

SKAGIT COUNTY



Guemes Island Ferry Capital Facilities Plan 2007-2021

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Prepared by

Skagit County Public Works Department

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CHAPTER 1: INTRODUCTION

1.1 PURPOSE OF THE PLAN

Skagit County is one of four counties in Washington State that owns and operates a ferry system. Chapter 36.54 of the Revised Code of Washington (RCW) requires the legislative authority of every County that operates ferries to prepare, with the advice and assistance of the County Engineer, fourteen-year and six-year long-range plans for capital improvements for all major elements of the ferry system. Portions of these plans must be annually updated and a copy of the adopted program must be filed with the County Road Administration Board (CRAB) and the Secretary of Transportation. Washington Administrative Code (WAC) chapter 136-400 provides additional specifics regarding the administration of the county ferry capital improvement program. The Growth Management Act contains additional statutory requirements for Skagit County to engage in transportation and capital facilities planning.

The Guemes Island Ferry Capital Facilities Plan, 2007-2021, was developed with input from public input and various Skagit County departments. The statistical data and long-range forecasts in this capital facilities plan are based on the most current information available and supersede previous Guemes Island Ferry planning efforts conducted in 1991 and 1997 and 2001.

Capital improvements are scheduled based on professional judgment and the local experience gained over the past 40 years of maintaining and operating a ferry system in compliance with all regulatory agencies. The factors that determine priority, as well as the amount of revenue available, for ferry maintenance, operations, and capital improvements can change from year to year. The Skagit County Engineer will ultimately decide capital improvement priorities. The Guemes Island Ferry Capital Facilities Plan, 2007-2021, is intended to be a guiding document that examines existing conditions and projects requiring long-range improvements and anticipated revenues and expenditures for the ferry system. As such, strict adherence is not required.

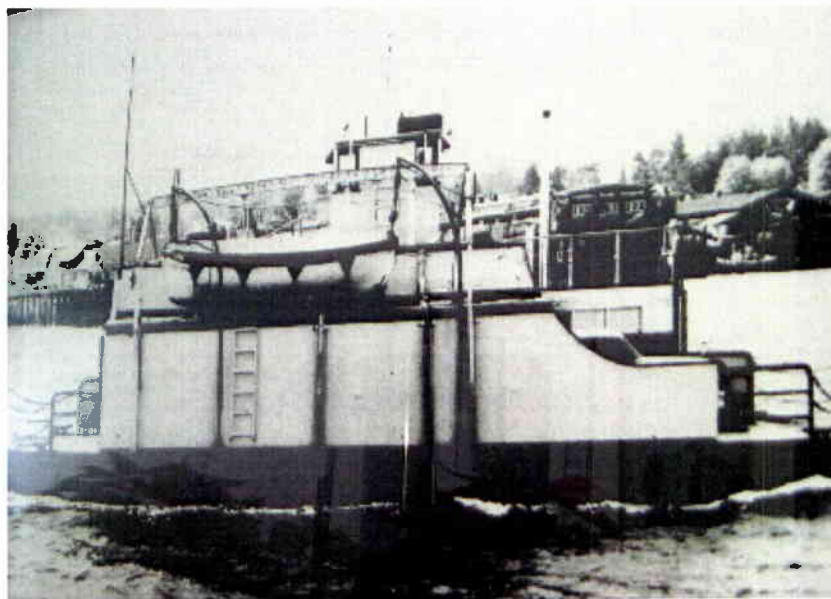


Figure 1.1 - The first vehicle ferry carried 6 cars across Guemes Channel.

1.2 A BRIEF HISTORY OF THE GUEMES ISLAND FERRY SYSTEM

During his 1791-1792 expedition, Spanish Navy Lt. Francisco Eliza sailed into this region and named one of the small islands Guemes to honor the viceroy of Mexico. As Europeans migrated into this region in the late 1800's, a few hardy souls decided to settle on Guemes Island. Eventually, a private ferry system was established and became the lifeline for island residents. The first vehicle ferry to provide service across Guemes Channel carried 6 cars and for many years, the ferry system was a small private operation subsidized by the County.

In 1958, the privately operated ferry system expanded its service by purchasing the vessel (M/V) Almar with a capacity of 9-11 vehicles. In the mid-1960's, Skagit County purchased the M/V Almar and all ferry facilities and began full management of the ferry system. In 1978, the County began planning for a larger ferry vessel and related dock improvements and, in 1979, purchased the M/V Guemes, which currently serves Guemes Island with a capacity of approximately 22 vehicles, 99 passengers and additional load limiting requirements dictated by the vessel's Coast Guard stability letter. The County also began to keep statistics regarding ferry user groups and ridership at this time.

System-wide capital facilities planning efforts began in earnest in 1990 when it became clear that future state funding for improvements would be contingent upon having a capital facilities plan in place. The first Guemes Island Ferry Capital Facilities Plan was adopted by Skagit County Commissioners in December 1991. In 1997, the Transportation Systems Plan (TSP) provided an update of the Guemes Island ferry system plan for inclusion in the Transportation Element of the 1997 Skagit County Comprehensive Plan. Over the years, several capital facility improvements to the ferry system have been included in the annual 6-year Transportation Improvement Program (TIP).

This capital facilities plan update is expected to provide general guidance for the Guemes Island Ferry System from 2007-2021 and specific capital facilities programming from 2007-2012. As required by RCW 36.54.015 "Ferries" and WAC 136-400-040 "Six-year and fourteen-year plan submittal," portions of this plan along with other modified portions will be updated annually and submitted to the Washington State Secretary of Transportation.

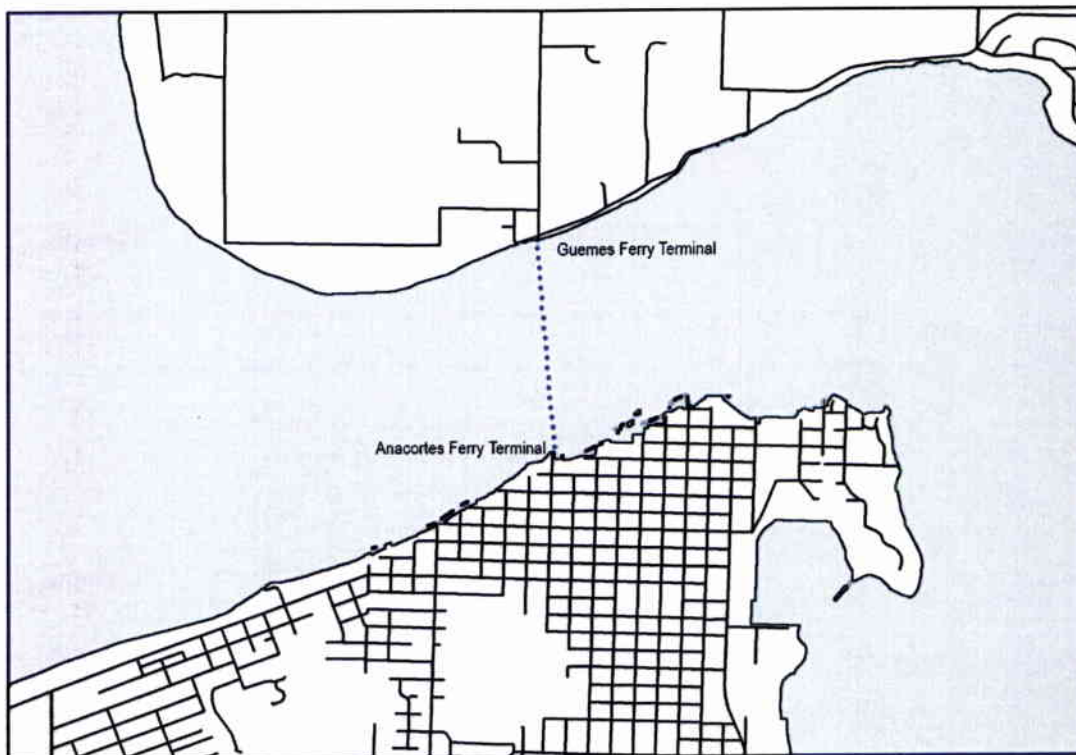
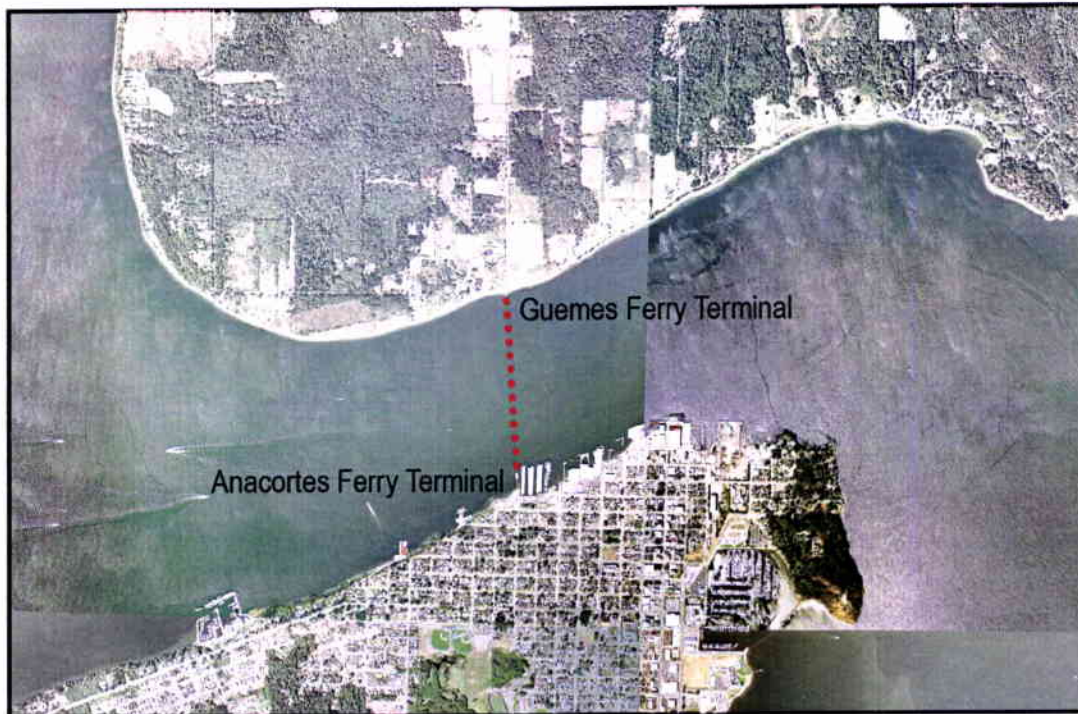


Figure 1.2 - Guemes Island and Guemes Channel ferry crossing.

CHAPTER 2: EXISTING CONDITIONS

OPERATING SYSTEM EQUIPMENT AND FACILITIES INVENTORY

The Guemes Island Ferry operating system equipment and facilities are functionally categorized as; (Paragraph 2.1) Ferry vessel, (Paragraph 2.2) Structures, (Paragraph 2.3) Parking and auto staging facilities, (Paragraph 2.4) Ferry service, and (Paragraph 2.5) Ferry operations. Most of the operating system facilities were built in the 1979-1980 time period to accommodate the M/V Guemes. The current value of these facilities (after depreciation) is estimated to be \$8,286,567. (See Table 2.1) The total current replacement cost for these facilities is estimated to be \$13,877,394. (See Table 2.2)

Table 2.1. Estimated Current Value of Ferry System Assets 2007.			
Facility	Anacortes	Guemes Island	Total
M/V Guemes	--	--	\$ 2,050,000
Ferry Docks	\$ 910,000	\$ 337,000	\$ 1,247,000
Transfer Span and Machinery	\$ 1,417,000	\$ 1,417,000	\$ 2,834,000
Dolphins/Wingwalls	\$ 520,000	\$ 270,000	\$ 790,000
Terminal Buildings	\$ 158,000	\$ 8,000	\$ 166,000
Parking Lots	\$ 1,024,467	\$ 175,100	\$ 1,199,567
Totals	\$ 4,029,467	\$ 2,207,100	\$ 8,286,567

Table 2.2. Estimated Replacement Costs of Ferry System Assets 2007*.			
*(Based on 1999 replacement estimates with 3% annual inflation factor)			
Facility	Anacortes	Guemes Island	Total
M/V Guemes	--	--	\$ 4,275,042
Ferry Docks	\$ 1,380,779	\$ 516,547	\$ 1,897,326
Transfer Span and Machinery	\$ 2,163,348	\$ 2,163,348	\$ 4,326,696
Dolphins/Wingwalls	\$ 671,277	\$ 402,169	\$ 1,073,446
Terminal Buildings	\$ 306,339**	\$ 16,603	\$ 322,942
Parking Lots	\$ 1,617,667*	\$ 364,275	\$ 1,981,942*
Totals	\$ 6,139,410	\$ 3,462,942	\$ 13,877,394

** Shows anticipated cost of new terminal building which will include manager's office.

2.1 FERRY VESSEL

The current ferry, the M/V Guemes, was built in 1979 and has served Skagit County and the residents of Guemes Island for 27 years (See Figure 2.1). Vessel characteristics are listed in Table 2.3. The United States Coast Guard requires 3 crew members on the M/V Guemes to staff each regularly scheduled crossing of Guemes Channel; a Ferry Master and two deckhands. A round-trip crossing of the 0.7 mile channel normally takes approximately 23 - 25 minutes.

Table 2.3 - M/V Guemes Physical Characteristics	
Length	124 feet
Beam	46 feet
Gross Tonnage	91 tons
Displacement	298 tons
Vehicle Capacity	22 cars
Passengers	99 persons
Crew	1 Master, 2 Deckhands and 1 Purser



Figure 2.1 - M/V Guemes on approach to Anacortes dock.

2.2 FERRY SYSTEM STRUCTURES

The Guemes Island Ferry system structures include docks, transfer spans and machinery, dolphins, wingwalls, and terminal buildings on both sides of Guemes Channel.

Anacortes: The Anacortes ferry dock is composed of two sections; one 80 x 40 foot section and one 60 x 24 foot section (see Figure 2.2, below). The Anacortes ferry terminal building is composed of a crew area, crew office, rest rooms, and a sizable waiting room with capacity for approximately 15-20 ferry passengers (See Figure 2.3 and 2.12, below). A new ferry terminal building is in the planning and design process with anticipated construction commencing in 2008.



Figure 2.2 - Anacortes docking facilities for Guemes Island Ferry.



Figure 2.3 - Anacortes Terminal for Guemes Island Ferry.

Guemes Island: The Guemes Island dock measures 60 x 24 feet (see Figure 2.4). Terminal facilities do not currently exist and the available waiting space for ferry passengers consists of a wooden shelter exposed to the elements on one side (see Figure 2.5). An additional waiting structure has been purchased and is available for placement after final design of parking facilities.



Figure 2.4 - Guemes Island dock, wing walls, and pilings.



Figure 2.5 - Guemes Island Passenger Shelter for Guemes Island Ferry.



Figure 2.6 - Guemes Island vehicle parking for Guemes Island Ferry.

2.3 PARKING AND AUTO STAGING FACILITIES

Vehicle parking is available at both the Anacortes and Guemes Island ferry landings.

Guemes Island: A gravel parking area for ferry riders is located adjacent to the ferry landing and west of Guemes Island road (see Figure 2.6). This parking facility was developed in 1983 and funded by a federal program for park and ride lots. Parking lot improvements are limited to grading and gravel surfacing, individual parking stalls are not designated, and landscaping does not exist. Depending on configuration of the lot and parking management, the Guemes Island parking lot may be able to accommodate up to 100 vehicles. (It should be noted that in 2004 two lots immediately adjacent to and north of, the existing parking facility were purchased. These two have been combined with the existing facility to approximately double the available on-island parking.) Off-street auto staging facilities on Guemes Island do not exist. Vehicles waiting to board the ferry line up in an extra quarter-mile long holding lane on the west side of Guemes Island Road (See figure 2.7).



Figure 2.7 - Guemes Island Road auto-staging lane for Guemes Island Ferry.

Anacortes: During the summer of 2005, 2 holding lanes for auto staging were added to I Avenue from 6th Street (County right-of-way) to the ferry dock. An additional loading lane extends for two blocks along the north side of 6th Street. During peak times, the line of vehicles waiting for the ferry can extend past K Avenue and conflict with residential parking (See Figure 2.8). Approximately 15 standard size parking spaces and 5 handicapped parking spaces are available on the west side of the auto-staging area. Parking is also available along the south sides of the Anchor Cove Marina fence (see Figure 2.9). This area has room for approximately 30 vehicles (see Figure 2.10). Skagit County, in the spring of 2005, completed a 70 stall parking facility on County-owned property at 6th Street and K Avenue (see figure 2.11).



Figure 2.8 - Anacortes auto-staging lane on 6th Street between “I” and “K” Avenues.



Figure 2.9 - Anacortes terminal auto staging lanes and parking (Marina fence at right).



Figure 2.10 - Parking lot at South side of Marina fence.



Figure 2.11 - 70 Stall Parking Lot at 6th and "K" Avenue.

2.4: GUEMES ISLAND FERRY SERVICE

Scheduled Ferry Service

The Guemes Island Ferry schedule includes standard weekday service plus an expanded hour service on the weekend. From Monday through Thursday each week, the ferry makes 25 daily round trips with service beginning at 6:30am and ending at 10:00pm. On Friday and Saturday, ferry service begins at 6:30am and ends at Midnight. There are 27 scheduled round trips on Friday, and 25 round trips on Saturday. On Sundays, the ferry makes 21 round trips with service beginning at 7:00am and ending at 10:00pm. Table 2.4 shows the Guemes Island Ferry Schedule in more detail. The current schedule calls for the M/V Guemes to carry passengers and vehicles across Guemes Channel approximately 8,996 times per year.

Non-Scheduled and Emergency Ferry Service

In addition to regularly scheduled ferry service, special and emergency runs are provided on an “as needed” basis. Any person or group can charter the M/V Guemes and crew to make a special, non-scheduled ferry run outside of regular operating hours. Special runs require regular ferry crew and cost \$315 per run with a standby charge of \$325 per hour for the ferry if a return run is needed. Puget Sound Energy often hires the ferry in this manner when emergency service is required on Guemes Island. Occasionally, an individual or group will hire the ferry for a special run to Guemes Island after regular operating hours. The M/V Guemes can also be hired for a special run between regularly scheduled runs during regular operating hours for \$1,000. The regular vehicle and passenger fares for crossing on the Guemes Island Ferry are charged in addition to the cost of any special run. Trucks carrying flammable liquids are exempt from special run charges during regular operating hours due to laws requiring isolation of these vehicles on the ferry for safety purposes. Medical emergency runs are made whenever necessary and are provided by the County at no charge.

Ferry Service Interruption

The U.S. Coast Guard requires both an annual inspection of the M/V Guemes and an extensive dry dock inspection once every 24 months. However, there are plans to begin haul out once a year, usually in May to perform required maintenance and equipment overhaul on a foreshortened schedule of ten days in lieu of two weeks. The primary purpose of these inspections is to document and correct any deterioration of non-visible physical aspects of the M/V Guemes. Standard maintenance work conducted as a result of this inspection includes replacing corroded metal parts, repairing the water cooling system, and painting the hull. The annual U.S. Coast Guard inspection usually occurs in January and examines all mechanical and navigational equipment above water line. The result of this U.S. Coast Guard examination is a Certificate of Inspection, which lays out the terms and conditions under which the County can operate the M/V Guemes.

The County contracts with a private operator to provide passenger-only ferry service during this down time. This causes significant interruption in normal ferry service to Guemes Island and creates an extremely congested parking situation at both the Guemes Island and Anacortes parking areas because many ferry commuters park a vehicle on both ends of the ferry run.

Table 2.4 - Guemes Island Ferry Schedule

Effective 7/1/2006

[Fee Schedule Below](#)

PHONE: (360) 293-6356

DEPARTURE TIMES – ANACORTES

Monday thru Thursday	Friday	Saturday	Sunday
6:30 AM	6:30 AM	6:30 AM	7:00 AM
7:00 AM	7:00 AM	7:00 AM	8:00 AM
7:30 AM	7:30 AM		
8:15 AM	8:15 AM	8:15 AM	9:00 AM
8:45 AM	8:45 AM	8:45 AM	9:30 AM
9:15 AM*	9:15 AM	9:15 AM	10:00 AM
9:45 AM	9:45 AM	9:45 AM	
10:30 AM	10:30 AM	10:30 AM	
11:00 AM	11:00 AM	11:00 AM	11:00 AM
11:30 AM	11:30 AM	11:30 AM	11:30 AM
1:00 PM	1:00 PM	1:00 PM	1:00 PM
1:30 PM	1:30 PM	1:30 PM	1:30 PM
2:00 PM*	2:00 PM	2:00 PM	2:00 PM
2:30 PM	2:30 PM	2:30 PM	2:45 PM
3:15 PM	3:15 PM	3:15 PM	3:15 PM
3:45 PM	3:45 PM	3:45 PM	
4:15 PM	4:15 PM	4:15 PM	4:00 PM
4:45 PM	4:45 PM	5:00 PM	4:30 PM
5:15 PM	5:15 PM		5:00 PM
5:45 PM	5:45 PM	6:00 PM	6:00 PM
6:30 PM	6:30 PM		6:30 PM
7:00 PM	7:00 PM	7:00 PM	7:00 PM
8:30 PM	8:30 PM	8:30 PM	8:30 PM
9:00 PM	9:00 PM	9:00 PM	9:00 PM
10:00 PM	10:00 PM	10:00 PM	10:00 PM
	11:00 PM	11:00 PM	
	12:00 AM	12:00 PM	

*Tuesday 9:15 a.m. to Guemes and 2:00 p.m. off Guemes are hazardous material runs only. No other passengers or vehicles may travel on these runs

No extra trips at 11:30 a.m. or 7:00 p.m.

Schedule Subject to Change Without Notice

Ferry departs at Guemes approximately 8 minutes later than the above schedule

Crossing time **approximately** five (5) minutes

2.5 FERRY SYSTEM OPERATIONS AND PROCEDURES

Vessel Operation

All regularly scheduled ferry crossings of Guemes Channel require 3 crew members; one Ferry Master/Operator and two Deck Hands on the vessel, as well as a Purser on the dock. The Ferry Master/Operator is the M/V Guemes captain and navigator. The Deck Hands direct traffic on and off of the M/V Guemes and attends to the manual duties required for docking. The Purser sells tickets and assists customers on the dock with information and directions concerning the ferry. Medical emergency runs are subsidized by Skagit County and three crew members are legally required to operate the M/V Guemes during those runs as well.

Auto Staging

Guemes Island: Vehicles waiting to board the ferry line up in an extra quarter-mile long holding lane on the west side of Guemes Island Road (See figure 2.7, above).

Anacortes: Two lanes for auto staging extend south along County right-of-way from the ferry dock to 6th Street (See Figure 2.9) and one loading lane extends for two blocks along the north side of 6th Street (See figure 2.8). During peak times, the line of vehicles waiting for the ferry can extend past K Avenue and conflict with residential parking.

Ticketing

Round trip tickets are issued at the Anacortes terminal and tickets are not required to board the ferry on the return trip from Guemes Island. Currently, when the M/V Guemes is ready for vehicle loading, the Purser collects money and issues tickets to each driver, and sends vehicles on board the ferry. The Purser is available at the Anacortes terminal for purchase of frequent user passes and other media. Credit card transactions are now available at the Guemes Ferry.

Pedestrian Service

The Anacortes terminal building contains a sizable, heated waiting room with four 8-foot benches for seating, substantial standing area, and restrooms (see Figure 2.12). The M/V Guemes contains a passenger room with capacity for approximately 30 adults, but restroom facilities are not available (See Figure 2.13). A small wooden passenger waiting shelter is available immediately north of the Guemes Island ferry dock, but it is exposed to the elements on one side. A unisex portable restroom is located at the north side of the lower Guemes Island parking lot.



Figure 2.12 - Anacortes ferry terminal passenger waiting facilities.



Figure 2.13 - Passenger cabin onboard the M/V Guemes.

Boarding and exiting the M/V Guemes on foot is safe and easy at the Guemes Island ferry dock. The M/V Guemes passenger cabin area opens to a pedestrian walkway that leads directly to the passenger waiting shelter. The passenger cabin access at Number one end is now ADA compliant. Boarding and exiting the M/V Guemes for pedestrians at the Anacortes ferry dock is by a pedestrian walkway from the terminal to the vessel and is located on the same side of the dock as the M/V Guemes passenger cabin. Passengers must board and exit either before or after vehicles for safety reasons.

Personnel Requirements

The Guemes Island Ferry system currently has 9 full-time employees and 7 part-time employees. Table 2.5 shows the breakdown of ferry personnel by position. This gives the system additional flexibility when there are extra run needs or in the absence of regular crew members.

Table 2.5 - Guemes Island Ferry Personnel		
Position	Full-Time	Part-Time
Ferry Operations Manager/Master	1	-
Master	1	-
Purser/Deckhand II	2	-
Purser/Deckhand I	4	-
Mechanic/Deckhand	1	-
On Call Purser/Deckhand II	-	2
On Call Purser/Deckhand I	-	7
Totals	9	9

CHAPTER 3: LAND USE ANALYSIS AND PROJECTIONS.

The Skagit County Guemes Sub-Area Plan provides information and policy guidance specific to Guemes Island. It includes a description of Guemes Island land patterns for residential, agriculture, forestry, and commercial uses. The Sub-Area Plan provides both current and future land use projections.

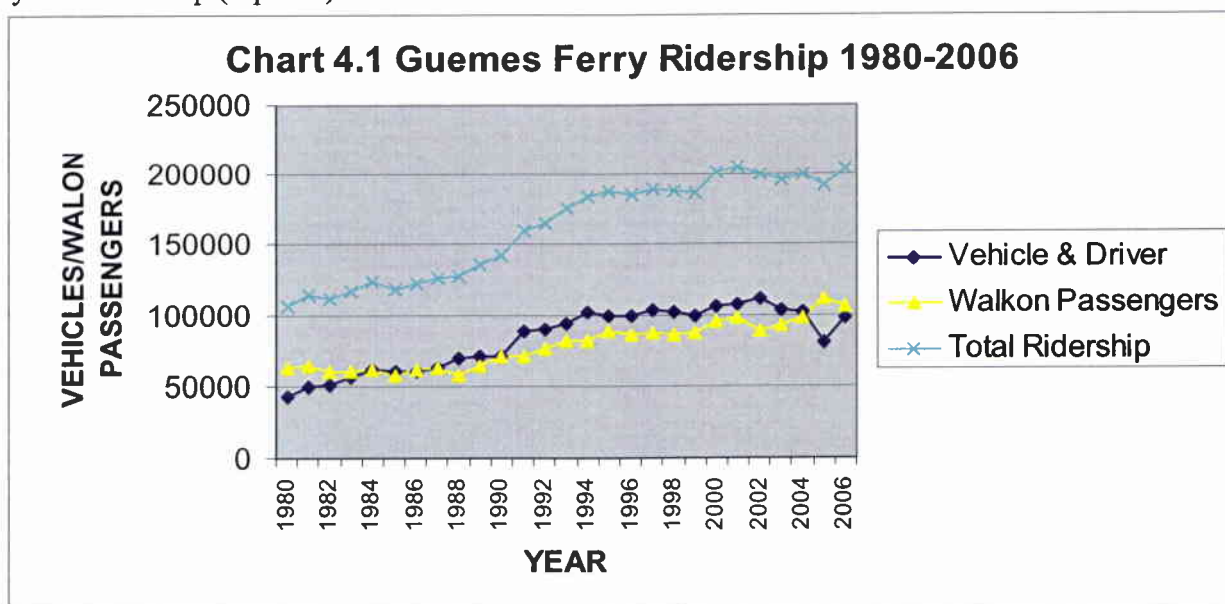
CHAPTER 4: FERRY RIDERSHIP ANALYSIS

This chapter examines the ridership, based on ticket sales and traffic counts, that have occurred over the past 25 years on the M/V Guemes, including a close look at monthly and daily ridership by user category, and uses regression analysis to project future ridership trends on the Guemes Island Ferry. Chapter sections are organized as follows: 4.1 Ferry Ridership Statistics, 1980-2006; 4.2 Ferry Ridership Analysis; 4.3 Ferry Ridership Projections, 2007-2021; 4.4 Level of Service Indicators; and 4.5 Numeric Data Tables.

4.1 FERRY RIDERSHIP STATISTICS, 1980-2006

The Guemes Island Ferry system is relatively small considering it runs only one vessel with a 22-vehicle and 99-passenger capacity. The primary users of the ferry system are the permanent and part-time residents of Guemes Island who rely on the ferry as their link to the mainland. The residential development and population on Guemes Island have both increased over the past 25 years and the ferry system ridership has experienced growth as a direct result.

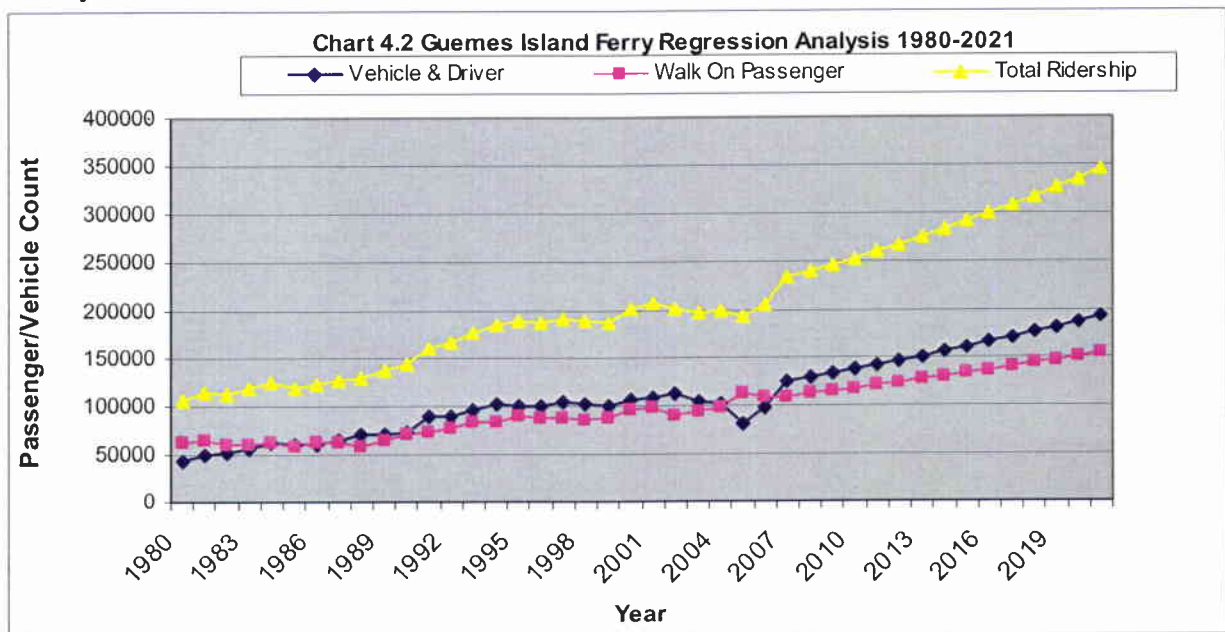
Chart 4.1 shows Guemes Island Ferry annual growth by user category compared to total ferry system ridership (top line) from 1980 to 2006.



4.2 FERRY RIDERSHIP PROJECTIONS 2000-2020

While it is difficult to project what will happen 15 years from now, long-range projections based on past trends, existing conditions, and the best information available about future development can help guide management decisions for the Guemes Island Ferry system.

The 1991 Guemes Island Ferry Capital Facilities Plan projected “total ridership on the system in the year 2005 to range from 182,000 to 196,500 representing an increase of 28% to 38%.” As shown in Chart 4.1, Table 4.1, and Chart 4.2, actual total ridership on the Guemes Island Ferry system in the year 2000 exceeded the highest 2005 projections in the 1991 Guemes Island Ferry Plan by over 5,000 riders.



It is evident from Chart 4.2, above, that if the growth trend for the past 27-years continues; then the Guemes Island Ferry will experience 29.0% growth in total ridership over the next 15 years. In addition, Table 4.3 shows that if past growth trends continue, then it is likely that vehicle ridership will continue to out-pace walk-on ridership, increasing by 32.5% while walk-on ridership will increase by 24.5% over the next 15 years. This is very significant because the growth of vehicle ridership will impact the capacity of the Guemes Island Ferry system.

4.4 LEVEL OF SERVICE INDICATORS

Vehicle Carrying Capacity

The level of service (LOS) for the Guemes Island Ferry system is closely tied to its vehicle carrying capacity because vehicle traffic has a greater impact on the ferry system than walk-on passenger traffic. Simply put, the M/V Guemes can carry far more walk-on passengers (99) than vehicles (22). In transportation planning, LOS is often measured by volume divided by capacity, the V/C ratio, and by the level of congestion. Measuring the V/C ratio can be valuable when examining the overall carrying capacity of the ferry system. As the V/C ratio approaches 100%,

the overall system LOS is reduced. Examining the level of congestion on the Guemes Island Ferry system is more complex, but gives an indication of LOS during peak demand for ferry service. The V/C ratio calculations and examination of system congestion will focus on the vehicle carrying capacity of the M/V Guemes.

The 1991 and 2000 the Guemes Island Ferry Capital Facilities Plans calculated a level of service indicator for the M/V Guemes by examining volume over capacity. The total vehicle carrying capacity of the M/V Guemes is directly affected by the number of scheduled ferry crossings per year. In 1990, 6,214 scheduled ferry crossings multiplied by the 22-vehicle capacity for each run yielded a total carrying capacity of 136,708 vehicles. The total number of actual vehicle crossings for 1990 (71,574) was divided by the number of scheduled ferry crossings (6214) in 1990, which resulted in an average of 11.5 vehicles per scheduled ferry crossing. The 11.5 vehicles per scheduled ferry crossing were divided by the 22 vehicle capacity of the M/V Guemes, which resulted in a volume-to-capacity (V/C) of 52%.

Due to an increase in the number of scheduled ferry crossings, the total vehicle carrying capacity of the M/V Guemes in 2000 was 143,000 vehicles. The total number of actual vehicle crossings for 2000 (106,410) was divided by the number of scheduled ferry crossings (6,500) in 2000, which resulted in an average of 16.4 vehicles per scheduled ferry crossing. The 16.4 vehicles per scheduled ferry crossing were divided by the 22 vehicle capacity of the M/V Guemes, which resulted in a volume-to-capacity (V/C) of 74%. This represents a V/C increase of 42% from 1990 to 2000, which is very significant.

The total number of actual vehicle crossings for 2006 (97,635) was divided by the number of scheduled ferry crossings (8,996) in 2006, which resulted in an average of 10.9 vehicles per scheduled ferry crossing. The 10.9 vehicles per scheduled ferry crossing were divided by the 22 vehicle capacity of the M/V Guemes, which resulted in a volume-to-capacity (V/C) of 50%. This represents a V/C decrease of 24% from 2000 to 2006.

If the number of scheduled ferry crossings remains the same, the total vehicle carrying capacity of the M/V Guemes will remain the same, and the V/C ratio will continue to approach 100%. As can be seen in Table 4.3, regression analysis projections indicate that the current total approximate vehicle carrying capacity (190,000) of the M/V Guemes will be exceeded in the year 2021 or near the end of this planning period.¹

Vehicle Congestion

The level of congestion for vehicle traffic on the M/V Guemes can be measured by the average number of vehicles carried on scheduled weekday ferry crossings during the peak month of August. However, this does not indicate how many times a vehicle and driver are forced to wait for the next available ferry, and therefore, the measure of “congestion,” as it is used here, is limited to the number of scheduled ferry crossings which approach the vehicle carrying capacity of the M/V Guemes.²

It must be noted that individual expectations for ferry service differ and are not being measured here. For example, a Guemes Island resident may expect to have to wait for a ferry once in a while, or even more often during busier times of the year, and find this to be acceptable. A

seasonal resident or tourist may not expect to have to wait in line to drive their vehicle on a ferry, however, and may have a very different opinion regarding the level of service for the ferry.

The highest vehicle traffic volumes between Anacortes and Guemes Island during weekdays in August 2007 occurred from 1:00 pm through 10:00 pm. Approximately 10 (53%) of the 19 scheduled ferry crossings during this time period approached the 22-vehicle carrying capacity (defined as carrying at least 18 vehicles on board) of the M/V Guemes. Therefore, vehicle drivers experienced “congestion” on the M/V Guemes approximately 53% of the time when crossing from Anacortes to Guemes Island during the peak afternoon hours in August 2007. Presumably, the level of congestion for vehicles and drivers, as defined here, would be lower during non-peak months. Walk-on passengers should not experience this level of congestion and should be able to board the M/V Guemes at all times.

The highest vehicle traffic volumes between Guemes Island and Anacortes during August 2007 occurred from 6:45 am through 1:45 pm. None of the 12 scheduled ferry crossings during this time period approached the 22-vehicle carrying capacity of the M/V Guemes (defined as carrying at least 18 vehicles on board). Therefore, vehicle drivers experienced no congestion on the M/V Guemes approximately 100% of the time when crossing from Guemes Island to Anacortes during the peak morning hours in August 2007. Presumably, the level of congestion for vehicles and drivers, as defined here, would be lower during non-peak months. Walk-on passengers should not experience this level of congestion and should be able to board the M/V Guemes at all times.

¹It should be noted that the above V/C analyses were computed using total vehicular crossings (for both scheduled and unscheduled crossings) divided by total number of scheduled crossings. This results in slightly higher V/C percentages than actually exist due to the compression of all vehicle crossings into a smaller number of runs. Whatever the actual V/C ratio is, the data suggests that in about 12 years, without the addition of runs or a bigger vessel, the ferry system will not be able to accommodate more growth.

²The idea that there are a certain percentage of vehicle and drivers that “are forced to wait for the next available ferry” is certainly true. While there are certainly occasions where customers must be left behind because the vessel is full, the data, as depicted in the charts and tables in this chapter show that a completely full ferry is a relatively rare occurrence. The relative rarity of this situation is further supported when one considers that historically, the vessel is loaded from run to run as full as possible with the crew sometimes ignoring the sailing schedule so that riders aren’t left behind. And, if riders are left behind, it is typically not because of a full vessel but because of schedule considerations.

CHAPTER 5: TRANSPORTATION SYSTEM AND DEMAND MANAGEMENT

The Washington State Department of Community, Trade, and Economic Development (CTED) defines transportation system management (TSM) as *strategies to; a) increase the motor vehicle capacity of existing streets and roads and b) facilitate the use of high occupancy vehicles, thus increasing the people carrying capacity of the street and highway system*. TSM typically uses low cost capital expenditures to increase the capacity of the transportation system. Examples of TSM strategies for the Guemes Island Ferry system could include buying a larger vehicle ferry, adding a “mid-body” to the existing M/V Guemes, and increasing the number of scheduled ferry crossings.

Transportation demand management (TDM) is similar to TSM in that such strategies increase the efficiency of transportation facility use. The difference is that the focus of TDM is on reducing the demand for transportation facilities rather than increasing the capacity. CTED defines TDM as *strategies under which demand is reduced by measures that either eliminate trip making or accommodate person trips in fewer vehicles*. Examples of TDM strategies for the Guemes Island Ferry system could include providing more parking facilities, encouraging ferry users to ride as walk-on passengers, encouraging ridesharing and carpooling, encouraging public transit services to provide passenger shelters and bus pullouts, and ticket price incentives and disincentives.

Skagit County Comprehensive Plan Transportation Element Policy 9A-8.2 states “*To meet future increases in demand, the County shall increase service capacity of the Guemes Island Ferry by; (a) encouraging car-pooling and walk-on passengers; (b) increasing the frequency of ferry runs based on demand; and (c) considering additional ferry capacity if the aforementioned procedures fail to accommodate demand.*” The intent and direction of this policy is for the County to seek low-cost solutions to reduce vehicle demand on the ferry, increase scheduled ferry crossings if necessary, and to increase vehicle carrying capacity by physically altering the M/V Guemes but only as a last resort.

5.1 Transportation System Management (TSM)

There are several TSM strategies that could be used to increase the vehicle carrying capacity of the Guemes Island Ferry system, including, but not limited to:

- Maintaining the existing schedule and system management
- Providing adequate parking facilities near ferry terminals
- Increasing the number of scheduled ferry crossings
- Adding a “mid-body” to the existing M/V Guemes

Maintaining the Existing Schedule and System Management

In reality, the M/V Guemes operates in a quasi on-demand fashion. The schedule is maintained but only in so far as the crew is able while simultaneously loading the vessel with as many vehicles as possible. (This means that on many runs, the crew will take an extra 3, 4, or even 5 minutes or more to load “just one more vehicle” onto the ferry prior to its departure. What

results is a generally accepted policy of never quite meeting the posted schedule.) The natural progression of this operational philosophy is that the M/V Guemes essentially operates on demand and is therefore already carrying vehicles and passengers during non-scheduled times. In effect, this allows the ferry system to operate in a flexible manner that provides a high degree of customer service. The downside to this sort of operational mentality is to place an ever greater demand on the crew to work longer hours and provide more runs (in the same amount of time), and to increase the operational costs of the ferry system. While the current operational philosophy does not guarantee additional vehicle capacity by ensuring drivers that two runs per hour are offered, it allows the Guemes Island Ferry system to offer additional capacity when it is needed most. However, this is probably not the most cost effective manner in which to operate the Guemes Island Ferry.

If all of the unscheduled ferry crossings were calculated, the existing vehicle carrying capacity and v/c ratio for the M/V Guemes would be greater. Providing additional vehicle capacity when it is needed (by providing unscheduled sailings and/or loading the vessel until it is completely filled) allows the system to have all of the vehicle capacity that it effectively needs. If the Guemes Island Ferry System continues to be operated and managed in this fashion, then the M/V Guemes has the needed capacity to accommodate the projected growth in vehicle and passenger demand until after 2021.

Providing adequate parking facilities

As noted above, the Skagit County Comprehensive Plan clearly states that it is desirable to reduce vehicle demand on the M/V Guemes. There is no guaranteed method of getting people out of their cars, however. One method of effectively reducing the demand for vehicle capacity is to encourage ferry users to ride as walk-on passengers rather than vehicle drivers. In order to accomplish this, there must be convenient and adequate parking facilities in place near the ferry terminals in Anacortes and on Guemes Island.

During the summer of 2005, 2 holding lanes for auto staging were added to I Avenue from 6th Street (County right-of-way) to the ferry dock. An additional loading lane extends for two blocks along the north side of 6th Street. During peak times, the line of vehicles waiting for the ferry can extend past K Avenue and conflict with residential parking (See Figure 2.8). Approximately 15 standard size parking spaces and 5 handicapped parking spaces are available on the west side of the auto-staging area. Parking is also available along the south sides of the Anchor Cove Marina fence (See Figure 2.9). This area has room for approximately 30 vehicles (See Figure 2.10). Skagit County, in the spring of 2005, completed a 70 stall parking facility on County-owned property at 6th Street and K Avenue (See figure 2.11). These facilities can trace their beginnings to a public survey of the Guemes Island residents conducted in 1990. In fact, the 1991 Guemes Island Ferry Capital Facilities Plan identified the need for a parking facility near the Anacortes terminal as the number one capital facilities priority. Additionally, the City of Anacortes strongly supported the County's construction of the recently completed 70 stall ferry parking.

In 2004 two lots immediately adjacent to and north of, the existing parking facility on Guemes Island were purchased. These two lots have been combined with the existing facility to more than double the available on-island parking. As noted in Chapter 2, the current parking facilities on Guemes Island can accommodate up to 100 vehicles. Now that the 70 stall Anacortes ferry parking lot is complete, the Guemes Island Ferry system has a stated goal of the 2000 Guemes Island Ferry System CFP: to achieve some balance in available parking facilities. This has provided Guemes Island residents with the option to park a vehicle on both sides of the ferry crossing and reduced the vehicle demand on the M/V Guemes. While this may not be an option for some people, it also provides the option of parking a vehicle in the Anacortes lot and carpooling or ridesharing to and from the island with other Guemes Island residents.

The new ferry parking lot in Anacortes also has additional potential to reduce vehicle trips on the M/V Guemes for traffic from Anacortes to Guemes Island, but would require additional transit investment for this potential to be realized. (See TDM Public Transit discussion, below). Nevertheless, it may also be prudent to explore, during this document's planning horizon, additional strategies to increase the number of parking spaces available to ferry users on both the Anacortes and the Guemes sides of the operation.

Increasing Scheduled Ferry Crossings

The number of scheduled ferry crossings has increased from 121 per week in 1990 to 173 per week in 2006. This has translated to a 10,296 increase in the total vehicle carrying capacity of the M/V Guemes. The current Guemes Island Ferry schedule has a vehicle carrying capacity of 197,912 standard-sized vehicles for the M/V Guemes (taking into account extended runs on Monday through Thursday). As can be seen in Table 4.3, linear regression analysis projections indicate that this level of vehicle carrying capacity will be approached in the year 2021. If all of the unscheduled ferry crossings were calculated, the existing vehicle carrying capacity of the M/V Guemes would be greater.

Increasing the number of scheduled ferry crossings can increase the total vehicle carrying capacity of the M/V Guemes.

In order to effectively reduce vehicle congestion on the M/V Guemes, scheduled ferry crossings during the day were increased along with adding extended hours, Monday through Thursday, although on a temporary basis until July 1, 2008. Due to the seasonal peak of ferry demand, it may only be appropriate to add crossings to the schedule during the busiest months of the year. In August 2004, the heaviest vehicle traffic hours were between 6:30am and 8:00pm. Increasing the number of scheduled ferry crossings or extending the schedule from Monday through Thursday or doing both, either seasonally or annually, would very likely require additional crew and would result in additional fuel and maintenance costs. Additional ferry crossings could also be added only during peak seasonal traffic or on a regular weekly basis. This approach represents the lowest capital expenditure solution to guaranteeing additional vehicle capacity on the M/V Guemes and reducing overall vehicle congestion.

Adding a “mid-body” to the M/V Guemes

The M/V Guemes was designed to allow for expansion, if necessary. The existing 124-foot long vessel can be cut in half and have a 20-foot long “mid-body” welded in place to expand the vehicle and passenger carrying capacity of the vessel. The total length of the M/V Guemes would increase to 144 feet, the vehicle capacity would increase to 26, and the passenger capacity would increase to 45. Adding 4 vehicle spaces to the M/V Guemes represents an increase in onboard vehicle capacity.

Given the existing 173 scheduled ferry crossings per week, adding a “mid-body” to the M/V Guemes would add 35,984 vehicle spaces per year and increase the total annual vehicle carrying capacity to 233,761. This would provide vehicle capacity far in excess of what is necessary during this planning period. A larger vessel would also potentially reduce vehicle congestion during peak operating times by allowing more vehicles to board the ferry without altering the existing ferry schedule.

The “mid-body” expansion is estimated to cost \$1,750,000 (in 2005 dollars) and would require a 3 or 4-week haulout to complete the necessary work. Passenger-only ferry service would be provided in place of vehicle service, as is normal procedure during the 2-week haulouts required by the U.S. Coast Guard every 24 months. The entire \$1,750,000 capital expenditure for the addition of the “mid-body” is an eligible expense under the Ferry Reimbursement Fund. There are several less expensive methods to increase the vehicle capacity of the M/V Guemes and therefore, it does not make economic sense to add a “mid-body” within the 2006-2020 planning period.

5.2 Transportation Demand Management (TDM)

There are several TDM strategies that could be used to decrease the vehicle demand on the Guemes Island Ferry system, including, but not limited to:

- Encouraging car-pooling and walk-on passengers
- Encouraging increased public transit service and bus shelters at the Anacortes terminal
- Pricing policy (ticket price incentives and disincentives)
- Coordinate SKAT and ferry schedules

These TDM strategies should be used in combination with one another to be most effective.

Encouraging Car-Pooling and Walk-On Passengers

The Skagit County Comprehensive Plan Transportation Element Policy 9A-8.2 states *“To meet future increases in demand, the County shall increase service capacity of the Guemes Island Ferry by: (a) encouraging car-pooling and walk-on passengers; (b) increasing the frequency of ferry runs based on demand; and (c) considering additional ferry capacity if the aforementioned procedures fail to accommodate demand.”* The intent of this policy gives clear priority to TDM

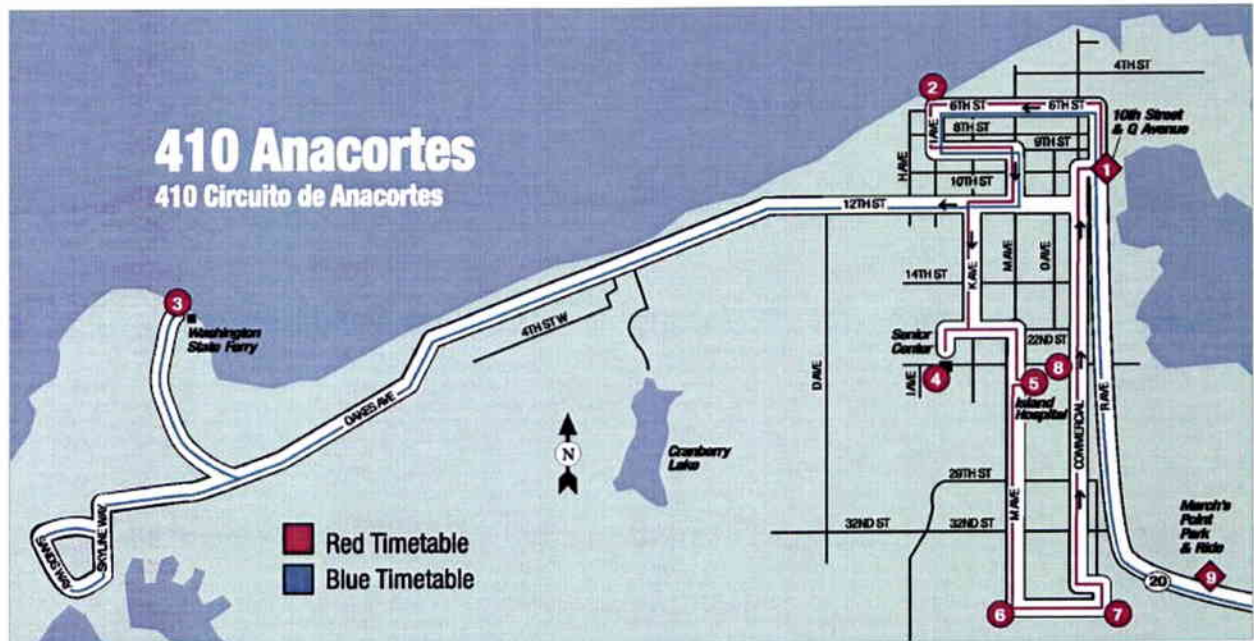
strategies for transforming vehicle trips into passenger trips. Car-pooling reduces the number of single-occupant vehicles demanding ferry service. Due to the relatively small size of Guemes Island, this strategy is very well-suited to reducing vehicle trips on the Guemes Island ferry.

Increased Public Transit Service and Bus Shelters at the Anacortes Ferry Terminal

Skagit Transit (SKAT) currently provides public transportation service to the Anacortes ferry terminal at the corner of 6th Street and "I" Avenue. As noted above, this is the site of the City of Anacortes Guemes Channel Waterfront Park. SKAT Bus 410 stops to pick up passengers between 7:25am and 6:00pm on weekdays and between 9:04am and 2:44pm on weekends. As of August 2005, bus stop facilities did not exist. A green SKAT bus stop sign is posted, but there is no bench or shelter for waiting passengers.

The public bus transit service provided by SKAT correlates well with the Monday - Thursday operating hours of the Guemes Island Ferry, but does not correlate well with the actual ferry schedule or with the extended operating hours of the Guemes Island Ferry on Fridays and weekends. Public transit service provides an important alternative to the private automobile for ferry users and increasing the availability of this service could help to reduce vehicle demand on the M/V Guemes. The construction of covered bus shelter facilities could make public transit a more attractive alternative to passengers as well. SKAT suffered extreme budget cuts after voter approval of Initiative 695 in November 1999 and does not have the financial resources necessary to fund increased service or bus shelter construction. Funding for increased service and the purchase and construction of bus shelter facilities may be available through state rural mobility grant funding. Skagit County may be able to work in partnership with SKAT to secure these improvements.

SKAT Bus Route 410



Pricing Policy

Pricing policy is a TDM strategy that Skagit County can and has used to provide an incentive for ferry users to ride the ferry as walk-on passengers rather than vehicle drivers. The Skagit County Comprehensive Plan Transportation Element Policy 9A-8.3 states *"In making all decisions related to the Guemes Island Ferry, the County shall balance the needs of the Island residents, the non-resident property owners, and the County citizenry as a whole."* In addition, policy 9A-8.5 specifically states *"The County shall continue to provide safe and adequate ferry service between Anacortes and Guemes Island, and a fare structure designed to recover as much operating cost as practical from the users."* The intent of these policies is to provide adequate ferry service to Guemes Island in a financially sustainable manner, if possible.

In 2005, the cash rate to travel on the Guemes Island Ferry was \$1.25 for a walk-on passenger and \$5.25 for a vehicle driver. This pricing policy resulted in a 76% cost savings for those who chose to pay cash and ride the ferry as a walk-on passenger. In addition, frequent user passes for walk-on passengers were priced 60% below the price of a frequent user pass for vehicle drivers.

In 2006, the cash rate to travel on the Guemes Island Ferry is \$2.00 for a walk-on passenger and \$7.00 for a vehicle driver. This pricing policy resulted in a 71% cost savings for those who choose to pay cash and ride the ferry as a walk-on passenger. In addition, frequent user passes for walk-on passengers will be priced 71% below the price of a frequent user pass for vehicle drivers. This pricing policy continues the historic pricing policy of the Guemes Island Ferry System and encourages walk-on use of the M/V Guemes.

As noted in Chapter 4, if past and current growth trends continue, vehicle demand for the M/V Guemes is projected to outpace walk-on passenger ridership over the next 15 years. Pricing policy is a tool that Skagit County can continue to use to provide both incentives and disincentives to reduce the vehicle demand on the M/V Guemes. Pricing policy is most effective when used in conjunction with other TDM strategies, such as providing public transit service.

CHAPTER 6: CAPITAL FACILITIES, MAINTENANCE, & FINANCING, 2007-2021.

This chapter examines the general capital facility, maintenance, and financing needs of the Ferry system for the planning period 2007-2021 and is organized as follows: 6.1 M/V Guemes Ferry; 6.2 Parking Facilities; 6.3 Ferry System Structures; 6.4 Ferry System Revenues; 6.5 Capital Facility Funding; 6.6 Ferry System Maintenance and Operation Costs, 2007-2021; and 6.7 Anticipated Ferry System Revenues, 2007-2021.

Table 6.1(a) and Table 6.1(b) depict, in tabular format, the 14 year facility maintenance plan for the Guemes Island Ferry System. This table forms the basis for the discussion that follows regarding the M/V Guemes Ferry, the parking facilities, and ferry system structures. For several years previous to 2006, Skagit County Public Works has aggressively pursued an agenda of maintenance projects from this list. In recent years dolphins have been replaced at both docks, a portion of the breakwater at the Anacortes dock has been replaced, and both transfer spans have undergone some much need maintenance. The reader should note the line item titled “Ferry Boat Depreciation Account”. This line item, begun in 2006, is Public Works’ attempt to set aside adequate funds to purchase a new ferry in 35 or 40 years. (This assumes that the M/V Guemes will be overhauled within the next 5 to 7 years and that it is too late to set enough money to fund the work to overhaul the current vessel).

Table 6.1(a)
Guemes Island Ferry 14 Year Facility Maintenance Plan

Maintenance Item	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Vessel Maintenance and Repair	\$220,000	\$175,000	\$180,000	\$185,700	\$191,000	\$197,000	\$203,000	\$209,000	\$215,000	\$222,000	\$228,300	\$235,000	\$242,000	\$250,000
Major Dolphin repair / Anacortes						\$400,000								
Major Dolphin repair / Guemes		\$250,000												
Wingwall repair / Anacortes		\$200,000												
Wingwall repair / Guemes	\$10,000	\$200,000												
Apron Repair					\$150,000				\$35,000		\$35,000			
Breakwater repair		\$50,000												
Transfer span / Bearings repair / Anacortes														
Transfer span / Bearings repair / Guemes	\$90,000													
Paint Structural Steel						\$200,000						\$200,000		
Dock / Superstructure Testing														
Dock / Superstructure repairs / Anacortes				\$1,000,000										
Dock / Superstructure repairs / Guemes			\$1,000,000											
Paint Terminal Building et al.								\$50,000						
Misc. Repairs	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
Headframe and towers (Anacortes)							\$250,000							
Headframe and towers (Guemes)									\$250,000					
Dock / Substructure Testing										\$10,000				
Dock / Substructure repairs / Anacortes											\$500,000			
Dock / Substructure repairs / Guemes														
Anacortes Terminal Improvements														
Guemes Dock Improvements														
Guemes Island Holding Lanes		\$70,000	\$300,000											
Guemes Parking Lot Improvements														
Engines														
New Building (Anacortes Terminal)		\$350,000												
Anacortes Parking Lot														
Dock / Facility Modifications for new/modified Ferry									\$3,000,000					
Ferry Boat Depreciation Account	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000
Ferry Boat Replacement									\$10,000,000					
Estimated Total Annual Costs	\$645,000	\$1,620,000	\$1,805,000	\$1,510,700	\$666,000	\$1,122,000	\$778,000	\$584,000	\$13,825,000	\$557,000	\$1,088,300	\$760,000	\$567,000	\$575,000

6.1: M/V Guemes

As mentioned in Chapter 4, the M/V Guemes has adequate capacity to accommodate both current and future traffic on the system for the 2007-2021 planning period. If the County is successful at encouraging vehicle drivers to ride the ferry as walk-on passengers, there will be less pressure on the ferry system in general. If necessary, the M/V Guemes can also be lengthened by adding a “mid-body” section, increasing the onboard vehicle capacity from 22 to 28. The price for this “mid-body” addition is currently estimated to be \$1,750,000. This capital facility expense should be eligible for funding through the State Ferry Deficit Reimbursement Fund. Furthermore, within the next 5 to 7 years the M/V Guemes will need to be completely overhauled and modernized. The main impetus for these measures is the age of the vessel and its general overall condition.

6.2: Parking Facilities

As mentioned in Chapter 5, encouraging ferry riders to board the M/V Guemes as walk-on passengers rather than as vehicle drivers may significantly extend the daily carrying capacity of the ferry. To help accomplish this goal the County has in recent years purchased additional property on Guemes Island specifically for parking and has also finished construction of the parking lot on 6th Street in Anacortes. Both of these actions offer ferry riders the option of parking their vehicles and walking onto the ferry. In addition, this option needs to be convenient and affordable. On the convenience side of this equation, the County should provide convenient and affordable parking facilities for this purpose on both sides of Guemes Channel. Skagit County may also want to explore contracting with a public or private transit service to provide a convenient shuttle service on Guemes Island. On the affordability side of this equation, the County may want to explore the use of a pricing policy that provides a significant incentive to ride as a walk-on passenger on the M/V Guemes, and in fact, this is already done to a certain extent. History has shown that the vehicle demand for the M/V Guemes has grown significantly faster than walk-on passenger demand under the past and present fare structure.

Anacortes

Parking and auto staging facilities near the Anacortes terminal are currently being addressed. As mentioned in Chapter 2 and 4, Skagit County Public Works recently completed a 70-stall parking facility at the corner of 6th Street and “K” Avenue in Anacortes (see Figure 2.11). This new parking facility is expected to help to create a relative balance of parking facilities on both sides of the Guemes Channel, which is needed to provide ferry users with the option of parking their cars and riding as walk-on passengers. Again, even with this parking option available, the County may want to explore additional methods for encouraging ferry users to ride as walk-on passengers.

Guemes Island

Parking and auto staging facilities near the Guemes Island terminal are adequate at this time. In the short-term, plans include paving the existing parking lot as well as developing the two

recently purchased sites adjacent to, and north of, the existing location. The expanded lot will be complete with lighting, striping, storm drainage facilities, and a new bus shelter-type waiting area. As the residential population of Guemes Island grows it may become necessary to explore the need for additional parking facilities, but not within the planning horizon of this document.

6.3: Ferry System Structures

Overall, the basic structures of the Guemes Island Ferry system are in good condition. The basic ferry landing structures on each side of Guemes Channel, such as docks, wing walls, and transfer spans will need periodic maintenance and potentially rebuilding over the 2007-2021 planning period. These are not, because of state statutory requirements, considered capital expenditures and are therefore paid for through the regular ferry maintenance budget for Skagit County. Nevertheless, these are expensive maintenance projects whose costs need to be considered when fares and total system costs are discussed.

Anacortes

The Anacortes terminal building is functioning well and is generally in good shape. This building adequately accommodates waiting ferry passengers as well as ferry staff. Since ferry ridership is expected to increase significantly over the course of the 2007-2021 planning period the County may need to explore expanding the size of this building or, at the very least, consider reconfiguring the existing building to better accommodate the needs of the crew as well as the needs of the ridership. Any changes made should be made in conjunction with the predominant pedestrian movement patterns outside the building. In this way, safety and ticketing efficiency can be simultaneously improved. This may be of particular concern if the County is successful at encouraging vehicle drivers to park and ride the ferry as walk-on passengers. This capital facility expense should be eligible for funding through the State Ferry Deficit Reimbursement Fund.

Guemes Island

In the 2001 Guemes Island Ferry Capital Facilities Plan it was suggested that the passenger waiting shelter on Guemes Island (see Figure 2.5) should be replaced. Quoting from the document: "It is unheated, open to the elements on one side, and simply inadequate as a passenger waiting facility in inclement weather. This facility should be improved to provide more comfortable conditions for waiting ferry passengers. Basic short-term improvement needs include enclosing the structure, providing a heating system, and providing seating. Over the course of the 2007-2021 planning period, both the residential population on Guemes Island and ridership on the M/V Guemes are expected to increase significantly. If the County is successful at encouraging vehicle drivers to park and ride the ferry as walk-on passengers a completely new and larger passenger waiting facility will be needed. A new passenger waiting facility could also include convenient access for a public or private transit shuttle service on Guemes Island to provide a convenient alternative to the private automobile. This capital facility expense should be eligible for funding through the State Ferry Deficit Reimbursement Fund."

Using the previous CFP as a guide, and working in conjunction with Guemes Island residents, Public Works in 2005 purchased a new bus-type shelter for use as a new waiting area. This shelter, which will be cited within the existing parking lot on the Guemes side of the channel, is scheduled for installation during 2008. This capital facility expense should be eligible for funding through the State Ferry Deficit Reimbursement Fund.

6.4: Ferry System Revenues

Skagit County has three basic sources of revenue to pay for the operations and maintenance of the Guemes Island Ferry system, including: 1) Guemes Island Ferry Tolls; 2) State Fuel Taxes; and 3) the State Ferry Deficit Reimbursement Fund. (It should be noted that there is a 4th source of revenue that is used to make up any system-wide revenue deficits, and that is the Road Fund. The Road Fund is accessed whenever revenues - Tolls plus State Fuel Taxes plus Deficit Reimbursement - are less than the system-wide expenditures. The need to subsidize the Guemes Island Ferry System has existed for 4 out of the last 5 years and is anticipated to continue during this document's planning horizon.) Chart 6.1 and Table 6.2 illustrate the cost, revenue, and deficit reimbursement trends for fiscal years 1985-1986 through 2019-2020.

Guemes Island Ferry Tolls

Annual ferry toll revenue has generally increased with the increase in total ferry ridership from 1985 through 2006. Ferry tolls in fiscal year 2006-2007 totaled \$793,278 compared to \$176,138 in fiscal year 1985-1986. This represents an increase of 450% from 1985-2006, or an average annual increase of approximately 9.24%. On the surface it would appear that such a trend would offset any corresponding increase in expenses. This has not proven true since expenses have generally increased even faster than revenues.

State Fuel Taxes

The portion of State fuel taxes that is deemed attributable to the Guemes Ferry system has increased relative to ridership, but the overall trend has remained fairly flat from fiscal year 1985-1986 through 2006-2007. However, when indexed for inflation there has been a net decrease in fuel tax revenue.

Net Financial Loss

The combined total revenue from ferry tolls, state fuel taxes, and the Deficit Reimbursement has never been enough to cover Skagit County's total operation and maintenance costs to provide ferry service to Guemes Island. Skagit County has sustained a financial loss for operation of the Guemes Island Ferry system during most every year since the early 1980's.

State Ferry Deficit Reimbursement Fund

Due to the extreme financial losses incurred by the three counties that own and operate vehicle ferries on Puget Sound, the State created the Ferry Deficit Reimbursement Fund. This program allows counties to be reimbursed for up to 50% of their operating loss each year, although there is no guarantee that Skagit County will receive a full 50% reimbursement each

year. Since fiscal year 1980-1981, Skagit County has received a full 50% reimbursement in only 8 years.

Capital Improvements vs. Maintenance

The distinction between capital improvements and maintenance is an important one for the Guemes Island Ferry System since it determines funding eligibility for expenses. These terms are defined below to provide clear understanding of funding needs, eligibility, and issues.

Capital Improvements: The County Road Administration Board administers a county ferry capital improvement funding program as per Washington Administrative Code (WAC) Chapter 136-400. Ferry capital improvement projects include the following:

- Purchase of new vessels;
- Major vessel refurbishments (e.g., engines, structural steel, controls) that substantially extend the life of the vessel;
- Facility refurbishment/replacement (e.g., complete replacement, major rebuilding or redecking of a dock) that substantially extends the life of the facility;
- Installation of items that substantially improve ferry facilities or operations;
- Construction of infrastructure that provides new or additional access or increases the capacity of terminal facilities; and/or
- Emergency repairs to correct damage to vessels or facilities caused by accidents or natural phenomena.

Maintenance: The Local Programs Division of WSDOT administers an agreement with Skagit County for reimbursement of ferry operations and maintenance deficit. Ferry system maintenance activities include the following:

- Routine anticipated replacement of piling, wingwall facing, repairing docks, etc., which does not extend the useful life beyond that anticipated;
- Routine dry docking required by the U.S. Coast Guard and associated repairs to maintain the vessel's certificate;
- Routine engine repair or rebuilding;
- Work directed toward preservation of existing roadway or facility and related appurtenances as necessary for safe and efficient operation;
- Any surface treatment of less than 0.06 foot-thick, crack sealing, etc.; and
- Other work not defined as capital and agreed to in writing by WSDOT and CRAB.

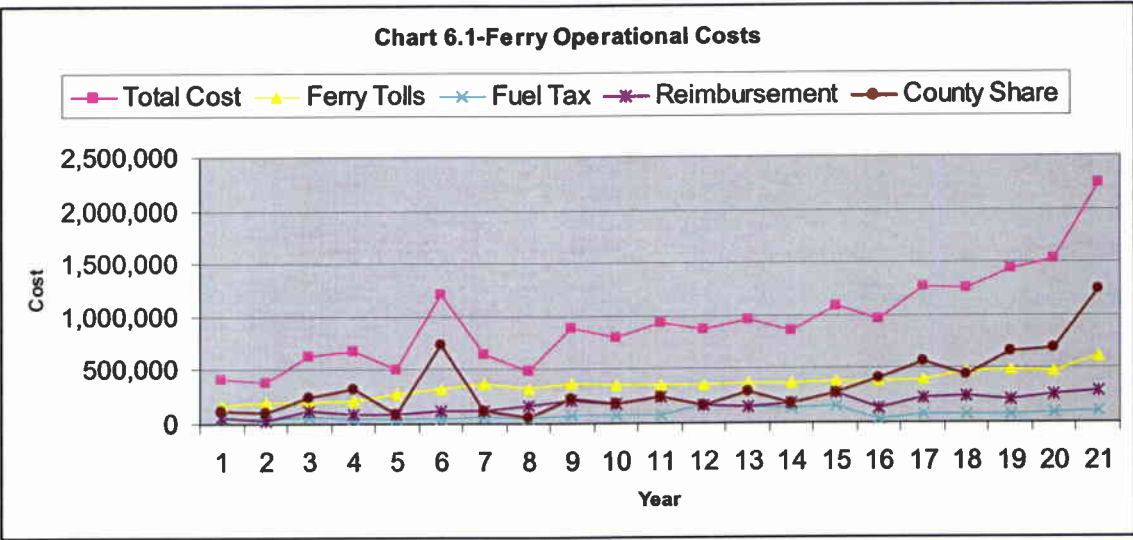


TABLE 6.2
Guemes Island Ferry Costs, Revenues, and Deficit Reimbursements, 1985 - 2006.

FISCAL YEAR	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95
Total Costs	414,975	383,688	629,713	669,848	510,748	1,215,241	651,548	497,565	893,097	791,457
Ferry Tolls	176,138	197,984	206,441	213,445	270,153	319,061	363,097	325,628	360,600	357,604
Fuel Tax	49,483	51,504	53,753	49,198	52,433	48,832	53,860	52,235	83,627	77,075
Net Deficit	-189,354	-134,200	-369,519	-407,205	-188,162	-847,348	-234,591	-119,702	-448,870	-356,778
Reimbursement	65,465	28,959	120,515	89,416	94,081	118,571	117,194	175,799	222,009	178,093
County Share	123,889	105,241	249,004	317,789	94,081	728,777	117,397	56,097	226,861	178,685
FISCAL YEAR	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
Total Costs	939,355	867,325	965,555	865,083	1,084,847	973,177	1,274,820	1,250,158	1,440,552	1,532,515
Ferry Tolls	358,510	358,175	367,677	362,391	378,331	390,971	395,790	475,454	485,456	481,236
Fuel Tax	82,756	168,721	158,129	143,160	151,790	24,007	82,874	81,273	83,314	89,962
Net Deficit	-498,089	-340,429	-439,749	-359,532	-554,726	-558,199	-796,156	-693,431	-871,782	-961,318
Reimbursement	246,619	170,215	148,602	179,766	277,363	142,827	222,941	249,004	218,047	264,291
County Share	251,470	170,214	291,147	179,766	277,363	415,372	573,215	444,427	653,735	697,027

FISCAL YEAR	2005-06	2006-07
Total Costs	2,234,743	1,639,558
Ferry Tolls	606,304	793,278
Fuel Tax	100,584	107,616
Net Loss	-1,527,855	738,664
Reimbursement	289,739	Not Available
County Share	1,238,116	---

When taken together, Chart 6.1 and Table 6.2 illustrate that Skagit County's total costs and net losses for operating the Guemes Island Ferry system have every year since the early 1980's while ferry tolls, fuel taxes, and reimbursement funds from the State have remained, on the whole, relatively flat (and have, if in fact lost buying power, if one considers the effects of inflation).

6.5: Capital Facility Funding

The Washington State Department of Transportation (WSDOT) administers the Ferry Boat Discretionary program to fund major capital facility investments for ferry systems. A wide variety of capital facility projects are eligible under this program, but must compete for funding. To be considered eligible under WSDOT's program, Counties must show that other funds have been applied for. Capital facility projects that involve partnerships and local matching funds will be considered more favorably than projects without these elements.

In addition to WSDOT capital facility funding for ferries, Skagit County may use all Motor Vehicle Fuel Taxes that it receives for transportation projects. A variety of transportation grant funding sources also exists for capital facility projects including, but not limited to:

- Public Transportation System Program (PTSP)
- Bridge Replacement (BR)
- Arterial Improvement Program (AIP)
- Transportation Partnership Program (TPP)
- Public Works Trust Fund (PWTF)
- Rural Arterial Program (RAP)
- Rural Mobility Program (RMP)
- Small City Program (SCP)
- Federal Aid to Secondary (FAS)
- SAFETEA-LU

6.6: Ferry Maintenance and Operation Costs

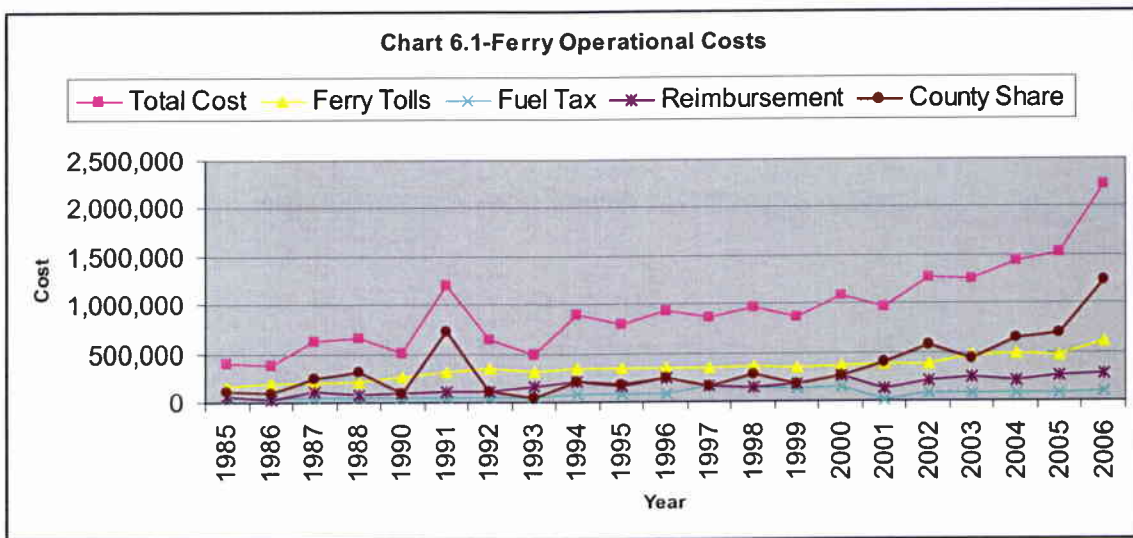
In addition to the major capital facility expenses addressed above, there are a number of significant maintenance and operation costs for the Guemes Island Ferry system. These include, but are not limited to, vessel maintenance, structural painting, dolphin and wingwall repair, and dry dock inspection and are listed, along with their estimated cost, in Tables 6.1(a) and 6.1(b) above. For the purposes of this study, all general maintenance and operation costs are estimated, and are subject to change.

Vessel maintenance and repair costs are variable and difficult to predict over the 14-year planning period. Often, maintenance and repair of the M/V Guemes must be completed immediately upon detection at the time of inspection. The major cost for vessel maintenance and repair should be expected every other year as part of the major dry dock inspection. A cost estimate of \$200,000 to \$250,000 should be expected once every two years between 2007 - 2021. This inspection and maintenance procedure was last performed on the M/V Guemes in May 2007.

Some of the general maintenance and repair expenses are somewhat more predictable than the vessel needs, but will require immediate attention as needs arise. Major dolphin repair is normally required about every ten years at an estimated cost of \$80,000 and was last performed in 2005. Wingwall repair is normally required about every seven years at an

estimated cost of \$15,000 and was last performed in 2004. The structural steel on the transfer span and machinery needs to be repainted on about a ten-year cycle at a cost of about \$200,000 and last received attention in 2000. The Anacortes ferry terminal building requires repainting about every five years at an estimated cost of \$2,000 and last received attention in 2001. Miscellaneous maintenance and repair costs are estimated to cost approximately \$25,000 each year.

The cost estimates and projected schedule of maintenance and repair for the Guemes Island Ferry system facilities will be affected by regulatory procedures and possible unanticipated costs, such as mitigation measures, due to environmental concerns. Regardless, Skagit County should have revenues available to address both expected and unexpected facility maintenance and repair needs for the 2007-2021 planning period.



6.7: Anticipated Ferry System Revenues, 2007-2021.

Projecting future revenues is difficult due to the uncertain and variable nature of funding sources. A simple Linear Regression Analysis is presented on the following page. This method examines historical trends and extrapolates those trends into future years.

Table 6.3(a)
County Road Fund Revenue Projections, 2007-2021

Revenue Source 2006 to 2020	2007	2008	2009	2010	2011	2012	2013
PROPERTY TAX	9,393,497	9,675,301	9,965,560	10,264,527	10,572,463	10,889,637	11,216,326
FHWA: ROADS & BRIDGES	4,157,845	4,282,580	4,411,057	4,543,389	4,679,691	4,820,081	4,964,684
FUEL TAX: COUNTY ROADS	3,005,187	3,095,343	3,188,203	3,283,849	3,382,365	3,483,836	3,588,351
FUEL TAX: RAP & CAPP	439,624	452,812	466,397	480,389	494,800	509,644	524,934
FERRY TOLLS ^A	773,838	797,053	820,964	845,594	870,961	897,090	924,003
FERRY REIMBURSEMENT ^B	224,931	220,117	220,531	220,230	222,082	221,578	220,907
FED. FOREST YIELD	1,463,161	1,507,056	1,552,268	1,598,836	1,646,801	1,696,205	1,747,091
FOREST BOARD YIELD	1,125,509	1,159,274	1,194,052	1,229,874	1,266,770	1,304,773	1,343,916
PRIVATE TIMBER TAX	337,653	347,782	358,216	368,962	380,031	391,432	403,175
CHARGES & SALES	2,641,229	2,720,466	2,802,080	2,886,143	2,972,727	3,061,909	3,153,766
MISCELLANEOUS	2,400,281	2,472,290	2,546,459	2,622,852	2,701,538	2,782,584	2,866,062
TOTAL REVENUES	25,962,755	26,730,074	27,525,787	28,344,645	29,190,229	30,058,769	30,953,215

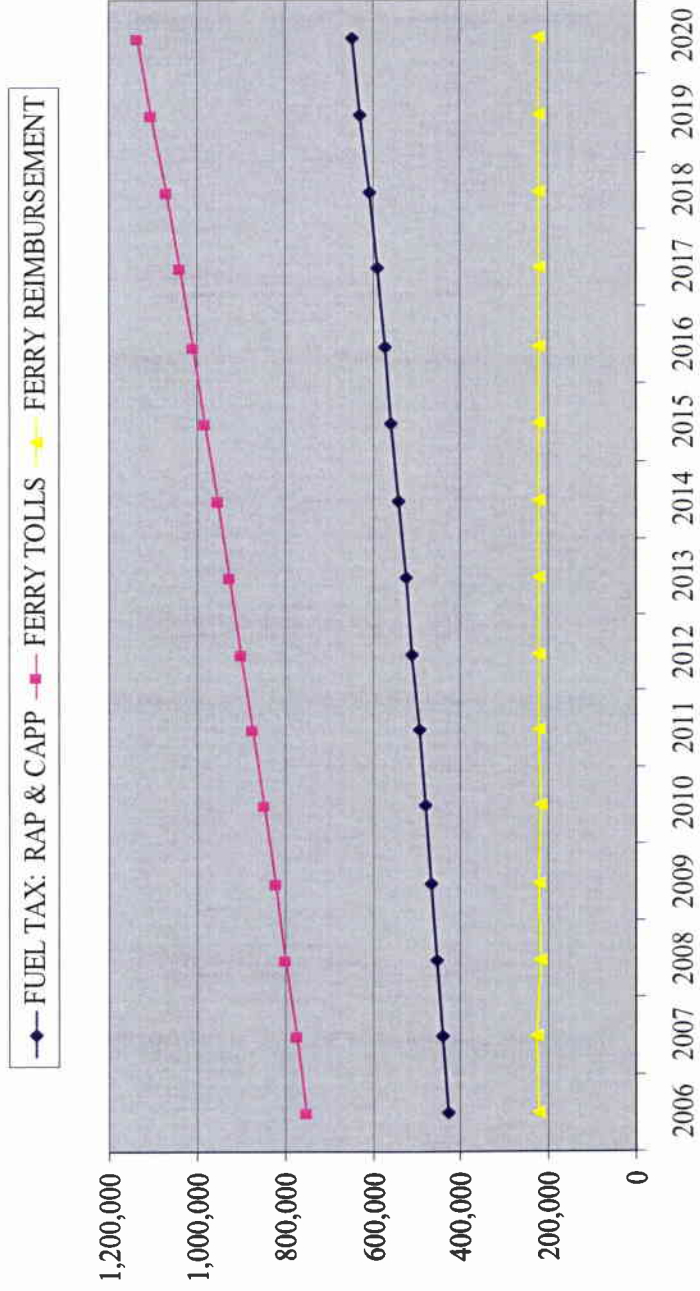
Table 6.3(b)
County Road Fund Revenue Projections, 2007-2021

Revenue Source 2006 to 2020	2014	2015	2016	2017	2018	2019	2020
PROPERTY TAX	11,552,816	11,899,400	12,256,382	12,624,074	13,002,796	13,392,880	13,794,667
FHWA: ROADS & BRIDGES	5,113,624	5,267,033	5,425,044	5,587,795	5,755,428	5,928,091	6,105,934
FUEL TAX: COUNTY ROADS	3,696,001	3,806,881	3,921,088	4,038,720	4,159,881	4,284,678	4,413,218
FUEL TAX: RAP & CAPP	540,682	556,902	573,609	590,818	608,543	626,799	645,602
FERRY TOLLS ^A	951,723	980,274	1,009,683	1,039,974	1,071,173	1,103,308	1,1136,407
FERRY REIMBURSEMENT ^B	221,065	221,172	221,361	221,217	221,145	221,192	221,217
FED. FOREST YIELD	1,799,504	1,853,489	1,909,094	1,966,367	2,025,358	2,086,119	2,148,702
FOREST BOARD YIELD	1,384,234	1,425,761	1,468,534	1,512,590	1,557,968	1,604,707	1,652,848
PRIVATE TIMBER TAX	415,270	427,728	440,560	453,777	467,390	481,412	495,854
CHARGES & SALES	3,248,379	3,345,830	3,446,205	3,549,591	3,656,079	3,765,761	3,878,734
MISCELLANEOUS	2,952,043	3,040,605	3,131,823	3,225,778	3,322,551	3,422,228	3,524,895
TOTAL REVENUES	31,875,341	32,825,075	33,803,383	34,810,701	35,848,312	36,917,175	48,018,078

^AFrom August 2005 Commissioner approved fare increase.

^BValues based upon those presented to BOCC during August 2005 rate increase discussions.

Chart 6.2 - County Road Fund Revenue Projections



Perhaps the single biggest historic revenue deficiency pertaining to the ferry system has been the ferry tolls. State statute (RCW 47.04.140 (2)) requires that “the aggregate revenues derived from the county’s ferry operation will not exceed the amount required to pay the actual and necessary costs of operation, maintenance, administration, and repair of the county’s ferries and their appurtenances.” Never in the history of the Guemes Island Ferry System have fares been approved that have taken full advantage of this State law. The net result has been ever increasing subsidies from the Road Fund to offset the revenue shortfall within the ferry system operation. A good first step toward rectifying this situation occurred in August of 2005 when the Skagit County Board of County Commissioners approved a complete overhaul of the ferry rates that generated revenues of \$798,273 during fiscal year 2006.

Subsequent to the Board’s approval of new fares, Skagit County Public Works provided information to help WSDOT understand the serious funding shortfall related to the Guemes Island Ferry. Some of that information is presented below to help the reader better understand the importance of this issue. Quoting from the letter,

Since there was so much public discourse regarding the rates, perhaps it would be good to provide WSDOT with some historical information to put the new fares into their proper perspective. In 2002, Public Works hired a consultant to perform a system-wide analysis of the Guemes Ferry operation. One result of that effort was a clean-up of the fares that were subsequently approved by WSDOT in early 2004. In the months that followed, it became clear that the Road Fund subsidy of the ferry operation had been steadily increasing, and was anticipated to continue its upward trend beyond the ferry system’s 14-year planning horizon. The subsidy estimate (all expenses minus all revenue) for the next few years was anticipated to be as follows.

Year	O&M (as defined by Deficit Reimbursement)	Other System Related Expenses	Total System Revenue	Road Fund Subsidy
2005	\$1,332,207	\$831,500	\$847,266	\$1,315,441
2006	\$1,373,709	\$602,500	\$897,728	\$1,078,481
2007	\$1,416,211	\$639,000	\$905,953	\$1,148,258

Obviously, with over \$1,000,000 in projected subsidy for the foreseeable future, a decision to raise fares was deemed by Public Works to be appropriate.

It is true that the increase in price for frequent users, on a percentage basis, is big. However, a more careful examination reveals that the increased revenue produced from the fare increase is largely attributable to a reduction in the discount afforded to frequent users. The information provided below illustrates this point.

Frequent User Category	Previous Cost	*Previous Discount	Existing Cost	Existing Discount
10 C&D Ticket Book	\$36.50	36.5%	\$ 67.00	5%
20 C&D Ticket Book	\$57.50	50.0%	\$126.00	10%
10 Trip Motorcycle Book	\$19.00	36.6%	\$ 38.00	5%
20 Trip Motorcycle Book	\$30.00	50.0%	\$ 72.00	10%

25 Trip Adult Commuter	\$18.75	50.0%	\$ 45.00	10%
25 Trip Youth Commuter	\$ 6.25	66.7%	\$ 22.50	10%

*Note: Discount computed vs. base fares. Discount increases once peak fares are enforced.

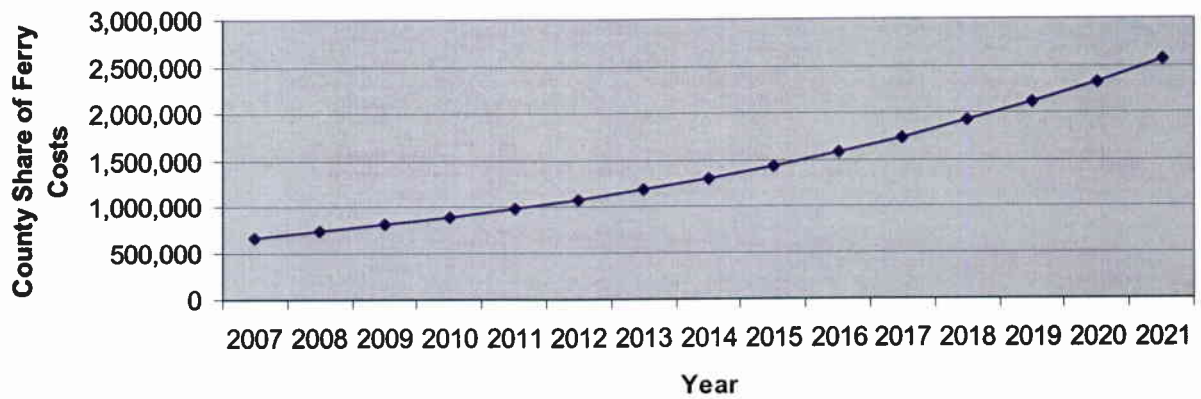
When compared to the fares from 1990 (the last time rates were significantly changed), the increases are not unreasonable.

1990	Winter	Summer
Cash Fare C&D	\$5.20	\$6.20
Cash Fare Passenger	\$1.20	\$1.20
 Existing(2006)	 Winter	 Summer
Cash Fare C&D	\$7.00	\$7.00
Cash Fare Passenger	\$2.00	\$2.00

One last item that needs to be discussed is total fare revenue. Fares during FY 2004, collected approximately \$460,000. FY 2005 showed a fare collection of \$476,491.45 (and this resulted in a road fund subsidy estimate of \$1,315,441 as shown above). Under the new fare structure, fare revenue for FY 2006 was projected at \$788,509.10; actual revenue is \$793,278 as noted above. This figure is only 48% of the eligible O&M costs associated with the Ferry Deficit Reimbursement and can therefore be applied to actual and necessary costs of operation, maintenance, and repair, debt service, and negotiated management fees.

What the above shows is that fares could be even higher. And, in fact, the issue of raising fares will again be a much discussed topic during the planning horizon of this document. With the increasing cost of doing business, the ferry operation is becoming more and more expensive to run and still maintain the historic level of customer service. Without additional outside funding, a greater and greater percentage of the revenue burden will necessarily fall upon the shoulders of the ridership. This is perhaps the single biggest issue the ferry system will have to face over the course of the next 14 years. This is shown in the regression analysis below.

Chart 6.2 Regression Analysis Ferry Cost Projection



APPENDIX A: STATUTORY REQUIREMENTS

This appendix lists Washington State statutory requirements specific to County-owned ferry systems as well as statutory requirements for publicly owned transportation facilities.

WASHINGTON ADMINISTRATIVE CODE (WAC)

WAC 136-400 Administration of the county ferry capital improvement program.

WAC 136-400-010 Purpose and authority. RCW 47.56.725(4) provides that the county road administration board may evaluate requests for ferry capital improvement funds by Pierce, Skagit, Wahkiakum, and Whatcom counties, and, if approved by the board, submit said requests to the legislature for funding.

WAC 136-400-030 Definition of ferry capital improvement projects. Ferry capital improvement projects shall include the following:

- (1) Purchase of new vessels;
- (2) Major vessel refurbishment (e.g., engines, structural steel, controls) that substantially extends the life of the vessel;
- (3) Facility refurbishment/replacement (e.g., complete replacement, major rebuilding or redecking of a dock) that substantially extends the life of the facility;
- (4) Installation of items that substantially improve ferry facilities or operations;
- (5) Construction of infrastructure that provides new or additional access or increases the capacity of terminal facilities; and/or
- (6) Emergency repairs to correct damage to vessels or facilities caused by accidents or natural phenomena.

WAC 136-400-040 Six-year and fourteen-year plan submittal. Each county's six-year program and fourteen-year long range capital improvement plan shall be prepared and adopted in accordance with RCW 36.81.121 and 36.54.015, respectively, and one copy shall be forwarded the county road administration board no later than December 31 of each year. The county's six-year program and fourteen-year capital improvement program submitted in each odd-numbered year shall include all projects for which the county may request ferry capital improvement funds during the biennium beginning on July 1st of that year. Project cost estimates shall be considered preliminary until a project application is submitted.

WAC 136-400-090 Limitation on the use of ferry capital improvement funds.

Ferry capital improvement funds may be used for project design, construction, and right of way costs incurred after legislative approval. Emergency project costs may be eligible for retroactive payment upon approval by the county road administration board.

REVISED CODE OF WASHINGTON (RCW)

RCW 36.54 Ferries – County Owned

36.54.015 Ferries – Fourteen year long range improvement plan – Contents.

The legislative authority of every county operating ferries shall prepare, with the advice and assistance of the county engineer, a fourteen year long range capital improvement plan embracing all major elements of the ferry system. Such plan shall include a listing of each major element of the system showing its estimated current value, its estimated replacement cost, and its amortization period.

RCW 36.81 Roads and Bridges

RCW 36.81.121 Perpetual advanced six-year plans for coordinated transportation program.

(1) At any time before adoption of the budget, the legislative authority of each county, after one or more public hearings thereon, shall prepare and adopt a comprehensive transportation program for the ensuing six calendar years. If the county has adopted a comprehensive plan pursuant to chapter 36.70A RCW, the program shall be consistent with this comprehensive plan.

The program shall include proposed road and bridge construction work and other transportation facilities and programs deemed appropriate, and for those counties operating ferries shall also include a separate section showing proposed capital expenditures for ferries, docks, and related facilities. Copies of the program shall be filed with the county road administration board and with the state secretary of transportation not more than thirty days after its adoption by the legislative authority. The purpose of this section is to assure that each county shall perpetually have available advanced plans looking to the future for not less than six years as a guide in carrying out a coordinated transportation program. The program may at any time be revised by a majority of the legislative authority but only after a public hearing thereon.

GROWTH MANAGEMENT ACT RCW's

The Growth Management Act contains additional RCW statutory requirements for Skagit County to engage in transportation and capital facilities planning.

RCW 36.70A Growth Management: In 1990, Washington enacted the Growth Management Act (GMA), which required counties and cities to update or develop comprehensive land use plans. The goal of this legislation is to reduce urban sprawl and uncontrolled growth and for development to pay for itself through the implementation of concurrency measures.

RCW 36.70A Growth management act.

RCW 36.70A.020 Planning Goals

- (3) Transportation.** Encourage efficient multimodal transportation systems that are based on regional priorities and coordinated with county and city comprehensive plans.
- (12) Public facilities and services.** Ensure that those public facilities and services necessary to support development shall be adequate to serve the development at the time the development is available for occupancy and use without decreasing current service levels below locally established minimum standards.

RCW 36.70A.030 Definitions.

- (12) "Public facilities"** include streets, roads, highways, sidewalks, street and road lighting systems, traffic signals, domestic water systems, storm and sanitary sewer systems, parks and recreational facilities, and schools.
- (13) "Public services"** include fire protection and suppression, law enforcement, public health, education, recreation, environmental protection, and other governmental services.

RCW 36.70A.070 Comprehensive plans – Mandatory elements.

- (3) A capital facilities plan element** consisting of:
 - (b) Inventory of existing capital facilities owned by public entities;
 - (c) Forecast of future needs for such capital facilities;
 - (d) Proposed locations and capacities of expanded/new capital facilities;
 - (e) Six-year plan to finance capital facilities; identified funding sources;
 - (f) Reassess land use element if funding falls short.

Skagit County's 1997 Comprehensive Plan contains a Capital Facilities Element, which contains an inventory and in-depth analysis of Skagit County capital facilities, County capital facility policies, and a long-range capital facility financing plan.

- (6) A transportation element** that implements, and is consistent with, land use.
 - (a) Transportation element shall include:
 - (iii) Facilities and services needs, including:
 - (A) Inventory of air, water, and ground transportation facilities;
 - (B) Level of service (LOS) standards;
 - (C) LOS for highways;
 - (D) Actions to maintain facilities at adopted LOS;
 - (E) Ten year traffic forecasts to identify growth/capacity needs;
 - (F) Identification of system needs to meet current/future demand.

Skagit County's 2000 Comprehensive Plan contains a Transportation Element, which contains county transportation policies, and a Transportation Systems Plan (TSP), which is an inventory and in-depth analysis of Skagit County transportation facilities.