

# SKAGIT COUNTY



## FINANCIAL AND OPERATIONAL SUMMARY For period July 1, 2006 through June 30, 2008



Prepared by  
**Skagit County Public Works Department**

# FINANCIAL AND OPERATIONAL ANALYSIS OF EXTENDED FERRY SERVICE

## BACKGROUND

On May 30, 2006, the Board of County Commissioners signed Resolution R20060184, revising the Guemes Island ferry sailing schedule by extending the hours of service between 6:30 p.m. and 10:00 p.m. Monday through Thursday. This extension of service was to occur over a two year trial period after which a decision would be made on whether to continue or modify the extended service. The purpose of the schedule change was to address several ferry related issues including: the desire by many ferry customers for weekday evening service, operational and manning issues attributed to the U.S. Coast Guard fatigue study, vehicle congestion issues on 6<sup>th</sup> Street in Anacortes, and general level of service issues associated with providing a transportation service. The trial period began on July 1, 2006, and ran through June 30, 2008.

## TRIAL PERIOD ANALYSIS

The following is an analysis of the extended ferry service which considers financial impacts, overall ridership patterns, and operational issues.

### Financial Impacts:

*Operational Costs:* Working with the ferry committee through the Roundtable, costs associated with expanded service consisted of three primary components; labor, fuel and maintenance<sup>1</sup>. As summarized in Attachment A, the average annual cost of providing increased service was \$104,088.

*Revenues:* Working with the ferry committee through the Roundtable, average annual revenue was calculated using actual ridership data and estimated ticket revenue associated with the mentioned ridership data. As detailed in Attachment B, the direct average annual revenues received from customers who rode the ferry during the hours of expanded service was between \$32,099 and \$47,421. The range is due to the uncertainty on whether revenue from passengers who rode the 6:30 p.m. ferry should be included as reportable revenue for extended service or not; (five additional sailings starting at 6:30 p.m., versus four additional sailings starting at 7:00 p.m.). For the purposes of this report, both figures have been included.

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<sup>1</sup> Carl Cady, representing the ferry committee, indicated his general agreement with operational costs contingent upon the recognition that the ferry committee believes that labor negotiations in 2002 increased operational costs by an average of 0.62 hours per crew person thereby resulting in additional labor costs of approximately \$15,200. While Public Works cannot confirm these figures or its relevancy, as a means of getting concurrence with the financial analysis of extended service, the ferry committee's point is being noted by this footnote.

A summary of the financial impact and ridership of operating the ferry system with expanded service is provided in the tables 1 and 2 below.

Table 1

<b>Annual Financial Impact of Expanded Service</b>			
<b>Includes 6:30 p.m. run</b>		<b>Excludes 6:30 p.m. run</b>	
Avg. Annual Expenses	\$104,088	Avg. Annual Expenses	\$104,088
Avg. Annual Revenue	<u>\$ 47,421</u>	Avg. Annual Revenue	<u>\$ 32,099</u>
Annual Expenses Less Revenue:		Annual Expenses Less Revenue:	
Net Gain (Loss)	<b>(\$ 56,667)</b>	Net Gain (Loss)	<b>(\$ 71,989)</b>

Table 2

<b>Annual Ridership Summary</b>			
<b>6:30 p.m. - 10:00 p.m.</b>		<b>7:00 p.m. - 10:00 p.m.</b>	
Total Passengers	27,903	Total Passengers	19,169
Total Vehicles	12,067	Total Vehicles	8,076

Because the above financial analysis only relates directly to those hours of extended ferry service (Monday through Thursday 6:30 p.m. to 10:00 p.m.), Public Works cautions the reader that such an analysis does not represent a holistic approach to evaluating and recommending long term ferry schedule changes. As will be more fully described below, Public Works suggests a possible alternative ferry schedule that better balances ridership demands, operational issues and financial costs.

Ridership Patterns:

Attached as Exhibits C-1 through C-7 are daily graphs of the ridership patterns over the trial period. The graphs are based on the number of total passengers using the ferry boarding counts for both walk-on passengers and drivers. The graphs have delineated ridership during the winter period (October through April), and summer period (May through September), as there is a distinguishable ridership difference during these months. In general, the daily ridership graphs indicate a similar demand pattern throughout each day of the week.

In utilizing these graphs to evaluate a desired level of service for the ferry system, it is important to keep in mind that only those hours at the beginning and end of the day should be considered, as it is not operationally feasible to stop

service mid-day. It is also important not to focus solely on the hours of extended service (Monday through Thursday 6:30 p.m. to 10:00 p.m.), but to evaluate the demand for service over the entire week and operating hours. Based on the ridership graphs, Public Works believes there are opportunities to reduce service at the end of most days without major impacts to our customers.

#### Operational issues:

Prior to providing extended service, the ferry system experienced two operational issues that needed to be addressed. First, due to a practice of not leaving anyone behind at the end of the day, the evening ferry crew had no advanced knowledge of when their shift would end. This practice not only resulted in additional overtime costs, but placed an undue requirement on the crew, who were regularly required to be ready to work additional hours without any notice. Such a requirement, particularly considering the time of the day, potentially impacts those ferry employees who have children, attend community/social events, or have other commitments. Second, the collective bargaining agreement along with other agreements between the County and ferry employees outlines minimum monthly work hours and generally accepted practices of crew shifting. Prior to providing extended service, the evening crew shifts on Monday through Thursday were not viable shifts and were filled only by on-call staffing. From an operational point of view, to only rely on on-call staffing and not hire and maintain seasoned and experienced crews proved to be very challenging and costly. Since the establishment of extended service, both of these operational issues have diminished.

### **ANALYSIS OVERVIEW**

Over the course of the past two years, a substantial amount of comments have been voiced concerning extended ferry service, both those in favor and those opposed. From an operational point of view, Public Works suggests not viewing this issue solely through the lens of extended ferry service Monday through Thursday 6:30 p.m. to 10:00 p.m., but discussing the entire service provided, Sunday through Saturday, and balancing level of service needs with operational constraints and costs.

By taking a holistic approach, many of the fundamental reasons why extended service was first initiated can be addressed. How can the system best meet requests by many ferry customers for expanded weekday service? How does the County as a ferry system operator address operational and manning issues attributed to the U.S. Coast Guard fatigue study? Is it possible to reduce vehicle congestion issues on 6<sup>th</sup> Street in Anacortes? How do we balance costs with level of service?

On a final note, it is often overlooked that over the past eighteen months various operational changes have been instituted as a means of reducing operational

costs. These changes have included re-establishing the 3-person crew during non-peak hours, combining the senior master and ferry manager positions, and having the ferry mechanic work some deckhand shifts. These cost reductions are reflected in the proposed 2009 ferry budget. As additional opportunities present themselves, Public Works will continue to explore cost-saving options.

### **SUGGESTED ALTERNATIVE FERRY SCHEDULE**

Based on ridership pattern data as shown in Attachment C-1 through C-7 and operational crew scheduling issues, Public Works suggests an alternative ferry schedule as shown in Attachment D. In essence, the suggested schedule eliminates the last run each day, Monday through Saturday and leaves Sunday unchanged. As detailed in Attachment E, the estimated annual cost savings associated with this schedule is \$55,000.

Public Works suggests the alternative ferry schedule as a balance between ridership demand, operational issues and costs. As shown in Attachment C, ridership on the last run of each day is low and the reduction of this run will have minimal impact to our customers. As shown in Attachment D, this schedule also allows the staffing of two full-time crews, thereby eliminating substandard work shifts. And, as mentioned above, the annual operating cost savings is estimated at \$55,000.

**ATTACHMENT A**

**EXPENSES**

**5 Runs 6:30 p.m. - 10:00 p.m.  
For Period July 1, 2006 - June 30, 2008**

Labor		
88 Weeks with 4 Person Crew		
88 Weeks = 352 Days (4/Week)		
13.50 Hours/Day (2@3 & 2@3.75)		
352 Days = 4,752 Hours		
Labor Cost Per Hour = \$29.59	\$	140,611.68
16 Weeks with 3 Person Crew		
16 Weeks = 64 Days (4/Week)		
9.75 Hours/Day (2@3 & 1@3.75)		
64 Days = 624 Hours		
Labor Cost Per Hour - \$29.59	\$	18,464.16
Labor Costs over two years :	\$	159,075.84
Annual Labor Costs:	\$	79,537.92
Fuel		
2 Years	\$	327,827.00
Cost/Run-17,680 Runs	\$	18.54
Number of Extended Runs		
Extended Runs - 5		2,080
Total Fuel Costs per Year:	\$	19,281.60
Minor Engine Tune-ups		
Tune-up @ 1500 hours	\$	1,400.00
Tune-up cost per hr	\$	0.93
Hours of extended service		
4 Hrs Day/4 Days/Week		1,664
Total Costs - Minor Tune-up per Year:	\$	776.53
Major Engine Tune-ups		
Tune-up @ 6000 hours	\$	6,648.50
Tune-up cost per hr	\$	1.11
Hours of extended service		
4 Hrs Day/4 Days/Week		1,664
Total Costs - Major Tune-up per Year:	\$	921.93
Engine Rebuild		
Rebuild @ 30,000 Hrs	\$	20,000.00
Rebuild cost per hr	\$	0.67
Hours of Extended Svc		
4 Hrs Day/4 Days Week		1,664
Total Rebuild Costs-Ext Hours per Year:	\$	557.44
Oil Changes		
55 Gallons Oil	\$	480.00
4-Main Engine Oil Filters	\$	200.00
2-Primary Fuel Filters	\$	100.00
2-Racor Fuel Filters	\$	50.00
2-Transmission Filters	\$	50.00
1-Genset Oil Filter	\$	15.00
2-Genset Fuel Filters	\$	40.00
Cost per Oil Change	\$	935.00
Total cost for Oil Changes per Year (3 extra/year):	\$	2,805.00
Transmission Rebuild		
Rebuild @ 20,000 Hours	\$	5,000.00
Rebuild cost per hr	\$	0.25
Hours of Extended Svc		
4 Hrs Day/4 Days Week		1,664
Total Rebuild Costs-Ext Hours per Year:	\$	208.00
<b>Annual Cost of Extended Runs per Year:</b>	<b>\$</b>	<b>104,088.42</b>

\*Prior to extended hours, labor hours per day (Mon-Thurs) were equal to 14.25 regular hours. This was paid out as 13.5 hours regular and .5 overtime, with .5 hours overtime equal to .75 hours regular time. During extended hours, labor hours per day (Mon-Thurs) are equal to 17.25 regular hours, meaning that extended hours creates 3 additional labor hours per day (Mon-Thurs).

## ATTACHMENT B

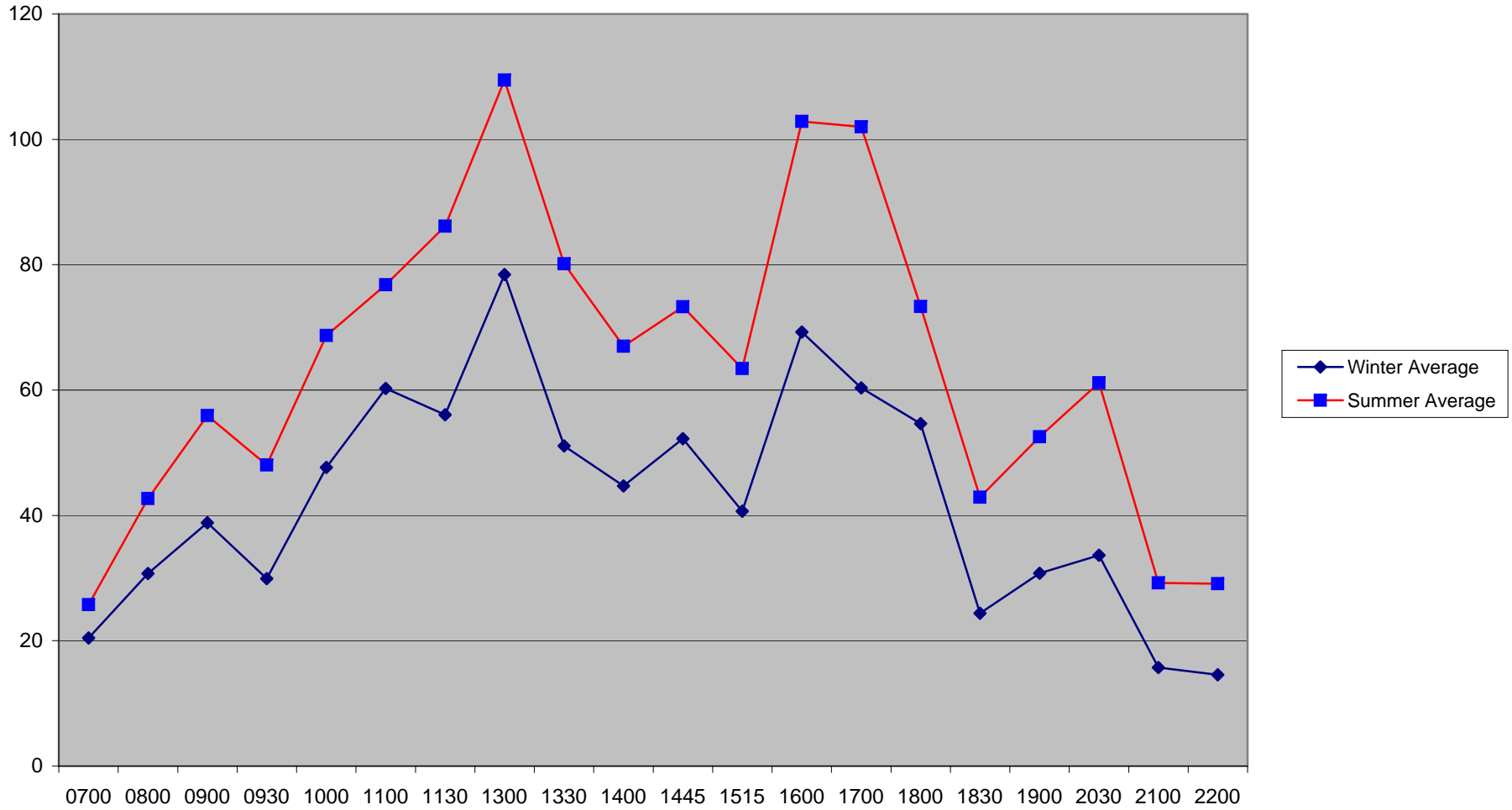
### PASSENGER AND VEHICLE EXTENDED SERVICE REVENUE

July 1, 2006 - June 30, 2007				July 1, 2007 - June 30, 2008				Average Annual Revenues						
		Average Price			Total	Average Price			Average	Average Price				
Total Ridership		Per Passenger	Total Revenue		Ridership		Per Passenger	Total Revenue		Annual Ridership		Per Passenger	Annual Revenue	
<b>6:30 p.m. - 10:00 p.m.</b>				<b>6:30 p.m. - 10:00 p.m.</b>				<b>6:30 p.m. - 10:00 p.m.</b>						
<b>Passenger Vehicle</b>	7,623	\$1.47	\$11,205.81		8,213	\$1.47	\$12,073.11		7,918	\$1.47	\$ 11,639.46			
	5,930	\$5.93	<u>\$35,164.90</u>		6,137	\$5.93	<u>\$36,392.41</u>		6,034	\$5.93	<u>\$ 35,781.62</u>			
			<b>\$46,370.71</b>					<b>\$48,465.52</b>					<b>\$ 47,421.08</b>	
<b>7:00 p.m. - 10:00 p.m.</b>				<b>7:00 p.m. - 10:00 p.m.</b>				<b>7:00 p.m. - 10:00 p.m.</b>						
<b>Passenger Vehicle</b>	5,224	\$1.47	\$7,679.28		5,869	\$1.47	\$8,627.43		5,547	\$1.47	\$ 8,154.09			
	3,899	\$5.93	<u>\$23,121.07</u>		4,177	\$5.93	<u>\$24,769.61</u>		4,038	\$5.93	<u>\$ 23,945.34</u>			
			<b>\$30,800.35</b>					<b>\$33,397.04</b>					<b>\$ 32,099.43</b>	

# ATTACHMENT C-1

## RIDERSHIP PATTERNS For Period July 1, 2006 - June 30, 2008

Sunday

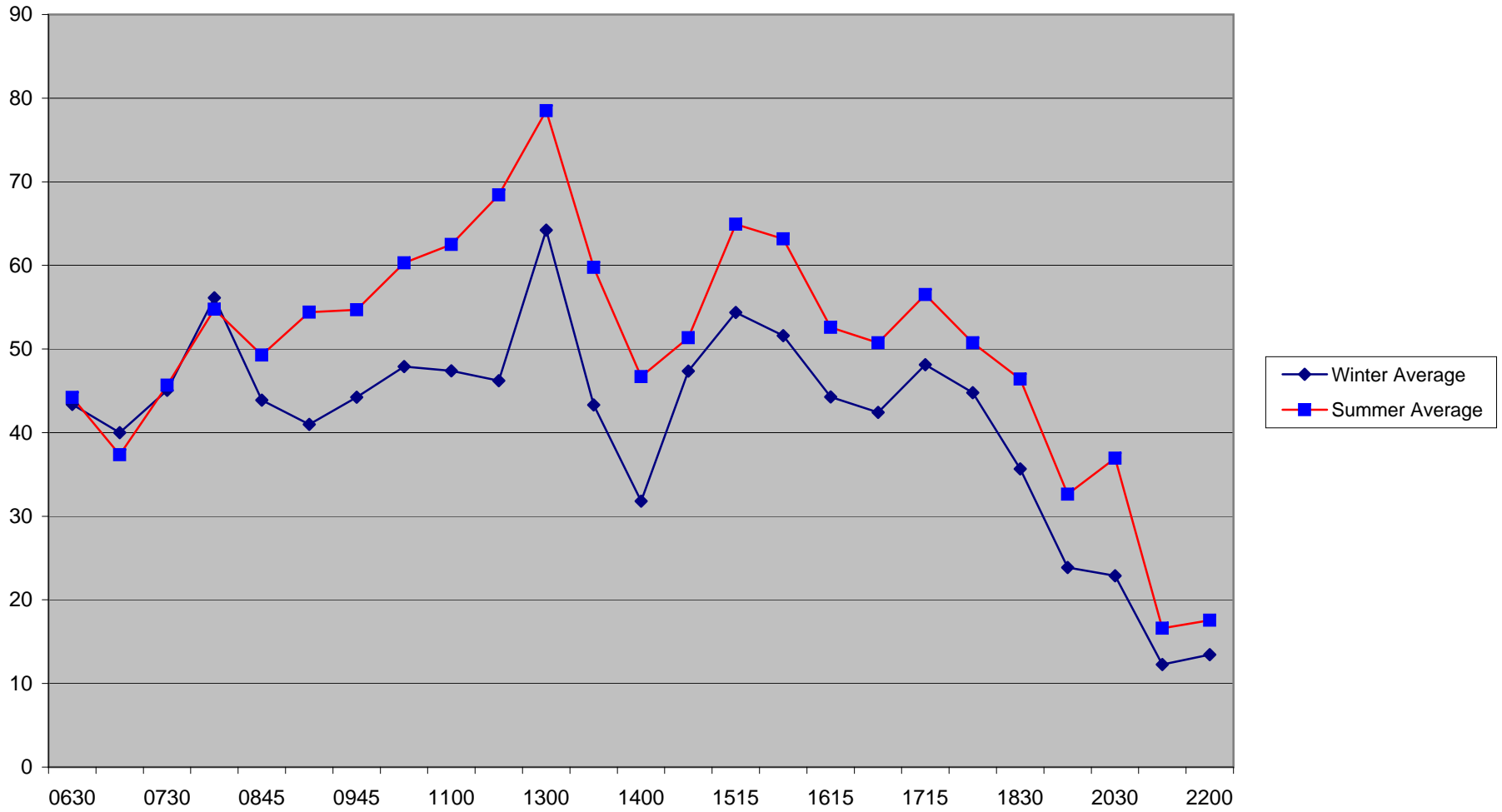




# ATTACHMENT C-2

## RIDERSHIP PATTERNS For Period July 1, 2006 - June 30, 2008

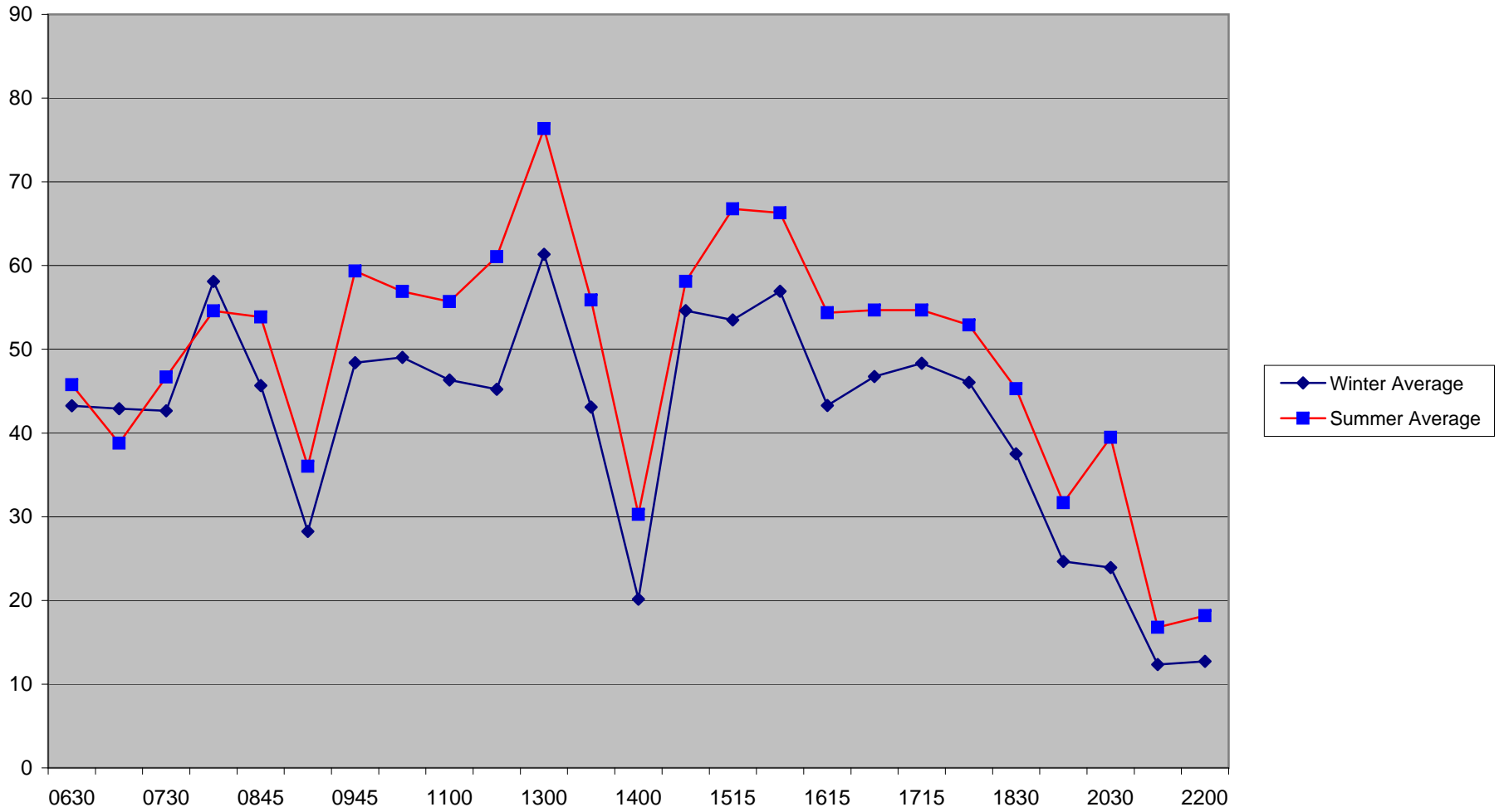
Monday



# ATTACHMENT C-3

## RIDERSHIP PATTERNS For Period July 1, 2006 - June 30, 2008

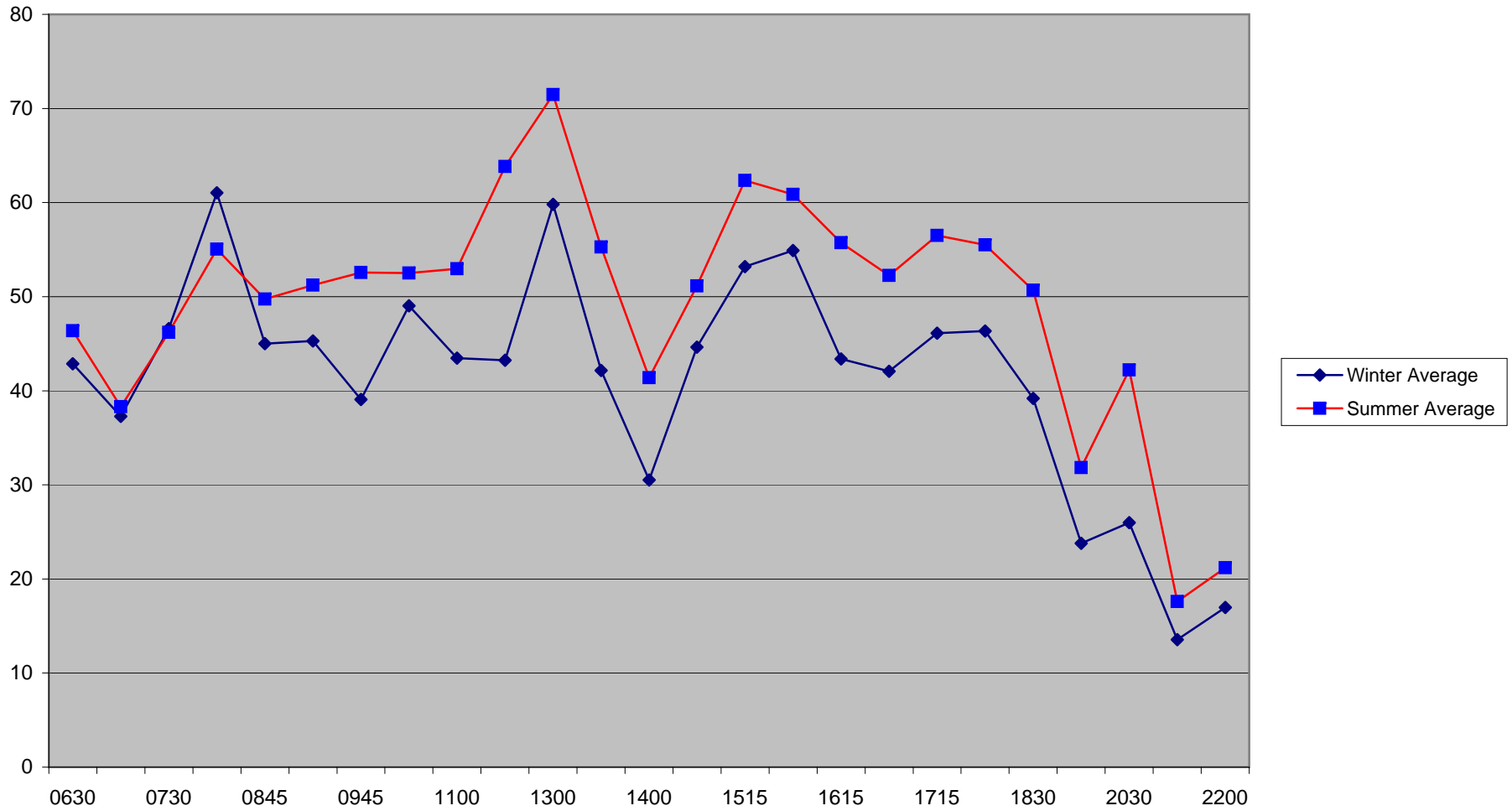
Tuesday



# ATTACHMENT C-4

## RIDERSHIP PATTERNS For Period July 1, 2006 - June 30, 2008

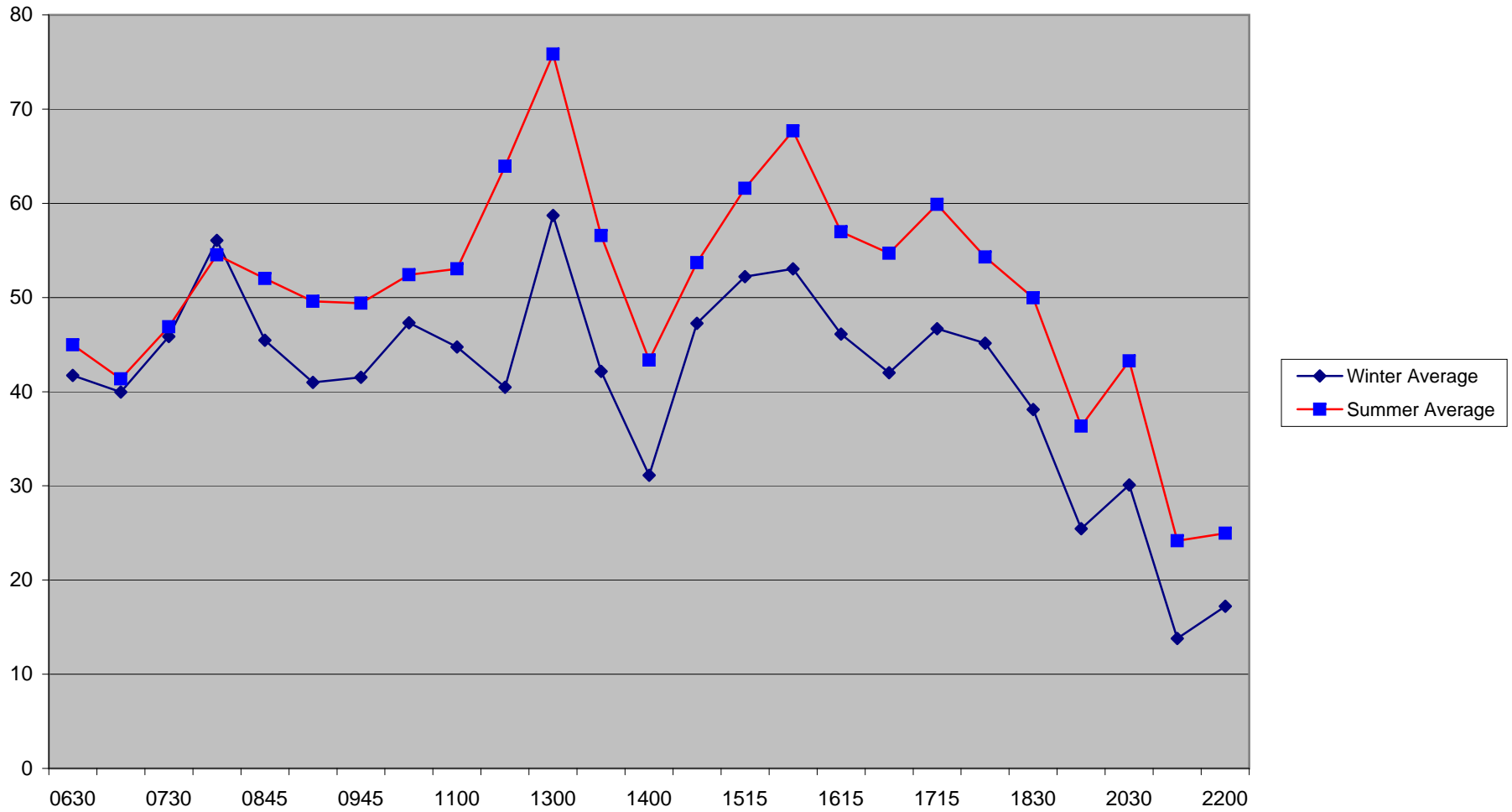
Wednesday



# ATTACHMENT C-5

## RIDERSHIP PATTERNS For Period July 1, 2006 - June 30, 2008

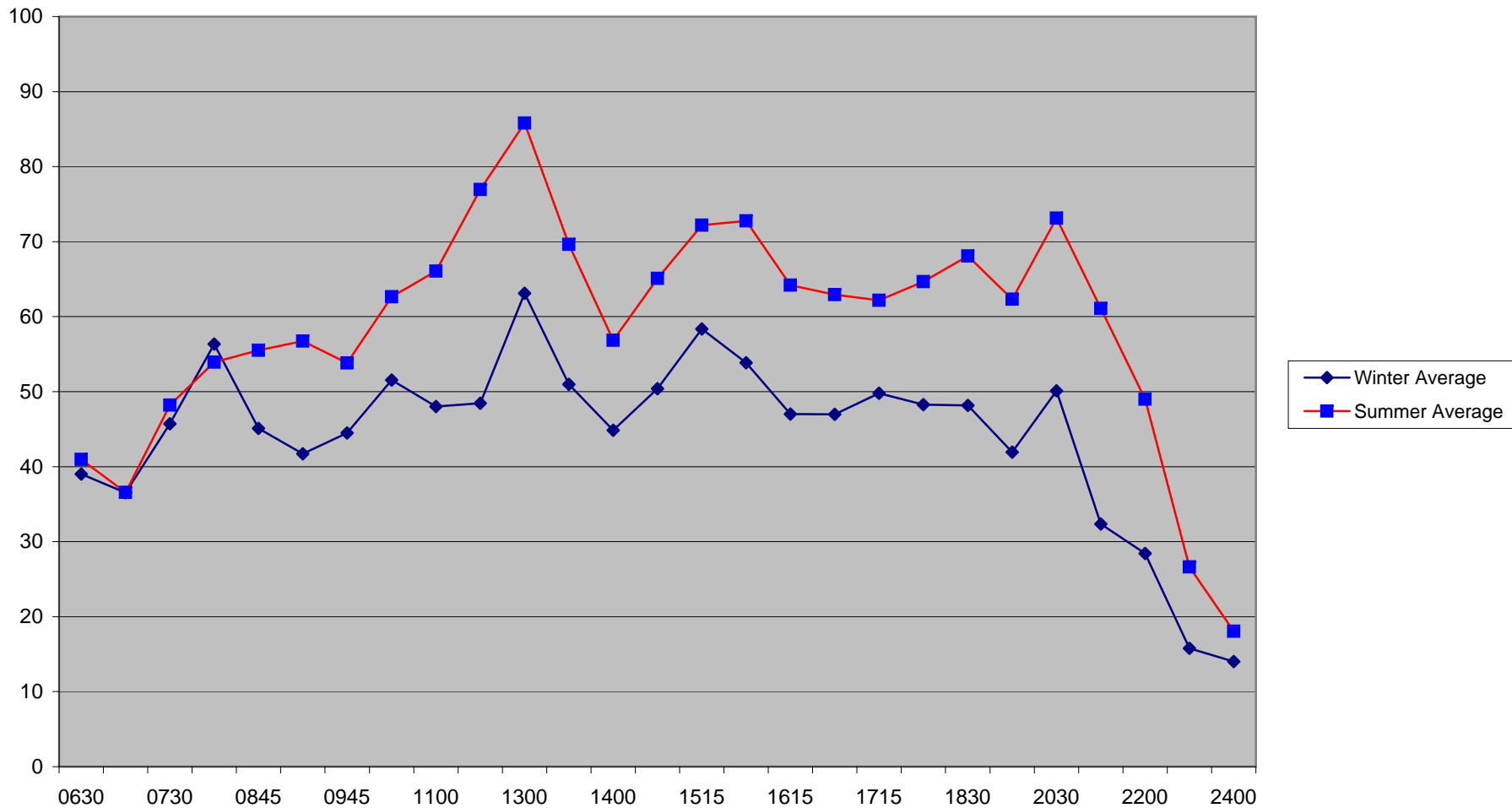
Thursday



# ATTACHMENT C-6

## RIDERSHIP PATTERNS For Period July 1, 2006 - June 30, 2008

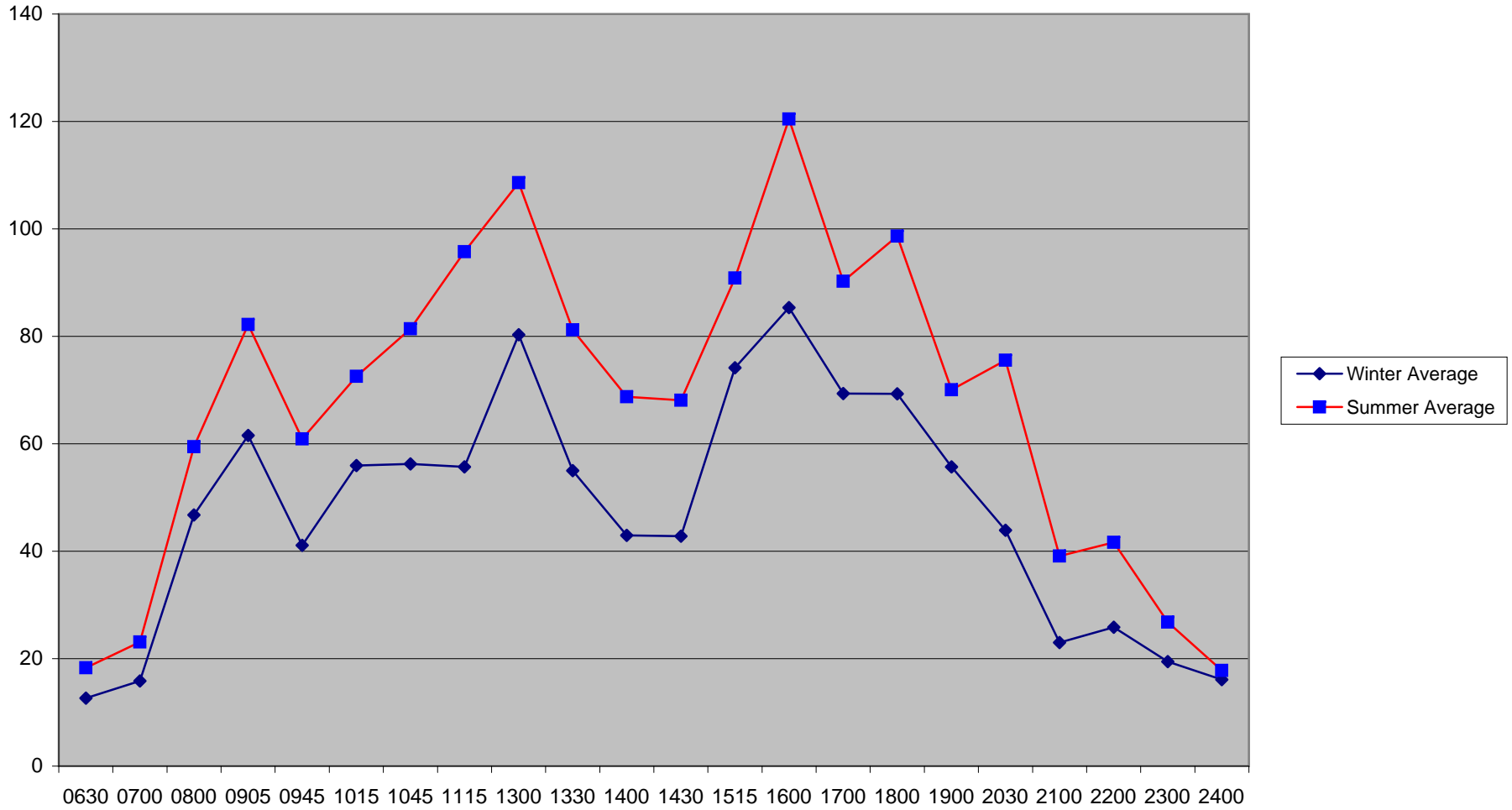
Friday



# ATTACHMENT C-7

## RIDERSHIP PATTERNS For Period July 1, 2006 - June 30, 2008

Saturday



## ATTACHMENT C-8

### Runs Ranked by Usage Least Used to Most Used For Period July 1, 2006 - June 30, 2008

Sunday		Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
Time	Ave	Time	Ave	Time	Ave	Time	Ave	Time	Ave	Time	Ave	Time	Ave
2200	22	2100	14	2100	14	2100	15	2100	19	2400	16	0630	15
2100	22	2200	15	2200	15	2200	19	2200	21	2300	21	2400	17
0700	23	1900	28	1400	25	1900	28	1900	31	0700	37	0700	19
1830	34	2030	30	1900	28	2030	34	2030	37	2200	38	2300	23
0800	37	0700	39	2030	31	1400	36	1400	37	0630	40	2100	31
0930	39	1400	39	0915	32	0700	38	0700	41	2100	46	2200	34
1900	42	1830	41	0700	41	0630	45	0630	43	0730	47	0945	51
2030	47	0630	44	1830	41	1830	45	1830	44	0915	49	0800	53
0900	47	0730	45	0630	44	0945	46	0915	45	0945	49	1430	55
1515	52	1645	46	0730	45	0730	46	0945	45	0845	50	1400	56
1400	56	0845	46	1615	49	1645	47	0730	46	1400	51	2030	59
1000	58	0915	47	1330	49	0845	47	1645	48	1900	52	1900	63
1445	63	1745	48	1745	49	1430	48	0845	49	1645	55	1015	64
1800	64	1615	48	0845	50	1100	48	1100	49	0815	55	1330	68
1330	66	0945	49	1645	51	0915	48	1330	49	1615	55	1045	69
1100	69	1430	49	1100	51	1330	48	1745	50	1715	56	0905	72
1130	71	1330	51	1715	51	1615	49	1030	50	1745	56	1115	75
1700	81	1715	52	1030	53	1030	51	1430	50	1100	57	1700	80
1600	86	1030	54	1130	53	1745	51	1615	51	1030	57	1515	82
1300	94	1100	55	0945	54	1715	51	1130	52	1430	58	1800	84
		0815	55	1430	56	1130	53	1715	53	1830	58	1300	94
		1130	57	0815	56	1515	58	0815	55	1330	60	1600	103
		1545	57	1515	60	1545	58	1515	57	2030	61		
		1515	59	1545	61	0815	58	1545	60	1130	62		
		1300	71	1300	69	1300	65	1300	67	1545	63		
										1515	65		
										1300	74		

## ATTACHMENT D

### SAILING SCHEDULE

MONDAY - THURSDAY	FRIDAY	SATURDAY	SUNDAY
<b>DEPARTURE TIMES</b>			
<p><b>6:30 a.m.</b> 7:00 a.m. 7:30 a.m. 8:00 a.m. 8:30 a.m. 9:15 a.m. 9:45 a.m. 10:15 a.m. 11:00 a.m. 11:30 a.m. 1:00 p.m. 1:30 p.m.</p> <p><b>Crew Change 2:00 p.m.</b></p> <p>2:30 p.m. 3:00 p.m. 3:30 p.m. 4:00 p.m. 4:45 p.m. 5:15 p.m. 5:45 p.m. 6:15 p.m. 7:00 p.m. 7:30 p.m.</p> <p>8:45 p.m. <b>9:15 p.m.</b></p>	<p><b>6:30 a.m.</b> 7:00 a.m. 7:30 a.m. 8:00 a.m. 8:30 a.m. 9:15 a.m. 9:45 a.m. 10:15 a.m. 11:00 a.m. 11:30 a.m. 1:00 p.m. 1:30 p.m.</p> <p><b>Crew Change 2:00 p.m.</b></p> <p>2:30 p.m. 3:00 p.m. 3:30 p.m. 4:00 p.m. 4:45 p.m. 5:15 p.m. 5:45 p.m. 6:15 p.m. 7:00 p.m. 7:30 p.m.</p> <p>8:45 p.m. 9:15 p.m. 10:00 p.m. <b>11:00 p.m.</b></p>	<p><b>6:30 a.m.</b> 7:00 a.m.</p> <p>8:00 a.m.</p> <p>9:00 a.m.</p> <p>10:00 a.m. 11:00 a.m.</p> <p>1:00 p.m. 1:30 p.m.</p> <p><b>Crew Change 2:00 p.m.</b></p> <p>2:30 p.m. 3:00 p.m. 4:00 p.m. 5:00 p.m. 6:00 p.m. 7:00 p.m. 7:30 p.m.</p> <p>8:45 p.m. 9:15 p.m. 10:00 p.m. <b>11:00 p.m.</b></p>	<p><b>7:00 a.m.</b></p> <p>8:00 a.m.</p> <p>9:00 a.m.</p> <p>10:00 a.m. 11:00 a.m.</p> <p>1:00 p.m. 1:30 p.m. 2:00 p.m.</p> <p><b>Crew Change 2:30 p.m.</b></p> <p>3:00 p.m. 3:30 p.m. 4:00 p.m. 5:00 p.m. 6:00 p.m. 7:00 p.m. 7:30 p.m.</p> <p>8:45 p.m. 9:15 p.m. <b>10:00 p.m.</b></p>
<p><b>NO EXTRA TRIPS AT 11:30 a.m. OR 7:30 p.m.</b> <b>NO EXTRA TRIPS AT CREW CHANGE</b></p>			

<b>CREW SCHEDULE</b>			
Oct- Apr	Oct- Apr	Oct- Apr	Oct- Apr
<p><b>AM SHIFT</b> 0600 - 1415 = 8.25</p> <p><b>PM SHIFT</b> 1400 - 2200 = 8.0</p>	<p><b>AM SHIFT</b> 0600 - 1415 = 8.25</p> <p><b>PM SHIFT</b> 1400 - 2345 = 9.75</p>	<p><b>AM SHIFT</b> 0600 - 1415 = 8.25</p> <p><b>PM SHIFT</b> 1400 - 2345 = 9.75</p>	<p><b>AM SHIFT</b> 06:30 a.m. - 1445 = 8.25</p> <p><b>PM SHIFT</b> 1430 - 2245 = 8.25</p>
<p><b>Oct- Apr</b> <b>May-Jun-Sept</b></p> <p>Mid shift 745 - 16:30 a.m. = 8.75</p>	<p><b>Oct- Apr</b> <b>May-Jun-Sept</b></p> <p>Mid shift 745 - 16:30 a.m. = 8.75</p>	<p><b>Jul - Aug</b></p> <p>4 man crew</p>	<p><b>Jul - Aug</b></p> <p>4 man crew</p>



**ATTACHMENT E**

<b>Man Hours Cost Analysis</b>							
Current Daily Man Hours October - April	Total per wk	Total 31 wks	Proposed Daily Man Hours October - April	Total per wk	Total 31 wks	Savings per year	
Monday	61.75		Monday	57.5			
Tuesday	61.75		Tuesday	57.5			
Wednesday	61.75		Wednesday	57.5			
Thursday	61.75		Thursday	57.5			
Friday	67.75		Friday	62.75			
Saturday	57.75		Saturday	54			
Sunday	50.25		Sunday	49.5			
Total hours per week	422.75		Total hours per week	396.25			
Rate per hour	\$29.59	\$12,509.17	Rate per hour	\$29.59	\$11,725.04	\$363,476.16	
		\$387,784.35				\$24,308.19	
Current Daily Man Hours May, June, & September	Total per wk	Total 12 wks	Proposed Daily Man Hours May, June, & September	Total per wk	Total 12 wks	Savings per year	
Monday	61.75		Monday	57.5			
Tuesday	61.75		Tuesday	57.5			
Wednesday	61.75		Wednesday	57.5			
Thursday	61.75		Thursday	57.5			
Friday	67.75		Friday	62.75			
Saturday	67.75		Saturday	62.75			
Sunday	60.25		Sunday	58.25			
Total hours per week	442.75		Total hours per week	413.75			
Rate per hour	\$29.59	\$13,100.97	Rate per hour	\$29.59	\$12,242.86	\$146,914.35	
		\$157,211.67				\$10,297.32	
Current Daily Man Hours July - August	Total per wk	Total 9 wks	Proposed Daily Man Hours July - August	Total per wk	Total 9 wks	Savings per year	
Monday	61.75		Monday	57.5			
Tuesday	61.75		Tuesday	57.5			
Wednesday	61.75		Wednesday	57.5			
Thursday	61.75		Thursday	57.5			
Friday	77		Friday	72			
Saturday	77		Saturday	72			
Sunday	68		Sunday	66			
Total hours per week	469		Total hours per week	440			
Rate per hour	\$29.59	\$13,877.71	Rate per hour	\$29.59	\$13,019.60	\$117,176.40	
		\$124,899.39				\$7,722.99	

Man Hour Savings Per Year	\$42,328.50
Fuel Savings @ \$18.54 Per Run	\$10,604.88
Maintenance Savings	<u>\$2,100.00</u>
<b>Annual Estimated Cost Savings</b>	<b>\$55,033.38</b>