PACKET A

Washington State Ferries (WSF)

Econometric Ridership and Revenue Forecasting

June 15, 2023

Submitted to:

Washington State Department of Transportation

Washington State Ferries

Submitted by:

WSP

Wenatch ferry enrout to Bainbridge Island, WA - photo by Tobias Eigen

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1. QUALIFICATIONS/EXPERTISE OF FIRM

INTRODUCTION TO THE TEAM

WSP USA Inc. (WSP) has all the in-house capabilities required to provide Washington State Ferries (WSF) with the econometric ridership and revenue forecasting services requested in the RFP.

A. HISTORY & EXPERIENCE WORKING WITH WASHINGTON STATE FERRIES

For more than three decades, WSP USA has continuously provided professional services to WSF under a series of On-Call and task order contracts. This experience provides us with an unparalleled understanding of WSF's ferry operations, available ridership and fare revenue data, customer base characteristics, vessel capacity constraints, and the local economic factors required to accurately forecast ridership demand, base fare revenues, and capital surcharge revenues for the system's network of 10 routes. Our proposed Project Manager, Brent Baker, has longstanding and detailed knowledge of WSF passenger and vehicle flows, loading and unloading patterns, multi-modal connections at terminals, and seasonal ridership demand characteristics and peaking patterns.

WSP USA has completed dozens of forecasting and planning assignments since 1987, headlined by the preparation of 10-year revenue and ridership projections each quarter for various fare and service scenarios. Other assignments include conducting and analyzing system-wide on-board travel surveys; developing the long-range ridership demand planning model; preparing peak period and daily ridership forecasts in support of WSF Long Range System Plan updates; providing demand forecasts for proposed new services; producing terminal expansion and vessel sizing planning studies; authoring several of the legacy WSF Two-Year Operations Reports; preparing over a dozen grant application; and evaluating potential new routes and services.

WSP USA Brings a 30-Year History Supporting WSF

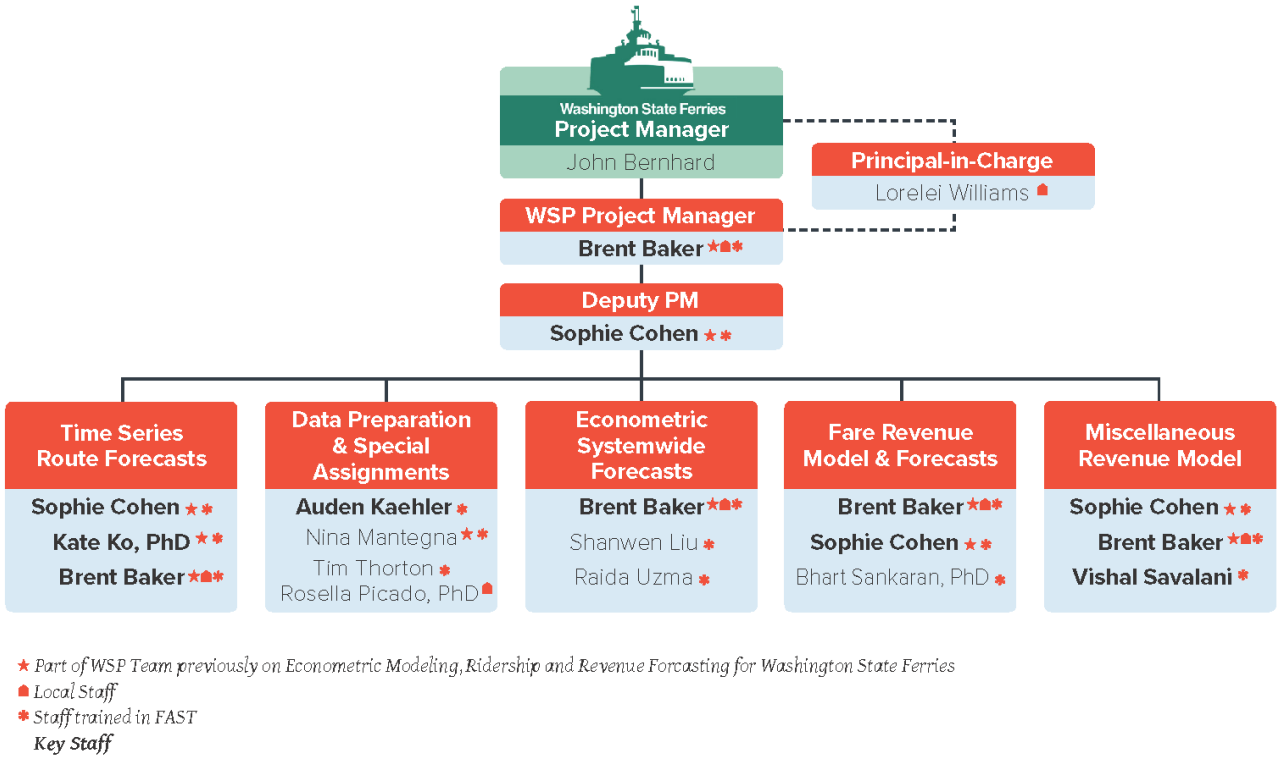
- Economic Ridership and Revenue Forecasting (1987-2023)
- Ferries Division Grant Application Consultant (2022-ongoing)
- On-Call Support for FTA Grants (2015-2020)
- Long Range System Plan Scoping Services (2017)
- 2013 On-Board O-D Travel Survey (2013-14)
- On-Call Transportation Planning Services (2008-09)
- Long Range System Plan Ridership Forecasting Support (1995-1996 & 2007-2009)
- Friday Harbor Intermodal Master Plan (2006-07)
- Anacortes Multimodal Ferry Terminal Project (2005-07)
- Data and Model Maintenance (2000-06)
- On-Call Terminal Design and Environmental Services (1999-04)
- On-Call Planning and Engineering Services (1988-04)
- WSF System Plan Ridership Forecasting Model (1994-1995)
- WSF 1993 On-Board O-D Travel Survey (1993-1994)

Over a period of years, WSP USA developed the current revenue forecasting methodology, process, and models that are used to prepare quarterly updates to revenue projections, which are presented at the Transportation Revenue Forecast Council (TRFC) forecast adoption meetings four times per year and used by the legislature and staff to develop and manage the State transportation budget.

In addition, the forecast process and tools are used to assess the demand and revenue impacts of potential tariff policies, analysis which is possible due to WSP USA's development of and continuous improvement to the seven-fare category econometric ridership forecasting models designed to estimate price elasticities of demand, combined with a detailed revenue model.

PROJECT TEAM ORGANIZATION

The organization chart in **Figure 1** below identifies our proposed key personnel and team structure. Our project manager, **Brent Baker**, has continuously led the econometric modeling and revenue forecasting for WSF for over 30 years. For the past five years, **Sophie Cohen** has been learning the forecasting process while supporting Brent and is our proposed deputy project manager. Brent and Sophie will be supported by a strong lineup of seasoned analysts who have experience working on econometric demand modeling and revenue forecasting for WSF and other similar applications. Our team is organized to provide expertise and quality review personnel by the five general forecasting steps. Support staff shown in the organization chart below provide additional resources to take on special assignments, ad-hoc tasks, and coordination activities outlined later in our approach section.



★ *Part of WSP Team previously on Econometric Modeling, Ridership and Revenue Forecasting for Washington State Ferries*
■ *Local Staff*
✱ *Staff trained in FAST*
Key Staff

Figure 1: WSP Organizational Chart

B. OFFICE LOCATION & EXPERTISE

WSP USA established its presence in the Northwest in 1977 and has been working for WSF continuously since 1987 in a variety of capacities. From WSP USA's 250 local staff in Seattle to state resources numbering over 400 and national resources numbering over 10,000, we have the financial analysts and economists to help you get the job done, and can draw upon our planning, engineering, cost estimating, and construction staff in cases where additional perspectives add value. **Table 1** on the following page lists our offices within the state of Washington (including the Greater Portland Metropolitan Area) and the number of employees at each location and expertise available.

Table 1: Expertise by Location

WSP Offices in Region	Number of Employees in Each Office	RFQ Expertise Available
Seattle, WA	250	— Time Series Model Development and Applied Forecasting — Econometric Model Development and Applied Forecasting — Traffic and Revenue Forecasting — Financial Modeling and Analysis — Monte Carlo Simulation for Forecast Probability Assessment — Multimodal Transportation Planning — Ridership Survey Analysis and GIS Data Mapping — Tariff Policy Analysis and Fare Elasticity of Demand Estimates — Travel Demand Model Development / Application — Long-range Plan Support and Coordination — Executive, Legislator and Commissioner Presentations
Redmond, WA	107	
Federal Way, WA	119	
Vancouver, WA	44	
Portland, OR	185	

C. SUBCONSULTANTS

The work preparing econometric ridership and revenue forecasts for the TRFC quarterly forecast adoption meeting must be completed on a very tight schedule, often with only a day or two between the availability of the last input data report and the forecast due date. This timetable, combined with WSP USA offering a full-service team that can provide all of the expertise required for this agreement and past challenges identifying small business that do this highly specialized forecasting, we are not proposing the inclusion of any subconsultants for the core forecasting work. If a need is identified for specialty expertise during the project, we have a strong network and successful work history with local consultants of various disciplines, including those small businesses certified by the State of Washington as a Minority, Small, Veteran, and Woman Owned Business Enterprise (MSVWBE).

As a firm, WSP USA is committed to supporting the Washington State Department of Transportation's (WSDOT) overall goal to achieve 26% MSVWBE participation. Developing working partnerships with local MSVWBEs is a key focus of our Seattle office. Each year our Seattle office holds an open house engagement session for MSVWBE firms. During this event, project managers and discipline leads from our engineering, planning, construction support, and advisory services groups meet with dozens of potential subconsultants to learn about their skills and develop relationships. The typical turnout exceeds 50 people from the local MSVWBE community, and of those who participated in an after-event, anonymous survey, the entire 100% found the event useful and well-organized. As proof of its effectiveness, this event has led to actionable connections as every year we develop new team teaming and project delivery relationships with MSVWBE subconsultants.

Additionally, our project managers and office management support the significance of meeting and our clients' inclusion goals. On our current projects with WSDOT, more than 25% of the consultant work is going to subconsultants, the majority of whom are minority-owned, woman-owned, or small businesses.

D. AVAILABILITY OF KEY PERSONNEL

In Table 2, we have identified the expected availability of the core forecasting staff and special assignments personnel by hours per month throughout the length of the project.

The predictable timing and compressed schedule for the revenue forecasting work both allows and requires that our project manager and deputy, along with the core forecasting staff, provide full availability to WSF. Our organization chart is structured to provide intentional duplication of staff to ensure that we can deliver under the constrained timeline for each forecast cycle. The quarterly interval due date for each set of WSF revenue forecasts is typically set a year in advance. As such, these quarterly milestone dates are known with certainty. The availability of the forecast process inputs — new ridership history from WSF and updated economic and demographic projections from WSDOT and the Office of Financial Management — is constrained on the front end to about two weeks prior to each forecast due date. Armed with this knowledge, Brent is able to schedule the resources needed well in advance, which allows him to manage other work commitments to mitigate any potential interference with completion of the WSF ridership and revenue forecasts. In ***Exhibit 3***, the commitment of staff availability increases during the red highlighted months that coincide with known revenue forecast deadlines. **Brent has personally overseen the delivery of over 125 consecutive quarterly revenue forecasts without missing a TRFC forecast adoption deadline**, even responding to requests for changes or additional analysis that have come on the eve of the forecast due date.

Table 2: Key Personnel Availability (hours/month)

	2023						2024 - 2026											
# | Key Personnel	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
1. Brent Baker	40	40	80	40	80	40	40	80	40	40	40	80	40	40	80	40	80	40
2. Sophie Cohen	40	40	80	0	0	0	40	80	40	40	40	80	40	40	80	40	80	40
3. Kate Ko, PhD	32	40	80	40	80	40	40	80	40	40	40	80	40	40	80	40	80	40
4. Auden Kahler	32	40	80	40	80	40	40	80	40	40	40	80	40	40	80	40	80	40
5. Vishal Savalani	32	40	80	40	80	40	40	80	40	40	40	80	40	40	80	40	80	40
6. Nina Mantegna	24	24	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
7. Shanwen Liu	24	24	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
8. Raida Uzma	24	24	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
9. Bhart Sankaran, PhD	24	24	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
10. Tim Thornton	24	24	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
11. Rosella Picado, PhD	24	24	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40

	2025 - 2027												2028					
# | Key Personnel	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J
1. Brent Baker	40	40	80	40	40	80	40	40	80	40	80	40	40	80	40	40	40	80
2. Sophie Cohen	40	40	80	40	40	80	40	40	80	40	80	40	40	80	40	40	40	80
3. Kate Ko, PhD	40	40	80	40	40	80	40	40	80	40	80	40	40	80	40	40	40	80
4. Auden Kahler	40	40	80	40	40	80	40	40	80	40	80	40	40	80	40	40	40	80
5. Vishal Savalani	40	40	80	40	40	80	40	40	80	40	80	40	40	80	40	40	40	80
6. Nina Mantegna	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
7. Shanwen Liu	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
8. Raida Uzma	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
9. Bhart Sankaran, PhD	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
10. Tim Thornton	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
11. Rosella Picado, PhD	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40

Note: Columns shaded in red indicate months in which quarterly forecasts are due.

E. RELEVANT PROJECT EXPERIENCE

The following three project descriptions, all completed within the last three years, demonstrate the required experience and expertise needed for this project. Most of our proposed key personnel have worked on these projects.

WSF ECONOMETRIC RIDERSHIP AND REVENUE FORECASTING

Firm Role

Prime Consultant

Client Organization

Washington State Ferries

Project Duration

2018 – 2023 (and contracts with WSF for similar work going back to 1987)

Approximate Cost

$600,000

Responsibilities

- Econometric Demand Modeling
- Time Series Demand Modeling
- Revenue Forecasting
- Fare Elasticity of Demand Analyses
- Evaluation of Alternative Fare / Tariff Policies
- Vessel Capacity Constraint Impacts and Service Analysis
- Financial Analysis and Modeling
- Assessment of ORCA Card Regional Fare Media Revenue Sharing Impacts

WSP USA has been preparing revenue and ridership forecasts for WSF under Brent Baker's leadership since 1991, most recently under the Econometric Ridership and Revenue Forecasting task order agreement Y-12020. Notwithstanding our long tenure in this role, this forecasting analysis and production activities remain both challenging and fulfilling. In fact, our familiarity with the process and data inputs affords us the ability to meet the tight schedule requirements while making continuous improvements to the forecasting models, databases, and products.

Under this agreement, we have made substantial improvements to the seven econometric system-wide ridership demand models and related processes that were developed and refined by us under a previous agreement. The COVID-19 pandemic that began in March 2020 resulted in an unprecedented decrease in ridership, dropping by over 70% by April, and exacerbated staffing challenges, causing service disruptions. The three passenger and four vehicle/driver fare econometric models underlying the demand forecasts had to be adapted to capture the pandemic effects on ridership — which were not attributed to fare policies or the models' demographic and economic explanatory variables — and accommodate a prolonged recovery period. Forecast trends for real personal income, employment, labor force age population in ferry-served communities, and real gas prices alone were not consistent with decreases in ferry travel.

In addition, WSP USA previously developed and 68 autoregressive-integrated-moving average (ARIMA) time series models which are used to forecast individual route by fare category ridership and seasonal demand patterns for use in allocating the system-wide econometric model forecasts by seven fare categories. The unanticipated effects of the pandemic required that we continuously review and refine these 68 models to capture the individual route and fare category ridership effects through the extended recovery period. Outputs from both the econometric and ARIMA time series models are combined to yield unconstrained ridership demand projections by route and fare category at a monthly resolution. A seasonal capacity constraint model that captures vessel operating schedules and maximum vehicle loads was refined to include assumptions for gradual post-pandemic service resumption before being layered onto the

unconstrained demand forecasts to generate the baseline capacity constrained ridership projections over a 10-to-15-year forecast horizon.

For each quarterly forecast round, Brent and his team prepared presentation materials and assisted WSF executives in presenting the forecast results to the State TRFC. In addition, Brent and his team have used the forecasting tools to estimate fare elasticities of demand, evaluate the revenue and ridership impacts of alternative fare policies/tariff proposals, assess the ridership and revenue impacts of changes in service levels and vessel assignments, and create tools for tracking forecast performance.

WSP USA's revenue projection in March 2013 for FY 2019 (the last year before the pandemic) was 0.1% below actual collections six years later.

Prior to the pandemic, the accuracy of WSP USA's revenue and ridership forecasts for WSF withstood the test of time, especially when controlling for actual fare policy and vessel service levels that vary from prior forecast assumptions. In early 2007 just prior to the Great Recession — with then unknown effects and duration — our revenue forecasts five years out were within 10% of the actual collections before controlling for differences between assumed and actual fares and were within 5% of actual collections after controlling for fare differences. Post-recession and pre-pandemic accuracy has been even higher. Comparing our February 2012 forecast to actual performance, the ridership projection for just completed fiscal year (FY) 2017 was within 0.6% of actual boardings. Similarly, the revenue projection for FY 2016 (the latest reported revenue information available) was off by less than 0.01% from actual collections.

No one in the forecasting industry foresaw the COVID-19 pandemic or the effects it would have on travel, both transitory and permanent. Since the pandemic, WSP USA has made a series of refinements to the forecasting models to better capture evolving ridership trends, especially the rise in working from home and less frequent use by those who commute to work or school via ferry.

The WSP USA team also developed a new miscellaneous revenue forecasting model under this agreement for quarterly updating by WSF staff. The model uses revenue, ridership, and inflation projections as inputs along with other, source-specific data, to provide forecasts for both vessel and terminal facility non-fare revenues (galley sales, vending machines, advertising, etc.)

SOUND TRANSIT FINANCIAL CONSULTING SERVICES

Firm Role

Prime Consultant

Client Organization

Sound Transit

Project Duration

2023 – 2027 (and previously since 2009)

Approximate Cost

$1,000,000

Responsibilities

- Transit Financial Planning
- Financial Forecasting
- Financial Model Development
- Construction Cost Index Forecasting
- Right-of-Way Acquisition Cost Forecasting
- Tax Base/ Revenue Projections
- Total Cost of Ownership / Asset Management
- Risk Assessment
- Feasibility Assessment

For the past 14 years, WSP USA has been providing a variety of financial planning and related forecasting services to Sound Transit under the leadership of Brent Baker. Recent services include refinements and updates to the agency's detailed financial plan forecasting model, preparing 40-year forecasts of Sound Transit's multi-component construction cost inflation and right-of-way cost inflation indices, and preparing 40-year projections of the assessed valuation of real and personal property, which serves as the base for property tax revenue forecasts and the assessment of the agency' statutory debt capacity.

In addition, the WSP USA team developed a debt sizing model for the agency's multiple USDOT TIFIA loans as an add-on to the system-wide financial model. To help Sound Transit assess risks in delivering their capital program, the WSP USA team conducted a major update of the Monte-Carlo model and risk assessment in 2019, refining a comprehensive revenue and cost-risk model previously developed by WSP USA that applies probabilistic simulation techniques for 13 distinct finance, revenue and cost-risk variables.

In preparing semi-annual 40-year construction cost inflation index forecasts, WSP USA relies on a combination of market research, industry expert interviews, and statistical analysis to yield low, most probable, and high commodity-specific cost escalation forecasts for steel, concrete, labor, construction equipment, and other services, with component weights unique to Sound Transit's capital program. The forecasting methodology accounts for global and national market trends, local market conditions, supply chain and transportation costs, policy and regulation impacts, and one-time events that may temporarily change market conditions. A series of interviews are also conducted with local contractors, materials and equipment suppliers, and labor experts to inform the forecasts. The CCI forecasts are used to project future capital costs within Sound Transit's financial planning process.

The aforementioned forecasts of real and personal property assessed values (AV) for Sound Transit's tax benefit district and right-of-way acquisition cost inflation index forecasts both use a series of econometric models to forecast future values as a function of a series of economic "explanatory" variables.

TREASURE ISLAND MOBILITY AND MANAGEMENT STUDY

Firm Role

Prime Consultant

Client Organization

San Francisco County Transportation Authority (SFCTA)

Project Duration

2013-2024

Approximate Cost

$800,000

Responsibilities

- Traffic and Ridership Forecasting
- Transit Fare Box and Toll Revenue Forecasting
- Capital Cost Estimation and Analysis
- O&M Cost Estimation and Forecasting
- Financial Modeling and Scenario

WSP USA was engaged by SFCTA to help evaluate ferry, transit, and highway mobility options and prepare demand and financial projections for the redevelopment of Treasure Island in San Francisco. This project represents the opportunity to create a vibrant new San Francisco neighborhood and demonstrate how an environmentally- and financially sustainable planned community can provide urban mobility and access through a carefully crafted set of pricing incentives. Our work is helping shape Treasure Island to marry mobility, sustainability, and technology in new and innovative ways. WSP devised an integrated, multimodal transportation system plan that maximizes mobility and financial sustainability, while reducing the traffic impacts of the development project. The transportation system is meant to serve a newly developed community that will feature 8,000 residential units plus retail, commercial, and conference facilities.

The plan will have greatly enhanced transit service, including ferry and bus, on street and off-street parking controls, bike share, and travel demand management (TDM) programs. The system will utilize congestion pricing mechanisms by tolling private vehicles for access to the Bay Bridge, creating an incentive to use alternative means of transportation. The study evaluated the travel demand and characteristics, different tolling and transit policies and service levels, and the long-term financial sustainability of the integrated system.

WSP USA developed a comprehensive financial model to forecast and evaluate annualized costs and revenue associated with ferry service, tolling, parking, and transit for various operational scenarios including establishment of cross-elasticity factors for modal shift between driving, transit, and ferry service under different pricing and development scenarios. Financial model sensitivity tests are conducted on an ongoing basis to address changes to the development schedule, transit fare and toll rate policies, transit service levels, and economic development and growth in the Bay area. Model results have been instrumental in policy decision making and determining benefit-cost analysis on ferry service levels and toll pricing and discounts.

2. QUALIFICATIONS OF PROJECT MANAGER

WSP USA is offering WSF the services of our most highly qualified project manager for this assignment, Brent Baker. Brent is a senior vice president with the firm and leads our Systems Finance and Economics practice within our Advisory Services business line. He has more than 30 years of project management experience managing a variety of transportation projects in the areas of planning, economic analysis, forecasting, and financial planning. Moreover, he has managed consultant assignments for WSDOT continuously since 1991.

Brent brings to this project broad-ranging experience preparing and reviewing travel demand forecasts; revenue and expenditure projections; econometric model development; financial modeling; economic feasibility studies; and funding plans for ferries, highways, and transit. He holds a master's degree in economics from the University of Washington. Most noteworthy, Brent has extensive experience with WSDOT policies and procedures, having been directly involved in and responsible for WSF econometric ridership and revenue forecasting activities for the past three decades.

Brent will be supported by a deputy project manager, Sophie Cohen. Sophie has a master's degree in public policy from the University of Chicago and has been working with Brent on the WSF forecasts for the past five years. Between Brent and Sophie, WSP USA is poised to continue providing highly responsive service to WSF.

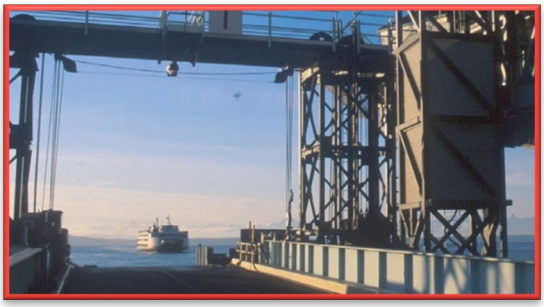
A. PROJECT MANAGEMENT EXPERIENCE

Brent has extensive project management experience on WSF and similar projects, detailed in **Table 3** below.

Table 3: Similar Project Management Experience

Project Name	Client / Organization	PM Responsibilities / Tasks	Project Dates
Econometric Modeling and Revenue Forecasting for WSF	WSDOT (WSF)	As Project Manager, Brent leads ridership demand modeling, revenue forecasting, econometric model development and refinement, preparation of presentation materials, and all other work aspects including coordination with the Transportation Revenue Forecast Council. See the project description in Evaluation Criteria 1: E for additional detail on Brent's project manager responsibilities and tasks.	2018-2023
Traffic and Revenue Analysis Services	Stantec Consulting Services Inc. (WSDOT)	Brent serves as one of Stantec's deputy project managers via WSP USA's subcontract with Stantec for our role supporting toll traffic and revenue forecasting for the I-405 and SR 167 Express Toll Lanes and the Puget Sound Gateway Program. Brent oversees WSP USA's work supporting Stantec with demand modeling, reviewing toll traffic and revenue forecasts, preparing net revenue projections, and participating in stakeholder meetings. In addition, Brent has presented to and supported WSDOT executives' presentations to the Washington State Transportation Commission.	2021-2027
Toll Financial Planning and Analysis Services	WSDOT (Toll Division)	As Project Manager for the current and preceding agreements, Brent oversees the production of gross-to-net toll revenue projections, financial planning, performance monitoring, and toll policy and rate setting support for toll facilities in the Puget Sound Region, including the SR 520 Floating Bridge and the SR 99 Tunnel. In this role, he works closely with WSDOT staff to maintain a detailed two-year work plan schedule of forecasting activities and milestones.	2021-2027

B. PM'S FAMILIARITY WITH RELEVANT STATE AND FEDERAL REGULATIONS/PROCEDURES



In addition to the projects listed above, Brent has managed several other WSDOT On-Call agreements and assignments, including: Statewide Toll Financial and Modeling Support Services; On-Call Engineering and Specialty Services – Tolling; Statewide Transportation Planning Studies; I-5 Interstate Bridge Replacement Program (Financial Structures lead); SR 99 Alaskan Way Viaduct and Seawall Replacement Program (toll and financial planning); Ferries On-Call Support for FTA Grants; the US 2 Trestle Funding and Finance study; and the Puget Sound Gateway Program PMO (toll and finance lead), among others. For Sound Transit, he manages the Sound Transit Financial Advisory Services On-Call contract, work he has done since 2009. These experiences have provided Brent with keen familiarity of WSDOT and local public agency business practices, and where relevant, applicable state and/or federal regulations and procedures. Brent is also well versed in certain federal requirements, particularly those associated with discretionary grant and innovative finance programs. As the financial structures task manager for the Interstate Bridge Replacement program, Brent is leading the development of the program's financial plan, a toll traffic and revenue forecast study, and three federal discretionary grant applications totaling $2.5 billion. Notwithstanding this experience, the econometric ridership and revenue forecasting work for WSF has not historically been directly subject to any federal regulations or procedures.

C. PROVEN PROJECT MANAGEMENT EXPERTISE

Since joining the firm in 1990, Brent has successfully managed dozens of projects and assignments to completion within budget. Achieving successful outcomes for clients that meet or exceed their expectations can be partly credited to Brent's management style, which reflects conscientious attention to scope, schedule, and budget. Previously accredited within the firm as a Senior Project Manager, Brent has also completed a certificate program in project management at the University of Washington. WSP USA prides itself in the successful management of all projects large and small, investing significant resources into the training and tools available to our project managers. Brent's expertise, historical performance, and commitment to continuing a productive, longstanding working relationship with WSF makes him the ideal project manager candidate for this work.

Table 4, Table 5 and Table 6 detail three project examples of Brent's ability to manage key elements of similar projects. For each project, we discuss his strategies/successes managing scope, schedule and budget issues, as well as unforeseen changes that arise during projects.

Table 4: Example 1 - WSF Econometric Modeling and Revenue Forecasting

Econometric Modeling and Revenue Forecasting for WSF	
Project Schedule	Brent has managed the successful on-time delivery of over 125 quarterly forecast updates. On a several occasions, Brent's team was even able to incorporate additional fare policy scenarios and/or late-breaking actual ridership and revenue data within the forecasts and their associated deliverables within 24 hours of their due date. The econometric ridership and revenue forecasting work is both highly complex (involving 68 separate forecasts for the 10 ferry routes across seven fare categories along with a separate capacity constraint model) and highly time constrained in delivery, making it perhaps the most complex of various other transportation revenue forecasts subject to quarterly forecast updates and adoption by the TRFC. For the WSF ridership and revenue forecasts, there can be as few as two days between the receipt of the last forecast input and the delivery of the reviewed forecasts for the adoption meeting.
Scope of Work/ Scope Creep	Brent has typically been able to deliver the quarterly forecasts on or under budget by carefully managing resources. This has facilitated contract time extensions for additional quarterly forecasts to be completed and afforded time for additional analyses/new scope without adding budget. Managing for efficient delivery also allows for making continual improvements and adding new features to the forecasting tools. In 2022, the Washington State Transportation Commission (WSTC) eliminated fares for youth riders aged 18 and under at the direction of the legislature. Our team was able to modify the existing forecasting tools to capture this fare exemption and prepare forecast both with and without the youth exemption in order to provide the legislature with an estimate of the lost revenue each year. This was completed within the existing task order budget. Brent strives to closely watch scope and budget in order to provide early notice to WSF of requested work that may be out of scope, so that options for completing requested work can be considered and addressed. In 2023, WSDOT was no longer able to provide county-specific forecasts of working age and senior citizen populations from which WSP prepared ferry-served area population indexes. As this is a key input to the ridership and revenue forecasts, WSP leveraged additional resources to review and develop the underlying data needed to complete the forecast. Prior efficiencies allowed for this additional work to be completed within the existing budget constraints.
Budget Issues	As noted above under the scope of work, Brent's efficient budget management has allowed for additional scope to be completed under the available budget rather than the other way around. Agreement Y-12020 was intended to fund three years of forecasting work through January 31, 2021. Brent's efficient use of resources and effective management allowed for the agreement to be time extended by over two years while remaining within the agreement NTE amount.
Changes that Arise Throughout the Life of the Project	Brent prides himself on being flexible and strives to build trust for long-term client relationships. The types of projects in which Brent and his colleagues within WSP USA's Advisory Services group are engaged almost always involve course changes and the need to be flexible and responsive. Brent understands that it is how one deals with change that matters. Whether it be developing new models, refining existing models, or taking on completely new, unanticipated tasks, the various examples cited above underscore this team's ability to deal with change.

Table 5: Example 2 – Interstate Bridge Replacement Program

WSDOT / ODOT Interstate Bridge Replacement Program	
Project Schedule	As the Financial Structures task leader for this major multimodal bridge replacement project, Brent regularly coordinates with the project manager and other task leads on a complex, multidisciplinary schedule. He developed a graphical schedule work plan for financial planning activities that became the standard for other tasks and helped him lead the financial structures team to meet the deadline for a legislatively directed financial plan and the on-time delivery for an FHWA Bridge Investment Program grant application. Brent facilitates weekly team coordination meetings and bi-weekly client and stakeholder meeting to track schedule performance and work through challenges to minimize "domino" effects on others and maintain overall delivery.
Scope of Work/ Scope Creep	Brent's approach to managing scope is to anticipate every task and activity that may be required and develop an appropriate work plan and budget with contingencies and triggers that cover required work items and allows the owner discretionary control to request ad-hoc tasks. Three years and as many task orders later, the financial structures scope of work has proven sufficiently flexible to evolve and meet current needs within budget.
Budget Issues	By carefully working with the State to estimate the hours and anticipate potential scope creep issues, Brent has successfully managed the work under multiple task orders so that work was always completed within budget. The largest challenge was minimizing additional expenditures for coordination and schedule extension when work by others required as inputs to a toll traffic and revenue study was not ready in a timely manner, and once ready, required additional review.
Changes that Arise Throughout the Life of the Project	This work is co-managed by WSDOT and ODOT by a leadership team of five state staff plus a General Engineering Consultant (GEC) project manager and deputy. In three years, the project has been through three GEC project managers. Brent employs a collaborative management and frequent communication in multiple modes and venues to keep decision-makers informed and ensure that inevitable changes in conditions, schedules, scope, or purposes of deliverables are documented and understood by all. After preparing a detailed economic impact analysis for the program's proposed investments, Brent's team received word that the results would be shelved, and the analysis would be updated and publicly released after a revised capital cost estimate was prepared. Brent had the team document the process so that it could be efficiently updated at later date and then had the team pivot to the next deliverable.

Table 6: Example 3- Sound Transit Financial Consulting Services

Sound Transit Financial Consulting Services	
Project Schedule	The construction cost index (CCI) assessed value (AV) of real property and right-of-way inflation index (ROWI) forecasts prepared for Sound Transit used to be updated annually. Recently, WSP USA was directed to update these projections semi-annually. To accomplish more frequent delivery, Brent worked with his team to develop a schedule for data analysis, expert interviews, forecasting activities, and report production based upon the availability updated data inputs and Sound Transit's timeline for updating their financial plan. Occasionally, the availability of input data would get held up, requiring Brent to add staff and compress schedule to meet deadlines following a delayed start. With good communication and regular check-ins, his team was able to meet deliverable deadlines within schedule confines.
Scope of Work/ Scope Creep	The general objectives developing a new ROWI forecasting model were established and built into the lump sum pricing over a period of four forecast cycles. However, a need arose to have the new ROWI model, forecast and documentation earlier than agreed upon, and including a more detailed report. Brent proposed a division of the work into Spring and Fall components and negotiated an amendment for the changes in scope and schedule that was amenable to all parties.
Budget Issues	Under the prior agreement, all-inclusive billing rates for staff were fixed for a period of three years, with the option for CPI adjustments in years four and five. Part way through the agreement, in response to staff retention issues in a competitive market, WSP USA completed a compensation study that resulted in significant salary adjustments many staff. As a result, the billing rates for several staff were below the firm's cost of providing those staff. While Brent could have switched out these staff for others whose billing rates would still have generated a profit, the new staff would have required more hours due to inexperience, most likely costing the client more. Brent chose to keep the core experienced staff in place despite the less than favorable billing rates to ensure that the client's expectations would be met at a cost less than the not-to-exceed budget total. He subsequently resolved bill rate discrepancies in the next agreement.
Changes that Arise Throughout the Life of the Project	Notwithstanding the salary increases noted above, staff may seek new opportunities, leading to turnover. To provide resiliency and redundancy through staffing changes, Brent strives to ensure that each task leaders is shadowed by another who learns the process and knows where all the files are stored. A key part of this is establishing and following project procedures that are well documented and known by all. In addition, stepped in to play a larger role during a key staff transition period to help facilitate a smooth transition.

D. PROFESSIONAL LICENSES

This type of work does not require any particular type of license or registration. Brent does not carry any professional licenses that would be relevant to this project.

3. KEY TEAM MEMBERS QUALIFICATIONS

Table 7 names the staff members of our team, indicates their proposed role and years of experience, and identifies skill areas of importance to this project by primary and secondary levels expertise. Our objective is to provide a small team of key staff with which to further develop and share knowledge of the forecasting processes, thereby providing depth of resources to ensure the utmost responsiveness. In addition, we have identified additional resources to support other special assignments and coordination with other WSF planning activities that may arise over the course of this agreement. The exhibit below shows our team's depth of expertise in all of the relevant skill areas, with key team members indicated by a symbol.

Table 7: Key Personnel, Roles and Expertise

Proposed Staff	Proposed Role	Years of Experience	Econometric Modeling and Time Series Analysis	Travel Demand Modeling/Ridership Forecasting	Visual Basic and/or EViews™ Programming	Excel-based Revenue and Financial Modeling using FAST Standards	Multimodal Transportation Planning	Survey Data Analysis/Demographics	Tariff Policy/Fare Elasticity Analysis	Quality Review	Experience with WSDOT and/or Public Agency Regulations/Procedures
Brent Baker	Project Manager, Revenue Projections	35	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sophie Cohen	Deputy Project Manager, Ridership Forecasts	13	✓	✓	✓	✓	✓	✓	✓	✓	✓
Kate Ko, PhD	Time Series Route Forecasts	20	✓	✓	✓	✓	✓	✓	✓	✓	✓
Auden Kaehler	Data Preparation and Service Assumptions	20	✓	✓	✓	✓	✓	✓	✓	✓	✓
Vishal Savalani	Presentations and Tariff Policy Coordination	11	✓		✓	✓	✓	✓	✓	✓	✓
Nina Mantegna	Data Preparation and Service Assumptions	3				✓				✓	✓
Shanwen Liu	Econometric Forecasting Support	7	✓	✓		✓				✓	
Rosella Picado, PhD	Data Preparation and Special Assignments	26		✓			✓			✓	✓
Raida Uzma	Econometric Forecasting Support	3	✓	✓	✓	✓				✓	
Bhart Sankaran, PhD	Fare and Revenue Model Maintenance	5	✓	✓	✓	✓	✓			✓	✓
Tim Thornton	Data Preparation and Special Assignments	25	✓			✓	✓	✓	✓	✓	✓

KEY STAFF

BRENT BAKER | PROJECT MANAGER & REVENUE FORECASTING LEAD

Company: WSP USA **Years of Experience:** 34 **Education:** MA, Economics, University of Washington, 1990; BA, *cum laude*, Economics/Mathematics Minor, Whitman College, 1986

Brent will continue serve as our project manager and technical lead for this work. He is an experienced economist and financial analyst and serves as a Senior Vice President where he oversees the Systems Finance and Economics practice of 30 consultants. Brent specializes in transportation project user fee analysis, revenue forecasting, financial modeling, benefit-cost analysis, economic impact studies, elasticity estimation, service planning, and funding studies. His advisory and consulting experience covers ferry, highway, rail, and transit projects for a wide range of public- and private-sector clients, and includes presentations to elected officials, executive management, and transportation commissioners. Over the more than 30 years that Brent has been preparing forecasts for WSF, he has developed and refined the current seven econometric models and 68 time series models used in projecting unconstrained ridership demand. Brent has also refined the process by which the ridership forecasts consider vessel vehicle capacity constraints, tests alternative fare scenarios, and translates those into revenue projections using an extensive set of spreadsheet models. Brent brings deep experience working with WSDOT and WSF, successfully delivering forecasts and related financial planning work for three decades.

Relevant Project Experience:

Econometric Modeling and Revenue Forecasting, Washington State Ferries (WSF), Seattle, Washington (2018-2023): Brent is project manager for the predecessor agreement to the forthcoming opportunity for which this statement of qualification responds. During his leadership in preparing ridership and revenue forecasts by route and fare category for Washington State Ferries since 1991, Brent has led the development of the econometric forecasting models designed to estimate price elasticities and analyzed the impacts of alternative tariff policies and service levels.

Traffic and Revenue Advisory Services for the Colorado Transportation Investment Office, Denver, Colorado (2019-2024): Brent serves as the project manager for WSP USA's task order agreement providing traffic and revenue forecasts. His work included leading team to conduct an Electric Vehicle Toll Policy Analysis, produce an Express Lane Visualization video, and prepare Level 2 toll traffic and revenue forecasting studies for C-470 segment 2 Express Lanes extension as well as proposed new Express Lanes on I-270.

Oregon Toll Program, Oregon Department of Transportation (ODOT), Portland, Oregon (2019-ongoing): Brent is currently serving as the Tolling, Finance and Economics task leader for separate environmental processes seeking federal permission to toll I-5 and I-205 in the greater Portland area. With objectives to manage traffic congestion and generate funding for improvements, work activities overseen by Brent include Level 2 toll traffic and revenue (T&R) projections, financial analysis, net toll revenue projections, toll policy support and preparation of presentation materials for rate setting activities by the Oregon Transportation Commission and ODOT.

SOPHIE COHEN | DEPUTY PROJECT MANAGER

Company: WSP USA **Years of Experience:** 13 **Education:** Master of Public Policy, Harris School of Public Policy, University of Chicago, 2016; B.A., Philosophy-Neuroscience-Psychology, Washington University in St. Louis, 2009 **Professional Registrations:** Certificate in Time-Series Analysis and Forecasting, National Association for Business Economics

Sophie Cohen is an Assistant Vice President in WSP USA's Economic Analysis and Strategy team. She specializes in helping clients use insights about the interplay between infrastructure, human behavior, and the economy to make informed decisions regarding infrastructure investment and policy. Sophie has experience using econometrics and economic models to estimate future economic outcomes, revenues, and travel patterns. Since 2017, Sophie has supported WSF with its quarterly ridership and revenue forecasts and additional analyses. She has provided advisory and analytical services for a range of clients including departments of transportation, municipalities, transit and rail agencies, private developers, and airport and seaport authorities. Prior to joining WSP USA, Sophie held positions with the City of Chicago and an economic development consultancy.

Relevant Project Experience:

Econometric Modeling and Revenue Forecasting, Washington State Ferries (WSF), Seattle, Washington (2018-2023): As part of the predecessor agreement to the forthcoming opportunity for which this statement of qualification responds, Sophie helps to refine quarterly system-wide economic forecasting models, which account for state economic indicators and ferry fare policies, and route-specific time series models, which are used in conjunction to predict unconstrained ridership forecasts over a 10-year horizon. She also prepares ad-hoc analyses in response to requests from WSF or other stakeholders, such as the impact of different fare policy changes.

Michigan Mobility 2045 Financial Plan, Michigan Statewide (2020-2021): As task lead for the "Financial Plan" chapter of Michigan Department of Transportation Long-Range Transportation Plan Sophie was responsible for describing existing sources of federal, state, and local revenues in Michigan across all transportation modes, as well as assessing trends impacting transportation revenues now and in the future, including the projected increase in electric vehicles. Sophie developed an Excel-based financial model to forecast projected revenues from federal and state funding sources through 2045, in order to compare these to forecast needs and quantify that funding gap.

Private Client, Chicago Skyway Traffic and Revenue (T&R) Forecast (2022): Deputy Project Manager and Traffic & Revenue Task Lead for evaluation of the future demand and revenue potential of the Chicago Skyway toll road through a P3 sale process for a bidder. Sophie led the research into historic performance and socioeconomic trends and development of future growth rate assumptions. She oversaw the development and update of a high-level route choice model for medium- and long-distance travel in the Chicago metro area, including multiple variations to account for different days of the week, times of day, passenger and commercial vehicles, and alternative scenarios. The forecast models relied on a volume-delay function and the value of travel time. Furthermore, the study considered the impact of the pandemic, construction on various major routes, local tourism development, travelers' value of reliability, and differential growth rates for short- and long-distance travel, as well as for different land use characteristics in the metro area.

KATE KO, PHD | TIME SERIES ROUTE FORECASTS

Company: WSP USA **Years of Experience:** 20 **Education:** PhD, Applied Economics; MA, Economics, University of Minnesota; MS, Applied Mathematics; BS Applied Mathematics; BA, Economics, California State University

Professional Registrations: Transportation Research Board Economics & Finance Committee, TRB Conference on Advancing Equity in Transportation Planning Committee, COMTO National TCRP Ambassador, COMTO DC Chapter Board

Kate is a Service Area Manager in the System Finance and Economics business line of Advisory Services at WSP USA. She has led urban/regional economic impact assessments and forecasts, infrastructure cost risk management, grant applications, and transit asset management plans for a variety of clients. In particular, she has led or supported program management tasks for various state and local agencies, including Sound Transit, Pierce Transit, Oregon Department of Transportation & Washington Department of Transportation (Interstate Bridge Replacement), Metropolitan Transportation Authority (MTA) New York City Transit (NYCT) and Bridges and Tunnels (B&T), Washington Metropolitan Area Transit Authority (WMATA), Virginia Department of Rail and Public Transportation (DRPT), and Valley Metro. As she led transit asset management and risk management plans for these agencies, she also developed ridership forecast analytics and validation tools, as well as provided guidance for performance measures and project/program prioritization.

Kate is also a member of the Transportation Research Board (TRB) Revenue and Finance committee, a planning member of TRB's very first equity conference, Conference of Minority Transportation Officials (COMTO) National Transit Cooperative Research Program (TCRP) ambassador, and a Board Member of COMTO DC. Her latest research on the economic assessment of the Minneapolis/St. Paul light rail system was published in the Journal of Public Transportation in April 2021.

Relevant Project Experience:

Sound Transit Financial Consulting, Sound Transit, Seattle, Washington: Advisor & QA/QC. Provide guidance on the economic forecasts for the biannual update of real property assessed valuation (AV), right-of-way (ROW) acquisition cost, construction cost index (CCI), especially with statistics data analysis and econometric time series forecast model. Review final projections and reports.

Interstate Bridge Replacement, Oregon Department of Transportation & Washington Department of Transportation, Washington/Oregon: Economic modeler. WSP is the multi-disciplinary program management consultant of the IBR. Under the financial structures task, conducted an economic impact assessment of the program and documented the process and results in a technical memorandum. For the 2022 Bridge Investment Program, leading the benefit-cost analysis as part of the grant application.

Pierce Transit Maintenance and Operations Base Improvements, Pierce County, Washington: Advisor & QA/QC. Provide guidance on the FY23 RAISE grant application process, project readiness, and economic feasibility. Reviewed application materials.

AUDEN KAEHLER | REVENUE FORECASTS/ECONOMETRIC MODELING

Company: WSP USA **Years of Experience**: 20 **Education**: MA, Transport Economics, University of Leeds, 2012; BA, cum laude, International Business/Supply Chain Management Minor, Northeastern University, 2003

Auden Kaehler is an experienced manager and modeler, with expertise in energy and transportation projects, demand and revenue forecasting, economic evaluation, survey development, econometric modelling, and competitive assessment. Auden specializes in economics of transport regulation, investment appraisal and econometrics; and has experience providing management and advisory services for roadways, airports, pipelines, terminals, vessels, and energy investment assessment. Over the past 10 years Auden has continued to support various divisions at WSDOT including ferries, tolling, rail, active transportation, finance and major project offices, and is familiar with WSDOT regulations and project procedures. Auden completed his tenure as the President of the Seattle Economics Council and graduated from the Leadership Tomorrow class of 2020. Auden has been involved with preparing updated quarterly forecasts for WSF, including review of econometric assumptions and preparation of ferry-served communities working age population forecasts as one of the forecast inputs. He has also assisted in analyzing the impacts of alternative fare proposals.

Relevant Project Experience:

Econometric Modeling and Revenue Forecasting, WSF, Seattle, Washington (2018-2023): Auden has led data analysis tasks and supported the quality review of ridership and revenue forecasts and the underlying econometric forecasting models since 2013.

Toll Financial Planning and Analysis Services, Washington State Department of Transportation (WSDOT), Seattle, Washington (2021-2027 and prior agreements): Auden is a financial consultant for WSDOT providing support on toll and financial planning, net toll revenue projections, performance monitoring, and project development services for Washington's toll facilities. Additional tasks include supporting WSTC rate setting activities, coordinating the preparation of revenue projections, including revenue adjustments, as part the quarterly TRFC forecast adoption process, and supporting the preparation of financial statements.

Treasure Island Mobility Management Agency (TIMMA), San Francisco, California (2013-ongoing): As a financial consultant Auden supported the initial development of a financial model to evaluate annualized costs and revenue associated to ferry service, tolling, parking, and transit for various operational scenarios including establishment of cross-elasticity factors for modal shift between driving, transit, and ferry service. Auden continues to support the agency in evaluating policy measures and impacts on projected ridership and revenue generation by mode.

VISHAL SAVALANI | PRESENTATIONS AND TARIFF POLICY COORDINATION

Company: WSP USA **Years of Experience:** 1120 **Education:** BA, Economics, University of Delaware, 2010; MA, Economics, University of Delaware, 2012

Vishal Savalani is an Assistant Vice President for WSP USA's Advisory Services within the Economic Analysis and Strategy Service area. He has over ten years of experience in conducting qualitative and quantitative economic research, modeling, and data analysis. Vishal is proficient in performing econometric modeling and forecasting for transportation related projects and possesses extensive knowledge of EViews. Most recently, Vishal has assisted transportation agencies with reviewing fare structures, pass programs and fare equity policies. Additionally, he has worked with transit agencies such as the Atlanta-Region Transit Link (ATL) Authority in Georgia, Hillsborough Area Regional Transit Authority (HART) in Tampa, FL, and the City of Charlotte, NC where he developed financial models and strategies to help advance transit, transportation, and mobility improvements. As part of these analyses, Vishal forecasted operating revenues over a 20 to 30-year period for these agencies. Vishal's regional experience conducting economic analyses for Pierce Transit, Pierce County, the Washington State Department of Transportation (WSDOT), and the Oregon Department of Transportation (ODOT). Having recently worked with WSDOT on a benefit-cost analysis for the Industrial Way / Oregon Way (IWOW) intersection in Longview, WA as well as several public transportation agencies throughout his career, Vishal is familiar with agencies' regulations and procedures.

Relevant Project Experience:

City of Charlotte, Transformational Mobility Network (TMN), Charlotte, North Carolina: Strategic Financial Analysis – Lead Economist and Financial Analyst Vishal supported the development of a financial model and financial strategies to advance the TMN, a multibillion-dollar program of transportation, transit, and mobility improvements in the City of Charlotte and Mecklenburg County. Additionally, Vishal worked with the City of Charlotte to identify additional funding and financing opportunities, including the new and enhanced opportunities available through the Bipartisan Infrastructure Law (BIL) over the next five years. He developed a comprehensive and short-list of funding and financing opportunities for the TMN, including primary and secondary sources on the federal, state, local, and project-specific levels. The financial model forecasted revenue and expenditure over a 30-year period.

Hillsborough Area Rapid Transit (HART), Financial Advisory Services, Tampa, FL: Financial Analyst: Vishal supported the development of a 30-year baseline financial model and financial scenarios that will be used to test financial strategies for the existing HART system and future programs and projects. Vishal identified potential funding and financing options available to HART on the federal, state, local, and project-specific levels. He developed a comprehensive and short-list of funding and financing opportunities for HART, including primary and secondary sources on the federal, state, local, and project-specific levels. The financial model forecasted revenue and expenditure over a 30-year period.

Arizona Department of Transportation (ADOT), Revenue Projections (HURF and RARF) and Cost Escalation Factors (Right-of-Way and Construction), Phoenix, AZ: Vishal collected historical and projected data on factors that influence Arizona's Highway User Revenue Fund (HURF) and Regional Area Road Fund (RARF) such as population, personal income, non-farm employment, gas price, diesel price, consumer price index, construction employment, 30-year mortgage rate, and airport passenger traffic. These data were then used to forecast revenue. He was responsible for updating ADOT's construction database and forecasting model in Excel and participated in the preparation of deliverables such as Risk Analysis Process (RAP) and Construction Cost Reports (CCRs).

4. FIRM'S PROJECT MANAGEMENT SYSTEM

At WSP, the quality of our work, and ultimately the successes of our clients, starts with a proactive, capable project manager. Our proposed project manager, Brent Baker, has completed both external and in-house project management training and demonstrated the required competence and performance to be certified as a Senior Project Manager with the firm. Brent brings considerable knowledge and experience working with WSF (as demonstrated in Criteria 2). He has spent more than 30 years in the role of project manager for the subject work and similar assignments.

Brent's role as a project manager is to assemble a skilled and knowledgeable team that will support a common purpose, responsively meeting if not exceeding client and project goals and needs and ensure that these are accomplished as efficiently as possible. WSP USA supports its project managers through a time-tested project management system that ensures quality work, timely budget tracking and processes for estimating the percentage complete, and tools for accurately tracking and forecasting staff availability.

As part of WSP USA, Brent has access to a comprehensive suite of Project Excellence and Delivery tools including all the various forms and processes that he will need to manage the project effectively from project start-up to closeout.

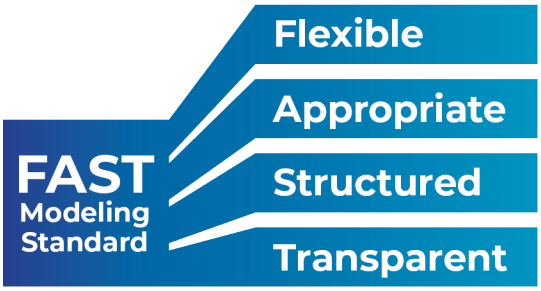
QUALITY ASSURANCE/QUALITY CONTROL

WSP USA employs a quality assurance/quality control system with both standardized practices and the flexibility to allow the project manager to tailor procedures to each unique project and its deliverables.

Our standard Project Quality Plan will be adapted for this project at the outset by Brent. This document will list the procedures to ensure that all technical deliverables prepared for the client prior to submittal are independently reviewed and checked for quality control by key staff with specific and relevant expertise in the appropriate discipline. The plan will be shared with all key project staff. Compliance with the plan will be monitored by the project manager and updated as necessary to ensure the success of every task.

Quality assurance involves the development and implementation of processes to improve quality and reduce the number of items to address at the time of a quality control review. Nearly 20 years ago, WSP USA's Advisory Services group implemented a set of international spreadsheet modeling standards and procedures, collectively known as FAST, which stands for Flexible, Appropriate, Structured and Transparent as shown in **Figure 2** (on the following page). All new financial and revenue forecasting models are now developed to be FAST compliant. Among the many conventions of FAST is that financial models have a predictable and natural flow similar to a book, top to bottom within a sheet and left to right across sheet tabs. The use of a common spreadsheet "language" or transparent structure not only makes spreadsheets easy to audit, but also facilitates ease of sharing or transfer of work assignments. Formula conventions require relatively simple calculations, using multiple cells/rows for a longer calculation rather than cramming a cell with a long formula that is difficult to audit. Color conventions are also used to provide visual cues to the user regarding whether a cell serves as an input, an imported value, a calculated value or an exported value. All proposed staff working on financial models and similar tools have received training in the FAST method.

Over the course of this agreement, WSP USA proposes to continue converting legacy spreadsheet models used in the forecasting process to be FAST compliant to the extent possible and reduce the use of interfile links where unnecessary, to improve quality and reduce the potential for spreadsheet errors. We will also apply the applicable FAST methods and standards to any new tools that we may build for the econometric ridership and revenue forecasting process.



To be effective, the structure and style of models require flexibility for both immediate usage and the long term.

Models must reflect key business assumptions directly and faithfully without being cluttered in unnecessary detail.

Rigorous consistency in layout and organisation is essential in retaining the model's logical integrity over time, particularly as a model's author may change.

Effective models are founded upon simple, clear formulas that can be understood by other modellers and non-modellers alike.

Figure 2: FAST (Flexible, Appropriate, Structured and Transparent) Modeling Standard

SCOPE AND BUDGET TRACKING SYSTEM

WSP USA uses an automated project management information system to:

- Provide weekly information on the status of staff hours, labor costs, and expenses.
- Meet WSDOT's normal billing-cycle.
- Assist the project manager in monitoring the project scope and budget, estimating the physical percentage complete, and tracking staff availability.

Using web-based software, every WSP USA project manager can easily and quickly access a vast repository of financial data housed in our Business Information System (BIS) for any project they manage or on which they serve as a key staff member. The WSP BIS system uses a simple Work Breakdown Structure (WBS) matching the task order work plan to track progress on each subtask, comparing the tasks actual completion percentage with that of its financial completion percentage. Brent will work with WSF staff to build a task order specific WBS and list of deliverables. This WBS will be used to allocate task order scope, schedule, and budget. Our project managers are required to prepare monthly progress reports to accompany invoices to WSF that reflect the project's financial and work progress. In addition, our project managers are required to update each project's cost to complete monthly and undergo internal quarterly project reviews. These check-in points, combined with schedule reviews, provide Brent, his project accountant and support staff, and ultimately WSF with the information to ensure that budget and scope are kept under tight control.

SCHEDULING SOFTWARE PROGRAMS

While our team has access to several scheduling programs familiar to WSDOT, including Microsoft Project and Primavera, we do not anticipate that the econometric ridership and revenue forecasting services work will require a complex scheduling program. Each quarterly forecast is an independent event with known start and end dates that are generally inflexible. This tabular schedule is prepared by the chair of the TRFC and is provided to WSF and its consultant for each quarterly forecast. Among its various dates are a couple of key review points and milestones:

- Forecast assumptions meeting
- Economic and demographic forecast data available
- WSDOT headquarters review of forecast
- Forecast materials and results due date
- TRFC forecast adoption meeting

WSP USA will incorporate each new quarterly forecast schedule within our work plan, including tracking key meetings and deliverable dates in the calendar function of Microsoft Outlook, to meet all required milestones.

Our project manager, Brent Baker, will also work with WSF to develop task schedules for any additional On-Call tasks outside of the normal quarterly forecasting efforts. This approach for relatively straightforward assignments has been successfully used by Brent on a variety of projects, including the previous Econometric Modeling and Revenue Forecasting Services contracts for WSF, as well as for various toll revenue and expenditure forecasting work conducted for WSDOT over the past several years.

PROCESS FOR INTERACTING WITH THE INTERNAL PROJECT TEAM

WSP USA recognizes that communication with WSF staff and coordination among various team members is essential to completing the task order assignments on schedule and within budget. Meetings with team members, the WSF project manager and/or WSF staff will be held as needed to resolve issues, coordinate project tasks, and formulate work strategies. In addition, a project e-mail address and repository folder will be set up for this project on WSP's email server, and all significant project correspondence will be archived in the project e-mail box for access by any member of the WSP USA team.

As both our team and WSF have staff located both locally and in other cities and are accustomed to working both in an office and remotely, we will use Microsoft Teams software extensively to facilitate online meetings and collaboration via desktop sharing. We have found these tools to be highly effective for allowing staff to collaborate both with each other and with WSDOT/WSF.

ABILITY TO INTERACT WITH THE CLIENTS AND STAKEHOLDERS

The timely and accurate exchange of information is critical to success of this project. At times, this requires a specific communication plan or strategy, at other times it requires a promptly returned phone call. Whatever the method, WSP promotes active communication between all members of the team. Although we are prepared for any interaction with WSF, WSDOT, or other stakeholders, we recognize that there are four primary areas of interface required for this project:

1. **Communicate** with WSF staff to obtain historical revenue and ridership data.
2. **Collaborate** with WSDOT staff to obtain projections for state economic and demographic variables and discuss trends.
3. **Coordinate** with the TRFC in the presentation of forecast results and methods
4. **Interact** with the WSF Tariff Policy Committee and/or Washington State Transportation Commission as needed to support their fare setting activities.

Our proposed project manager, Brent Baker, resides in Seattle and is based out of our downtown Seattle office, located only minutes away from WSF's offices in Belltown, allowing for in-person meetings whenever needed.

In addition, Brent Baker is familiar with and adept at presenting to various stakeholder groups on behalf of WSDOT, including the WSTC, legislators and legislative staff, WSDOT executives and the TRFC.

5. PROJECT DELIVERY APPROACH

WSP USA has provided econometric ridership and revenue forecasting services to WSF since 1987. Through our project delivery approach, we have made substantial improvements to the seven econometric system-wide ridership demand models and related processes; and have proven over the years that the accurate forecasts WSF desires can be produced within the allotted time and budget.

For more than 40 years, WSP USA (previously known as Parsons Brinckerhoff) has provided planning and forecasting services to meet the needs of our Puget Sound area clients. We are known for our quick response to on-demand assignments, and locally the WSP USA team has provided On-Call services for WSDOT, WSF, Sound Transit, King County, and the City of Seattle. We are accustomed to performing under tight deadlines, and from experience, clearly understand that preparing quarterly updates to ferry ridership and revenue projections requires a close-knit team prepared to be flexible in order to deliver under a highly compressed schedule that may involve after hours and weekend work. Our proposed team members recognize the nature of short-fuse assignments that may arise and are committed to delivering the required products.

A. WORK PLAN

Brent Baker is proposed to continue in the role as project manager for the econometric ridership and revenue forecasting and will remain the primary contact for this work and the decision maker on our end for the development of the work plan. For over 30 years, Brent has been continuously engaged in developing and executing the work plan to provide econometric ridership and revenue forecasting for WSF, among other assignments. Brent will follow WSP USA's standard practice in developing a work plan in consultation with WSF. The work plan is expected to include two key service areas:

1. **Quarterly updates to the 10-year ridership and revenue projections for TRFC adoption; and**
2. **Special assignments.**

The latter, special assignments service area, may potentially include many of the following activities:

- Responding to special requests of WSF/WSDOT executive management
- Providing enterprise analytics that graphically depict trends in historical and future fares, ridership and/or revenue, using specialized tools such as TABLEAU, where applicable
- Coordinating with WSF staff to make refinements/corrections to the existing revenue reports to better align with ridership forecasting
- Continuing an ongoing process to update legacy Microsoft Excel spreadsheet files and tools to better conform with FAST spreadsheet modeling standards
- Refining the econometric forecast models to better adapt to major shifts in patronage trends, including capturing changing service area demographics and work from home trends that impact why, when and how frequently customers use the ferry system
- Coordinating with WSF's forthcoming rider survey and related long range system planning activities
- Providing analysis support to the Ferry Advisory Committee on Tariffs (FACT) and/or the Washington State Transportation Commission's Ferry Riders Opinion Group (FROG)
- Preparing updated forecast methodology documentation and/or presentations, including a formal update to the Ridership and Revenue Forecasting Methods & Procedures Manual initially prepared in 2000 and informally revised at least annually

ADDING NEW TASK ITEMS

At the outset, and periodically as major new task items are identified, Brent will follow the process displayed in Figure 3. For the quarterly updates to ridership and revenue projections (service area 1 above), we propose following the general work plan that the WSP USA team has successfully deployed and continually improved for over two decades. This work plan process was originally documented in the Washington State Ferries *Ridership and Revenue Forecasting Methods & Procedures Manual* (December 2000). We have regularly updated the process details in multiple internal updates to this document, and we would propose to formally update this manual, taking a fresh look at how the materials and processes are presented.

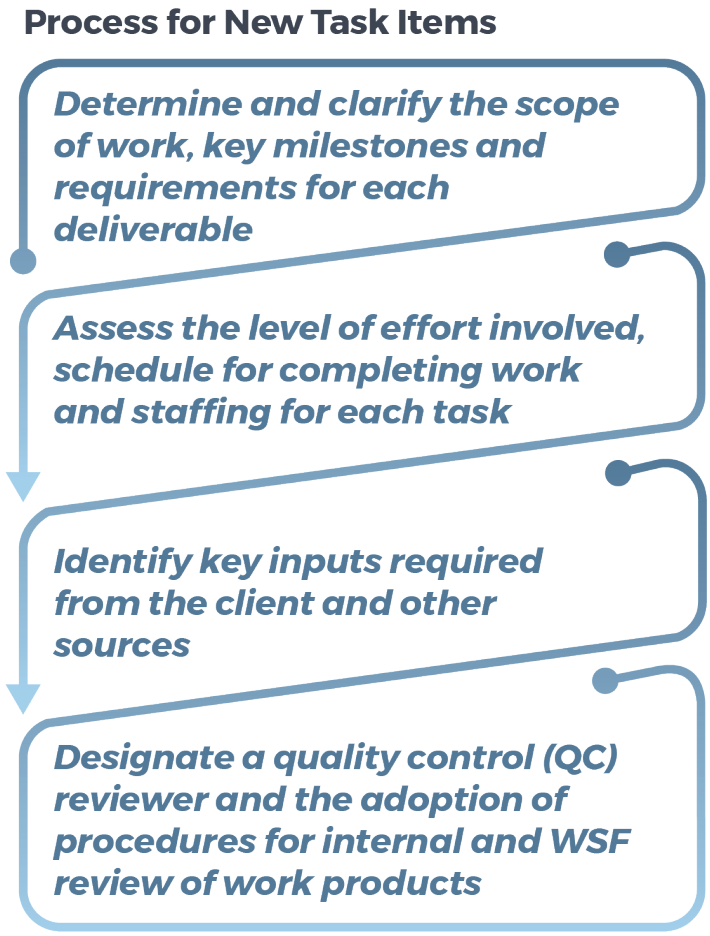


Figure 3: Process for New Task Items

SUMMARY OF THE QUARTERLY FORECAST PROCESS

The typical quarterly forecast process (as shown in Figure 4 on page 26) includes:

- Attending the quarterly TRFC Forecast Assumptions Meeting
- Preparing the **system-wide econometric model ridership forecasts by seven fare categories**, after updating the workbooks and macros that use the following inputs and assumptions:
  - Historical quarterly ridership with seasonality removed
  - General fare policy assumptions and applicable surcharges
  - Historical and projected values for economic and demographic variables, including working age and senior citizen ferry-served area population indexes from county population projections
  - Calculations of seasonal adjustment factors by seven fare categories
- Preparing the route-specific **time series model ridership forecasts by seven fare categories** and 10 routes, after updating input workbooks and calculations for:
  - Historical monthly ridership by route
  - Stationarity transformations to separate seasonal effects from underlying growth trends
- Preparation of **monthly ridership forecasts by route calibrated to the system-wide forecast totals**, yielding detailed unconstrained ridership forecasts by:
  - Re-applying seasonality to the quarterly system-wide econometric forecasts by fare category
  - Factoring the monthly time series forecast to yield matching quarterly totals by fare category

- Update the **vessel capacity constraint model** by reviewing and updating the following input and assumption workbooks:
  - Service restoration plans, sailing schedules and vessel size assumptions
  - Walk-on share of passenger fares, average vehicle occupancy, and propensity for riders to shift modes
  - Baseline and maximum threshold quarterly volume-to-capacity (V/C) factors by route
- Prepare **capacity-constrained ridership forecasts and revenue projections by route for seven fare categories** by running macros that process the following for each fiscal year and forecast scenario:
  - Adjustments to demand and modal distribution for conditions in which future vehicle/driver demand will exceed available vessel space
  - Calculations to provide route- and season-specific fares or average fare realizations by forecast year and capture the $0.50 combined capital facilities and vessel surcharge on each fare sold
  - Generation of capacity-constrained revenue projections by route for each fare category
- Support the **Miscellaneous Revenue Forecasts**
  - Update the Miscellaneous Revenue Model with the latest revenue, ridership and inflation projections
  - Send to WSF for updating vendor and other revenue source assumptions and trends
  - Incorporate the resulting miscellaneous revenue forecasts within the overall forecast documentation
- Prepare various documentation, tables, and charts that comprise the materials for the following:
  - TRFC Forecast Adoption Meeting tables and presentation
  - Supplemental forecast package, including any requested alternative forecast scenarios
  - TRFC forecast documentation
  - Other ad-hoc documentation requests

In recent years, Kitsap Transit has implemented fast passenger-only ferry service on three routes between downtown Seattle and Southworth, Bremerton and Kingston on the Kitsap peninsula.

WSP USA continues to monitor and evaluate how these competing services have and will impact future ridership and revenue on Washington State Ferries.

Figure 4 illustrates the key components in the quarterly ridership and revenue forecasting process.

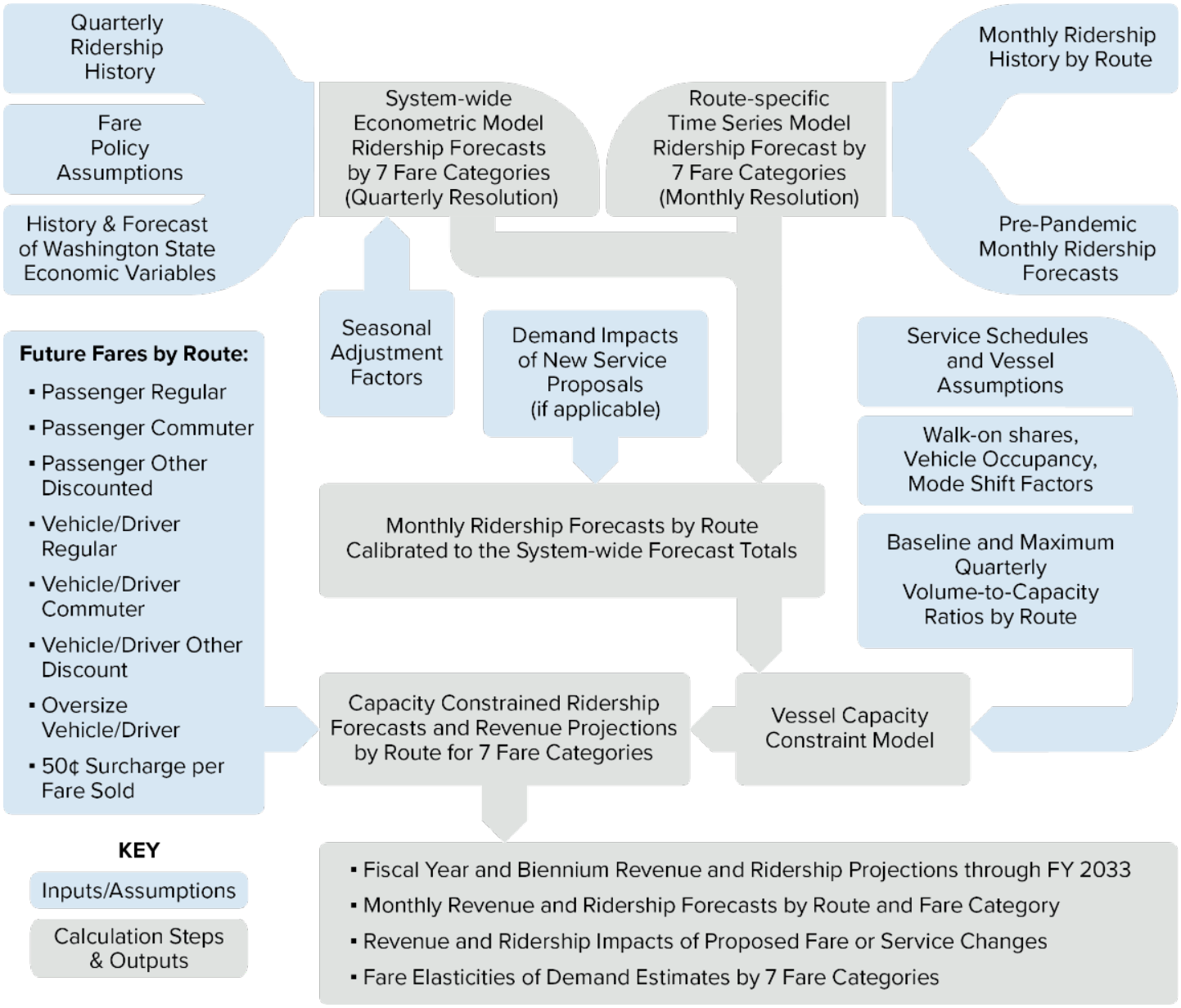


Figure 4: Forecasting Process

APPROACH FOR ADDRESSING CONTINGENCIES

We do not anticipate that there will be any contingencies that will prevent the team from completing work tasks on time. However, there may be events that arise during this work that would require contingency plans.

The most likely event is that a key data input will not be available or will be delivered late. If it looks like the missing input will be late, we will perform the forecasting and quality control processes with provisional, placeholder data and then rerun the process as soon as the needed input data becomes available. Because many of the forecasting steps have been automated, we often have the ability to make last-minute changes, though preserving time for quality review of the outputs is important and should not be shortcut. If one or more data inputs will not be available for the current forecast, then we will revert to the data from the previous forecast or use a synthetic proxy / best estimate for the missing data.

Another potential event requiring a contingency plan involves an unforeseen "shock" or sudden change to the market for ferry services that diminishes the forecasting ability of one or more of the seven system-wide econometric forecast models. The COVID-19 pandemic is an example of an unanticipated event with both transitory and pervasive impacts that change in ridership demand in a way that is not readily attributed to the current set of economic, demographic and fare variables used in the econometric models. Similarly, there could be changes in one or more explanatory variables that end up not having the expected effects on ridership and revenue. In either case, the risk is that the forecasts will diverge from actual trends. Our approach is to notify WSF staff of the issue and propose a work-around, including the re-specification of one or more of the models, the introduction of an indicator variable to account for a special or unexplained event, or an adjustment to the data to smooth out a one-time anomaly from the analysis. This is exactly the process that was put into effect for the June 2020 forecast after the pandemic hit in late March 2020.

B. ISSUE RESOLUTION

Over the three decades that WSP USA has been supporting WSF with ridership and revenue forecasts, there have not been any issues within or among the consultant team, WSF staff, or stakeholders that could not be resolved with either a quick phone call or face-to-face meeting. The expectations and requirements for the work are well-established and the deliverables are clearly defined; therefore, we do not anticipate any insurmountable challenges. Our philosophy is that clear, open communication combined with longstanding familiarity with WSDOT and WSF's procedures, policies, and protocols will catch any potential issues early on before they become a challenge.

In the event that a significant issue did arise, Brent will work with his WSF counterpart to find a quick and effective solution. We would expect that an issue arising at WSF regarding our work would be swiftly brought to our attention so that we can take immediate corrective action. Should an issue arise involving a potential stakeholder, such as a member of the WSTC, a legislative staff member, or a FACT member regarding the reasonableness or interpretation of the forecasts or documentation, we will provide WSF staff with whatever analyses, information, or support is required for resolution.

In addition to our project manager, WSP USA assigns a principal-in-charge (PIC) to most every project assignment. The PIC will be a resource to WSF's agreement manager and team as needed to receive feedback and resolve issues in the unlikely event that they cannot be resolved by the WSP production team. As such, the PIC plays a vital role to WSP's system of checks and balances that enhances successful project delivery. For this agreement, **Lorelei Williams** will serve as our PIC. Lorelei is available to WSF to manage any unforeseen issues and manage necessary mediation efforts. With an extensive managerial career in transportation, Lorelei brings invaluable expertise and context to problem solving, mediation and client relations and has served in this role on numerous assignments.

C. WORK BREAKDOWN STRUCTURE AND DELIVERABLES

As mentioned in Criteria 4, WSP USA will prepare a detailed Work Breakdown Structure (WBS) for the project in consultation with the WSF project manager. The WBS will include the modeling and analysis tasks required to support WSF. This will include the routine revenue and ridership forecasting tasks and potential ad-hoc assignments as they arise. The following table (Table 8) breaks out the structure of the work by input and output deliverables and the responsible parties.

Table 8: Work Breakdown Structure and Deliverable

Work Activity or Deliverable	WSP	WSDOT
Task order development and approval	✓	✓
Prepare demographic and economic variable projection inputs		✓
Provide ridership and revenue history reports/data file inputs		✓
Provide future fare policy and service level inputs		✓
Update the econometric models, spreadsheets and programs	✓	
Prepare unconstrained ridership demand forecasts	✓	
Prepare 10-year system-wide ridership and revenue projections	✓	
Prepare detailed monthly route-by-fare category projections	✓	
Summarize fare elasticity of demand estimates	✓	
Prepare actual-to-forecast performance analyses and charts	✓	
Estimate the impacts of proposed tariff policies in coordination with FACT	✓	
Prepare presentation materials for quarterly TRFC adoption meetings	✓	
Perform quality control reviews of draft forecast products and results	✓	✓
Present quarterly forecast results and materials to the TRFC	✓	✓
Prepare final forecast deliverables or other materials requested by WSF	✓	
Update the model and prepare miscellaneous revenue forecasts	✓	✓

D. KEY ISSUES AND CRITICAL MILESTONES

KEY ISSUES

The complexity of the forecasting process, combined with the short time frame between the receipt of input data and the need for forecast results, makes the timely preparation of the ridership and revenue projections the most critical issue faced by our team. As such, WSP USA is committed to prioritizing and assembling resources to meet the well-defined, albeit tightly scheduled quarterly forecast milestones. The compressed nature of the schedule requires not only an intensive effort but also a compact, close-knit team to efficiently deliver a high-quality product and outcome.

CRITICAL MILESTONES

Each spring, one of the critical annual milestones is the preparation of detailed, monthly route-level revenue and ridership forecasts for the forthcoming fiscal year and/or biennium (Figure 5). This information is used to facilitate budget preparation and updates, support planning activities by route, and provide a benchmark from which to measure actual forecast performance over time. For each route in the system, a table of the monthly base fare revenue, capital surcharge revenue and ridership projections by the seven fare categories/modes are assembled and delivered as an electronic report.

Washington State Ferries • System-wide Summary by Route — **March 2023 Forecast**

Base Fare Revenue for Baseline Forecast (DRF) — Fiscal Year 2024

Route	Fiscal Year Forecasted Revenue by Route and Fare Category							Forecasted Revenue by Route			Average Revenue Per	
	Passengers (Excluding Drivers)			Vehicles / Drivers				Total	Passengers	Vehicles / Drivers	Passenger	Vehicle / Driver
	Full-Fare	Commuter	Other*	Full-Fare	Commuter	Other Disc	Oversize**					
Point Defiance – Tahlequah	$451,896	$92,571	$130,580	$1,982,796	$2,282,108	$513,304	$659,700	$6,112,955	$675,047	$5,437,908	$1.77	$10.59
Vashon – Southworth	$91,495	$40,382	$16,236	$446,526	$390,482	$126,808	$366,485	$1,478,415	$148,114	$1,330,301	$1.83	$12.83
Fauntleroy – Vashon	$992,645	$193,567	$169,098	$3,667,196	$4,216,548	$925,748	$1,391,626	$11,556,427	$1,355,310	$10,201,117	$1.79	$10.98
Fauntleroy – Southworth	$510,037	$96,196	$83,745	$3,280,248	$1,374,447	$1,344,482	$63,413	$6,752,570	$689,979	$6,062,591	$2.51	$12.54
Seattle – Bremerton	$3,022,541	$337,453	$307,258	$6,371,259	$1,389,658	$1,602,381	$353,502	$13,384,052	$3,667,252	$9,716,799	$3.56	$17.37
Seattle – Bainbridge Island	$9,059,033	$2,038,242	$1,244,107	$18,795,243	$5,794,944	$5,698,805	$1,305,873	$43,936,248	$12,341,382	$31,594,866	$3.43	$17.10
Edmonds – Kingston	$4,407,704	$463,178	$914,426	$23,671,297	$3,961,910	$7,955,518	$3,169,612	$44,543,645	$5,785,308	$38,758,337	$3.08	$18.08
Mukilteo – Clinton	$1,992,948	$293,557	$621,361	$10,861,661	$5,850,443	$4,108,698	$2,425,371	$26,154,039	$2,907,865	$23,246,173	$1.71	$10.27
Port Townsend – Coupeville	$736,786	$20,267	$195,983	$3,277,839	$132,282	$1,359,139	$1,473,350	$7,195,646	$953,036	$6,242,610	$2.28	$16.59
Anacortes – San Juan Islands	$4,350,039	$189,222	$921,763	$11,893,252	$6,163,244	$2,465,425	$6,181,622	$32,164,567	$5,461,024	$26,703,543	$5.02	$27.57
Anacortes / Islands – Sidney B.C.	—	—	—	—	—	—	—	—	—	—	#DIV/0!	#DIV/0!
System Totals	$25,615,124	$3,764,636	$4,604,557	$84,247,316	$31,556,066	$26,100,308	$17,390,555	**$193,278,562**	$33,984,317	$159,294,245	$3.03	$15.63

* Includes bicycle surcharge revenue ** Vehicles (incl. trailers) over 22' in length

$193,279,000 as rounded in forecast documentation

Capital Surcharge Revenue for Baseline Forecast (DRF) — Fiscal Year 2024

Route	Fiscal Year Forecasted Revenue by Route and Fare Category							Forecasted Revenue by Route			Average Revenue Per	
	Passengers (Excluding Drivers)			Vehicles / Drivers				Total	Passengers	Vehicles / Drivers	Passenger	Vehicle / Driver
	Full-Fare	Commuter	Other	Full-Fare	Commuter	Other Disc	Oversize					
Point Defiance – Tahlequah	$39,295	$9,841	$24,835	$41,878	$68,398	$12,692	$5,348	$202,287	$73,971	$128,316	$0.19	$0.25
Vashon – Southworth	$7,956	$4,223	$3,080	$9,507	$11,623	$3,137	$1,648	$41,174	$15,259	$25,915	$0.19	$0.25
Fauntleroy – Vashon	$86,317	$20,240	$32,061	$77,721	$125,514	$22,958	$6,132	$370,943	$138,619	$232,324	$0.18	$0.25
Fauntleroy – Southworth	$36,959	$7,459	$12,947	$115,955	$68,891	$55,477	$1,353	$299,041	$57,365	$241,676	$0.21	$0.50
Seattle – Bremerton	$168,857	$19,983	$36,292	$173,776	$53,341	$51,026	$1,508	$504,784	$225,133	$279,651	$0.22	$0.50
Seattle – Bainbridge Island	$506,091	$124,401	$146,551	$510,434	$221,379	$181,593	$10,630	$1,701,079	$777,044	$924,035	$0.22	$0.50
Edmonds – Kingston	$246,240	$28,787	$108,608	$642,329	$151,429	$252,409	$25,690	$1,455,492	$383,636	$1,071,857	$0.20	$0.50
Mukilteo – Clinton	$188,014	$31,571	$129,080	$498,628	$377,105	$220,998	$34,809	$1,480,206	$348,666	$1,131,541	$0.21	$0.50
Port Townsend – Coupeville	$106,781	$3,385	$66,809	$114,778	$6,603	$55,241	$11,519	$365,117	$176,975	$188,142	$0.42	$0.50
Anacortes – San Juan Islands	$148,465	$9,896	$63,327	$108,517	$92,517	$26,662	$14,478	$463,863	$221,688	$242,175	$0.20	$0.25
Anacortes / Islands – Sidney B.C.	—	—	—	—	—	—	—	—	—	—	#DIV/0!	#DIV/0!
System Totals	$25,615,124	$3,764,636	$4,604,557	$84,247,316	$31,556,066	$26,100,308	$17,390,555	**$6,883,986**	$2,418,354	$4,465,633	$0.22	$0.44

Capital surcharge revenue includes 50¢ per fare sold for the WSF capital program

$6,884,000 as rounded in forecast documentation

Figure 5: Example of monthly-route-level revenue and ridership forecasts

ADDITIONAL ISSUES / AREAS FOR SUPPORT

We have identified and propose several additional issues/areas where WSF may want to enlist our support:

- Refining WSF's revenue report in coordination with WSF staff to provide tabular consistency, categorization of fare revenue to match ridership tracking categories, and improved interfacing with the forecasting tools.
- Estimating ferry ridership impact from the sunset of tolling on the Tacoma Narrows Bridge early in the next decade.
- Coordinating stakeholder as the responsibilities for the transportation revenue forecast for state budgeting transfers to the Economic and Revenue Forecast Council.
- Providing enterprise analytics that graphically depict trends in historical and future fares, ridership and/or revenue, using specialized tools such as TABLEAU where applicable.
- Continuing an ongoing process to update legacy Excel spreadsheet files and tools to better conform with FAST spreadsheet modeling standards.
- Refining the forecast models to better adapt to major shifts in patronage trends, including capturing changing demographic and workforce trends and the impacts of new competing passenger-only services.
- Coordinating with WSF's forthcoming rider survey and periodic long range system planning efforts.
- Providing analysis support to the Ferry Advisory Committee on Tariffs (FACT) and/or the Washington State Transportation Commission's Ferry Riders Opinion Group (FROG).
- Preparing updated forecast methodology documentation and/or presentations.
- Responding to special analysis requests of WSF/WSDOT senior management.
- Assessing and documenting the accuracy of historical forecasting.

While these work items are not critical, the WSP USA team stands ready and prepared to assist with these important enhancements to make forecasting process more efficient and accurate.

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About WSP USA

WSP USA is the U.S. operating company of WSP, one of the world's leading engineering, environment and professional services firms. Recognized on Fast Company's Brands that Matter List for 2022 as a top Community-Minded Business, WSP USA brings together engineers, planners, technical experts, strategic advisors and construction management professionals who are dedicated to collaborate in the best interests of serving local communities. WSP USA designs lasting solutions in the buildings, transportation, energy, water and environment markets. With more than 15,500 employees in 300 offices across the U.S., WSP partners with its clients to help communities prosper