FTA

FEDERAL TRANSIT ADMINISTRATION

REPORT SUMMARY

U.S. Department of Transportation
Federal Transit Administration

Vashon Island Passenger-Only Ferry Study: Technology Demonstration Phase and Final Report

Background

Washington State Ferries introduced modern-day passenger-only ferry service on Puget Sound in 1989. As revenue to support the Washington State Ferries diminished, the State decided to dedicate its revenue to auto ferry service, relinquishing passenger-only ferry service to local governments. The Federal Transit Administration (FTA) awarded King County a cooperative agreement to support development and analysis of information to help County leaders make informed decisions regarding the assumption of responsibility for passenger ferry service in the county and to demonstrate the use of technology to improve passenger-only ferry traveler information.

This project was undertaken in three phases: the Waterborne Transit Policy Study was completed in August 2005, leading King County to move forward with assuming responsibility for passenger ferry service in the county. The Business Plan and the Implementation Plan for Vashon Island Passenger-Only Ferry were developed in October 2006 and November 2007 to guide planning for and start-up of County-operated passenger ferry service. The technology demonstration phase of the project began in 2011 once passenger ferry service operation was fully implemented. This report addresses the technology demonstration phase of the project.

Objectives

The demonstration phase of the Vashon Island Passenger-Only Ferry Study was designed to evaluate the feasibility and benefits of incorporating technological advances to increase passenger convenience and improve traveler information while also enhancing passenger processing.

Findings and Conclusions

Through the variable message sign at Pier 50, the enhanced Water Taxi website, and WaterTaxiWatch, riders now have an array of enhanced information options for traveler information, making the King County Water Taxi more easily accessible within existing operating resources.

A variety of technologies was evaluated, such as Automatic Identification System (AIS) for vessel tracking, electronic fare collection, video monitoring and detection at the Water Taxi terminals, electronic communications, and web-based applications and social media networks. Opportunities to partner with or leverage existing and emerging public and private technology initiatives also were explored. Three technology initiatives were demonstrated:

- On-Dock Traveler Information – Variable Message Sign (VMS)
- King County Water Taxi Website Improvements
- King County WaterTaxiWatch – Vessel Real-Time Location Application

To provide passengers with schedule and boarding information at the Water Taxi terminal in downtown Seattle, a VMS was installed close to where passengers first approach the ferry terminal at the junction of the sidewalk and the terminal entrance. This location offers key information before passengers traverse the length of the walkway out to the waiting area and boarding location. The sign rotates two displays, allowing next departure information on one screen and alerts or messages on the other screen. The VMS became available to the traveling public in June 2013.

To improve online passenger ferry information, the existing KCMD website was enhanced to be more streamlined and user-friendly. Water Taxi riders were surveyed to understand their traveler information preferences, and their preferences were incorporated with visual design principles to render a more functional display suitable to multiple screen sizes. The enhanced website was launched in September 2013.
A real-time vessel location application was developed and linked to the King County Marine Division Water Taxi website. The application also provides departure and schedule information and is scalable to smaller handheld devices. WaterTaxiWatch is a unique view of the Washington State Ferries VesselWatch application. Users are oriented to the Water Taxi routes but can also view location and tracking information for WSF vessels on nearby routes.

The objectives of the technology demonstration phase of the project were achieved. The three technology projects implemented demonstrated a range of technology from lower-end technologies such as the variable message sign to more advanced technologies such as real-time vessel location and tracking applications, technologies to address the needs of both experienced and infrequent users though just-in-time and trip planning information, and information accessibility on both traditional desktop computing platforms and mobile devices.

Benefits

As a roadmap for how to determine the feasibility of and prepare an implementation plan for the start-up of passenger-only ferry service, the project offers valuable insight and a tested methodology. Although every service feasibility study is somewhat unique, this study provides a comprehensive template and constructive guidance on the requirements for start-up of a marine passenger transportation service. As a demonstration of technology to improve traveler information and passenger processing, it offers relatively low-cost technology solutions that may be viable for other transit agencies. The next agency to deploy technology solutions similar to the ones demonstrated here will benefit from the learning curve established in this study.

Project Information

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This research project was conducted by Greg Lerner of the King County Department of Transportation, Marine Division, and Carla Leigh Sawyer of Progressions, with support from Mike Anderson of KPFF. For more information, contact FTA Transportation Program Specialist Charlene Wilder at (202) 366-1077, Charlene.wilder@dot.gov. All research reports can be found at **www.fta.dot.gov/research**.