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ROUTES,  
SCHEDULES  
& RIDERSHIP



# Routes, Schedules & Ridership

## Routes

WSF operates 10 routes including international service between the United States and Canada via the Anacortes/San Juan Islands/Sidney (Vancouver Island, B.C.) route. Most routes provide service between two terminals, except for the Fauntleroy/Vashon Island/Southworth and Anacortes/San Juan Islands/Sidney B.C. routes, which serve three and six destinations, respectively. Route lengths and crossing times vary throughout the system, from 1.7 miles and approximately 15 minutes on the Point Defiance/Tahlequah route to 40 miles and almost three hours 15 minutes for the Anacortes/San Juan Islands/Sidney route.

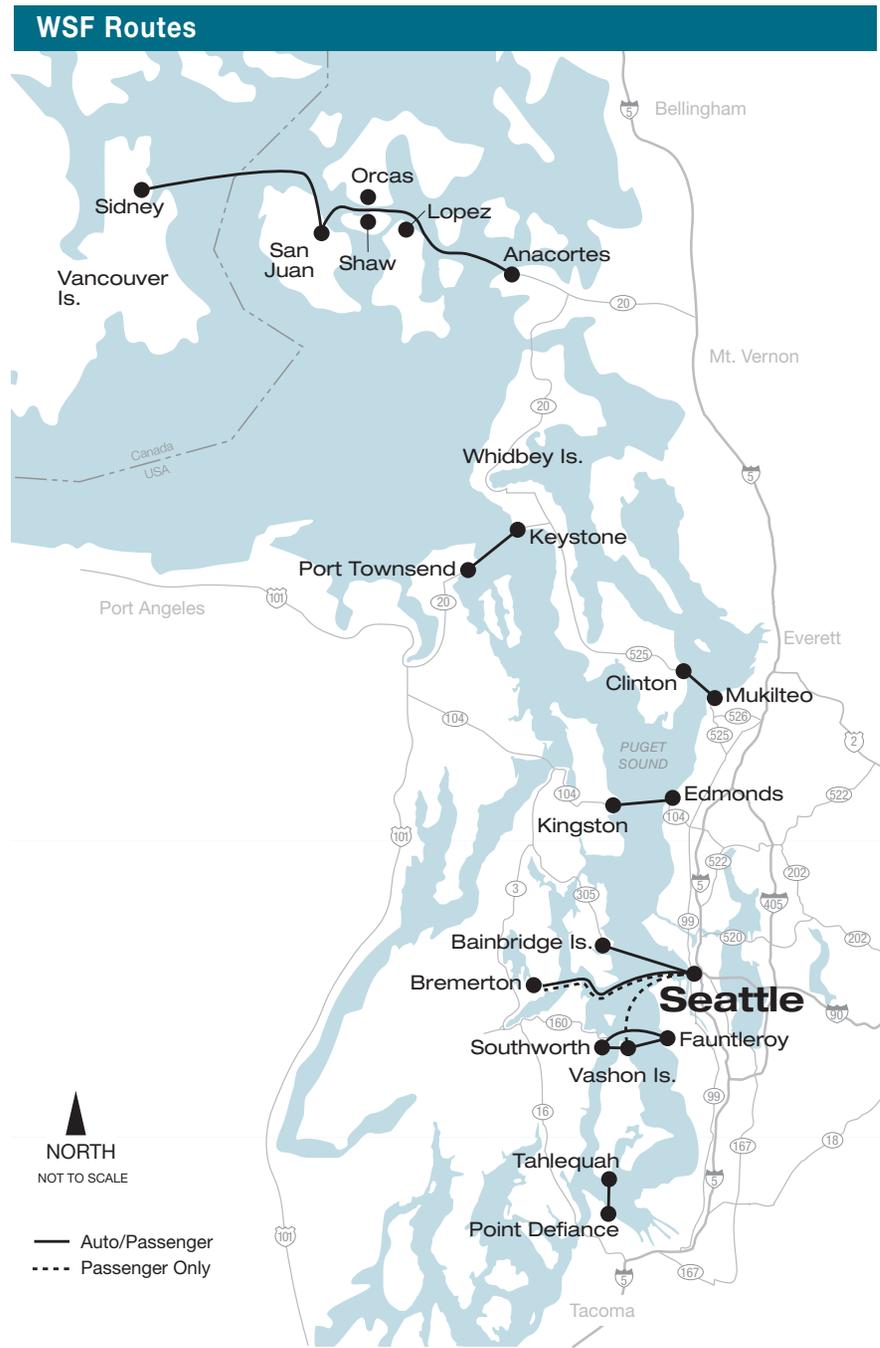
The crossing time on the Seattle/Bremerton route has been an issue this biennium. When the passenger-only ferry Chinook entered service on the Seattle/Bremerton route in May 1998, it provided a 30-minute crossing time with its 34-to-37-knot service speed. However, in March 1999, a group of property owners along Rich Passage (a narrow stretch of the route between Seattle and Bremerton) filed a lawsuit claiming the Chinook was causing damage to the shoreline and property in the area

from Middle Point to the Bremerton Ferry Terminal in Kitsap County.

Following a series of legal proceedings, WSF conducted a SEPA (State Environmental Policy Act) review to determine what was causing the shoreline erosion and bulkhead damage observed in the Rich Passage area. After 24 months of research, the scientists concluded that a variety of natural and manmade factors – including the passenger-only ferries – resulted in erosion and bulkhead damage. Other factors include bulkhead placement, tides, winds, currents, and wake from other vessels. Ultimately, the ferries slowed down in the affected area and the property owners were compensated for damages under a court-approved settlement.

Today, the Chinook and her sister ship, the Snohomish, continue to provide passenger-only ferry service on the Seattle/Bremerton route, maintaining a 40-minute crossing time even with a portion of the route slowed to 16 knots.

Vessels are assigned to routes based on the route's vehicle and passenger volume. The largest vessels are assigned to the busiest routes and the smallest ferries are assigned to the less-traveled routes. For example, two of the three Jumbo Mark IIs, able to carry 218 vehicles each, are assigned to the Seattle/Bainbridge Island route, while the Rhododendron, with a vehicle capacity of 65 vehicles, is assigned to the Point Defiance/Tahlequah route. Through the budget process, the Legislature officially determines the class of vessel that is authorized to serve a particular route, as well as the hours that service will be provided. In the 1999/01 biennium, one vessel assignment was eliminated and two vessels were changed due to the service reductions that took effect in June 2000.



### Route Segment Lengths and Crossing Times

| Route  | Statute Miles | Nautical Miles | Approximate Crossing Time |
|--|---------------|----------------|---------------------------|
| Anacortes/Sidney B.C.<br>(via Orcas & Friday Harbor using the Upright Channel) | 39.9          | 34.7           | 3 hr. 15 min.             |
| Anacortes/Sidney B.C. (via Orcas using Wasp Pass)                              | 36.7          | 31.9           | 3 hr.                     |
| Anacortes/Friday Harbor (via Lopez)  | 18.2          | 15.8           | 1 hr. 35 min.             |
| Seattle/Bremerton  | 15.5          | 13.5           | 1 hr.                     |
| Seattle/Bremerton (passenger-only ferry)                                       | 15.5          | 13.5           | 40 min.                   |
| Anacortes/Orcas  | 14.3          | 12.4           | 1 hr. 15 min.             |
| Anacortes/Lopez  | 10.8          | 9.4            | 50 min.                   |
| Seattle/Bainbridge Island  | 8.6           | 7.5            | 35 min.                   |
| Seattle/Vashon Island  | 9.8           | 8.5            | 30 min.                   |
| Edmonds/Kingston   | 5.2           | 4.5            | 30 min.                   |
| Port Townsend/Keystone   | 4.9           | 4.3            | 30 min.                   |
| Fauntleroy/Southworth (via Vashon Island)                                      | 5.1           | 4.4            | 45 min.                   |
| Fauntleroy/Southworth  | 4.7           | 4.1            | 35 min.                   |
| Fauntleroy/Vashon Island   | 3.2           | 2.8            | 15 min.                   |
| Vashon Island/Southworth   | 1.8           | 1.6            | 10 min.                   |
| Mukilteo/Clinton   | 2.5           | 2.3            | 20 min.                   |
| Point Defiance/Tahlequah   | 1.7           | 1.5            | 15 min.                   |



## Summer Vehicle Vessel Assignments by Route

| Route                                   | 1997/99 Biennium | Fiscal Year 2000 | Fiscal Year 2001    |
|---|------------------|------------------|---------------------|
| Anacortes/San Juan Islands/Sidney, B.C. | Super            | Super            | Super               |
|   | Super            | Super            | Super               |
|   | Super            | Super            | Super               |
|   | Evergreen State  | Evergreen State  | <i>Issaquah 130</i> |
|   | Steel Electric   | Steel Electric   | Steel Electric      |
| Port Townsend/Keystone                  | Steel Electric   | Steel Electric   | Steel Electric      |
|   | Steel Electric   | Steel Electric   | Steel Electric      |
| Mukilteo/Clinton                        | Issaquah 130     | Issaquah 130     | Issaquah 130        |
|   | Issaquah 130     | Issaquah 130     | Issaquah 130        |
| Edmonds/Kingston                        | Jumbo Mark II    | Jumbo Mark II    | Jumbo Mark II       |
|   | Jumbo            | Jumbo            | Jumbo               |
| Seattle/Bainbridge Island               | Jumbo Mark II    | Jumbo Mark II    | Jumbo Mark II       |
|   | Jumbo Mark II    | Jumbo Mark II    | Jumbo Mark II       |
|   |                  | Jumbo            |                     |
| Seattle/Bremerton                       | Issaquah 130     | Issaquah 130     | Issaquah 130        |
|   | Issaquah         | Issaquah         | <i>Jumbo</i>        |
| Fautleroy/Vashon Island/Southworth      | Issaquah 130     | Issaquah 130     | Issaquah 130        |
|   | Evergreen State  | Evergreen State  | Evergreen State     |
|   | Evergreen State  | Evergreen State  | Evergreen State     |
| Point Defiance/Tahlequah                | Rhododendron     | Rhododendron     | Rhododendron        |

*Color italic's indicate a vessel upgrade*

## Schedules

The hours of ferry operation vary considerably among routes, ranging from 22 hours of service each day on the Seattle/Bainbridge Island and Fauntleroy/Vashon Island/Southworth routes to 15 hours of service each day on the Port Townsend/Keystone route during winter months. Most other routes

offer about 20 hours of service each day, from approximately 5:00 a.m. to 1:00 a.m.

Headways (the time between consecutive sailings) vary considerably by route and depend upon route length and demand. A 30-minute headway is standard during peak periods on the Mukilteo/Clinton and Fauntleroy/Vashon Island/Southworth

routes. Other routes provide 45-minute to 50-minute service, with the exception of the Seattle/Bremerton route (60-minute to 90-minute headways) and the Anacortes/San Juan Islands routes (2-hour to 4-hour headways). Most route schedules provide increased service in the peak direction during the commute peak periods and are scheduled to

enable commuters to reach their work destinations or connect with local transit service at convenient times.

Schedules are structured by season. Greater levels of service are provided during peak or high-demand periods (primarily summer) through decreased headways (less time between sailings) and extended hours of service. The San Juan Islands service provides the best example of how WSF meets increased demand with expanded seasonal levels of service. In the winter, when tourist demand is lowest, service is reduced to four vessels (including the inter-island vessel) that provide 13 round-trips per day between Anacortes and island destinations. With the enormous influx of tourists during the peak summer season, WSF meets the demand with five vessels that provide 18 round-trips per day. This increases the capacity of San Juan Islands service by 50%.

## Ridership

WSF's ridership consists of three categories: vehicles and their drivers, passengers in vehicles, and passengers that walk on the vessels. Total systemwide ferry ridership increased slightly during the 1999/01 biennium, with 26.6 million riders in fiscal year 2001, compared to 26.4 million riders in fiscal year 1999. However, each segment of WSF's ridership performed differently over the two-year period. The number of vehicles and drivers carried by WSF rose 1.4% between 1999 and 2000, but decreased 0.7% between 2000 and 2001. In contrast, the number



*Transportation connections near Colman Dock.*

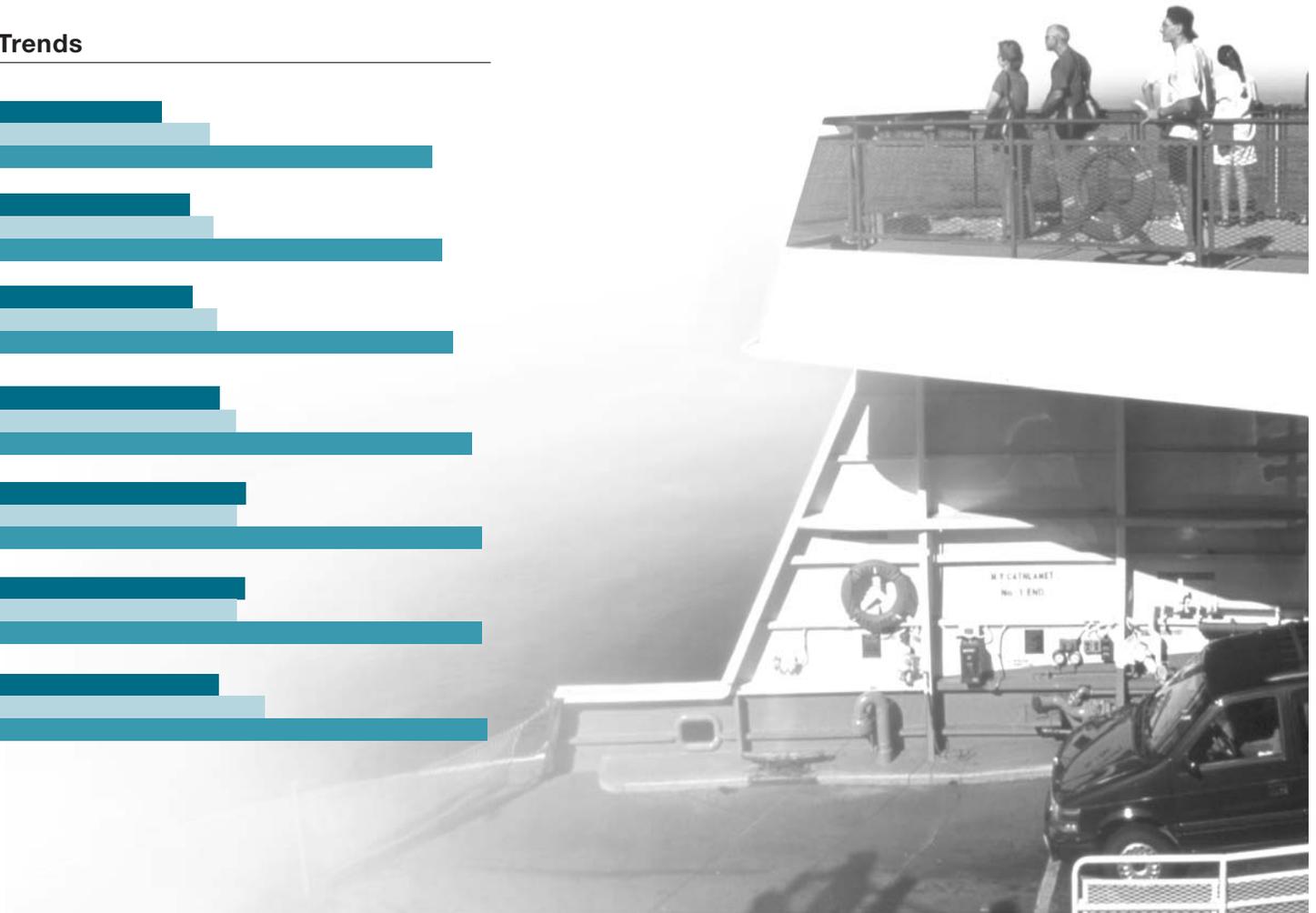
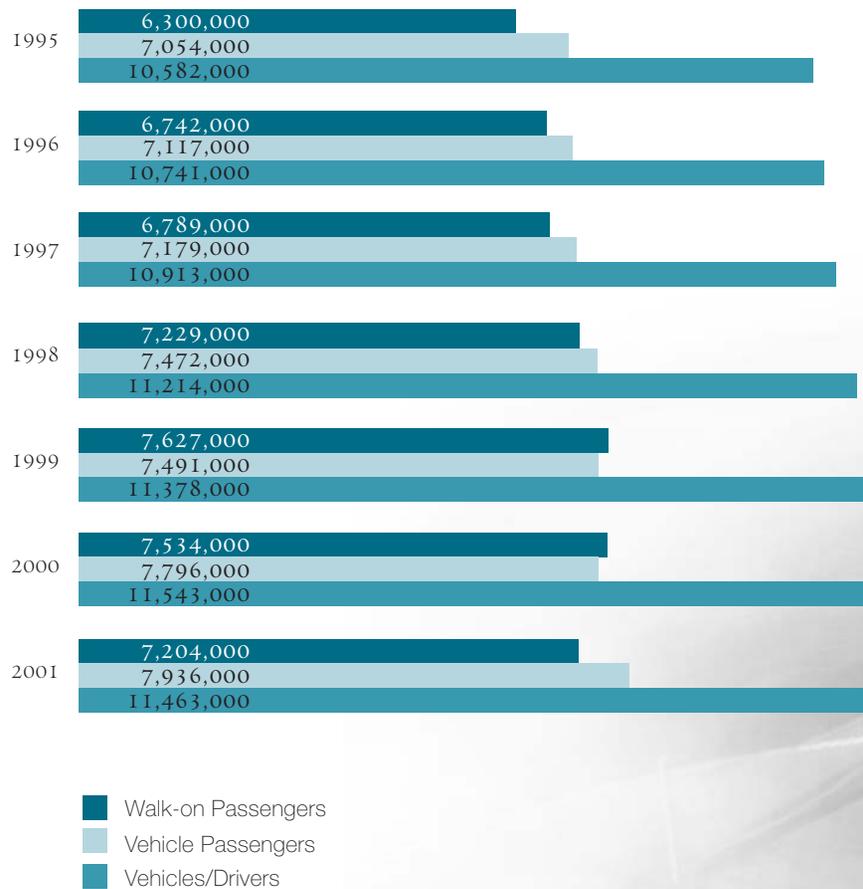
of vehicle passengers increased by approximately 3% per year, while walk-on passenger ridership fell by about 3% per year in 2000 and 2001. As a result, vehicle passenger ridership again exceeds walk-on passenger ridership, which is a change in the trend demonstrated in the previous biennium. The fluctuations in ridership are likely due to the reductions in service that

were implemented during the biennium. The number of walk-on passengers, and to some degree the number of vehicle passengers, indicates the extent to which WSF is being used as a mass transportation system as opposed to an extension of the highway system. For example, of the over 26 million total riders in 2001, 57% (15.1 million) were walk-on or vehicle passengers (not

vehicle drivers). Systemwide, walk-on passengers account for about 27% of all ridership. However, in 2001, 40% of ferry ridership on the Seattle/Bainbridge route and 44% of the ridership on the Seattle/Bremerton auto ferry routes were walk-on passengers. This higher proportion of walk-on passengers is an indication of the high employment density in downtown Seattle within walking

distance of Colman Dock, as well as the employment at the naval shipyards in Bremerton and the excellent transit connections in Kitsap County.

### Systemwide Ridership Trends

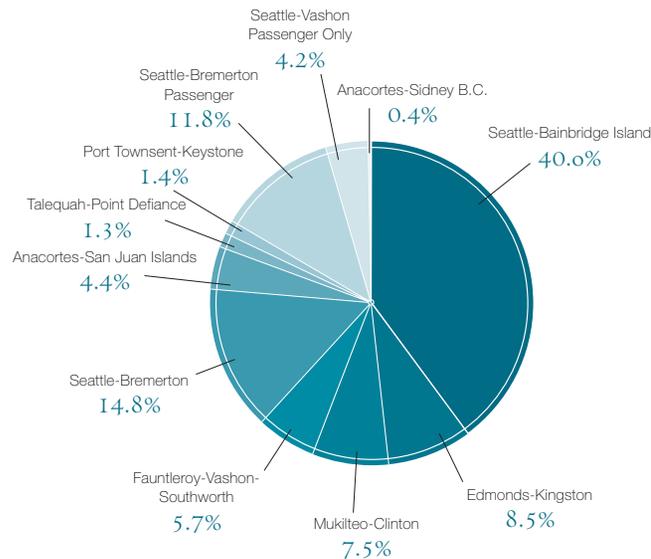


## Ridership Statistics by Route

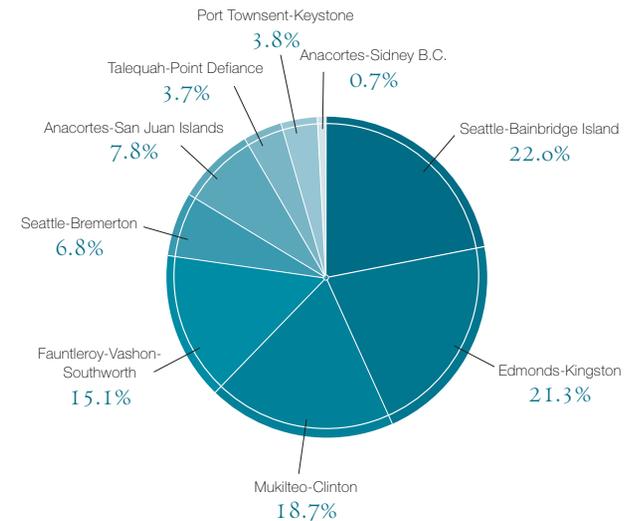
| Routes                              | Fiscal Year 2000    |                       |                       | Fiscal Year 2001    |                       |                       |
|-------------------------------------|---------------------|-----------------------|-----------------------|---------------------|-----------------------|-----------------------|
|                                     | Vehicle/<br>Drivers | Vehicle/<br>Passenger | Walk-On<br>Passengers | Vehicle/<br>Drivers | Vehicle/<br>Passenger | Walk-On<br>Passengers |
| Seattle/Bainbridge Island           | 2,398,000           | 1,798,000             | 3,092,000             | 2,335,000           | 2,007,000             | 2,798,000             |
| Edmonds/Kingston                    | 2,434,000           | 1,680,000             | 616,000               | 2,461,000           | 1,667,000             | 630,000               |
| Mukilteo/Clinton                    | 2,272,000           | 1,406,000             | 578,000               | 2,213,000           | 1,370,000             | 529,000               |
| Fauntleroy/Vashon Island/Southworth | 1,906,000           | 1,020,000             | 407,000               | 1,914,000           | 994,000               | 428,000               |
| Seattle/Bremerton                   | 753,000             | 532,000               | 1,133,000             | 783,000             | 572,000               | 1,050,000             |
| Anacortes/San Juan Islands          | 841,000             | 642,000               | 336,000               | 874,000             | 654,000               | 318,000               |
| Seattle/Bremerton Passenger Only    | NA                  | NA                    | 815,000               | NA                  | NA                    | 928,000               |
| Keystone/Port Townsend              | 392,000             | 366,000               | 108,000               | 385,000             | 346,000               | 105,000               |
| Tahlequah/Point Defiance            | 500,000             | 271,000               | 100,000               | 444,000             | 233,000               | 95,000                |
| Seattle/Vashon Passenger Only       | NA                  | NA                    | 321,000               | NA                  | NA                    | 295,000               |
| Anacortes/Sidney B.C.               | 48,000              | 80,000                | 27,000                | 56,000              | 93,000                | 27,000                |
| All Routes                          | 11,543,000          | 7,796,000             | 7,534,000             | 11,463,000          | 7,936,000             | 7,204,000             |

NA -Not Applicable

### Walk-on Passenger Ridership - 1999/01 Biennium



### Vehicle Ridership (Drivers & Passengers) - 1999/01 Biennium





*Passengers enjoying the scenery on a sunny day.*

Ferry ridership varies greatly by season, day of week, and time of day. In general, routes experience a ridership increase during the summer season and a decrease during the winter months. Seasonal variation can be extreme, as in the case of the Anacortes/San Juan Islands route, or relatively minor, as in the case of the Fauntleroy/Vashon Island/Southworth and Seattle/Bainbridge Island routes. This seasonal change is largely due to the recreational or non-commuter portion of the ridership. Many routes experience daily peaks similar to highways, with periods of high ridership occurring in the peak morning and evening commute hours.

During peak times, and especially during the summer season, many routes experience vessel overloads where vehicular demand exceeds vessel capacity, and vehicles must wait for

subsequent sailings. Long waiting lines are common in July and August because of the increase in recreational travelers and tourists. Overload conditions on the Anacortes/San Juan Islands, Edmonds/Kingston, and Mukilteo/Clinon routes can be extreme during summer holidays, as people use the ferries to travel to vacation destinations in the San Juan Islands, Kitsap and Olympic Peninsulas, and Whidbey Island. Overload conditions are also spreading into off-peak time periods (late spring/early fall and midday), when WSF is constrained in its capacity to meet demand due to budget limitations and refurbishment and maintenance schedules.

The majority of WSF ridership is concentrated on three routes—Seattle/Bainbridge Island, Edmonds/Kingston, and Mukilteo/Clinon. These three routes served approximately 62%

of the systemwide vehicle ridership (including vehicle drivers and passengers) and 56% of the systemwide walk-on passenger ridership during the biennium. The Seattle/Bainbridge Island route continued to carry the most walk-on passengers this biennium, with 40% of the systemwide walk-on passenger ridership—more than double the walk-on passenger ridership of any other route.

## Ridesharing

WSF helps promote carpooling and vanpooling through the Guaranteed Loading Program. Carpools and vanpools in the program are assured loading on one morning and one afternoon sailing per day. The program services are free to carpool users, although the vehicle fare must still be paid. Registered

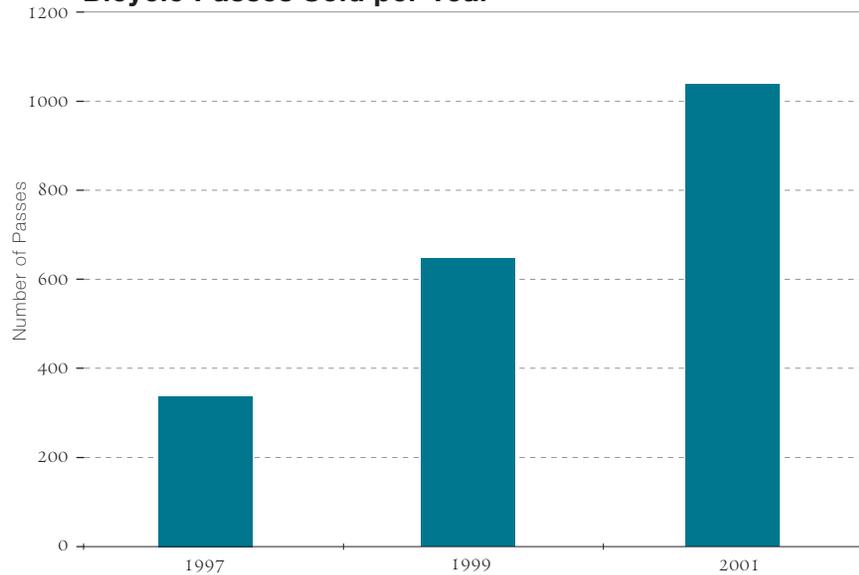
vanpools are exempt from the vehicle fare with payment of a \$10.00 annual administration fee. WSF charges riders in vanpools only the normal passenger fare, which provides a considerable savings over the standard auto/driver fare.

WSF's registered vanpools and carpools totaled 535 in June 2001, of which 353 are carpools and 182 are vanpools. The total number of carpools and vanpools has decreased since the last biennium due to a change in the carpool registration process. Previously, many members of the same carpool could have a WSF carpool registration. This process was reworked in the 1999/01 biennium so there is only one registration per carpool. The new carpool and vanpool registrations will serve as a benchmark for future growth in this important program.



*Metro Vanpool.*

## Bicycle Passes Sold per Year



## Bicycle Passes

The Bicycle Pass Program was developed in the 1993/95 biennium to promote bicycles as an alternative mode of transportation on Washington State Ferries. A bicycle pass allows the rider to avoid bicycle surcharges when riding the ferry. A regular commuter who travels five days a week aboard the ferries with their bike can save \$175 (annually) over the regular fare after paying the \$20 initial registration fee. The Bicycle Pass Program is not valid on the San Juan Island routes. In 2001, there were 1,037 bicycle passes issued—a 60% increase over the number sold in 1999.

## WSF Travel Survey

During the 1999/01 biennium, WSF updated and expanded the origin and destination travel survey that it performed in 1993. The survey was undertaken in response to a recommendation from the 1998 Department of Transportation Ferry System Performance Audit. The *WSF 1999 Travel Study: Analysis and Results Report* was completed in June 2000. The travel survey was administered on weekdays and weekend days in May and early June 1999. The survey requested information about riders' trip origin and destination, trip purpose, travel modes and habits, and demographics. Over 18,000 questionnaires were collected from a sample of passengers on each of WSF's routes, reflecting a response rate of 30%. Findings from the analysis of survey results will be used update WSF's systemwide travel-forecasting model. 🚢

### Findings from WSF's Travel Survey

- ▶ Two-thirds of p.m. peak period trips and one half of non-peak p.m. trips are undertaken for work, school, or other business purposes.
- ▶ 55% of all p.m. peak period trips were between work and home.
- ▶ 75% of all p.m. peak period trips were to or from home.
- ▶ 50% of all p.m. peak period riders made six or more one-way ferry trips in the previous week.
- ▶ Average vehicle occupancy during the p.m. peak period was 1.48 persons, a slight decline from 1993.
- ▶ Since 1993, there has been a significant increase in the use of transit for access to or egress from ferry terminals by walk-on passengers during the p.m. peak period.

