely to use the Jetfoil.

- o Over half of the Southeast residents are aware of shipping problems in their area, particularly those who have a need to send personal or business packages within SE Alaska.

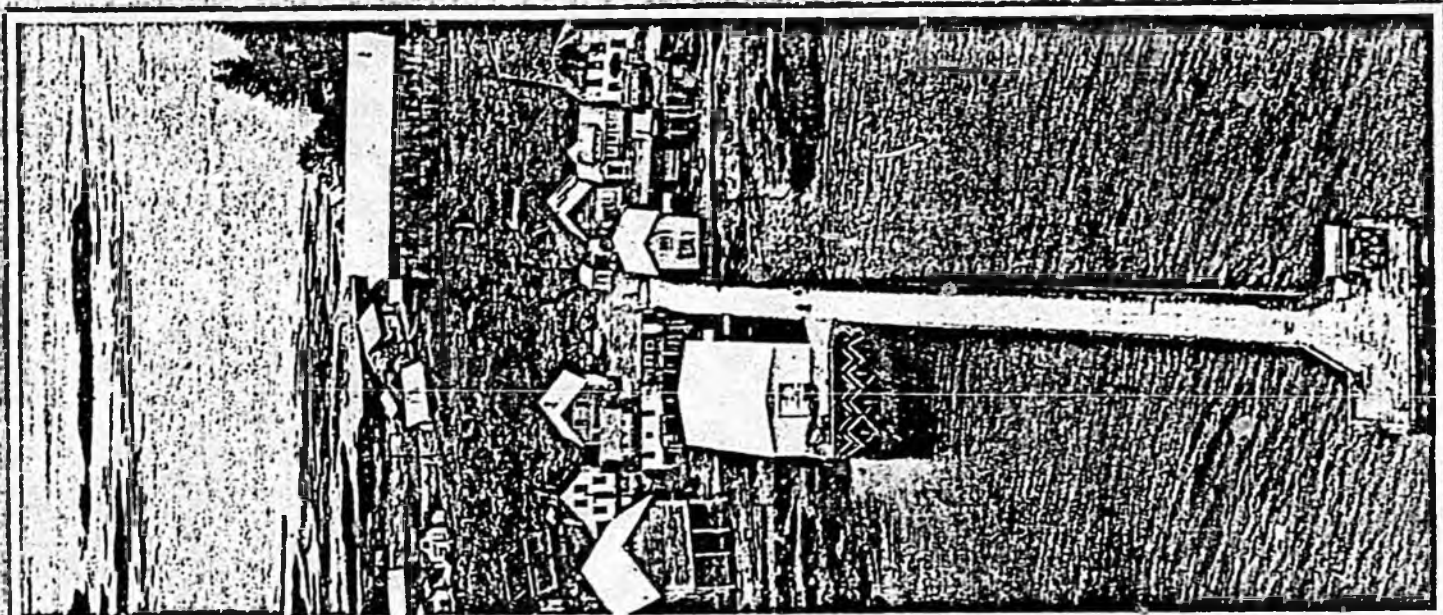
In addition, white collar/clerical people and residents of smaller and middle-size communities report shipping difficulties.

- o Business people live with routine shipping problems of delay and inconsistent schedules. There is evidence that a speedy, dependable shipping option, at reasonable cost, would be met with great enthusiasm by Southeast businesses.

EXISTING FERRY SCHEDULES AND PROPOSED SCHEDULE DETAIL

Alaska Marine
Highway
Schedule

MAY 1, 1982 through
SEPTEMBER 30, 1982



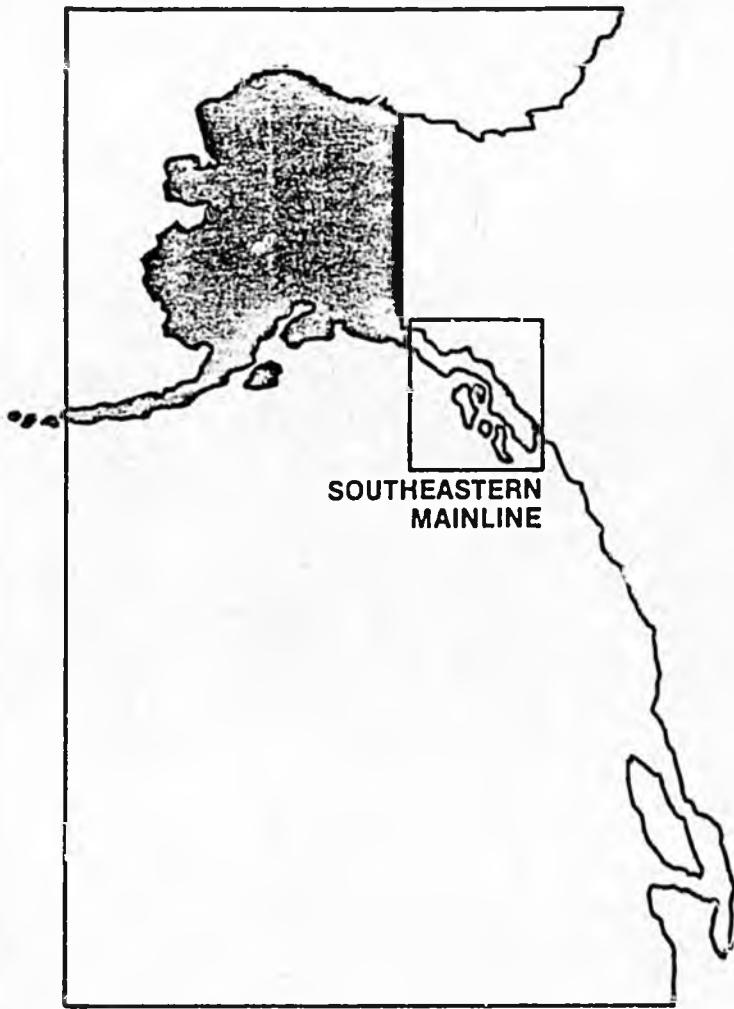
marine highway

How to Read Your Schedule

Reading across the top of the schedule, find the city from which you wish to depart. Read down the column to locate your desired departure date.

Beginning with departure date, read horizontally from left to right for dates and times of departure from various ports.

Color of horizontal bars indicates ship on which you will travel.



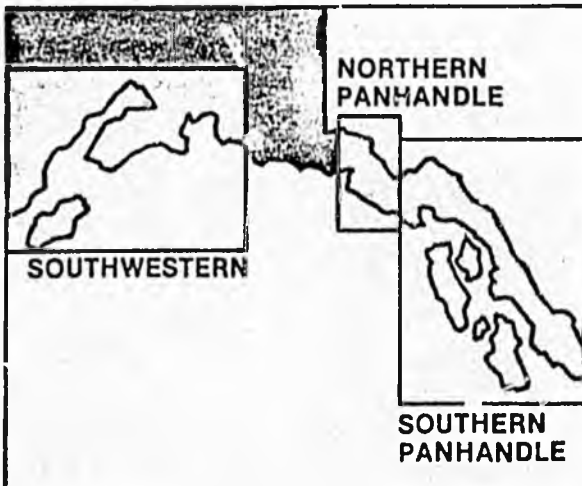
SOUTHEASTERN
MAINLINE

PETERSBURG	WRANGELL	HOLLIS	KETCHIKAN	ARRIVE PRINCE RUPERT	ARRIVE SEATTLE
T2 8:15p	T2 11:45p		W3 8:15a		T4 4:15p
W3 7:30a			W3 8:15p		
T4 11:30a	T4 2:30p		T4 11:00p	F5 5:00a	
		T4 10:15a	T4 2:45p		
F5 12:15p	F5 2:45p		F5 11:00p	F5 5:00a	
		F5 8:30a	F5 8:15p		
		Sa 8:45a	Sa 1:00p	Sa 7:00p	
Sa 7:145p	Sa 8:15p		Mo 1:00a	Mo 7:00a	
		Sa 7:15p	Sa 7:15p		
T5 8:15p	T5 11:45p		T5 7:00p	W6 3:00a	
T5 8:40p	T5 11:45p		W6 8:30a		T6 11:45a

Times listed are departure times only, unless otherwise indicated or marked with an asterisk (*).

Tide conditions in some cities may cause slight variations in arrival and/or departure times. Check with local Marine Highway Offices on your day of departure for exact sailing times.

SPECIAL NOTE: For general information, arrivals, and departures in Seattle, phone (208) 623-1149 for recorded message.









NORTHERN
PANHANDLE

SOUTHWESTERN

SOUTHERN
PANHANDLE

For more information about Alaska's unique Marine Highway System, see your travel agent or write: Department of Transportation and Public Facilities, Division of Marine Highway Systems, Pouch R, Juneau, Alaska 99811 (907) 465-3941

VESSEL COLOR CODING:

 AURORA	 MALASPINA
 COLUMBIA	 MATANUSKA
 LE CONTE	 TAKU

Schedule M. V. Bartlett

May 1 - 17
M.V. BARTLETT NOT IN SERVICE

May 18 - 21

Lv CORDOVA	8:30A T
Ar VALDEZ	2:15P T
Lv VALDEZ	8:30A W
Ar CORDOVA	2:15P W
Lv CORDOVA	8:30A Th
Ar VALDEZ	2:15P Th
Lv VALDEZ	8:30A F
Ar CORDOVA	2:15P F
Lv CORDOVA	4:30P F
Ar VALDEZ	10:15P F

May 22 - September 17 at 5:30AM
MON - WED - FRI - SAT - SUN

Lv VALDEZ	7:45A
Ar WHITTIER	2:15P
Lv WHITTIER	3:15P
Ar VALDEZ	10:00P

M. V. Tustumena

May 1 - May 15

Lv SEWARD	8:30P Su
Lv PORT LIONS	10:15A M
Lv KODIAK	3:00P M
Lv HOMER	2:30A T
Lv SELDOVIA	5:15A T
Lv HOMER	8:30A T
Lv KODIAK	9:00P T
Lv PORT LIONS	11:30P T
Lv HOMER	11:45A W
Lv SELDOVIA	2:15P W
Lv HOMER	6:15P W
Lv KODIAK	7:00A Th
Lv SEWARD	11:30P Th
Lv CORDOVA	12:18P F
Lv VALDEZ	6:45P F
Lv CORDOVA	1:45A S
Ar SEWARD	1:15P S

May 16 - 23

June 13 - 20

September 12 - 19

Lv SEWARD	3:30P Su
Lv PORT LIONS	5:00A M
Lv KODIAK	8:30A M
Lv HOMER	8:00P M
Lv SELDOVIA	10:15P M
Lv HOMER	1:15A T
Lv KODIAK	1:30P T
Lv CHIGNIK	8:30A W
Lv SAND POINT	7:30P W
Lv KING COVE	2:30A Th
Lv COLD BAY	5:00A Th
Lv DUTCH HARBOR	10:00P Th
Lv KING COVE	3:00P F
Lv SAND POINT	9:45P F
Lv CHIGNIK	8:15A S
Lv KODIAK	3:45A Su
Ar SEWARD	5:00P Su

May 23 - June 6

June 20 - September 5

Lv SEWARD	8:30P Su
Lv PORT LIONS	10:15A M
Lv KODIAK	3:00P M
Lv HOMER	2:30A T
Lv SELDOVIA	5:15A T
Lv HOMER	8:30A T
Lv KODIAK	8:45P T
Lv PORT LIONS	11:15P T
Lv HOMER	12:15P W
Lv SELDOVIA	4:30P W
Lv HOMER	8:15P W

Tuesday - Thursday

Lv VALDEZ	12:15A T/Th
Ar CORDOVA	5:00A T/Th
Lv CORDOVA	11:45P T/Th
Ar VALDEZ	5:30A W/F

September 17 - October 1

Lv CORDOVA	8:30A T
Ar VALDEZ	2:15P T
Lv VALDEZ	8:30A W
Ar CORDOVA	2:15P W
Lv CORDOVA	8:30A Th
Ar VALDEZ	2:15P Th
Lv VALDEZ	8:30A F
Ar CORDOVA	2:15P F

Lv KODIAK	8:15A Th
Ar SEWARD	9:30P Th
Lv SEWARD	10:30P F
Lv VALDEZ	1:30P S
Lv CORDOVA	10:30P S
Lv VALDEZ	8:15A Su
Ar SEWARD	8:30P Su

June 6 - 13

September 5 - 12

Note: No stop at Port San Juan

Lv SEWARD	8:30P Su
Lv PORT LIONS	10:15A M
Lv KODIAK	3:00P M
Lv HOMER	2:30A T
Lv SELDOVIA	5:15A T
Lv HOMER	8:30A T
Lv KODIAK	8:45P T
Lv PORT LIONS	11:15P T
Lv HOMER	12:15P W
Lv SELDOVIA	4:30P W
Lv HOMER	8:15P W
Lv KODIAK	8:15A Th
Ar SEWARD	8:30P Th
Lv SEWARD	10:15P P
Lv VALDEZ	11:30A S
Lv CORDOVA	8:30P S
Lv VALDEZ	1:00A Su
Ar SEWARD	12:15P Su

September 20 - 26

Lv SEWARD	7:45A M
Lv KODIAK	10:45P M
Lv PORT LIONS	1:15A T
Lv HOMER	1:30P T
Lv SELDOVIA	3:45P T
Lv HOMER	7:45P T
Lv KODIAK	8:15A W
Ar SEWARD	8:45P W

September 27 - 30

Lv SEWARD	7:45A M
Lv KODIAK	10:45P M
Lv HOMER	10:30A T
Lv SELDOVIA	12:45P T
Lv HOMER	4:30P T
Lv PORT LIONS	3:15A W
Lv KODIAK	8:15A W
Ar SEWARD	9:45P W

The M.V. Tustumena cannot transport vehicles greater than 40 feet in length or heavier than 30 tons.

Schedule M. V. Aurora

MAY 1 through May 25

During the May 1 through May 25 period, the M.V. Aurora does not operate on the Southern Panhandle route. She will be operating on the Prince Rupert route, shown elsewhere.

May 25 - September 13 at 10:00 A.M.

Lv PR. RUPERT	8:30A T
Lv KETCHIKAN	4:45P T
Lv HOLLIS	8:30P T
Lv WRANGELL	3:30A W
Lv PETERSBURG	7:15A W
Ar JUNEAU CITY	2:30P W
Lv JUKEAU CITY	4:15P W
Lv PETERSBURG	12:15A Th
Lv HOLLIS	8:45A Th
Ar KETCHIKAN	12:30P Th
Lv KETCHIKAN	3:15P Th
Ar HOLLIS	6:00P Th
Lv HOLLIS	7:15A F
Ar KETCHIKAN	10:00A F
Lv KETCHIKAN	3:15P F
Ar HOLLIS	8:00P F
Lv HOLLIS	7:15A S
Ar KETCHIKAN	10:00A S
Lv KETCHIKAN	7:30P S
Ar HOLLIS	10:15P S
Lv HOLLIS	7:15A Su
Ar KETCHIKAN	10:00A Su
Lv KETCHIKAN	3:15P Su
Ar HOLLIS	8:00P Su
Lv HOLLIS	7:15A M
Ar KETCHIKAN	10:00A M

Lv KETCHIKAN	3:15P M
Lv HOLLIS	7:45P M
Lv KETCHIKAN	11:30P M
Ar PR. RUPERT	6:00A T

September 13 - September 30

Lv KETCHIKAN	3:15P S
Ar HOLLIS	8:00P M
Lv HOLLIS	7:15A T
Ar KETCHIKAN	10:00A T
Lv KETCHIKAN	5:30P T
Ar HOLLIS	8:15P T
Lv HOLLIS	8:45P T
Lv KETCHIKAN	12:15A W
Ar PR. RUPERT	6:45A W
Lv PR. RUPERT	9:30A W
Lv KETCHIKAN	4:45P W
Lv HOLLIS	8:30P W
Lv WRANGELL	3:30A Th
Lv PETERSBURG	7:15A Th
Ar JUNEAU CITY	2:30P Th
Lv JUNEAU CITY	4:15P Th
Lv PETERSBURG	12:15A F
Lv HOLLIS	9:45A F
Ar KETCHIKAN	12:30P F
Lv KETCHIKAN	3:15P F
Ar HOLLIS	8:00P F
Lv HOLLIS	7:15A S
Ar KETCHIKAN	10:00A S
Lv KETCHIKAN	7:30P S
Ar HOLLIS	10:15P S
Lv HOLLIS	7:15A Su
Ar KETCHIKAN	10:00A Su
Lv KETCHIKAN	4:30P Su
Ar HOLLIS	7:15P Su
Lv HOLLIS	7:15A M
Ar KETCHIKAN	10:00A M

M. V. Chilkat

May 1 through May 24
TUE - THR - SAT - SUN

Lv KETCHIKAN	8:00A
Ar METLAKATLA	9:40A
Lv METLAKATLA	9:55A
Ar KETCHIKAN	11:35A
Lv KETCHIKAN	3:45P
Ar METLAKATLA	5:25P
Lv METLAKATLA	5:35P
Ar KETCHIKAN	7:15P

MON - WED - FRI

Lv KETCHIKAN	8:30A
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Ar HOLLIS	12:30P
Lv HOLLIS	1:45P
Ar KETCHIKAN	5:45P

May 25 - September 30
WED - THR - FRI - SAT

Lv KETCHIKAN	8:00A
Ar METLAKATLA	9:40A
Lv METLAKATLA	9:55A
Ar KETCHIKAN	11:35A
Lv KETCHIKAN	3:55P
Ar METLAKATLA	5:35P
Lv METLAKATLA	5:45P
Ar KETCHIKAN	7:25P

For reservations on the M.V. Chilkat contact the Ketchikan terminal, (907) 225-8181.

COLUMBIA GLACIER: Travelers should note that the M.V. BARTLETT and the M.V. TUSTUMENA no longer sail to the face of Columbia Glacier. The new routing calls for the vessels to maintain a distance of approximately 3.5 miles from the face when they pass through Columbia Bay. It should also be noted that the M.V. TUSTUMENA schedule from Valdez to Seward on Sunday, June 13 and September 12 will be traveling at night, therefore the Glacier will not be visible.

The M.V. BARTLETT will accept vehicles to a maximum length of 60 feet and a gross weight of 35 tons.

The M.V. TUSTUMENA cannot transport vehicles greater than 40 feet in length and heavier than 30 tons.

Check-in time for the M.V. BARTLETT is one hour prior to departures. Failure to check in at the prescribed time may void reservations.

SCHEDULES AND FARES ARE SUBJECT TO CHANGE WITHOUT NOTICE AND THE STATE ASSUMES NO RESPONSIBILITY FOR DELAYS OR LOSSES INCURRED DUE TO SUCH CHANGES.

Reservations are required for passengers on the M.V. BARTLETT and M.V. TUSTUMENA, as well as for vehicles and staterooms (M.V. BARTLETT has no staterooms).

Payment for reservations must be made in full, at least 45 days prior to scheduled departure or reservations may be cancelled. Payment may be made by mail with certified or cashiers check, or money orders. Travelers checks are accepted with proper identification.

MAINLINE FERRY

1. SKAGWAY TURN-AROUND TIMES

<u>TAKU</u>	<u>MALASPINA</u>	<u>MATANUSKA</u>
1.0 HOURS	1.0 HOURS	1.75 HOURS
9.75	9.0	1.0
1.5	1.0	5.0
9.0	9.0	1.0
1.5	1.0	6.0
2.75	9.0	1.0
1.5	1.0	6.0
9.0	9.0	1.0
<u>1.5</u>	<u>1.0</u>	<u>6.0</u>
4.2	5.0	3.2

2. PRINCE RUPERT TURN-AROUND TIMES

3.75	3.75	12.5
3.75	3.75	3.75
3.75	3.75	8.5
3.75	3.75	3.75
3.75	3.75	6.00
3.75	3.25	3.75
3.25	3.75	7.00
3.75	3.75	3.75
<u>3.75</u>	<u>3.75</u>	<u>3.25</u>
3.70	3.7	5.81

3. MAINLINE FERRY TRANSIT TIME

YPR TO SGY (WITHOUT SITKA)

32:45

YPR TO SGY (WITH SITKA)

49:15

SITKA VEHICLE TRAFFIC ANALYSIS

1. LINK VOLUME DATA (JULY 1982)

587

588

527

434

168

181

52

53

2,690 VEHICLES ABOARD FERRIES THROUGH SITKA.

2. SITKA TRAFFIC (JULY 1982)

DEPARTING SITKA 529

ARRIVING SITKA 533

1,062 VEHICLES

3. SITKA SHARE OF CAPACITY (VEHICLES)

$\frac{1062}{2690} = 39\%$

2690

4. MAINLINE SHARE OF CAPACITY

$\frac{2690 - 1062}{2690} = 61\%$

2690

HOONAH VEHICLE TRAFFIC ANALYSIS
(LE CONTE)

1. LINK VOLUME DATA
(JULY 1982)

HOONAH - JUNEAU	215
JUNEAU - HOONAH	198

413 VEHICLES ON JNU/HNH ROUTE
(MOST CRITICAL LEG, E.G., L.F.)

2. HOONAH AND ANGOON TRAFFIC ABOARD HNH/JRU ROUTE
(JULY 1982)

HOONAH - JUNEAU	68
JUNEAU - HOONAH	76
ANGOON - JUNEAU	34
JUNEAU - ANGOON	51
	<u>229</u>

3. HOONAH/ANGOON SHARE OF CAPACITY

$\frac{229}{413} = 55\%$

4. SITKA SHARE OF LE CONTE CAPACITY

$\frac{413 - 229}{413} = 45\%$

METLAKATLA SERVICE (PROPOSED)

<u>MONDAY</u>	<u>TUESDAY</u>	<u>WEDNESDAY</u>	<u>THURSDAY</u>	<u>FRIDAY</u>	<u>SATURDAY</u>	<u>SUNDAY</u>
	AR 0830 LV 0900	AR 0830 LV 0900			AR 0830 LV 0900	AR 0830 LV 0900
		AR 1155 LV 1230		AR 1155 LV 1230		
AR 1640 LV 1715					AR 1430 LV 1515	
AR 1800 LV 1830	AR 1930 LV 2000			AR 1800 LV 1830	AR 1930 LV 2000	
				AR 2340 LV 2415		

CAPITAL AND OPERATING COSTS

MAJOR OVERHAUL CONSIDERATIONS
(1983 DOLLARS)

	<u>JETFOIL</u>	<u>CURRENT REPLACEMENT BOAT (TUSTUMENA)</u>
o ORIGINAL COST OF VESSEL	\$18,333,000	\$47,500,000*
o TIME TO MAJOR OVERHAUL/TOTAL SERVICE TIME	15 YEARS/30 YEARS	18 YEARS/36 YEARS
o MAJOR OVERHAUL COSTS	\$ 2,000,000 (11% OF ORIGINAL COST)	\$22,560,000** (47% OF ORIGINAL COST)
o ANNUAL PAYMENT, OVER TOTAL VESSEL LIFE, TO AMORTIZE MAJOR OVERHAUL COST (6% INTEREST ASSUMED)	\$ 60,628 (0.3% OF ORIGINAL COST)	\$ 540,576 (1.1% OF ORIGINAL COST)
o ANNUAL COST PER EQUIVALENT PASSENGER NAUTICAL MILE	\$.002	\$.01

*CURRENT ESTIMATED COST OF A REPLACEMENT BOAT FOR THE TUSTUMENA.

**BASED ON ACTUAL DATA FROM THE TAKU REFURBISHMENT (1981).

VESSEL CAPACITIES

VESSEL	PASSENGERS		VEHICLES	
	SUMMER	WINTER	SUMMER	WINTER
COLOMBIA	650	650	140	140
MALASPINA	750	600	92	88
MATEUSKA	750	550	92	88
TAKU	500	500	80	75
L'E CONTE	250	250	35	35
AURORA	250	250	35	35
CHIKAT	79	62	15	15
BARTLETT	170	170	32	32
TUSTUMENA	220	220	40	40

Reduction of Pension of Beneficiaries

Fuel Factor reduction

MARCH 28,

MARCH 25,

DIVISION OF MARINE HIGHWAY SYSTEMS
EXPENSE AND REVENUE
FISCAL YEAR 1982



61,424

63,000.3

Yearly Recap	Expenditure	Revenue	Passenger Traffic	Vehicle Traffic
<u>S.E. System Vessels:</u>				
<i>No. of OPERATIONS</i> 9.25 M/V TAKU	6,387,034	3,357,967	45,945	12,650
2.25 M/V MALASPINA	6,355,831	4,899,052	60,797	15,025
9.00 M/V MATANUSKA	7,898,102	7,145,553	45,668	10,744
11.00 M/V CHILKAT	845,497	192,655	19,655	4,520
5.25 M/V COLUMBIA	8,433,041	8,061,724	46,148	10,571
10.00 M/V LeCONTE	4,270,387	1,246,433	47,407	9,133
9.25 M/V AURORA	3,682,008	1,043,210	27,830	7,156
21.00				
Charges unapplicable to any one Vessel	(1) 4,980,639			
Agents Commission & Head Tax	315,555			
S.E. Shore & Dock	(2) 1,944,860			
TOTAL S.E. SYSTEM	45,112,956 <i>43,797,101</i>	25,946,594	293,450	69,799
<u>S.W. System Vessels</u>				
10.0 M/V TUSTUMENA	4,797,160	1,767,231	28,681	9,000
10.0 M/V BARTLETT	2,714,924	1,354,785	28,248	6,667
20.0				
Charges unapplicable to any one Vessel	864,695			
Agents Commission	99,522			
S.W. Shore & Dock	559,009			
TOTAL S.W. SYSTEM	9,635,310	3,122,016	56,929	15,667
Adv. & Promotion	(3) 100,687			
Administration	(4) 1,984,102			
DIVISION TOTAL	56,233,055	29,068,610	350,379	85,466
Lapsed Funds/Subsidy	326,545	27,154,445		
FY-82 Authorization	56,559,600			
Total Expenditure		56,223,055		

9,016,222
46,222,192

29,068,610
56,223,055 = 51.7%
4,991,000
1,495,000
100,000
1,984,000
9,010,900
6,387
47,198 x 9010E = 1.217

RECAP - SOUTHEAST SYSTEM
Expenditures
As of 8/31/82 - FY 82 Final

<u>Regular Operations</u>	<u>DECK</u>	<u>ENGINE</u>	<u>STEWARDS</u>	<u>VESSEL ADMIN.</u>
S.E. Health, Welfare and Pension	-0-	-0-	-0-	2,332,016
Personal Services	8,096,338	4,676,410	6,170,841	1,459,860
Travel & Per Diem	66,385	46,274	51,742	14,198
Contractual	168,657	222,938	269,037	1,946,890
Commodities	133,593	9,406,828	1,943,491	37,023
Equipment	15,728	16,625	35,652	4,523
Grievance Settlement	-0-	-0-	-0-	1,658
Operations Vessel				
TOTAL	8,480,701	14,369,075	8,470,763	5,796,167
<u>Annual Overhaul</u>				
Personal Services	1,125,017	1,024,869	591,578	88,181
Travel & Per Diem	31,699	23,351	22,217	4,195
Contractual	449,236	1,125,429	79,799	43,542
Commodities	139,368	473,317	9,084	7,025
Equipment	160	37,595	-0-	-0-
Overhaul Vessel				
TOTAL	1,745,480	2,684,561	702,678	142,943
<u>Emergency & Layup</u>				
Personal Services	112,663	85,051	22,577	12,315
Travel & Per Diem	590	1,982	50	3,748
Contractual	8,106	205,875	-0-	-0-
Commodities	514	2,798	-0-	-0-
Equipment	-0-	-0-	-0-	-0-
Emergency & Layup Vessel				
TOTAL	121,873	295,706	22,667	16,063
<u>Ketchikan Maintenance</u>				
Personal Services	3,862	-0-	-0-	-0-
Travel & Per Diem	-0-			
Contractual	-0-			
Commodities	-0-			
Equipment	-0-			
Ketchikan Maintenance				
Vessel TOTAL	3,862	-0-	-0-	-0-
<u>Combined</u>				
S.E. Health, Welfare and Pension	-0-	-0-	-0-	2,332,016
Personal Services	9,337,880	5,786,330	6,784,996	1,560,356
Travel & Per Diem	98,674	71,607	74,049	22,141
Contractual	625,999	1,554,242	348,836	1,990,432
Commodities	273,475	9,882,943	1,952,575	44,048
Equipment	15,888	54,220	35,652	4,522
Grievance Settlement	-0-	-0-	-0-	1,658
Vessel TOTAL	10,351,916	17,349,342	9,196,108	5,955,173

ALL VESSELS SOUTHEAST
Expenditures

As of 8/31/82 - FY 82 Final

<u>Regular Operations</u>	<u>DECK</u>	<u>ENGINE</u>	<u>STEWARDS</u>	<u>VESSEL ADMIN.</u>
S.E. Health, Welfare and Pension	-0-	-0-	-0-	2,332,016
Personal Services	59,695	32,053	14,749	438,392
Travel & Per Diem	2,540	1,558	1,339	3,811
Contractual	5,355	3,140	109,816	1,779,890
Commodities	10,096	27,389	105,691	7,688
Equipment	10,492	1,929	4,657	1,799
Grievance Settlement	-0-	-0-	-0-	1,658
Operations Vessel	88,178	66,069	236,252	4,565,254
- TOTAL				
<u>Annual Overhaul</u>				
Personal Services	2,202	4,703	2,465	-0-
Travel & Per Diem	140	209	208	-0-
Contractual	-0-	3,304	780	5,587
Commodities	38	739	-0-	19
Equipment	-0-	4,492	-0-	-0-
Overhaul Vessel				
TOTAL	2,380	13,447	3,453	6,606
<u>Emergency & Layup</u>				
Personal Services				
Travel & Per Diem				
Contractual				
Commodities				
Equipment				
Emergency & Layup Vessel				
TOTAL	-0-	-0-	-0-	-0-
<u>Ketchikan Maintenance</u>				
Personal Services				
Travel & Per Diem				
Contractual				
Commodities				
Equipment				
Ketchikan Maintenance				
Vessel TOTAL	-0-	-0-	-0-	-0-
<u>Combined</u>				
S.E. Health, Welfare and Pension	-0-	-0-	-0-	2,332,016
Personal Services	61,897	36,756	17,214	438,392
Travel & Per Diem	2,680	1,767	1,547	3,811
Contractual	5,355	6,444	110,596	1,785,477
Commodities	10,134	28,128	105,691	7,707
Equipment	10,492	6,421	4,657	1,799
Grievance Settlement	-0-	-0-	-0-	1,658
Vessel TOTAL	90,558	79,516	239,705	4,570,860

M/V TAKU
Expenditures
As of 8/31/82 - FY 82 Final

<u>Regular Operations</u>	<u>DECK</u>	<u>ENGINE</u>	<u>STEWARDS</u>	<u>VESSEL ADMIN.</u>
Personal Services	1,306,139	770,052	1,186,714	159,989
Travel & Per Diem	30,458	20,347	22,753	3,798
Contractual	13,835	63,744	44,958	36,209
Commodities	23,116	1,385,966	256,311	8,396
Equipment	1,289	2,553	7,704	1,008
Operations Vessel TOTAL	1,374,837	2,242,662	1,518,440	209,400
<u>Annual Overhaul</u>				
Personal Services	217,675	152,234	198,831	17,906
Travel & Per Diem	2,069	(77)	2,783	566
Contractual	95,201	153,850	13,669	7,003
Commodities	25,804	64,949	2,315	1,231
Equipment	-0-	12,280	-	-0-
Overhaul Vessel TOTAL	340,749	383,236	217,598	26,700
<u>Emergency & Layup</u>				
Personal Services	-0-	-0-	-0-	
Travel & Per Diem	-0-	-0-		
Contractual	545	69,193		
Commodities	514	2,570		
Equipment	-0-	-0-		
Emergency & Layup Vessel TOTAL	1,059	71,763	-0-	-0-
<u>Ketchikan Maintenance</u>				
Personal Services	590			
Travel & Per Diem	-0-			
Contractual	-0-			
Commodities	-0-			
Equipment	-0-			
Ketchikan Maintenance Vessel TOTAL	590	-0-	-0-	-0-
<u>Combined</u>				
Personal Services	1,524,404	922,286	1,385,545	177,889
Travel & Per Diem	32,527	20,270	25,536	4,364
Contractual	109,581	286,787	58,627	43,212
Commodities	49,434	1,453,485	258,626	9,677
Equipment	1,289	14,833	7,704	1,008
Vessel TOTAL	1,717,235	2,697,661	1,736,038	236,100

M/V MALASPINA
Expenditures

As of 8/31/82 - FY 82 Final

<u>Regular Operations</u>	<u>DECK</u>	<u>ENGINE</u>	<u>STEWARDS</u>	<u>VESSEL ADMIN.</u>
Personal Services	1,167,569	653,019	1,194,114	196,157
Travel & Per Diem	8,748	4,725	7,661	1,905
Contractual	21,025	9,831	47,617	36,800
Commodities	20,176	1,503,032	373,390	4,424
Equipment	-0-	659	6,313	-0-
Operations Vessel TOTAL	1,217,518	2,171,266	1,629,095	239,286
<u>Annual Overhaul</u>				
Personal Services	241,001	238,031	169,024	17,651
Travel & Per Diem	4,038	5,224	4,915	930
Contractual	67,413	89,842	30,069	9,817
Commodities	16,532	84,756	576	483
Equipment	-0-	12,983	-0-	-0-
Overhaul Vessel TOTAL	328,984	430,836	204,584	28,881
<u>Emergency & Layup</u>				
Personal Services	-0-	-0-	705	-0-
Travel & Per Diem	-0-	-0-	-0-	-0-
Contractual	159	104,517	-0-	-0-
Commodities	-0-	-0-	-0-	-0-
Emergency & Layup Vessel TOTAL	159	104,517	705	-0-
<u>Ketchikan Maintenance</u>				
Personal Services				
Travel & Per Diem				
Contractual				
Commodities				
Equipment				
Ketchikan Maintenance Vessel TOTAL	-0-	-0-	-0-	-0-
<u>Combined</u>				
Personal Services	1,408,570	891,050	1,363,843	213,808
Travel & Per Diem	12,786	9,949	12,576	2,835
Contractual	88,597	204,190	77,686	46,617
Commodities	36,708	1,587,788	373,966	4,907
Equipment	-0-	13,642	6,313	-0-
Vessel TOTAL	1,546,661	2,706,619	1,834,384	268,167

M/V MATANUSKA
Expenditures

As of 8/31/82 - FY 82 Final

<u>Regular Operations</u>	<u>DECK</u>	<u>ENGINE</u>	<u>STEWARDS</u>	<u>VESSEL ADMIN.</u>
Personal Services	1,596,674	1,014,691	1,621,941	264,790
Travel & Per Diem	6,843	4,682	11,162	1,284
Contractual	54,238	30,171	20,299	26,254
Commodities	34,687	1,794,288	446,942	6,017
Equipment	843	2,728	1,520	1,550
Operations Vessel TOTAL	1,693,285	2,846,560	2,101,864	299,895
<u>Annual Overhaul</u>				
Personal Services	157,657	227,380	126,334	19,601
Travel & Per Diem	1,884	1,127	338	376
Contractual	35,550	189,355	6,258	6,537
Commodities	16,149	139,813	1,196	-0-
Equipment	160	5,163	-0-	-0-
Overhaul Vessel TOTAL	211,400	562,838	134,126	26,514
<u>Emergency & Layup</u>				
Personal Services	-0-	-0-	-0-	1,449
Travel & Per Diem	-0-	-0-	-0-	-0-
Contractual	91	20,080	-0-	-0-
Commodities	-0-	-0-	-0-	-0-
Emergency & Layup Vessel TOTAL	91	20,080	-0-	1,449
<u>Ketchikan Maintenance</u>				
Personal Services				
Travel & Per Diem				
Contractual				
Commodities				
Equipment				
Ketchikan Maintenance Vessel TOTAL	-0-	-0-	-0-	-0-
<u>Combined</u>				
Personal Services	1,754,331	1,242,071	1,748,275	285,840
Travel & Per Diem	8,727	5,809	11,500	1,660
Contractual	89,879	239,606	26,557	32,791
Commodities	50,836	1,934,101	448,138	6,017
Equipment	1,003	7,891	1,520	1,550
Vessel TOTAL	1,904,776	3,429,478	2,235,990	327,858

M/V CHILKAT
Expenditures
As of 8/31/82 - FY 82 Final

<u>Regular Operations</u>	<u>DECK</u>	<u>ENGINE</u>	<u>STEWARDS</u>	<u>VESSEL ADMIN.</u>
Personal Services	370,457	124,902	48,946	2,132
Travel & Per Diem	4,653	1,372	302	-0-
Contractual	7,532	1,536	517	5,460
Commodities	4,690	80,989	17,615	55
Equipment	629	-0-	-0-	-0-
Operations Vessel TOTAL	387,961	208,799	67,380	7,647
<u>Annual Overhaul</u>				
Personal Services	16,110	6,448	982	5,958
Travel & Per Diem	2,523	898	-0-	-0-
Contractual	5,880	123,618	-0-	4,463
Commodities	6,804	20	-0-	6
Overhaul Vessel TOTAL	31,317	130,984	982	10,427
<u>Emergency & Layup</u>				
Personal Services				
Travel & Per Diem				
Contractual				
Commodities				
Emergency & Layup Vessel TOTAL	-0-	-0-	-0-	-0-
<u>Ketchikan Maintenance</u>				
Personal Services				
Travel & Per Diem				
Contractual				
Commodities				
Ketchikan Maintenance Vessel TOTAL	-0-	-0-	-0-	-0-
<u>Combined</u>				
Personal Services	386,567	131,350	49,928	8,090
Travel & Per Diem	7,176	2,270	302	-0-
Contractual	13,412	125,154	517	9,923
Commodities	11,494	81,009	17,615	61
Equipment	629	-0-	-0-	-0-
Vessel TOTAL	419,278	339,783	68,362	18,074

M/V COLUMBIA
Expenditures
As of 8/31/82 - FY 82 Final

<u>Regular Operations</u>	<u>DECK</u>	<u>ENGINE</u>	<u>STEWARDS</u>	<u>VESSEL ADMIN.</u>
Personal Services	1,379,410	921,730	1,301,230	202,811
Travel & Per Diem	5,956	2,282	4,247	1,522
Contractual	47,104	80,802	30,121	26,562
Commodities	13,396	2,803,877	453,533	4,587
Equipment	410	5,458	4,461	165
Operations Vessel TOTAL	1,446,276	3,814,149	1,793,592	235,647
<u>Annual Overhaul</u>				
Personal Services	275,496	223,757	64,579	13,347
Travel & Per Diem	11,755	9,239	9,290	1,615
Contractual	102,658	312,023	13,352	2,809
Commodities	26,080	70,183	3,282	406
Equipment	-0-	2,677	-0-	-0-
Overhaul Vessel TOTAL	415,989	617,879	90,503	18,177
<u>Emergency & Layup</u>				
Personal Services				-0-
Travel & Per Diem				829
Contractual				
Commodities				
Emergency & Layup Vessel TOTAL	-0-	-0-	-0-	829
<u>Ketchikan Maintenance</u>				
Personal Services				
Travel & Per Diem				
Contractual				
Commodities				
Ketchikan Maintenance Vessel TOTAL	-0-	-0-	-0-	
<u>Combined</u>				
Personal Services	1,654,906	1,145,487	1,365,809	216,158
Travel & Per Diem	17,711	11,521	13,537	3,966
Contractual	149,762	392,825	43,473	29,371
Commodities	39,476	2,874,060	456,815	4,993
Equipment	410	8,135	4,461	165
Vessel TOTAL	1,862,265	4,432,028	1,884,095	254,653

M/V LeCONTE
Expenditures

As of 8/31/82 - FY 82 Final

<u>Regular Operations</u>	<u>DECK</u>	<u>ENGINE</u>	<u>STEWARDS</u>	<u>VESSEL ADMIN.</u>
Personal Services	1,236,096	681,362	470,207	106,225
Travel & Per Diem	3,847	6,857	1,277	1,685
Contractual	13,191	15,360	10,739	11,178
Commodities	14,547	1,058,398	159,366	3,609
Equipment	774	2,376	10,798	-0-
Operations Vessel TOTAL	1,268,455	1,764,353	652,387	122,697
<u>Annual Overhaul</u>				
Personal Services	108,198	69,251	13,684	6,318
Travel & Per Diem	7,289	4,15	3,549	537
Contractual	69,109	9,330	15,156	1,946
Commodities	15,480	51,166	895	263
Equipment	-0-	-0-	-0-	-0-
Overhaul Vessel TOTAL	200,076	215,962	33,284	9,064
<u>Emergency & Layup</u>				
Personal Services				-0-
Travel & Per Diem				837
Contractual				
Commodities				
Equipment				
Emergency & Layup Vessel TOTAL	-0-	-0-	-0-	837
<u>Ketchikan Maintenance</u>				
Personal Services	3,272	0-	-0-	-0-
Travel & Per Diem	-0-			
Contractual	-0-			
Commodities	-0-			
Ketchikan Maintenance Vessel TOTAL	3,272	-0-	-0-	-0-
<u>Combined</u>				
Personal Services	1,347,566	750,613	483,891	112,543
Travel & Per Diem	11,136	11,072	4,826	3,059
Contractual	82,300	106,690	25,895	13,124
Commodities	30,027	1,109,564	160,261	3,872
Equipment	774	2,376	10,798	-0-
Vessel TOTAL	1,471,803	1,980,315	685,671	132,598

M/V AURORA
Expenditures

As of 8/31/82 - FY 82 Final

<u>Regular Operations</u>	<u>DECK</u>	<u>ENGINE</u>	<u>STEWARDS</u>	<u>VESSEL ADMIN.</u>
Personal Services	980,298	478,601	332,940	89,364
Travel & Per Diem	3,340	4,451	3,001	193
Contractual	6,377	18,354	4,970	24,537
Commodities	12,885	752,889	130,643	2,247
Equipment	1,291	922	199	-0-
Operations Vessel TOTAL	1,004,191	1,255,217	471,753	116,341
<u>Annual Overhaul</u>				
Personal Services	106,678	103,065	15,679	7,406
Travel & Per Diem	2,001	2,516	1,134	171
Contractual	73,425	162,107	515	5,380
Commodities	32,481	61,691	820	4,617
Overhaul Vessel TOTAL	214,585	329,379	18,148	17,574
<u>Emergency & Layup</u>				
Personal Services	112,663	85,051	21,872	10,866
Travel & Per Diem	590	1,982	90	2,082
Contractual	7,311	12,085	-0-	-0-
Commodities	-0-	228	-0-	-0-
Emergency & Layup Vessel TOTAL	120,564	99,346	21,962	12,948
<u>Ketchikan Maintenance</u>				
Personal Services				
Travel & Per Diem				
Contractual				
Commodities				
Equipment				
Ketchikan Maintenance Vessel TOTAL	-0-	-0-	-0-	-0-
<u>Combined</u>				
Personal Services	1,199,639	666,717	370,491	107,636
Travel & Per Diem	5,931	8,949	4,225	2,446
Contractual	87,113	192,546	5,485	29,917
Commodities	45,366	814,808	131,463	6,864
Equipment	1,291	922	199	-0-
Vessel TOTAL	1,339,340	1,683,942	511,863	146,863

M/V TUSTUMENA
Expenditures
As of 8/31/82 - FY 82 Final

<u>Regular Operations</u>	<u>DECK</u>	<u>ENGINE</u>	<u>STEWARDS</u>	<u>VESSEL ADMIN.</u>
Personal Services	1,486,067	699,429	465,104	87,983
Travel & Per Diem	3,187	3,537	2,996	660
Contractual	253,452	14,676	20,196	8,137
Commodities	22,113	876,571	184,866	1,803
Equipment	557	3,533	471	-0-
Operations Vessel TOTAL	1,765,376	1,598,146	673,633	98,583
<u>Annual Overhaul</u>				
Personal Services	138,992	78,620	24,416	5,411
Travel & Per Diem	4,418	2,370	2,187	180
Contractual	62,862	223,447	8,999	3,721
Commodities	33,808	69,575	385	97
Equipment	-0-	1,934	-0-	-0-
Overhaul Vessel TOTAL	240,080	375,946	35,987	9,409
<u>Emergency & Layup</u>				
Personal Services				
Travel & Per Diem				
Contractual				
Commodities				
Equipment				
Emergency & Layup Vessel TOTAL	-0-	-0-	-0-	-0-
<u>Ketchikan Maintenance</u>				
Personal Services				
Travel & Per Diem				
Contractual				
Commodities				
Equipment				
Ketchikan Maintenance Vessel TOTAL	-0-	-0-	-0-	-0-
<u>Combined</u>				
Personal Services	1,625,059	778,049	489,520	93,394
Travel & Per Diem	7,605	6,307	5,183	840
Contractual	316,314	238,123	29,195	11,858
Commodities	55,921	946,146	185,251	1,900
Equipment	557	5,467	471	-0-
Vessel TOTAL	2,005,456	1,974,092	709,620	107,992

F4 83 Rates

MONTHLY BASE SALARIES
MARINE HIGHWAY SYSTEMSSOUTHEAST VESSELS*

COLUMBIA, MALASPINA, MATANUSKA & TAKU

Licensed Deck Officers	Amount
Master	\$5,091
Pilot	4,306
Chief Mate	4,170
2nd Mate	3,740
3rd Mate	3,740

Licensed Engine Officers

Chief Engineer	\$5,435
1st Assistant Engineer	4,685
2nd Assistant Engineer	4,375
3rd Assistant Engineer	4,104

LeCONTE & AURORA

Licensed Deck Officers

Master	\$4,912 ✓
Chief Mate	3,813 ✓
2nd Mate	3,740
3rd Mate	3,740

Licensed Engine Officers

Chief Engineer	\$5,218 ✓ <i>supervisor</i>
1st Assistant Engineer	4,474
2nd Assistant Engineer	4,190 ✓ <i>mech. & elect.</i>

ALL SOUTHEAST VESSELS

Unlicensed Personnel

A.B. Bos'n	\$2,897 ✓ <i>observer</i>
Able Seaman	2,654
Ordinary Seaman	2,486
Ordinary Seaman Porter	2,486
Watchman	2,486
Chief Purser	3,243
Senior Assistant Purser	2,877
Junior Assistant Purser	2,464
Junior Engineer	2,917
Oiler	2,675
Wiper	2,504 ✓ <i>junior</i>

* Including Pilotage for Southeast Licensed Deck Officers.

Unlicensed Personnel (con't.)

Amount

Oiler/Wiper	\$2,675
Chief Steward	3,243
2nd Steward	2,877
Storekeeper	2,779 ✓
Chief Cook	2,956
2nd Cook	2,599
Assistant 2nd Cook	2,464
Cashier	2,453
Head B.R. Steward	2,464
Bartender	2,464
Cashier Steward	2,437
Officer Steward	2,453
Crew Steward	2,453
Steward	2,437
Gift Shop Operator	2,464

F 2,450 x 3

CHILKAT

Master	\$4,579
Chief Engineer	4,148

Note: All Southeast Vessel positions work 12 hours a day, 84 hours, in a two week period for a total of 2184 hours per year.

EXISTING TRAFFIC ANALYSIS

final report

SOUTHEASTERN ALASKA TRANSPORTATION STUDY

prepared for the
ALASKA
DEPARTMENT OF
TRANSPORTATION AND
PUBLIC FACILITIES

by
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in association with
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Scheduled Air Service - Some type of scheduled air service is operated to all permanent communities in the region and to many major logging camps and villages. Scheduled interstate air service is available to all major communities, excepting Haines and Skagway; and scheduled air taxi routes radiate from principal communities to smaller inhabited areas. Many of the scheduled air taxi routes are operated in conjunction with mail service which is sub-contracted from Alaska Airlines. Consequently, operators of scheduled air taxi routes may change periodically as new mail contracts are awarded.

Twenty scheduled routes are served by ten separate commercial carriers in Southeastern Alaska. International service is provided by Wien Air Alaska between Juneau, Whitehorse, and Fairbanks; and by Trans-Provincial Air between Ketchikan and Prince Rupert. Both of these carriers offer service twice per week during the summer, but Trans-Provincial service during winter is once per week. Scheduled air carrier routes are listed in Table 36.

Six interstate routes are operated by Alaska Airlines during the summer months, generally on a daily basis. During the fall, winter and spring months, service is reduced to four or five scheduled routes with fewer stops at the smaller communities of Wrangell, Petersburg, and Yakutat. Gustavus is included in the summer schedule to serve tourists destined for Glacier Bay; and service to this community is eliminated during other seasons of the year. The scheduled summer routes result in service to Juneau four times per day in each direction, to Ketchikan three times per day, and once or twice per day to Sitka, Wrangell, Petersburg, and Yakutat.

Various air taxi services operate twelve scheduled intrastate air routes in Southeastern Alaska. All of these routes, with the exception of the Juneau-Haines-Skogway route operated by Southeast Skyways, are operated in conjunction with scheduled mail delivery. Five scheduled routes are operated from Juneau, three from Ketchikan, and two from Petersburg and two from Sitka. Haines, Skogway, and Hoonah from Juneau; and Craig, Klawock, Hydaburg, and Metlakatla from Ketchikan are provided with excellent scheduled service of two to seven flights per day resulting in high air system capacity to these communities. Service to other communities varies from once per day to once per week.

Nonscheduled Air Service - Fifteen air taxi operators and four helicopter services certificated by the Alaska Transportation Commission operate in Southeastern Alaska. Currently, air taxi systems operate from nine of the major communities; five taxi operators and one helicopter service are based in Ketchikan; four carriers and one helicopter service are based in Juneau; two carriers operate from Sitka; and one air taxi operator is based in Skogway, Haines, Wrangell, Petersburg, Hoonah, Klawock, Metlakatla, and Yakutat. Yakutat is also the base for two helicopter services. Several of the air taxi services, such as L. A. B., have aircraft stationed in several communities. The number and type of aircraft operated by each air carrier is listed in Table 37.

Table 36

SCHEDULED AIR SERVICES

Southeastern Alaska Transportation Study

ROUTE	OPERATOR	EQUIPMENT	(1)	(2)	
			TRIPS PER WEEK (one-way)	WEEKLY CAPACITY (one-way)	
				Passengers (number)	Cargo (tons)
Sea-Jnu-Anch	Alaska Airlines	727	6	624	12.0
Sea-Sit Jnu-Yak-Anch	Alaska Airlines	727	5	485	15.5
Sea-Ktn-Wrg-Psg-Jnu-Yak-Anch	Alaska Airlines	727	7	693	19.5
Sea-Ktn-Sit-Jnu-Anch	Alaska Airlines	727	7	728	14.0
Sea-Ktn-Jnu	Alaska Airlines	727	7	728	14.0
Sea-Wrg-Psg-Jnu-Gus	Alaska Airlines	727	7	728	14.0
Jnu-Whthse-Fbks	Wien Air Alaska	737+F27	2	224	26.0
Jnu-Hns-Sgy	Southeast Skyways	Various	40	240	30.0
Jnu-Hnh	L. A. B.	Various	21	126	20.0
Jnu-Funter Bay-Excursion Inlet	L. A. B.	Various	2	10	1.5
Jnu-Gus	L. A. B.	Various	1	5	0.5
Jnu-Ang-Tenakee-Chatham-Hawk Inl.	Channel Flying	Various	7	49	5.0
Ktn-Craig-Klawock-Hydaburg	Tyee Air	Beaver	49	343	34.0
Ktn-Metlakatla	Tyee Air	Beaver	35	245	24.5
Ktn-Hyder-Yes Bay	Webber	Various	1	7	0.5
Psg-Kake	Alaska Island Air	Various	6	42	4.0
Psg-Saginaw	Alaska Island Air	Various	1	7	0.5
Ktn-Rup	Trans Provincial Air (Canada)	Various	2	22	2.0
Sit-Pelican	Eagle Air	Various	5	35	3.5
Sit-Pt. Alexander-Pt. Walter-Baranof	Eagle Air	Various	1	7	0.5

(1) Summer Schedule

(2) When various equipment is used, the capacity describes the largest equipment available.

SOURCE: Airline operators, Alaska Transportation Commission

Table 37

SOUTHEASTERN AIR TAXI OPERATORS
Southeastern Alaska Transportation Study

<u>OPERATOR</u>	<u>NUMBER OF PLANES</u>			<u>GENERAL SERVICE AREA</u>
	<u>Amphib</u>	<u>Float</u>	<u>Wheel</u>	
Gulf Air	-	-	2	Yakutat Area
L. A. B.	1	-	13	North of Hoonah
Southeast Skyways	1	1	4	North of Hoonah
Skagway Air	-	-	3	North of Hoonah
Channel Air	2	8	-	Juneau-Wrangell
Ward Air	3	-	-	Juneau-Wrangell
Alaska Island Air	5	-	-	Juneau-Ketchikan
Eagle Air	-	2	-	Juneau-Ketchikan
Stikine Air	3	-	-	Juneau-Ketchikan
Webber Air	-	9	-	South of Wrangell
Revilla Air	-	1	-	South of Wrangell
Ketchikan Air	.2	2	-	South of Wrangell
Tyee Air	7	-	-	South of Wrangell
Todd Air	-	3	-	South of Wrangell
Flair Air	-	2	-	P. O. W. Island - Ketchikan
Toquah Air	-	1	-	Metlakatla-Ketchikan
Total	24	29	22	

SOURCE: Alaska Transportation Commission, air taxi operators

As shown in the table, the general service area of each operator correlates closely with the type of landing configuration on the aircraft. All of the 22 aircraft equipped with wheel landing gear are operated in the northern panhandle, while only three of the 53 float or amphibious craft generally operate in the northern panhandle. About 65 percent of the float equipped aircraft operate south of Wrangell, in the lower panhandle, and about 55 percent of the amphibious aircraft are operated in the central part of the region.

Most of the air taxi operators have developed specialized service features or service areas to capture a specific component of the total air demand. L.A.B. and Southeast Skyways, for example, have marketed service between Juneau, Haines, and Skagway, almost to the exclusion of other air taxi operators. Tye Air has similarly captured most of the market for services from Ketchikan to major communities on Prince of Wales Island and to Metlakatla. Other operators such as Ward Air, Webber Air, Stikine Air, and Channel Air derive much of their business from the transport of supplies to logging camps, fish processors, or small villages. Others contract to service weather stations, scientific expeditions, or other specific services, and most of the services carry sport hunting or fishing demand to remote sites.

Helicopter operations generally serve very specific demands which cannot be accommodated by fixed wing aircraft. The two helicopter operations in Yakutat, Evergreen and ERA, ferry materials and personnel to offshore oil exploration drill sites in the Gulf of Alaska. The other two companies, Livingston and Temsco, operate to remote areas inaccessible by airplane, to ferry maintenance personnel, to microwave relay stations and other facilities, or to assist logging operations. Helicopters are also used to transport large or bulky items which will not fit into conventional aircraft.

Air Travel Usage - In 1976, over 560,000 passengers and almost 6,400 tons of freight and mail were transported on about 63,000 commercial air trips in Southeastern Alaska. Interstate and international airline carried about 68 percent of the air passengers and 62 percent of the air cargo on approximately four percent of the total commercial air flights, for an average of about 147 person trips and 1.5 tons of cargo carried per aircraft trip. Air taxi systems averaged about three passenger trips and 400 pounds of cargo per flight.

About 60 percent of the total annual jet passenger origins or destinations in Southeastern Alaska during 1976 were generated in the Juneau area. Ketchikan and Sitka generated respectively 17 percent and 14 percent of the total jet air traffic; and the three remaining Southeastern jet ports-Yakutat, Wrangell, and Petersburg-each contributed three percent or less of the total jet passenger traffic. About 20 percent of the jet travel was within the Southeastern region, about 52 percent were trips to or from the continental United States through Seattle, and 28 percent were trips to or from other regions in Alaska or Canada.

Juneau also contributed more than half of the total jet cargo traffic in the region, with about 55 percent of the total freight or mail carried to or from the Juneau area. Sitka and Yakutat generated respectively about 15 percent and 13 percent of the jet cargo traffic in 1976, and approximately 12 percent was generated in the Ketchikan area. Wrangell and Petersburg each contributed about three percent of the cargo volumes carried by jet aircraft. Approximately 19 percent of the jet air cargo in Southeastern Alaska was transported between points within the region, about 22 percent was transported between the region and points to the north, and about 59 percent was carried between Southeastern Alaska and points to the south.

Very little data is available on historical growth rates of travel by the jet air carriers; however, some observations have been made from existing information. Travel between the Southeastern region and other areas has apparently been increasing at the annual rate of 15 to 20 percent over the last several years. Growth rates for travel by jet within the region is growing at a somewhat slower rate of 5 to 10 percent. No information is available on the growth of air freight.

Air taxi systems carried approximately 178,000 passengers and 2,420 tons of cargo and mail in 1976 within Southeastern Alaska. Historical demand information, shown in Table 38, indicates that system demand for passenger and freight service have both declined by about 7 percent per year since a peak in 1974. The total number of flights have also declined so that during both 1974 and 1976 the average number of passengers per trip was 2.96 and the average cargo volume per trip was 80 pounds.

The distribution of travel demand by air taxi is not available by community or travel corridor; however, the total volume of passengers and cargo carried by each system was grouped into three areas to compare general levels of activity. The three areas are: northern-from Hoonah to Yakutat and Skagway; central-from Hoonah to south of Wrangell; and southern-Ketchikan and Prince of Wales Island.

In 1976, air taxi systems in the northern area transported about 24 percent of the total air taxi passengers and 18 percent of the total air taxi cargo in the region, and the central area air taxi operators carried 25 percent of the air passengers and 22 percent of the cargo. Systems operating from Ketchikan and Prince of Wales Island accounted for 51 percent of the total air taxi passengers in the region and 60 percent of the air taxi cargo. Systems operating in the central and southern areas carried an average of one more person and about 40 more pounds of cargo per trip than systems in the northern area; probably a result of the larger aircraft generally used in the southern two areas and higher demand.

Air Tariffs and Costs - Tariff information for all air services was obtained from air carriers or the Alaska Transportation Commission; however, cost data was available only for scheduled air taxi services regulated by ALC. Cost

Table 38

AIR TAXI SYSTEM USAGE

Southeastern Alaska Transportation Study

<u>OPERATING PERIOD</u>	<u>NUMBER OF FLIGHTS</u>	<u>NUMBER OF PASSENGERS</u>	<u>TONS OF FREIGHT</u>	<u>TONS OF MAIL</u>
1974				
1st Qtr.	9,590	39,251	346.5	71.0
2nd Qtr.	22,019	59,850	723.6	87.8
3rd Qtr.	23,523	68,943	940.9	71.2
4th Qtr.	14,447	37,705	445.1	129.8
1975				
1st Qtr.	8,452	24,639	313.6	76.2
2nd Qtr.	16,558	46,278	590.3	73.8
3rd Qtr.	27,998	72,641	1,486.5	114.5
4th Qtr.	10,608	34,522	368.3	89.5
1976				
1st Qtr.	7,803	23,924	269.0	51.1
2nd Qtr.	19,274	50,299	604.6	73.3
3rd Qtr.	21,830	65,784	747.5	37.1
4th Qtr.	10,939	37,995	563.3	71.6
1977				
1st Qtr.	8,548	28,186	305.1	40.3

SOURCE: Alaska Transportation Commission

MONTHLY JET AIRCRAFT PASSENGERS*
SOUTHEAST ALASKA

ROUTE	1980					1981							TOTAL
	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	
JNU - GST % OF TOTAL	6,991 31%	2,800 13%	--	--	--	--	--	--	--	397 2%	4,022 22%	7,258 32%	22,260
JNU - KTN % OF TOTAL	1,049 10.3	1,716 9.6	1,935 10.8	1,332 7.4	1,094 6.1	1,201 6.7	1,312 7.3	1,650 9.2	1,574 8.8	1,459 8.1	1,245 7.0	1,537 6.6	17,904
JNU - PSG % OF TOTAL	971 12.0	680 8.4	658 8.1	503 7.2	342 4.2	534 6.6	613 7.6	800 10.0	599 7.4	900 11.1	592 7.3	822 10.1	8,102
JNU - SIT % OF TOTAL	3,742 12.1	2,777 9.0	2,501 8.1	2,135 6.9	1,741 5.6	1,900 6.1	1,694 5.5	2,605 8.4	2,270 7.3	2,491 8.1	3,149 10.2	3,924 12.7	30,925
JNU - WRG % OF TOTAL	219 5.4	522 12.8	458 11.2	395 9.7	238 5.8	306 7.5	264 6.5	405 9.9	253 6.2	354 8.7	317 7.0	353 8.6	4,084
KTN - PSG % OF TOTAL	432 12.9	306 9.1	256 7.6	223 6.6	171 5.1	250 7.4	281 8.4	230 6.9	282 8.4	341 10.2	223 6.6	361 10.8	3,356
KTN - SIT % OF TOTAL	1,113 11.9	900 8.8	692 6.8	666 6.5	440 4.3	685 6.7	1,050 10.3	895 8.8	791 7.8	795 7.8	920 9.1	1,238 12.1	10,193
KTN - WRG % OF TOTAL	328 11.1	284 9.6	340 11.5	233 7.9	132 4.5	240 8.4	210 7.1	251 8.5	203 6.9	231 7.8	216 7.9	205 9.6	2,661
PSG - SIT % OF TOTAL	--	73 5.4	91 6.7	160 11.8	46 3.4	172 12.7	149 11.0	215 15.9	141 10.4	243 18.0	62 4.6	--	1,352
PSG - WRG % OF TOTAL	111 8.6	70 5.4	126 9.8	124 9.6	69 5.3	138 10.7	137 10.6	129 10.0	114 8.8	109 8.4	71 5.5	92 1.1	1,290
SIT - WRG % OF TOTAL	--	48 6.1	66 8.5	78 10.0	82 10.5	135 17.3	86 11.0	103 13.2	66 8.5	84 10.0	--	--	781
TOTAL % OF TOTAL	15,756 15.3	10,172 9.9	7,123 6.9	5,929 5.7	4,355 4.2	5,569 5.4	5,796 5.6	7,291 7.1	6,293 5.1	7,404 7.2	11,686 11.1	15,070 15.4	103,216
TOTAL WITHOUT CST % OF TOTAL	8,765 10.8	7,372 9.1	7,123 8.8	5,929 7.3	4,355 5.4	5,569 6.9	5,796 7.2	7,287 9.0	6,293 7.8	7,007 8.7	6,836 8.4	8,612 10.6	80,944

*SOURCE: C.A.B. SERVICE SEGMENT DATA

1982 PASSENGER TRAFFIC BY SEASON*

SOUTHEAST ALASKA FERRY SYSTEM

ROUTE	PEAK SEASON (JULY-SEPT.)	SHOULDER SEASON (APRIL-JUNE)	NON-PEAK SEASON (OCT.-MARCH)	TOTAL YEAR
JUNEAU - ANGOON % OF TOTAL	1,244 34	846 24	1,524 42	3,614
JUNEAU - HAINES % OF TOTAL	13,656 48	7,348 26	7,522 26	28,526
JUNEAU - HOONAH % OF TOTAL	1,801 26	1,792 26	3,504 49	7,097
JUNEAU - KAKE % OF TOTAL	208 20	124 16	406 56	738
JUNEAU - KETCHIKAN % OF TOTAL	3,192 38	2,215 27	2,885 35	8,293
JUNEAU - PELICAN % OF TOTAL	402 48	199 23	248 29	849
JUNEAU - PETERSBURG % OF TOTAL	2,640 38	2,175 30	2,237 32	6,993
JUNEAU - PRINCE RUPERT % OF TOTAL	6,380 61	2,770 27	1,288 12	10,446
JUNEAU - SITKA % OF TOTAL	5,386 47	3,073 27	2,974 26	11,433
JUNEAU - SKAGWAY % OF TOTAL	11,744 63	5,193 27	1 0	18,915
JUNEAU - TENAKEE % OF TOTAL	563 20	652 31	1 0	2,047

*SOURCE: ALASKA STATE DEPARTMENT OF TRANSPORTATION, 1982 ORIGIN AND DESTINATION STATISTICS

1982 PASSENGER TRAFFIC BY SEASON*

SOUTHEAST ALASKA FERRY SYSTEM

ROUTE	PEAK SEASON (JULY-SEPT.)	SHOULDER SEASON (APRIL-JUNE)	NON-PEAK SEASON (OCT.-MARCH)	TOTAL YEAR
JUNEAU - WRANGELL % OF TOTAL	790 37	512 24	847 39	2,149
KETCHIKAN - HAINES % OF TOTAL	1,508 44	1,117 33	784 23	3,409
KETCHIKAN - HOLLIS % OF TOTAL	9,765 39	5,669 23	9,512 38	24,946
KETCHIKAN - METLAKATLA % OF TOTAL	4,098 27	3,965 27	6,986 46	15,049
KETCHIKAN - PETERSBURG % OF TOTAL	2,092 41	1,173 23	1,801 36	5,066
KETCHIKAN - PRINCE RUPERT % OF TOTAL	11,255 52	6,300 29	4,011 19	21,566
KETCHIKAN - SKAGWAY % OF TOTAL	1,454 58	641 26	395 16	2,490
KETCHIKAN - WRANGELL % OF TOTAL	2,435 42	1,416 25	1,901 33	5,752
PETERSBURG - HAINES % OF TOTAL	504 40	362 28	405 32	1,271
PETERSBURG - KAKE % OF TOTAL	1,952 43	1,234 27	1,390 30	4,576
PETERSBURG - PRINCE RUPERT % OF TOTAL	1,215 50	701 29	521 21	2,437

*SOURCE: ALASKA STATE DEPARTMENT OF TRANSPORTATION, 1982 ORIGIN AND DESTINATION STATISTICS

1982 PASSENGER TRAFFIC BY SEASON*

SOUTHEAST ALASKA FERRY SYSTEM

ROUTE	PEAK SEASON (JULY-SEPT.)	SHOULDER SEASON (APRIL-JUNE)	NON-PEAK SEASON (OCT.-MARCH)	TOTAL YEAR
PETERSBURG - SKAGWAY	308	199	137	644
% OF TOTAL	48	31	21	
PETERSBURG - WRANGELL	1,614	1,056	1,502	4,172
% OF TOTAL	39	25	36	
SITKA - ANGOON	2,235	1,922	2,467	6,624
% OF TOTAL	34	29	37	
SITKA - HAINES	886	485	568	1,939
% OF TOTAL	46	25	29	
SITKA - HOONAH	408	443	586	1,437
% OF TOTAL	28	31	41	
SITKA - SKAGWAY	602	325	601	1,528
% OF TOTAL	39	22	39	
WRANGELL - HAINES	328	153	186	667
% OF TOTAL	49	23	28	
WRANGELL - PRINCE RUPERT	906	495	379	1,780
% OF TOTAL	51	28	21	
WRANGELL - SKAGWAY	142	46	42	230
% OF TOTAL	62	20	18	
HAINES - SKAGWAY	10,082	4,674	1,949	16,705
% OF TOTAL	60	28	12	
TOTAL	101,695	59,224	62,469	223,388
% OF TOTAL	46	26	28	

*SOURCE: ALASKA STATE DEPARTMENT OF TRANSPORTATION, 1982 ORIGIN AND DESTINATION STATISTICS

1982 VEHICLE TRAFFIC BY SEASON*

SOUTHEAST ALASKA FERRY SYSTEM

ROUTE	PEAK SEASON (JULY-SEPT.)	SHOULDER SEASON (APRIL-JUNE)	NON-PEAK SEASON (OCT.-MARCH)	TOTAL YEAR
JUNEAU - ANGOON % OF TOTAL	255 35	177 24	300 41	732
JUNEAU - HAINES % OF TOTAL	3,750 44	2,339 27	2,435 29	8,524
JUNEAU - HOONAH % OF TOTAL	455 33	331 24	503 43	1,369
JUNEAU - KAKE % OF TOTAL	44 25	31 18	98 57	173
JUNEAU - KETCHIKAN % OF TOTAL	490 41	351 50	342 29	1,183
JUNEAU - PELICAN % OF TOTAL	47 56	16 15	21 29	84
JUNEAU - PETERSBURG % OF TOTAL	530 43	305 25	394 32	1,229
JUNEAU - PRINCE RUPERT % OF TOTAL	1,673 48	999 28	846 24	3,518
JUNEAU - SITKA % OF TOTAL	920 45	592 29	548 26	2,060
JUNEAU - SKAGWAY % OF TOTAL	1,710 53	934 29	586 18	3,230
JUNEAU - TENAKEE % OF TOTAL	-- --	-- --	-- --	--

*SOURCE: ALASKA STATE DEPARTMENT OF TRANSPORTATION, 1982 ORIGIN AND DESTINATION STATISTICS

1982 VEHICLE TRAFFIC BY SEASON*

SOUTHEAST ALASKA FERRY SYSTEM

ROUTE	PEAK SEASON (JULY-SEPT.)	SHOULDER SEASON (APRIL-JUNE)	NON-PEAK SEASON (OCT.-MARC. 1)	TOTAL YEAR
JUNEAU - WRANGELL	130	88	118	336
% OF TOTAL	39	26	35	
KETCHIKAN - HAINES	340	258	237	835
% OF TOTAL	41	31	28	
KETCHIKAN - HOLLIS	1,948	2,840	2,784	7,572
% OF TOTAL	26	37	37	
KETCHIKAN - METLAKATLA	812	927	1,361	3,100
% OF TOTAL	26	30	44	
KETCHIKAN - PETERSBURG	432	187	160	779
% OF TOTAL	55	24	21	
KETCHIKAN - PRINCE RUPERT	3,126	1,895	1,536	6,557
% OF TOTAL	48	29	23	
KETCHIKAN - SKAGWAY	69	31	17	117
% OF TOTAL	59	26	15	
KETCHIKAN - WRANGELL	502	312	323	1,137
% OF TOTAL	44	28	28	
PETERSBURG - HAINES	119	101	91	311
% OF TOTAL	38	33	29	
PETERSBURG - KAKE	363	238	383	984
% OF TOTAL	37	24	39	
PETERSBURG - PRINCE RUPERT	355	267	269	691
% OF TOTAL	40	30	30	

*SOURCE: ALASKA STATE DEPARTMENT OF TRANSPORTATION, 1982 ORIGIN AND DESTINATION STATISTICS

1982 VEHICLE TRAFFIC BY SEASON*

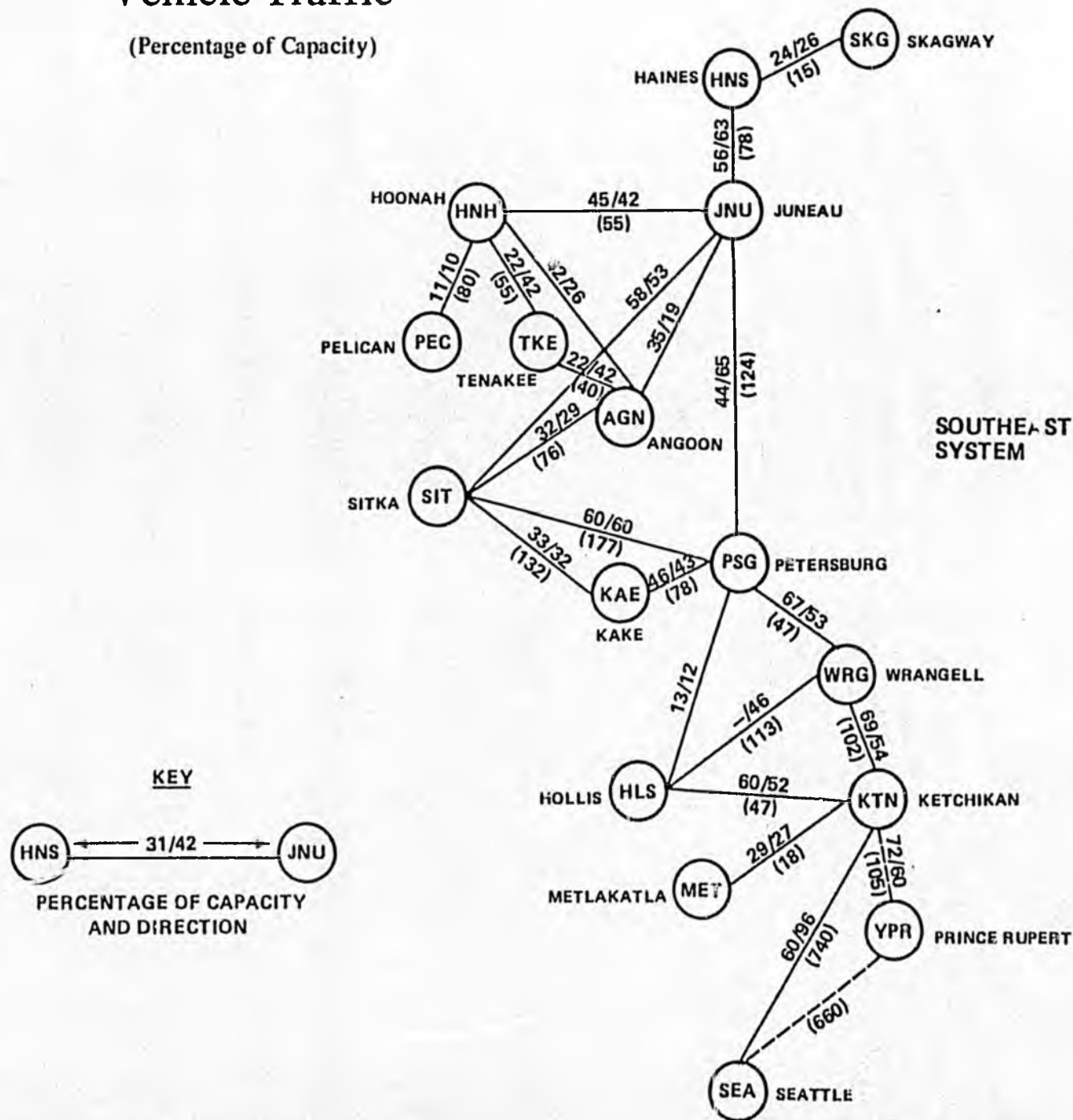
SOUTHEAST ALASKA FERRY SYSTEM

ROUTE	PEAK SEASON (JULY-SEPT.)	SHOULDER SEASON (APRIL-JUNE)	NON-PEAK SEASON (OCT.-MARCH)	TOTAL YEAR
PETERSBURG - SKAGWAY	34	18	11	63
% OF TOTAL	54	28	18	
PETERSBURG - WRANGELL	434	330	426	1,190
% OF TOTAL	36	28	36	
SITKA - ANGOON	179	159	244	582
% OF TOTAL	31	27	42	
SITKA - HAINES	198	134	132	464
% OF TOTAL	43	29	28	
SITKA - HOONAH	40	52	73	165
% OF TOTAL	24	32	44	
SITKA - SKAGWAY	64	68	246	378
% OF TOTAL	17	18	65	
WRANGELL- HAINES	73	36	29	138
% OF TOTAL	53	26	21	
WRANGELL- PRINCE RUPERT	313	219	249	781
% OF TOTAL	40	18	32	
WRANGELL- SKAGWAY	11	3	0	14
% OF TOTAL	79	21	0	
HAINES - SKAGWAY	2,848	1,257	632	4,737
% OF TOTAL	42	27	13	
TOTAL	22,280	15,495	15,474	53,249
% OF TOTAL	42	29	29	

*SOURCE: ALASKA STATE DEPARTMENT OF TRANSPORTATION, 1982 ORIGIN AND DESTINATION STATISTICS

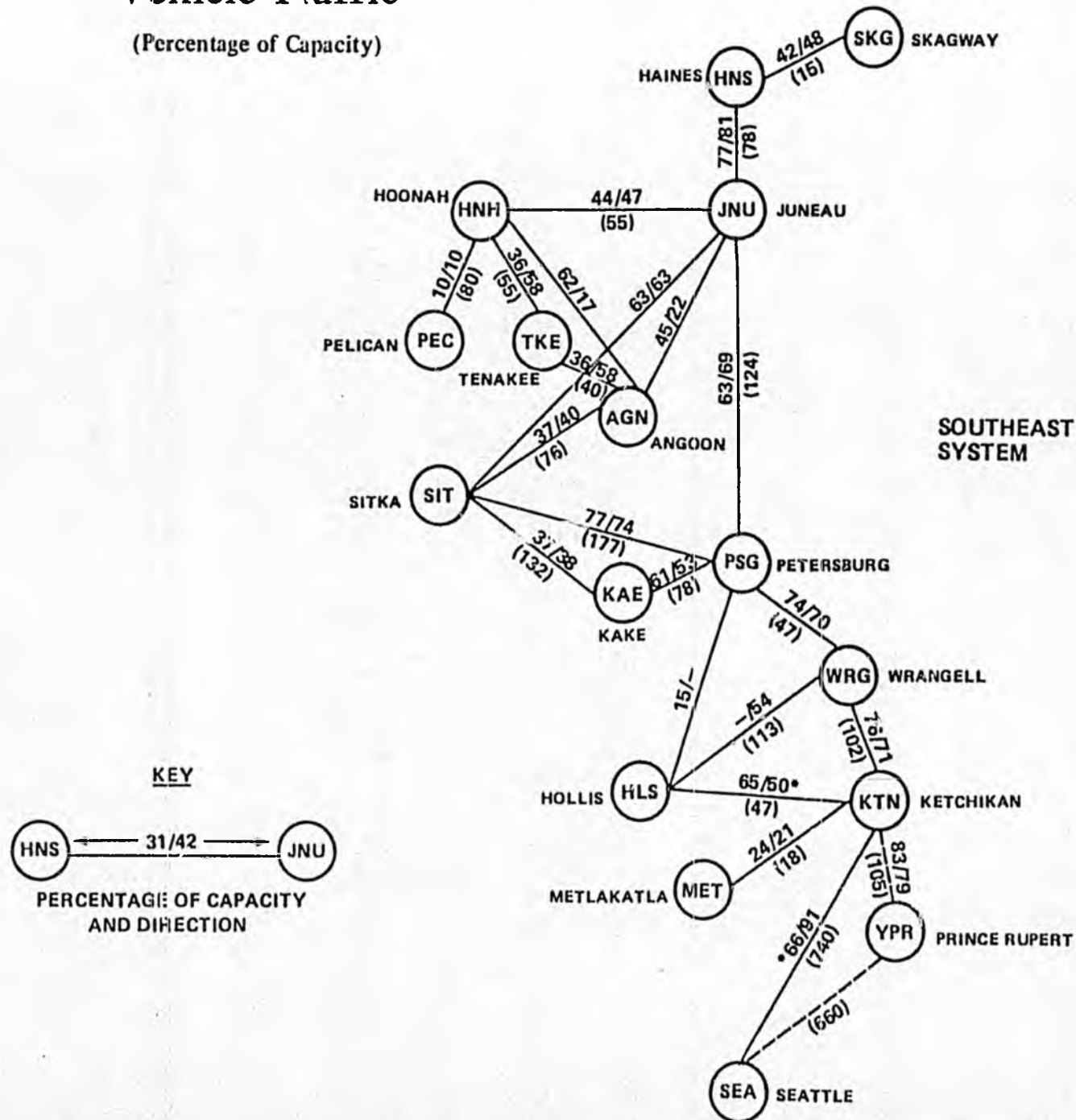
Annual 1982 Vehicle Traffic

(Percentage of Capacity)



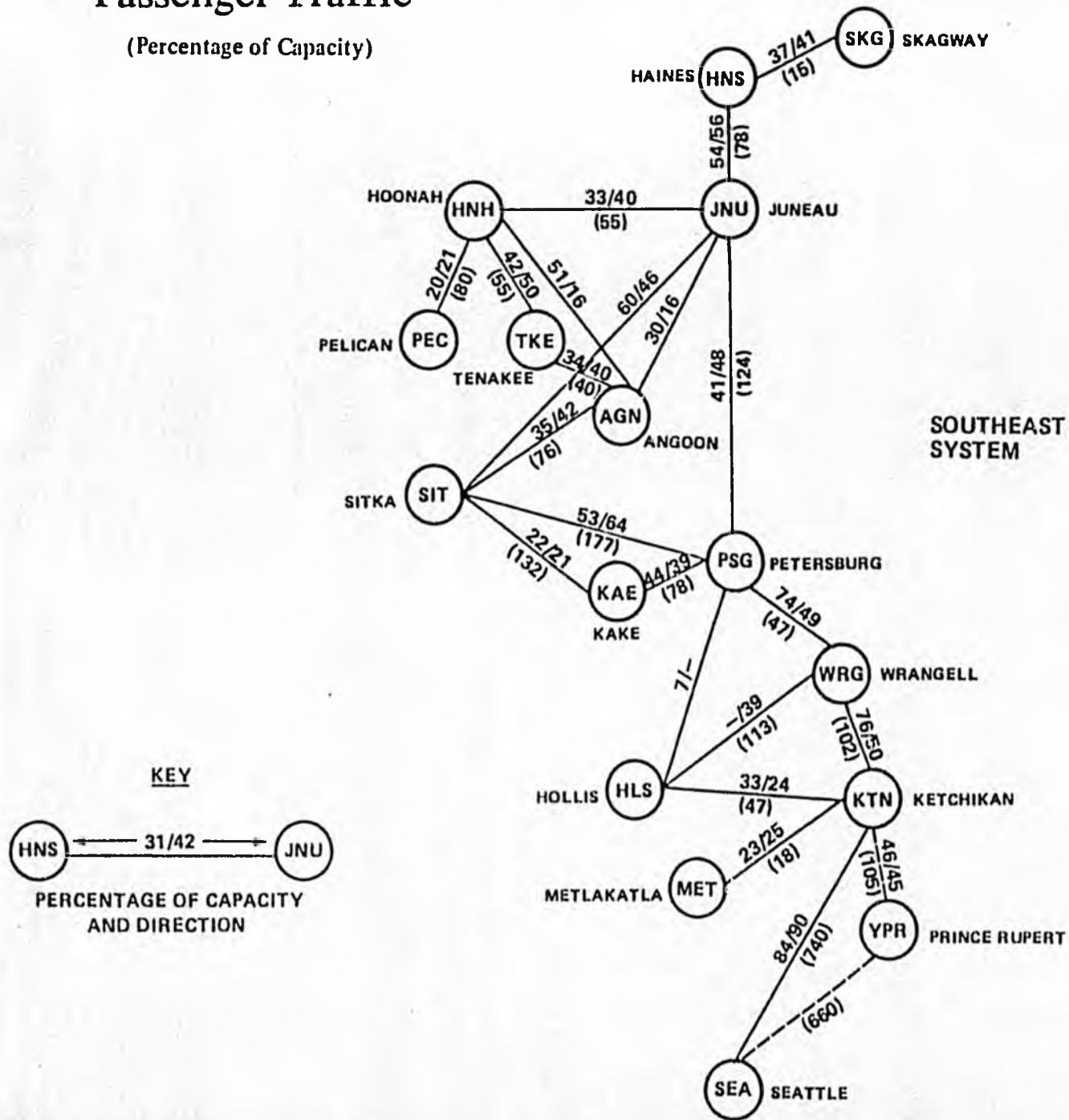
July 1982 Vehicle Traffic

(Percentage of Capacity)



July 1982 Passenger Traffic

(Percentage of Capacity)



TRAFFIC FORECAST

POPULATION

Table II.1 (continued)

PERSONS BY AGE AND SEX FOR BOROUGHS AND CENSUS AREAS, EACH YEAR: 1970 to 1982 *

Haines

July 1													
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
TOTAL PERSONS	1400	1400	1500	1500	1500	1500	1600	1600	1700	1700	1700	1800	1900
Under 5 years	120	120	130	130	130	130	130	130	140	140	140	150	160
5 to 14 years	350	340	350	330	320	310	320	310	310	300	290	300	300
15 to 64 years	860	870	950	970	980	990	1070	1080	1170	1180	1190	1270	1350
65 years & over	70	70	70	70	70	70	80	80	80	80	80	80	90
FEMALES	580	680	720	720	720	720	760	760	810	800	810	850	880
Under 5 years	60	60	60	60	60	60	70	70	70	70	70	80	80
5 to 14 years	160	160	150	150	150	140	140	140	140	130	120	120	120
15 to 64 years	420	420	460	470	470	480	510	510	560	560	570	600	630
65 years & over	40	40	40	40	40	40	40	40	40	40	50	50	50

GROWTH RATE

1970-1982: 2.6% PER YEAR

1978-1982: 2.5% PER YEAR

* SOURCE: ALASKA DEPT. OF LABOR, RESEARCH AND ANALYSIS SECTION
 END JULY OF EACH YEAR (PRELIMINARY UNPUBLISHED STATISTICS)

Table II.1 (continued)

PERSONS BY AGE AND SEX FOR BOROUGH AND CENSUS AREAS, EACH YEAR: 1970 to 1982 *

Juneau

	July 1												
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
TOTAL PERSONS	13800	14600	15200	15700	16100	16400	17000	17500	18000	18900	19800	21100	22000
Under 5 years	1290	1370	1410	1440	1460	1470	1510	1540	1560	1620	1680	1770	1825
5 to 14 years	3240	3350	3350	3320	3270	3200	3180	3150	3110	3130	3150	3220	3230
15 to 64 years	8760	9330	9860	10340	10750	11100	11650	12130	12630	13410	14190	15270	15075
65 years & over	510	550	580	600	620	630	660	680	700	740	780	840	870
FEMALES	6770	7150	7430	7680	7860	8000	8300	8530	8760	9200	9630	10260	10690
Under 5 years	640	670	690	700	710	710	730	740	740	770	790	830	850
5 to 14 years	1630	1680	1670	1650	1620	1580	1570	1550	1520	1530	1530	1560	1560
15 to 64 years	4250	4530	4780	5020	5210	5380	5650	5880	6120	6500	6880	7400	7790
65 years & over	250	270	290	310	320	330	350	360	380	400	430	470	490

GROWTH RATES:

1970-1982: 4.0% PER YEAR

1978-1982: 5.1% PER YEAR

* SOURCE: ALASKA DEPT. OF LABOR, RESEARCH & ANALYSIS SECTION
FOR JULY OF EACH YEAR (PRELIMINARY UNPUBLISHED STATISTICS)

Table II.1 (continued)

PERSONS BY AGE AND SEX FOR BOROUGHS AND
CENSUS AREAS, EACH YEAR: 1970 to 1982 *

Ketchikan Gateway

July 1													
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
TOTAL PERSONS	10200	10200	10300	10500	10700	10900	11200	11400	11600	11800	12000	12200	12400
Under 5 years	1060	1040	1040	1040	1040	1040	1060	1060	1060	1060	1060	1060	1060
5 to 14 years	2390	2310	2250	2220	2180	2150	2130	2100	2060	2030	1990	1950	1920
15 to 64 years	6220	6310	6460	6680	6900	7120	7400	7610	7830	8050	8270	8490	8700
65 years & over	530	540	550	560	580	590	610	630	650	660	680	700	720
FEMALES	4890	4920	4960	5050	5150	5250	5380	5460	5560	5650	5740	5840	5930
Under 5 years	520	520	520	520	520	520	520	520	520	520	520	520	520
5 to 14 years	1170	1150	1120	1110	1090	1080	1070	1050	1030	1020	1000	980	970
15 to 64 years	2960	3000	3060	3160	3260	3360	3490	3580	3680	3770	3870	3970	4060
65 years & over	240	250	260	260	280	290	300	310	330	340	350	370	380

GROWTH RATE:

1970-1982: 1.6% PER YEAR

1978-1982: 1.7% PER YEAR

* SOURCE: ALASKA DEPT. OF LABOR, RESEARCH & ANALYSIS SECTION
FOR JULY OF EACH YEAR (PRELIMINARY UNPUBLISHED STATISTICS)

Table II.1 (continued)

PERSONS BY AGE AND SEX FOR BOROUGH AND
CENSUS AREAS, EACH YEAR: 1970 to 1982 *

Prince of Wales-Outer Ketchikan

July 1													
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
TOTAL PERSONS	3700	4000	4000	4100	4200	4300	4300	4100	4100	4200	4300	4400	4400
Under 5 years	370	400	400	410	420	440	440	420	420	430	440	450	450
5 to 14 years	910	960	930	920	920	910	890	820	800	790	790	790	760
15 to 64 years	2280	2490	2510	2610	2690	2770	2790	2680	2700	2790	2870	2950	2980
65 years & over	140	150	160	160	170	180	180	180	180	190	200	210	210
FEMALES	1580	1710	1710	1770	1810	1870	1880	1790	1800	1850	1900	1960	2060
Under 5 years	180	190	190	200	200	210	210	200	200	200	200	200	200
5 to 14 years	450	470	450	450	440	440	430	390	380	370	370	370	350
15 to 64 years	890	980	1000	1050	1090	1140	1160	1120	1140	1190	1240	1290	1310
65 years & over	60	70	70	70	80	80	80	80	80	90	90	100	200

GROWTH RATE:

1970-1982 : 1.45% PER YEAR

1973-1982 : 1.8% PER YEAR

* SOURCE: ALASKA DEPT. OF LABOR, RESEARCH & ANALYSIS SECTION
FOR JULY OF EACH YEAR. (PRELIMINARY UNPUBLISHED STATISTICS)

Table II.1 (continued)

*

PERSONS BY AGE AND SEX FOR
CENSUS AREAS, EACH YEAR: 1970 to 1982

Sitka

July 1													
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
TOTAL PERSONS	6200	6100	6300	6500	6700	6500	7100	7400	7600	7700	7800	8000	8200
Under 5 years	780	750	760	770	780	780	790	810	810	810	800	800	810
5 to 14 years	1550	1470	1460	1450	1440	1430	1410	1420	1400	1360	1330	1310	1300
15 to 64 years	3510	3520	3720	3920	4120	4330	4540	4810	5030	5170	5310	5530	5730
65 years & over	360	360	360	360	360	360	360	360	360	360	360	360	360
FEMALES	2920	2880	2970	3060	3160	3270	3360	3490	3590	3640	3690	3780	3890
Under 5 years	360	350	350	350	360	360	360	370	370	370	360	360	360
5 to 14 years	770	730	730	720	720	720	710	710	700	680	670	660	660
15 to 64 years	1640	1640	1730	1830	1920	2020	2120	2240	2350	2410	2480	2580	2680
65 years & over	150	160	160	160	160	170	170	170	170	180	180	180	190

GROWTH RATES:

1970-1982: 2.4% PER YEAR

1978-1982: 1.9% PER YEAR

* SOURCE: ALASKA DEPT OF LABOR, RESEARCH & ANALYSIS SECTION
FOR JULY OF EACH YEAR (PRELIMINARY, UNADJUSTED STATISTICS)

Table II.1 (continued)

*

PERSONS BY AGE AND SEX FOR BOROUGHS AND
CENSUS AREAS, EACH YEAR: 1970 to 1982

Skagway-Yakutat-Angoon

	July 1												
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
TOTAL PERSONS	2800	2900	2900	2900	2900	2900	3000	3100	3200	3300	3400	3500	3600
Under 5 years	330	340	340	330	330	330	340	350	350	360	370	380	390
5 to 14 years	680	660	660	640	620	610	610	610	610	610	610	610	610
15 to 64 years	1670	1750	1770	1790	1810	1820	1900	1980	2070	2150	2230	2310	2390
65 years & over	120	130	130	140	140	140	150	160	170	180	190	200	210
FEMALES	1400	1440	1430	1430	1420	1420	1460	1480	1530	1570	1600	1650	1670
Under 5 years	170	180	180	170	170	170	180	180	180	190	190	200	200
5 to 14 years	320	330	320	310	300	300	300	300	300	310	310	310	310
15 to 64 years	860	880	880	890	890	890	910	930	970	990	1010	1040	1060
65 years & over	50	50	50	60	60	60	70	70	80	80	90	100	100

GROWTH RATES:

1970-1982: 2.1% PER YEAR

1973-1982 3.0% PER YEAR

* SOURCE: ALASKA DEPT OF LABOR, RESEARCH & ANALYSIS SECTION
PER JULY OF EACH YEAR (PRELIMINARY UNPUBLISHED ESTIMATES)

Table II.1 (continued)

PERSONS BY AGE AND SEX FOR BOROUGHES AND
CENSUS AREAS, EACH YEAR: 1970 to 1982

Wrangell-Petersburg

	July 1												
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
TOTAL PERSONS	5000	5000	5100	5200	5300	5400	5500	5700	5900	6100	6300	6500	6700
Under 5 years	550	540	550	550	550	550	560	570	580	590	600	610	620
5 to 14 years	1190	1150	1140	1120	1110	1090	1080	1080	1080	1080	1080	1080	1080
15 to 64 years	3000	3050	3140	3250	3350	3470	3560	3730	3910	4080	4260	4430	4610
65 years & over	260	260	270	280	290	290	300	320	330	350	360	380	390
FEMALES	2310	2310	2360	2410	2450	2500	2560	2640	2740	2830	2920	3020	3100
Under 5 years	270	270	280	280	280	280	290	290	300	300	310	320	320
5 to 14 years	580	560	550	540	540	530	520	520	520	520	520	520	510
15 to 64 years	1350	1370	1410	1460	1510	1560	1610	1680	1770	1850	1930	2010	2090
65 years & over	110	110	120	130	130	130	140	150	150	160	160	170	180

GROWTH RATES

1970-1982 : 2.5% PER YEAR

1978-1982 : 3.2% PER YEAR

* SOURCE: ALASKA DEPT. OF LABOR, RESEARCH & ANALYSIS SECTION
FEND JULY OF NEXT YEAR (PRELIMINARY UNPUBLISHED STATISTICS)



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ACKNOWLEDGMENTS

This report was prepared by Signe Wetrogan of the Population Projections Branch. Technical and editorial consultation was provided by John F. Long and Norfleet W. Rives. Statistical assistance was provided by Pauline B. Shell and Mary Lynn Allen. Computer applications and programming were provided by Jerome M. Glynn. Editorial assistance was provided by Vivian Brown and Marion Porter. Professional consultation and review were provided by Richard A. Engels and Meyer Zitter.

SUGGESTED CITATION

U.S. Bureau of the Census, ~~Current~~ Population Reports, Series P 25, No. 796, "Illustrative Projections of State Populations by Age, Race, and Sex: 1975 to 2000," U.S. Government Printing Office, Washington, D.C. 1979.

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Table 6. Projections of the Total and Black Population

In thousands, As of July 1, except as noted. Roman numeral II represents national projections

LINE NO.	RACE, SEX, AND AGE	CENSUS, APRIL 1970	ESTIMATES, 1975	PROJECTIONS				
				1980	1985	1990	1995	2000
	ALASKA							
	ALL RACES							
				1-3% P.A. 1-0% P.A. -9% P.A.				
1	BOTH SEXES	302.6	364.7	391.6	418.6	441.5	460.5	474.2
2	UNDER 5 YEARS	32.2	36.6	36.9	44.6	46.4	44.7	42.2
3	5 TO 14 YEARS	71.1	77.5	72.7	72.2	79.9	88.5	88.6
4	15 TO 24 YEARS	63.9	85.0	94.9	91.8	85.3	84.0	91.1
5	25 TO 34 YEARS	49.7	59.8	66.9	72.9	75.7	71.3	65.7
6	35 TO 44 YEARS	38.1	45.4	50.6	59.0	66.7	72.1	74.4
7	45 TO 54 YEARS	26.9	32.9	35.8	38.8	43.7	51.8	58.2
8	55 TO 64 YEARS	13.9	18.9	23.0	25.8	27.3	29.2	33.1
9	65 YEARS AND OVER	6.6	8.6	10.8	13.5	16.4	18.9	20.5
10	MALE	165.3	194.1	204.6	215.4	224.9	234.0	240.9
11	UNDER 5 YEARS	16.5	18.7	18.9	22.8	23.7	22.9	21.6
12	5 TO 14 YEARS	36.4	40.0	37.4	37.2	41.1	45.6	45.6
13	15 TO 24 YEARS	38.1	47.4	53.2	52.0	48.8	48.2	51.9
14	25 TO 34 YEARS	26.7	30.7	30.9	31.2	32.2	30.8	28.9
15	35 TO 44 YEARS	21.1	24.3	26.4	30.0	32.3	33.7	34.6
16	45 TO 54 YEARS	14.7	18.0	19.6	20.9	23.2	27.1	30.0
17	55 TO 64 YEARS	7.9	10.5	12.6	14.2	15.2	16.0	17.9
18	65 YEARS AND OVER	3.8	4.6	5.7	7.0	8.4	9.6	10.5
19	FEMALE	137.3	170.6	187.0	203.2	216.5	226.6	233.3
20	UNDER 5 YEARS	15.6	17.9	18.0	21.8	22.7	21.8	20.6
21	5 TO 14 YEARS	34.7	37.5	35.3	35.1	38.8	42.9	42.9
22	15 TO 24 YEARS	25.8	37.6	41.7	39.8	36.6	35.8	39.2
23	25 TO 34 YEARS	23.0	29.1	36.0	41.6	43.5	40.5	36.9
24	35 TO 44 YEARS	17.0	21.2	24.3	29.1	34.4	38.4	39.7
25	45 TO 54 YEARS	12.2	14.9	16.2	17.9	20.5	24.6	28.9
26	55 TO 64 YEARS	6.0	6.4	10.4	11.5	12.2	13.2	15.1
27	65 YEARS AND OVER	3.0	4.0	5.1	6.5	7.9	9.2	10.0
	BLACK							
28	BOTH SEXES							
29	UNDER 5 YEARS							
30	5 TO 14 YEARS							
31	15 TO 24 YEARS							
32	25 TO 34 YEARS							
33	35 TO 44 YEARS							
34	45 TO 54 YEARS							
35	55 TO 64 YEARS							
36	65 YEARS AND OVER							
37	MALE							
38	UNDER 5 YEARS							
39	5 TO 14 YEARS							
40	15 TO 24 YEARS							
41	25 TO 34 YEARS							
42	35 TO 44 YEARS							
43	45 TO 54 YEARS							
44	55 TO 64 YEARS							
45	65 YEARS AND OVER							
46	FEMALE							
47	UNDER 5 YEARS							
48	5 TO 14 YEARS							
49	15 TO 24 YEARS							
50	25 TO 34 YEARS							
51	35 TO 44 YEARS							
52	45 TO 54 YEARS							
53	55 TO 64 YEARS							
54	65 YEARS AND OVER							

(Data are not shown for the Black population)

for States, by Age and Sex: 1970 to 2000—Continued

Series 11. Letters A, B, and C indicate interstate migration assumption. See text for explanation.

PROJECTIONS--CONTINUED										LINE NO.					
MEDIUM GROWTH SERIES 11-B					HIGH GROWTH SERIES 11-C										
1980	1985	1990	1995	2000	1980	1985	1990	1995	2000						
2% P.G.					1.5% P.G.					1.0% P.G.					
2% P.G.					1.4% P.G.					1.4% P.G.					
412.5	455.4	490.9	520.7	543.6	396.2	433.4	469.7	504.2	534.1	1					
38.7	48.0	50.8	49.6	47.3	36.3	42.3	44.4	44.2	43.1	2					
77.4	79.6	89.6	100.7	101.7	74.0	74.1	79.8	87.9	89.8	3					
102.3	103.2	98.5	93.7	108.2	85.4	88.5	85.0	84.9	90.8	4					
67.3	74.7	79.1	75.3	70.0	73.2	81.7	84.8	85.1	81.6	5					
53.7	64.1	72.7	79.2	82.4	50.2	56.8	70.2	78.4	81.5	6					
37.4	42.5	49.8	60.0	68.2	36.9	41.2	45.8	52.3	65.3	7					
24.4	28.5	31.2	34.6	40.5	23.0	29.5	33.3	37.2	41.5	8					
11.3	14.8	18.9	22.6	25.3	12.9	19.2	26.5	34.1	40.5	9					
215.6	234.4	250.2	264.4	275.8	209.2	226.3	243.2	258.9	272.7	10					
19.8	24.5	26.0	25.4	24.2	18.6	21.7	22.8	22.7	22.1	11					
39.8	40.9	46.2	51.2	52.3	37.8	37.9	40.9	45.1	46.1	12					
57.2	56.3	56.1	56.3	61.3	49.6	49.6	47.4	47.4	50.5	13					
31.1	31.8	33.2	32.0	30.0	38.1	44.0	46.1	46.2	44.1	14					
27.9	32.4	35.2	36.8	38.0	25.3	27.4	34.6	40.4	42.4	15					
20.5	22.9	26.5	31.5	34.8	19.7	20.4	21.4	23.3	30.4	16					
13.3	15.8	17.4	19.1	22.0	13.3	15.7	17.3	17.9	18.8	17					
6.0	7.7	9.6	11.6	13.1	6.6	9.6	12.8	15.9	18.4	18					
196.9	220.9	240.7	256.3	267.8	187.6	207.0	226.4	245.3	261.4	19					
18.9	23.4	24.8	24.2	23.1	17.7	20.6	21.6	21.5	21.0	20					
37.5	38.7	43.6	48.9	49.1	36.1	36.2	38.9	42.8	43.7	21					
45.1	44.9	42.5	42.4	46.1	38.8	38.8	37.5	37.5	40.3	22					
36.2	42.9	45.9	43.4	39.9	35.1	37.7	38.8	38.8	37.5	23					
25.9	31.7	37.6	42.4	44.3	24.9	29.5	35.5	38.0	39.1	24					
16.9	19.5	23.3	28.5	33.4	17.2	20.8	24.5	29.0	34.9	25					
11.1	12.8	13.9	15.6	18.5	11.7	13.8	16.0	19.3	22.7	26					
5.3	7.1	9.1	11.0	12.2	6.1	9.6	13.7	18.3	22.1	27					
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because the 1975 estimate is less than 25,000

ALASKA PLANNING INFORMATION

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EMPLOYMENT

Published January 1983

Alaska Planning Information provides a condensed volume of labor market information for Alaska residents, businesses and government agencies. Publication of this issue is the result of full cooperation of all Research and Analysis staff. Please address inquiries to:

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**Table III-7
Annual Average Labor Force 1/
By Region and Census Division
1976-1981**

	Labor Force			Unemployment			Rate			Employment		
	1976	1977	1978	1976	1977	1978	1976	1977	1978	1976	1977	1978
Alaska Statewide	164,000	172,000	181,000	14,000	16,000	20,000	8.5	9.3	11.0	150,000	156,000	161,000
Anch.-MatSu Region	73,548	83,993	89,075	5,681	6,587	8,049	7.7	7.8	9.0	67,867	77,406	81,026
Anchorage	68,053	77,648	82,184	4,869	5,583	6,749	7.2	7.2	8.2	63,184	72,065	75,435
Matanuska-Susitna	5,495	6,345	6,891	812	1,004	1,300	14.8	15.8	18.9	4,683	5,341	5,591
Gulf Coast Region	23,592	21,745	20,903	2,015	2,144	2,726	8.5	9.9	13.0	21,577	19,601	18,177
Cordova	1,389	1,278	1,184	112	118	108	8.1	9.2	9.1	1,277	1,160	1,076
Kenai	10,635	9,734	9,585	1,006	987	1,474	9.5	10.1	15.4	9,629	8,747	8,111
Kodiak	5,449	5,022	4,662	369	407	383	6.8	8.1	8.2	5,080	4,615	4,279
Seward	1,742	1,597	1,539	194	191	235	11.1	12.0	15.3	1,548	1,408	1,304
Valdez	4,577	4,113	3,932	334	440	526	7.6	10.7	13.4	4,043	3,673	3,406
Interior Region	30,551	26,962	26,720	2,436	3,596	4,677	8.0	13.3	17.5	28,115	23,366	22,043
Fairbanks	24,789	21,924	21,817	1,872	2,878	3,850	7.6	13.1	17.6	22,917	19,046	17,967
Southeast Fairbanks	2,345	2,110	2,027	184	314	332	7.8	14.9	16.4	2,161	1,796	1,695
Upper Yukon	728	645	633	81	107	126	11.1	16.6	19.9	647	538	507
Yukon-Koyukuk	2,689	2,283	2,243	299	297	369	11.1	13.0	16.5	2,390	1,986	1,874
Northern Region	6,895	6,671	8,210	659	639	821	9.6	9.6	10.0	6,236	6,032	7,389
Barrow-North Slope	1,879	1,820	2,195	157	154	155	8.4	8.5	7.1	1,722	1,666	2,040
Kobuk	2,066	1,999	2,516	248	211	26	11.8	10.6	13.0	1,848	1,788	2,190
Nome	2,920	2,853	3,500	254	274	341	8.7	9.6	9.7	2,666	2,579	3,159
Southeast Region	22,567	24,303	26,824	2,348	2,227	2,803	10.4	9.2	10.4	20,219	22,076	24,021
Angoon	334	369	417	49	47	67	14.2	12.7	16.1	295	322	350
Haines	960	1,016	1,096	159	141	144	16.6	13.9	13.1	801	875	952
Juneau	7,504	8,145	9,050	564	587	805	7.5	7.0	6.9	6,940	7,578	8,245
Ketchikan	4,003	5,150	5,699	527	482	619	11.0	9.4	10.6	4,276	4,668	5,080
Outer Ketchikan	93	835	943	111	90	132	14.0	10.8	14.0	662	745	811
Prince of Wales	1,280	1,381	1,514	137	133	156	10.7	9.6	10.3	1,143	1,248	1,358
Sitka	3,003	3,293	3,574	263	302	319	8.8	9.2	8.9	2,740	2,991	3,255
Skagway	1,245	1,312	1,461	175	144	190	14.1	11.0	13.0	1,070	1,168	1,271
Wrangell- Petersburg	2,636	2,603	3,072	383	322	372	13.8	11.5	12.1	2,273	2,481	2,700
Southwest Region	6,648	8,326	9,269	861	807	924	12.6	9.7	10.0	5,987	7,519	8,345
Aleutian Islands	1,711	2,106	2,334	142	136	147	8.3	6.5	6.3	1,569	1,970	2,187
Bethel	2,171	2,633	2,947	295	277	332	13.6	10.5	11.3	1,876	2,356	2,615
Bristol Bay Borough	298	347	385	49	34	38	16.4	9.8	9.9	249	313	347
Bristol Bay	916	1,114	1,236	118	112	124	12.9	10.1	10.0	798	1,002	1,112
Kuskokwim	666	817	904	103	110	120	15.5	13.5	13.3	563	707	784
Wade Hampton	1,087	1,311	1,463	154	139	163	14.2	10.6	11.1	933	1,172	1,300

Table III-7
Annual Average Labor Force 1/
By Region and Census Division
1976-1981
(Continued)

	Labor Force			Unemployment			Rate			Employment		
	1979	1980	1981	1979	1980	1981	1979	1980	1981	1979	1980	1981
Alaska Statewide	183,000	187,000	192,000	17,000	18,000	18,000	9.3	9.6	9.4	166,000	169,000	174,000
Anch.-MatSu Region	89,258	90,773	95,425	7,283	7,433	7,303	8.2	8.2	7.7	81,975	83,340	88,122
Anchorage	80,063	81,647	86,064	5,957	6,031	6,108	7.4	7.4	7.1	74,106	75,616	79,956
Matanuska-Susitna	9,194	9,125	9,362	1,325	1,402	1,195	14.4	15.4	12.8	7,869	7,723	8,167
Gulf Coast Region	21,687	22,042	22,000	2,367	2,717	2,593	10.9	12.3	11.8	19,320	19,325	19,407
Cordova	1,152	1,153	1,148	100	119	109	8.7	10.3	9.5	1,052	1,034	1,039
Kenai	11,172	11,442	11,350	1,407	1,595	1,461	12.6	13.9	12.9	9,765	9,847	9,889
Kodiak	4,573	4,887	4,907	364	474	476	8.0	9.7	9.7	4,209	4,413	4,431
Seward	1,519	1,574	1,607	172	196	223	11.3	12.5	13.9	1,347	1,378	1,384
Valdez	3,271	2,986	2,990	324	333	325	9.9	11.2	10.9	2,947	2,653	2,665
Interior Region	25,668	25,296	25,592	3,298	3,234	3,154	12.8	12.8	12.3	22,370	22,062	22,438
Fairbanks	20,116	20,488	20,813	2,695	2,506	2,525	12.9	12.2	12.1	18,221	17,982	18,288
Southeast Fairbanks	2,089	2,063	2,076	233	259	241	11.2	12.6	11.6	1,856	1,804	1,835
Upper Yukon	94	666	640	88	128	93	14.8	19.2	14.5	505	538	547
Yukon-Koyukuk	2,070	2,079	2,063	282	341	295	13.6	16.4	14.3	1,788	1,738	1,768
Northern Region	8,069	8,142	8,692	717	801	760	8.9	9.8	8.7	7,352	7,341	7,932
Barrow-North Slope	2,307	2,119	2,315	142	139	175	6.2	6.6	7.6	2,165	1,980	2,140
Kobuk	2,388	2,582	2,729	268	304	267	11.2	11.8	9.8	2,120	2,278	2,461
Nome	3,373	3,441	3,649	306	358	318	9.1	10.4	8.7	3,067	3,083	3,331
Southeast Region	27,637	30,112	29,719	2,362	2,738	3,180	8.5	9.1	10.7	25,275	27,374	26,539
Angoon	456	423	427	62	61	76	13.6	14.4	17.8	394	362	351
Haines	1,050	1,061	1,021	114	137	125	10.9	12.9	12.2	936	924	896
Juneau	9,708	10,726	10,422	692	789	788	7.1	7.4	7.6	9,016	9,937	9,634
Ketchikan	5,681	6,352	6,394	508	580	811	8.9	9.2	12.7	5,173	5,758	5,583
Outer Ketchikan	927	792	816	89	114	158	9.6	14.4	19.4	838	678	658
Prince of Wales	1,526	1,518	1,436	146	151	208	9.6	10.6	14.5	1,380	1,267	1,228
Sitka	3,846	4,349	4,260	299	335	368	7.8	7.7	8.6	3,547	4,014	3,892
Skagway	1,591	1,527	1,473	162	188	175	10.2	12.3	11.9	1,429	1,339	1,298
Wrangell- Pelarsburg	2,851	3,478	3,471	289	384	471	10.1	11.0	13.6	2,562	3,094	3,000
Southwest Region	10,681	10,636	10,571	974	1,077	1,009	9.1	10.1	9.5	9,707	9,559	9,562
Aleutian Islands	2,428	2,764	2,748	140	164	148	5.8	5.9	5.4	2,288	2,600	2,600
Bethel	3,519	3,479	3,471	349	438	429	9.9	12.6	12.4	3,170	3,041	3,042
Bristol Bay Borough	430	380	378	38	37	35	8.8	9.7	9.3	392	343	343
Bristol Bay	1,429	1,396	1,391	121	112	107	8.5	8.0	7.7	1,308	1,284	1,284
Kuskokwim	1,117	979	954	169	150	125	15.1	15.3	13.1	948	829	829
Wade Hampton	1,780	1,639	1,630	158	176	167	9.0	10.7	10.2	1,602	1,463	1,463

Source: Alaska Department of Labor, Research and Analysis, 1981 Benchmark.

1/ Federal guidelines require the use of unrounded labor data, adjusted to be consistent with the Current Population Survey (CPS) in formulas used to allocate federal funds. Random sampling errors are introduced by use of the CPS to adjust the statewide data. Precise error rates are unavailable for regions and census divisions. Official definitions of unemployment exclude anyone who made no attempt to find work in the four week period up to and including the week that includes the twelfth of each month. Most economists feel that Alaska's bush localities have proportionately more of these discouraged workers.

Table V-1
Estimated Employment by Occupation and
Growth and Replacement Needs
Alaska
(Continued)

CODE	OES OCCUPATION TITLE	AVE. ANNUAL JOB OPENINGS 1981 1986			TOTAL	DUE TO GROWTH	DUE TO SEPARATIONS
		1981 EMPLOYMENT	1982 EMPLOYMENT	1986 EMPLOYMENT			
613963	CLERICAL SUPERVISORS	855	904	1,125	78	54	24
614103	TEACHER AIDES	1,382	1,440	1,691	94	62	32
614163	CIRCULATION CLERKS	23	25	34	3	2	1
614193	TELEPHONE AD TAKERS--NEWSPAPER	29	32	44	5	3	2
614213	CREDIT CLERKS	138	148	196	16	12	4
614223	MORTGAGE CLOSING CLERKS	147	158	208	16	12	4
614233	CLAIM EXAMINR--LIFE/ACCIDENT/HLTH	90	97	128	10	8	2
614243	SORTING CLERKS,BANK	11	11	15	1	1	0
614253	COURT CLERKS	236	241	261	12	5	7
614263	TOWN CLERKS	97	100	112	6	3	3
614273	POSTAL SERVICE CLERKS	272	274	279	10	1	9
614283	DIRECTORY ASSISTANCE OPERATORS	70	70	82	4	2	2
614293	TELEGRAPH OPERATORS	81	81	96	4	3	1
614303	CENTRAL OFFICE OPERATORS	380	382	446	25	13	12
614343	LOAN CLOSERS	83	89	118	9	7	2
614353	CUSTOMER SERVICE REPRESENTATIVES	128	131	151	8	5	3
614363	LICENSE CLERKS	13	14	15	0	0	0
61900	ALL OTHER OFFICE CLERICAL WORKRS	886	917	1,074	58	38	20
620C23	METER READERS--UTILITIES	43	45	51	3	2	1
620033	PRODUCTION CLERKS/COORDINATORS	166	172	208	12	8	4
620043	SHIPPING PACKERS	425	443	533	31	22	9
620053	SHIPPING & RECEIVING CLERKS	389	410	520	34	26	8
620073	WEIGHERS--RECORD KEEPING	69	71	80	3	2	1
620083	STOCK CLERKS--STOCKROOM/WAREHOUSE	1,758	1,847	2,281	150	105	45
620123	DISPATCHERS--AIRPLANE	95	97	118	9	5	4
620153	TRANSPORTATION AGENTS	657	670	814	50	31	19
620183	DISPATCHER--VEHICLE SERV OR WORK	227	236	291	18	13	5
620243	MARKING CLERKS	61	65	80	5	4	1
620253	DISPATCHERS--POLICE/FIRE/AMBUL	251	259	288	18	7	11
620323	POSTAL MAIL CARRIERS	589	592	603	31	3	28
620353	RATE CLERKS--FREIGHT	18	19	22	1	1	0
62900	ALL OTHER PLANT CLERICAL WORKERS	366	375	422	19	11	8
	CLERICAL WORKERS SUBTOTAL	38,938	40,730	49,099	3,259	2,036	1,223
7	----- SALES PEOPLE						
710043	CRATING & MOVING ESTIMATORS	17	17	21	2	1	1
710083	SALES AGENTS/REPS--REAL ESTATE	88	95	125	10	7	3
710093	SALES AGENTS--SECURITIES	32	34	45	3	3	0
710103	TRAFFIC AGENTS	29	29	36	2	1	1
710123	SALES AGENTS/REPS--INSURANCE	264	283	374	29	22	7
710163	BROKER/MARKET OPERS--COMMODITIES	17	18	24	1	1	0
719983	SALES REPS/AGENTS--TECHNICAL	752	797	1,015	63	53	10
719993	SALES REPS/AGENTS--NON-TECHNICAL	1,927	2,038	2,565	154	128	26
71900	ALL OTHER SALES AGENTS & REPS	887	941	1,188	88	60	28
720023	SALES CLERKS	4,638	5,102	6,315	455	295	160
720073	SALES CLERK SUPERVISORS	35	36	45	3	2	1
79000	ALL OTHER SALES WORKERS	16	18	24	2	2	0
	SALES PEOPLE SUBTOTAL	8,902	9,408	11,777	912	575	237

	GRAND TOTAL	182,780	190,921	229,276	14,025	9,299	4,726

1/ Estimated Employment by Occupation and Growth and Replacement Need is available for Anchorage and Fairbanks by special request to Research & Analysis.

5% PER YEAR GROWTH

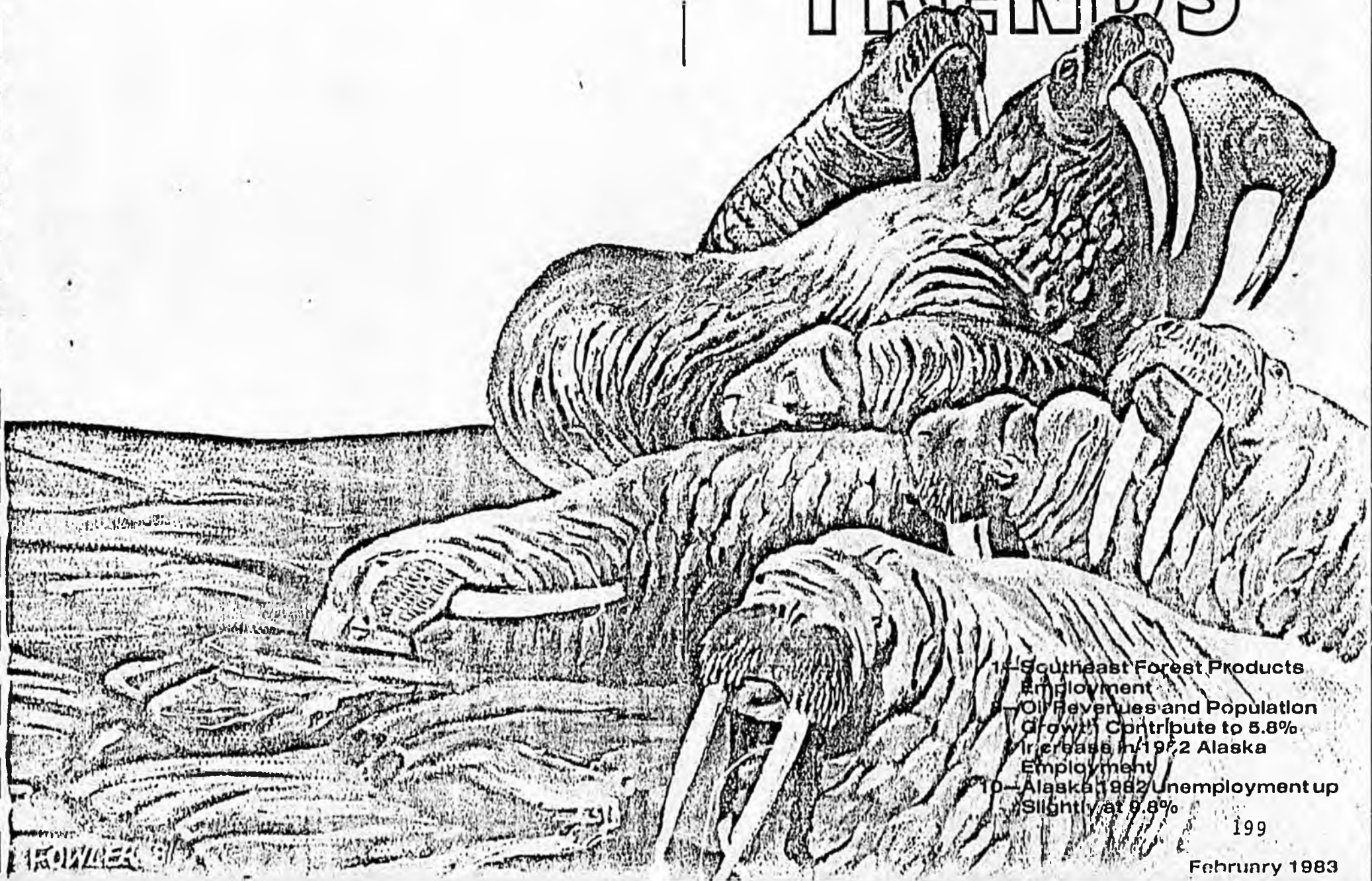
ALASKA
DEPARTMENT OF LABOR
EMPLOYMENT SECURITY DIVISION
P.O. BOX 3-7000
OFFICIAL BUSINESS

EMPLOYMENT SECURITY MAX.
POSTAGE AND FEES PAID

LAB 449

THIRD-CLASS BULK RATE

ALASKA ECONOMIC TRENDS



- 1- Southeast Forest Products Employment
- 8- Oil Revenues and Population Growth Contribute to 5.8% Increase in 1982 Alaska Employment
- 10- Alaska 1982 Unemployment up Slightly at 9.8%

LABOR FORCE BY REGION AND CENSUS DIVISION

	Labor Force		Unemployment			Rate			Employment			
	P	R	P	R	P	R	P	R	P	R		
	12/82	11/82	12/81	12/82	11/82	12/81	12/82	11/82	12/81	12/82	11/82	12/81
Alaska Statewide	196730	199203	191610	19640	19559	19200	10.0	9.8	10.0	177090	179644	172410
Anch.-MatSu Region.....	103404	104848	97736	8051	8191	7537	7.8	7.8	7.7	95353	96657	90199
Anchorage.....	93130	94448	88124	6614	6748	6284	7.1	7.1	7.1	86516	87700	81840
Matanuska-Susitna....	10274	10400	9612	1437	1443	1253	14.0	13.9	13.0	8837	8957	8359
Gulf Coast Region	20502	21075	20865	2958	3151	2777	14.4	15.0	13.3	17544	17924	18088
Cordova	1061	1070	1107	122	111	139	11.5	10.4	12.3	939	959	968
Kenai	10698	10898	10755	1759	1765	1539	16.4	16.2	14.3	8939	9133	9216
Kodiak	4480	4803	4704	482	710	574	10.7	14.8	12.2	4006	4093	4130
Seward	1519	1545	1544	268	267	254	17.6	17.3	16.5	1251	1278	1290
Valdez	2736	2759	2755	327	398	271	12.0	10.8	9.8	2409	2461	2484
Interior Region	26453	26736	25598	3985	3869	3553	15.1	14.5	13.9	22468	22867	22045
Fairbanks	21601	21872	20864	3288	3235	2696	15.2	14.8	13.9	18313	18637	17968
Southeast Fairbanks...	2061	2089	2071	224	219	269	10.9	10.5	13.0	1837	1870	1802
Upper Yukon	646	642	618	98	84	80	15.2	13.1	12.9	548	558	538
Yukon-Koyukuk.....	2145	2133	2045	375	331	308	17.5	15.5	15.1	1770	1802	1737
Northern Region	8795	8910	8613	655	622	625	7.4	7.0	7.3	8140	8288	7988
Barrow-North Slope ...	2354	2392	2300	158	156	145	6.7	6.5	6.3	2196	2236	2155
Kobuk.....	2710	2793	2698	184	221	219	6.8	7.9	8.1	2526	2572	2479
Nondalton.....	3731	3725	3615	313	245	261	8.4	6.6	7.2	3418	3480	3354
Southeast Region.....	28373	28312	28943	3289	3039	3720	11.6	10.7	12.9	25084	25273	25223
Angoon	389	374	385	57	39	51	14.7	10.4	13.2	332	335	334
Haines	1020	976	987	174	123	136	17.1	12.6	13.8	846	853	851
Juneau.....	9916	10030	9959	812	855	803	8.2	8.5	8.1	9104	9175	9156
Ketchikan	6006	5958	6487	729	642	1181	12.1	10.8	18.2	5277	5316	5306
Outer Ketchikan	793	825	785	171	199	160	21.6	24.1	20.4	622	626	625
Prince of Wales	1353	1371	1353	192	202	186	14.2	14.7	13.7	1181	1169	1167
Sitka	4030	4089	4143	351	383	444	8.7	9.4	10.7	3679	3706	3699
Skagway	1433	1437	1454	206	201	220	14.4	14.0	15.1	1227	1236	1234
Wrangell- Petersburg.....	3433	3252	3390	597	395	539	17.4	12.1	15.9	2836	2857	2851
Southwest Region	9203	9322	9855	702	687	988	7.6	7.4	10.0	8501	8635	8867
Aleutian Islands.....	2411	2469	2564	99	121	153	4.1	4.9	6.0	2312	2348	2411
Bethel	2943	2988	3236	239	241	415	8.1	8.1	12.8	2704	2747	2821
Bristol Bay Borough ...	333	336	355	28	26	37	8.4	7.7	10.4	305	310	318
Bristol Bay	1231	1242	1312	92	82	121	7.5	6.6	9.2	1142	1160	1191
Kuskokwim	804	816	896	67	67	127	8.3	8.2	14.2	737	749	769
Wade Hampton.....	1478	1471	1492	177	150	135	12.0	10.2	9.0	1301	1321	1357

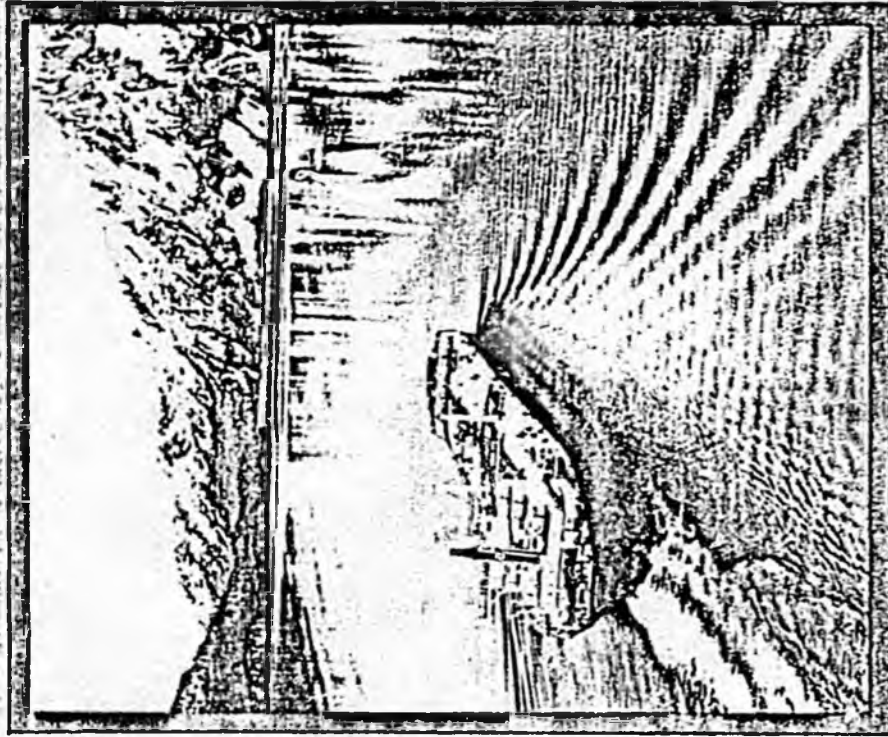
P/-Preliminary 1981 Benchmark

R/-Reviser

Federal guidelines require the use of unrounded labor data, adjusted to be consistent with the Current Population Survey (CPS) in formulas used to allocate federal funds. Comparisons between different time periods are not as meaningful as other time series published by the Alaska Department of Labor; because Alaska's CPS sample size is inadequate to accurately indicate monthly changes in level. The sampling errors are random in nature; meaning that the unemployment rates, in any given month, are as likely to be high as frequently as they are low. The official definitions of unemployment, currently in place, exclude anyone who has made no attempt to find work in the four week period up to and including the week that includes the twelfth of each month. Most economists feel that Alaska's bush localities have proportionately more of these discouraged workers.

THE ALASKA ECONOMY

An Introductory Overview



Alaska Pacific Bancorporation

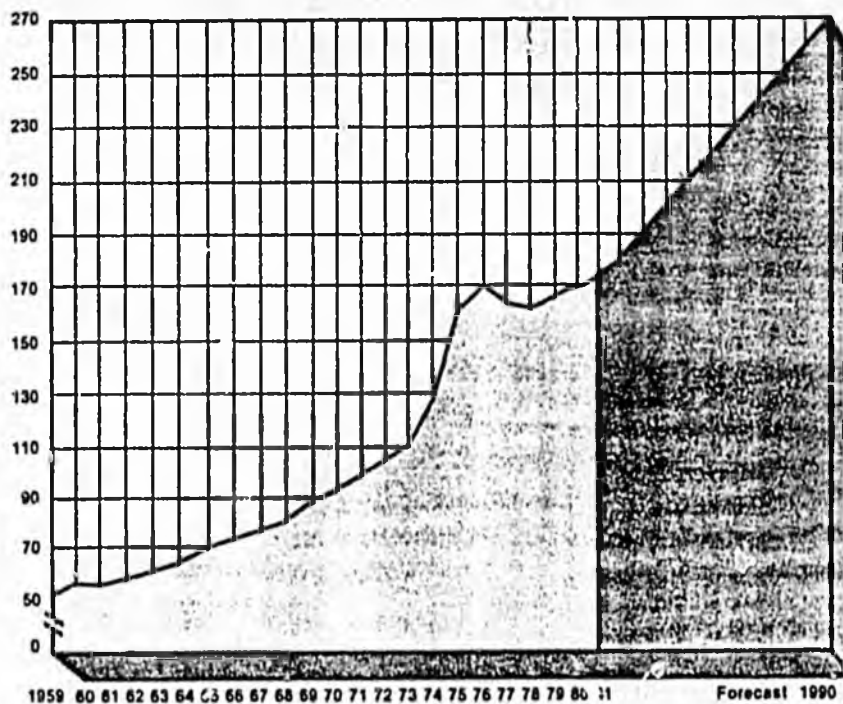
Employment Growth

Largely as a result of burgeoning employment by state and local government in the latter half of the seventies, there was no "bust" following construction of the trans-Alaska oil pipeline.

Today, employment in Alaska is triple the level of twenty years ago. This represents an historical average annual rate of growth of six percent.

The level of employment in 1990 is forecast to be 270,000.

Nonagricultural Employment (Thousands)



February 1983

U.S. Macroeconomic Forecasts and Analysis

The State of the Economy and Economic Policy

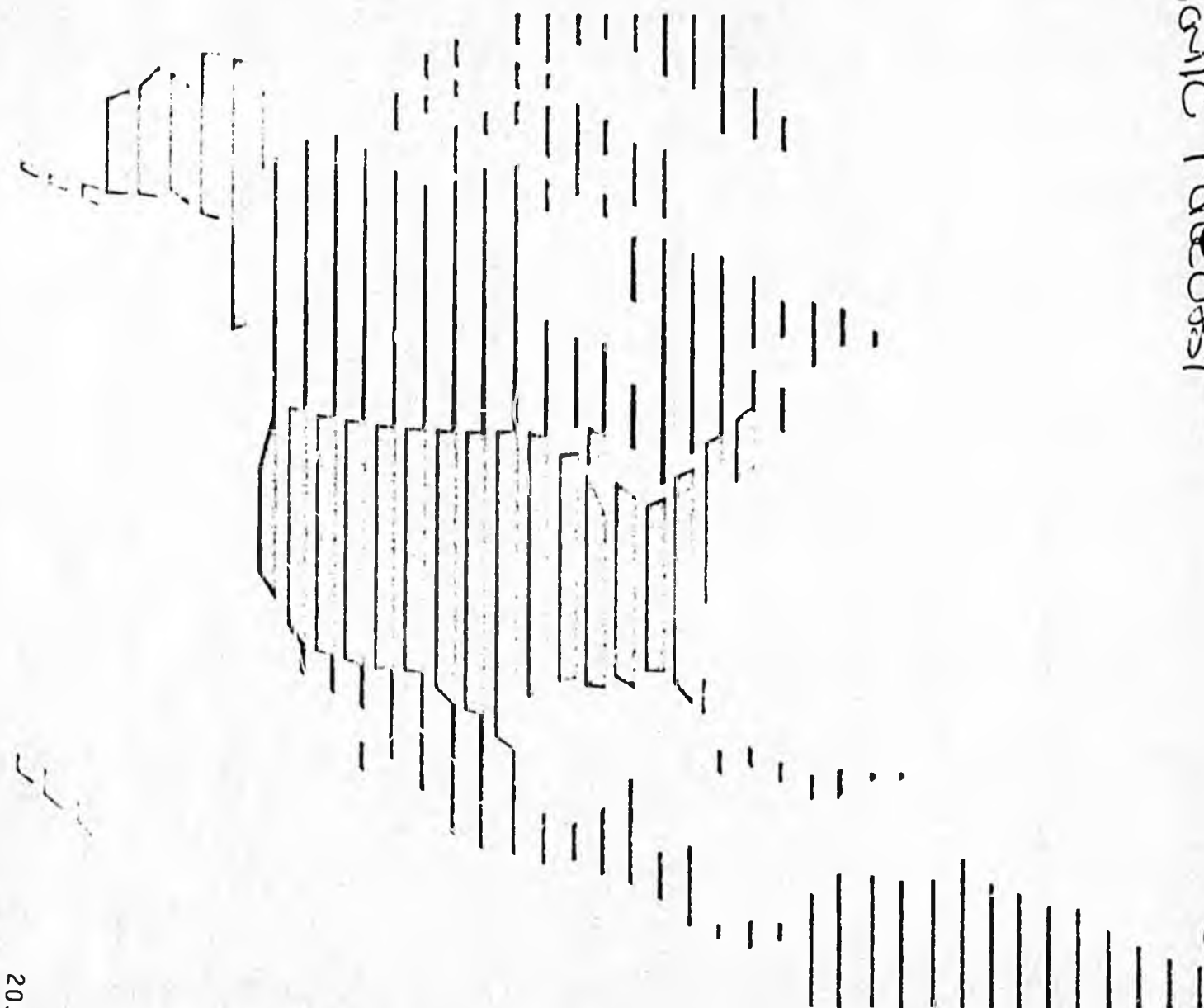
The FY 1984 Federal Budget

A Visual Guide to Recession and Recovery

The Yield Curve and Market Expectations

Incorporates February 21 release of
National Income and Product Accounts

E
CONOMIC FORECAST



203

U.S. ECONOMICS



U.S. MACROECONOMIC FORECAST SUMMARY TABLES
SECOND ALTERNATE - LOWER GROWTH (MSTL)
FORECAST PREPARED ON MARCH 3, 1983

	82 4	83 1	83 2	83 3	83 4	84 1	84 2	84 3	84 4	85 1	1982	1983	1984	1985
GROSS NATIONAL PRODUCT BILLIONS OF DOLLARS, SAAR														
GROSS NATIONAL PRODUCT	3101.4	3168.1	3190.7	3249.4	3312.8	3383.2	3460.7	3542.4	3627.0	3725.9	3057.6	3230.2	3503.3	3874.5
% CHANGE, ANNUAL RATE	1.7	8.9	2.9	7.6	8.0	8.8	9.5	9.8	9.9	11.4	4.1	5.6	8.5	10.6
CONSUMPTION	2037.5	2063.3	2077.5	2123.6	2161.6	2206.0	2247.5	2294.1	2338.2	2391.6	1971.3	2106.5	2271.5	2465.1
GROSS PRIVATE INVESTMENT	392.4	428.8	434.0	432.5	439.1	451.2	475.2	498.3	516.6	549.0	420.5	433.6	485.3	596.6
FIXED INVESTMENT	436.6	441.6	437.1	434.6	435.0	442.6	459.9	478.3	494.1	519.6	443.3	437.1	468.7	560.1
CHANGE IN INVENTORIES	-44.2	-12.9	-3.1	-2.1	4.0	8.7	15.3	20.0	22.4	29.5	-22.8	-3.5	16.6	36.5
NET EXPORTS	0.8	-5.6	-6.7	-8.3	-7.7	-4.2	1.5	1.7	4.6	1.6	18.5	-7.1	0.9	4.3
GOVERNMENT PURCHASES	676.7	681.6	686.0	701.5	719.8	730.1	736.5	748.3	767.7	783.6	647.4	697.2	745.6	808.5
GROSS NATIONAL PRODUCT BILLIONS OF 1972 DOLLARS, SAAR														
GROSS NATIONAL PRODUCT	1473.9	1489.5	1482.2	1494.5	1503.9	1517.2	1532.2	1548.9	1562.7	1583.1	1476.0	1492.5	1540.2	1613.4
% CHANGE, ANNUAL RATE	-1.9	4.3	-1.9	3.3	2.5	3.6	4.0	4.4	3.6	5.3	-1.8	1.1	3.2	4.8
CONSUMPTION	967.5	973.9	969.4	980.8	986.8	995.5	1002.5	1011.1	1017.6	1025.7	957.0	977.7	1006.7	1038.1
% CHANGE, ANNUAL RATE	4.8	2.7	-1.8	4.8	2.5	3.6	2.8	3.5	2.6	3.2	1.0	2.2	3.0	3.1
DURABLE GOODS	142.6	144.0	140.9	147.0	148.4	151.4	153.6	157.0	157.6	160.4	138.7	145.0	154.9	164.3
NONDURABLE GOODS	367.5	369.7	367.7	369.5	371.6	374.5	376.2	378.0	380.5	382.3	365.0	369.6	377.3	385.1
SERVICES	457.4	450.2	460.8	464.3	466.9	469.7	472.7	476.1	479.4	483.0	453.3	463.1	474.5	488.7
GROSS PRIVATE INVESTMENT	183.8	197.5	197.4	195.2	196.0	198.3	205.1	211.2	215.2	224.0	197.0	196.5	207.4	236.5
NONRESIDENTIAL FIXED INV.	160.0	156.9	151.3	149.4	148.8	147.0	147.6	148.6	149.7	152.0	165.5	151.6	148.2	156.2
% CHANGE, ANNUAL RATE	-8.1	-7.5	-13.4	-4.9	-1.8	-4.5	1.6	2.7	3.0	6.2	-3.8	-8.4	-2.2	5.4
STRUCTURES	52.2	51.1	49.3	47.7	46.7	44.8	45.2	45.7	46.1	47.0	53.1	48.7	45.5	48.6
EQUIPMENT	107.9	105.8	102.0	101.7	102.1	102.2	102.4	102.9	103.6	105.0	112.5	102.9	102.8	107.6
RESIDENTIAL INVESTMENT	42.5	45.8	47.4	46.8	45.8	48.1	51.8	55.3	57.5	61.7	40.3	46.5	53.2	67.8
CHANGE IN INVENTORIES	-18.7	-5.2	-1.3	-1.0	1.4	3.2	5.6	7.3	8.0	10.3	-8.8	-1.5	6.0	12.5
NET EXPORTS	23.3	20.0	19.0	18.7	19.5	21.8	24.9	26.6	28.5	31.1	30.9	19.3	25.4	34.2
EXPORTS	135.5	131.6	131.0	130.7	131.5	133.7	146.8	139.0	141.2	144.4	147.3	131.2	137.7	149.5
IMPORTS	112.2	111.7	112.0	112.0	112.0	111.9	111.9	112.4	112.7	113.4	116.4	111.9	112.2	115.3
GOVERNMENT PURCHASES	299.2	298.2	296.4	299.2	301.6	301.4	299.8	300.0	301.4	302.4	291.2	299.0	300.7	304.6
% CHANGE, ANNUAL RATE	11.6	-1.4	-2.3	4.6	2.4	0.1	-3.4	0.3	1.8	1.4	1.4	2.7	0.6	1.3
FEDERAL	124.1	123.1	121.7	125.5	127.8	128.0	123.2	125.8	126.8	127.6	116.3	124.5	126.7	129.0
NATIONAL DEFENSE	81.2	82.9	84.9	86.3	87.5	88.3	81.8	89.4	90.0	90.9	78.6	85.4	89.1	92.2
OTHER	42.9	40.2	36.8	39.2	40.3	39.7	37.4	36.4	36.8	36.7	37.6	39.1	37.6	36.8
STATE AND LOCAL	175.1	175.1	174.7	174.3	173.8	173.6	173.5	174.2	174.6	174.8	175.0	174.5	174.0	175.7

0110

U.S. MACROECONOMIC FORECAST SUMMARY TABLES
SECOND ALTERNATE - LOWER GROWTH (MSTL)
FORECAST PREPARED ON MARCH 3, 1983

	82 4	83 1	83 2	83 3	83 4	84 1	84 2	84 3	84 4	85 1	1982	1983	1984	1985	
INCOME															
BILLIONS OF DOLLARS															
DPI	DISPOSABLE PERSONAL INCOME	2227.1	2256.9	2294.9	2342.4	2381.3	2421.5	2463.4	2511.0	2562.1	2614.7	2173.5	2318.9	2489.5	2700.3
	DISPOSABLE INCOME, 1972 \$	1060.7	1065.2	1070.8	1081.8	1087.1	1092.8	1098.8	1106.7	1115.1	1121.4	1055.2	1076.3	1103.3	1137.1
	% CHANGE, ANNUAL RATE	0.9	1.7	2.1	4.2	2.0	2.1	2.2	2.9	3.1	2.3	1.2	2.0	2.5	3.1
	CORPORATE PROFITS, PRETAX	181.8	190.3	166.1	182.4	202.0	207.9	222.2	239.2	256.7	278.6	176.4	185.2	231.5	300.1
	% CHANGE, ANNUAL RATE	3.4	20.1	-42.0	45.6	50.3	12.2	30.4	34.4	32.7	38.6	-24.0	5.0	25.0	29.6
	CORPORATE PROFITS, AFTER TAX	119.3	123.8	107.7	117.9	128.3	125.1	134.3	145.3	156.8	171.1	117.5	119.4	140.4	185.3
	% CHANGE, ANNUAL RATE	-0.3	15.9	-42.8	43.8	40.3	-9.7	33.1	36.9	35.8	41.6	-22.1	1.6	17.6	32.0
	SAVING RATE (%)	6.1	5.9	6.8	6.7	6.6	6.3	6.2	6.1	6.2	6.0	6.6	6.5	6.2	6.2
PRICES															
	PPI, TOTAL (1967=100)	300.3	302.2	304.1	307.2	310.4	316.1	320.2	325.1	329.1	337.7	299.3	306.0	322.6	344.5
	% CHANGE, ANNUAL RATE	0.4	2.5	2.7	4.1	4.2	7.6	5.3	6.2	5.1	10.3	2.0	2.2	5.4	6.8
	PPI, IND. COMMOD. (1967=100)	314.8	316.4	317.5	320.6	324.9	330.5	334.5	339.5	345.0	353.8	312.3	319.9	337.4	360.6
	% CHANGE, ANNUAL RATE	2.5	2.0	1.4	4.0	5.5	7.0	5.0	6.2	6.6	10.6	2.7	2.4	5.5	6.9
	CPI, ALL URBAN (1967=100)	294.0	294.0	296.4	299.4	302.8	305.4	308.0	311.3	315.0	319.5	289.1	298.2	309.9	323.9
	% CHANGE, ANNUAL RATE	2.6	0.1	3.3	4.1	4.7	3.5	3.4	4.4	4.8	5.9	6.1	3.1	3.9	4.5
	IMPL. GNP DEFL. (1972=100)	210.4	212.7	215.3	217.4	220.3	223.0	225.9	228.7	232.1	235.3	207.1	216.4	227.4	240.1
	% CHANGE, ANNUAL RATE	3.7	4.4	4.9	4.1	5.4	5.0	5.3	5.1	6.1	5.7	5.9	4.5	5.1	5.6
	UNIT LABOR COSTS (% CHANGE)	3.1	8.2	9.8	3.1	4.1	4.9	3.6	3.5	4.9	4.3	7.1	5.8	4.4	4.3
FINANCIAL SECTOR															
	MONEY SUPPLY (M1), BIL \$	474.0	485.5	494.5	497.2	503.7	510.4	517.2	524.8	532.6	541.4	457.4	494.5	521.3	554.6
	% CHANGE, ANNUAL RATE	17.1	10.1	5.1	4.7	5.4	5.4	5.5	6.0	6.3	6.6	6.5	8.1	5.4	6.4
	MONEY SUPPLY (M2), BIL \$	1985.0	2069.0	2129.6	2163.6	2199.7	2241.5	2285.4	2326.6	2371.6	2415.5	1918.5	2140.4	2306.3	2488.8
	% CHANGE, ANNUAL RATE	9.2	18.0	12.3	6.5	6.8	7.8	8.1	7.4	8.0	7.6	9.8	11.6	7.7	7.9
	FEDERAL FUNDS RATE (%)	9.3	8.7	8.6	8.0	7.4	6.9	6.6	6.4	6.6	6.7	12.3	8.2	6.6	7.0
	T-BILL RATE, 91-DAY (%)	7.9	8.1	8.0	7.5	7.0	6.6	6.2	6.1	6.3	6.4	10.7	7.7	6.3	6.6
	PRIME COMM. BANK RATE (%)	12.0	10.8	10.8	10.4	9.8	9.3	8.9	8.7	8.8	8.9	14.9	10.5	8.9	9.2
	AA UTILITY BOND RATE (%)	12.4	12.5	12.4	12.1	11.7	11.4	11.0	10.6	10.5	10.3	15.0	12.2	10.9	10.4
OTHER KEY ECONOMIC INDICATORS															
	INDUS. PRODUCTION (1967=100)	135.2	137.1	137.6	139.2	141.0	143.2	145.3	147.1	148.7	150.7	138.6	138.8	146.1	151.9
	% CHANGE, ANNUAL RATE	-8.4	6.6	0.8	4.8	5.2	6.3	5.9	5.1	4.6	5.3	-8.1	0.1	5.2	5.3
	NEW CAR SALES (MIL UNITS)	8.7	8.6	8.2	9.0	9.1	9.5	9.7	10.1	10.0	10.2	3.0	8.7	9.8	10.5
	HOUSING STARTS (MIL UNITS)	1.26	1.40	1.10	1.06	1.07	1.24	1.32	1.37	1.38	1.79	1.06	1.16	1.33	1.86
	UNEMPLOYMENT RATE (%)	10.5	10.4	10.5	10.7	10.9	10.9	10.8	10.7	10.5	10.4	9.6	10.6	10.7	10.2
	FED. GOVT. SURPLUS, NIPA, BIL \$	-197.5	-180.3	-185.9	-203.8	-209.4	-190.4	-180.2	-171.9	-172.3	-160.5	-147.9	-194.8	-178.7	-154.8

SOUTHEASTERN ALASKA
TRANSPORTATION USER SURVEY

DRAFT FINAL REPORT

January 1983

Prepared for
Alaska Department of Transportation and Public Facilities

Prepared by
TIPPETTS-ABBETT-McCARTHY-STRATTON, P.C.
Anchorage, Alaska

TABLE OF CONTENTS

	<u>Page</u>
CHAPTER 1 - INTRODUCTION	1
Study Scope and Objectives	1
Transportation in S.E. Alaska	2
Survey Schedule	4
Report Contents	6
CHAPTER 2 - SURVEY PROCEDURES	7
Planning, Questionnaire Preparation and Pre-Test	7
Survey Logistics	8
Data Reduction	9
Data Processing	10
Rates of Return	10
Collection Procedures	13
Suggested Changes in Procedures for Future Surveys	13
CHAPTER 3 - SURVEY RESULTS	19
Introduction	19
Trip Purpose	19
Residence	22
Places Visited in Southeastern Alaska	22
Mode of Ground Access to Terminal	22
Trip Frequency	27
Trip Duration	27
Mode of Transportation for Transfer	27
Type of Lodging	27
User Profiles	30
Reason for Use of Mode	34
Customer Satisfaction	36
Highway Border Survey	38
CHAPTER 4 - OTHER TABULATIONS AND APPLICATION OF SURVEY DATA	
Introduction	92
Data Link Summary	92
Expanded Data	93
Application of Survey Data	96
Future Surveys	97
APPENDIX A - PROGRAM DOCUMENTATION ("User Easy") (Not Included in Draft Report)	

CHAPTER 3 SURVEY RESULTS

Introduction

Results of the survey are presented in this chapter along with an interpretation of some of the major findings. Airport and Marine Highway surveys are discussed concurrently, while highway border data are discussed in a separate section. This is not intended as a comprehensive review of all results. Rather, it points out major findings and illustrates how data can be shown in tabular and graphic formats. The RAMIS II program facilitates a wide range of other cross-tabulations as well.

All RAMIS II table reports are located at the end of the chapter. They are referenced by the table numbers given in the beginning of each section.

Trip Purpose (Tables 1,2,4,5)

An overall view of trip purpose shown in Figure 3 points out the difference in mode choice. Almost half of Marine Highway trips are for tourism or recreation, compared to only sixteen percent for air travelers. Conversely, fifty-five percent of all trips are business related, compared to twelve percent for Marine Highway trips. These differences make sense since business travelers are interested in time, while tourists are usually more interested in cost and scenic considerations and are more likely to have an accompanying vehicle.

Figure 4 shows monthly variation in trip purpose. As expected, tourism and recreation bands are larger toward the summer months while business and other trips are relatively constant throughout the year. Tourism and recreation account for 70

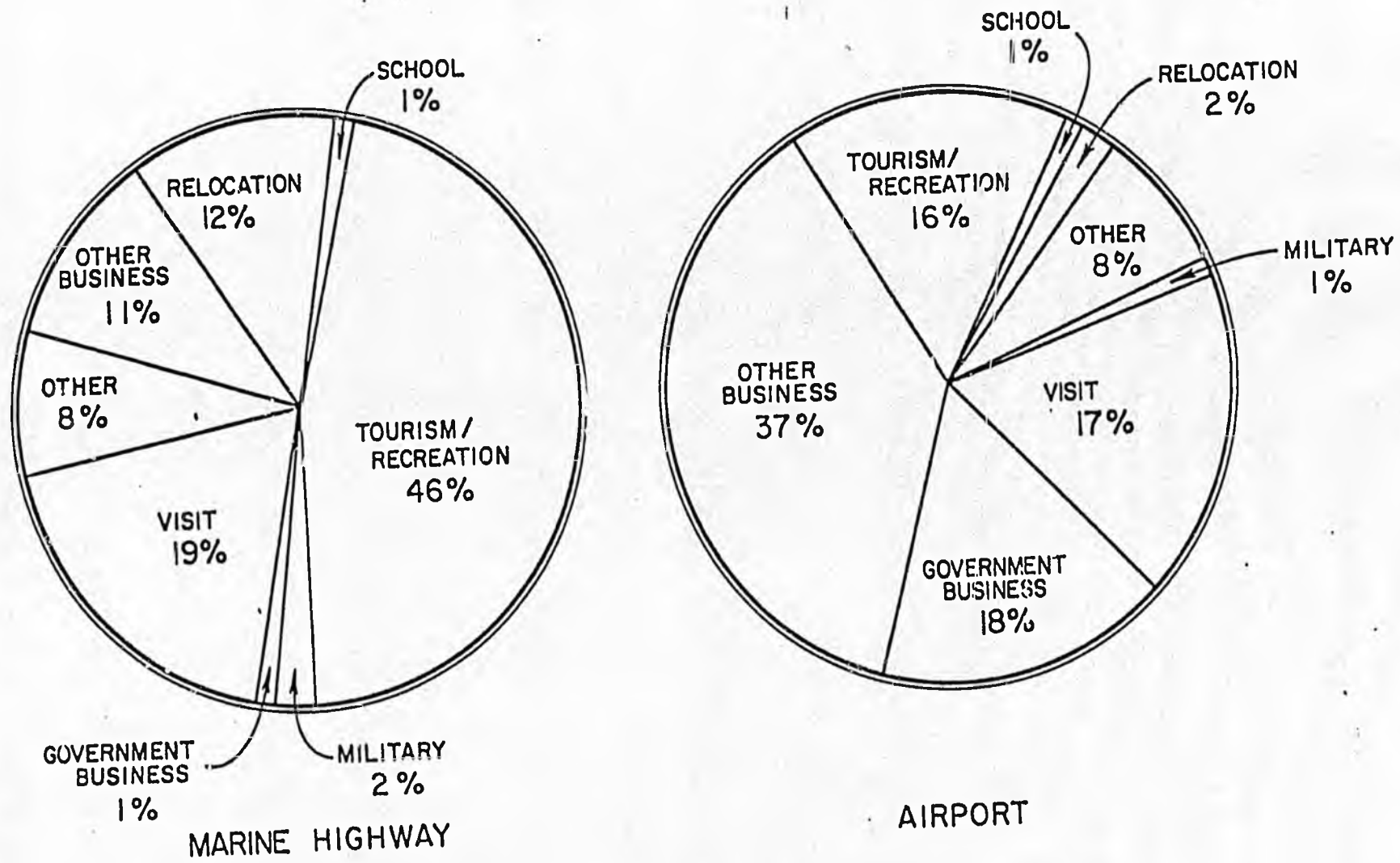


FIGURE 3

TRIP PURPOSE

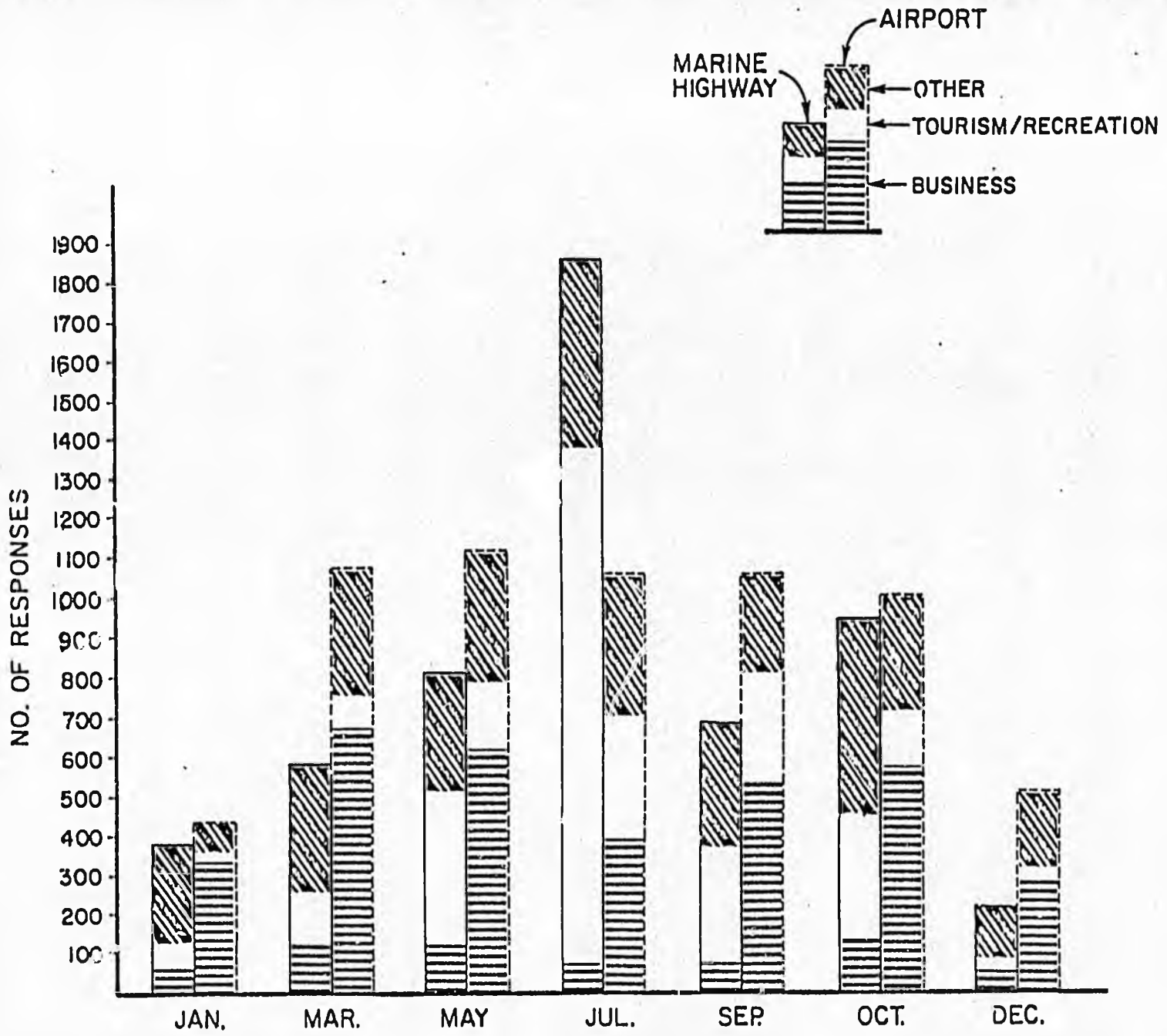


FIGURE 4 TRIP PURPOSE BY MONTH

percent of all Marine Highway trips in July and only 15 percent in December and January.

Residence (Tables 7-9)

Figure 5 shows that 27 percent of Marine Highway passengers and 41 percent of airport passengers live in Southeastern Alaska. This difference is largely attributable to the use of the Marine Highway System for tourism.

Monthly variation in passenger's place of residence is illustrated in Figure 6. It shows that non-Alaskan resident's travel to Southeastern Alaska is seasonal, while trips by Alaska residents are more uniformly distributed throughout the year. This is particularly true for the Marine Highway System. During the summer months, when ferries are at capacity, over 80 percent of the passengers are non-Alaska residents and only 4 percent are from Southeast.

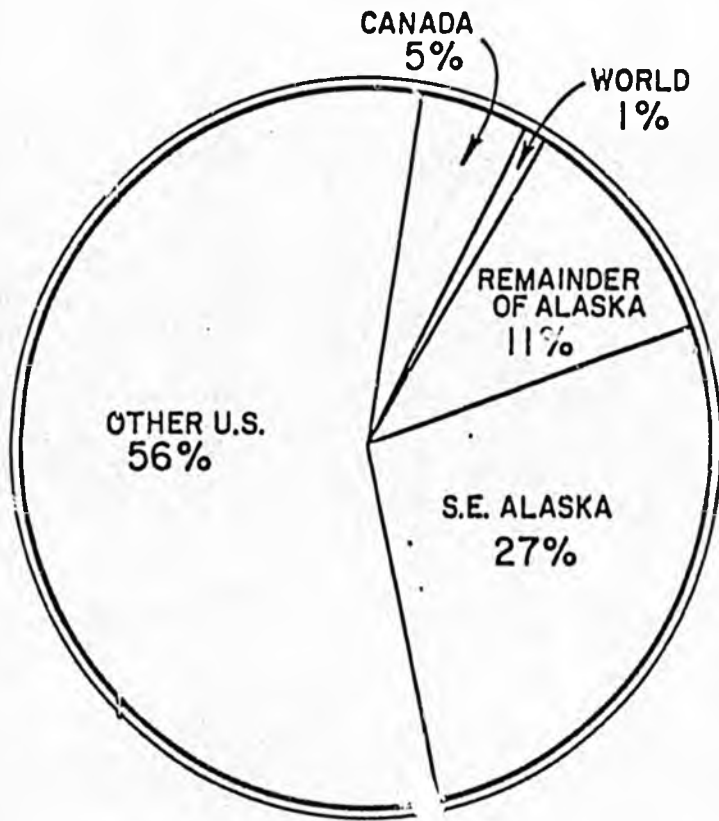
Figure 7 shows the proportion of travelers on the Marine Highway System who live in the "Lower 48" states. As expected, Washington, Oregon and California generate the most trips. The remaining states are distributed roughly according to overall population, with decided bias toward the western states.

Places Visited in Southeastern Alaska (Tables 11-12)

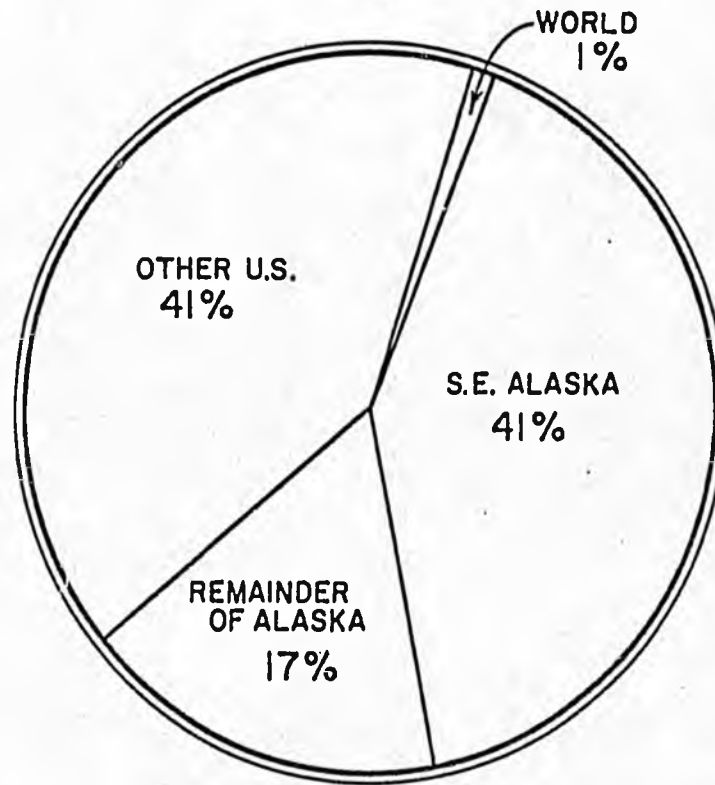
The distribution of places visited by airport and Marine Highway travelers is shown in Figure 8. Juneau, Haines and Ketchikan received the most Marine Highway visitors while Juneau was the most frequent destination of air passengers.

Mode of Ground Access to Terminal (Tables 14-15)

Data on ground access to ferry and airport terminals are shown in Tables 14 and 15, respectively. No general comments are



MARINE HIGHWAY



AIRPORT

FIGURE 5

RESIDENCE OF PASSENGERS

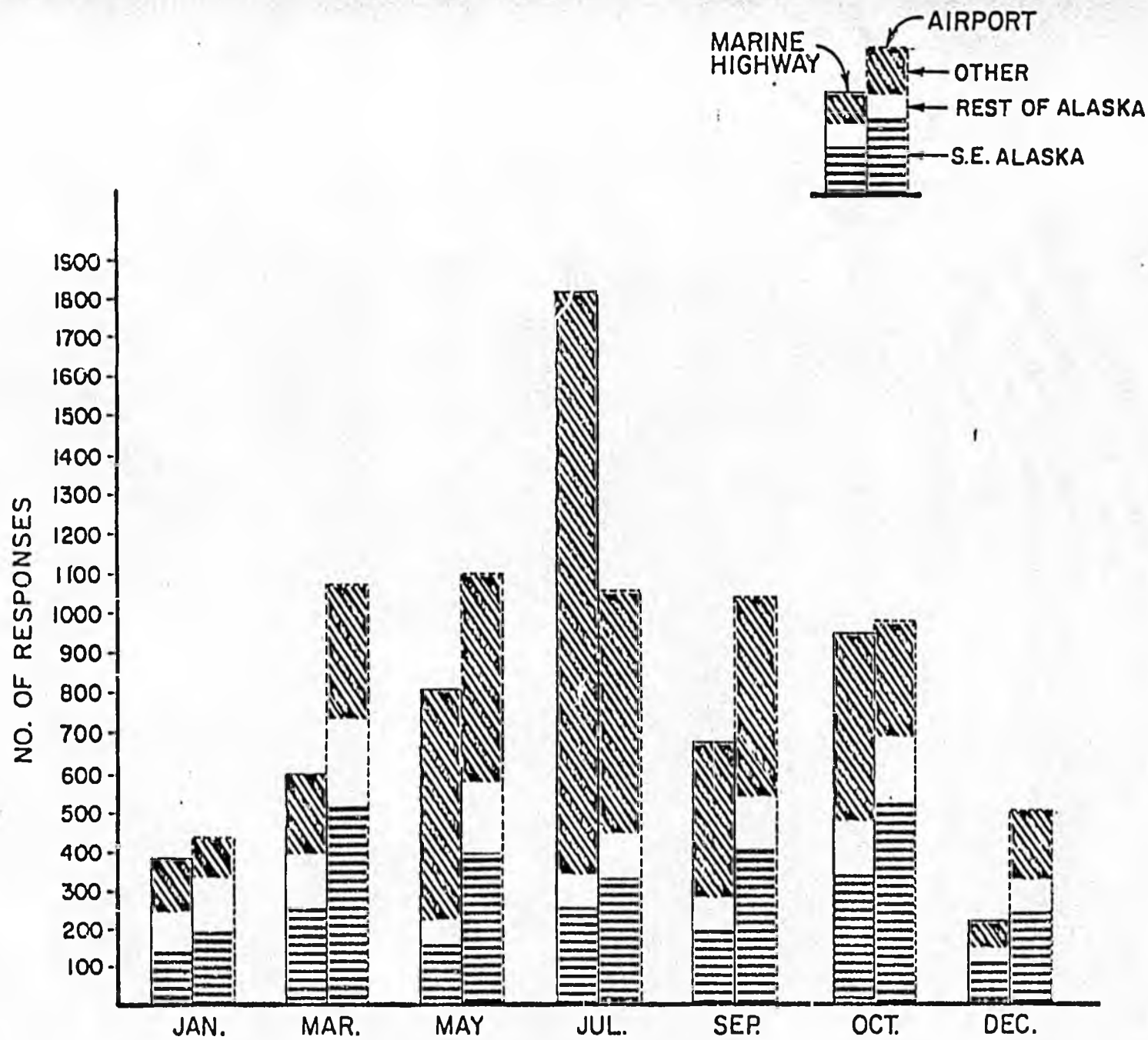
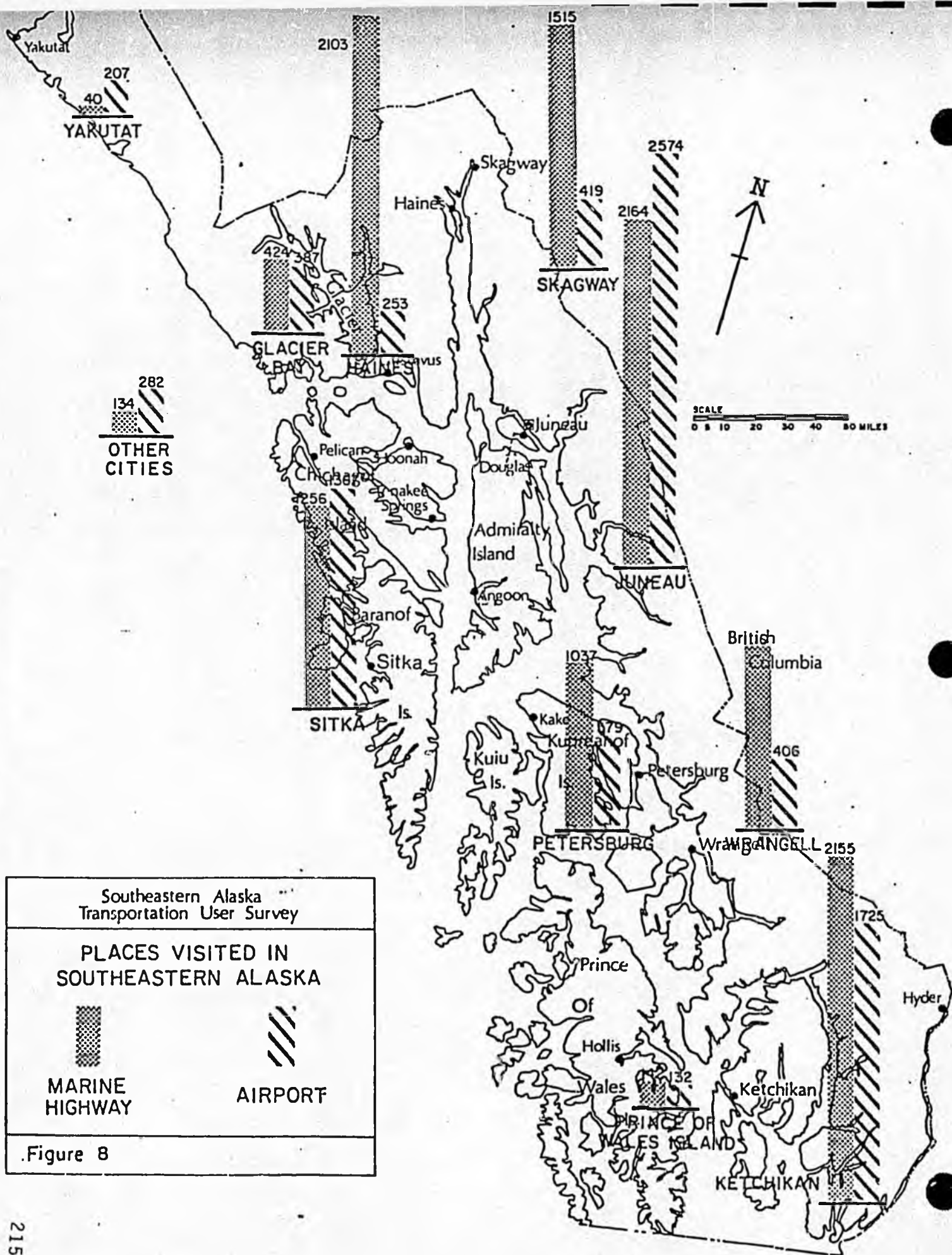


FIGURE 6 RESIDENCE BY MONTH OF SURVEY



given here because the overall distribution is not significant, and data need to be examined for individual cities.

Trip Frequency (Tables 16-17)

Table 16 shows that most Marine Highway passengers are infrequent travelers to Southeastern Alaska; 70 percent had no previous trips during the year, while 86 percent had two or less. The major reason for this is that 46 percent are tourists.

Table 17 indicates a much more balanced frequency for air travelers. As many travelers have been to Southeastern Alaska on three or more previous trips as those who have only two or less visits. This is due to the higher proportion of air travelers who are on business (and are more likely to make frequent trips) and/or who are Southeastern residents.

Trip Duration (Tables 18-20)

Figure 9 illustrates that most trips in both surveys fall in either the 3 to 5 or 6 to 20 day range. Marine Highway trips are of longer duration and average about 21 days compared to air passengers whose trips average 14 days. (Assuming 70 day duration for trips over 60 days.)

Mode of Transportation for Transfer (Tables 21-22)

Again, these data must be examined on a city-by-city basis and it is not possible to draw any general conclusions.

Type of Lodging (Tables 23-30)

An overall comparison of Marine Highway and Airport travelers is presented in Figure 10. Sixty percent of air travelers stay in hotels, 36 percent in private homes. Lodging for Marine

-28-

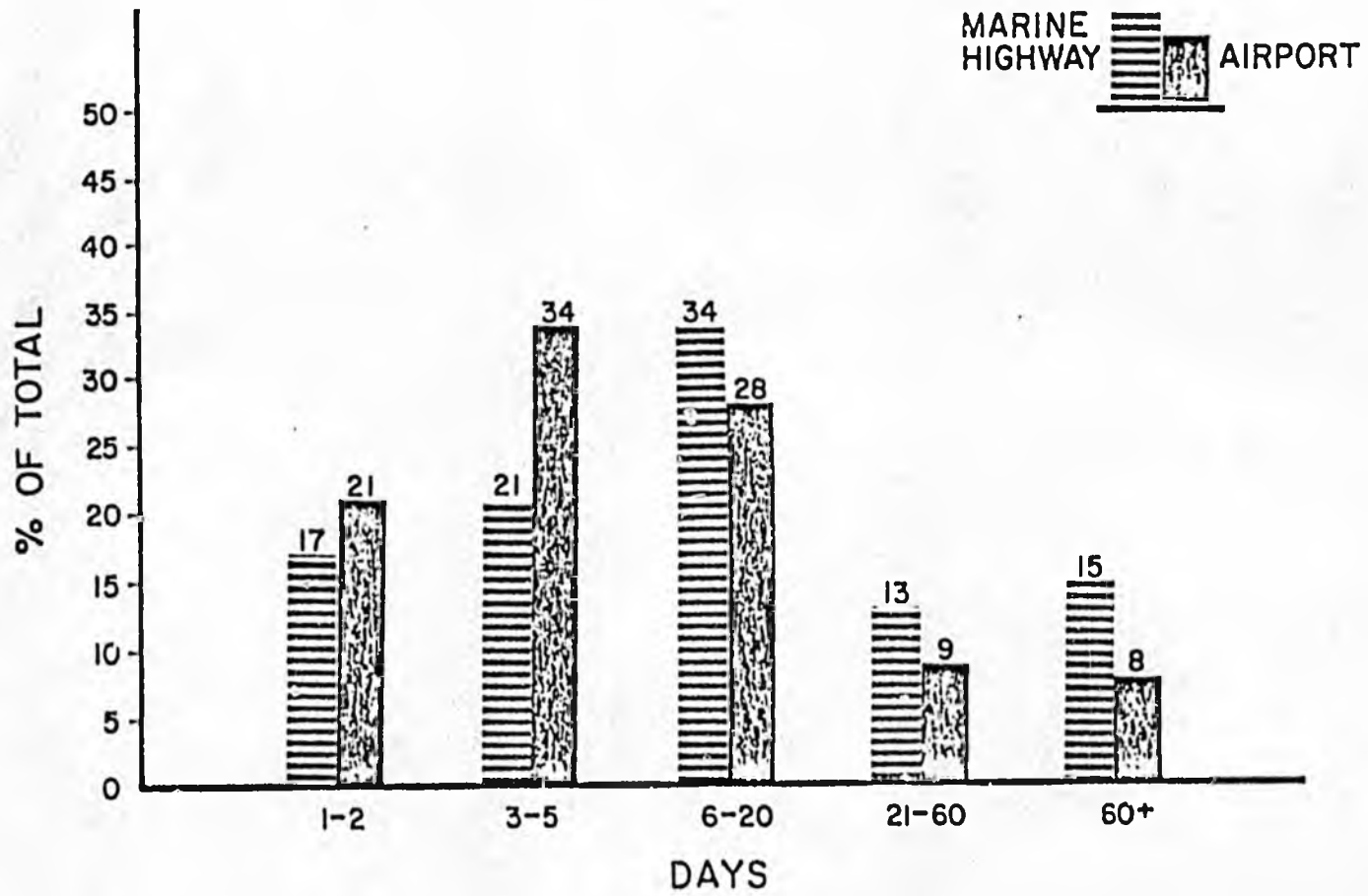
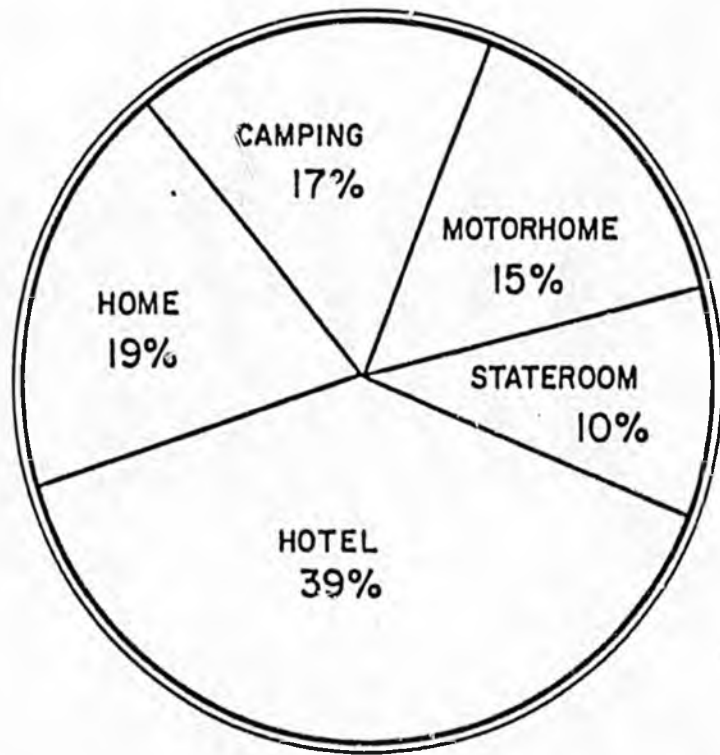
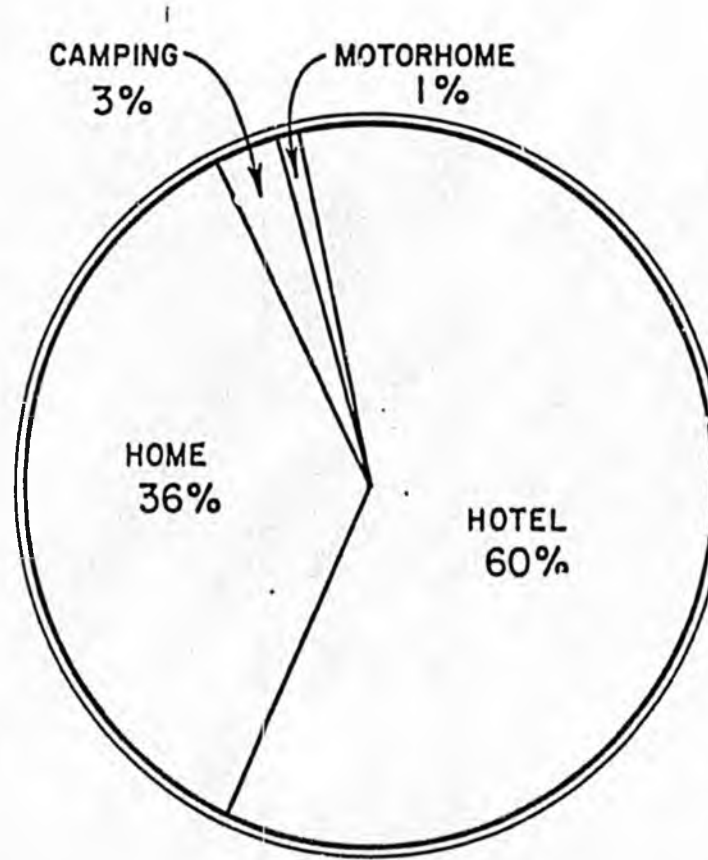


FIGURE 9 DURATION OF VISIT



MARINE HIGHWAY



AIRPORT

FIGURE 10

TYPE OF LODGING

Highway travelers is more varied with staterooms, motorhomes, and camping receiving significant responses.

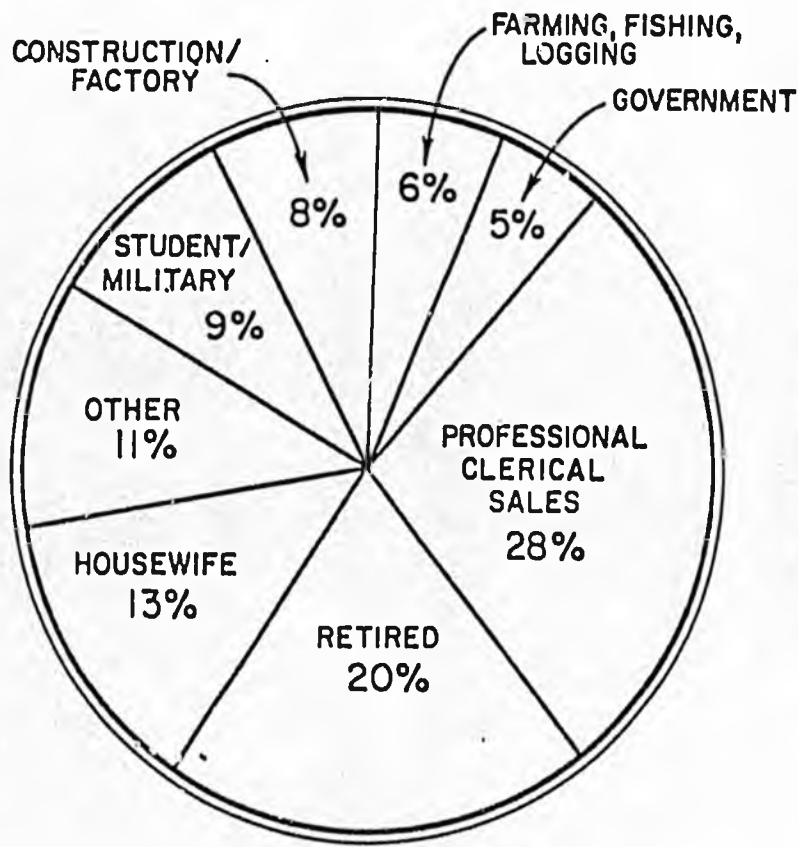
Tables 23 through 30 relate type of lodging to trip purpose, month, income and age for the Marine Highway System and Airports. Table 25 indicates a steady increase in camping and motorhome activity for Marine Highway travelers in the summer months. This is accompanied by a corresponding drop in the percentage of travelers staying in hotels or private homes.

Table 27 shows that camping activity is highest and stateroom use lowest for those with income less than or equal to \$10,000. However, lodging in staterooms is fairly constant for all other passengers, indicating that availability may be more important a factor than cost. Camping is related to income, but perhaps less than might be expected. Seventeen percent of travelers who chose to camp out had incomes of \$10,000 to \$40,000. Beyond \$40,000, camping is used by a fairly consistent twelve percent.

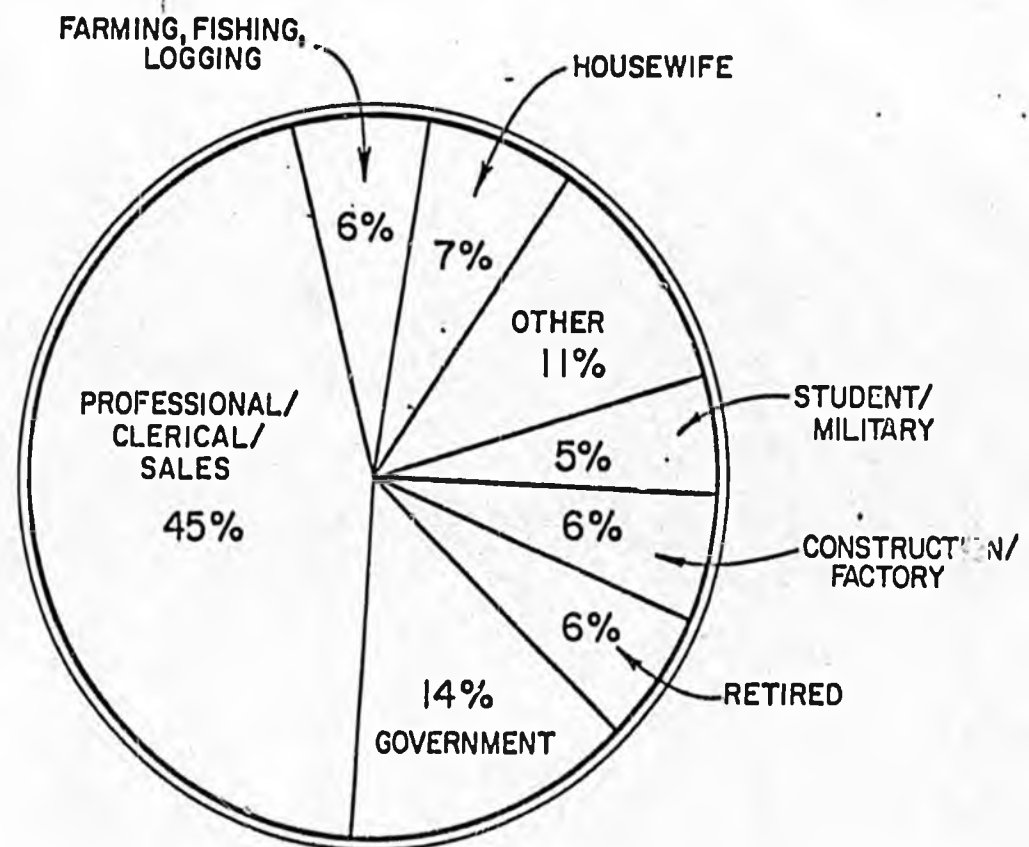
Marine Highway travelers between twelve and forty years old are the most likely campers (see Table 29), while about forty-one percent of visitors forty and older use hotels for lodging.

User Profiles (Tables 31-38)

Figure 11 compares occupations for Marine Highway and Airport travelers. Predictably, those who might be more concerned with cost than travel time, such as housewives, students and the retired, are more likely to utilize the Marine Highway System. The majority of airport travelers are those whose occupations require frequent travel, such as government workers or professional/sales positions. The comparison of age distribution in Figure 12 is a further representation of difference in mode choice. Up to 30 and over 60 years old, more passengers are likely to travel on the ferries. These ages are the groupings



MARINE HIGHWAY



AIRPORT

FIGURE 11

OCCUPATION

-32-

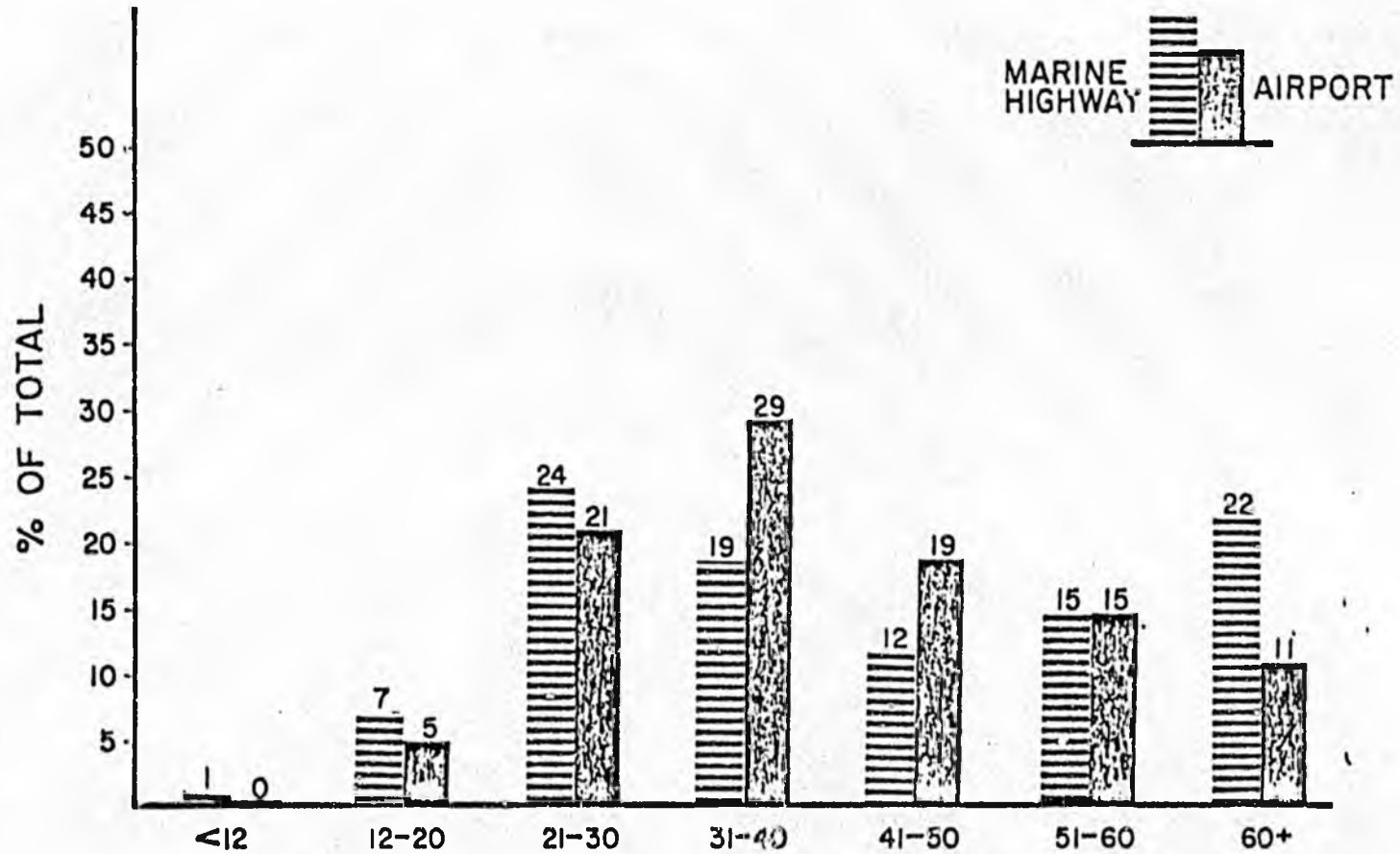


FIGURE 12 AGE DISTRIBUTION

-33-

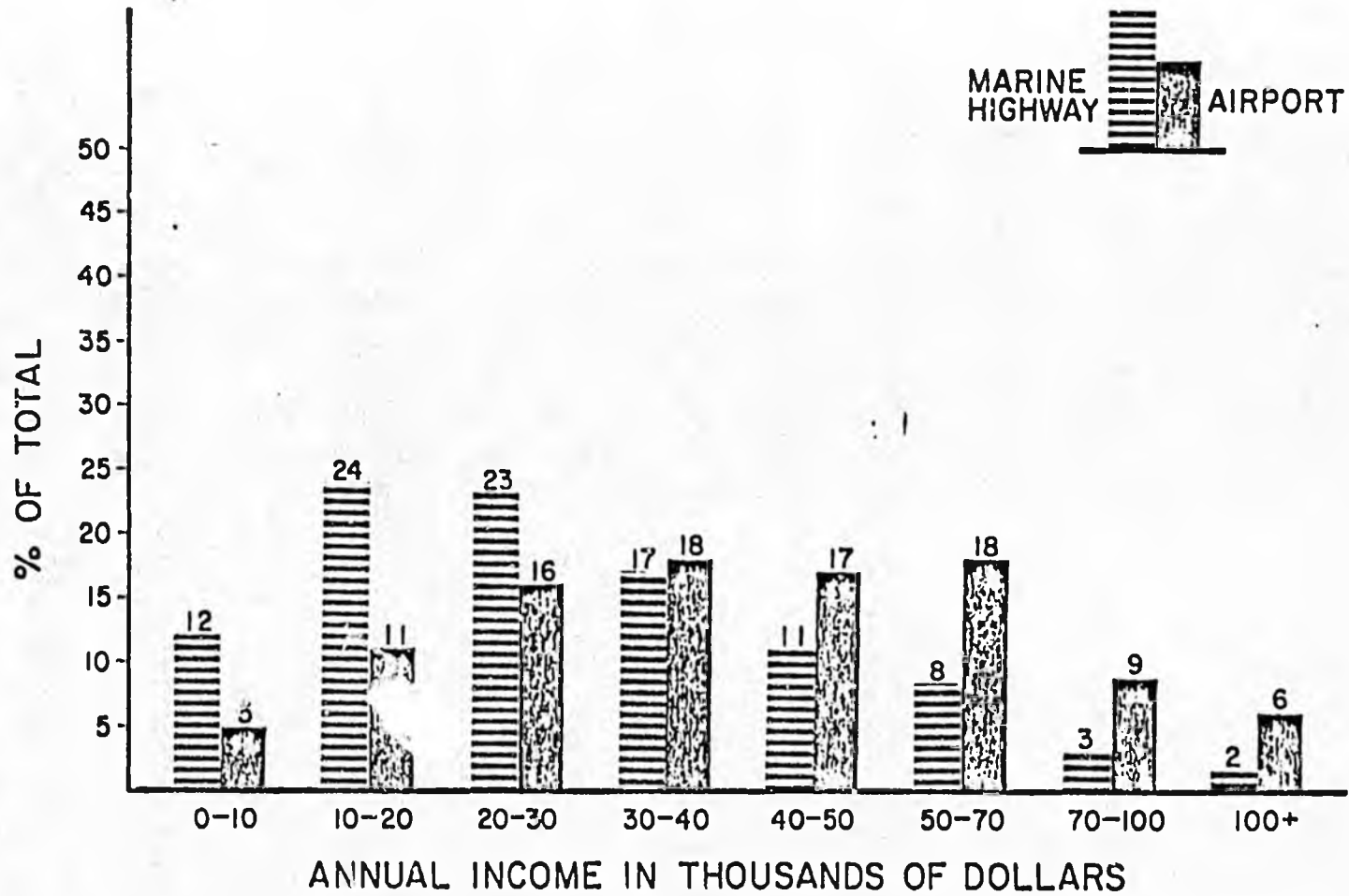


FIGURE 13 INCOME DISTRIBUTION

containing most students and retired persons, respectively. Passengers between 30 and 50 years old travel more often by air. This is also a reflection of the business orientation of the air traveler.

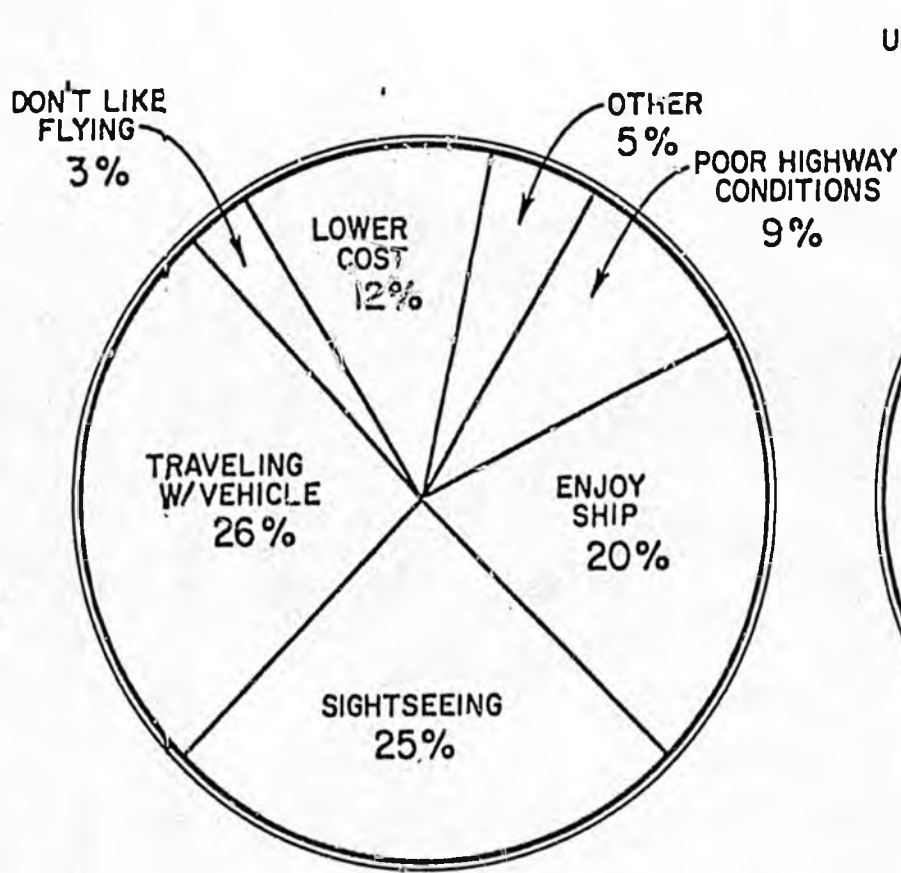
Results of income distribution are illustrated in Figure 13. They show that air travelers have much higher incomes, a median of \$40,000 compared to \$26,000 for Marine Highway passengers. Figure 13 shows a steady decline in Marine Highway travelers as salary rises from \$10,000 to \$100,000 and up. Air travelers increase steadily up to \$40,000 and then level off at \$70,000.

Tables 35 and 36 report on the sex of passengers for Marine Highway and Airport surveys. Forty-eight percent of ferry passengers are female, compared to 36 percent for airport travelers. This tends to support Figure 11 which shows that more housewives and fewer businessmen travel on the Marine Highway System.

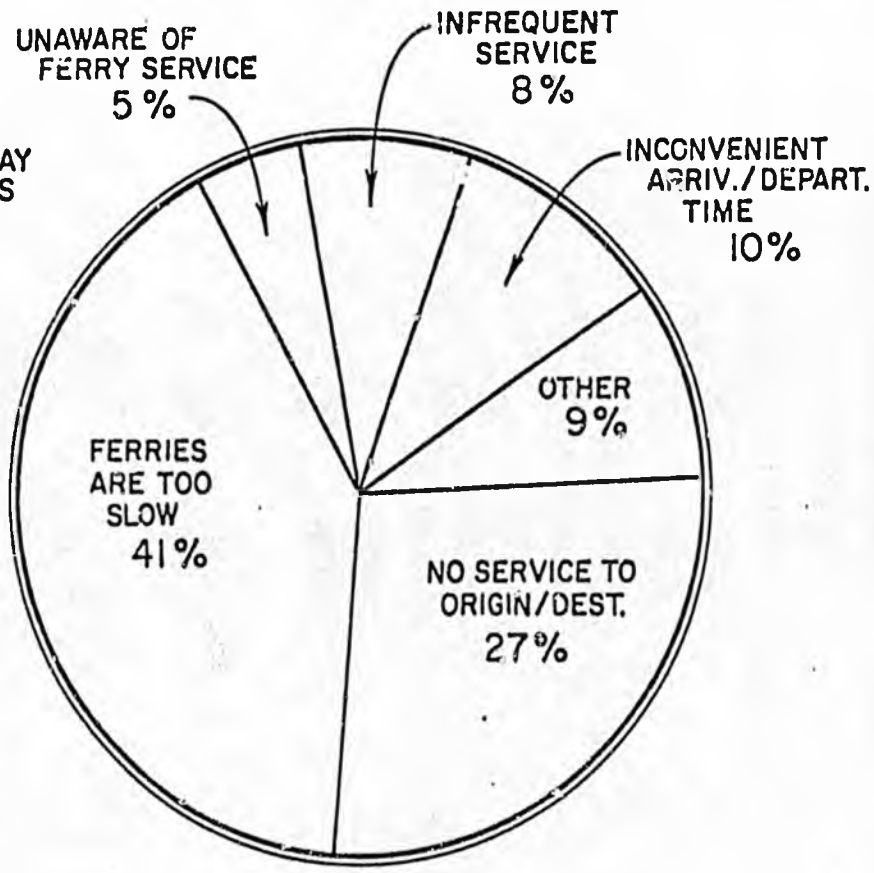
Reason for Use of Mode (Tables 39-40)

Figure 14 summarizes reasons for choosing either the Marine Highway or airplanes for transportation. As expected on a system with tourists and visitors accounting for sixty-five percent of its users, the major reasons for choosing the Marine Highway System are sightseeing, enjoy travelling by ship or travelling with a vehicle. Other reasons are lower cost and poor highway conditions. The slow speed of the Marine Highway System was cited as the most important reason to fly. The business orientation of air travelers makes speed particularly important. The second most important reason was that the destination was not served by ferry.

A breakdown of reasons for using each mode by location of boarding is provided in Tables 39 and 40. Responses on the airport survey were predictable. Seattle passengers, having



MARINE HIGHWAY



AIRPORT

FIGURE 14

REASON FOR SELECTING MODE

-35-

the longest distance to travel, had the most comments on the speed of the ferries. Sitka had the highest response for infrequent service (since it is often bypassed) and inconvenient arrival/departure times (because of the problem with the tides).

Customer Satisfaction (Table 41)

Marine Highway passengers gave high grades to the various components of the system. Their answers are summarized in Figure 15 and described below:

- Reservation service was rated good or excellent by 86 percent of those who responded. The lowest rate was 81 percent at Seattle.
- Check in service was rated good or excellent by 83 percent of those responded. The lowest rate was 80 percent at Auke Bay.
- Ninety-two percent of all passengers rated vessel appearance as good or excellent, with the Aurora and LeConte receiving lows of 82 and 79 percent, respectively. These vessels received about a 10 percent higher response in the "fair" category than the Mainline vessels. This makes sense since these are the "feeder" ferries and have fewer conveniences.
- Meal service was rated good or excellent by 73 percent of all passengers, with the Columbia high at 81 percent and the LeConte low at 63 percent.
- Evaluation of crews was good or excellent by 92 percent of all passengers, with the LeConte low at 83 percent.

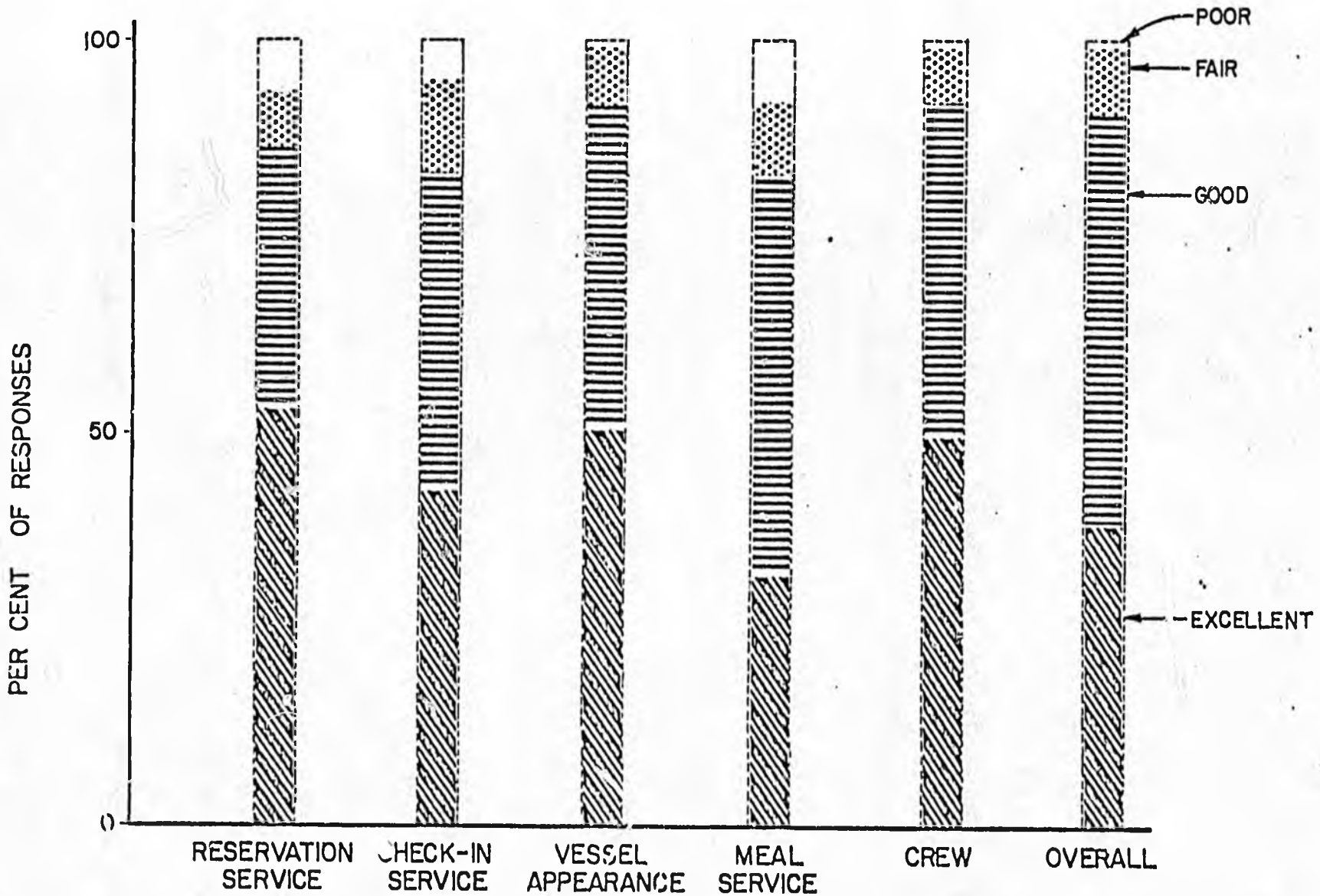


FIGURE 15 CUSTOMER SATISFACTION-MARINE HIGHWAY SYSTEM

- Ninety-one percent of all passengers gave an overall evaluation of good or excellent for the Marine Highway System.

Highway Border Survey

Trip purpose for highway travelers is summarized by month and by border station (Tables 3 and 6). Predictably, 61 percent of total crossings were for tourism/recreation. Forty-five percent of those interviewed live in S.E. Alaska, interior Alaska or Carcross. This makes sense since many residents of either area often cross the border for weekend trips.

Table 10 summarizes residence by month of survey. Seventy-two percent of those crossings surveyed occurred during the peak seven months of May and July.

The most frequent place visited besides Haines and Skagway, where the surveys were conducted, was Juneau. No other location generated significant response (see Table 13).

The reliability of data from the Border Crossing survey is far lower than the other two surveys. Less than one half of one percent of border crossings for the year (October, 1981 to September, 1982) were surveyed as shown below:

<u>City</u>	<u>No. of Crossings</u>	<u>No. Surveyed</u>
Haines	18,091	79
Skagway	14,905	62

FARE AND REVENUE ANALYSIS

TRIP TIME/COST COMPARISON
(1983 COSTS)

JUNEAU - SKAGWAY

JETFOIL		FERRY (AUKE BAY)		AIRLINE		
TIME	COST	TIME	COST	TIME	COST	
CHECKIN	0:20	--		CHECKIN	0:05	00
FOOD (1)	--	\$ 1.50				
JETFOIL	3:30	\$45.00		TAXI/BUS	0:15	\$10.00/\$5.00
	3:50	\$46.50		TRANSFER	0:30	--
				FERRY	6:15	\$22.00
				FOOD	--	\$3.00
					7:00/7:15	\$31.00
				AIR	0:55	\$70.00
					1:45	\$80.00/\$75.00

JUNEAU - HAINES

JETFOIL		FERRY (AUKE BAY)		AIRLINE		
TIME	COST	TIME	COST	TIME	COST	
CHECKIN	0:20	00		CHECKIN	0:05	--
FOOD (1)	--	\$ 1.25				
JETFOIL	2:25	\$40.00		TAXI/BUS	0:15	\$10.00/\$5.00
	2:45	\$41.25		TRANSFER	0:30	--
				FERRY	5:30	\$15.00
				FOOD (1)	--	\$2.75
				TRANSFER	0:20	--
				TAXI/BUS	0:10	\$3.50
					7:15/7:30	\$27.25
				AIR	0:30	\$60.00
				TAXI	0:20	--
					1:40	\$70.00/\$65.00

(1) \$.50/HOUR

(2) 1/2 TAXI

TRIP TIME/COST COMPARISON
(1983 COSTS)

JUREAU - ANGOON

	JETFOIL		FERRY (AUKE BAY)		AIRLINE			
	TIME	COST	CHECKIN	TIME	COST	CHECKIN	TIME	COST
CHECKIN	0:20	--	CHECKIN	0:05	--	CHECKIN	0:05	--
FOOD (1)	--	\$ 3.00						
JETFOIL	6:45	\$35.00	TAXI/BUS (2)	0:20/0:35	\$6.00	TAXI/BUS	0:15	\$10.00/\$5.00
	7:10	\$38.00	TRANSFER	0:20	--	TRANSFER	0:30	--
			FERRY	9:00	\$15.00	AIR	0:40	\$57.00
			FOOD (1)	--	\$4.50		1:30	\$67.00/\$62.00
				9:45/10:00	\$25.50			

JUREAU - SITKA

	JETFOIL		FERRY (AUKE BAY)		AIRLINE			
	TIME	COST	CHECKIN	TIME	COST	CHECKIN	TIME	COST
CHECKIN	0:20	--	CHECKIN	0:05	--	CHECKIN	0:05	--
FOOD (1)	--	\$ 2.00						
JETFOIL	4:05	\$50.00	TAXI/BUS(2)	0:20/0:35	\$6.00	TAXI/BUS	0:15	\$10.00/\$5.00
	4:25	\$52.00	TRANSFER	0:20	--	TRANSFER	0:30	--
			FERRY	12:00/16:00	\$22.00	AIR	0:30	\$54.00
			FOOD (1)	--	\$6.00	FOOD	--	--
			TRANSFER	0:20	--	TRANSFER	0:20	--
			TAXI/BUS(2)	0:10	\$6.50/\$2.50	TAXI/BUS	0:10	\$5.00/\$2.50
				13:15/17:30	\$40.50/36.50		1:50	\$69.00/\$61.50
			1/2 CABIN		\$14.00			
					\$54.50/\$50.50			

\$.50/HR

(2) 1/2 TAXI

TRIP TIME/COST COMPARISON
(1983 COSTS)

NEAU - WRANGELL

JETFOIL

FERRY (CITY)

AIRLINE

	<u>TIME</u>	<u>COST</u>		<u>TIME</u>	<u>COST</u>		<u>TIME</u>	<u>COST</u>
CHECKIN	0:20	--	CHECKIN	0:20	--	CHECKIN	0:05	--
FOOD (1)	--	\$ 2.00						
JETFOIL	4:30	\$55.00	FERRY	12:00	\$33.00	TAXI/BUS	0:15	\$10.00/\$5.00
	4:50	\$57.00	FOOD (1)	--	\$6.00	TRANSFER	0:30	--
				12:20	\$39.00	AIR	0:30/1:30	\$75.00
						TRANSFER	0:20	--
						TAXI	0:10	\$3.00
							1:50/2:50	\$88.00/\$83.00

(26:00 VIA SITKA)

NEAU - HOONAH

JETFOIL

FERRY (AUKE BAY)

AIRLINE

	<u>TIME</u>	<u>COST</u>		<u>TIME</u>	<u>COST</u>		<u>TIME</u>	<u>COST</u>
CHECKIN	0:20	--	TAXI/BUS(2)	0:20	\$6.00	CHECKIN	0:05	--
FOOD	--	\$ 1.00						
JETFOIL	1:50	\$30.00	CHECKIN	0:20	--	TAXI/BUS	0:15	\$10.00/\$5.00
	2:10	\$31.00	FERRY	4:15	\$12.00	TRANSFER	0:30	--
			FOOD (1)	--	\$2.00	AIR	0:20	\$45.00
				4:55	\$20.00		1:10	\$55.00/\$50.00

\$.50/HOUR

(2) 1/2 TAXI

TRIP TIME/COST COMPARISON
(1983 COSTS)

CHIKAN - CRAIG/KLAWOCK

JETFOIL			FERRY			AIRLINE		
	<u>TIME</u>	<u>COST</u>		<u>TIME</u>	<u>COST</u>		<u>TIME</u>	<u>COST</u>
CHECKIN	0:20	--	CHECKIN	0:20	--	CHECKIN	0:20	--
BUS TO HOLLIS	0:45	\$10.00	BUS TO HOLLIS	0:45	\$10.00	AIR	0:40	\$57.00
			FOOD (1)	--	\$ 1.00			
JETFOIL	1:05	\$25.00	FERRY	2:45	\$11.00		1:00	\$57.00
	2:10	\$35.00		3:50	\$22.00			

CHIKAN - WRANGELL

JETFOIL			FERRY			AIRLINE		
	<u>TIME</u>	<u>COST</u>		<u>TIME</u>	<u>COST</u>		<u>TIME</u>	<u>COST</u>
CHECKIN	0:20	--	CHECKIN	0:20	--	CHECKIN	0:05	--
FOOD (1)	--	\$ 2.00						
JETFOIL	2:30/3:55	\$40.00	FERRY	6:30	\$18.00	FERRY & BUS	0:30	\$7.00
	2:40/4:15	\$42.00	FOOD	--	\$3.00	TRANSFER	0:30	--
				6:50	\$21.00	AIR	0:25	\$64.00
						TAXI	0:10	\$3.00
							1:40	\$74.00

) \$.50/HOUR

CONVENTIONAL FERRY BOAT VEHICLE FARES/DISTANCES

<u>MET/WGL</u>	<u>GLB/SGY</u>	<u>SGY/GLB</u>	<u>SGY/HNH</u>	<u>HNH/PEL</u>	<u>MET/HOL</u>
KETCHIKAN	JUNEAU	JUNEAU	JUNEAU	JUNEAU	KETCHIKAN
\$18 (16 N.M.)	\$65 (89 N.M.)	\$48	\$48 (94 N.M.)	\$45 (76 N.M.)	\$18 (16 N.M.)
METLAKATLA	GLACIER BAY	HAINES	HAINES	EXCURSION INLET	METLAKATLA
\$18 (16 N.M.)	\$65 (89 N.M.)	\$19	\$19 (14 N.M.)	\$20 (17 N.M.)	\$18 (16 N.M.)
KETCHIKAN	JUNEAU	SKAGWAY	SKAGWAY	HOONAH	KETCHIKAN
\$31 (39 N.M.)	\$48 (94 N.M.)	\$19	\$19 (14 N.M.)	\$30 (35 N.M.)	\$31 (39 N.M.)
HOLLIS	HAINES	HAINES	HAINES	ELFIN COVE	HOLLIS
\$58 (94 N.M.)	\$19 (14 N.M.)	\$48	\$48 (94 N.M.)	\$22 (24 N.M.)	\$31 (39 N.M.)
WRANGELL	SKAGWAY	JUNEAU	JUNEAU	PELICAN	KETCHIKAN
\$58 (94 N.M.)	\$19 (14 N.M.)	\$65	\$36 (71 N.M.)	\$44 (59 N.M.)	\$18 (16 N.M.)
HOLLIS	HAINES	GLACIER BAY	HOONAH	HOONAH	METLAKATLA
\$31 (39 N.M.)	\$48 (94 N.M.)	\$65	\$36 (71 N.M.)	\$20 (17 N.M.)	\$18 (16 N.M.)
KETCHIKAN	JUNEAU	JUNEAU	JUNEAU	EXCURSION INLET	KETCHIKAN
\$18 (16 N.M.)				\$45 (76 N.M.)	\$31 (39 N.M.)
METLAKATLA				JUNEAU	HOLLIS
\$18 (16 N.M.)					\$31 (39 N.M.)
<u>KETCHIKAN</u>					<u>KETCHIKAN</u>

FARE/					
VEHICLE	\$250	\$264	\$264	\$206	\$226
VEHICLE DISTANCE	330 N.M.	394 N.M.	394 N.M.	358 N.M.	304 N.M.
					\$196
					220 N.M.

VEHICLES LESS THAN 19-FEET IN LENGTH.

CONVENTIONAL FERRYBOAT VEHICLE* FARES/DISTANCE

<u>HNH/SIT</u>	<u>SIT/HNH</u>	<u>2 SGY</u>	<u>KAK/WGL</u>	<u>JNU/KTN</u>	<u>KTN/JNU</u>
JUNEAU	JUNEAU	JUNEAU	JUNEAU	JUNEAU	KETCHIKAN
\$36 (71 N.M.)	\$71	\$48 (94 N.M.)	\$71 (91 N.M.)	\$71 (108 N.M.)	\$18
HOONAH	SITKA	HAINES	KAKE	PETERSBURG	METLAKATLA
\$38 (48 N.M.)	\$39	\$19 (14 N.M.)	\$40 (66 N.M.)	\$33 (41 N.M.)	\$18
TENAKEE	ANGOON	SKAGWAY	PETERSBURG	WRANGELL	KETCHIKAN
\$30 (35 N.M.)	\$30	\$19 (14 N.M.)	\$33 (41 N.M.)	\$58 (94 N.M.)	\$31
ANGOON	TENAKEE	HAINES	WRANGELL	HOLLIS	HOLLIS
\$39 (66 N.M.)	\$38	\$48 (94 N.M.)	\$33 (41 N.M.)	\$31 (39 N.M.)	\$58
SITKA	HOONAH	JUNEAU	PETERSBURG	KETCHIKAN	WRANGELL
\$71 (161 N.M.)	\$36	\$48 (94 N.M.)	\$40 (66 N.M.)	\$18 (16 N.M.)	\$33
JUNEAU.	JUNEAU	HAINES	KAKE	METALKATAL	PETERSBURG
		\$19 (14 N.M.)	\$71 (91 N.M.)	\$18 (16 N.M.)	\$71
		SKAGWAY	JUNEAU	KETCHIKAN	JUNEAU
		\$19 (14 N.M.)			
		HAINES			
		\$48 (94 N.M.)			
		<u>JUNEAU</u>			
TOTAL FARE/VEHICLE	\$214	\$268	\$288	\$229	\$229
TOTAL DISTANCE	381 N.M.	432 N.M.	396 N.M.	314 N.M.	314 N.M.

VEHICLES LESS THAN 19-FEET IN LENGTH.

EQUIVALENT CONVENTIONAL FERRYBOAT VEHICLE* FARES/DISTANCES
WEEKLY JETFOIL SUMMER SCHEDULE

	<u>BOAT #1</u>			<u>BOAT #2</u>			<u>BOAT #3</u>		
	<u>ROUTE</u>	<u>FARE</u>	<u>DISTANCE</u>	<u>ROUTE</u>	<u>FARE</u>	<u>DISTANCE</u>	<u>ROUTE</u>	<u>FARE</u>	<u>DISTANCE</u>
MONDAY	HNH/SIT	\$214	381 N.M.	SIT/HNH	\$214	381 N.M.	JNU/KTN	\$229	314 N.M.
TUESDAY	SGY/GLB	\$264	394 N.M.	GLB/SGY	\$264	394 N.M.	MET/WGL	\$250	330 N.M.
WEDNESDAY	HNH/SIT	\$214	381 N.M.	SIT/HNH	\$214	381 N.M.	KTN/JNU	\$229	314 N.M.
THURSDAY	HNH/PEL	\$226	304 N.M.	KAK/WGL	\$283	396 N.M.	2 SGY	\$268	432 N.M.
FRIDAY	HNH/SIT	\$214	381 N.M.	SIT/HNH	\$214	381 N.M.	JNU/KTN	\$229	314 N.M.
SATURDAY	SIT/HNH	\$214	381 N.M.	KAK/WGL	\$288	396 N.M.	MET/WGL	\$250	330 N.M.
SUNDAY	SGY/GLB	<u>\$264</u>	<u>394 N.M.</u>	GLB/SGY	<u>\$264</u>	<u>394 N.M.</u>	KTN/JNU	<u>\$229</u>	<u>314 N.M.</u>
TOTALS		\$1,610	2,616 N.M.		\$1,746	2,723 N.M.		\$1,684	2,348 N.M.
TOTAL FOR SUMMER			<u>\$5,040</u>		<u>7,687</u>	N.M.			

*VEHICLES LESS THAN 19-FEET IN LENGTH.

EQUIVALENT CONVENTIONAL FERRY BOAT VEHICLE* FARES/DISTANCES
WEEKLY JETFOIL WINTER SCHEDULE

	<u>BOAT #1</u>			<u>BOAT #2</u>		
	<u>ROUTE</u>	<u>FARE</u>	<u>DISTANCE</u>	<u>ROUTE</u>	<u>FARE</u>	<u>DISTANCE</u>
MONDAY	HNH/SIT	\$214	381 N.M.	JNU/KTN	\$229	314 N.M.
TUESDAY	SGY/HNH	\$206	358 N.M.	KTN/JNU	\$229	314 N.M.
WEDNESDAY	KNT/HNH	\$214	381 N.M.	KAK/WGL	\$288	396 N.M.
THURSDAY	SGY/HNH	\$206	358 N.M.	JNU/KTN	\$229	314 N.M.
FRIDAY	HNH/SIT	\$214	381 N.M.	MET/HOL	\$196	220 N.M.
SAT/IRDAY	HNH/PEL	\$226	304 N.M.	KNT/JNU	\$229	314 N.M.
SUNDAY	SIT/HNH	<u>\$214</u>	<u>381 N.M.</u>	OFF	_____	_____
TOTAL		\$1,494	2,544 N.M.		\$1,400	1,872 N.M.
TOTAL FOR WINTER		\$2,894	4,416 N.M.			

*VEHICLES LESS THAN 19-FEET IN LENGTH

AVERAGE JETFOIL VEHICLE FARE/NAUTICAL MILE

	<u>SUMMER SCHEDULE</u>		<u>WINTER SCHEDULE</u>	
	<u>TOTAL FARE</u>	<u>TOTAL DISTANCE</u>	<u>TOTAL FARE</u>	<u>TOTAL DISTANCE</u>
SERVICE PER WEEK	\$5,040	7,687 N.M.	\$2,894	4,416 N.M.
TIMES 26 WEEKS OF SERVICE	<u>X 26</u>	<u>X 26</u>	<u>X 26</u>	<u>X 26</u>
TOTAL HALF YEAR	\$131,040	199,826 N.M.	\$75,244	114,816 N.M.
TOTAL ANNUAL CONVENTIONAL FERRY VEHICLE FARE	\$206,284			
PLUS 50% PREMIUM FOR JETFOIL SERVICE	<u>\$103,142</u>			
TOTAL ANNUAL JETFOIL VEHICLE FARE	\$309,426			
DIVIDE BY TOTAL ANNUAL VEHICLE DISTANCE	÷ <u>314,678 N.M.</u>			
AVERAGE JETFOIL VEHICLE* FARE/NAUTICAL MILE	<u><u>\$.933/N.M.</u></u>			

*VEHICLES LESS THAN 19-FEET IN LENGTH.

CAPACITY SHARE ANALYSIS
1966 - SOUTHEAST ALASKA

ROUTE	PEAK SEASON (APRIL - SEPTEMBER)			WINTER (OCTOBER - MARCH)			TOTAL YEAR		
	JETFOIL	AIR	FERRY	JETFOIL	AIR	FERRY	JETFOIL	AIR	FERRY
<u>JUNEAU - SKAGWAY:</u>									
JUNEAU-HAINES	42,100	51,200	138,200	14,000	21,200	42,900	56,100	72,400	181,800
CAPACITY SHARE %	18%	22%	60%	18%	27%	55%	18%	23%	59%
HAINES - SKAGWAY	42,100	40,900	138,200	14,000	15,200	42,900	56,100	56,100	181,800
CAPACITY SHARE %	19%	18%	63%	19%	21%	60%	19%	19%	62%
<u>JUNEAU - SITKA:</u>									
JUNEAU - SITKA	24,600	32,100	23,400	20,000	32,100	16,900	44,600	64,200	40,300
CAPACITY SHARE %	31%	40%	29%	29%	47%	24%	30%	43%	27%
JUNEAU - HOONAH	16,500	40,000	3,000	14,000	20,000	3,000	32,000	60,000	6,000
CAPACITY SHARE %	29%	67%	4%	38%	53%	9%	33%	61%	6%
JUNEAU - ANGOON	2,700	2,700	1,500	2,000	1,800	1,500	4,700	4,500	3,000
CAPACITY SHARE %	39%	39%	22%	38%	34%	28%	39%	37%	24%
JUNEAU - TENAKEE	2,700	2,700	1,200	2,000	1,800	1,200	4,700	4,500	2,400
CAPACITY SHARE %	41%	41%	18%	40%	36%	24%	41%	39%	20%
SITKA - HOONAH	500	--	700	400	--	700	900	--	1,400
CAPACITY SHARE %	42%	--	58%	36%	--	64%	39%	--	61%
SITKA - ANGOON	3,600	5,000	3,200	3,100	1,700	3,200	6,700	6,700	6,400
CAPACITY SHARE %	31%	42%	27%	39%	21%	40%	34%	34%	32%
SITKA - TENAKEE	1,100	1,700	200	1,100	1,700	200	2,200	3,400	400
CAPACITY SHARE %	37%	57%	6%	37%	57%	6%	37%	57%	6%
<u>JUNEAU - PELICAN:</u>									
JUNEAU - EXCURSION INLET	700	1,200		700	800		1,400	2,000	
CAPACITY SHARE %	37%	63%		47%	53%		41%	59%	
JUNEAU - PELICAN	3,100	5,400		3,100	3,600		6,200	9,000	
CAPACITY SHARE %	37%	63%		46%	54%		41%	59%	
JUNEAU - ELFIN COVE	700	1,200		700	800		1,400	2,000	
CAPACITY SHARE %	37%	63%		47%	54%		41%	59%	

CAPACITY SHARE ANALYSIS
1980 - SOUTHEAST ALASKA

ROUTE	PEAK SEASON (APRIL - SEPTEMBER)			WINTER (OCTOBER - MARCH)			TOTAL YEAR		
	JETFOIL	AIR	FERRY	JETFOIL	AIR	FERRY	JETFOIL	AIR	FERRY
JUNEAU - KETCHIKAN: JUNEAU-KAKE CAPACITY SHARE %	5,500 40%	5,400 39%	3,000 21%	3,000 35%	3,600 42%	2,000 23%	8,500 38%	9,000 40%	5,000 22%
JUNEAU - PETERSBURG CAPACITY SHARE %	18,000 23%	13,800 18%	45,000 59%	10,000 25%	3,000 20%	22,000 55%	20,000 24%	21,800 19%	67,000 57%
JUNEAU - WRANGELL CAPACITY SHARE %	5,000 25%	4,200 21%	10,500 54%	3,500 27%	4,200 32%	5,400 41%	8,800 26%	8,400 26%	15,000 46%
KAKE - PETERSBURG CAPACITY SHARE %	5,500 40%	5,100 38%	3,000 22%	3,000 36%	3,400 41%	2,000 23%	8,500 39%	8,500 39%	5,000 22%
PETERSBURG - WRANGELL CAPACITY SHARE %	10,000 24%	8,000 19%	24,000 57%	4,500 26%	5,000 20%	8,100 46%	14,500 24%	13,000 22%	32,100 54%
JUNEAU - KETCHIKAN CAPACITY SHARE %	6,500 8%	22,000 24%	51,000 60%	4,500 10%	20,000 43%	22,000 47%	11,000 9%	42,000 33%	73,000 58%
KETCHIKAN - PETERSBURG CAPACITY SHARE %	7,000 14%	14,400 29%	28,500 57%	3,000 15%	3,000 16%	14,200 69%	10,000 14%	17,600 25%	42,700 61%
KETCHIKAN - WRANGELL CAPACITY SHARE %	14,000 23%	10,200 17%	36,000 60%	7,000 26%	6,500 24%	13,200 50%	21,000 24%	16,700 19%	49,200 57%
KETCHIKAN - HOLLIS CAPACITY SHARE %	14,000 16%	48,000 55%	26,000 29%	14,000 24%	17,600 31%	26,000 45%	28,000 22%	65,600 45%	52,000 36%
KETCHIKAN - METLAKATLA CAPACITY SHARE %	56,000 46%	46,000 38%	20,000 16%	56,000 56%	28,000 28%	16,000 16%	112,000 51%	74,000 33%	36,000 16%
JUNEAU - GUSTAVUS CAPACITY SHARE %	28,080 30%	64,500 70%					28,080 30%	64,500 70%	

JETFOIL PASSENGER LOAD FACTOR ON ROUTE SEGMENTS
1986 - SOUTHEAST ALASKA
MEDIUM SCENARIO

ROUTE	PEAK SEASON (APRIL - SEPTEMBER)			OFF-PEAK SEASON (OCTOBER - MARCH)		
	TOTAL JETFOIL PASSENGERS	JETFOIL PAX/TRIP	JETFOIL LOAD FACTOR	TOTAL JETFOIL PASSENGERS	JETFOIL PAX/TRIP	JETFOIL LOAD FACTOR
JUNEAU - SKAGWAY						
JUNEAU - HAINES	17,628	57	42%	5,292	51	38%
HAINES - SKAGWAY	12,390	40	29%	2,537	24	18%
JUNEAU - GUSTAVUS	13,061	63	47%	--	--	--
JUNEAU - PELICAN ^{1/}						
JUNEAU-EXCURSION INLET	3,964	76	57%	1,805	69	51%
EXCURSION INLET-HOONAH	3,702	71	53%	1,630	63	46%
HOONAH - ELFIN COVE	901	35	26%	565	44	32%
ELFIN COVE - PELICAN	901	35	26%	565	44	32%
PELICAN - HOONAH	901	35	26%	565	44	32%
JUNEAU - SITKA						
JUNEAU - HOONAH	16,010	88	65%	6,349 ^{2/}	61	45%
HOONAH - TENAKEE	6,970	38	28%	3,717	35	26%
TENAKEE - ANGOON	6,155	34	25%	3,347	31	23%
ANGOON - SITKA	8,704	48	36%	3,948	38	28%
SITKA - JUNEAU	10,305	57	42%	5,156	50	37%

^{1/} JUNEAU - HOONAH (VIA PELICAN) ASSUMES 17% OF TOTAL JUNEAU - HOONAH TRAFFIC IN PEAK SEASON AND 8.5% IN OFF PEAK.

^{2/} JUNEAU - HOONAH (VIA SITKA) ASSUMES 41.5% OF TOTAL JUNEAU - HOONAH TRAFFIC IN PEAK SEASON AND 45.75% IN OFF PEAK SEASON. SEE PAGE 238 FOR MORE DETAILS.

JETFOIL PASSENGER LOAD FOR ON ROUTE SEGMENTS
1986 - SOUTHEAST ALASKA
MEDIUM SCENARIO

PEAK SEASON (APRIL - SEPTEMBER)

OFF-PEAK SEASON (OCTOBER - MARCH)

ROUTE	PEAK SEASON (APRIL - SEPTEMBER)			OFF-PEAK SEASON (OCTOBER - MARCH)		
	TOTAL JETFOIL PASSENGERS	JETFOIL PAX/TRIP	JETFOIL LOAD FACTOR	TOTAL JETFOIL PASSENGERS	JETFOIL PAX/TRIP	JETFOIL LOAD FACTOR
JUNEAU - HOONAH (AND RETURN DIRECT)	--	--	--	2,859 ^{3/}	27	20%
JUNEAU - WRANGELL ^{4/}						
JUNEAU - KAKE	3,360	32	24%	1,956	25	19%
KAKE - PETERSBURG	4,532	44	32%	2,311	30	22%
PETERSBURG - WRANGELL	1,336	13	10%	760	10	7%
JUNEAU - KETCHIKAN						
JUNEAU-PETERSBURG ^{4/}	3,606	35	26%	2,854	27	20%
PETERSBURG-WRANGELL	3,449	33	27%	2,730	26	19%
WRANGELL - HOLLIS	2,879 ^{5/}	28	21%	2,790 ^{6/}	27	20%
HOLLIS-KETCHIKAN	7,040 ^{5/}	68	50%	4,084 ^{6/}	42	39%
KETCHIKAN - METLAKATLA	15,620	30	28%	11,136	36	26%
KETCHIKAN-WRANGELL ^{5/}						
KETCHIKAN - HOLLIS	5,373	52	38%	--	--	--
HOLLIS - WRANGELL	1,212	12	9%	--	--	--
KETCHIKAN - HOLLIS (AND RETURN DIRECT)	--	--	--	3,002 ^{6/}	29%	21%
TOTAL:	149,999	442,260	34%	69,966	268,515	26%

^{3/} JUNEAU - HOONAH DIRECT ASSUMED 45.75% OF TOTAL JUNEAU - HOONAH TRAFFIC.

^{4/} JUNEAU - PETERSBURG & WRANGELL, AND PETERSBURG - WRANGELL ASSUMED 50% VIA KAKE AND 50% DIRECT SERVICE IN PEAK SEASON AND 43% VIA KAKE AND 57% DIRECT IN OFF PEAK SEASON.

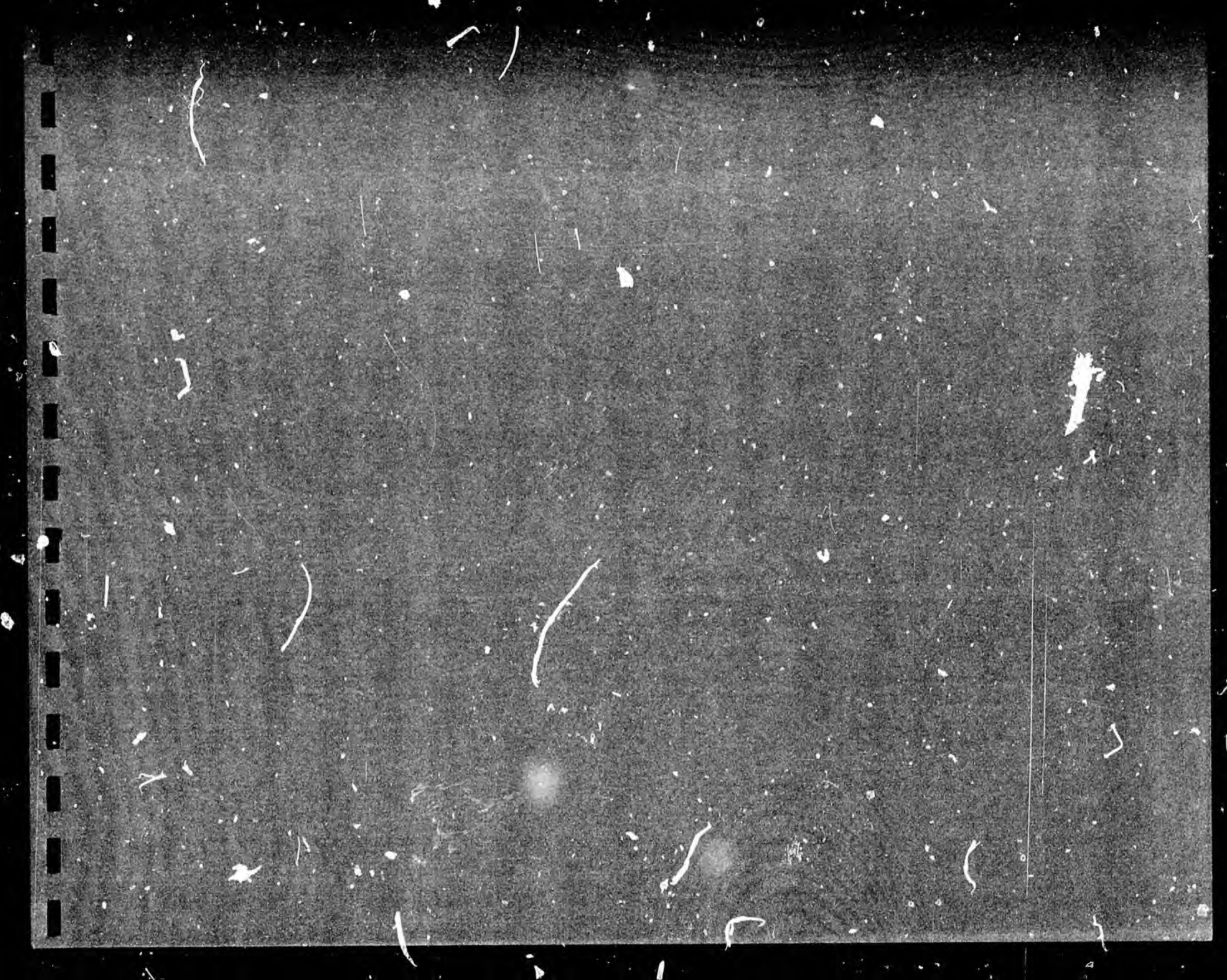
^{5/} KETCHIKAN - HOLLIS & WRANGELL ASSUMED 50% ON JUNEAU - KETCHIKAN RUN AND 50% ON KETCHIKAN - WRANGELL RUN IN PEAK SEASON.

^{6/} KETCHIKAN - HOLLIS ASSUMED 30% ON JUNEAU - KETCHIKAN RUN AND 70% DIRECT IN OFF PEAK SEASON.

TYPICAL JETFOIL TRIP

JUNEAU --▷ SITKA --▷ ANGOON --▷ TENAKEE --▷ HOONAH --▷ JUNEAU

<u>ROUTE SEGMENT</u>	<u>PASSENGER ORIGIN - DESTINATION</u>	<u>PEAK SEASON</u>		<u>OFF PEAK SEASON</u>	
		<u>PASSENGERS PER TRIP</u>	<u>% OF MARKET</u>	<u>PASSENGERS PER TRIP</u>	<u>% OF MARKET</u>
JUNEAU - SITKA	JUNEAU - SITKA	54	70%	47	70%
	JUNEAU - ANGOON	3	30%	3	30%
		<u>57</u>		<u>50</u>	
		(42% L.F.)		(37% L.F.)	
SITKA - ANGOON	JUNEAU - ANGOON	3	30%	3	30%
	SITKA - ANGOON	20	100%	13	100%
	SITKA - JUNEAU	23	30%	20	30%
	SITKA - HOONAH	2	100%	2	100%
		<u>48</u>		<u>38</u>	
		(36% L.F.)		(28% L.F.)	
ANGOON - TENAKEE	SITKA - TENAKEE	3	100%	3	100%
	ANGOON - JUNEAU	6	70%	6	70%
	SITKA - JUNEAU	23	30%	20	30%
	SITKA - HOONAH	2	100%	2	100%
		<u>34</u>		<u>31</u>	
		(25% L.F.)		(23% L.F.)	
TENAKEE - HOONAH	ANGOON - JUNEAU	6	70%	6	70%
	SITKA - JUNEAU	23	30%	20	30%
	TENAKEE - JUNEAU	7	100%	7	100%
	SITKA - HOONAH	2	100%	2	100%
		<u>38</u>		<u>35</u>	
		(28% L.F.)		(26% L.F.)	
HOONAH - JUNEAU	ANGOON - JUNEAU	6	70%	6	70%
	SITKA - JUNEAU	23	30%	20	30%
	TENAKEE - JUNEAU	7	100%	7	100%
	HOONAH - JUNEAU	52	83%	27	45.75%
		<u>88</u>		<u>60</u>	
		(65% L.F.)		(44% L.F.)	



BOEING MARINE SYSTEMS
A DIVISION OF THE BOEING COMPANY

February 7, 1983

The Honorable D. A. Casey
Commissioner
Department of Transportation
and Public Facilities
State of Alaska
Pouch Z
Juneau, Alaska 99811

Dear Sir:

We are pleased to offer three Boeing jetfoils customized to what we believe are specific State of Alaska's transportation requirements. The deliveries are ASD Seattle, as follows:

#1 August 1985
#2 April 1986
#3 August 1986

The customized configuration is defined in the enclosed attachment. The not to exceed prices are as follows:

(3) Customized Jetfoils	\$46.1 M
Boat Optional Equipment Allowance	4.5 M
Initial Spares & Product Support Equipment	3.5 M
Contingency	<u>.9 M</u>
	\$55.0 M

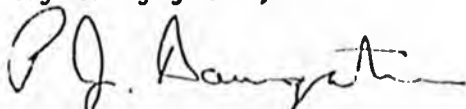
Prices are quoted in 1982 dollars and will be subject to escalation incurred to time of delivery and local and state taxes. A complete proposal and specification will be available March 1, 1983.

The product support services included are operating crew and maintenance training and initial onsite technical support. The jetfoil will be constructed to ABS standards and will have U.S. Coast Guard approval.

The shore terminal and related facilities capital and equipment are not included in the above boat prices.

We look forward to working with you and developing a jetfoil configuration that is satisfactory to the State of Alaska. Definitive contract signing is proposed for July 1, 1983.

Very truly yours,


P. J. Baumgaertner
Regional Director of Sales
M.S. 61-50
P. O. Box 3707
Seattle, Washington 98120

THE **BOEING** COMPANY
CODE IDENT. NO. 81205

THIS DOCUMENT IS:

CONTROLLED BY JETFOIL Customer Engineering (H-7540)

ALL REVISIONS TO THIS DOCUMENT SHALL BE APPROVED
BY THE ABOVE ORGANIZATION PRIOR TO RELEASE.

PREPARED UNDER CONTRACT NO.
 IR&D
 OTHER

DOCUMENT NO. D320-52034-1 MODEL 929-1XX
TITLE JETFOIL BOAT FOR STATE OF ALASKA

ORIGINAL RELEASE DATE 9 March 1983
ISSUE NO. TO

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WILL BE FOUND ON A SEPARATE LIMITATIONS PAGE

2055R	<i>L. F. Newstrum</i>	H 7540	9 MAR 1983
PREPARED BY	L. F. Newstrum		
SUPERVISED BY	<i>E. M. Parsons</i>	H-7540	9 Mar 83
APPROVED BY	<i>R. L. Rich</i>	H 7500	8/9/83
	R. L. Rich		

ACTIVE SHEET RECORD

SHEET NO.	REV LTR	ADDED SHEETS				SHEET NO.	REV LTR	ADDED SHEETS			
		SHEET NO.	REV LTR	SHEET NO.	REV LTR			SHEET NO.	REV LTR	SHEET NO.	REV LTR
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2					47						
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REVISIONS

LTR	DESCRIPTION	DATE	APPROVAL

TABLE OF CONTENTS

<u>SECTION NUMBER</u>		<u>PAGE NUMBER</u>
1.0	GENERAL DESCRIPTION	6
2.0	DESIGN, MANUFACTURING, AND DELIVERY REQUIREMENTS	11
3.0	DESIGN OBJECTIVES	13
4.0	STRUCTURES	15
5.0	POWER PLANT SYSTEM	20
6.0	WHEELHOUSE INSTRUMENTS AND CONTROLS	26
7.0	CONTROL SYSTEMS	28
8.0	HYDRAULIC SYSTEM	30
9.0	ELECTRICAL/ELECTRONIC SYSTEMS	32
10.0	HEATING, VENTILATING, AND AIR CONDITIONING	38
11.0	AUXILIARY SYSTEMS	40
12.0	EMERGENCY SYSTEMS	46
13.0	OUTFITTING AND FURNISHINGS	48
14.0	STANDARD OPTIONS	53
15.0	CUSTOMER UNIQUE OPTIONS	54
16.0	BUYER FURNISHED EQUIPMENT	55
APPENDIX I	PERFORMANCE ESTIMATES AND DEMONSTRATIONS	56
APPENDIX II	MAJOR EQUIPMENT IDENTIFICATION	60
APPENDIX III	EQUIPMENT SUGGESTED FOR BOAT OPERATION NOT FURNISHED BY BOEING	63

LIST OF FIGURES

<u>FIGURE NUMBER</u>		<u>PAGE NUMBER</u>
1-1	GENERAL ARRANGEMENT	7
1-2	INTERIOR ARRANGEMENT	8
4-1	TYPICAL MIDSHIPS SECTION	16
4-2	HULL ACCESS DIAGRAM	17
4-3	COMPARTMENT NUMBER IDENTIFICATION	18
5-1	GAS GENERATOR LUBRICATION SYSTEM	22
5-2	POWER TURBINE/GEARBOX/PROPULSOR LUBRICATION SYSTEM	23
5-3	FUEL SYSTEM	24
5-4	FUEL SPECIFICATION	25
6-1	FUELHOUSE ARRANGEMENT	27
7-1	AUTOMATIC CONTROL SYSTEM	29
8-1	HYDRAULIC SYSTEM	31
9-1	ELECTRICAL POWER SYSTEMS	33
10-1	CONDITIONED AIR FLOW	39
11-1	SEAWATER SYSTEM	41
11-2	POTABLE WATER SYSTEM	42
11-3	SANITARY WASTE SYSTEM	43
11-4	BILGE SYSTEM	44
11-5	CONTROL AIR SYSTEM	45
13-1	EXTERIOR COLOR MARKINGS	52
I-1	TAKEOFF PERFORMANCE	57
I-2	FOILBORNE CRUISE PUMP SPEED	58
I-3	FOILBORNE CRUISE FUEL CONSUMPTION	59

BOEING

1.0 GENERAL DESCRIPTION

1.1 TYPE AND PURPOSE

The boat defined by this specification shall be a Boeing Model 929-1XX JETFOIL boat intended for use by the State of Alaska, Department of Transportation, on domestic routes within the United States. The boat shall conform to the General Arrangement (Figure 1-1) included herein. It shall be an all aluminum hull two-deck submerged-foil waterjet-propelled hydrofoil designed for the transport of passengers and their baggage and and for cargo.

1.2 SELLER'S NAME AND MODEL NUMBER

THE BOEING COMPANY; BOEING MODEL 929-1XX JETFOIL PASSENGER BOAT

1.3 CAPACITIES FOR CREW, PASSENGERS AND BAGGAGE, AND CARGO

1.3.1 CREW

Captain	1
First Officer	1
Cabin Attendants/Deckhands	3
Total	5

1.3.2 PASSENGERS

Upper Deck Cabin:	104
Main Deck Forward Cabin:	31
Total Seating Capacity	135

Refer to Interior Arrangement Drawing (Figure 1-2)

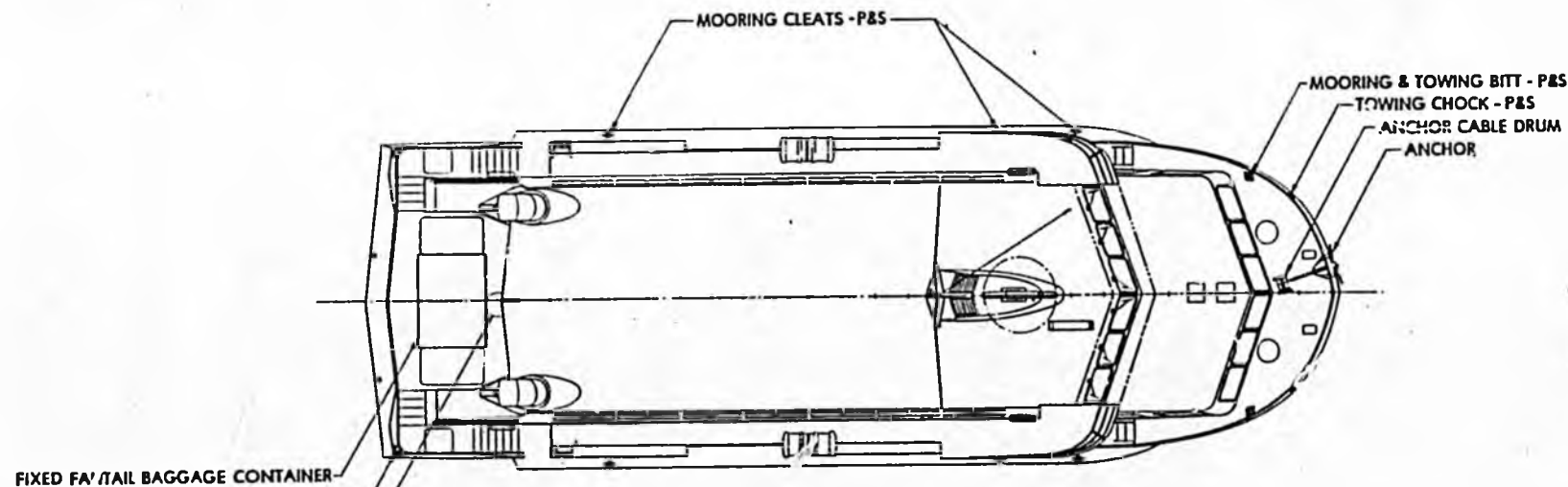
1.3.3 DIFFERENCES FROM MODEL 929-117

The boats defined by this specification are based on the Model 929-117 JETFOIL Boats. Modifications have been incorporated to provide the capability to carry cargo on the lower deck. The passenger accommodations have also been modified to provide additional baggage stowage and food and beverage service. Modifications have also been incorporated to enhance the operability of the boat at reduced temperatures and in reduced visibility.) *
These differences from the Model 929-117 design are summarized in Sections 14 and 15 of this specification. Figure 1-2 shows the interior arrangement.

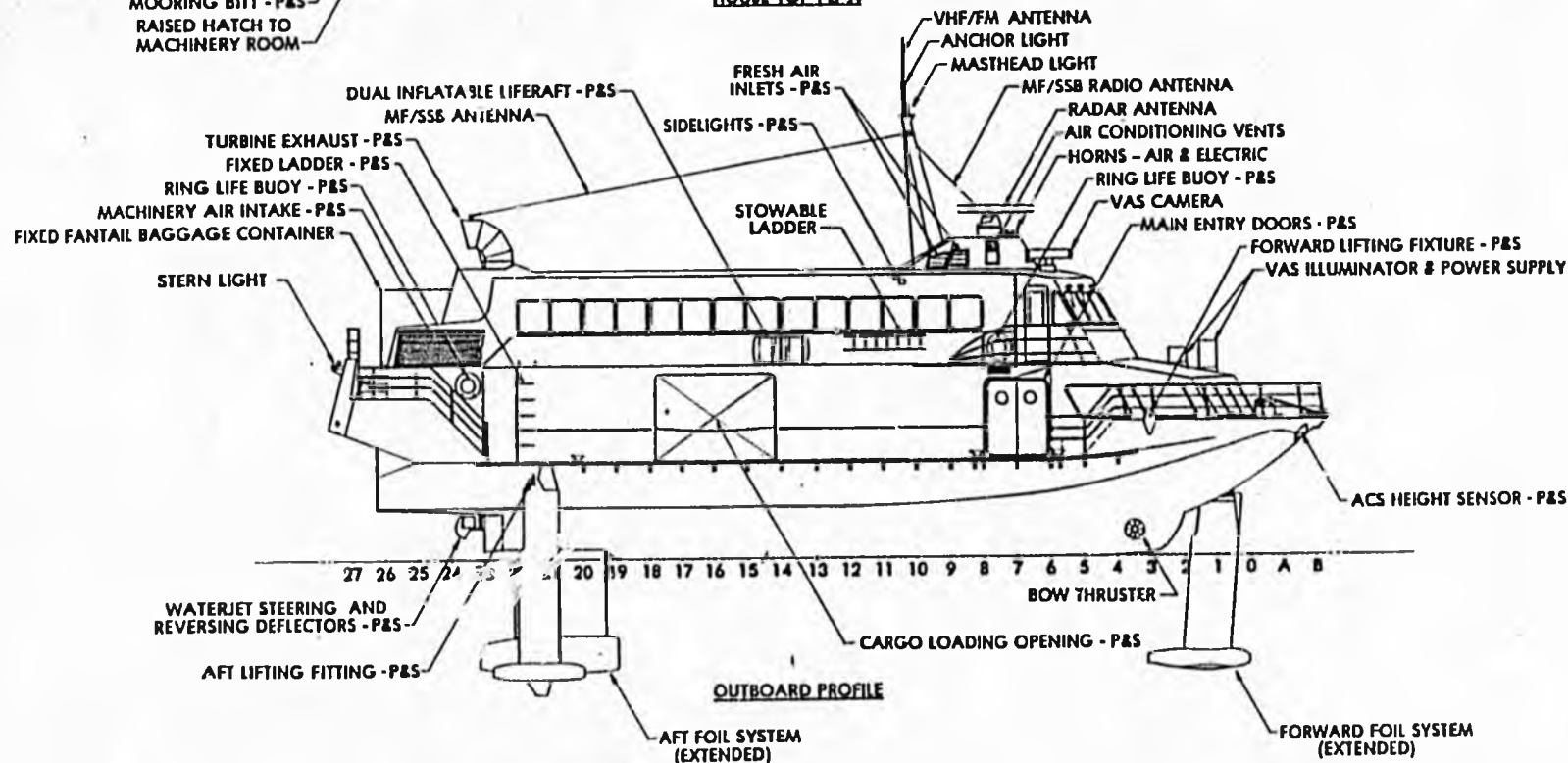
1.4 DEFINITIONS

1.4.1 SCOPE

The terms, abbreviations, acronyms, and symbols used in this specification shall have meanings as defined below.



HOUSE TOP PLAN



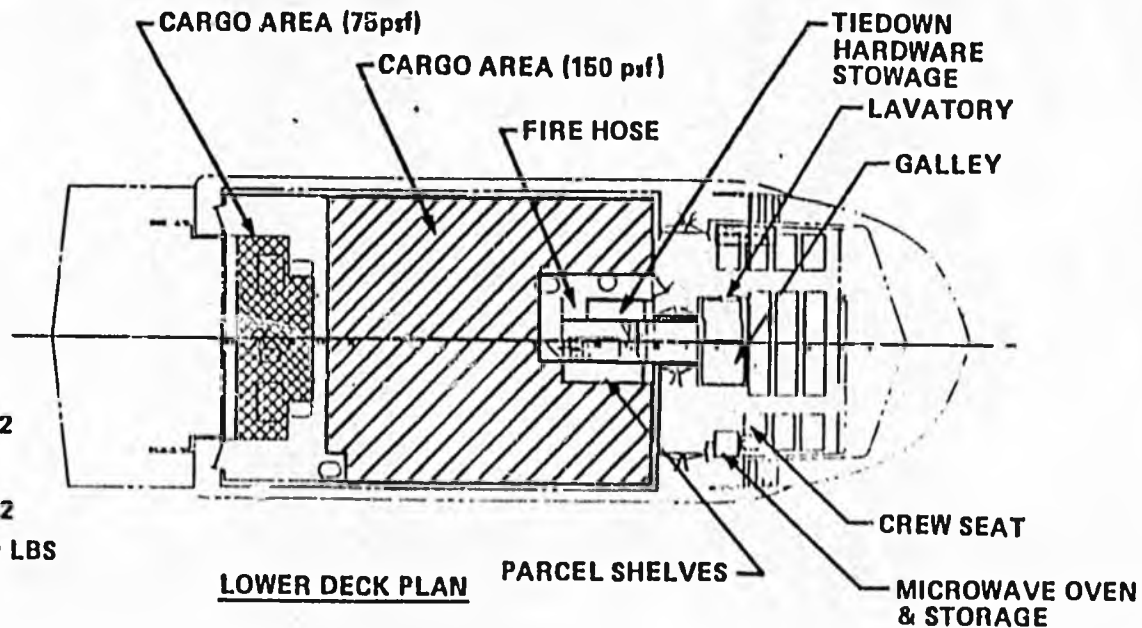
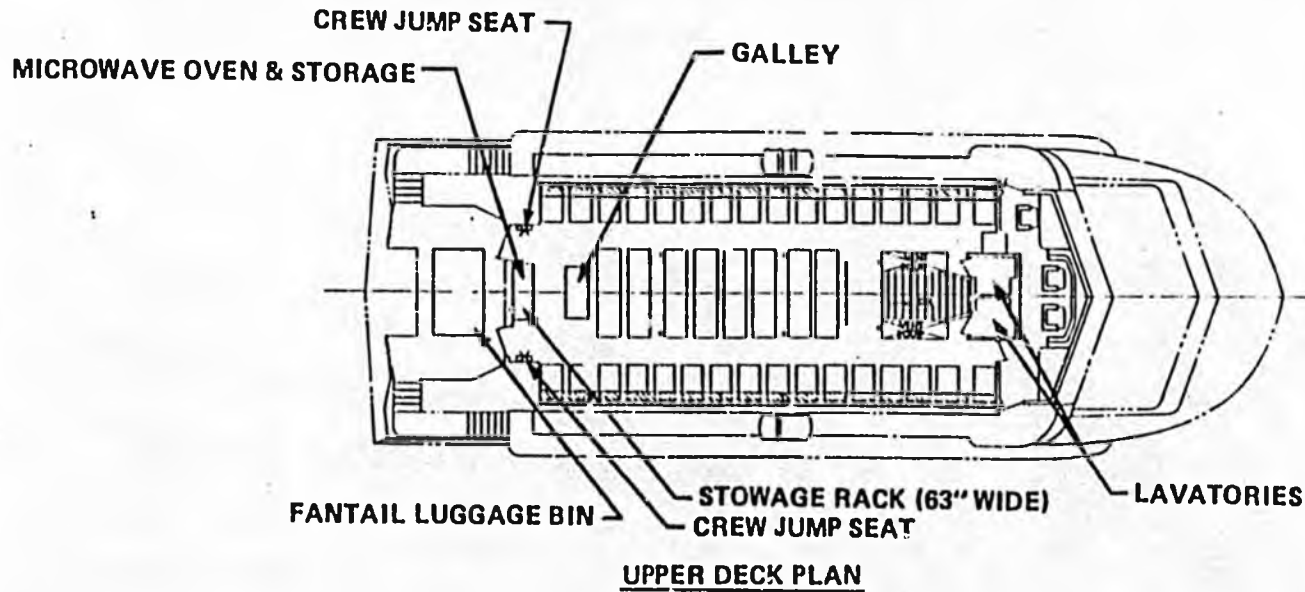
OUTBOARD PROFILE

D320-52034-1

7

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8



PASSENGER SEATS (19.5" WIDE)
 UPPER DECK CABIN..... 104
 MAIN DECK FWD CABIN..... 31
 TOTAL SEATING CAPACITY 135




-  OVERHEAD STORAGE BINS
-  CARGO AREA:
ALLOWABLE DECK LOAD—75 LBS/FT²
HAND TRUCK ONLY
-  CARGO AREA:
ALLOWABLE DECK LOAD—150 LB/FT²
MAX. WHEEL LOAD UNDERWAY—1300 LBS
MAX. WHEEL LOAD DURING
LOADING / UNLOADING — 3600 LBS

Figure 1-2 Interior Arrangement

BOEING

1.4.2

TERMS

Approved	Denotes approval by ABS, USCG, or other designated agency as applicable
Boeing	The Boeing Company
Boat or JETFOIL	Boeing Model 929-1XX JETFOIL passenger boat (JETFOIL is a registered trademark)
Buyer	The purchaser of the boat described in this specification
Nautical Mile	6080 feet (1853 meters)
Purchase Agreement	The contract relating to the acquisition of the boat described herein
Ton	Long ton (2240 pounds)

1.4.3

ABBREVIATIONS AND ACRONYMS

ABS	American Bureau of Shipping
AC	Alternating Current
ACS	Automatic Control System
BFE	Buyer Furnished Equipment
CFR	Code of Federal Regulations
DC	Direct Current
FM	Frequency Modulated
GAL or GALS	U.S. Gallon(s)
GPM	U.S. Gallons Per Minute
IMCO	Inter-Governmental Maritime Consultative Organization (now known as IMCO)
KVA	Kilovolt-Amperes
KW	Kilowatt
LBS	Pounds
L.T.	Long Tons (2240 lbs)
MF	Medium Frequency
P&S	Port and Starboard
PSI	Pounds per square inch
PSIG	Pounds per square inch gauge
RPM	Revolutions per minute
SOLAS	Safety-of-Life At Sea
SSB	Single Side-Band
USCG	United States Coast Guard
VAC	Volts Alternating Current
VDC	Volts Direct Current
VHF	Very High Frequency

1.4.4

SYMBOLS

OF	Degrees Fahrenheit
@	at
'	feet
"	inches

BOEING

1.4.5

UNITS OF WEIGHTS AND MEASURES

All placards, nameplates, signs, stencils, instructions, and manuals shall be in the English language and in the following units unless otherwise stated in this specification:

<u>Dimensions</u>	<u>Units</u>
Linear	inches, feet, nautical miles
Area	square inches, square feet
Volume	cubic inches, cubic feet
Liquid Measure	fluid ounces, U.S. gallons
Weight	ounces, pounds, long tons
Speed	knots
Temperature	degrees Fahrenheit
Pressure	pounds per square inch

1.5

WEIGHTS TERMINOLOGY

Buyer (Customer) Fixed Weight:

The weight of all Buyer selected standard options and unique options as listed in Sections 14 and 15 of this specification.

Deadweight:

The weight of crew, passengers, baggage, cargo, onboard stores, and usable fuel. See paragraph 3.1.

1.6

PRINCIPAL DIMENSIONS - NOMINAL

Hull length, overall, foils down	90 feet (27.43 meters)
Overall length, foils up	100 feet (30.48 meters)
Hull length, waterline	78.7 feet (23.98 meters)
Hull beam, maximum	30 feet (9.14 meters)
Hullborne navigational draft, foils extended*	17.2 feet (5.24 meters)
Hullborne navigational draft, foils retracted*	6.6 feet (2.00 meters)
Full load displacement	Less than 117 long tons

*Approximate; actual draft is to be determined by deadweight survey.

BOEING

2.0 DESIGN, MANUFACTURING, & DELIVERY REQUIREMENTS

2.1 BUYER REQUIREMENTS

This specification describes a Boeing Model 929-1XX JETFOIL Passenger Boat, USCG certified for domestic use, with ABS classification. Buyer requirements relating to specific boat configuration details have been incorporated and are listed in sections 14 and 15 of this specification when they differ from the standard Model 929-117 JETFOIL configuration.

2.2 PURCHASE AGREEMENT

In the event of any conflict or discrepancy between this contract specification and the Purchase Agreement, the terms specified in the Purchase Agreement shall govern.

2.3 SUPPLEMENTAL SPECIFICATIONS

In the event of any conflict or discrepancy between this specification and any supplemental specifications identified herein, the terms specified in this contract specification shall govern.

2.4 CERTIFICATION

Inspection for certification of each boat shall be accomplished in accordance with the Purchase Agreement.

2.5 REGULATORY REQUIREMENTS

The Model 929-1XX JETFOIL shall be designed to meet the criteria specified for United States Coast Guard 46CFR, Subchapter T, "Small Passenger Vessels" and for American Bureau of Shipping aluminum vessels under 61 meters in length. The Inter-Governmental Marine Consultative Organization Resolution A-373(X) "Code of Safety for Dynamically Supported Craft" shall be used as a guideline. *

2.6 JETFOIL ENVIRONMENTAL DESIGN CONDITIONS

The boat and all Boeing-furnished equipment shall function satisfactorily under conditions of atmospheric ambient air temperatures from +0°F to +100°F, seawater temperatures from +28°F to +80°F, and standard sea level atmospheric pressure.

2.7 INSPECTIONS AND TESTS

A system of inspection covering all materials, fabrication methods, and finished parts shall be maintained. Inspection and testing of materials, structural fabrication, and parts shall be in accordance with standards and procedures established by Boeing, which shall be available for Buyers' review.

2.8

HEALTH CERTIFICATES

A certificate of sanitary construction issued by the United States Public Health Service shall be obtained and installed in a location visible to passengers.

2.9

IDENTIFICATION

The Boeing name shall be displayed on the outside of the boat in such a manner that the words shall be easily discernible by passengers waiting to board. Such display shall be consistent with the decorative scheme and shall not conflict with the Buyer's name or markings.

2.10

PERFORMANCE ESTIMATES AND DEMONSTRATIONS

Appendix I provides performance estimates for the boat and the performance demonstrations that are to be conducted prior to boat delivery.

2.11

WORKMANSHIP, MATERIALS, AND METHODS

Workmanship, materials, and methods shall be equivalent to, or better than, good commercial marine practices.

2.12

MAJOR EQUIPMENT

Major equipment shall be as set forth in Appendix II.

3.0 DESIGN OBJECTIVES3.1 WEIGHT BREAKDOWN (TYPICAL)

Weights shown below are nominal based on present known values.

POUNDS

CUSTOMER FIXED WEIGHT

Standard Options

1. Headrests for 136 seats	277
2. Recline for 122 seats	21
3. Food trays for 136 seats	321
4. Enclosed Overhead Stowage	664
5. Vision Augmentation System	750
6. Fantail Container	650
7. Heated Wheelhouse Windows	94
8. Port Crew Seat	53
9. Folding Food Carts (3)	138
10. Upper Deck Galley	482
11. Food/Beverage/Ice Carriers	585
12. Life Jackets for 19-1/2" Seats	389

Customer Unique Options

1. Conversion of Main Passenger Cabin to Cargo Space	2072
2. Conversion of Electrical, Lighting, and Air Conditioning for Cargo Space	-1090
3. Conversion of one Toilet Module to a Galley	-126
4. Additional Portable Fire Extinguishers	50
5. Tie-downs allowance	200
6. Microwave Ovens (2)	210
7. Modified Luggage Rack and Installation	202
8. Oven Stand and Installation	125
9. Modifications for Cold Weather	402
10. Additional Seawater Pump and Cargo Space Sprinkler System	125
11. Change from 294 21" Seats to 136 19-1/2" Seats	-5392

TOTAL CUSTOMER FIXED WEIGHT

1202

BOEING

DEADWEIGHT

Crew (6 @ 190# incl 20# Luggage/Person)	1140
Fresh Water (53 gallons @ 8.3#)	440
General Ship Stores (incl. Appendix III)	650
Diesel Fuel (90 U.S. gallons @ 7#)	630
Allowance for Turbine Fuel, Cargo, Passengers and Luggage, Food, and margin	71215
TOTAL DEADWEIGHT	<hr/> 74075

DESIGN USEFUL WEIGHT

75277
(33.6 LT)

* Normal allowances are:

Passengers	155 lbs each
Baggage	10 lbs each
Food/ Beverages/Ice	3 lbs per person
Freshwater	440 lbs (53 gal.)
General Ship's stores	100 lbs

Fuel requirements vary with distance and weather conditions.

4.0 STRUCTURES

4.1 GENERAL DESCRIPTION

The boat structure shall comprise welded and mechanically fastened aluminum extruded shapes and plate, corrosion resistant steel, titanium, and plastic materials. Magnesium alloy sheet or extrusions shall not be used in boat structure. Refer to Figure 4-1 for a typical section.

4.2 HULL

The hull structure shall consist of aluminum frames, bulkheads, beams, and stringers covered with sheet or plate to form an integrated unit.

The hull shall be divided into watertight compartments by bulkheads extending to the main deck amidships, the foredeck forward, and the machinery deck aft. Hull compartment identification is shown by Figure 4-3 of this specification.

The main deck shall be capable of supporting the loads shown in Figure 1-2 .

4.3 SUPERSTRUCTURE AND DECKHOUSE

The superstructure and deckhouse shall form the cargo space, passenger cabins, wheelhouse, and aft machinery compartments 17 and 18. These structures shall be fabricated from aluminum framing members similarly to the hull structure.

4.4 ACCESS PROVISIONS

Access provisions--doors, hatches, cutouts, manholes, stairs, and ladders--shall be installed in the boat for crew, passengers, or maintenance personnel. Locations shall be as shown on Figures 1-1, 1-2, and 4-2.

4.4.1 HABITABLE SPACES ACCESS

Access to each habitable space on the main and upper decks shall be provided by doors designed for the specific use of that space.

4.4.2 MACHINERY SPACE AND VOID ACCESS

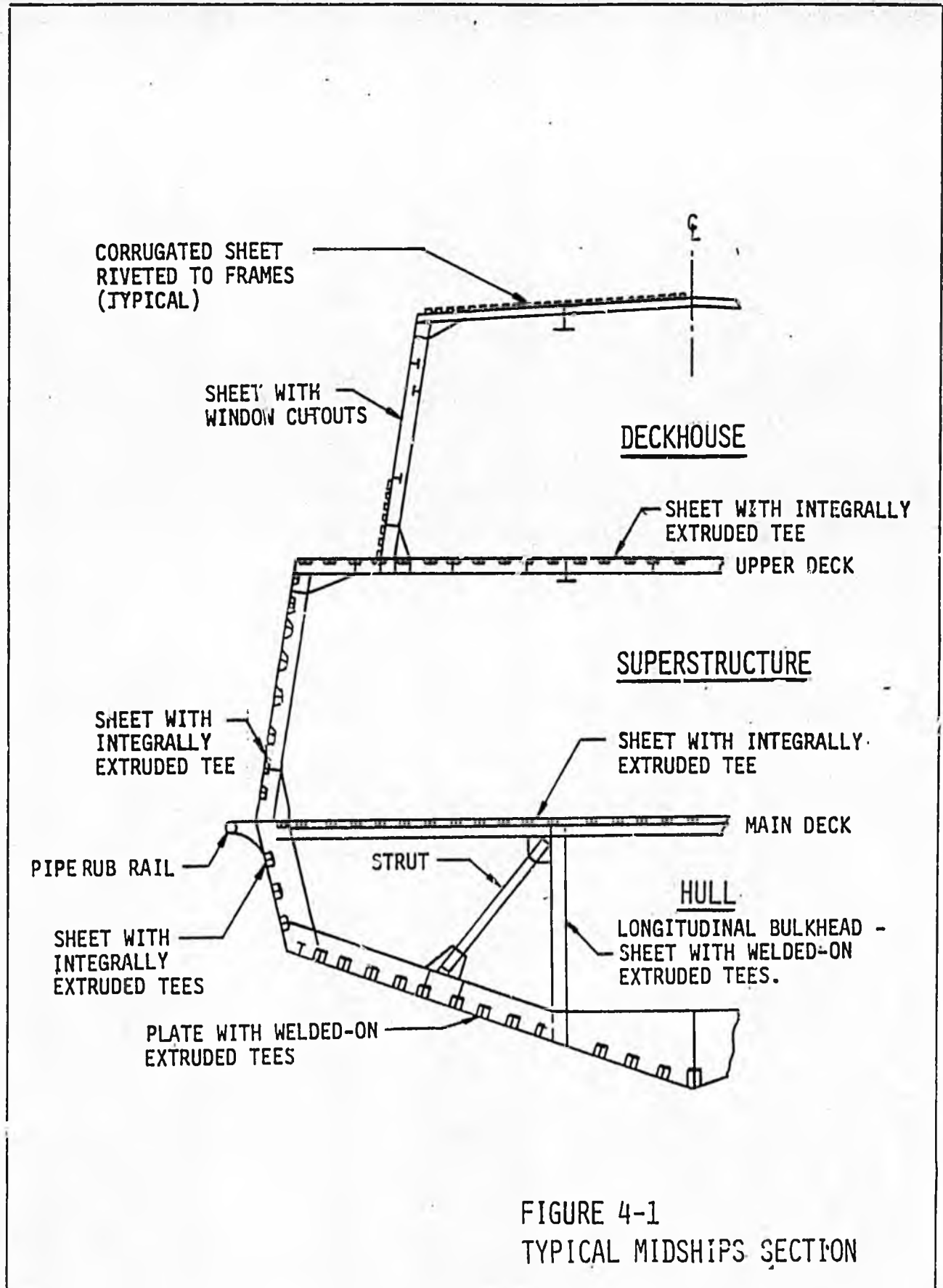
Access to machinery spaces and voids shall be provided by doorways, hatches with hinged covers, manholes, or openings with bolted covers as appropriate for their intended uses. The general arrangement, sizes, and watertight classifications shall be as shown by Figure 4-2 of this specification.

4.4.3 STAIRS

A passenger stairway leading from the main cabin to the upper cabin shall be installed. The stairway shall have appropriate handrails. Secondary stairways shall be installed for egress from the upper deck passenger cabin and aft machinery deck to the main deck, port and starboard.

4.4.4 CARGO ACCESS OPENINGS

Openings shall be provided port and starboard to provide access for cargo loading. These openings shall be located as shown on Figure 1-1 and shall be 11'-6" wide by 7'-8" high (except near the corners, which shall be rounded).



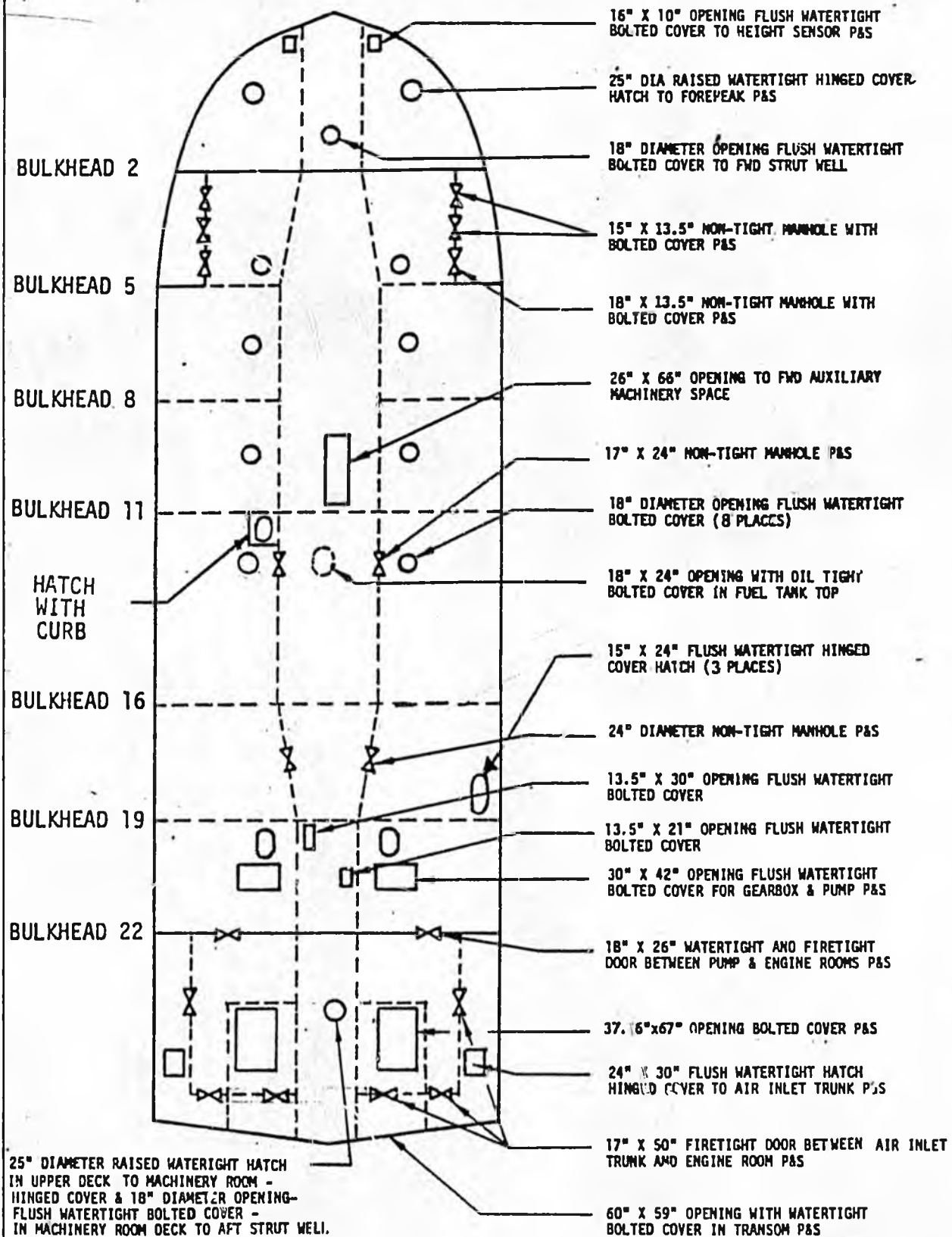
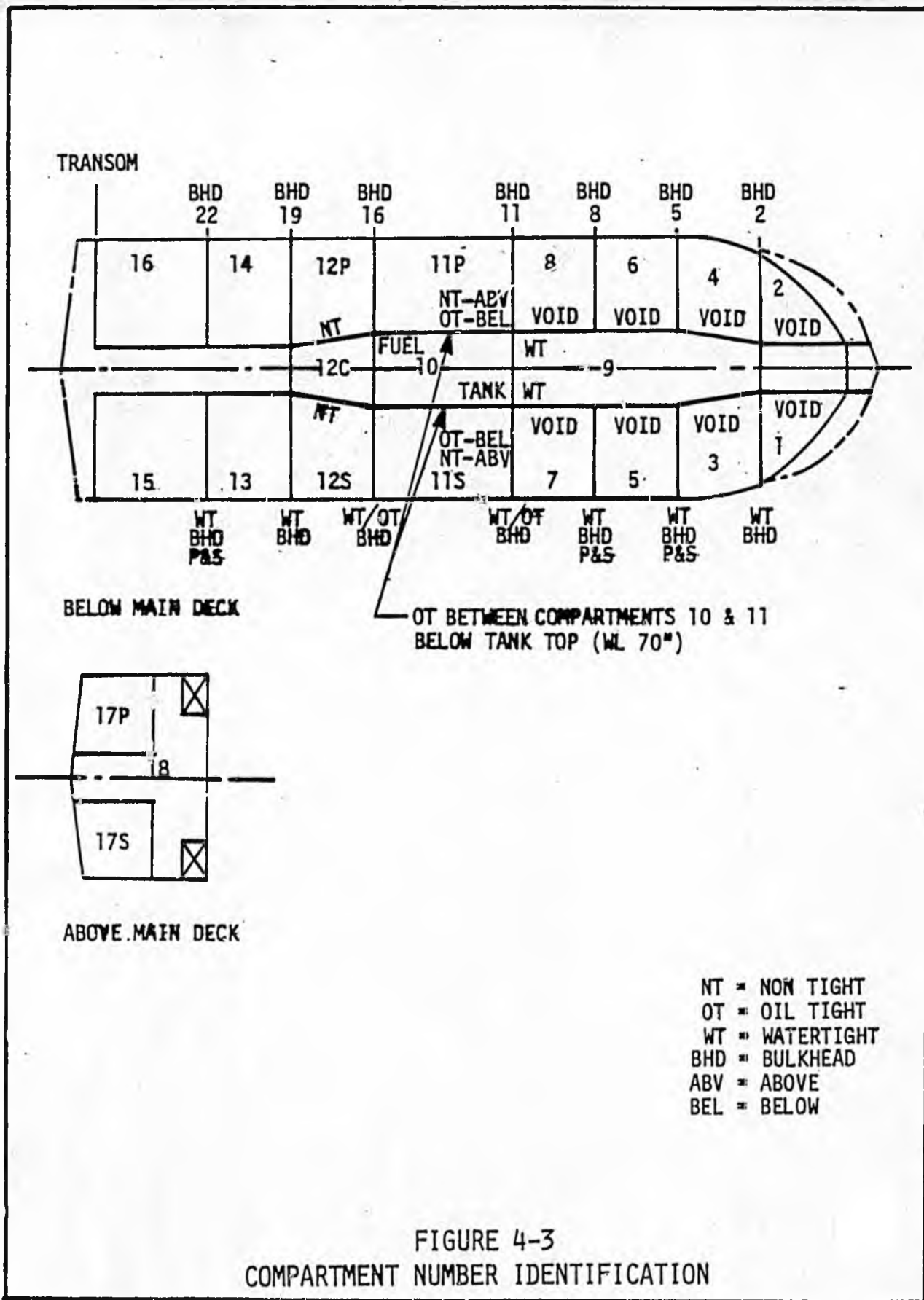


FIGURE 4-2 HULL ACCESS OPENING



4.4.5

LADDERS

Ladders, where used, shall be manufactured from aluminum alloy and, except for those with welded-on rungs, shall be equipped with non-skid treads. Access to the housetop shall be provided by a portable ladder stowed on the starboard side adjacent to the wheelhouse. Handrails and/or handholds shall be installed as required.

4.4.6

WINDOWS

4.4.6.1

WHEELHOUSE WINDOWS

Wheelhouse windows shall be arranged as indicated by Figure 1-1 of this specification. Glazing shall be single pane, clear, tempered glass.

USCG approved electrically heated windows, with necessary controls, shall be installed in the 6 forward wheelhouse window frames.

The six forward facing windows shall be fitted with electrically operated marine grade windshield wipers, washers, and defoggers.

4.4.6.2

PASSENGER CABIN WINDOWS

Windows installed in the passenger cabins shall be glazed with single-pane, tinted, tempered glass.

4.5

STRUTS AND FOILS

The structure of the fore and aft struts and foils shall be welded corrosion resistant steel and mechanically attached titanium and aluminum components.

4.6

CORROSION CONTROL

Galvanic corrosion control of aluminum underwater structure shall be accomplished by installation of sacrificial anodes. Struts and foils shall be cathodically protected against pitting and crevice corrosion by controlled resistance electrical short circuit to the hull anodes. A corrosion potential monitoring system shall be incorporated to provide visibility of the corrosion protection level provided to the struts. Dissimilar metals shall be isolated from each other by appropriate non-conducting gaskets and finishes. The electrical systems of the boat shall not use the structure as a return ground.

Chemical and solvent resistant finishes shall be applied to selected surfaces of the boat. Certain areas of the cabin and wheelhouse interior and all exterior surfaces of the boat shall be painted with the appropriate Boeing standard paint system.

Internal areas of pods shall be treated with an anti-fouling paint system. Internal areas of struts and foils shall be protected with a preservative floating oil.

5.0 POWER PLANT SYSTEM5.1 GENERAL DESCRIPTION

The power plant system shall consist of two independent propulsion systems. Each propulsion system shall comprise a gas turbine engine, gearbox, and waterjet propulsor.

5.2 GAS TURBINES

Two gas turbine engines shall be installed.

Each engine shall have automatic shutdown for:

Gas Generator Overspeed

High Turbine Inlet Temperature

Gas Generator Low Lubrication Oil Pressure

Power Turbine Underspeed

Power Turbine Overspeed

Low Power Turbine/Gearbox/Propulsor Lubrication Oil Pressure

An air intake with aerosol separator and a foreign object screen shall be provided for each engine. Weathertight closures shall be provided for installation over engine air inlets and exhaust stacks. Stowage for the closures shall be provided. Thermally insulated stainless steel exhaust ducts terminating with an elbow providing an aft-flowing horizontal exhaust shall be installed for each engine.

A deck connection, with piping to each engine, shall be provided for engine internal washing.

5.3 WATERJET PROPULSORS

The propulsors shall receive seawater from the center aft strut when the struts are in the extended position, and from the hull inlet when the struts are retracted.

A grill shall be provided at the hull inlet to limit debris ingestion into the propulsors. An air blowdown system shall be provided to assist in clearing debris from the inlet grill.

Propulsor jet stream deflectors shall be provided for lateral and astern thrust in the hullborne mode.

5.4 CONTAINMENT SHIELD

A containment shield shall be provided around the shaft coupling connecting each gas turbine to the propulsor gearboxes.

5.5 ENGINE STARTING

Each gas turbine engine shall be started by an hydraulic starter motor driven by the hydraulic system.

5.6 LUBRICATION SYSTEM

The gas generator (N₁) and power turbine/gearbox/propulsor (N₂) lubrication systems shall use oil per MIL-L-23699B in accordance with Boeing provided maintenance manuals. (See Figures 5-1 and 5-2).

5.7 FUEL SYSTEM

A fuel system shall be installed to store fuel and to provide it to the gas turbines and diesel engines (see Figure 5-3). A 4200 gallon integral fuel tank installed between the longitudinal bulkheads from athwartships bulkheads 11 to 16 shall provide fuel for the gas turbine engines. A 90 gallon tank located at the aft end of compartment 18 shall provide fuel for the diesel engines. The diesel tank shall be replenishable from the gas turbine tank. All system components shall be compatible with diesel fuels as identified in Figure 5-4 and Federal Specification VV-F-800A. Fuel lines shall be stainless steel tubing except for flexible lines, which shall be fire resistant flexible hose.

5.8 ACCESS

Power plant machinery shall be accessible for inspection and routine maintenance at dockside.

5.9 FIRE DETECTION AND PROTECTION

A fire detection and protection system shall be provided for machinery compartments 15, 16, 17P, and 17S. This system shall comprise sensors, alarms, Halon extinguishing system, and related controls.

5.10 BOW THRUSTER

A bow thruster capable of 900 pounds static lateral thrust shall be installed aft of bulkhead 2.

5.11 FUEL

The gas turbines and diesels shall be capable of operation on diesel fuels conforming to Figure 5-4 and Federal Specification VV-F-800A. (For certain commercial usages or where the Regulatory Agency with jurisdiction over the Buyer's operations so requires, more restrictive specifications may be imposed.)

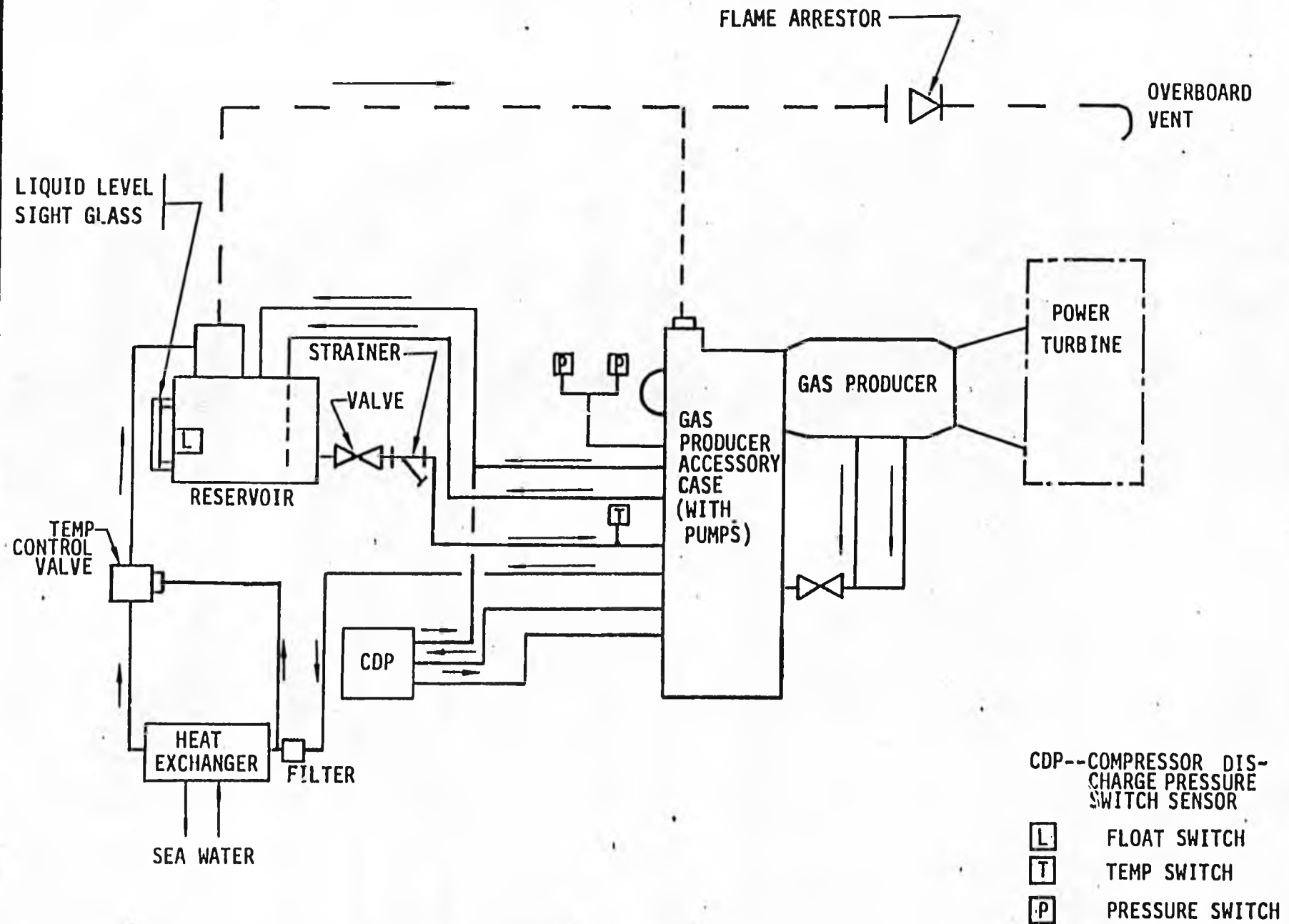


FIGURE 5-1

GAS GENERATOR LUBRICATION SYSTEM

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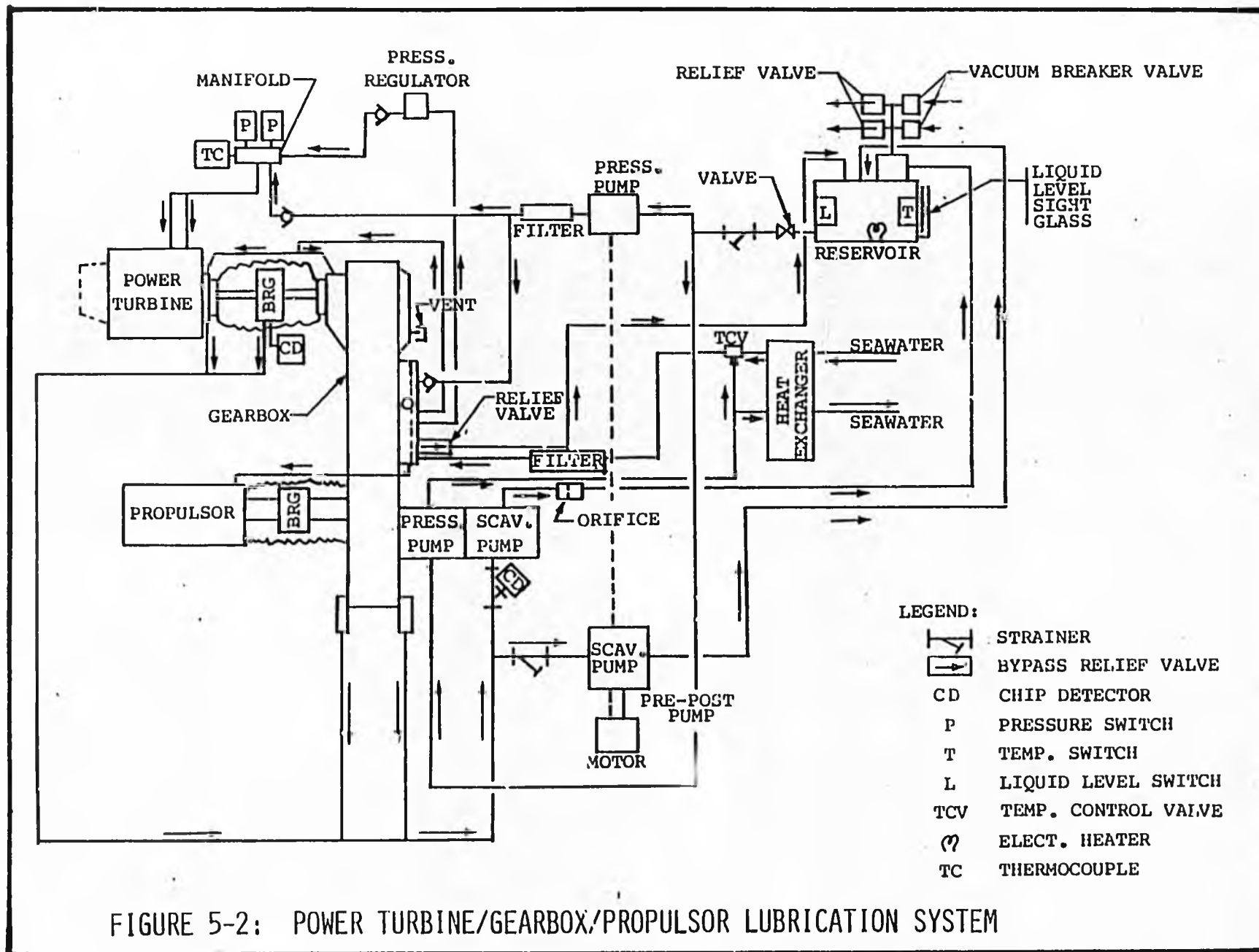


FIGURE 5-2: POWER TURBINE/GEARBOX/PROPULSOR LUBRICATION SYSTEM

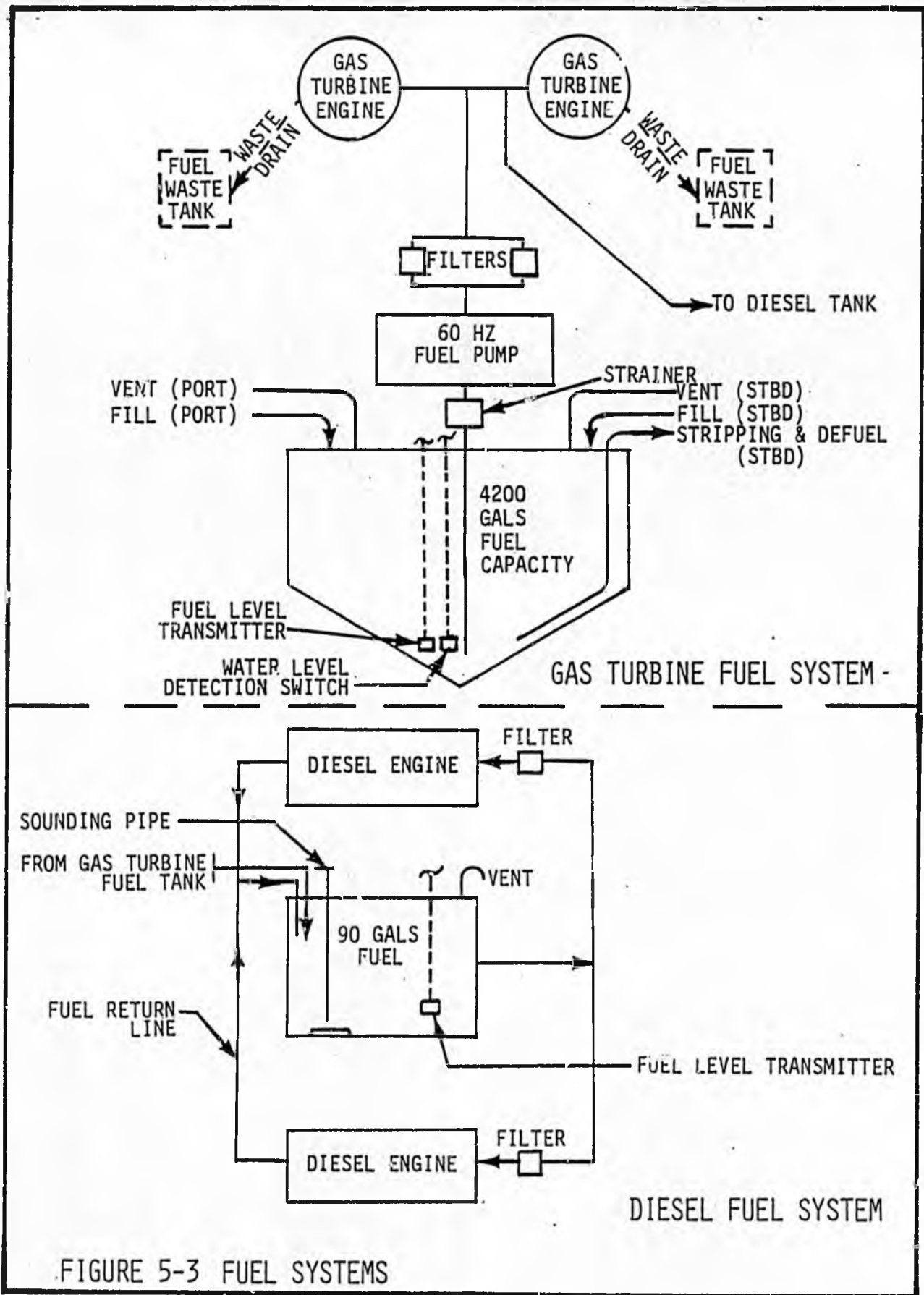


FIGURE 5-3 FUEL SYSTEMS

FIGURE 5-4:
FUEL SPECIFICATION

Fuel Analysis Elements	ASTM Test Method	Gas Turbine	Diesel
Flash Point °F	D93	5 to 190	5 to 190
Pour Point °F	D97	1	1
Water and Sediment (% of Volume)	D1796	max 0.05	max 0.05
Carbon Residue			
Residuum (% by Weight)	D524	max 0.15	4
Ash Content (% by Weight)	D482	max 0.01	4
Distillation			
50% Distilled °F		6	4
90% Distilled °F		max 650	4
End Point °F		max 675	max 675
Kinematic Viscosity Centistokes	D445	2	7
Gravity API (degrees)	D287	min 35.0	4
Vanadium (ppm by Weight)		max 2.0	
Sodium and Potassium (ppm by Weight)		max 5.0	
Calcium (ppm by Weight)		max 5.0	
Lead (ppm by Weight)		max 5.0	
Luminometer Number	D1740	min 40.0	4
or Smoke Point (mm)	D1322	min 15.0	
Sulphur Content (% by Weight)	D129	max 0.5	max 0.5
Cloud Point		3	3
Cetane	D613	4	min 40

- 1 The pour point should be at least 10°F below the lowest expected ambient air temperature or sea water temperature, whichever is lower
- 2 The viscosity must be 10 cs or less for the lowest expected ambient air temperature or sea water temperature, whichever is lower.
- 3 The cloud point should be at least 10°F below the lowest expected ambient air temperature or sea water temperature, whichever is lower.
- 4 No requirement.
- 5 At least 50°F above the highest ambient air temperature expected but not less than 110°F (US Regulatory) or 150°F (British Regulatory).
- 6

<u>50% Distilled Maximum Temperature °F</u>	<u>Minimum Expected Ambient Air Temp °F</u>
505	+20
530	+40
555	+60
575	+80
- 7 The viscosity must be 10 cs or less for the lowest expected ambient air temperature but not less than 1.5 cs.

Foreign matter content is limited to that which could pass through a coalescing type filter of 10 micron nominal or 25 micron absolute size.

ABBREVIATIONS

max	maximum	min	minimum
API	American Petroleum Institute	ppm	parts per million
cs	centistokes	mm	millimeter

6.0 WHEELHOUSE INSTRUMENTS AND CONTROLS**6.1 GENERAL DESCRIPTION**

The wheelhouse shall be on the upper deck between bulkheads 4 and 7. The general arrangement of instrument and control consoles shall be as shown in Figure 6-1.

6.2 INSTRUMENT PANELS

All instrument panels shall be detachable via quick-disconnect fasteners. Wire bundles shall be of sufficient length to permit removal of panels for local inspection and maintenance. Instruments shall be equipped with individual connectors.

6.3 CONTROLS

Boat controls and some of the system instrumentation shall be located on the instrument console starboard of centerline as follows:

1	Helm Control	9	Heading Hold
2	ACS Foil Depth Control	10	Depth Sounder
3	Vision Augmentation System Primary Display	11	Console Lighting and Bow Thruster
4	Throttle	12	ACS Self-test and Checkout
5	Strut Control	13	ACS Warning
6	Hullborne Maneuvering Indicators	14	ACS Warning
7	Gyro Control	15	Intercom and Public Address
8	Speed Indicator, Gyrocompass Repeater, and Master Warnings	16	Fog Whistle Control

The balance of the controls and instrumentation shall be mounted on the port side of the console centerline as follows:

17	Propulsion Gauges	25	Seat Belt Signs
18	Propulsion Controls	26	Bilge System and Fire Pump
19	Propulsion Status	27	Gearbox Bearing Temperature Indicator
20	Deisel Generator Controls/status	28	Hydraulics
21	Compartment Overtemperature Warning	29	Air Compressor and Fire Doors
22	Fire Protection Controls	30	Turbine Unloading Protection System
23	Fuel Quantity Gauges	31	Window Services
24	Navigation Lights (Dual)	32	Intercom and Public Address

NOTE: Above numbers correlate with numbers on Figure 6-1.

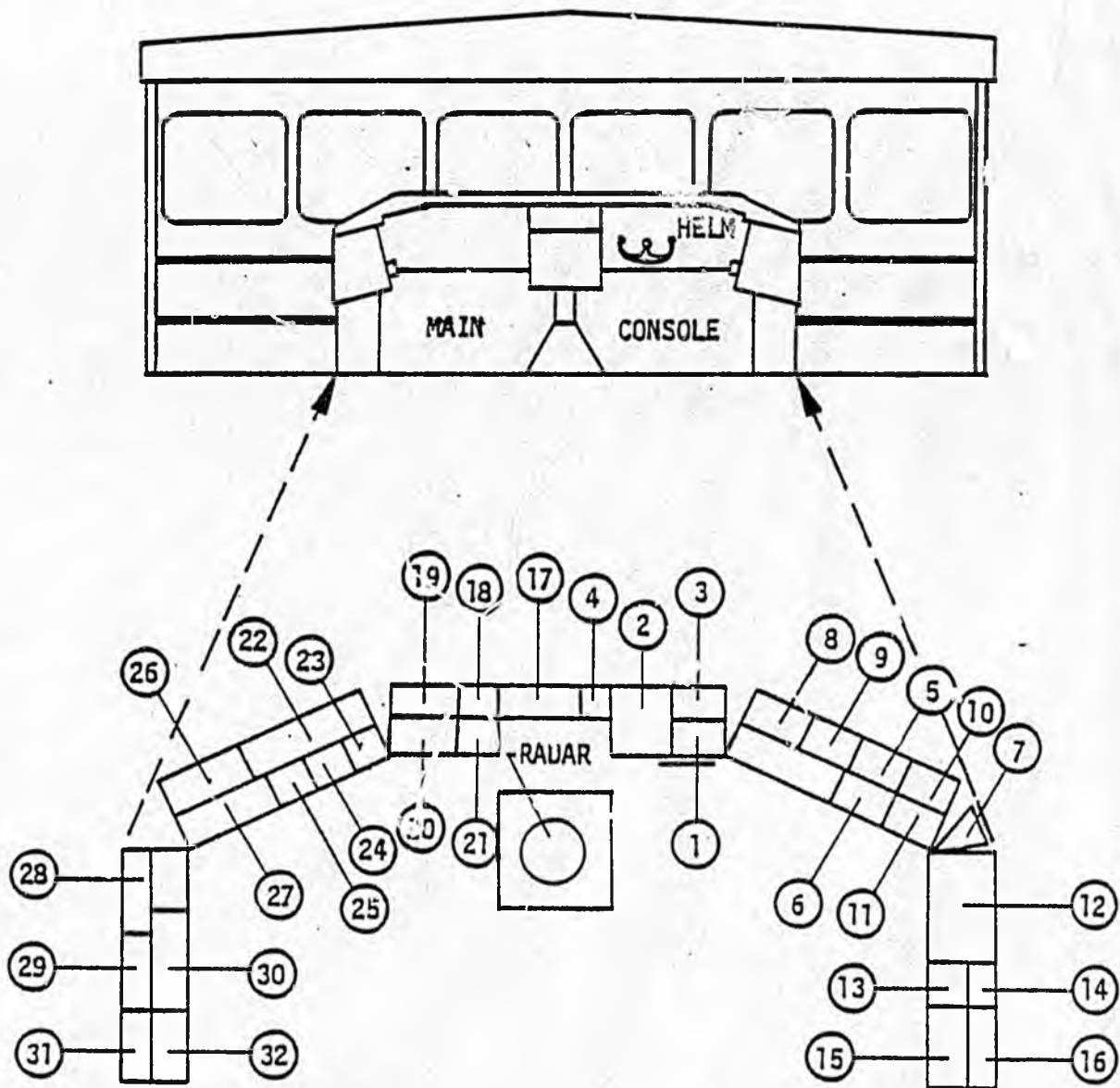


FIGURE 6-1
WHEELHOUSE ARRANGEMENT

NOTE: CIRCLED NUMBERS REFER TO PARAGRAPH 6.3

7.0 CONTROL SYSTEMS

An Automatic Control System (ACS) shall be installed to provide stable boat responses to helm commands. The system shall comprise electronics assemblies and gyros installed in the wheelhouse; four accelerometers installed on or near the forward and aft outboard strut foundations; and height sensors installed on either side of the stem.

7.1 FOILBORNE CONTROL (FIGURE 7-1)

When foilborne, the ACS shall continuously control the boat in turn rate, attitude, and height by processing helm and foil depth commands with sensed boat height, attitude, turn rate, and acceleration signals to obtain appropriate forward strut rotation and forward and aft flap deflection commands.

The ACS and Heading Reference shall operate conjointly to provide automatic control of the boat's heading.

7.2 HULLBORNE CONTROL

Waterjet deflectors shall provide steering control when the boat is hullborne (See paragraph 5.3). Additional steering control authority may be obtained from the forward strut through the Automatic Control System.

The bow thruster may be used to aid in dockside maneuvering (See Paragraph 5.10).

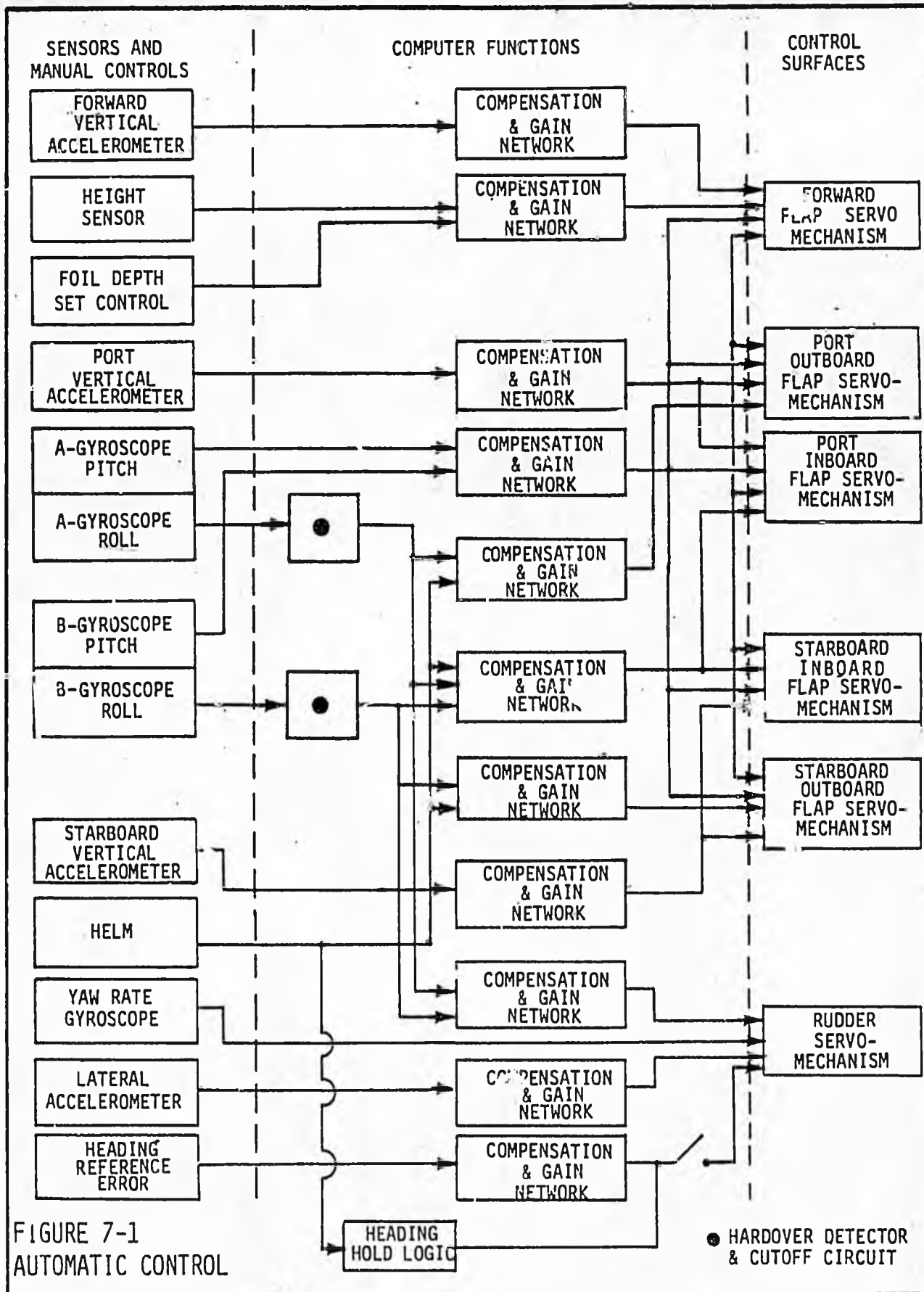


FIGURE 7-1
AUTOMATIC CONTROL

8.0 HYDRAULIC SYSTEM**8.1 GENERAL DESCRIPTION (FIGURE 8-1)**

Two separate and independent hydraulic power supply systems shall be installed. These systems shall provide power for the gas turbine engine starters; strut steering, hullborne steering, thrust reverser, and flap actuators; strut retraction/extension and lock actuators; bow thruster motor; and fire pump motor. The systems shall use hydraulic fluid per MIL-H-83282 or Boeing Specification S320-25003 and shall operate at a nominal 3000 psi pressure.

8.2 PUMPS AND ACCUMULATORS

Two pumps shall be installed in each hydraulic system. Each pump shall be a variable displacement pressure-compensated unit. One pump in each hydraulic system shall be driven by the propulsor gearbox and the other by the diesel engine. The systems shall have cross-connect capability to provide hydraulic power redundancy to all systems in the event of a pump failure.

Each hydraulic system shall be equipped with two 200 cubic inch piston type accumulators.

8.3 FILTERS

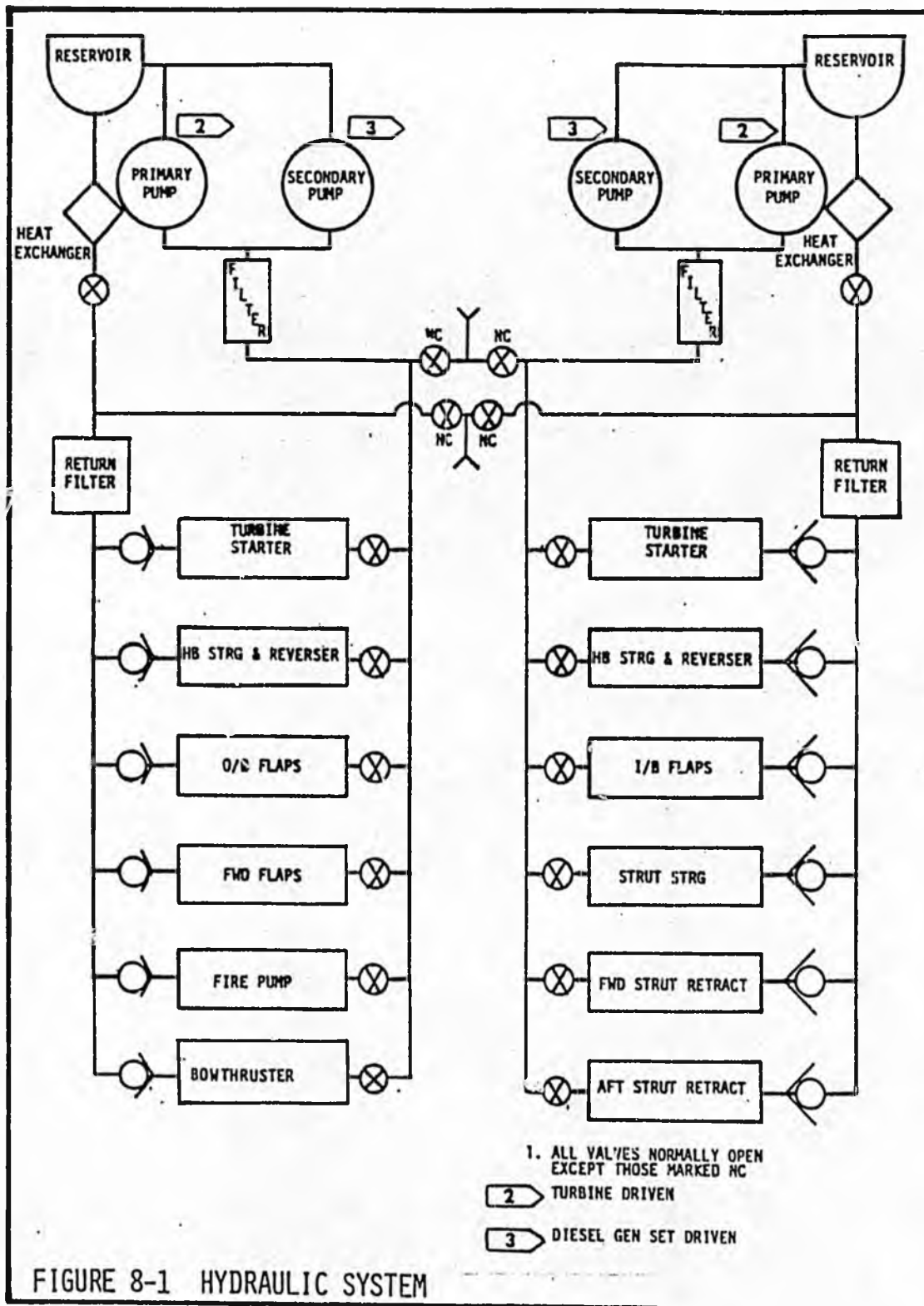
Filters shall be installed to maintain hydraulic system cleanliness.

8.4 LINES AND HOSES

Hydraulic supply and return lines shall be corrosion resistant steel tubing or flexible hoses utilizing flareless fittings and coupling nuts.

8.5 PROTECTIVE DEVICES

The hydraulic systems shall be equipped with warning devices which sense pump overheating, system under-pressure, filter contamination, and inadequate reservoir fluid volume. Relief valves shall be installed to protect the systems from overpressure.



9.0 ELECTRICAL/ELECTRONIC SYSTEMS**9.1 GENERAL DESCRIPTION (FIGURE 9-1)**

The electrical system shall conform to Boeing standards that use the American Bureau of Shipping Rules for Building and Classing of Aluminum Vessels as a guide. Boeing standard design practices shall be used where improved electrical performance can be provided.

9.2 ELECTRICAL POWER SUPPLY

The boat shall have the capability of generating both AC and DC power and shall be capable of operating on shore power when dockside.

9.2.1 AC SYSTEM

Two diesel engine-driven generator sets shall be installed. The engines shall be capable of using fuel per paragraph 5.11 and shall use lubricating oil per MIL-L-2014C. The generators shall provide 440VAC, 3-phase, 60 Hertz ungrounded power to the electrical distribution systems. Each shall be rated at 50kW (at 0.8pf) continuous.

Automatic engine shutdown shall be provided for engine high coolant temperature, overspeed, engine overcrank, and low lubricating oil pressure.

9.2.2 DC SYSTEM

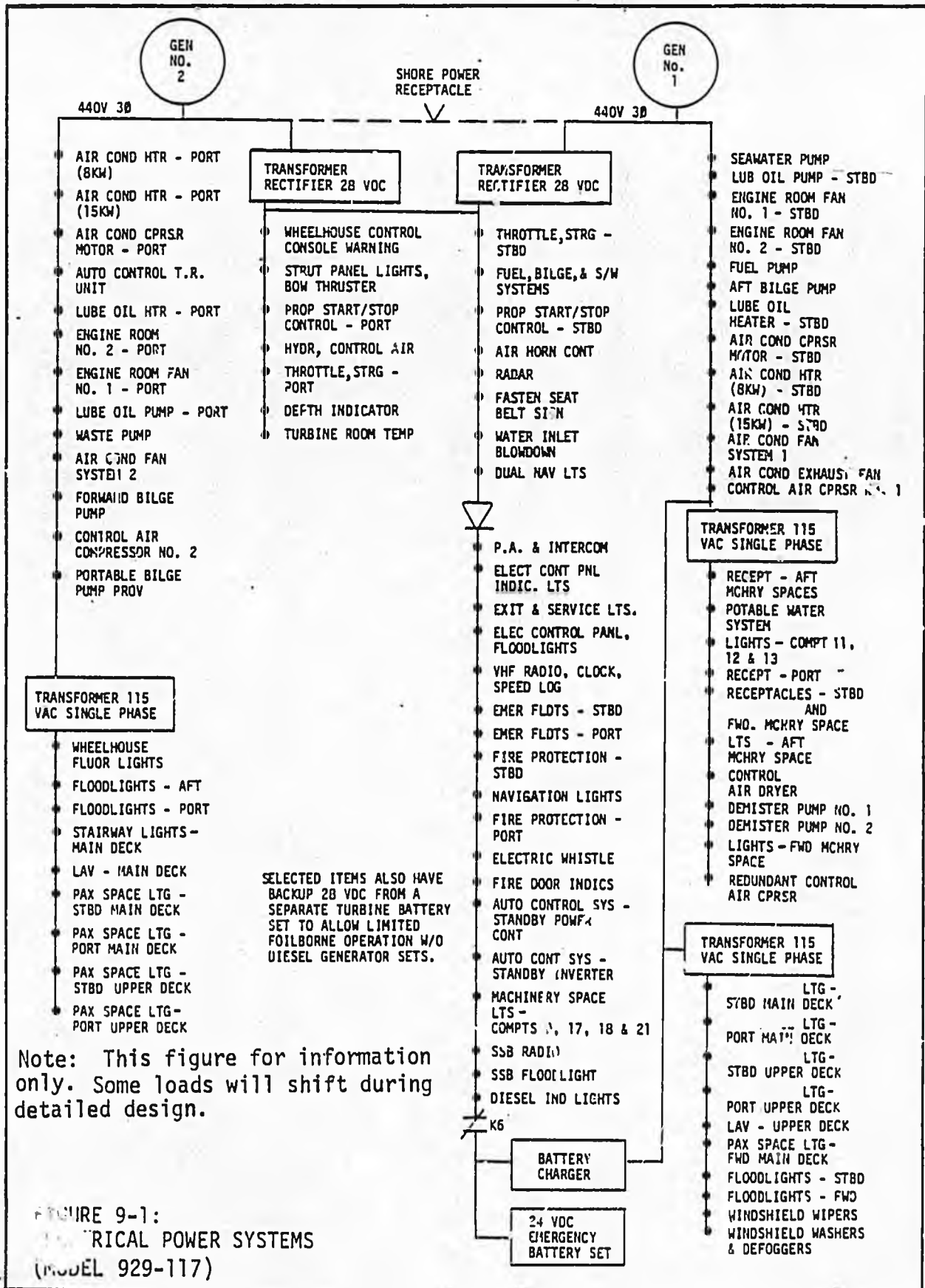
Two transformer-rectifier (TR) units shall be installed to convert 440VAC 3-phased, 60 Hertz power to 24 VDC. Each TR unit shall be rated at 75 Amperes, and shall be capable of supplying all normal ship's DC power. Each TR unit shall obtain input power from a separate AC bus. The TR outputs shall be paralleled and shall supply power to the two main DC buses and the emergency DC bus.

The emergency DC power source shall consist of six 12-Volt batteries connected in a series-parallel configuration. This combination shall provide 24VDC power for the emergency DC system. The emergency DC bus shall be isolated from the main DC buses. Power to the emergency bus shall be provided by the batteries only if power is not being provided from any other source.

A battery charger shall be provided to maintain a full charge on the emergency batteries.

9.2.3 SHORE POWER

A receptacle shall be provided to receive 440VAC, 3 phase, 60 Hertz, delta shore power.



9.3 DISTRIBUTION

The AC and DC electrical power systems shall be self-contained and shall not be grounded to the boat structure.

9.3.1 AC SYSTEMS

The 440VAC system shall, by means of transformers, supply power for the 115VAC equipment requirements.

9.3.2 EMERGENCY DC SYSTEMS

Emergency equipment such as navigation lights, lights in machinery spaces, exit lights, lavatory lights, radio equipment, passenger address system, etc. shall be connected to the emergency DC bus.

9.4 LIGHTING**9.4.1 INTERIOR LIGHTS**

Fluorescent lights shall be installed to provide illumination in the passenger spaces, lavatories, wheelhouse, stairway, and machinery spaces. The cargo area shall be fitted with weatherproof lighting.

9.4.2 EXTERIOR LIGHTS

Nine floodlights shall be installed to provide illumination for passenger boarding and life raft areas. Fixtures shall be watertight. Forward and aft lights shall contain 200 Watt incandescent lamps and operate on 115VAC. Emergency DC power shall be available to the six side lights which shall contain one 60 Watt incandescent lamp each.

9.4.3 NAVIGATION LIGHTS

USCG approved dual navigation lights shall be installed: white anchor lights, white masthead lights, green starboard side lights, red port side lights, and white stern lights. Each navigation light shall be controlled by the control panel in the wheelhouse.

Electrical Not-Under-Command lights, and a dedicated electrical receptacle for their connection, shall be provided.

9.4.4 INSTRUMENT PANEL LIGHTS

Dial indicators shall be internally lighted. Additional instrument panel and console lighting shall be provided by panel mounted cowl lights. All instrument lights shall be dimmable.

9.4.5 CONVENIENCE OUTLETS

U.S. standard 115VAC, 60 Hertz, 15 Ampere outlet boxes shall be installed throughout the weathertight areas of the boat to provide for portable equipment connection.

9.5 COMMUNICATION

The communication system for the boat shall include equipment to transmit and receive voice from shore-based facilities or other watercraft, to communicate between crew members, and to address the passengers.

9.5.1 RADIO SYSTEMS

A VHF-FM marine-band radiotelephone shall be installed in the wheelhouse to provide for voice transmission and reception. A VHF-FM simplex antenna shall be mounted atop the mast.

An MF single-sideband radio shall be installed. An MF single-sideband simplex antenna shall extend from the masthead to the aft mast.

9.5.2 INTERNAL COMMUNICATIONS

Crew intercommunication shall be provided by four identical stations, each incorporating telephone-type facilities, as follows: Wheelhouse (two), Upper Deck Attendant (Bulkhead 22), and Main Deck Attendant.

A separate service interphone system shall be installed to provide for communication during maintenance, docking/undocking, or emergency conditions. Three service headsets shall be stowed in the wheelhouse and sixteen plug-in jack stations shall be installed throughout the boat in the following locations:

- Wheelhouse (4)
- Main Deck - Bulkhead 11 (Cargo Area)
- Upper Deck - Bulkhead 22 Attendant Station
- Forward Machinery Space - Compartment 9
- Aft Machinery Space - Compartment 12C
- Diesel Engine Space P & S - Compartments 17P & 17S
- Gas Turbine Space P and S - Compartments 15 and 16
- Propulsion Pump Space P & S - Compartments 13 & 14
- Fantail Deck - Bulkhead 23 (approximate)
- Compartment 18

BOEING

9.5.3 PASSENGER ADDRESS

The Passenger Address System shall provide a means for wheelhouse personnel to make announcements to passengers.

An amplifier unit and a volume control shall be installed in the wheelhouse. Speakers shall be installed at appropriate locations in the passenger cabins and in the wheelhouse.

An 8 ohm tape deck input jack and 115VAC electrical outlet shall be provided to allow the installation of a music or pre-recorded announcement sub-system. The Buyer shall be responsible for any required royalty payments relating to the installation and use of taped music.

9.5.4 BELL

A mount for a manually operated bell shall be installed on the bow. The bell shall be stowed in the wheelhouse when not in use.

9.5.5 WHISTLE

One electrical and one air-operated horn shall be installed above the wheelhouse to provide required whistle signals. A switch, fog signal timer, and a manual pull cable shall be installed in the wheelhouse.

9.6 NAVIGATION

The navigation system shall include the following equipment.

9.6.1 RADAR

A relative motion marine navigation radar system shall be installed. It shall display a PPI (Plan Position Indicator) picture of conditions about the boat at selectable ranges.

The radar system shall operate in the X-band range and shall comprise a scanner unit, a transceiver unit, a power distribution unit, and a display unit.

9.6.2 MAGNETIC COMPASS

A magnetic compass with a card marked in 2-degree increments shall be mounted forward of the Main Console (see Figure 6-1). The compass shall be compensated for nearby magnetic materials and shall be lighted.

9.6.3 DEPTH INDICATOR

A depth indicator system shall be installed as an aid to hullborne navigation. The indicator shall display water depth to one hundred feet in one foot increments. The transducer shall be installed through the hull.

9.6.4 SPEED LOG

A speed log system shall be installed as an aid to navigation. The indicator shall display speed in knots over a range of 0 to 50 knots.

9.6.5 GYROCOMPASS

A gyrocompass shall be installed to display heading and to provide a heading reference to the Automatic Control System for maintaining the boat on a selected course when foilborne.

9.6.6 VISION AUGMENTATION SYSTEM

The Boeing Vision Augmentation System shall be installed. This system comprises an illuminator and camera, operating in the near infra-red band; two displays; panning capability; and the necessary supporting onboard equipment.

10.0 HEATING, VENTILATING, AND AIR CONDITIONING
(ENVIRONMENTAL CONTROL) SYSTEM

The environmental control system shall provide conditioned air to the passenger cabins and wheelhouse. Outside air for ventilation and cooling shall be provided to the diesel generator rooms, turbine engine rooms, and the propulsion pump rooms. Weatherproof closures shall be provided for the air conditioning inlets and vents. Stowage for the closures shall also be provided.

10.1 MACHINERY

The air conditioning system shall use direct expansion coils with Refrigerant 22 as the cooling fluid.

The nominal capacity of the system shall be 38.5 tons (at 85°F maximum seawater temperature). The system shall be designed to control the cabin environment within limits of 68°F to 80°F at 50 percent relative humidity with outside air conditions of 95°F dry bulb and 82°F wet bulb.

Cabin heating shall be provided by electric heaters in the air conditioning system.

10.2 DISTRIBUTION AND CONTROL (FIGURE 10-1)

Conditioned air shall be distributed through ceiling suspended ducts to the passenger cabins and wheelhouse. A modulated flow of air shall be exhausted overboard and the remaining air returned and reconditioned.

In the event that a fire extinguishing switch is activated for a particular machinery space, the air flow dampers within those spaces shall close automatically.

Manual activation of ventilation electrical controls shall be possible at the Environmental Systems Control Panel located in the wheelhouse.

Manually controlled smoke dampers shall be installed in the conditioned air supply distribution system.

10.3 CARGO SPACE

The cargo space shall be fitted with a powered exhaust to assist the natural air supply.

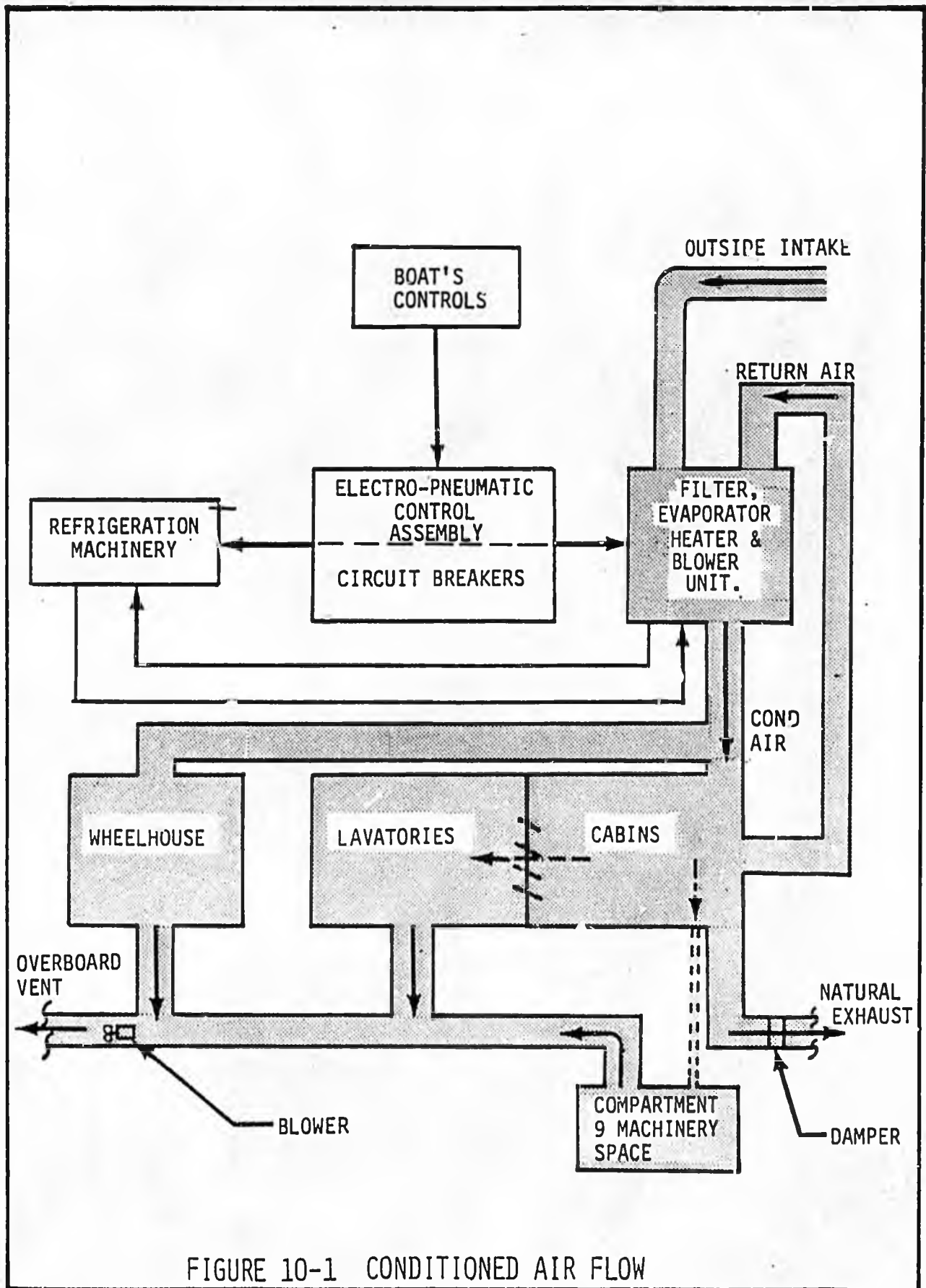


FIGURE 10-1 CONDITIONED AIR FLOW

11.0 AUXILIARY SYSTEMS

The auxiliary systems provide cooling water for machinery; drinking and wash water for passengers and crew; waste disposal; bilge pumping; and compressed air for certain machinery operation.

The boat shall be fitted with optional equipment to allow operation with 20°F air temperature and 28°F water temperature.

11.1 SEAWATER SYSTEM (FIGURE 11-1)

A seawater system shall be installed to provide cooling water to the following heat exchangers: gas generator and turbine/gearbox/propulsor lubricating oil systems, hydraulic system, air conditioning system, and diesel engines. Seawater shall be provided for the propulsor water pump seal. Further, the seawater system shall provide a source of water for the fire hydrant manifold.

11.2 POTABLE WATER SYSTEM (FIGURE 11-2)

A potable water system shall supply cold water to the drinking fountain and hot and cold water to the washbasins. System capacity shall be 53 gallons.

11.3 SANITARY WASTE SYSTEM (FIGURE 11-3)

A waste system shall be installed to receive; hold; and discharge waste from the three washbasins, three waterclosets, and one drinking fountain. The system shall include a 53-gallon holding tank, a discharge pump/motor unit, control valves and appropriate connecting plumbing, and a discharge fitting for shore-side connection.

11.4 BILGE SYSTEM (FIGURE 11-4)

A bilge pumping system shall be installed. It shall be possible to pump out the bilges in each compartment served using either of two electrically operated bilge pumps; both shall be self-priming and rated at 50 gpm at 25 psi. Remote control capability shall be provided for compartments 13 and 14.

In addition, a combination bilge/fire hand pump with two 24 foot long, 1-1/8 inch hoses capable of delivering 5 gpm shall be installed in compartment 9.

11.5 CONTROL AIR (FIGURE 11-5)

A control air system shall be installed to deliver compressed air to the hydraulic reservoir, ACS junction boxes, whistle, water closets, air-conditioning control unit, gas turbine controls, and bilge and seawater valve actuators.

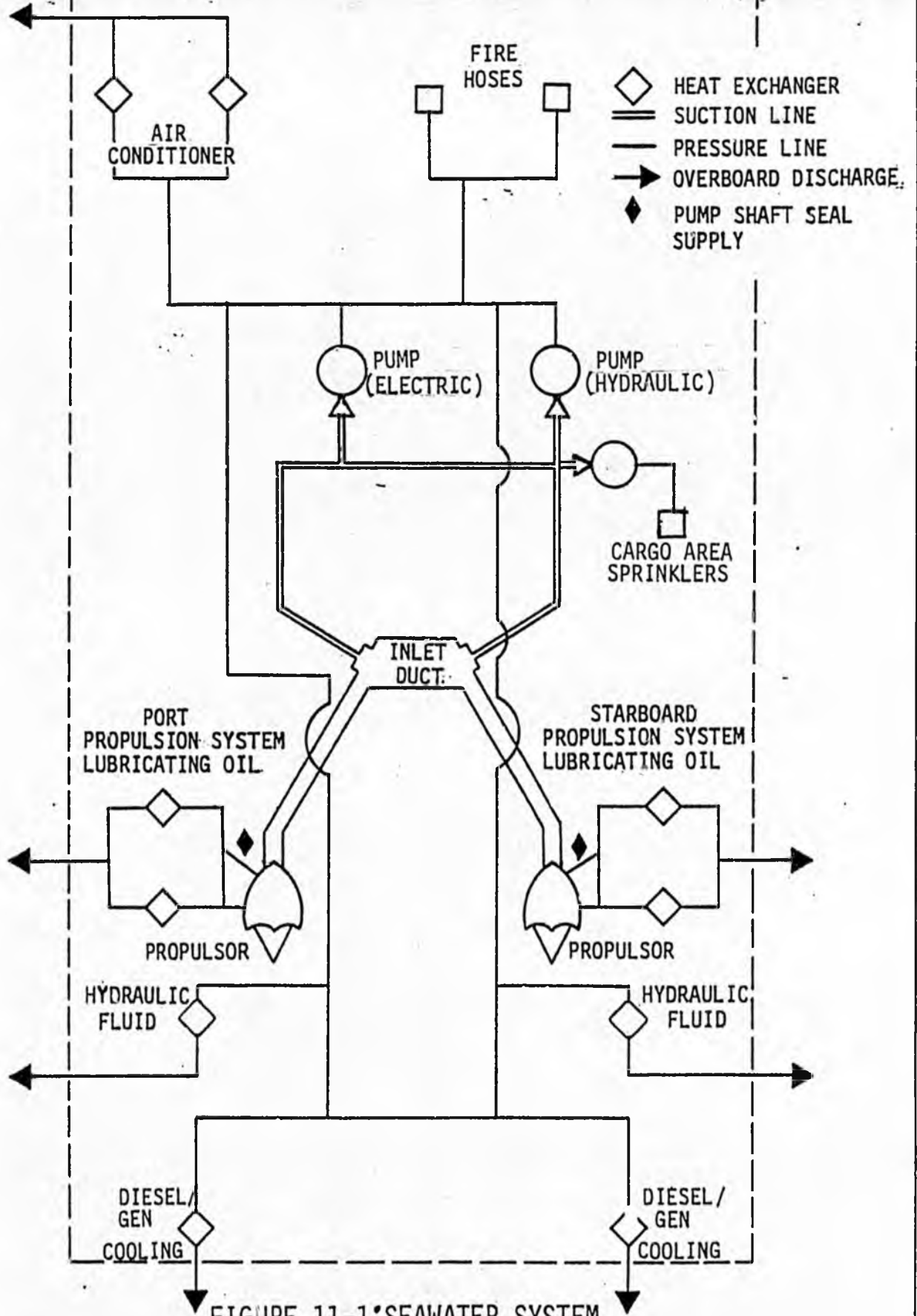


FIGURE 11-1: SEAWATER SYSTEM

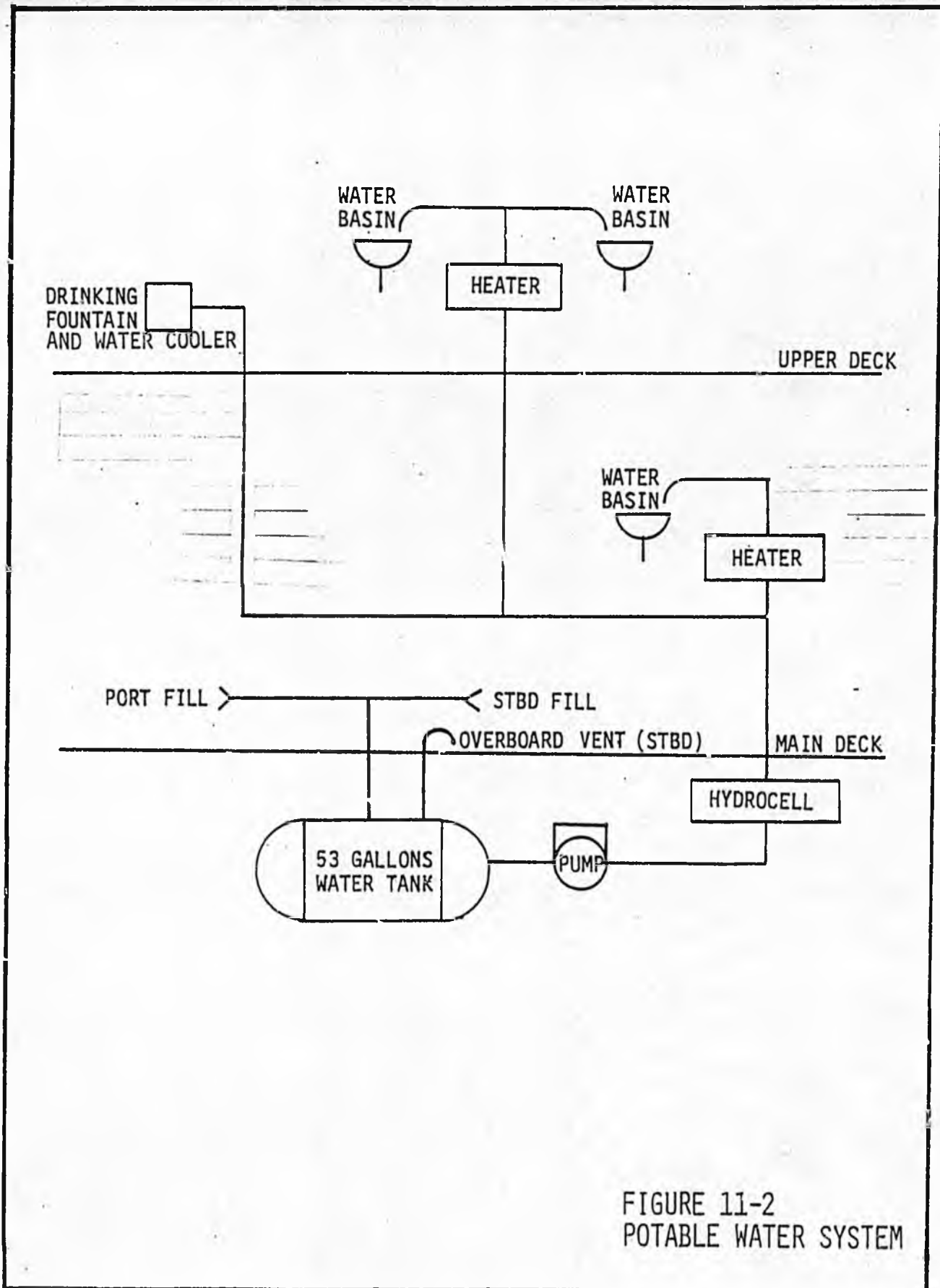


FIGURE 11-2
POTABLE WATER SYSTEM

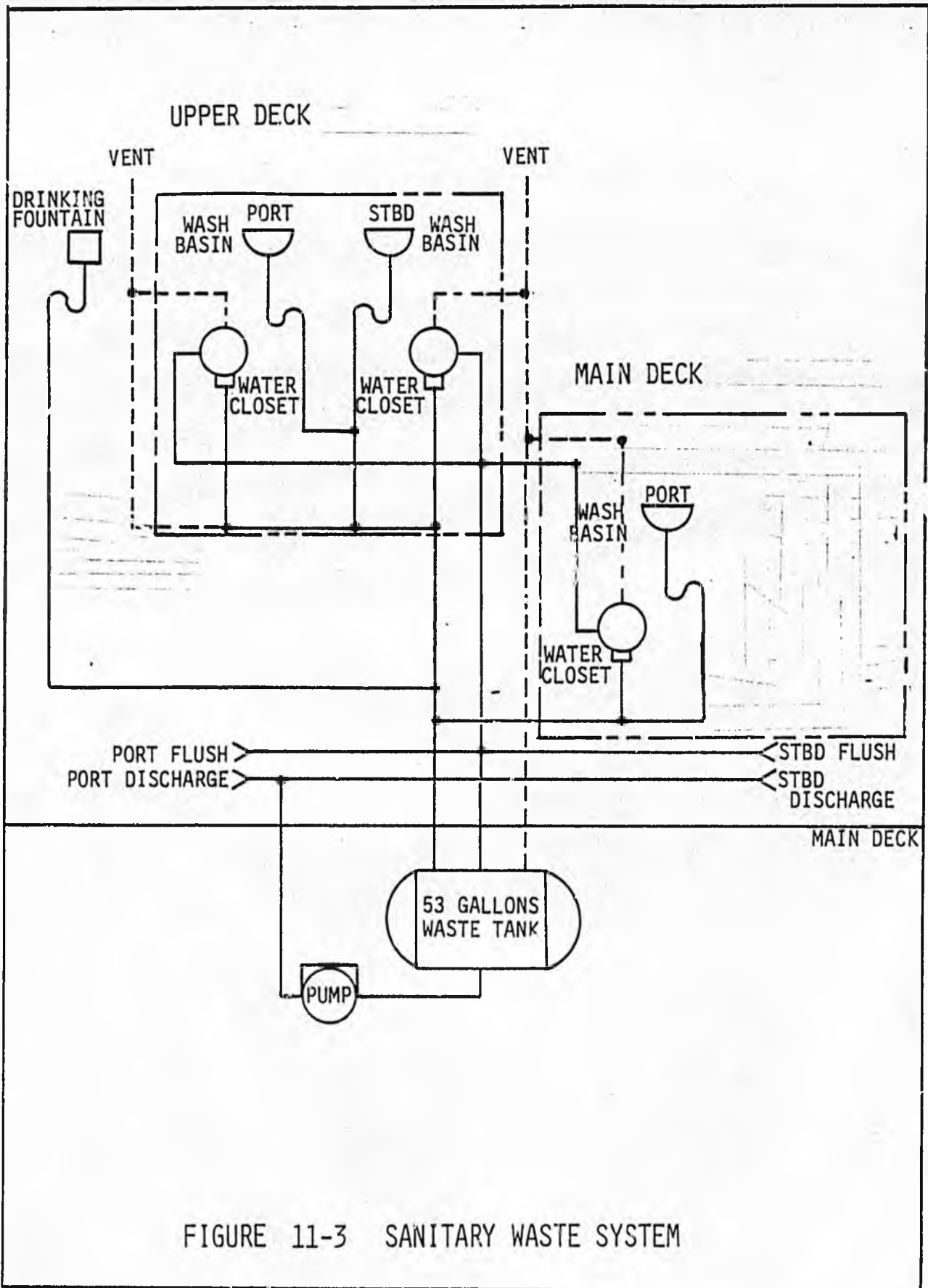


FIGURE 11-3 SANITARY WASTE SYSTEM

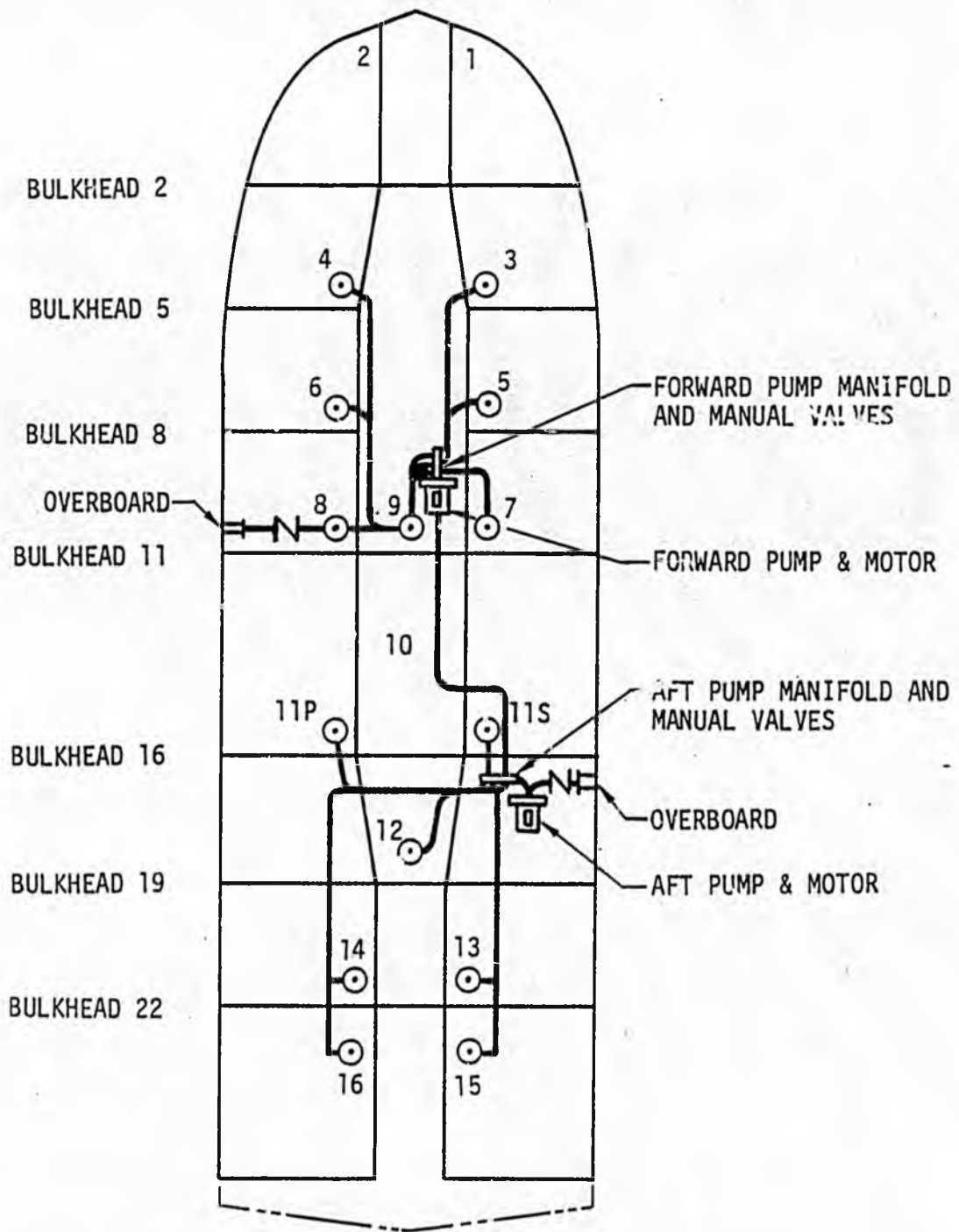


FIGURE 11-4
BILGE SYSTEM

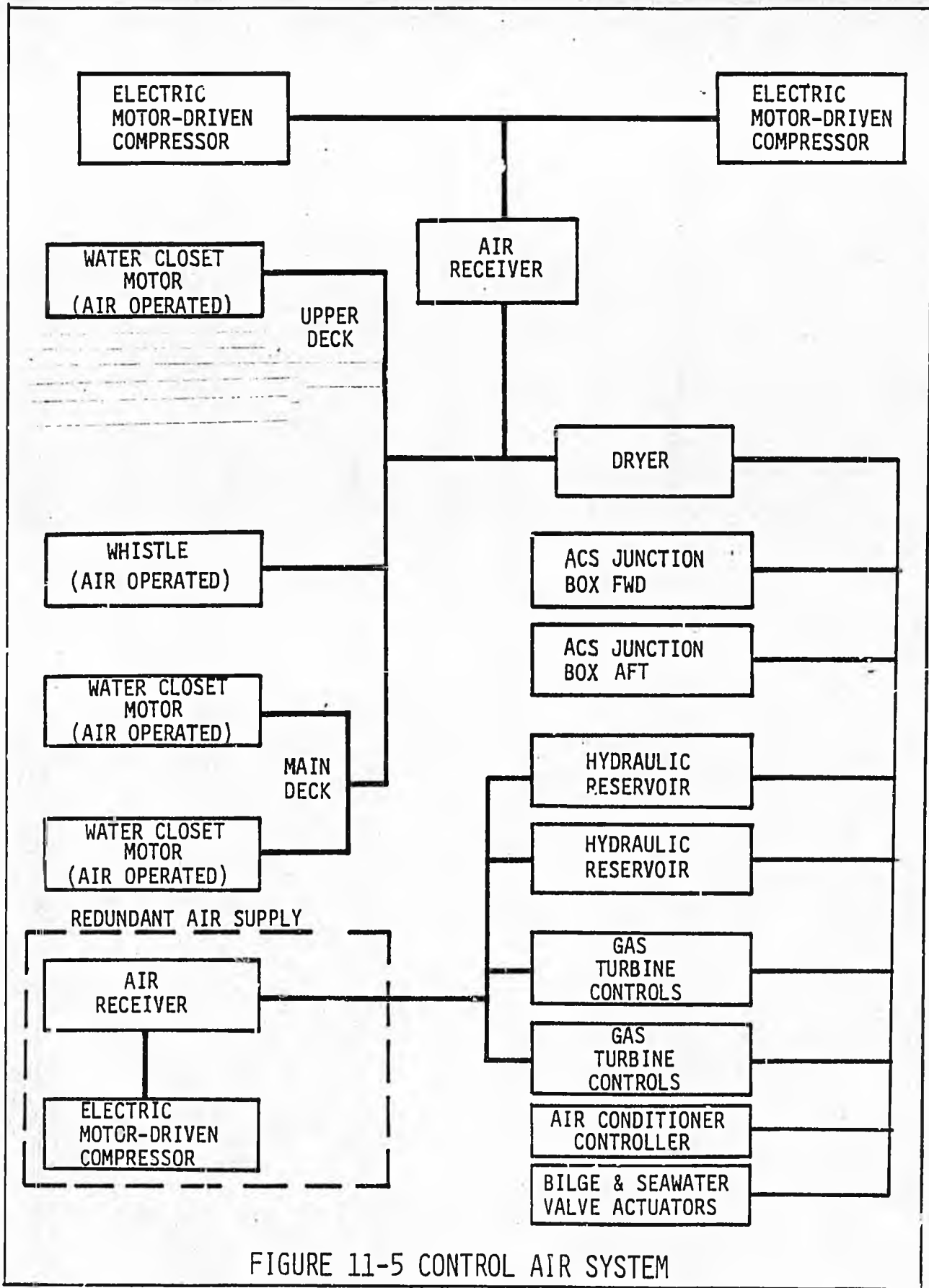


FIGURE 11-5 CONTROL AIR SYSTEM

12.0 EMERGENCY SYSTEMS

Fire detection/extinguishing systems and life saving equipment shall be installed on the boat in selected spaces.

12.1 MACHINERY ROOMS FIRE PROTECTION

A fire detection and extinguishing system shall be installed in selected unmanned machinery rooms. (Refer to Section 5.0 of this contract specification.)

Portable dry chemical fire extinguishers shall be provided; one in, or near the entrance to, each turbine space and diesel space.

12.2 SUPERSTRUCTURE FIRE PROTECTION

A seawater fire extinguishing system shall be installed to provide fire protection in the passenger cabins, cargo area, wheelhouse, and areas not otherwise protected. This system shall consist of a pump installed in the aft auxiliary machinery room and two hydrants, one installed on each deck. Each hydrant shall be equipped with 75 feet of 1-1/2 inch fire hose, shut-off valve, combination spray/straight stream nozzles with 4 foot extension applicators, wrench, and hose rack.

A manually operated sprinkler system shall be installed in the cargo area. It shall be served by a dedicated seawater pump.

Three portable dry chemical fire extinguishers shall be provided for the passenger cabins. Each shall be rated at 10 pounds capacity, 15 to 25 foot range, and 11 second operating time. One extinguisher shall be located on the main deck and two on the upper deck. Three additional fire extinguishers shall be located in the cargo area.

One fire axe shall be mounted in a main deck closet and one shall be mounted in the wheelhouse on the aft bulkhead.

12.3 LIFE SAVING EQUIPMENT12.3.1 LIFE RAFTS

An USCG approved life raft system shall be provided. The system shall include four 42-person life rafts (two rafts in each of two containers). Deployment and automatic inflation mechanisms shall be provided. The containers shall be equipped with hydrostatic releases. See Figure 1-1 for typical locations.

12.3.2 LIFE BUOYS

Four 30-inch lifebuoys, two with waterlights, shall be installed as shown on Figure 1-1.

12.3.3 LIFE PRESERVERS

One USCG-approved adult life preservers shall be installed integral with each passenger seat. Six crew's and fifteen children's life preservers shall be stowed in a closet. The location and quantity of the stowed life preservers shall be suitably marked.

12.3.4 DISTRESS SIGNALS

One set of six red signal flares and six orange smoke signals, USCG approved, shall be located in the wheelhouse.

13.0 OUTFITTING AND FURNISHINGS13.1 CREW ACCOMMODATIONS13.1.1 WHEELHOUSE ARRANGEMENT

The general plan of the wheelhouse shall be as delineated in Figure 6-1. The main console shall form the base for boat controls and systems indicators. The console shall be symmetrical about the boat centerline.

13.1.2 WHEELHOUSE SEATS

Two identical seats shall be installed at the control consoles. Each seat shall be equipped with a footrest and fold-up arm rests, shall swivel, and shall be adjustable vertically and longitudinally. Upholstery shall be color-fast, mildew-resistant, fire-retardant, and soil-resistant.

An additional standard crew seat shall be installed on the port side of the wheelhouse.

13.1.3 WHEELHOUSE DECK, SIDEWALL, AND OVERHEAD COVERING

The Wheelhouse deck shall be carpeted with materials approved by the USCG.

Sidewall and overhead areas shall be covered with approved materials to provide thermal and acoustic insulation.

13.1.4 CABIN ATTENDANT SEATS

Two one-man fold-up bulkhead-mounted cabin attendant seats shall be installed in the upper deck passenger cabin as identified in Figure 1-2. The seats shall have a decorative finish to fit the cabin interior decor.

One of the seats installed in the Main Deck Forward Cabin (adjacent to the galley) is intended to be used as a crew seat.

13.2 PASSENGER ACCOMMODATIONS13.2.1 CABIN ARRANGEMENT

The general arrangement of the main deck and upper deck passenger cabins shall be as identified in Figure 1-2.

The main deck cabin shall be forward of the main entry complex. One toilet--including a lavatory and watercloset--shall be installed to port of the boat centerline forward of the main entry doors.

A stairway shall be installed leading from the main deck to the upper deck accommodations. Additional egress shall be provided port and starboard via two doors leading to the after deck.

The upper deck accommodations shall include two toilets located at the forward end of the cabin, aft of the wheelhouse bulkhead. The toilets shall be identical to those on the main deck. Egress from the upper deck cabin shall be via the main stairway or the aft cabin port and starboard doors. Port and starboard aft exterior stairs leading to the main deck shall be installed.

13.2.2 PASSENGER SEATS

136 passenger seats shall be installed (135 for passengers and 1 on the lower deck to be used as a crew seat). The seats shall be provided in modules of up to four seats. [Modules and abutting modules shall have a fixed armrest on the end of each module (shared armrest for abutting modules) with folding armrests between seats within the modules.] Seat tracks shall be installed integral with deck structure. Passenger seats shall be equipped with a reclining feature and headrests (except when located with its back against a wall or stanchion, equipped with seat belts, and styled and upholstered to complement the interior decor. Upholstery materials shall be color-fast, mildew-resistant, fire-resistant (to meet the flame spread and smoke requirements specified by the USCG), and soil-resistant.

A Food Tray shall be provided for each passenger. These shall fold-down from the seatback in front, or shall be plug-in trays where this is impracticable.

13.2.3 CABIN DECK, SIDEWALL, AND OVERHEAD COVERINGS

The cabin decks shall be carpeted with materials acceptable to the USCG.

Sidewall and overhead areas shall be covered with approved materials to provide thermal and acoustic insulation.

13.2.4 FOOD SERVICE

One free-standing food service module (galley) shall be provided at the upper deck location shown on figure 1-2. The cabinet shall be approximately 75 " high, 43 " wide, and 22 " deep. The front of the module shall be curtained and shall be compatible with the interior decor of the boat. The galley shall be fitted with 10 food/beverage carriers and 2 ice carriers.

Facing the food service module shall be a 63" wide luggage rack modified to hold a microwave oven and 6 additional food and beverage carriers.

The main deck galley shall be forward and starboard of the main stairwell as shown in figure 1-2. A microwave oven shall be rack-mounted against the cabin sidewall, just outboard of the galley. The main deck galley shall have 3 food and beverage carriers and 2 ice carriers.

Three folding food carts shall be provided: two on the upper deck and one on the lower.

13.2.5 LUGGAGE STOWAGE

Enclosed overhead stowage racks shall be provided above the passenger windows on both decks as shown on figure 1-2.

A baggage container shall be mounted on the fantail. This container shall be fixed in position.

13.3 MACHINERY SPACE OUTFITTING

Approved sidewall and overhead fireproof panels shall be installed in the turbine and diesel engine spaces. Selected decks in working areas of machinery spaces shall be treated with a non-skid surface coating.

13.4 CARGO SPACE OUTFITTING

The cargo area sidewalls and overhead shall be covered by fire-insulation, a moisture barrier, and expanded metal sheathing.

A cargo openings shall be fitted with a removable chain barrier.

Parcel shelves shall be installed to starboard of the main stairwell and stowage for cargo tiedown hardware to port.

13.4 PAINT

The hull below the waterline shall receive a paint system as follows: alodine, two coats epoxy primer, and two coats anti-fouling topcoat. Struts and foils shall not be painted below the hullborne waterline.

Draft marks, both forward and aft, shall be in metric dimensions.

The hull and superstructure above the waterline shall receive a paint system as follows: alodine, two coats epoxy primer, one coat white semi-gloss polyurethane, and a topcoat comprising white semigloss polyurethane enamel and markings/trim to Buyer's requirements (to a maximum of two solid continuous tone trim colors). See Figure 13-1 for exterior color markings.

All weather deck working and walking areas shall be covered with an epoxy non-skid paint. The cargo deck shall be covered with a non-skid coating.

Passenger cabin interiors not covered with vinyl panels shall be painted to match or harmonize with their immediate surroundings.

Interior decor shall include the following:

Seat fabric: 60% Replin Jetset "D" Blue
 40% Replin Jetset "F" Gold

Carpet Mohasco "Emissary" AZ-1936-11 Antron II
 Nylon, Static Control (Blue)

13.5 DECK HARDWARE13.5.1 HULL FITTINGS

Mooring cleats, towing fittings, cargo ramp fittings, lift fittings, and handrails shall be installed as identified on Figure 1-1 of this specification.

13.5.2 GROUND TACKLE

One 250-pound ABS approved anchor with 340 feet of 7/16 inch diameter wire rope and stowage drum shall be provided. Two 100-foot and two 50-foot lengths of one-inch diameter nylon line shall be provided for mooring.

13.6 SIGNS AND PLACARDS

Signs and placards shall be installed throughout the boat as required by the USCG. All signs and placards shall be in English unless otherwise negotiated. (See paragraph 1.4.5.)

An initial supply of evacuation placards, in international symbols, shall be provided.

13.7 EQUIPMENT SUGGESTED FOR OPERATION

Certain equipment not furnished by Boeing is suggested for boat operation. These are set forth in Appendix IV. A weight allowance has been included for these items in the deadweight shown in section 3.0 of this specification.

FIGURE 13-1: TBA
EXTERIOR COLOR MARKINGS

(COLORED ILLUSTRATION TO BE INCLUDED IN
FINAL VERSION OF THIS SPECIFICATION)

14.0 STANDARD OPTIONS

The following JETFOIL Standard Options shall be installed prior to delivery.

1. Headrests for 136 seats
2. Recline for 122 seats
3. Food trays for 136 seats
4. Enclosed Overhead Stowage
5. Vision Augmentation System
6. Fantail Container
7. Heated Wheelhouse Windows
8. Port Crew Seat
9. Folding Food Carts (3)
10. Upper Deck Galley
11. Food/Beverage/Ice Carriers
12. Life Jackets for 19-1/2" Seats

15.0 BUYER UNIQUE OPTIONS

The following Customer Unique Options shall be installed by Boeing prior to boat delivery.

1. Conversion of Main Passenger Cabin to Cargo Space
2. Conversion of Electrical, Lighting, and Air Conditioning systems for Cargo Space
3. Conversion of one Toilet Module to a Galley
4. Additional Portable Fire Extinguishers
5. Tie-downs allowance
6. Microwave Ovens (2)
7. Modified Luggage Rack and Installation
8. Oven Stand and Installation
9. Modifications for Cold Weather
10. Additional Seawater Pump and Cargo Space Sprinkler System
11. Change from 294 21" Seats to 136 19-1/2" Seats

BOEING

16.0 BUYER FURNISHED EQUIPMENT

The following are required equipment that are to be supplied by the Buyer after delivery.

None

APPENDIX I:PERFORMANCE ESTIMATES AND DEMONSTRATIONS1.0 PERFORMANCE ESTIMATES

Estimated takeoff performance, foilborne cruise pump speed (power), and foilborne cruise fuel consumption are shown in Figures I-1, I-2, and I-3, respectively.

2.0 PERFORMANCE DEMONSTRATIONS

Boat performance demonstrations shall be conducted in Lake Washington, Puget Sound, and/or the Straits of Juan de Fuca to demonstrate compliance with this specification. The exact site for any given demonstration shall be selected by the Boeing Ship Master.

Demonstrations shall be conducted with the boat in a configuration that is, as nearly as practicable, the deliverable configuration as defined in the contract specification or in such other configuration as may be agreed upon by the Buyer and Boeing in the Purchase Agreement. Data from the Builder's Trials shall be provided on request.

The demonstrations to be conducted, and the appertaining conditions, shall be in accordance with a Customer Demonstration Trials Procedure to be prepared by Boeing based on D320-52001-3, "JETFOIL Customer Trials--Standard."

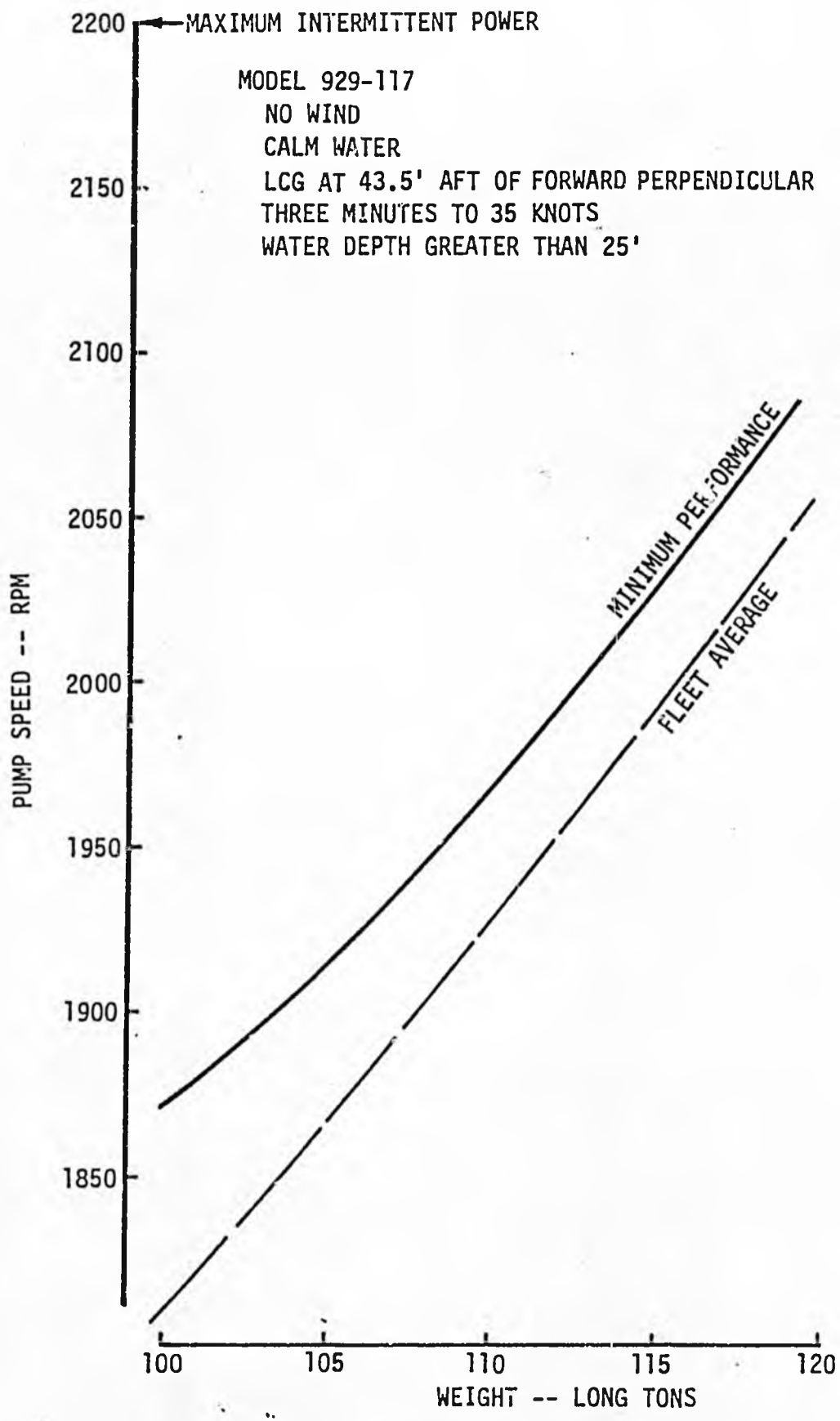


FIGURE 1-1 TAKEOFF PERFORMANCE

MODEL 929-117
42KNOTS
CALM WATER
.5.5'FOIL DEPTH

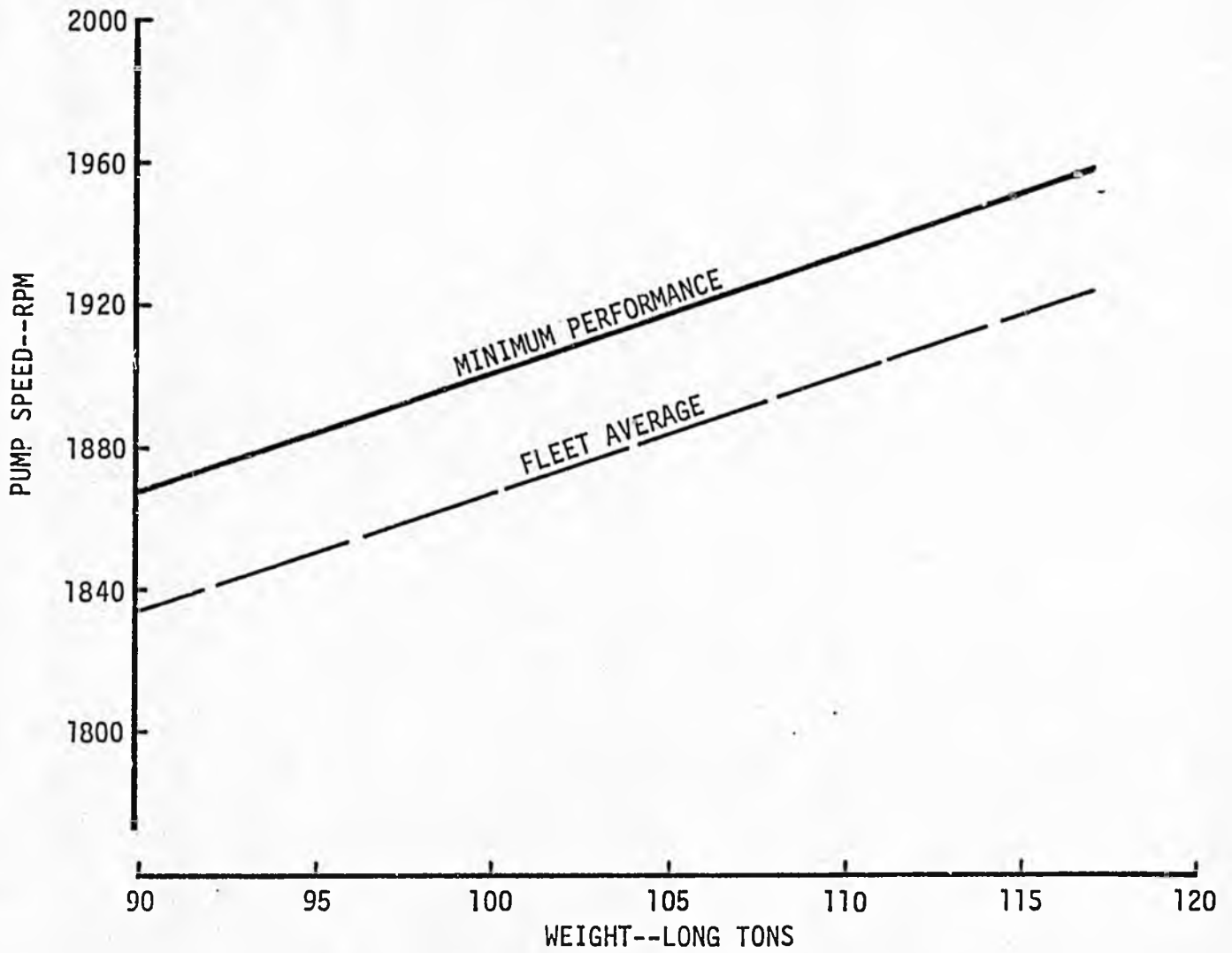


FIGURE 1-2 FOILBORNE CRUISE PUMP SPEED

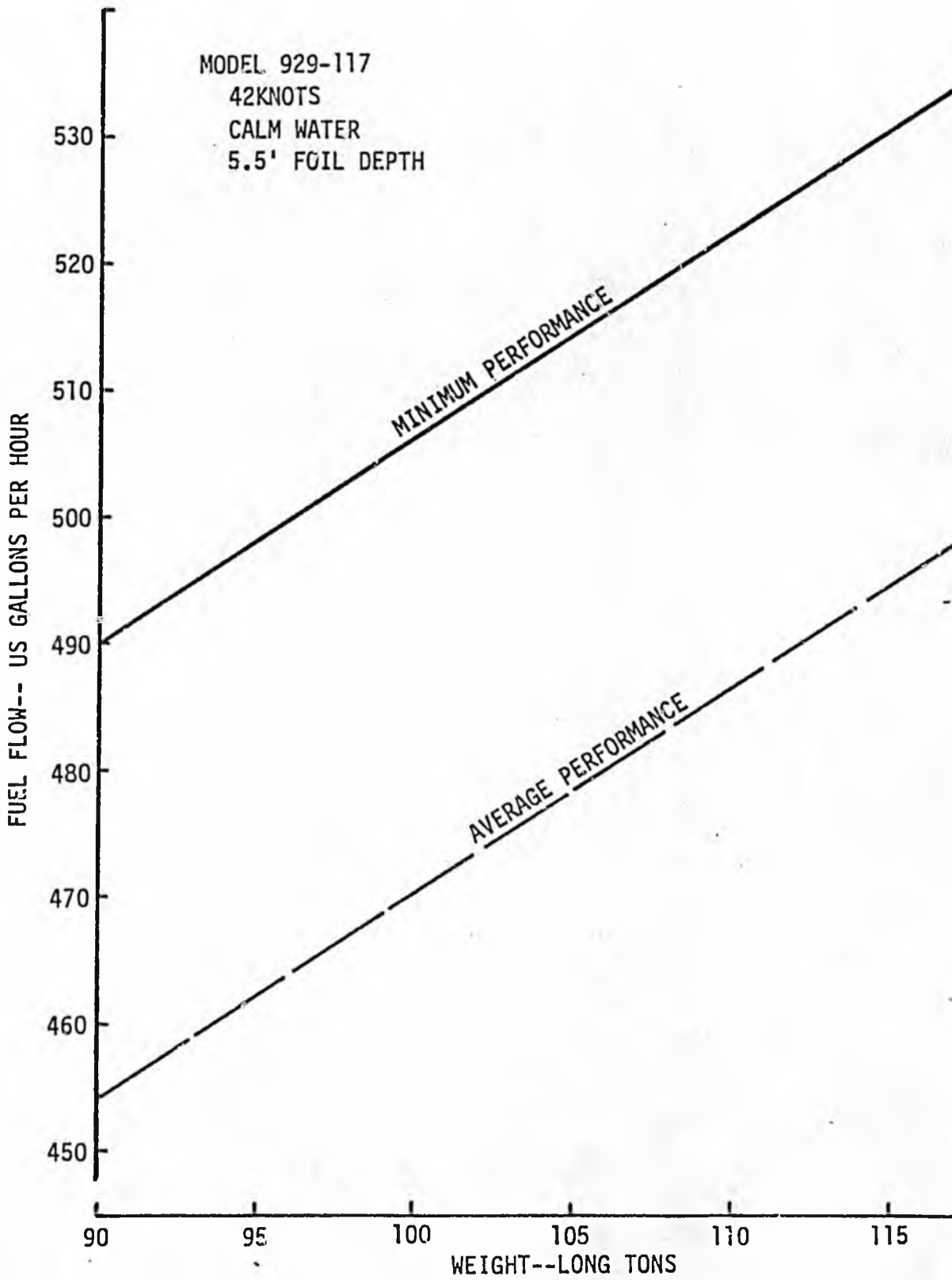


FIGURE 1-3 FOILBORNE CRUISE FUEL CONSUMPTION

BOEING

APPENDIX II - MAJOR EQUIPMENT IDENTIFICATION

The following major equipment or Boeing-selected equivalent equipment shall be incorporated in the boat.

<u>EQUIPMENT</u>	<u>MANUFACTURER</u>	<u>MODEL/PART NO.</u>
GAS TURBINE	DETROIT DIESEL ALLISON DIVISION	501-KF
PROPULSOR	ROCKETDYNE DIVISION OF ROCKWELL INT.,	R1G-0002
DIESEL	PERKINS ENGINES LTD.	T6.354
GENERATOR	KATO	4P1-1000 M
AIR CONDITIONING MACHINERY	LEAR SIEGLER, INC.	607200-51
PUMPS		
HYDRAULIC	ABEX CORP.	65082 (PRIMARY) P2V07-070-041-1- L01-1A04 (SECONDARY)
SEAWATER	BARBER NICHOLS ENGRG CO	BMS 601
BILGE	M. P. PUMPS, INC.	SELF PRIMING CENTRIFUGAL PUMP
FIRE	BARBER NICHOLS ENGRG CO	BMS602 FIREMAIN PUMP
FIRE PUMP MOTOR	ABEX, CO	68256 MOTOR
FUEL	ROPER PUMP CO.	GA-1AM-16 (DIRECT COUPLED DRIVE MOTOR)
BOW THRUSTER	SCHOTTEL	S320-22008
GYROCOMPASS	ROBERTSON	SKR-80M
AIR COMPRESSORS	GAST MFG. CO.	5HCD-22C-M606 5HCD-55-M606 4HCC-59M-504X
HORN	KAHLENBURG BROS. CO.,	1131S3
MAGNETIC COMPASS	THE EASTERN CO., DANFORTH DIVISION	C680BKA, WITH 2 ^o CARD
ANCHOR: 250LB (LWT) SUPERIOR HOLDING POWER	BALDT ANCHOR & CHAIN	81102-25012

BOEING

<u>EQUIPMENT</u>	<u>MANUFACTURER</u>	<u>MODEL/PART NO.</u>
HALON FIRE PROTECTION SYSTEM		
HALON CONTAINER AND DISCHARGE VALVE	SYSTRON DONNER	3763
NOZZLE	SYSTRON DONNER	4440-12A
HEAT DETECTOR	SYSTRON DONNER	2001-20-800/225-22
HEAT DETECTOR	SYSTRON DONNER	3001-21-900/300-15
WINDSHIELD WIPER	SINGER COMPANY, KEARFOTT MARINE PRODUCTS	KS-1385-WDU
SEATS	AIRCRAFT FURNISHINGS LTD.	(BOEING SPEC NO. S320-26008)
LIFERAFTS (42 MAN)	RFD-PATTEN INC.	(BOEING SPEC NO. S320-26001-3)
LIFE PRESERVERS	R. PERRY & CO. LTD.	3600-15-001
HYDRAULIC ACTUATORS		
FLAP, FWD AND AFT OUTBOARD	SERGEANT INDUSTRIES (WESTERN HYDRAULICS)	7-4060
FLAP, AFT INBD	SERGEANT INDUSTRIES) (WESTERN HYDRAULICS)	7-4070
STRUT STEERING	SERGEANT INDUSTRIES (WESTERN HYDRAULICS)	7-4072
RETRACTION AFT	BENDIX CORP*	2579840
RETRACTION FWD	BENDIX CORP**	2579805
INVERTER	MAGNETIC CIRCUIT ELEMENTS	C1200X2 (BOEING SPEC NO. S320-14087-2)
NAVIGATION LIGHTS		
MASTHEAD	AQUA-SIGNAL	33087-003/305
ANCHOR		33037-013/306
STERN		33034-003/305
STARBOARD		33059-103/305
PORT		33060-203/305

BOEING

<u>EQUIPMENT</u>	<u>MANUFACTURER</u>	<u>MODEL/PART NO.</u>
VERTICAL GYROSCOPE	LEAR SIEGLER	156465-01-02
RATE GYROSCOPE	LEAR SIEGLER	156464-01-01
ACCELEROMETERS	SYSTRON DONNER	4310A-2-P91B
RADAR (PRIMARY)	DECCA	RM916A
FIRE FIGHTING EQUIPMENT:		
SPRAY NOZZLE	ROCKWOOD SYSTEMS CORP	SG-71-1-1/2 NOZZLE (510-0623)
EXTENSION WATER APPLICATOR	ROCKWOOD SYSTEMS CORP	10-06744

*OPTIONAL: A. P. HYDRAULICS NO. AP2579840

**OPTIONAL: A. P. HYDRAULICS NO. AP2579805

BOEINGAPPENDIX III - EQUIPMENT SUGGESTED FOR BOAT OPERATION NOT FURNISHED BY
BOEING

In addition to the items listed in this specification, the following are suggested equipment for operations, but are not supplied by Boeing.

<u>ITEM</u>	<u>QUANTITY</u>
Beam Gun/Hand Signalling Lamp	1
Pike Poles - 10 - 12'	2
Flashlights	4
Safety Harness	1
Safety Lines - 1/2" x 25' nylon	1
Stretcher - Floating	1
Wool Blanket	1
Asbestos Gloves	2 pr.
Ear Muffs - Noise Suppression in Engine Spaces	2 pr.
Heaving Line - 1/4" Cotton	2
Drip Cans - 1 pint	3
Drip Cans - 1 quart	3
Bullhorn	1
Lint Free Cloths	1 doz.
Rags, Wiping	2 doz.
Small Plastic Bags	1 doz.
Plastic Bottles - 5 gallons	2
Aerosol Oil (WD-40 or equiv.) - 8 oz.	2
Tape - 2" White Cloth	2 rolls
Tape - 2" Masking	2 rolls
Tape - Oil Proof	2 rolls
Chemical - Toilet Charging, DG 19	2 pkg.
Navigation Charts and Instruments	As Reqd

STATE OF ALASKA

APR 14 83
BILL SHEFFIELD, GOVERNOR

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
Deputy Commissioner/Southeast Region

P.O. BOX 1467
JUNEAU, ALASKA 99802
PHONE: 364-4339

April 12, 1983

The Honorable Pappy H. Moss
Chairman, Senate Transportation Committee
Alaska State Legislature
Pouch V
Juneau, AK 99811

Dear Senator Moss:

In response to SB 217, making a special appropriation to DOT&PF for the purchase of three hydrofoils, the Department desires to present it's comments and recommendation.

Boeing Marine Systems personnel have completed an economic assessment of Jetfoil service in Southeast Alaska based on a 3-boat service scenario. DOT&PF staff has worked closely with Boeing in the preparation of the report and, for the most part, our input has been incorporated into the final document. The following are our general impression of the proposed project, brief comments on those sections of the report that we feel need to be carefully considered, and a recommendation for action.

We feel that the economic assessment is based on sound methods and procedures. Traffic forecasts were developed by Boeing for low, medium and high scenarios, an approach that we found appropriate, considering the subjective nature of the exercise. We would have preferred to see a concise summary and presentation of vital factors and findings, but considering the complexity of the service proposal, the 17 page "Summary of Results" may be the only viable alternative.

Recognizing the lack of any actual experience on which to base traffic estimates, we feel that Boeing's passenger projections are optimistic and we tend to favor the low scenario (26% average load factor). We concede that this is a subjective judgement, difficult to support with actual numbers, based almost exclusively on our years of local knowledge. For this reason, we have concluded that a long term (one year minimum) trial under actual operating conditions is the only reasonable method of obtaining necessary base traffic data.

There is no acceptable method to produce credible freight projections without actual experience or a detailed analysis of vehicle and freight movements. Due to time constraints Boeing chose to present a range of freight scenarios, an approach that is acceptable if the limitations and short comings of such figures are understood. Even more so than the passenger projections, and for the same reasons, we feel that the

freight market scenarios presented are optimistic. Unfortunately, even a one year test trial will not provide any base data inasmuch as the basic freight handling infrastructure is not in place. Boeing does plan to complete a vehicle and freight market analysis later this year, but even preliminary data from this study is not yet available.

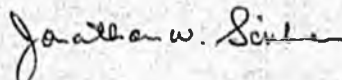
Any analysis of potential freight markets must also consider the substantial capital outlay necessary for shore facilities. The Department estimates shore facility cost at \$26,000,000 and have included the annual cost of this investment in the attached cost-revenue relationship summary. Boeing's calculations do not include this figure.

At present, the marine highway system handles cargo only to the extent of transporting vans or other freight hauling vehicles under the same conditions as passenger automobiles. On the other hand, Boeing conceives the Jetfoil freight scenario as a container or pallet type of operation with shoreside agents and infrastructure very similar to existing services provided in the private sector.

Boeing's report also summarizes the possible impact of Jetfoil service on the existing Marine Highway System. In considering implementation of the proposed changes, political ramifications cannot be overlooked. For example, increased passenger and vehicle capacity on the Mainline system is achieved only with a significant reduction in direct southbound service from Sitka, a change that is physically possible but is likely to meet with considerable opposition from the residents affected.

In summary, the Boeing economic assessment is based on reasonable methods and assumptions and is acceptable with the above mentioned comments. Because of the weaknesses in base data and the resulting inability to develop a better technical analysis it is recommended that a commitment to purchase the Jetfoil vessels not be undertaken without the benefit of at least one year, one boat trial demonstration under actual operation conditions.

Sincerely,



Jonathan W. Scribner
Acting Deputy Commissioner

cc: Daniel A. Casey, Commissioner, DOT&PF
Emil Notti, Office of the Governor
Senator Bill Ray

DAC:RTM:tas

SUMMARY

Cost-Revenue Relationships

CAPITAL COSTS (1)

3 Jetfoil Vessels	\$49,200,000
Spares	5,800,000
Full Facilities (2)	<u>26,000,000</u>
TOTAL	\$81,000,000

ANNUAL OPERATING COSTS (1)

Crew	\$2,280,000
Fuel	4,481,000
Maintenance	1,836,000
Insurance	984,000
Indirect	2,002,000
Materials	1,327,000
Capital Recovery (10% @ 20 years) (2)	<u>10,882,000</u>
TOTAL	\$23,792,000

REVENUES (1)

	<u>Low</u>	<u>Medium</u>	<u>High</u>
Passengers	\$3,265,000	\$5,020,000	\$6,975,000
Freight	<u>1,445,000</u>	<u>4,213,000</u>	<u>9,334,000</u>
TOTAL	\$4,710,000	\$9,233,000	\$16,335,000

COST-REVENUE RELATIONSHIPS (2)

	<u>Low</u>	<u>Medium</u>	<u>High</u>
\$ Deficit	\$19,082,000	\$14,559,000	\$7,457,000
% Subsidy	80%	61%	31%

Note: Source of data and calculations

(1) Boeing

(2) Department of Transportation and Public Facilities

BOEING MARINE SYSTEMS

Tele: (206) 237-5387, Telex: 32-9430

P.O. Box 3707 M.S. 61-50

Seattle, Washington 98124

A Division of The Boeing Company

April 18, 1983
H-1400-PJB-269

Senator Pappy Moss
State Capitol
Pouch V
Juneau, Alaska 99811

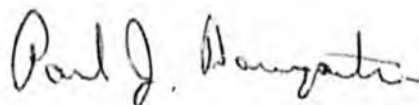
Dear Senator Moss:

To confirm our conversation of last week relative to an alternate approach for the purchase of JETFOILS, I am pleased to confirm that we will offer the State of Alaska a proposal for the purchase of one JETFOIL for delivery in May 1985, and for an estimated price of \$22,800,000. This estimated price includes an escalation rate of 8 percent from the 1982 mid-year base price.

The JETFOIL will be manufactured to the same customized Alaska configuration as described in the March 1 proposal H-1100-LTRA-170.

A follow-up proposal based on this single JETFOIL offer will be forthcoming in substitution for our March 1, 1983 proposal.

Very truly yours,



Paul J. Baumgaertner
Regional Sales Director

cc: Senator Bill Ray
Senator Don Bennett
Deputy Commissioner John Scribner

BOEING

BOEING MARINE SYSTEMS
A DIVISION OF THE BOEING COMPANY

February 7, 1983

The Honorable D. A. Casey
Commissioner
Department of ~~Transportation~~
and Public Facilities
State of Alaska
Pouch Z
Juneau, Alaska 99811

Dear Sir:

We are pleased to offer three Boeing jetfoils customized to what we believe are specific State of Alaska's transportation requirements. The deliveries are ASD Seattle, as follows:

#1 August 1985
#2 April 1986
#3 August 1986

The customized configuration is defined in the enclosed attachment. The not to exceed prices are as follows:

(3) Customized Jetfoils	\$46.1 M
Boat Optional Equipment Allowance	4.5 M
Initial Spares & Product Support Equipment	3.5 M
Contingency	<u>.9 M</u>
	\$55.0 M

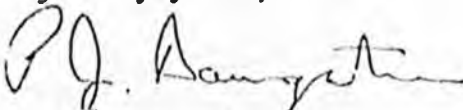
Prices are quoted in 1982 dollars and will be subject to escalation incurred to time of delivery and local and state taxes. A complete proposal and specification will be available March 1, 1983.

The product support services included are operating crew and maintenance training and initial onsite technical support. The jetfoil will be constructed to ABS standards and will have U.S. Coast Guard approval.

The shore terminal and related facilities capital and equipment are not included in the above boat prices.

We look forward to working with you and developing a jetfoil configuration that is satisfactory to the State of Alaska. Definitive contract signing is proposed for July 1, 1983.

Very truly yours,



P. J. Baumgaertner
Regional Director of Sales
M.S. 61-50
P. O. Box 3707
Seattle, Washington 98120

BOEING MARINE SYSTEMS

P.O. Box 3707
Seattle, Washington 98124

A Division of The Boeing Company

March 9, 1983
H-1100-LTRA-170

STATE OF ALASKA
Department of Transportation and Public Facilities
Pouch Z
Juneau, Alaska 99811

Attention: The Honorable D. A. Casey, Commissioner

Subject: Proposal for Sale of Three (3) Boeing Model 929-1XX JETFOILS.

Gentlemen:

By this proposal, The Boeing Company ("Boeing") is pleased to offer to manufacture and sell three (3) Boeing Model 929-1XX JETFOIL Passenger Boats (the "JETFOILS" or "JETFOIL", as appropriate) to the State of Alaska, acting by and through its Department of Transportation and Public Facilities ("Buyer"), subject to terms and conditions set forth below.

1. Subject Matter

The JETFOILS shall be manufactured by Boeing to comply with Boeing Specification D320-52034-1 dated March 9, 1983, describing a Boeing Model 929 JETFOIL with full load displacement of 117 long tons, and by this reference incorporated herein as though set forth in full). Said specification is subject to revision to:

(a) Incorporate changes required to obtain regulatory agency approval.

(b) Incorporate other changes mutually agreed upon prior to signing the definitive Purchase Agreement referred to herein in paragraph 5, "Definitive Purchase Agreement." The JETFOIL configuration for Buyer's use may require a different interior configuration, revised payload distribution, or other special features, and resolution of configuration and its impact on price and schedule will be accomplished during the period of definitization referred to herein in paragraph 5, "Definitive Purchase Agreement."

(c) Incorporate changes developed by Boeing without Buyer's consent where such changes do not affect the purchase price or delivery schedule or adversely affect JETFOIL performance.

BOEING

2. Delivery

One (1) JETFOIL shall be delivered by Boeing to Buyer alongside a dock selected by Boeing in Seattle or Renton, Washington, U.S.A. during or before each of the months set forth in the following schedule:

May 1985
December 1985
August 1986

3. Price

(a) Basic Price

The Basic Price (in 1982 Dollars) of each JETFOIL shall be SIXTEEN MILLION FOUR HUNDRED THOUSAND DOLLARS (U.S. \$16,400,000). Such Basic Price is subject to adjustment to reflect the price effect of changes referred to in clause (a) and (b) of paragraph 1 above prior to the date Boeing and Buyer enter into a definitive Purchase Agreement.

(b) Purchase Price

The Purchase Price of each JETFOIL shall be the Basic Price thereof (i) adjusted for any changes mutually agreed upon subsequent to the date Boeing and Buyer enter into a definitive Purchase Agreement, and (ii) adjusted thereafter for economic fluctuations in accordance with the provisions of Attachment B hereto (Price Adjustments Due to Economic Fluctuations).

(c) Spare Parts, Support Equipment and Product Support Services

The Basic Price set forth in paragraph 3(a) above does not include any amount for the spare parts and support equipment which Buyer will be required to purchase to support operation of the JETFOILS. For Buyer's planning purposes, however, Boeing estimates that the aggregate cost (in 1982 U.S. Dollars) of spare parts and support equipment, as well as extra training or other support purchased from Boeing, for the three JETFOILS will be approximately FIVE MILLION EIGHT HUNDRED THOUSAND DOLLARS (\$5,800,000). Boeing estimates that such costs, as actually expended in delivery year dollars contemporaneously with the three JETFOIL deliveries, will be as follows:

First JETFOIL (May 1985)	-	\$5,200,000
Second JETFOIL (December 1985)	-	\$ 500,000
Third JETFOIL (August 1986)	-	\$1,600,000

BOEING

4. Payment

(a) Advance Payment Base Price

Each JETFOIL shall have an Advance Payment Base Price depending on its scheduled delivery month, as indicated below:

<u>Scheduled Delivery Month</u>	<u>Advance Payment Base Price</u>
May 1985	\$20,279,000
December 1985	\$21,210,000
August 1986	\$22,327,000

Each Advance Payment Base Price shall be adjusted at the time of execution of the definitive Purchase Agreement to reflect the price effect, if any, of the changes referred to in clauses (a) and (b) of paragraph 1 above.

(b) Advance Payments

Buyer shall pay to Boeing Advance Payments for each JETFOIL in an amount equal to seventy percent (70%) of the Advance Payment Base Price therefor, in accordance with the following schedule:

<u>Due Date of Payment</u>	<u>May 1985 JETFOIL</u>	<u>December 1985 JETFOIL</u>	<u>August 1986 JETFOIL</u>
Concurrently with signing of the definitive Purchase Agreement	\$ 2,027,900	\$ 2,121,000	\$ 2,232,700
November 1, 1983	\$ 2,027,900	-----	-----
February 1, 1984	\$ 3,041,850	-----	-----
May 1, 1984	\$ 3,041,850	-----	-----
June 1, 1984	-----	\$ 2,121,000	-----
September 1, 1984	-----	\$ 3,181,500	-----
November 1, 1984	\$ 4,055,800	-----	-----
December 1, 1984	-----	\$ 3,181,500	-----
February 1, 1985	-----	-----	\$ 2,232,700
May 1, 1985	-----	-----	\$ 3,349,050
June 1, 1985	-----	\$ 4,242,000	-----
August 1, 1985	-----	-----	\$ 3,349,050
February 1, 1986	-----	-----	\$ 4,465,400
TOTAL	\$14,195,300	\$14,847,000	\$15,628,900

(c) Final Payment

The balance of the Purchase Price shall be paid at the time of delivery of each JETFOIL.

5. Definitive Purchase Agreement

- (a) Following acceptance of this offer by Buyer, Boeing and Buyer shall use their best efforts to enter into a definitive Purchase Agreement covering the detailed terms and conditions of sale of the JETFOILS. The definitive Purchase Agreement shall include the terms and conditions of this offer, together with the terms and conditions not inconsistent herewith contained in Boeing's standard form of JETFOIL Purchase Agreement (Attachment C hereto). It is further contemplated that Boeing and Buyer will also enter into a Product Support General Terms Agreement substantially in the form of Attachment D hereto, pursuant to which Boeing will provide the initial provisioning of spare parts and support equipment described in paragraph 3(c) as well as continuing product support after the JETFOIL deliveries.
- (b) Selection of Buyer options and unique features shall be subject to price, specification, payload, and schedule adjustments as part of the Purchase Agreement definitization.
- (c) It is contemplated that Boeing and Buyer will sign the definitive Purchase Agreement on or before July 1, 1983. In the event the parties cannot reach agreement and do not sign a definitive Purchase Agreement on or before said date, all obligations and rights of Boeing and Buyer, respectively, with respect to the JETFOILS shall automatically terminate.

6. Termination

Prior to signing the definitive Purchase Agreement, either party shall have the right, exercisable by written or telegraphic notice to the other, to terminate all obligations and rights of Boeing and Buyer, respectively, with respect to the JETFOILS.

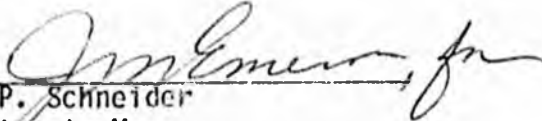
7. Acceptance of Offer

- (a) Written or telegraphic notice of Buyer's acceptance of this offer, must be received by Boeing from Buyer on or before July 1, 1983, the date on which this offer shall otherwise expire. Such date coincides with the date previously stated for execution of the definitive Purchase Agreement. Boeing therefore requests the courtesy of Buyer's response at the earliest practicable time, in order to efficiently allocate its resources and schedule business discussions with Buyer.
- (b) This offer is subject to other commitments, dispositions, and sales prior to acceptance by Buyer of this offer.

If this offer meets with your acceptance, please sign in the space provided below and return one (1) signed copy.

Very truly yours,

THE BOEING COMPANY

By 
A. P. Schneider
Contracts Manager
BOEING MARINE SYSTEMS
A Division of The Boeing Company

ACCEPTED AND AGREED TO this
___ day of _____, 1983

STATE OF ALASKA
Department of Transportation and Public Facilities

By _____

Title _____

- Attachments: A - Boeing Detail Specification D320-52034-1 dated
March 9, 1983
B - Price Adjustments Due to Economic Fluctuations
C - Purchase Agreement
D - Product Support General Terms Agreement

PRICE ADJUSTMENTS DUE TO ECONOMIC FLUCTUATIONS

(a) The Purchase Price of the JETFOIL shall be determined at the time of delivery in accordance with the following formula:

$$PP = BP \times [L + M]$$

(b) The following definitions shall apply herein:

PP = Purchase Price of the JETFOIL

BP = Basic Price of the JETFOIL (in 1982 Dollars) adjusted for any changes mutually agreed upon subsequent to the date Boeing and Buyer execute the Purchase Agreement.

$$L = .7 \times \left[\frac{A}{AA} \times (1 + F) \right]$$

A = The arithmetic average of the Hourly Earnings Index as reflected in the "Average Gross Hourly Earnings of Production Workers in Aircraft Companies" (Standard Industrial Classification Code 3721 - Aircraft) published by the Bureau of Labor Statistics, U.S. Department of Labor, for the fifth, sixth and seventh months prior to the month of scheduled JETFOIL delivery.

AA = Hourly Earnings Index for January 1982 (S.I.C. Code 3721).

$$F = .01 \times [\text{Calendar Year of Delivery minus 1982}]$$

Note: The Hourly Earnings Index does not reflect changes in costs of fringe benefits. F compensates for such changes.

$$M = .3 \times \left[\frac{B}{BB} \right]$$

B = The arithmetic average of the "Metals and Metal Products Index" (Standard Industrial Classification Code 10) published by the Bureau of Labor Statistics, U.S. Department of Labor, for the fifth, sixth and seventh months prior to the month of scheduled JETFOIL delivery.

BB = Metals and Metal Products Index for January 1982 (S.I.C. Code 10).

(c) In addition, it is understood that at the time of JETFOIL delivery to Buyer, Boeing may be unable to precisely determine the Purchase Price of the JETFOIL under the escalation provisions above because values of the applicable indexes may not be released by the Bureau of Labor Statistics, or if released, may be adjusted at a later date by such Bureau. Accordingly, the parties agree as follows:

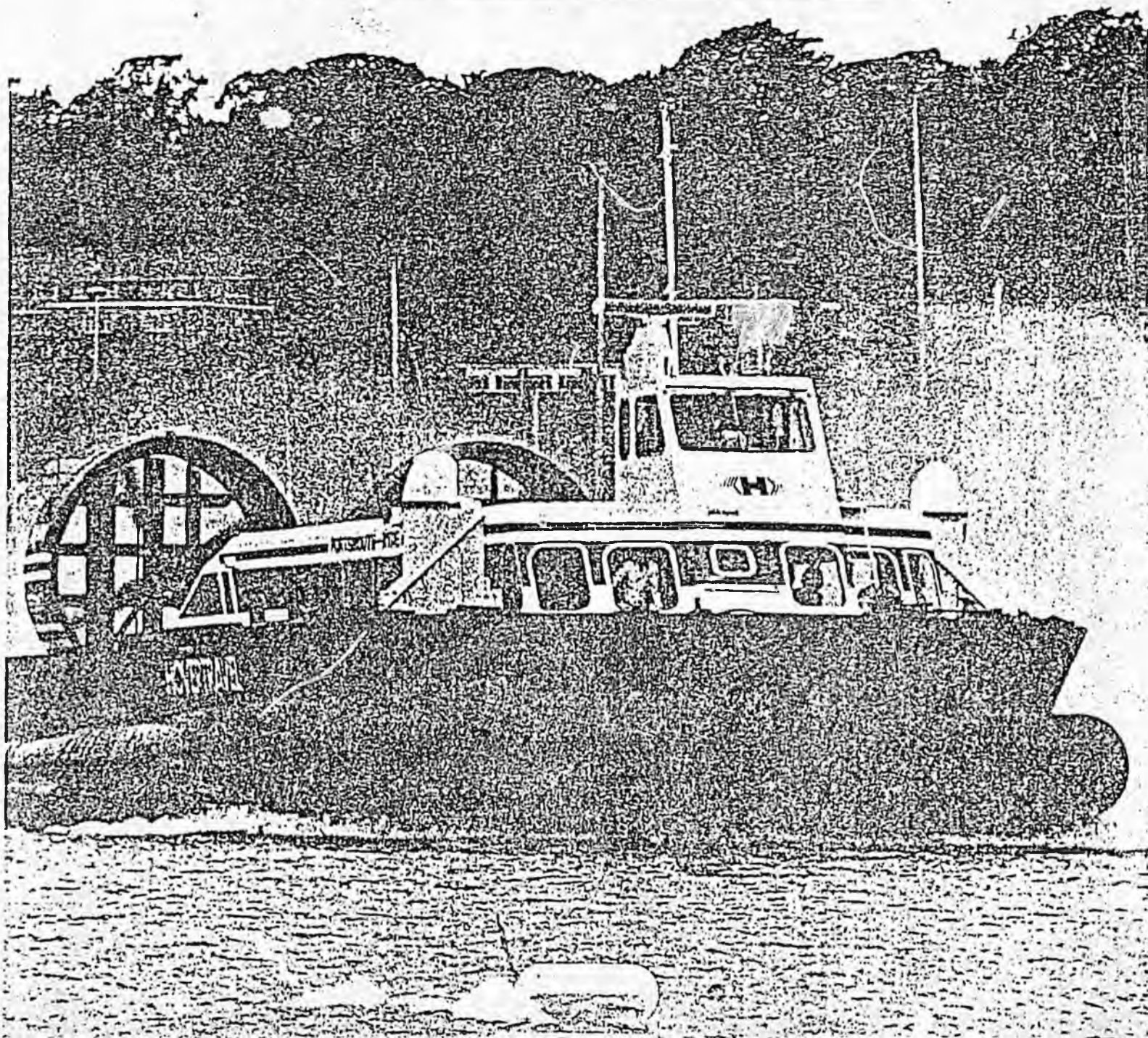
PRICE ADJUSTMENTS DUE TO ECONOMIC FLUCTUATIONS

Page 2

- (i) The Purchase Price of the JETFOIL shall be determined at the time of delivery in accordance with the escalation provisions set forth above. "Final" values of the Hourly Earnings and Metals and Metal Products Indexes shall be used, or if "final" values have not been released for the applicable months, "preliminary" values shall be used. If no Index value has been released for an applicable month, the "preliminary" value first available for the nearest preceding month shall be used. The payment by Buyer to Boeing of the Purchase Price so determined shall be deemed payment for such JETFOIL and title shall be conveyed to Buyer upon delivery.
- (ii) Subsequent to delivery of the JETFOIL, Boeing may from time to time make adjustments to the Purchase Price so determined to reflect any changes in escalation amounts resulting from changes in Hourly Earnings or Metals and Metal Products Index values used to determine the Purchase Price. If the U.S. Department of Labor revises any previously released Indexes or data utilized in determining or adjusting the Purchase Price by removing or replacing such Indexes or data, or by describing such revision by footnote, appendix or by any other method, the revised values shall be applied for purposes of adjusting the Purchase Price. Such adjustment(s) by Boeing, if any, shall be made within twelve (12) months after delivery of such JETFOIL.
- (iii) If the U.S. Department of Labor substantially revises the methodology (in contrast to benchmark adjustments or other corrections of previously released data) or discontinues any of the Indexes referred to above, the parties shall select a substitute for the revised or discontinued Index, such substitute Index to lead in application to the same Purchase Price determination or adjustment, as applicable, insofar as possible, as would have been achieved by continuing the use of the original Index as it may have fluctuated had it not been revised or discontinued. Appropriate revision of the formula shall be made to accomplish this result. In the event escalation provisions are made non-enforceable or otherwise rendered null and void by any agency of the United States Government, the parties agree, to the extent they may lawfully do so, to equitably determine or adjust, as applicable, the Purchase Price to reflect an allowance for increases in labor and material costs occurring since January 1982 which is consistent with the applicable provisions hereof.
- (iv) If required, Boeing shall submit either a supplemental invoice or refund the amounts due Buyer to reflect any periodic increase or decrease, respectively, in the Purchase Price of the JETFOIL from that determined at the time of delivery of such JETFOIL. Any payments due Boeing or Buyer shall be made with reasonable promptness.

AP
1.888

Civil & Commercial Roles



Full Cabin Version

Up to 101 passengers can be carried in aircraft type seats on sheltered water routes. The weight allowance for each passenger and their luggage is 90 kg.

With a full passenger complement of 101 the AP1-88 has an endurance of 2.2 hours. This can be extended to 5.25 hours by a reduction of the payload to 91 passengers.

Special operations requiring even greater endurance and range can be accomplished by using overload fuel tankage and a further reduction of the payload.

Full Cabin Version (Luxury Standard)

Customisation of the AP1-88 interior can be carried out to the operators requirements, within the craft's all up weight of 36,300 lbs.

Included in the range of specialist fittings and equipment available are full air conditioning, galley, bar and toilet facilities.

Half Cabin Version

Half Cabin Version

In this version up to 40 passengers may be carried in the cabin, and logistic loads or equipment on the deck. Access to the deck is by a ramp allowing light vehicles to be driven aboard. A platform can be fitted at the stern to allow deployment of towed equipment.

Roles

- Airfield coast rescue
- Survey work
- Search and rescue
- Navigation aid maintenance and deployment
- Inshore oil field support

Logistic Support Variant

Logistic Support Variant

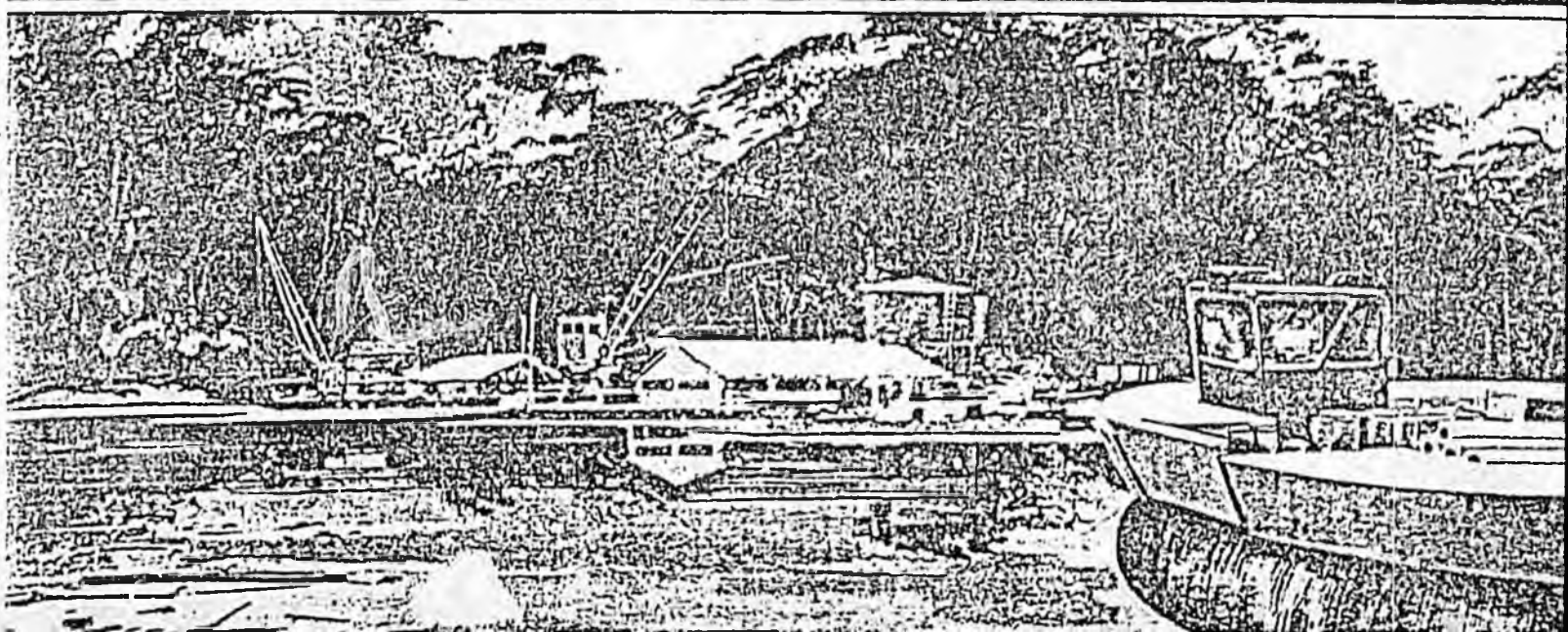
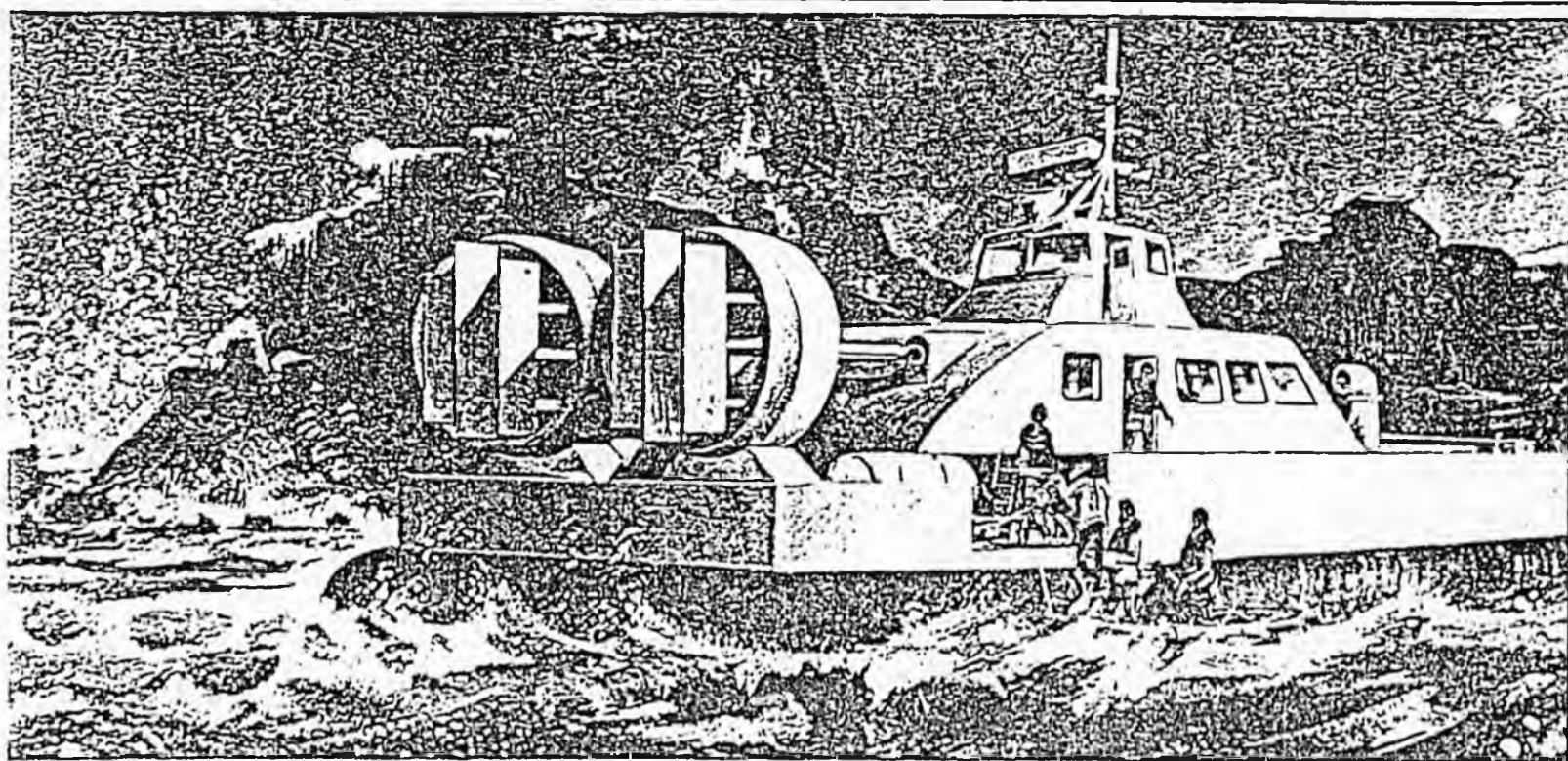
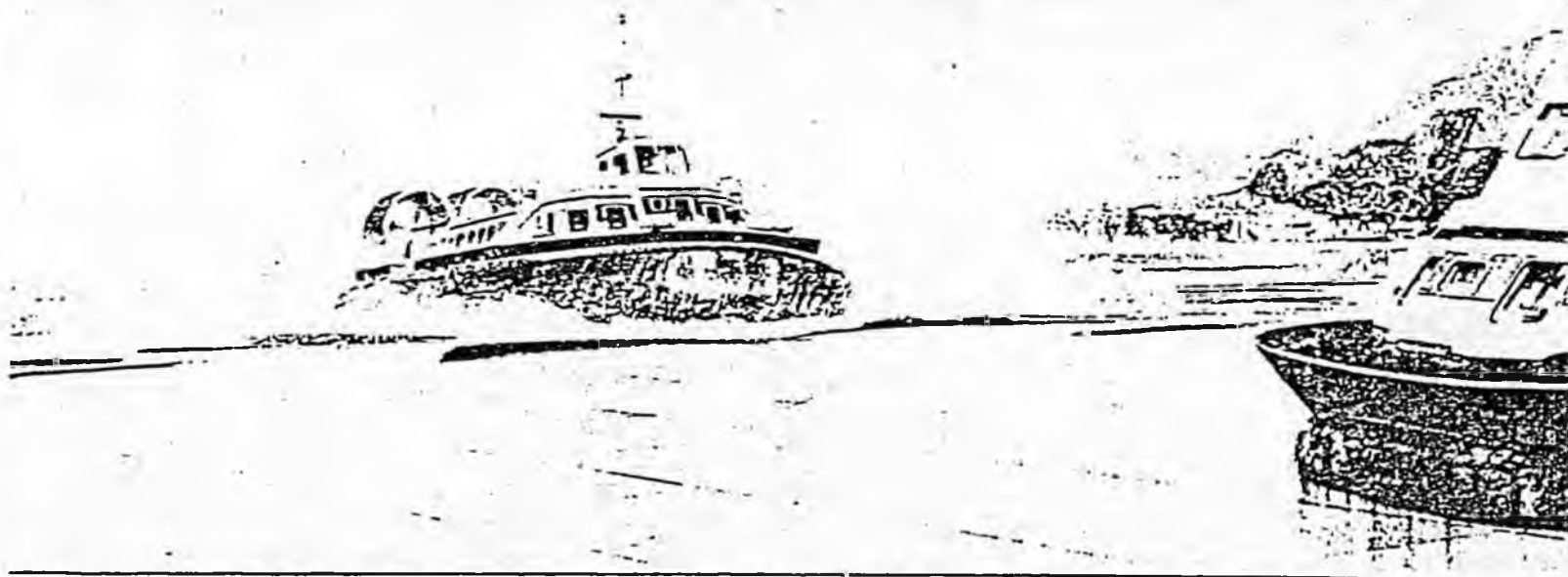
The AP1-88 logistic support hovercraft is an amphibious vehicle capable of operating in the open sea and in confined shallow waterways. In the latter environment the craft can operate easily over floating debris, swamps, mudflats, reefs and sand banks.

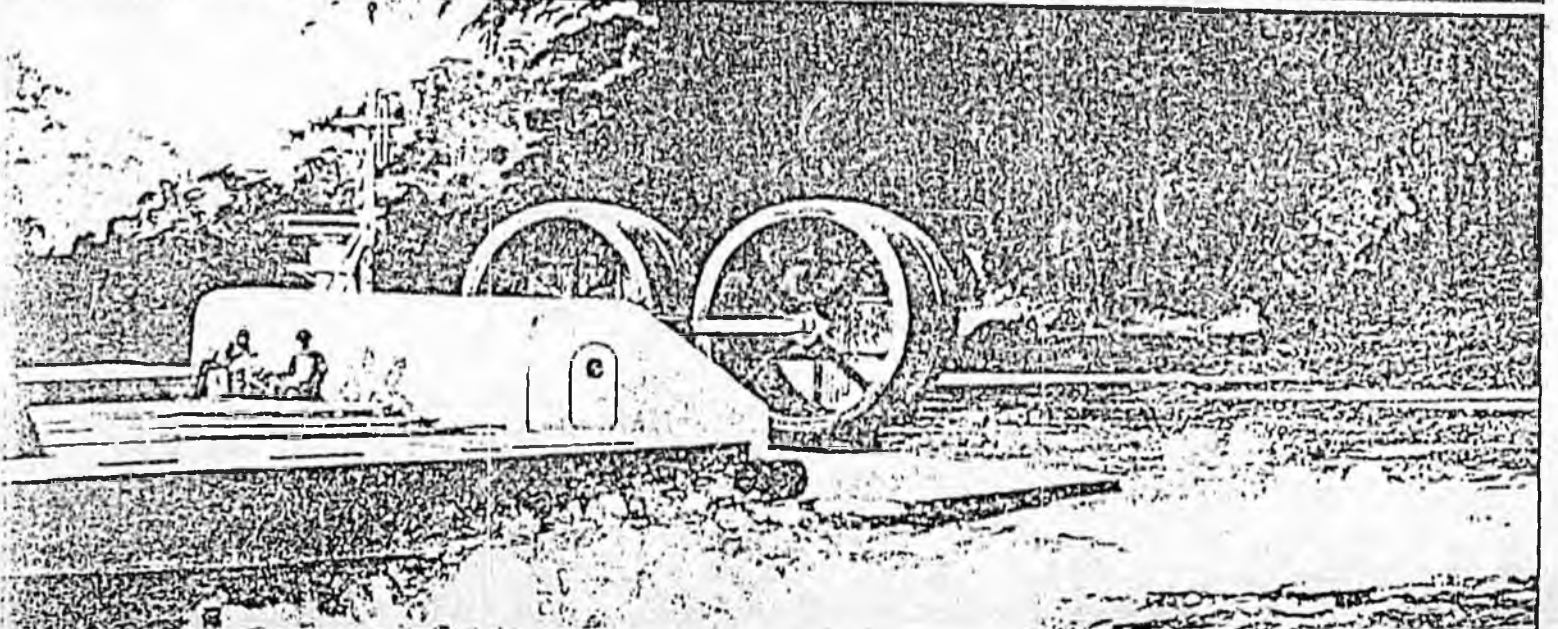
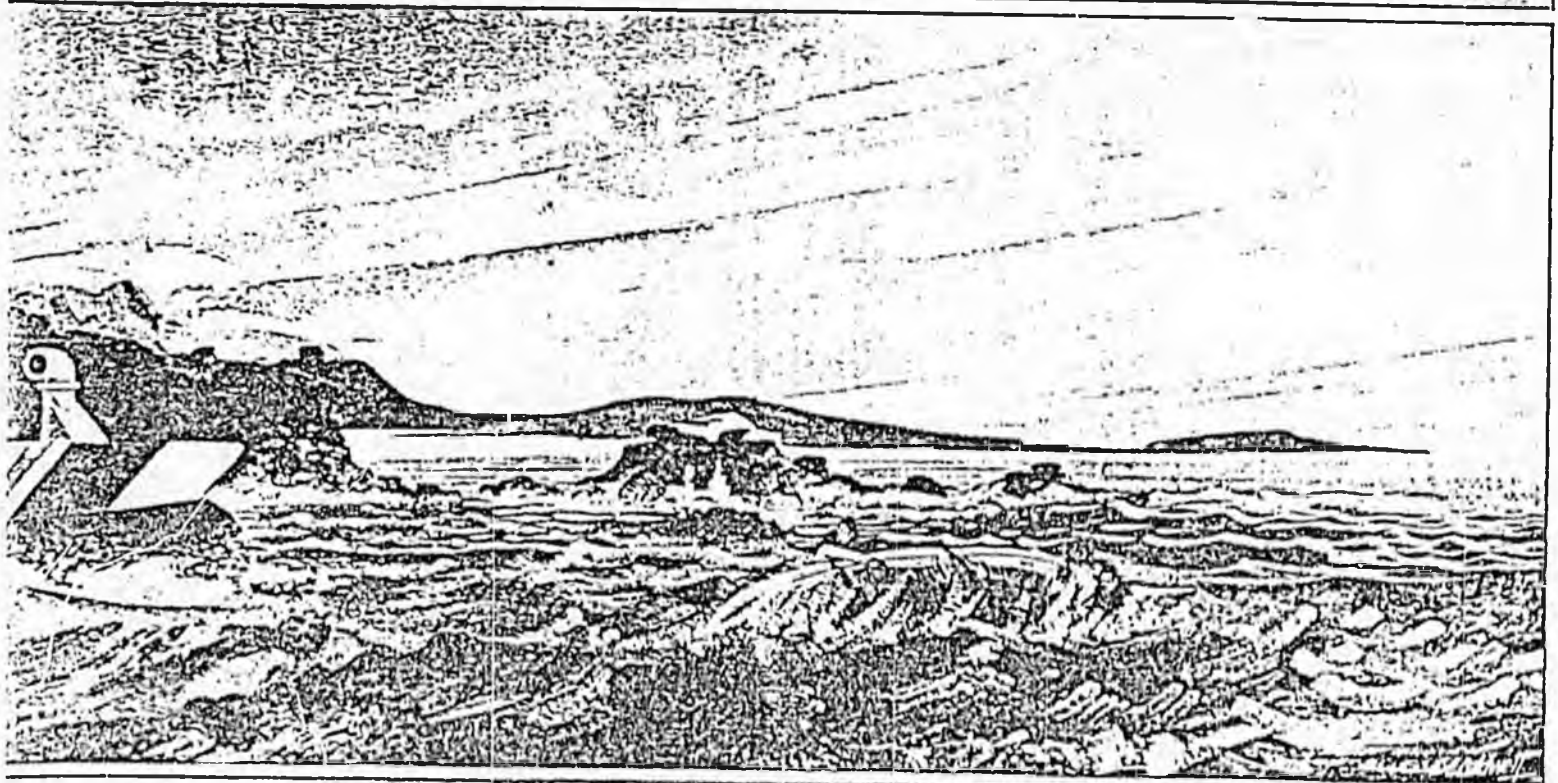
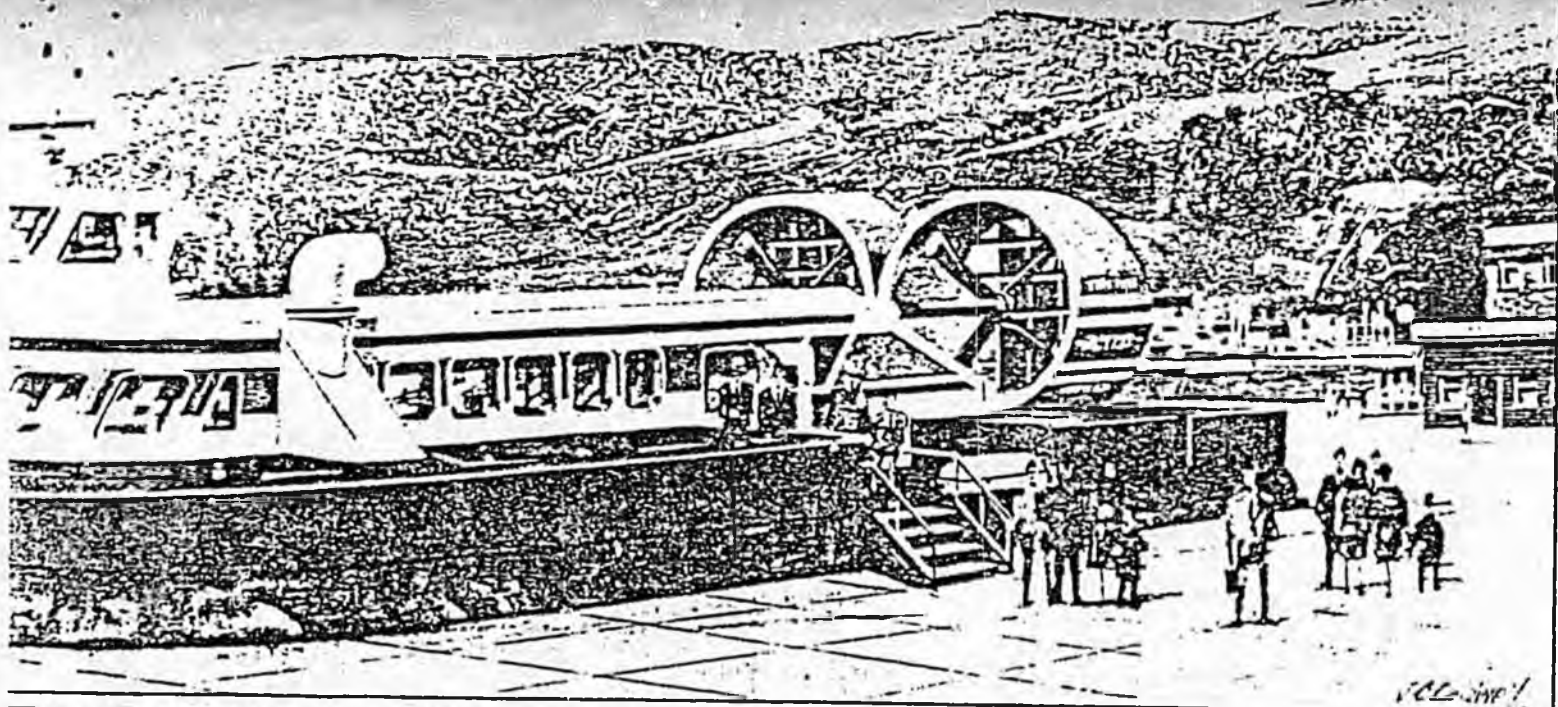
The Logistic Support craft has a flat deck 15 metres long and 4.8 metres wide; access is by a bow ramp 2.7 metres wide.

The bow ramp allows vehicles to be driven on and off the craft.

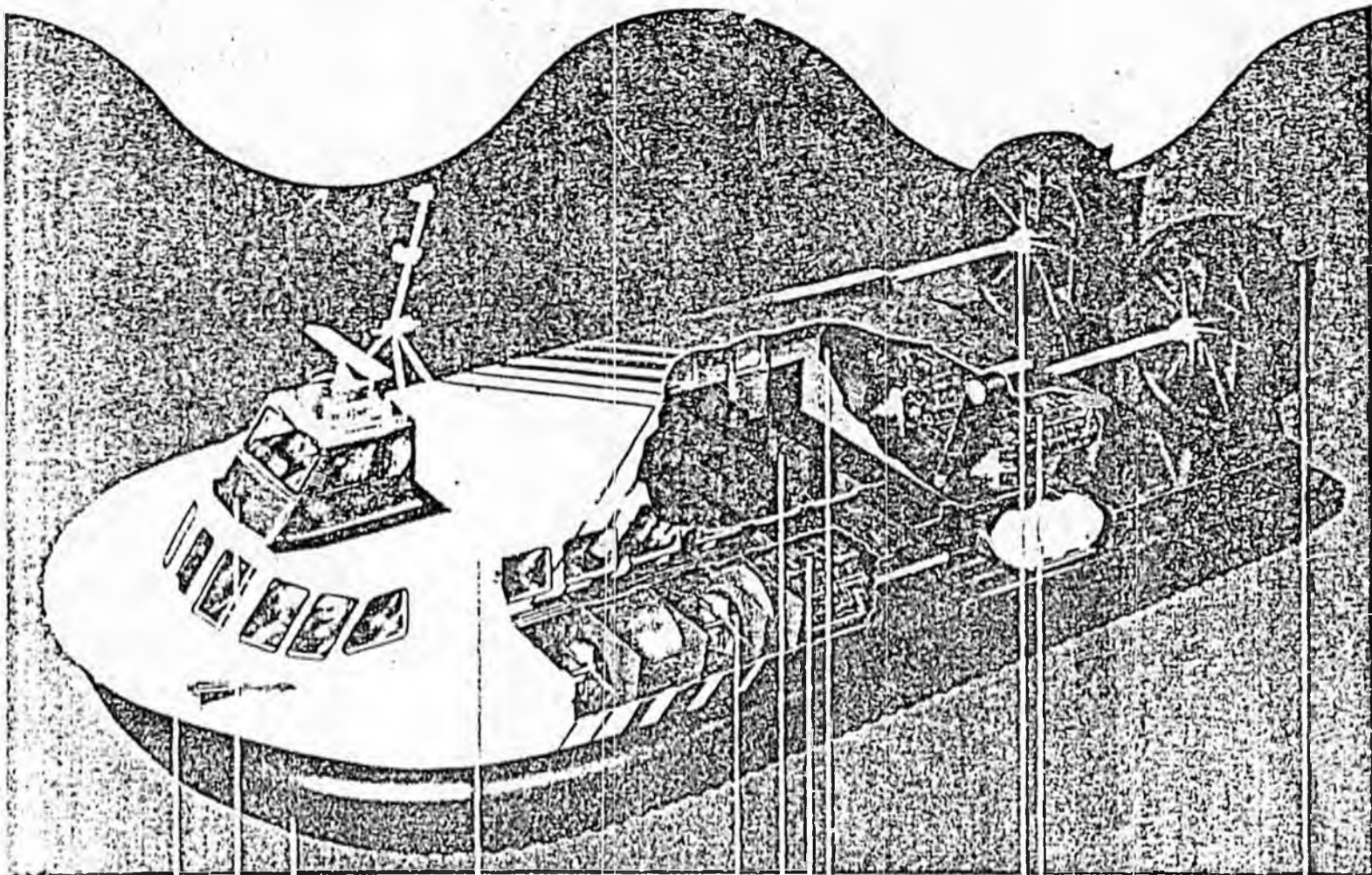
Subject to overall payload the craft can accommodate:

- Wheeled vehicles, axle loadings up to 1,800 kg
- Drill pipe and casing up to 45 ft. long
- General freight
- Removable modules for specialist roles





Engineering Description



Door
Control cabin
Fully-responsive flexible skirt
Rotating bow thrusters
Centrifugal lift fans
Wide passenger cabin
Toothed belt drive
Lift diesel engine (2)
Propulsion diesel engine (2)
Ducted fixed pitch propeller
Rudders

The main buoyancy tank is of welded light alloy construction and is sub-divided into a number of watertight compartments.

Box structures on each side at the forward end house the lift engines and also the fans and their volutes. A loading ramp is fitted at the bow, in the open deck variants, and in the passenger version there are doors on either side towards the rear of the cabin.

Power is supplied by four marine diesel engines, two directly driving the lift fans and two driving the propulsors through toothed belts. The

Trim control is obtained principally by fuel ballast transfer, with additional pitch control from elevators.

Directional control is obtained by use of aerodynamic rudders mounted on the rear of the propeller shrouds aided by swivelling bow thrusters and differential propeller thrust. The bow thrusters contribute to the forward thrust in the straight-ahead position.

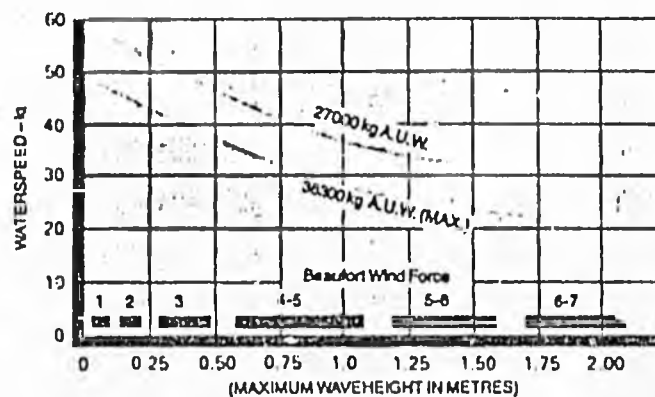
In the passenger version the crew cockpit is located at the forward end of the superstructure but is moved to the starboard side forward in the open-deck variant.

Leading Particulars

Length overall	77.3 ft.	(23,55 m)
Beam overall	33.0 ft.	(10,1 m)
Height (on landing pads)	26.0 ft.	(7,95 m)
Height (hovering)	29.2 ft.	(8,9 m)
Mean cushion depth	4.0 ft.	(1,2 m)
Cabin length	47.2 ft.	(14,4 m)
Cabin beam	15.7 ft.	(4,8 m)
Cabin headroom	6.5 ft.	(1,98 m)
Engines	Lift: 2 x Deutz BF12L413FC marine diesels (428 hp cont. each) Propulsion: 2 x Deutz BF12L413FC marine diesels (428 hp cont. each)	
Propulsion	2 x 9.0 ft. (2,74 m) dia.	shrouded propellers
Fans	8 x 2.75 ft. (0,84 m) dia.	centrifugal type
Maximum operating weight	80,000 lb	(36,300 kg)
Maximum disposable load (open deck version)	23,800 lb	(10,800 kg)
Maximum fuel capacity (including ballast allowance)	800 Imp. gall.	(3,600 litres)
Total fuel consumption at continuous power	76 gall./hr.	(745 litres/hr.)
Maximum number of passenger seats (cabin variant)	101	
Maximum calm water speed	58 kt	(114 km/hr.)

TYPICAL VARIATION OF
BEAMWIND WATERSPEED
WITH WAVEHEIGHT

27000 - 36300 kg A.U.W.
CONTINUOUS POWER RATING
AMBIENT TEMPERATURE UP TO 15°C



BRITISH HOVERCRAFT

Every care has been taken in compiling this document to ensure that the information therein is correct at the time of going to press but no warranties or representations are given or implied thereby. This document does not form

STATE OF ALASKA
FISCAL NOTE

Revision Date _____, 1983

I. REQUEST

Bill/Resolution No.: SB 217
 Title: Approp. for Hydrofoil Purchase
 Sponsor: Moss
 Requestor: Senate Transportation Committee

II. FISCAL DETAIL

Agency Affected: DOT&PF
 Program Category Affected: _____
 BRU, Program or Subprogram(s) Affected: _____

EXPENDITURES/REVENUES: (Thousands of Dollars)

	FY 83	FY 84	FY 85	FY 86	FY 87	FY 88
OPERATING						
100 PERSONAL SERVICES				2,838.0	4,730.0	5,675.0
200 TRAVEL				15.0	25.0	30.0
300 CONTRACTUAL				651.0	1,085.0	1,300.0
400 COMMODITIES				2,262.0	3,770.0	4,525.0
500 EQUIPMENT				684.0	1,140.0	1,370.0
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC						
TOTAL OPERATING	-0-	-0-	-0-	6,450.0	10,750.0	12,900.0
CAPITAL		16,400.0	50,979.0	21,310.0	8,427.0	-0-
REVENUE	-0-	-0-	-0-	2,355.0	3,925.0	4,710.0

FUNDING: (Thousands of Dollars)

GENERAL FUND		16,400.0	50,979.0	25,405.0	15,252.0	8,190.0
FEDERAL FUNDS						
OTHER (Specify Source)						

POSITIONS:

FULL-TIME				24	40	48
PART-TIME				7	12	14
TEMPORARY						

III. SOURCE OF FUNDS TO OFFSET FISCAL IMPACT OF BILL:

\$63,816,000 of the capital expenditures are provided by SB 217. The sponsor has not identified the source of funds for the remaining capital and operating expenditures.

*Total operating costs does not include \$10,882,000 per year capital recovery cost based on the total capital outlay at 10% for 20 years.

IV. ANALYSIS: Attach a separate page for any Analysis

Prepared By: Moss Phone: 364-4339
 Division: Jonathan W. Scribner, Acting Dep. Comm., S.E. Region Date: April 11, 1983
 Approved by Commissioner: [Signature] Date: 4/11/83
 Department: Transportation and Public Facilities

Distribution:

Original to Legislative Finance
 Copy to Office of Management and Budget (for Legislature introduced bills)
 Copy to Department (for Governor introduced bills)
 Copy to Sponsor
 Copy to Requestor (if different from Sponsor)

3/8/83

FISCAL NOTE ANALYSIS

SB 217

Purchase of 3 Hydrofoils

The analysis is based on the 3-boat service scenario outline in "Economic Assessment of Jetfoil Service for Southeast Alaska" Prepared by Boeing Marine Systems personnel in cooperation with Department of Transportation and Public Facilities staff.

In summary, the proposal calls for a 3-boat Jetfoil fleet, operating in Southeast Alaska, with passenger and freight service to 17 communities. For purposes of the fiscal analysis it was assumed that Boat No. 1 would be delivered in May, 1985, Boat No. 2 in December, 1985 and Boat No. 3 in August, 1986. The analysis also includes an expenditure of \$26,000,000 for construction of necessary shore facilities, \$7,300,000 in spare parts and support equipment, annual operating costs of \$4,300,000 per boat per year and annual revenues of \$1,570,000 per year per boat. Expenditures and revenues by fiscal year can be summarized as follows:

- FY 84 - Advance payments on boat purchase.
No operations.
- FY 85 - Final purchase of Boat No. 1, advance payments on Boats No. 2 and 3, construction of 3/4 of shore facilities,
No operations.
- FY 86 - Final purchase of Boat No. 2, advance payments on Boat No. 3, construction of 1/4 of shore facilities. Boat No. 1 operates full year, Boat No. 2 operates 1/2 year.
- FY 87 - Final purchase of Boat No. 3. Boats 1 and 2 operate full year, Boat 3 operates 1/2 year.
- FY 88 - Full operations.

SB 217 TITLE & SPONSOR SUMMARY 11:00 6/27/83 PAGE 1 OF

AMENDED TITLE:
AN ACT MAKING A SPECIAL APPROPRIATION TO THE DEPARTMENT
OF TRANSPORTATION AND PUBLIC FACILITIES FOR THE
PURCHASE OF THREE HYDROFOILS FOR THE MARINE HIGHWAY SYSTEM;
AND PROVIDING FOR AN EFFECTIVE DATE

GENERAL DOLLARS: \$63,816,000 (A'PROP)

PRIME SPONSOR: MQSC.

OTHER DOLLARS: \$0

CO-SPONSORS:

CURRENT STATUS: 5/06/83 IN (S) FINANCE

SB 217 SENATE ACTION 11:01 6/27/83 PAGE 2 OF

DATE	SEQ	PAGE	LEGISLATIVE ACTION
03/29/83	01	0528	FIRST READING -- COMMITTEE REPORTS
05/06/83	02	0912	TRAN -- CS02, NR02 FINANCE RULES

**** ** ** *** ** *

STATE OF ALASKA
FISCAL NOTE

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FEDERAL FUNDS						
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IV. ANALYSIS: Attach a separate page for any Analysis

Prepared By: [Signature] Phone: 364-4339
 Division: Jonathan W. Scribner, Acting Dep. Comm., S.E. Region Date: April 11, 1983

Approved by Commissioner: [Signature] Date: 4/11/83
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- FY 88 - Full operations.

COMMITTEE REPORT

SENATE

FURTHER: FINANCE

3/29/83

Date: May 5, 1983

Mr. President:

The Committee on TRANSPORTATION has had SB 217

Making a Special appropriation to the Department of Transportation and Public Facilities for the purchase of three hydrofoils for the Marine Highway System; eff. date

under consideration and (a majority of the committee) (the committee) reports it back with the following recommendations:

- do pass do not pass
- do pass with attached amendments(s) same title
- replace with CS for _____ new title
- and recommends _____
- AND attaches a "Letter of Intent" New Fiscal Note
- reports it back without recommendation
- referred to the _____ Committee

MEMBERS SIGNING
DO PASS

Poppy Moss
Alan Helman

MEMBERS HAVING
OTHER RECOMMENDATIONS:

John S. ...

H. Poppy Moss
CHAIRMAN

STATE OF ALASKA

BILL SHEFFIELD, GOVERNOR

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
Deputy Commissioner/Southeast Region

P.O. BOX 1467
JUNEAU, ALASKA 99802
PHONE: 364-4339

April 12, 1983

The Honorable Pappy H. Moss
Chairman, Senate Transportation Committee
Alaska State Legislature
Pouch V
Juneau, AK 99811

Dear Senator Moss:

In response to SB 217, making a special appropriation to DOT&PF for the purchase of three hydrofoils, the Department desires to present it's comments and recommendation.

Boeing Marine Systems personnel have completed an economic assessment of Jetfoil service in Southeast Alaska based on a 3-boat service scenario. DOT&PF staff has worked closely with Boeing in the preparation of the report and, for the most part, our input has been incorporated into the final document. The following are our general impression of the proposed project, brief comments on those sections of the report that we feel need to be carefully considered, and a recommendation for action.

We feel that the economic assessment is based on sound methods and procedures. Traffic forecasts were developed by Boeing for low, medium and high scenarios, an approach that we found appropriate, considering the subjective nature of the exercise. We would have preferred to see a concise summary and presentation of vital factors and findings, but considering the complexity of the service proposal, the 17 page "Summary of Results" may be the only viable alternative.

Recognizing the lack of any actual experience on which to base traffic estimates, we feel that Boeing's passenger projections are optimistic and we tend to favor the low scenario (26% average load factor). We concede that this is a subjective judgement, difficult to support with actual numbers, based almost exclusively on our years of local knowledge. For this reason, we have concluded that a long term (one year minimum) trial under actual operating conditions is the only reasonable method of obtaining necessary base traffic data.

There is no acceptable method to produce credible freight projections without actual experience or a detailed analysis of vehicle and freight movements. Due to time constraints Boeing chose to present a range of freight scenarios, an approach that is acceptable if the limitations and short comings of such figures are understood. Even more so than the passenger projections, and for the same reasons, we feel that the

April 12, 1983

freight market scenarios presented are optimistic. Unfortunately, even a one year test trial will not provide any base data inasmuch as the basic freight handling infrastructure is not in place. Boeing does plan to complete a vehicle and freight market analysis later this year, but even preliminary data from this study is not yet available.

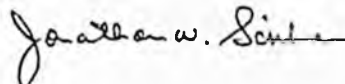
Any analysis of potential freight markets must also consider the substantial capital outlay necessary for shore facilities. The Department estimates shore facility cost at \$26,000,000 and have included the annual cost of this investment in the attached cost-revenue relationship summary. Boeing's calculations do not include this figure.

At present, the marine highway system handles cargo only to the extent of transporting vans or other freight hauling vehicles under the same conditions as passenger automobiles. On the other hand, Boeing conceives the Jetfoil freight scenario as a container or pallet type of operation with shoreside agents and infrastructure very similar to existing services provided in the private sector.

Boeing's report also summarizes the possible impact of Jetfoil service on the existing Marine Highway System. In considering implementation of the proposed changes, political ramifications cannot be overlooked. For example, increased passenger and vehicle capacity on the Mainline system is achieved only with a significant reduction in direct southbound service from Sitka, a change that is physically possible but is likely to meet with considerable opposition from the residents affected.

In summary, the Boeing economic assessment is based on reasonable methods and assumptions and is acceptable with the above mentioned comments. Because of the weaknesses in base data and the resulting inability to develop a better technical analysis it is recommended that a commitment to purchase the Jetfoil vessels not be undertaken without the benefit of at least one year, one boat trial demonstration under actual operation conditions.

Sincerely,



Jonathan W. Scribner
Acting Deputy Commissioner

cc: Daniel A. Casey, Commissioner, DOT&PF
Emil Notti, Office of the Governor
Senator Bill Ray

DAC:RTM:tas

SUMMARY

Cost-Revenue Relationships

CAPITAL COSTS (1)

3 Jetfoil Vessels	\$49,200,000
Spares	5,800,000
Full Facilities (2)	<u>26,000,000</u>
TOTAL	\$81,000,000

ANNUAL OPERATING COSTS (1)

Crew	\$2,280,000
Fuel	4,481,000
Maintenance	1,836,000
Insurance	984,000
Indirect	2,002,000
Materials	1,327,000
Capital Recovery (10% @ 20 years) (2)	<u>10,882,000</u>
TOTAL	\$23,792,000

REVENUES (1)

	<u>Low</u>	<u>Medium</u>	<u>High</u>
Passengers	\$3,265,000	\$5,020,000	\$6,945,000
Freight	<u>1,445,000</u>	<u>4,213,000</u>	<u>9,390,000</u>
TOTAL	\$4,710,000	\$9,233,000	\$16,335,000

COST-REVENUE RELATIONSHIPS (2)

	<u>Low</u>	<u>Medium</u>	<u>High</u>
\$ Deficit	\$19,082,000	\$14,559,000	\$7,457,000
% Subsidy	80%	61%	31%

Note: Source of data and calculations

(1) Boeing

(2) Department of Transportation and Public Facilities

MEMORANDUM

Date: March 24, 1983

Subject: Hydrofoil Appropriation Bill Drafts

To: Senator H. Pappy Moss, Chairman
Senate Transportation Committee

From: M. Clyde Stoltzfus
Professional Aide

Attached you will find two drafts for the hydrofoil appropriation. Per your request I insisted on including language which would have specified the specifications which would be required to receive the vessel under consideration. As you can see from the attached memo, such language makes the Bill constitutionally suspect. The other draft represents an appropriate appropriation bill.

STATE OF ALASKA
THE LEGISLATURE

POUCHY STATE CAPITOL
JUNEAU, ALASKA 99811
907-465 3800

LEGISLATIVE AFFAIRS AGENCY

MEMORANDUM

March 24, 1993

SUBJECT: Appropriation Bill For Hydrofoils
(Work Order No. 13-1079)

TO: Senator Pappy Moss

FROM: James H. Lear
Legislative Counsel *JHL*

You have requested our office to draft a bill making a special appropriation to the Department of Transportation and Public Facilities for the purchase of hydrofoils for the Marine Highway System. The first draft delivered in response to your request specifically omitted the substantive language that accompanied the bill request because Article II, section 13, Constitution of the State of Alaska, as implemented by AS 24.30.030, prohibits the inclusion of substantive matters in appropriation bills.

Clyde Stoltzfus reviewed the initial draft and advised our office that you wished to include the substantive material that was submitted with the bill request. Accordingly, that matter is incorporated into the enclosed draft. However, please be advised that it is the opinion of this office that the enclosed draft is not confined to appropriation matters and, therefore, is subject to constitutional challenge.

JHL:csh

Enclosure
12/005

BOEING MARINE SYSTEMS
A DIVISION OF THE BOEING COMPANY

February 7, 1983

The Honorable D. A. Casey
Commissioner
~~Department of Transportation~~
and Public Facilities
State of Alaska
Pouch Z
Juneau, Alaska 99811

Dear Sir:

We are pleased to offer three Boeing jetfoils customized to what we believe are specific State of Alaska's transportation requirements. The deliveries are ASD Seattle, as follows:

#1 August 1985
#2 April 1986
#3 August 1986

The customized configuration is defined in the enclosed attachment. The not to exceed prices are as follows:

(3) Customized Jetfoils	\$46.1 M
Boat Optional Equipment Allowance	4.5 M
Initial Spares & Product Support Equipment	3.5 M
Contingency	<u>.9 M</u>
	\$55.0 M

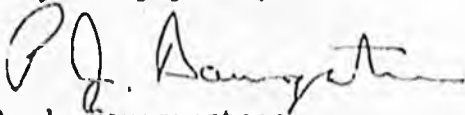
Prices are quoted in 1982 dollars and will be subject to escalation incurred to time of delivery and local and state taxes. A complete proposal and specification will be available March 1, 1983.

The product support services included are operating crew and maintenance training and initial onsite technical support. The jetfoil will be constructed to ABS standards and will have U.S. Coast Guard approval.

The shore terminal and related facilities capital and equipment are not included in the above boat prices.

We look forward to working with you and developing a jetfoil configuration that is satisfactory to the State of Alaska. Definitive contract signing is proposed for July 1, 1983.

Very truly yours,



P. J. Baumgaertner
Regional Director of Sales
M.S. 61-50
P. O. Box 3707
Seattle, Washington 98120

**Assessment of JETFOIL Service
for Alaska**

Alaska Legislature Hearing

April 12, 1983

ALASKA LEGISLATIVE HEARING

JETFOIL PROPOSAL

MR. CHAIRMAN AND MEMBERS OF THE SENATE TRANSPORTATION COMMITTEE --

FIGURE 1

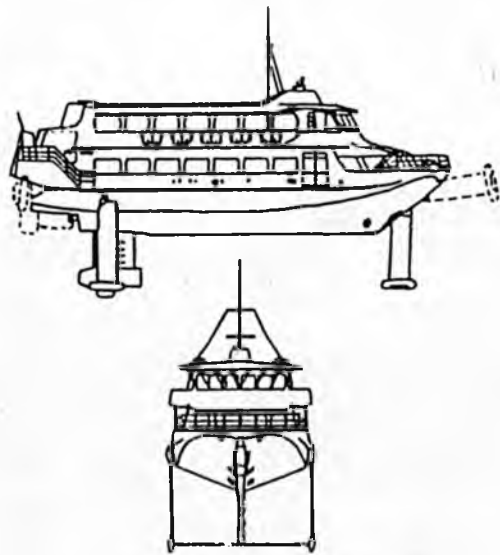
I AM PAUL BAUMGAERTNER, REGIONAL SALES DIRECTOR FOR BOEING MARINE SYSTEMS, A DIVISION OF THE BOEING COMPANY. I HAVE BEEN WITH THE BOEING COMPANY FOR APPROXIMATELY TWENTY YEARS AND FOR THE LAST EIGHT YEARS, I HAVE WORKED ON VARIOUS SALES ACTIVITIES IN BOEING MARINE SYSTEMS.

I WOULD LIKE TO PRESENT TO YOU TODAY, A PROPOSAL FOR THE PURCHASE OF THREE JETFOILS BY THE STATE OF ALASKA, CONFIGURATED FOR ALL YEAR SERVICE IN SOUTHEAST ALASKA. IN SUPPORT OF THIS PROPOSAL, I WOULD ALSO LIKE TO SHOW YOU HOW THESE CRAFT, IN CONJUNCTION WITH

YOUR CONVENTIONAL FERRIES, CAN SIGNIFICANTLY IMPROVE SERVICE IN SOUTHEAST ALASKA FOR FRIEGHT AND VEHICLES, AS WELL AS PASSENGERS. THIS PRESENTATION WILL ALSO SHOW THE OPERATING COSTS OF THE JETFOIL RELATIVE TO CONVENTIONAL FERRIES AND THE RESULTING ECONOMICS.

THE JETFOIL CONFIGURATION (FIGURE 2) PROPOSED FOR THE STATE OF ALASKA, AS IT APPEARS FROM THE EXTERIOR, LOOKS VERY SIMILAR TO THE JETFOIL THAT VISITED SOUTHEAST ALASKA LAST AUGUST AND SEPTEMBER FOR THE PUBLIC DEMONSTRATIONS AND THIS WINTER IN JANUARY FOR THE TECHNICAL TRIALS. THE HULL IS OF ALUMINUM CONSTRUCTION WITH THE STRUTS AND FOILS MADE OF WELDED CORROSION RESISTANT STEEL. THE JETFOIL IS APPROXIMATELY 90 FEET LONG WITH A BEAM OF 30 FEET. WHEN THE JETFOIL IS ON THE HULL WITH STRUTS AND FOILS EXTENDED, THE BOAT DRAWS ABOUT 17 FEET OF WATER FOR ENTRANCE TO SHALLOW HARBORS, THE STRUTS AND FOILS CAN BE RETRACTED, IN WHICH CASE, ONLY 10 FEET OF WATER IS NECESSARY. WHEN THE JETFOIL IS FOILBORNE AT NORMAL CRUISE SPEED OF 43 KNOTS (OR 50 MPH) THE BOAT IS





BOEING JETFOIL MODEL 929-100

The Jetfoil's design lifts the hull above the waves, creating a smooth comfortable ride. The horizontal "foils" operate like wings as they glide through the water under the surface, carrying the craft safely above the sea on narrow vertical struts.

The Jetfoil has twin gas turbine engines each 3,700 hp. Propulsion is by waterjet — the engines drive high performance pumps that force water through nozzles at the rear of the craft. At cruise speed, the Jetfoil is guided by automatically controlled flaps on the foils. Sensing devices gather and correlate information about wave height, hull attitude, speed, and other variables, then feed that information into a computer. The computer

"ARIES" JETFOIL DATA

Seating arrangement	160 seats*
Cruise speed	43 knots (50 mph)
Overall length, foils extended	90 feet (27.4 metres)
foils retracted	101 feet (30.8 metres)
Beam	31 feet (9.5 metres)
Hullborne draft, foils extended	17 feet (5.2 metres)
foils retracted	5.5 feet (1.7 metres)
Propulsion	
Engine	2 gas turbine engines Detroit Diesel Allison 501-K20A
Waterjet	2 Pockwell Rocketdyne "Powerjet 20" 2400 gallons water per minute each
	* Other Jetfoil arrangements up to 316 seats

then adjusts control surfaces to provide smooth, level flight and quick response.

Forward and aft struts can be lifted near the docking area, permitting operation in water, as shallow as ten feet. With foils in the water, the Jetfoil will accelerate to foilborne speed in less than two minutes. The Jetfoil banks into turns, so lateral forces on passengers are very low. The craft is designed to cruise at 43 knots, or about 50 miles per hour; at that speed, it can turn at a rate of about six degrees per second, for a turn diameter of less than 1,500 feet. The Jetfoil can cruise close to small craft with little or no disturbance, since very little surface wake is created by the passing Jetfoil.

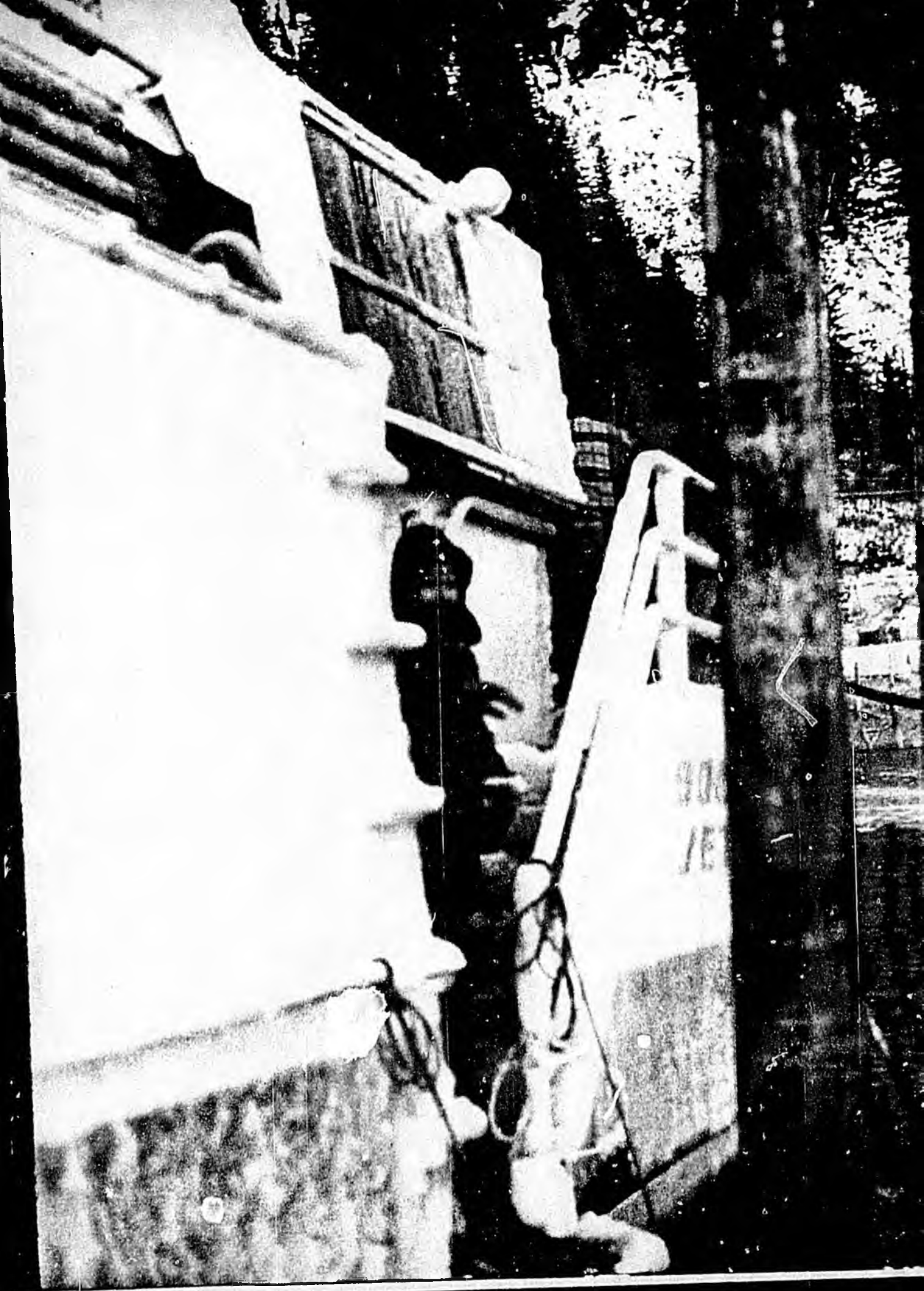
*"There's no other ride
on earth quite like it"*

SUPPORTED BY THE LIFT GENERATED BY THE FOILS (OR WINGS) BENEATH THE WATER'S SURFACE. BECAUSE THE HULL DOES NOT DISPLACE WATER WHEN FOILBORNE, VERY LITTLE WAKE HITS THE SHORE. ENVIRONMENTALLY, THE JETFOIL LEAVES LITTLE WAKE, HAS LITTLE NOISE AND ALL FLUIDS ARE RETAINED IN THE HULL.

LAST SUMMER'S 99 PUBLIC DEMO TRIPS AND THE RESCUE OF THE MAJESTIC EXPLORER CRUISE SHIP PASSENGERS, AND THIS WINTER'S 16 TECHNICAL DEMONSTRATION TRIPS, ILLUSTRATE THE JETFOIL'S OPERATIONAL CAPABILITY IN SOUTHEAST ALASKAN WATERS AND CLIMATE. THE JETFOIL DID NAVIGATE THE WRANGELL NARROWS THREE TIMES FOILBORNE AND DURING TWO OF THOSE TRIPS, ONE OF THE ALASKA MARINE HIGHWAY CAPTAINS WAS AT THE WHEEL, RUNNING THE JETFOIL. INCIDENTALLY, DURING THE LAST TRANSIT OF WRANGELL NARROWS, IT WAS NECESSARY FOR THE CAPTAIN TO PASS A LOG BOOM AND TWO TUGS IN MID-CHANNEL. THIS WAS DONE WITHOUT INCIDENT.

THE PERIL STRAITS LEADING OUT TO SITKA WAS ALSO SUCCESSFULLY NAVIGATED AND IN ONE CASE, IT WAS DONE BY AN ALASKA FERRY CAPTAIN. ALL THESE TRIPS WERE DONE USING STANDARD SAFETY PROCEDURES AND NAVIGATION RULES.

THIS LAST JANUARY (FIGURE 3) PROVIDED THE OPPORTUNITY TO DEMONSTRATE THE JETFOIL IN SEVERE WEATHER. ALTHOUGH THIS RECENT WINTER WAS NOT AS SEVERE AS THE PREVIOUS WINTER, NOR SOME OTHER WINTERS, IT DID PROVIDE THE OPPORTUNITY FOR GOOD TEST CONDITIONS ON SPECIFIC DAYS. ON SUNDAY, JANUARY 23, 1983, WE HAD AN ESPECIALLY GOOD DAY FOR TESTING. AS YOUR LOCAL WEATHERMAN PUT IT, "IT WAS A TYPICAL TAKU CONDITION, WHICH USUALLY CAN HAPPEN SEVERAL TIMES DURING THE WINTER IN LYNN CANAL." THE AIR TEMPERATURE WAS 20°F AND THE WIND WAS BLOWING 40 TO 50 KNOTS FROM THE NORTH AND GUSTING TO 70 KNOTS. FOR A CONVENTIONAL VESSEL, THIS IS A PERFECT ICING CONDITION. WIND BLOWN SPRAY AND WAVES BREAKING OVER THE HULL OF A CONVENTIONAL VESSEL WITH TEMPERATURES BELOW FREEZING CAN CAUSE A SIGNIFICANT ICE BUILDUP. ON THAT DAY, THE JETFOIL LEFT



THE DOCK IN JUNEAU AT 9:30 A.M. AND ARRIVED IN HAINES TWO AND ONE-HALF HOURS LATER. IT WAS A TYPICAL TRIP TIME FOR A SCHEDULED SERVICE. THE JETFOIL MADE A DOCKING IN HAINES AT THE SMALL BOAT HARBOR AND THEN RETURNED TO LYNN CANAL FOR ADDITIONAL TESTING IN THE SEVEREST SEAS WE COULD FIND. THE RESULT WAS THAT THE BOAT WAS TESTED FOR 6 HOURS 40 MINUTES IN LYNN CANAL (IN SERVICE, A ROUND TRIP FROM JUNEAU TO HAINES AND SKAGWAY AND RETURN IS APPROXIMATELY 6 HOURS), WITH STEADY 40 - 50 KNOT WINDS, GUSTING TO 70 KNOTS, AIR TEMPERATURES OF 20°F, AND WAVE HEIGHTS UP TO 10 FEET. THE JETFOIL RAN SUCCESSFULLY IN THESE CONDITIONS WITH MAXIMUM ICE BUILDUP OF APPROXIMATELY ONE INCH IN SOME PLACES ON THE STERN OF THE BOAT, AS SHOWN HERE. UNFORTUNATELY, NO PICTURES ARE AVAILABLE OF THE JETFOIL UNDERWAY THAT DAY. WE HAD A CAMERAMAN STANDING BY, HOWEVER, NO LIGHT PLANES OR HELICOPTERS WERE WILLING TO FLY. THIS IS NOT ONLY TRUE OF THAT SUNDAY, BUT OTHER DAYS AS WELL. FOR ALL DEMOS, JETFOIL HAD 100% TRIP COMPLETION RATE FOR BOTH WINTER AND SUMMER TRIPS. LAST AUGUST, ON FOUR SPECIFIC DAYS WHEN AIRCRAFT

CEILINGS AT JUNEAU AIRPORT WERE LOW AND ALASKA AIRLINES CANCELLED TRIPS, THE JETFOIL WAS OPERATING AND PROVIDING PUBLIC DEMONSTRATIONS.

THE JETFOIL DEMONSTRATIONS NOT ONLY PROVIDED A GOOD OPPORTUNITY TO TEST THE OPERATIONAL FEASIBILITY AS DISCUSSED, BUT LAST SUMMER'S DEMOS IN ELEVEN COMMUNITIES OF SOUTHEAST ALASKA PROVIDED AN EXCELLENT FORUM FOR DETERMINING THE PUBLIC PERCEPTION OF TRANSPORTATION NEEDS IN SOUTHEAST ALASKA AND THEIR REACTION TO THE JETFOIL'S ABILITY TO FULFILL THOSE NEEDS. FIGURE 4

GILMORE RESEARCH GROUP OF SEATTLE SURVEYED NOT ONLY 15,600 PASSENGERS ABOARD THE JETFOIL, BUT ALSO RANDOMLY SAMPLED THE GENERAL POPULATION BEFORE AND AFTER THE DEMONSTRATIONS TO DETERMINE THEIR ASSESSMENTS. HIGHLIGHTS OF THE RESULTS ARE SHOWN IN FIGURE 5

JETFOIL Alaska Summer Demonstration

Passenger Traffic

- 15,585 passengers (27% of total Southeast Alaska residents participated)
- 99% average load factor
- 85% of ticket holders used tickets
 - All tickets were picked up before demonstration
- 14% of onboard passengers were from standby line
 - Haines highest, 22%; Hoonah lowest, 8%
 - Standby passengers left on dock, 20-40/trip

JETFOIL Alaska Summer Demonstration

Passenger Surveys Results

- 90% of residents indicated interest in trying JETFOIL because of its perceived benefits over current transportation (e.g., speed, frequency, scheduling, etc.)
- JETFOIL demo riders were representative of all Southeast Alaska residents (51% female; 39% ages 35-64; 44% white collar; 90% residents)
- 75% of Southeast Alaska residents say they will likely use the JETFOIL if implemented (92% of JETFOIL demo riders will use it)
- 99% of small community residents on board favor JETFOIL introduction
- 66% of heavy ferry users will use JETFOIL more often than regular ferry if it is implemented

THE GENERAL CONSENSUS WAS VERY FAVORABLE, INDICATING A HIGH SHARE OF THE MARKET WOULD USE THE JETFOIL AND IN FACT, WOULD TRAVEL MORE FREQUENTLY. THUS, SHOWING CONSIDERABLY MORE TRAFFIC DEMAND THAN IS BEING MET WITH CURRENT SERVICES.

FROM THESE DEMOS AND FROM DISCUSSIONS WITH VARIOUS STATE AND LOCAL OFFICIALS, WE HAVE PUT TOGETHER A JETFOIL CONFIGURATION WHICH WE BELIEVE MEETS THE NEEDS OF THIS AREA. THE EXTERIOR OF THIS BOAT IS SHOWN IN FIGURE 6. THE MAJOR CHANGE IS THE REMOVAL OF WINDOWS ON THE LOWER AFT DECK AND THE INSERTION OF A CARGO OPENING FOR LOADING FREIGHT CONTAINERS LIKE THE ALASKA AIRLINE IGLOOS AND ALSO PASSENGER VEHICLES.

THE PASSENGER COMPARTMENT WILL BE VERY SIMILAR TO WIDE BODY AIRCRAFT, AS SHOWN IN FIGURE 7. EIGHT ABREAST SEATING WITH DOUBLE AISLES SIMILAR TO WIDE BODY AIRCRAFT WILL BE USED. SEATS WILL HAVE RECLINE AND FOOD TRAYS FOR AIRLINE TYPE FOOD SERVICE. TOTAL SEAT CAPACITY PROPOSED IS 135, LOCATED ON THE UPPER DECK AND LOWER MAIN DECK AS SHOWN IN FIGURE 8.

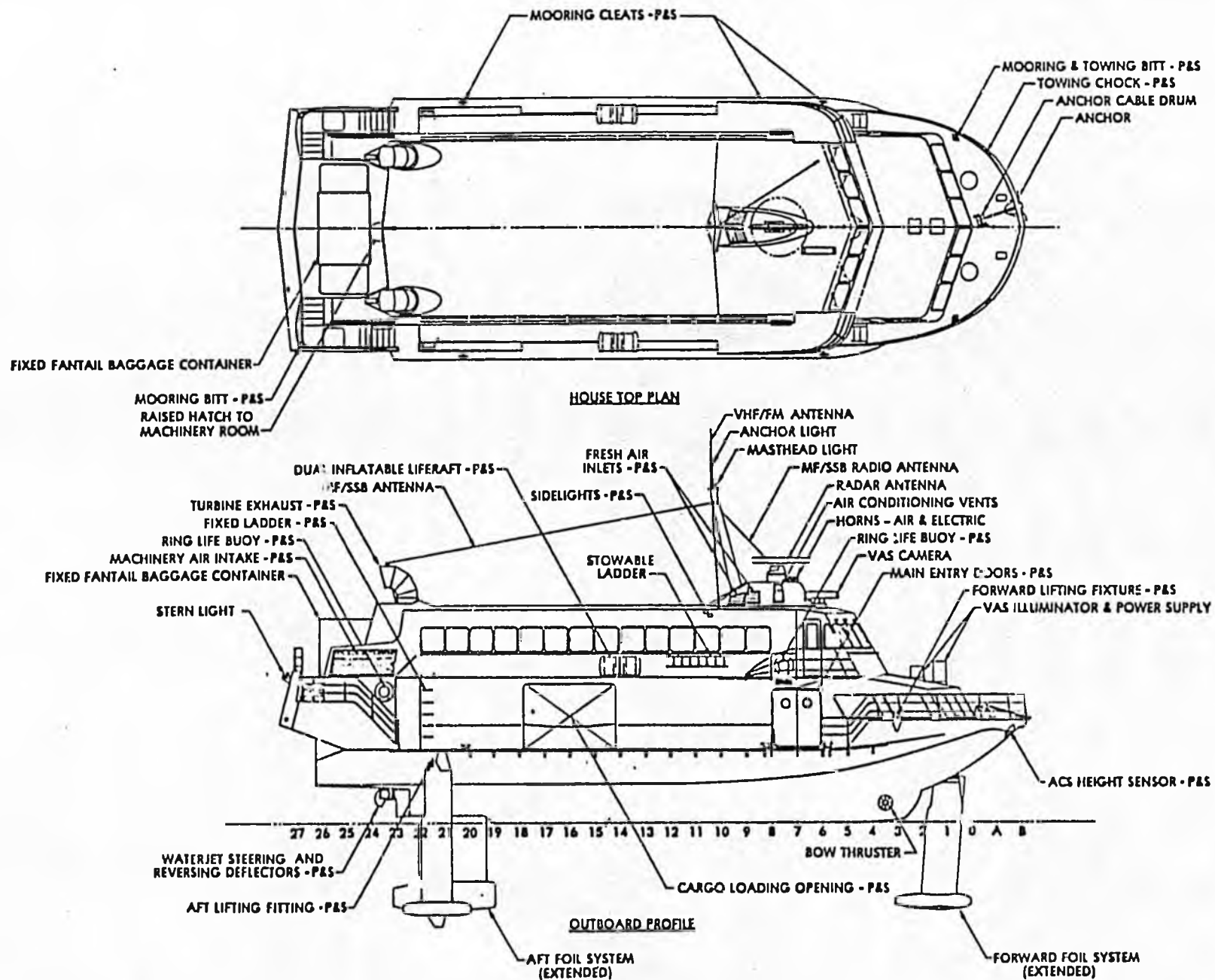
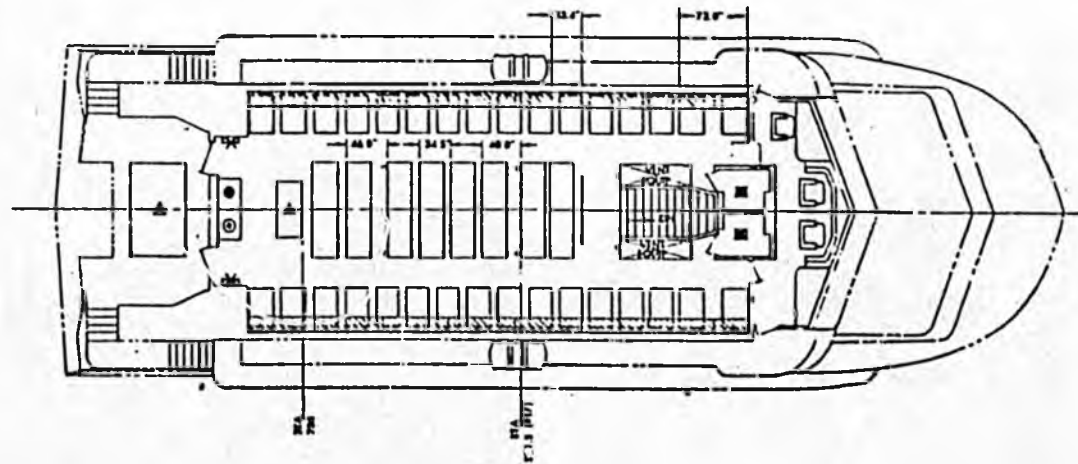


Figure 6

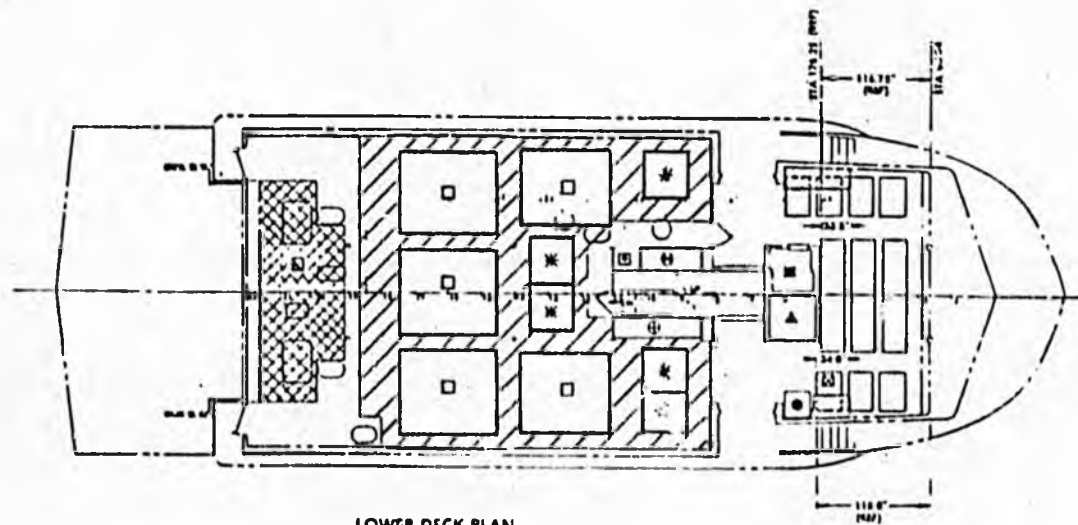




UPPER DECK PLAN

PASSENGER SEATS (19.5" WIDE)
 AFTER DECK CASH 104
 MAIN DECK FWD CASH 121
 TOTAL SEATING CAPACITY 225

- ⊕ TIEDOWN HARDWARE
- ⊙ SHELVED PARCELS
- ▽ FULL SIZE AUTO
- ▲ COMPACT AUTO
- CONTAINER (ALASKA AIRLINE TYPE)
- ⬇ CAROOL (BULK/NET)
- * PALLETS (N-VALL CONTAINERS)
- ▭ FIRE HOSE
- ▩ LAYDOWN
- ▲ GALLEY
- ⊙ MICROWAVE OVEN & STORAGE
- ⊙ CREW SEAT
- X CREW JUMP SEAT
- ⊙ LUGGAGE CASK (63" WIDE)
- △ PANTAX BAGGAGE (APPROX. 300 FT)
- ▨ OVERHEAD STORAGE BAYS (APPROX. 190 FT)
- ▨ ALLOWABLE DECK LOAD — 75 LBS/FT²
HAND TRUCKS ONLY
- ▨ ALLOWABLE DECK LOAD — 150 LBS/FT²
MAX. WHEEL LOAD UNDERWAY—1300 LBS
MAX. WHEEL LOAD DURING
LOADING/UNLOADING — 2600 LBS



LOWER DECK PLAN

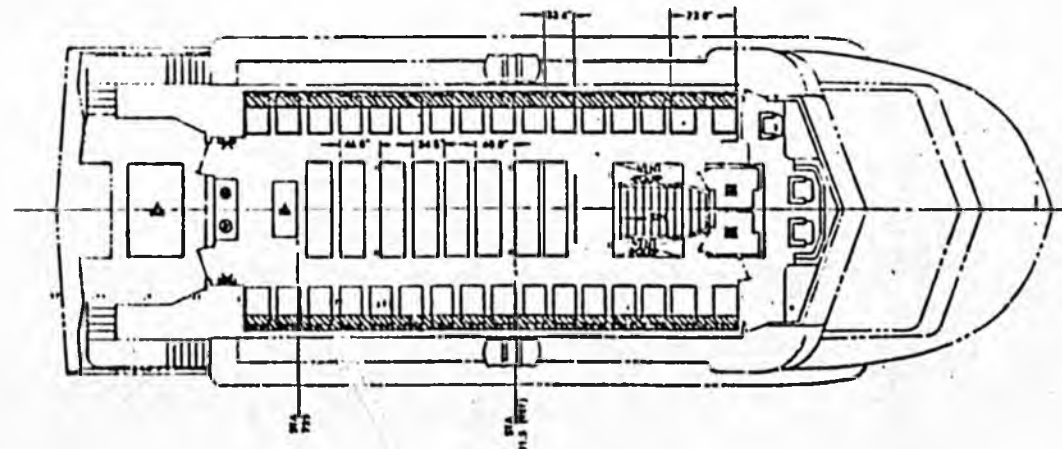
PROPOSED ALASKA MARINE HIGHWAY JETFOIL CONFIGURATION
 INTERIOR ARRANGEMENT

Figure 8

BECAUSE OF THE CONCERN SOME PEOPLE EXPRESSED DURING THE SUMMER DEMO ABOUT THE SEAT SPACING, THE 135 SEAT ARRANGEMENT HAS INCREASED THE SEAT PITCH BY AT LEAST 2 INCHES ON ALL ROWS. THESE SEATS, LIKE AIRCRAFT SEATS, ARE MOUNTED IN TRACKS AND THEREFORE, CAN BE REARRANGED DEPENDING ON THE OPERATOR'S DESIRES.

FOR LUGGAGE STOWAGE, OVERHEAD LUGGAGE COMPARTMENTS, LARGER THAN 737 OR 727 AIRCRAFT, WHICH CAN SUPPORT A REGULAR SUITCASE OR BACKPACK, ARE LOCATED THROUGHOUT THE PASSENGER CABIN. ON THE FANTAIL IS A LARGE BAGGAGE CONTAINER FOR ADDITIONAL STORAGE OF APPROXIMATELY 600 CUBIC FEET CAPACITY.

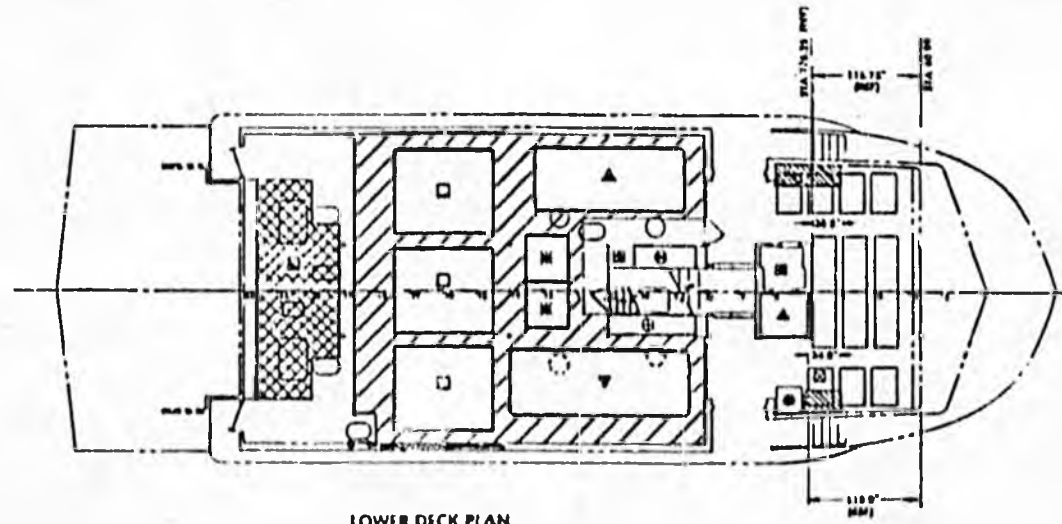
THE FREIGHT/VEHICLE COMPARTMENT ON THE MAIN AFT DECK HAS THE CAPACITY OF CARRYING APPROXIMATELY 25 TONS OF FREIGHT OR VEHICLES. THIS CAN HANDLE ALASKA AIRLINE IGLOOS (MAXIMUM OF 5), SMALLER CONTAINERS, BULK FREIGHT, AND/OR PASSENGER VEHICLES (MAXIMUM OF 3). VARIOUS COMBINATIONS ARE POSSIBLE AS SHOWN IN FIGURE 9.



UPPER DECK PLAN

PASSENGER SEATS (19.5" WIDE)
 UPPER DECK CARGO 104
 MAIN DECK FWD CARGO 281
 TOTAL SEATING CAPACITY 138

- (H) TIEDOWN HARDWARE
- (S) SHELVED PARCELS
- (V) FULL SIZE AUTO
- (A) COMPACT AUTO
- (□) CONTAINER (ALASKA ALUMINUM TYPE)
- (■) CARGO (BULK/NET)
- (R) PALLET (SMALL CONTAINERS)
- (H) FIRE HOSE
- (L) LAVATORY
- (A) GALLEY
- (M) MICROWAVE OVEN & STORAGE
- (C) CREW SEAT
- (X) CREW AMP SEAT
- (D) LUGGAGE BACK (65" WIDE)
- (Δ) PANTAL BAGGAGE (APPROX. 300 FT)
- (Hatched) OVERHEAD STORAGE BAY (APPROX. 190 FT)
- (Cross-hatched) ALLOWABLE DECK LOAD — 75 (LS/FT)
HAND TRUCK ONLY
- (Diagonal lines) ALLOWABLE DECK LOAD — 180 (LS/FT)
MAX. WHEEL LOAD UNDERWAY — 1200 (LB)
MAX. WHEEL LOAD DURING
LOADING/UNLOADING — 3600 (LB)



LOWER DECK PLAN

PROPOSED ALASKA MARINE HIGHWAY JETFOIL CONFIGURATION
 INTERIOR ARRANGEMENT

IN THIS CASE, 2 VEHICLES ARE CARRIED TOGETHER WITH 3 ALASKA AIRLINE IGLOOS, 2 SMALL CONTAINERS, AND BULK FREIGHT IN THE STERN. THE FREIGHT LOAD WILL ALSO VARY DEPENDING ON PASSENGER LOADS AND TRIP LENGTH. LIKE ALASKA AIRLINES' 737 AIRCRAFT WHERE PASSENGER LOADS ARE TRADED FOR FREIGHT LOADS, THE SAME THING APPLIES HERE. FOR TRIPS WHERE A FULL LOAD OF PASSENGERS ARE EXPECTED, (135) AND THE TRIP LENGTH IS 90 NAUTICAL MILES, THE MAXIMUM FREIGHT CAPACITY IS 19 TONS. FOR DAYS WHEN LIGHTER PASSENGER LOADS ARE EXPECTED OR OFF SEASON, THE FREIGHT CAPACITY COULD BE 25 TONS.

THIS IS THE SAME CONFIGURATION AS STATED IN THE PROPOSAL SUBMITTED TO COMMISSIONER D. A. CASEY ON MARCH 9, 1983. AS STATED IN THE CONTRACT PROPOSAL, THE PRICE OF THE THREE BOATS AT DELIVERY IS ANTICIPATED TO BE \$63,816,000 BASED ON PROJECTED ESCALATION OF 8% PER YEAR AND THE PRICE FOR SPARE PARTS AND SUPPORT EQUIPMENT WHICH CAN BE PURCHASED AT DELIVERY IS APPROXIMATELY \$7,300,000. AS

SHOWN IN THE CONTRACT PROPOSAL, IT IS OUR NORMAL PRACTICE TO DEVELOP A BASE PRICE AS WE DID IN THIS PROPOSAL IN 1982 DOLLARS AND THEN CONTRACT WITH AN ESCALATION CLAUSE WHICH IS BASED ON NATIONAL LABOR AND MATERIAL INDICES, WHICH BOTH THE CUSTOMER AND OURSELVES CAN VERIFY. THIS WORKS TO THE BENEFIT OF THE CUSTOMER AND OURSELVES AND IS STANDARD PRACTICE IN AIRCRAFT PURCHASES. THIS ELIMINATES THE ALLOWANCE THAT THE MANUFACTURER NEEDS TO INCLUDE TO COVER INFLATION AND THUS BENEFITS THE CUSTOMER.

THE SERVICE THAT CAN BE PROVIDED BY THIS CRAFT IN SOUTHEAST ALASKA ANNUALLY IS SHOWN IN FIGURES 10 AND 11

EXAMPLES OF DAILY JETFOIL SCHEDULES TO PROVIDE THIS TYPE OF SERVICE IS SHOWN IN FIGURE 12

THESE TYPES OF DAILY SCHEDULES ORGANIZED INTO A WEEKLY CYCLE ARE SHOWN IN FIGURE 13

JETFOIL Service Synopsis

- It is proposed that the JETFOILS be based primarily in Juneau. A secondary overnight base will be Ketchikan (4 nights per week). Service will be reduced to two JETFOILS in winter.

- JETFOILS will provide passenger, freight, and vehicle service on weekly cycles to 17 communities of Southeast Alaska

- Types of daily schedules:
 - Juneau, Sitka, Angoon, Tenakee, Hoonah, and return
 - Juneau, Haines, Skagway, Juneau, Glacier Bay, and return
 - Juneau, Excursion Inlet, Hoonah, Elfin Cove, Pelican, and return
 - Juneau, Kake, Petersburg, Wrangell, and return
 - Juneau, Petersburg, Wrangell, Hollis, Ketchikan, Metlakatla, and Ketchikan
 - Ketchikan, Metlakatla, Ketchikan, Hollis, Wrangell, Hollis, Ketchikan, Metlakatla, and Ketchikan
 - Ketchikan, Metlakatla, Ketchikan, Hollis, Wrangell, Petersburg, and Juneau

- JETFOIL trip times:

Haines to Juneau	2:25
Skagway to Juneau	3:30 (with stop)
Sitka to Juneau	4:05 & 7:25 (with three stops)
Hoonah to Juneau	1:50
Kake to Juneau	2:25
Petersburg to Juneau	2:45
Wrangell to Juneau	4:25 (with stop)
Ketchikan to Juneau	8:55 (with three stops)
Angoon to Sitka (also Kae-Psg)	1:45
Ketchikan to Petersburg	5:40 (with two stops)
Ketchikan to Hollis	1:05

JETFOIL Service Synopsis

(Continued)

- Jetfoil service will be during normal hours (7:30 a.m. to 11:00 p.m.)
- Service can be provided from downtown waterfront
- Number of weekly departures from each community generally range from six to eight (Juneau – 22, Pelican and Elfin Cove – 1)
- Number of days per week each community gets service generally ranges between three and six (Juneau – 7; Pelican, Elfin Cove, and Excursion Inlet – 1)
- Morning and evening service
 - 4 per week – Hoonah
 - 3 per week – Haines, Skagway, Tenakee, Angoon, Sitka
 - 2 per week – Glacier Bay, Kake, Petersburg, Hollis, Metlakatla, Ketchikan
 - 1 per week – Excursion Inlet
- Day trips to communities with twice-a-day JETFOIL service generally allows a visit of 3 to 9 hours

JETFOIL Schedules

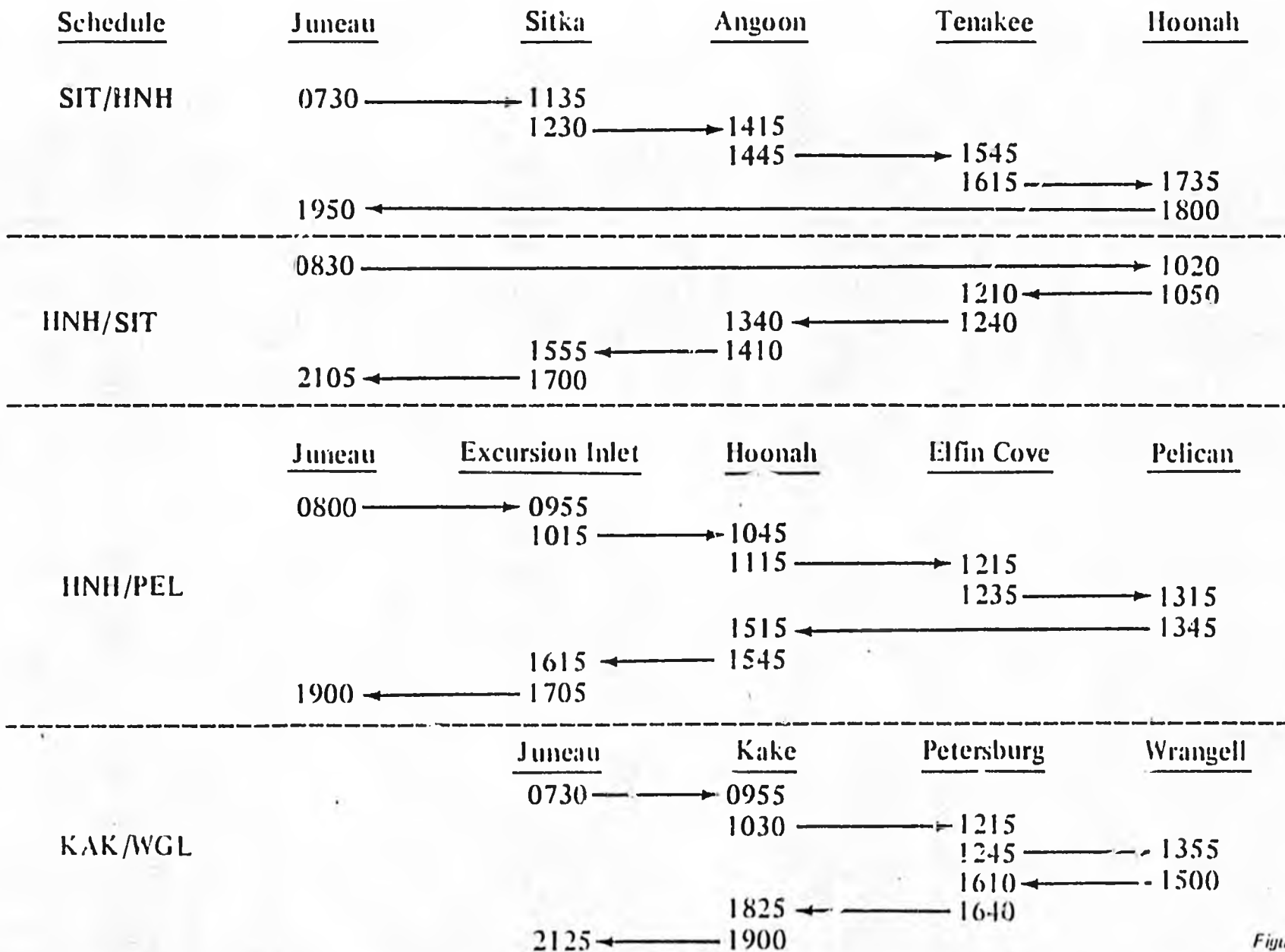


Figure 12

JETFOIL Summer Schedule

	<u>Boat No. 1</u>	<u>Boat No. 2</u>	<u>Boat No. 3</u>
Monday	HNH/SIT	SIT/HNH	JNU/KTN
Tuesday	SGY/GLB	GLB/SGY	MET/WGL
Wednesday	HNH/SIT	SIT/HNH	KTN/JNU
Thursday	HNH/PEL	KAK/WGL	2 SGY
Friday	HNH/SIT	SIT/HNH	JNU/KTN
Saturday	SIT/HNH	KAK/WGL	MET/WGL
Sunday	SGY/GLB	GLB/SGY	KTN/JNU

THE PROPOSED WINTER SCHEDULE IS SIMILAR TO SUMMER, BUT IS CUT BACK TO A TWO BOAT SERVICE CONSISTENT WITH TRAFFIC DEMANDS.

CONVENTIONAL FERRY SERVICE IS NORMALLY CUT APPROXIMATELY IN HALF.

ADDITIONAL DETAILS OF THE PROPOSED SERVICE ARE SHOWN IN THE FINAL

REPORT, ECONOMIC ASSESSMENT OF JETFOIL SERVICE FOR SOUTHEAST

ALASKA, H-1400-201, MARCH 1983.

THE JETFOIL SERVICE, AS SUGGESTED HERE, PROVIDES SERVICE TO ALL SOUTHEAST ALASKA, BUT EMPHASIZES ADDITIONAL SERVICE TO SMALL COMMUNITIES AND ESPECIALLY TO THE COMMUNITIES TO THE WEST OF JUNEAU. BECAUSE OF THIS, THERE ARE SIGNIFICANT CHANGES THAT, I BELIEVE, CAN BE MADE TO THE CONVENTIONAL FERRY SERVICE THAT CAN ENHANCE THE OVERALL IMPACT OF ADDING JETFOIL SERVICE. THESE CHANGES I WOULD LIKE TO DISCUSS HERE.

THE IMPROVED JETFOIL SERVICE TO THE SMALL COMMUNITIES LIKE HOONAH, TENAKEE, ANGOON, PELICAN AND KAKE RELIEVES THE FERRY LE CONTE IN PROVIDING ALL THE SERVICE TO THESE COMMUNITIES AND ALLOWS IT TO

INCREASE FREQUENCY OF DIRECT SERVICE TO SITKA FROM JUNEAU. THIS, IN TURN, ALLOWS THREE OF THE MAINLINE FERRIES TO BY-PASS SITKA AND PROVIDE INCREASED FREQUENCY OF SERVICE BETWEEN PRINCE RUPERT AND HAINES, WHERE THE GREATEST DEMAND FOR VEHICLE SERVICE IS LOCATED. THE CHANGES TO CONVENTIONAL FERRY SCHEDULE ARE SUMMARIZED IN FIGURE 14

FOR THE MAINLINE FERRIES, THE ANALYSIS OF THE SCHEDULE REVISION IS SHOWN IN FIGURE 15

AS I MENTIONED, THE SCHEDULE FOR THE LE CONTE WAS REVISED TO INCREASE SITKA SERVICE. THIS IS SHOWN IN FIGURE 16

THE AURORA FERRY CONTINUES TO SERVE HOLLIS, KETCHIKAN, PRINCE RUPERT, AND JUNEAU AS CURRENTLY, BUT ALSO ADDS SERVICE TO MATLAKATLA AS SHOWN IN FIGURE 17

**Summary of
Proposed Southeast Alaska Ferry Service
(July)**

JETFOIL Service

- 2 JETFOILS –** Serve Northern Panhandle (based in Juneau and service to Skagway, Haines, Hoonah, Sitka, Tenakee, Angoon, Excursion Inlet, Elfin Cove, Pelican, Kake, Petersburg, and Wrangell)
- 1 JETFOIL –** Service Mainline and Southern Panhandle (Petersburg, Wrangell, Hollis, Ketchikan, Metlakatla, Haines, and Skagway)

Ferryboat Service

- Columbia –** Seattle to Skagway service including Sitka (same as current)
- Taku –** Prince Rupert to Skagway (increased frequency and excludes Sitka)
- Malaspina –** Prince Rupert to Skagway (increased frequency and excludes Sitka)
- Matanuska –** Prince Rupert to Skagway (increased frequency and excludes Sitka)
- Le Conte –** Juneau to Sitka (increased Sitka service and reduce Hoonah, Tenakee, Angoon, and Kake service)
- Aurora –** Ketchikan to Hollis, Metlakatla, Prince Rupert and Juneau service (increased frequency and adds Metlakatla service)
- Chilkat –** No service

Mainline Ferry Service

Transit Time

Prince Rupert to Skagway, without Sitka
(Includes Ketchikan, Wrangell, Petersburg, Juneau and Haines)
Time: 32:45

Prince Rupert to Skagway with Sitka, etc.
Time: 49:15

Net time savings excluding Sitka
17:30

Time savings per month

Mainline ferry averages 4 Sitka trips per month
 $4 \times 17.5 = 70$ hours

Extra round trip requirements

Turnaround time (YPR)	3.5 hours
YPR - SGY	32.75
Turnaround time (SGY)	1.5
SGY - YPR	<u>32.75</u>
Total	70.00 hours

Proposed Le Conte Ferry Schedule (Weekly – Summer)

<u>Week Day</u>	<u>Sitka</u>	<u>Hoonah, Tenakee & Angoon</u>	<u>Auke Bay</u>	<u>Kake</u>	<u>Petersburg</u>
Monday, Tuesday, Saturday, Sunday *	1800 2000	←————→	0800 0600		
Wednesday Thursday	2330/W 0130/T	←————→ Stops ←————→ ————→ Stops —————→	0800/W 1700/T		
Thursday Friday				2300/T → 0600/F 0700/F → 1130/F 2200/F ← 1750/F	
Saturday * Sunday	2300/SA 0130/SU	←————→ Stops ←————→ ————→ Stops —————→	0800/SA 1700/SU		

* Alternate week schedule

Proposed Aurora Schedule (Weekly)

<u>Weekday</u>	<u>Prince Rupert</u>	<u>Metlakatla</u>	<u>Ketchikan</u>	<u>Hollis</u>	<u>Juneau (via WGL & PSG)</u>
Wednesday & Friday			1000 ←	0715	
		1155 ←	1045		
		1230 →	1515	1815	
<hr style="border-top: 1px dashed black;"/>					
Friday			2145F ←	1900	
Saturday		2340 ←	2230		
	0615S ←	2415			
	0830 →	1430			
		1515 →	1625		
Sunday			1730 →	2015	
Monday				2100 →	1530SU
				1100M ←	1730
			1445 ←	1200	
		1640 ←	1530		
		1715 →	1825		
			1930 →	2215	
<hr style="border-top: 1px dashed black;"/>					
Tuesday & Thursday			1000 ←	0715	
			1045 →	1330	
			1715 ←	1430	} Thursday only
			1800 →	2045	

Figure 17

THE IMPACT OF THESE FERRY SERVICE CHANGES AND THE JETFOIL SERVICE ON THE COMMUNITIES OF SOUTHEAST ALASKA IS SHOWN IN FIGURE 18

BASED ON THE JETFOIL SERVICE JUST DISCUSSED, ANNUAL OPERATING COSTS OF A THREE JETFOIL SERVICE HAVE BEEN ESTIMATED. THESE COSTS ARE BASED ON SOUTHEAST ALASKA MARINE HIGHWAY LABOR RATES AND FUEL RATES. THESE COSTS ARE IN CURRENT 1983 DOLLARS TO FACILITATE ESTIMATES AND FOR COMPARISON TO THE ALASKA FERRY SYSTEM. ALL ESTIMATES HAVE BEEN EXTENSIVELY DISCUSSED AND REVIEWED IN DETAIL WITH THE APPROPRIATE PERSONNEL IN THE ALASKA DEPARTMENT OF TRANSPORTATION AND ALASKA MARINE HIGHWAY. A SUMMARY OF THE COST BUILDUP IS SHOWN IN FIGURE 19

AS I MENTIONED, THESE COSTS ARE IN 1983 DOLLARS AND ARE CONSERVATIVELY ESTIMATED FOR A STAND ALONE OPERATION. FOR COMPARISON TO CONVENTIONAL FERRIES, THE 1982 OPERATING COSTS FOR

Impact of Proposed Service (Summer)

- o New service – three communities (Excursion Inlet, Elfin Cove, Glacier Bay)
- o Weekly service – four communities (Pelican plus above three communities)
- o Morning and evening JETFOIL service – (thirteen communities)
- o Capacity impact:

	Passenger Service* (Trips available per month)	Vehicles*	
		July Capacity	July** Load Factor
Mainline service (Juneau-Ketchikan)	+ 37%	+17%	63%
Sitka service	+133%	+21%	57%
Hoonah service (including Angoon and Tenakee)	+250%	- 5%	46%
Hollis service	+ 83%	+24%	45%
Metlakatla service	+ 49%	+22%	18%
Skagway service	+ 95%	+ 9%	42%

* Jetfoil and ferry boat service

** No credit taken for transfer of freight from vehicles (vans) to containers

Summary of JETFOIL Operating Costs (1983 Dollars)

	<u>Annual Cost</u>
Operating Crew 3 crews/boat 6 members/crew Captain @ \$58,900	\$ 2,279,700
Fuel \$1.10/gallon 485 gallons/hour 8400 hours/year	4,481,400
Maintenance Consumable/repairable parts: \$158/hour Labor: 29 personnel for 3 boats	3,163,200
Insurance 2% of hull value	984,000
Indirect costs (overhead and shoreside) Labor General manager @ \$65,000 Juneau: 19 personnel Other: 16 manhours/departure	1,562,100
Other Advertising Equipment Supplies and uniforms Facilities Travel	440,000
Total	\$12,910,400

SOUTHEAST ALASKA FERRIES HAVE BEEN USED AND ADJUSTED UPWARD 8% FOR CURRENT DOLLARS. THE COMPARISON WITH THE JETFOIL IS SHOWN IN FIGURE 20

WHEN CONSIDERING A SPECIFIC NUMBER OF PASSENGERS THAT WILL TRAVEL FROM A COMMUNITY, AND ESPECIALLY IF THAT NUMBER OF PASSENGERS IS SMALL, A MORE APPROPRIATE COMPARISON IS FIGURE 21

ALTHOUGH CAPITAL COST RECOVERY IS NOT NORMALLY INCLUDED IN THE FERRY SYSTEM COST ACCOUNTING, WE BELIEVE IT IS WORTHWHILE TO MAKE A COMPARISON. THIS IS SHOWN IN FIGURE 22

FOR AN ASSESSMENT OF JETFOIL REVENUE, AN ANALYSIS OF HISTORICAL FERRY TRAFFIC FOR PASSENGERS AND VEHICLES, JET AIRCRAFT TRAFFIC AND AIR TAXI TRAFFIC HAS BEEN MADE FOR SOUTHEAST ALASKA. THE RESULTS ARE SHOWN IN FIGURE 23

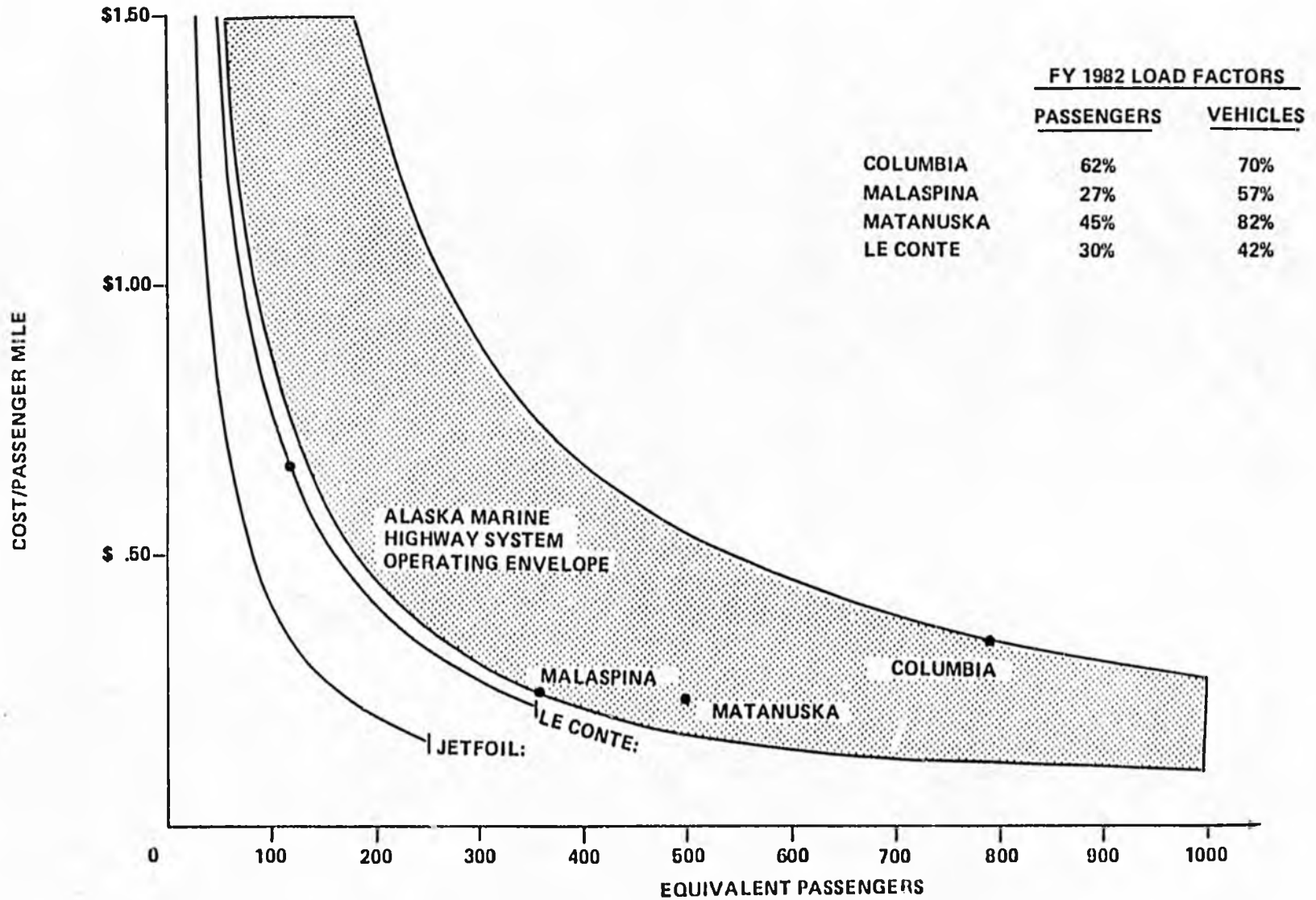
Operating Cost Comparison

<u>Boat</u>	<u>Total* Equivalent Passenger Capacity</u>	<u>Annual Operating Distance</u>	<u>Estimated 1983 Costs</u>	<u>Cost Per Nautical Mile</u>	<u>Cost Per Nautical Seat Mile</u>
Mainline Ferries (4)	1,002	260,000 nmi (Average 65,000 nmi)	\$38,000,000 (Average \$9,500,000)	\$146	\$.15
Secondary Ferries (2)	355	126,000 nmi (Average 62,000 nmi)	\$10,400,000 (Average \$5,200,000)	\$ 83	\$.23
Fleet Average (Weighted)	786	386,000 nmi (Average 64,000 nmi)	\$48,400,000 (Average \$8,076,000)	\$125	\$.16
JETFOIL	256	316,800 nmi (Average 105,600)	\$12,900,000 (Average \$4,300,000)	\$ 41	\$.16

* Equivalent passenger capacity has been used in order to make a meaningful economic comparison of each vessel. The equivalent passenger capacity represents revenue for an all passenger vessel equivalent to revenue generated by a mixed passenger, vehicle, and freight configuration

**Based on fiscal year 1982 utilization (mainline - 33 months; secondary - 17 months). 1983 costs estimated using fiscal year 1982 costs plus 8%

Operating Cost vs Passengers



ASSUMES A PASSENGER:VEHICLE
REVENUE TRADE-OFF OF 3:1

● DENOTES EXPECTED EQUIVALENT
PASSENGER LOADS (BASED ON
FY 1982 DATA)

Figure 21

Capital Cost Comparison

Productivity

	<u>Purchase Price</u>	<u>Annual Distance</u>	<u>Equivalent Revenue Passenger Capacity</u>	<u>\$/Passenger Nautical Mile</u>
Jetfoil	\$18.3 Million (\$55M ÷ 3)	105,600 nmi	256 (135 pax plus 19 tons freight)	\$.68
Replacement Vessel (Tustumena)	\$47.5 Million (estimate)	65,000 nmi *	848 (500 pax plus 116 vehicles)	\$.86

Payback

	<u>Annual ** Amortization</u>	<u>Additional \$/Passenger Mile Required 20 Year Payback</u>
JETFOIL	$\$1.6M \div 105,600 \text{ nmi} \div 256 \text{ passengers} =$	\$.06
Replacement Vessel (Tustumena)	$\$4.1M \div 65,000 \text{ nmi} \div 848 \text{ passengers} =$	\$.07

* Mainline ferries average (1978-1982)

** Assumes 20-year payback at 6% interest (estimated long term Alaska government bond rate)

Total Passenger Traffic 1982 — Southeast Alaska

<u>Region</u>	<u>Ferry</u>		<u>Air</u>		<u>Total</u>
	<u>Walk-on</u>	<u>Motorist</u>	<u>Jet</u>	<u>Air Taxi</u>	
Juneau-Skagway	40,412	35,912	—	42,588	118,912
Juneau-Gustavus	—	—	23,431	1,820	25,251
Juneau-Sitka	25,161	8,096	32,351	45,994	111,602
Juneau-Ketchikan	23,229	14,510	37,117	21,255	96,111
Ketchikan—Metlakatla/Hollis	20,299	19,696	—	62,552	102,547
Total without Prince Rupert*	109,101	78,214	92,899	174,209	454,423
Percent of total	41%		20%	39%	
Total with Prince Rupert*	125,304	98,084	92,899	175,964	492,251
Percent of total	45%		19%	36%	

* Excluding passengers with origin or destination in Seattle which do not disembark from the ferry at any intermediate ports in Southeast Alaska (all ports but Haines and Skagway)

TRAFFIC GROWTH RATES FOR VARIOUS SEGMENTS OF THE MARKET WERE ESTIMATED BASED ON HISTORICAL RATES, CONSULTATION WITH THE ALASKA DEPARTMENT OF LABOR, COMMUNITY AND REGIONAL AFFAIRS, AND DIVISION OF TOURISM. THIS WAS EXAMINED FOR EACH OF THE 17 COMMUNITIES THAT WILL HAVE JETFOIL SERVICE AND EACH OF THE 32 MAJOR MARKET SEGMENTS. SUMMARY OF RESULTS ARE SHOWN IN FIGURE 24

AS SHOWN IN FIGURE 25 FOR JET AIR TRAFFIC, AS AN EXAMPLE, THE TRAFFIC PROJECTIONS FOLLOWED THE ESTABLISHED TREND LINE WELL.

TOTAL PASSENGER MARKET SIZE FOR THE YEAR 1986 WHEN THREE JETFOILS WILL BE IN SERVICE IS PROJECTED TO BE 590,000 AS SHOWN IN FIGURE 26

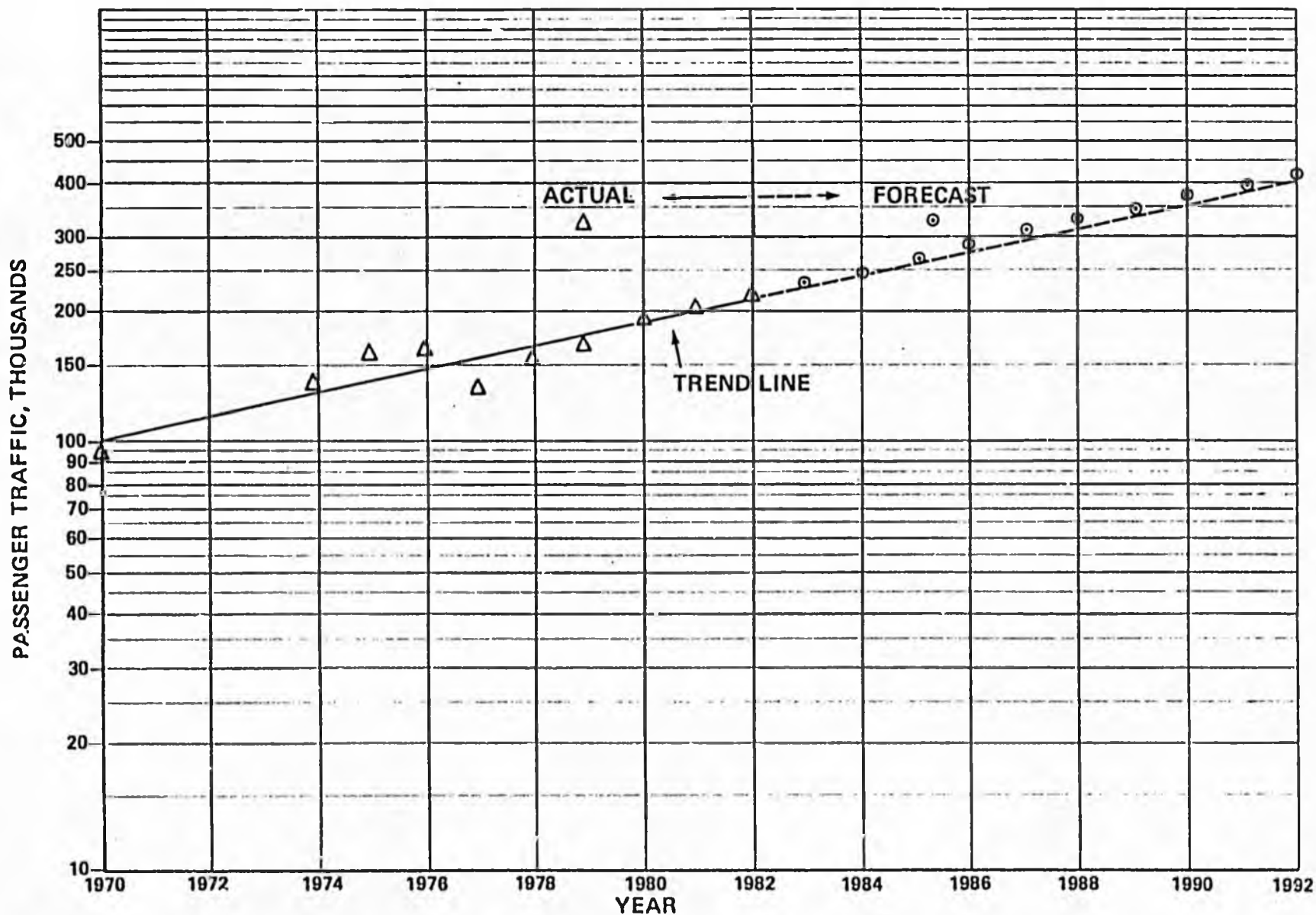
PASSENGER FARE LEVELS FOR JETFOIL WERE ESTABLISHED BASED ON A TIME/COST ANALYSIS OF EACH OF EIGHT MAJOR ROUTES. THIS ANALYSIS INCLUDED CONSIDERATION OF GROUND TIME AND COST TO/FROM THE TERMINALS, CHECKIN AND BAGGAGE PICKUP TIME, FOOD COSTS, AND

Traffic Forecasts Summary (Growth Per Year)

	<u>Historical Growth</u>		<u>Projection</u>	
	<u>1975-1982</u>	<u>1983-1985</u>	<u>1986-1990</u>	<u>1990-1995</u>
Total visitors – Statewide (Division of Tourism)	9%	13% Est.	Not Available	Not Available
Ferry Passengers	7%	5% Est.	7% Est.	5% Est.
Jet Air Passengers	5%	3% Est.	5% Est.	4% Est.
Employment – Statewide (Department of Labor)	3% (4% SE)	5% Est.	5%*	Not Available
Population – Statewide (U.S. Census Forecast)	4% (3% SE)	2%	1.5%	1%

* Alaska Pacific Bank Forecast

Annual Ferry Passengers Southeast Alaska Actual and Forecasted Traffic*



* SOURCE: ALASKA STATE DEPARTMENT OF TRANSPORTATION, ORIGIN AND DESTINATION STATISTICS.
TRAFFIC FORECAST BASED ON PAST TRENDS AND ANTICIPATED FUTURE ENVIRONMENT.

Figure 25

Forecasted Passenger Traffic Demand

1986 – Southeast Alaska

Region	Ferry		Air		Total
	Walk-on	Motorist	Jet	Air Taxi	
Juneau-Skagway	49,918	44,443	—	49,284	143,645
Juneau-Gustavus	—	—	30,985	1,264**	32,249
Juneau-Sitka	33,534	11,005	38,571	50,244	133,354
Juneau-Ketchikan	28,615	17,905	42,747	21,553	110,820
Ketchikan-Metlakatla/Hollis	26,306	26,487	—	70,185	122,978
Total without Prince Rupert *	138,373	99,840	112,303	192,530	543,046 (443,000 Walk-on)
Percent of total	44%		21%	35%	
Total with Prince Rupert *	158,912	124,706	112,303	194,447	590,368 (466,000 Walk-on)
Percent of total	48%		19%	33%	

* Excluding Seattle

**Just Peak Season

TRANSPORTATION FARES AND TRAVEL TIME. DETAILS OF THIS ANALYSIS ARE IN THE FINAL REPORT. THE JETFOIL FARES SELECTED FROM THIS ANALYSIS RESULTED IN PASSENGER TRIP COSTS OF 50 - 60% ABOVE FERRY TRIP COSTS, COMPARED TO AIR WHICH COSTS APPROXIMATELY 150% MORE THAN CONVENTIONAL FERRIES. THIS IS SHOWN IN FIGURE 27

JETFOIL TRAFFIC WAS ESTABLISHED BASED ON THE 440,000 PASSENGER WALK-ON MARKET PROJECTED FOR 1986. JETFOIL TRAFFIC AND MARKET SHARE WAS DETERMINED BY CONSIDERING CONVENIENCE AND FREQUENCY OF THE SERVICE; THE COMPETITIVENESS OF THE SERVICE, INCLUDING SPEED AND CAPACITY; AND SCENIC VALUE OF THE SERVICE. THIS ANALYSIS WE CALLED OUR MEDIUM CASE SCENARIO AND WE BELIEVE IT TO BE THE MOST ACCURATE. THIS CASE IS SHOWN IN FIGURE 28

FOR THE MEDIUM CASE SCENARIO, TOTAL JETFOIL TRAFFIC IS ESTIMATED TO BE 156,400 PASSENGERS ANNUALLY AND \$5,020,000 REVENUE AS SHOWN IN FIGURE 29

Passenger Trip Cost Southeast Alaska

(1983 Dollars)

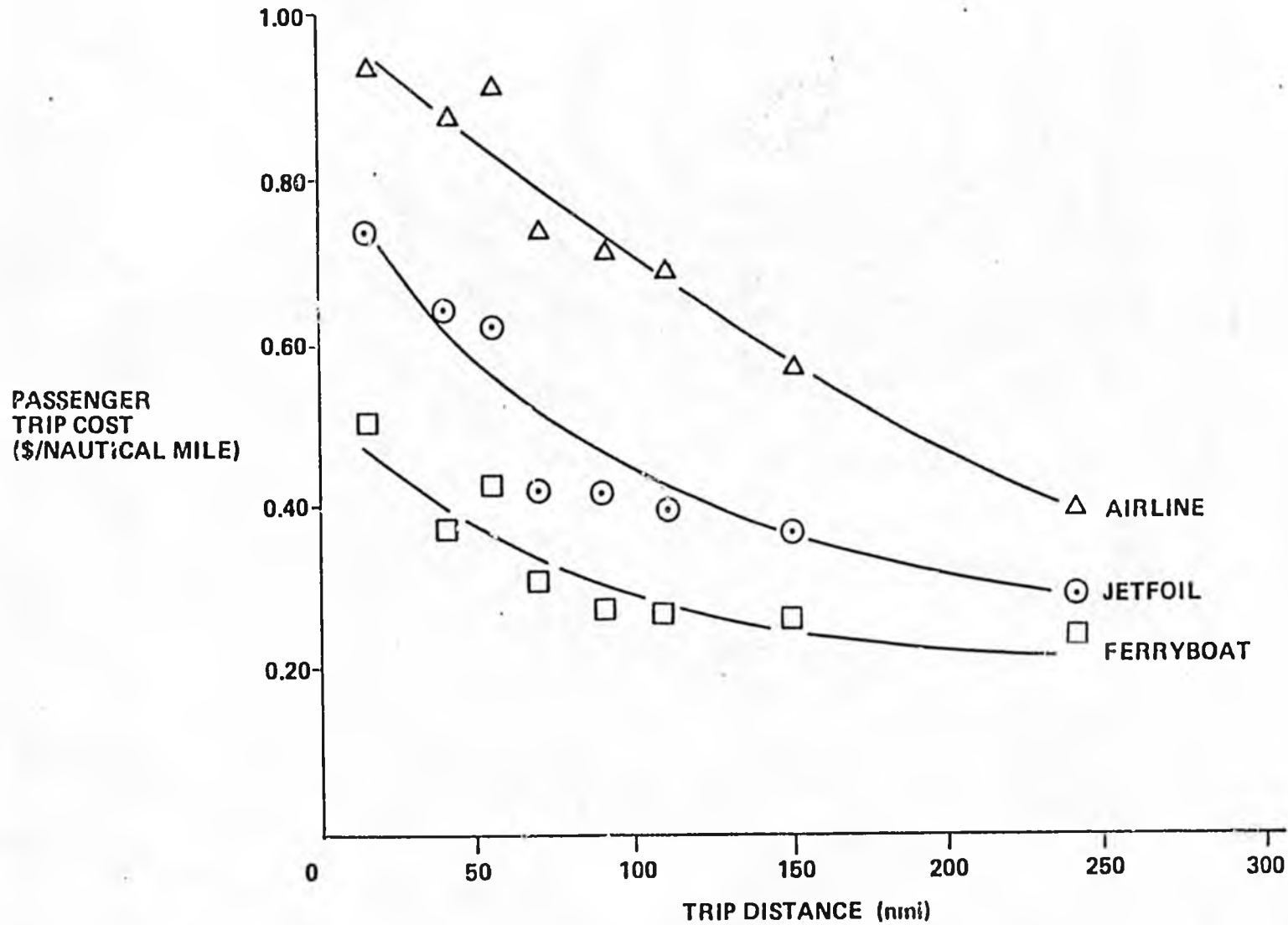


Figure 27

JETFOIL Economic Scenarios

The following three economic scenarios were established for this analysis so that possible changes in traffic demand, economic climate, and fare structure would be considered

	<u>Medium Case</u>	<u>Low Case</u>	<u>High Case</u>
Passenger Traffic	Analysis of individual routes and traffic requirements	-15%	+15%
Passenger Fares	Fares competitive to other modes	Between ferry and medium case	Between air and medium case
Freight Rates	Rates competitive to other modes	Surface rates	Air rates
Costs	-	(Same for all cases)	-
	Based on Alaska labor and material rates, Alaska demo, and other JETFOIL operations		
JETFOIL Schedule	-	(Same for all cases)	-
	Three JETFOILS providing service to 17 communities on weekly cycle (2800 hours per year per boat)		

Passenger Revenue and Market Summary (1986)

Southeast Alaska

	<u>With Prince Rupert</u>	<u>Without Prince Rupert</u>	
Forecasted total market*	590,000	540,000	
Forecasted walk-on market*	465,000	440,000	
	<u>Jetfoil Revenue/Traffic Scenarios</u>		
	<u>Medium Case</u>	<u>Low Case</u>	<u>High Case</u>
JETFOIL market share	29%	-15%	+15%
JETFOIL inducement factor	22%**		
JETFOIL passengers (walk-on passengers without Prince Rupert)	156,400	133,000	179,900
JETFOIL passenger load factor	31%	26%	36%
JETFOIL fare yield/nautical mile (average route length—60 nmi)	\$.53	\$.41 (-20%)	\$.64 (+20%)
JETFOIL revenue	\$5,020,000	\$3,265,000 (-35%)	\$6,945,000 (+35%)

* Does not include passengers to/from Seattle

** Represents 28,000 passengers or 6% inducement of walk-on market

Figure 29

FREIGHT RATES FOR FREIGHT TRANSPORTED ABOARD THE JETFOIL WERE ESTIMATED IN A FASHION SIMILAR TO PASSENGER FARES. THIS IS SHOWN IN FIGURE 30

THE CASH FLOW RESULTING FROM THE PASSENGER AND FREIGHT REVENUE IS SHOWN IN FIGURE 31

IN ADDITION TO PASSENGER AND FREIGHT REVENUE, CONSIDERATION MUST ALSO BE GIVEN TO REVENUE RESULTING FROM CARRYING A COMBINATION OF PASSENGERS, FREIGHT AND VEHICLES. IN LINE WITH PASSENGER FARES, IT WAS THE CONSENSUS OF BOTH THE DEPARTMENT OF TRANSPORTATION AND OURSELVES, THAT VEHICLES CARRIED ABOARD THE JETFOIL COULD BE CHARGED A FARE 50% ABOVE CURRENT FERRY FARES. THIS IS SHOWN IN FIGURE 32

THE REVENUE AND RESULTING CASH FLOW WITH A MIXED LOAD OF FREIGHT AND VEHICLES ABOARD, AT THE MINIMUM, IS NO WORSE THAN THE FERRY SYSTEM IN PERCENT SUBSIDY REQUIRED. THIS IS SHOWN IN FIGURE 33

Freight Rates Southeast Alaska

1983 RATES
SMALL UNIT SHIPMENTS (100 lb OR LESS)

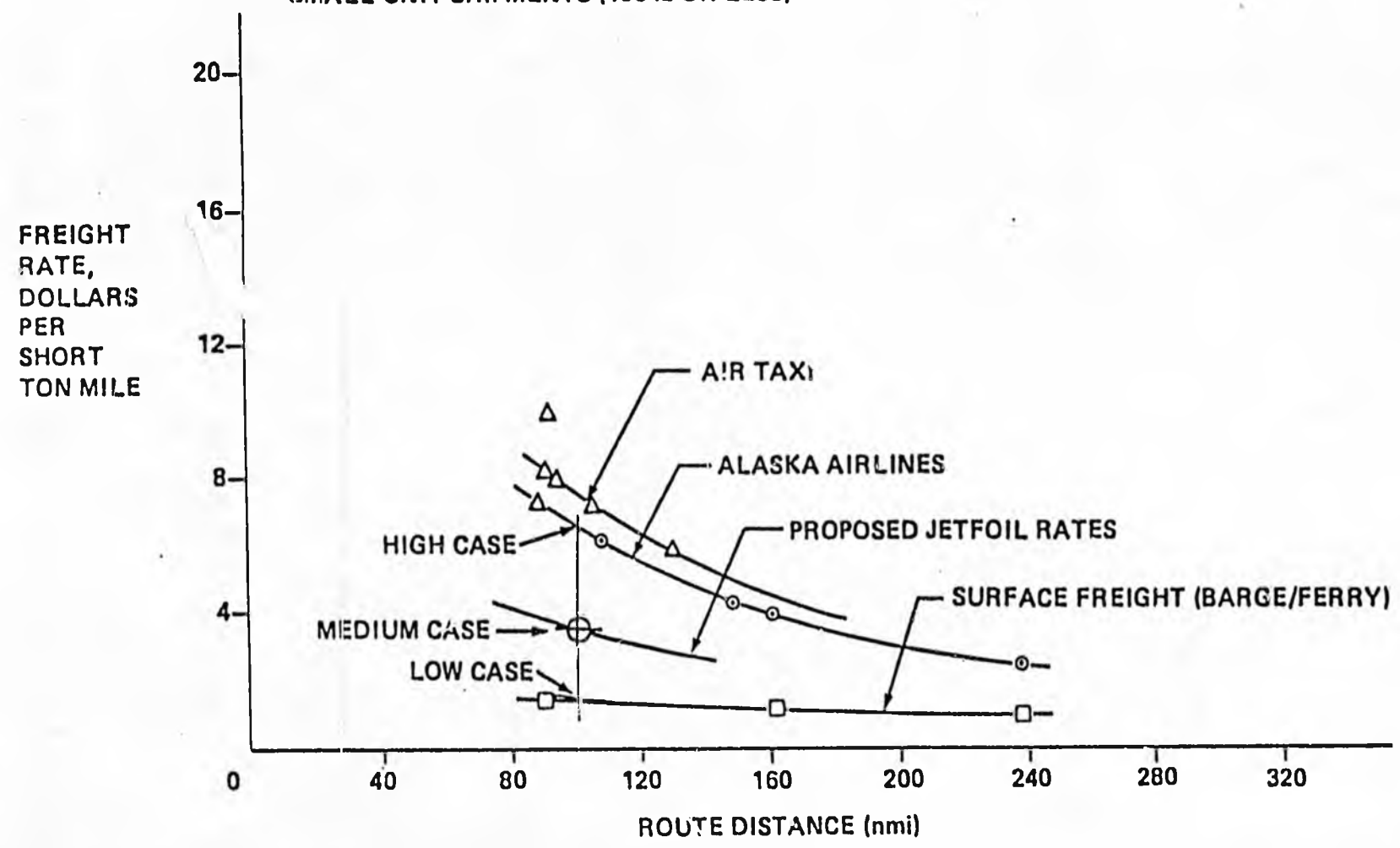


Figure 30

Annual Cash Flow 3 JETFOILS (1983 Dollars in Millions)

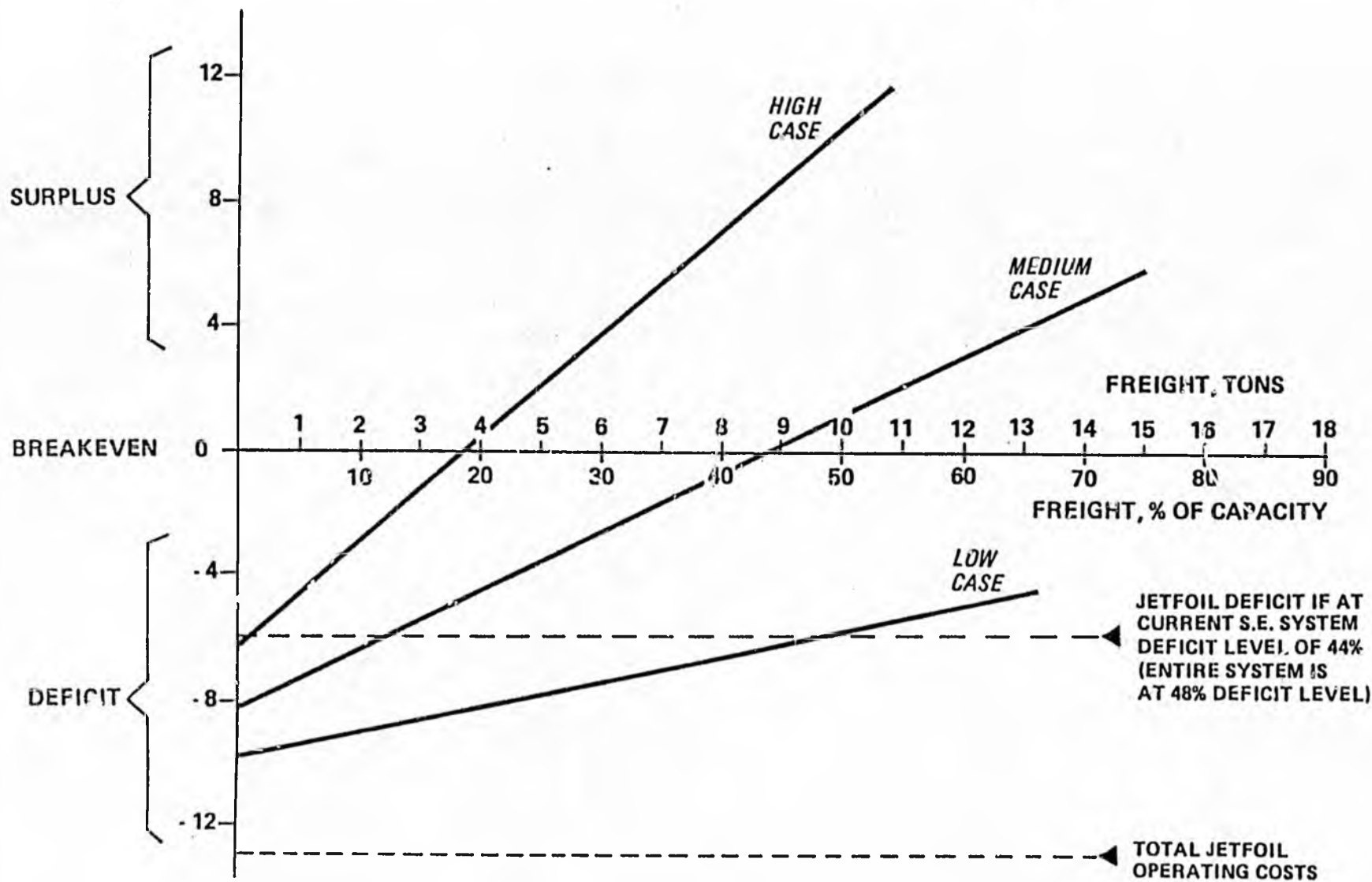


Figure 31

Passenger Vehicle Fare Rates Per Nautical Mile

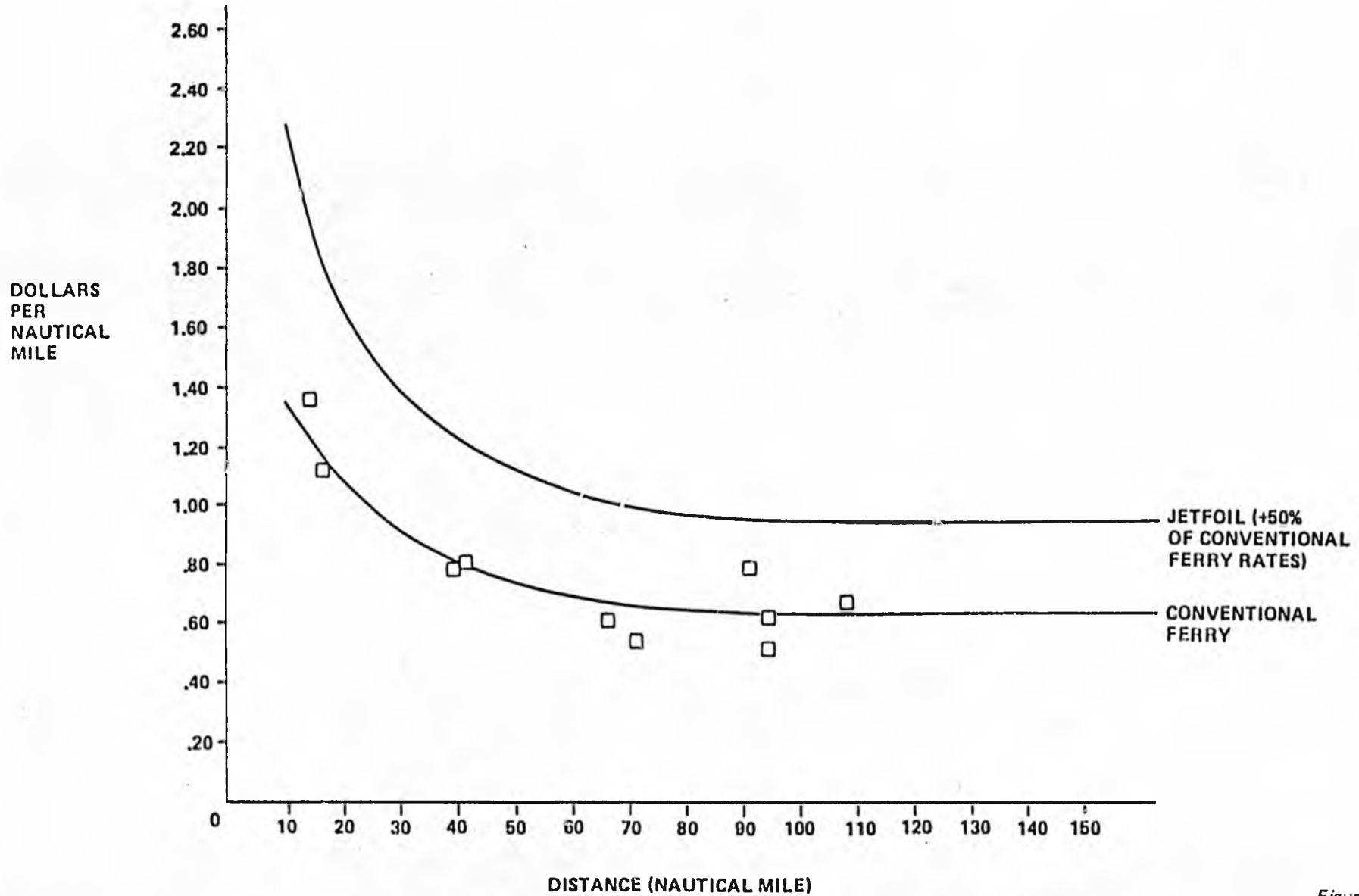


Figure 32

JETFOIL Cash Flow with Combination Freight/Vehicle Revenues

<u>Case</u>	<u>Vehicle Revenue</u>	<u>Freight Revenue</u>	<u>Annual Revenue Including Passengers*</u>	<u>Annual Profit (Loss)</u>
<u>Low Case</u>				
3 vehicles 1 ton freight***	\$ 934,200	\$ 887,000	\$ 6,841,300	\$(6,069,100) 47% subsidy**
<u>Medium Low Case</u>				
2 vehicles 2 tons freight	622,800	1,734,100	7,377,000	(5,533,300) 43% subsidy
<u>Medium Case</u>				
2 vehicles 4 tons freight	622,800	3,548,200	9,191,100	(3,719,300) 29% subsidy
<u>Medium High Case</u>				
2 vehicles 8 tons freight	622,800	7,096,300	12,739,200	(171,100) 1% subsidy
<u>High Case</u>				
0 vehicles 15 tons freight	0	13,305,600	18,325,700	5,415,400 42% gain

* Medium case passenger revenue, \$5,020,100

** Total ferry system subsidy 48%

SE ferry system subsidy 44%

*** 8 ton maximum capacity with 3 vehicles aboard

IN CLOSING THIS PRESENTATION, I WOULD LIKE TO REFER TO A QUOTE I FOUND WHILE SCANNING VARIOUS DOCUMENTS IN THE PREPARATION OF THIS ANALYSIS. ALTHOUGH IT IS ELEVEN YEARS OLD, IT STILL IS SIGNIFICANT.

"TRANSPORTATION, OR THE LACK OF IT, HAS HISTORICALLY BEEN BLAMED FOR THE ECONOMIC ILLS WHICH BESET ALASKA. RECENTLY, ITS EFFECT UPON SOCIAL AILMENTS HAS ALSO RECEIVED SOME SCRUTINY. THERE CAN BE LITTLE DOUBT THAT TRANSPORTATION AS MUCH AS ANY OTHER FACTOR HAS MOLDED LIFE STYLES IN ALASKA."

FEDERAL FIELD COMMITTEE FOR DEVELOPMENT PLANNING IN ALASKA,
ALASKA MARINE HIGHWAY SYSTEM STUDY

JANUARY 1972

IN SUMMARY, FIGURE 34, I WOULD LIKE TO SAY THAT WE BELIEVE THAT JETFOIL IS THE NEXT LOGICAL STEP IN THE DEVELOPMENT OF YOUR WATERWAYS WHICH ARE YOUR HIGHWAYS.

Summary

- JETFOIL is the next logical step in the development of your waterways
 - It provides the convenience and trip time between communities as a roadway does in the lower 48
 - It has proven to be technically feasible in Alaska
 - The people have expressed their need for this service
 - The economics of JETFOIL are competitive to other transportation modes in Alaska
 - It can be not only basic transportation but a significant aid in emergency evacuation or rescue
- It therefore will indeed be an enhancement to the way of life for the Alaskan

- o IT PROVIDES THE CONVENIENCE AND TRIP TIMES BETWEEN COMMUNITIES AS A HIGHWAY DOES IN THE LOWER 48.

- o IT SIGNIFICANTLY IMPROVES VEHICLE AND FREIGHT SERVICE THROUGHOUT SOUTHEAST, AS WELL AS PASSENGER SERVICE.

- o IT HAS PROVEN TO BE TECHNICALLY FEASIBLE IN ALASKA.

- o THE PEOPLE HAVE EXPRESSED THEIR NEED FOR THIS SERVICE.

- o THE ECONOMICS OF JETFOIL ARE COMPETITIVE TO THE OTHER MODES OF TRANSPORTATION IN ALASKA.

- o IT CAN BE NOT ONLY BASIC TRANSPORTATION, BUT A SIGNIFICANT AID IN EMERGENCY EVACUATION OR RESCUE.

PAGE 20

IT THEREFORE WILL INDEED BE AN ENHANCEMENT TO THE WAY OF LIFE FOR
THE ALASKANS.

THANK YOU

ALASKA
JETFOIL TRIAL SERVICE

TIME: JUNE, JULY, AUGUST 1983

SERVICE: JUNEAU (OVERNIGHT BASE)

HOONAH

TENAKEE

ANGOON

SITKA

HAINES

SKAGWAY

GUSTAVUS

WEEKLY CYCLE (7 DAYS/WEEK)

JETFOIL CONFIGURATION: PASSENGER SERVICE WITH FOOD SERVICE
AND BAGGAGE PROVISIONS

FARES: ATTACHMENT

CREW: COMBINATION BOEING AND ALASKA MARINE HIGHWAY

TICKETING/RESERVATIONS: LOCAL SOUTHEAST ALASKA OUTLET
(I.E. TRAVEL AGENCY/TOUR OPERATOR)

OBJECTIVE: EVALUATE ACTUAL JETFOIL RIDERSHIP DURING A TRIAL
SERVICE IN SOUTHEAST ALASKA

PROPOSED JETFOIL FARES

<u>ROUTE</u>	<u>FERRY FARE</u>	<u>AIR FARE</u>	<u>JETFOIL FARE</u>
JUNEAU - HAINES	\$17.00	\$55.00	\$35.00
JUNEAU - SKAGWAY	23.00	70.00	45.00
JUNEAU - SITKA	24.00	57.00	47.00
JUNEAU - HOONAH	13.00	45.00	26.00
JUNEAU - TENAKEE	16.00	45.00	26.00
JUNEAU - ANGOON	19.00	57.00	35.00
JUNEAU - GLACIER BAY	---	42.50*/54.00	33.00

*EXCURSION \$85.00

JETFOIL TRIAL SERVICE

<u>Day</u>	<u>Schedule</u>	<u>JNU</u>	<u>TKE</u>	<u>ANG</u>	<u>SIT</u>	<u>JNU</u>	<u>Underway Time</u>	<u>Duty Time</u>	<u>Crew</u>
Monday	TKE/SIT	0800 →	1025 1045 →	1145 1205 →	1350 (Fuel) 1450 →	1855	9:15	11:55	(A)
Tuesday	HNS/SGY	<u>JNU</u>	<u>HNS</u>	<u>SGY</u>	<u>HNS</u>	<u>JNU</u>			
		0800 →	1025 1055 →	1125 1500 →	1530 1600 →	1825	5:50	11:25	(B)
Wednesday	GLB/HNH	<u>JNU</u>	<u>GLB</u>	<u>HNH</u>	<u>JNU</u>	<u>GLB</u>	<u>JNU</u>		
		0800 →	1015 1045 →	1135 1155 →	1345 (Fuel) 1445 →	1700 1730 →	1945	9:25	12:45 (A)(B)
Thursday	SIT/TKE	<u>JNU</u>	<u>SIT</u>	<u>ANG</u>	<u>TKE</u>	<u>JNU</u>			
		0800 →	1205 (Fuel) 1305 →	1450 (Flag) 1455 →	1555 (Flag) 1600 →	1825	9:15	11:25	(A)

October 6, 1983

JETFOIL TRIAL SERVICE

<u>Day</u>	<u>Schedule</u>	<u>JNU</u>	<u>HNH</u>	<u>SIT</u>	<u>JNU</u>	<u>Underway Time</u>	<u>Duty Time</u>	<u>Crew</u>
Friday	HNH/SIT	0800 →	0950 1010 →	1315 (Fuel) 1415 →	1820	9:00	11:20	(B)
Saturday	HNS/SGY	0800 →	1025 1055 →	1125 1500 →	1530 1600 →	1825	5:50	11:25 (A)
Sunday	SIT	0800 →	1205 (Fuel) 1400 →	1805			8:10	11:05 (B)

Crew (A) 41:30
 (B) 39:50
81:20

April 18, 1984

The Honorable Bill Sheffield
Governor of Alaska
Pouch A
Juneau, Alaska 99811

Dear Governor Sheffield:

On January 20, 1984, Bob Jacobsen of Wings of Alaska wrote you on behalf of local Air Carriers regarding the proposed Jetfoil Service Project. You responded on January 24, 1984 and February 27, 1984 assuring Air Carriers that alternatives were being investigated. Additionally, you said, "I have asked the Marine Highway Task Force to study your concerns" and "the report will include an analysis." Incidentally, thank you for your letters.

On March 8, 1984, Steve Smith, President of Alaska Air Carriers Association, wrote you regarding the "artificial element in a relatively free market" that the jetfoil would cause and enclosed a resolution opposing the project which passed unanimously by the general membership at the Annual AACA Conference February 4, 1984.

Your Marine Highway Task Force Report, released April 11, 1984, concluded that jetfoil service for Southeast Alaska is not a cost effective alternative or supplement to the ferry system. Legislative reporter Joe La Rocca said, "The study also cites little-known safety hazards, the displacement of private air services and jobs by state-subsidized jetfoil operations, and the high cost of operating and maintaining jetfoil ships as factors leading to its recommendation."

Legislative leaders have also expressed their concern with respect to the utility of subsidized jetfoils in Southeast Alaska. Some Legislators' comments follow:

"It was a lousy appropriation . . . I have cited this expenditure on numerous public occasions as an example of how we should not be spending Alaska's money." Rick Halford, Senate Minority Leader

"The challenge we face is to provide adequate, and perhaps expanded service of the Marine Highway System in the most cost efficient manner while not severely impacting the aviation industry." Joe Hayes, Speaker of the House

". . . the Boeing Jetfoil Project is one of the most blatantly useless projects ever advocated by a State Legislator. Surely the money spent on this unproductive effort could have been spent on some other activity or Capital need in Juneau that has lasting value." Robert Bettisworth, Chairman, Legislative Budget and Audit Committee.

Governor, we concur.

Governor Bill Sheffield

April 18, 1984

Page Two

Senator Bill Ray also wrote us and said, "the three million would go back into the general fund as it was not my appropriation, but the governors." (Governor, we were not aware that a senator had the constitutional capacity to make appropriations.)

Additionally, the Department of Law is privy to an expert in admiralty contracts. In fact, this expert has addressed the Joint Venture between Boeing and the State in a letter dated February 13, 1984. In that letter, Attorney James H. Bauer attempted to apprise the State they were entering a bad deal. Unfortunately, the contract between this powerful Joint Venture was signed April 3, just eight days before the public was advised that the Governor's Task Force recommended against jetfoil service for Southeast.

Yet, the Aries is on its way to Southeast to dodge orcas, humpbacks, and other marine mammals with tidal debris, gillnets and kyaks interspersed, to provide unfair competition and displace jobs in the air carrier industry and to carry tourists to Southeastern ports at an exorbitant cost to all Alaska residents.

An expert in his field, Attorney James H. Bauer says, "The only unusual or remarkable aspect to this particular transaction is that the State is paying Boeing to sell it a number of jetfoils. For Boeing to receive one-fifth the value (or more) of the jetfoil for such an abbreviated period of time is not commercially reasonable nor consistent with what would usually be charged for hire of a 240 passenger vessel."

Additionally, Governor, when discussing the proposed jetfoil service with a high ranking representative of Alaska Jetfoil Service, he advised us that Boeing would be spending about \$40,000 on a marketing campaign for Southeast, the obvious implication being that the spillover from the thousands of visitors Boeing will attract to Juneau will be beneficial to Air Carriers as well. Understanding that \$40,000 is less than two days of State subsidy to Boeing, we would rather attract our customers through the Division of Tourism's cooperative marketing effort, of which we are all members. We also understand that Alaska Jetfoil Service is planning extra sections during the Southeast Alaska State Fair in Haines. ("extra sections" is a term commonly used in the air carrier industry referring to additional flights to accommodate traffic.) In the past traffic loads have been adequately accommodated by Air Carriers and the present Marine Highway System.

We should also mention that having Boeing (the Alaska/Boeing Joint Venture) sponsor, in part, the evening news on our Public Television Station is insulting.

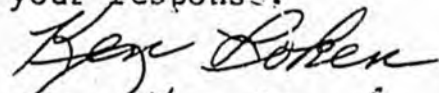
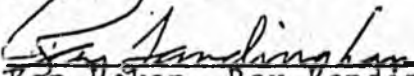
The significance of the injection of this artificial element will be to the detriment of existing rural community service. Roughly two-thirds of local Air Carrier revenues are generated during the summer months. Our summer revenues, much like Marine Highways, are used to provide unprofitable essential air service for rural Alaska during the lean winter months, without government subsidy.

Governor, we have heard sufficient public debate over the past 90 days. A respected 11 member task force found that not only will this jetfoil be unfair to private enterprise, but it is unsafe to passengers and whales and it is not cost effective.


Therefore, is it too late to save the State of Alaska three million dollars? If so, why? A subsidiary question -- why is it; when such a project has little or no merit, received negative expert and public testimony and only a selected few will benefit from its presence, we continue to spend good money after bad without due process? May we remind you, sir, this appropriation never had a public hearing and much of the evidence presented by Boeing during the 1983 Legislative Session was misleading and inaccurate.

If the jetfoil project is necessary for the people of Alaska and the Executive is under "Legislative Mandate" to work out a contract with Boeing, we suggest jetfoil operations begin January 16, 1985 rather than June 16, 1984. The result will be a more accurate test and private enterprise will not be so severely impacted. If the State of Alaska must test the jetfoil during the summer months, could we local air carriers be compensated for our lost revenues to ensure that the present level of air service will continue to be provided to rural Alaska in the winter time.

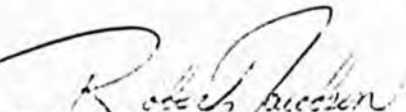
Thank you very much for your consideration. We look forward to your response.

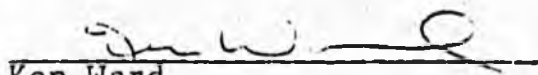
Ken Token, Ray Landingham
Charnel Flying, Inc.



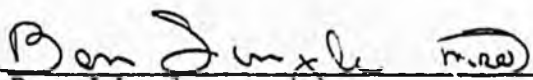
Lynn Bennett
LAB Flying Service



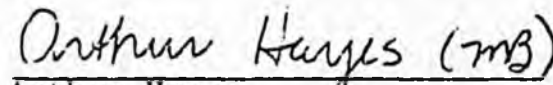
Robert Jacobsen
Wings of Alaska



Ken Ward
Ward Air



Ben Lingle
Skagway Air Service



Arthur Hayes
Glacier Bay Airways