



CAREER SUMMARY

Ms. Seaverns brings over twenty-five years of experience in the transportation engineering field as a bridge design engineer, special projects engineer, and program manager for bridges and structures. She has experience working in a leadership role with national transportation associations on bridge and structures related research needs and program implementation. She also has expertise in developing structural specifications on a nationwide basis, having worked directly with state highway departments across the United States. She has been a strong program manager for several research projects for federal projects and programs. Expertise areas include:

- Strong understanding of Federal and State Research and Implementation
- Experience in Technology Delivery and Deployment
- Strong understanding of AASHTO specification processes
- Strong nationwide network of bridge engineers
- Extensive project management and program management experience

EDUCATION

BSCE, University of Kentucky, Lexington, KY	1997
MSCE, Structures Design, University of Kentucky, Lexington, KY	2000
PhD Candidate, Transportation Management, Vanderbilt University, Nashville, TN (all but dissertation)	2011

PROFESSIONAL EXPERIENCE

Infrastructure Asset Management Business Development and Advisory Bridge Lead – Louis Berger Hawthorne Service, Inc (part of WSP) – November 2021 to Present

- Senior Bridge Technical Advisory for Southeast Region for Bridge and Highway Asset Maintenance Contracts
- Proposal and Capture Manager for Asset Maintenance and Management throughout the Southeast, with emphasis on bridge inspection, operations and maintenance services
- Technical report and research liaison for LBS for innovation and technology transfer in asset management

Freelance Technical Research and Writing – American Association of State Highway and Transportation Officials (AASHTO) – January 2020 to Present

- Performs Case Study Research and Technical Writing through an on-call contract with the AASHTO Center for Environmental Excellence - Environmental Technical Assistance Program (ETAP) and the National Operations Center of Excellence (NoCE).
- ETAP Newsletter Articles can be found here: <https://etapnews.transportation.org/> and include the following topics among others: Broadband use in Right of Ways, Embodied Carbon in Transportation Projects, Green Streets to Preserve Watersheds, Migratory Bird Take Policy in Transportation Projects, Electric Vehicle Policy and Implementation, Rest Area Pollination Gardens, Environmental Justice Considerations and Funding Provisions for Transportation Projects, etc.

Years of Practice

25 Years

Certifications

Kentucky PE – 2001

Tennessee PE – 2017

Florida PE - 2021

Project Management
Professional (PMP) – 2017

Areas of Practice

Technical and Policy Research and Writing, Bridge Research, Specification and Policy, Program and Project Management, Bridge Asset Management, Bridge Digital Delivery (BIM), State and Federal Transportation Policy, Pursuit and Proposal Management, STEM Teaching, Sailing Instruction, Non-Profit Management



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- NoCE Case Studies on best practices in Transportation Systems Management and Operations (TSMO) developed under this contract can be seen at <https://transportationops.org/nocoe-case-studies>

Transportation Representative, Concrete Reinforcing Steel Institute (CRSI) – January 2020 to December 2020

- Liaison Representative for Concrete Steel Reinforcement, promoting concrete use to the transportation industry on a nationwide level.
- Works closely with CRSI regional managers to communicate industry concerns specific to the bridge and structures community.
- Provides transportation related input on reinforcement technical documents
- Member of industry committees relevant to concrete promotion including National Concrete Bridge Council, TRB AFF30 Concrete Bridge Committee, TRB AFF10 General Structures Committee and friend of AASHTO T-10 Concrete committee

Assistant Vice President, Bridge Engineering Research Lead – WSP USA Complex Bridge Group, 2016 - 2019

- Project Manager for projects with approximately \$5,000,000 in research funding.
- Directed National complex bridge research efforts and managed bridge and structures- related research projects for state departments of transportation, the Federal Highway Administration (FHWA), the National Cooperative Highway Research Program (NCHRP) and the American Association of State Highway and Transportation Officials (AASHTO).
- Participated in development of strategic plans for Complex Bridge Group and subgroups
- Managed Client Relations Management (CRM) Pipeline of Project Pursuits for the Complex Bridge Group across all five WSP USA regions
- Assisted Director with monthly and annual reporting, annual budget development and overall Complex Bridge Group management tasks
- Developed and provided internal marketing and communications tools for Complex Bridge including SharePoint and Intranet sites where all qualifications, expertise and collaboration could be posted in order to easily write proposals and develop marketing material
- Pursuit and Proposal Manager for many projects with federal and state governments developing proposals and fostering client relations.

Primary Investigator – FHWA On-Call ID/IQ Contract for Structures Research, 2017- 2019

- Program Support for FHWA HIBS Structures Engineering Team and the Inspection, Preservation and Management Team. Tasks Orders:
 - #0001 – Demonstration of BIM for Bridges
 - #693JJ318F000250 - Truck Platooning Impacts on Bridges: Phase I – Structural Safety
 - #693JJ318F000222 - Advance Concrete Bridge Technology to Improve Infrastructure Performance
 - #693JJ318F000338 - TBM Liner Guidelines for Highway Tunnels
 - #693JJ318F000373 - FFFS-EVS Guidelines for Highway Tunnels
 - #693JJ319F000055 – Use of Steel and Iron Materials in Highway Construction

Demonstration of BIM for Bridges – FHWA Task Order, Washington DC – Project Manager, 2017-2019

- Working with FHWA to develop standard contract language for digital delivery of bridge plans to



construction. Also, includes development of an IFC Data exchange modeler to work with AASHTOWare BrD / BrR data, and a case study and demonstration modeling project with Utah DOT. Results will be distributed to the bridge community through two workshops, two webinars and final reporting.

Case Studies on Quality Assurance in Accelerated Bridge Construction; FHWA Washington DC – Project Manager, 2016-2019

- Working with FHWA Turner Fairbanks for to investigate current state of the practice for quality assurance on accelerated bridge projects with an emphasis on quality of prefabricated concrete elements. The research includes drafting a Quality Assurance Guideline document as well as providing a Visual Inspection Guide for precast concrete elements. Case studies of five ABC projects across the country will be highlighted.

North America Bridges and Major Crossing Business Development Lead; CH2M, Denver, Colorado, 2014-2016

- Worked with clients across the country to research, procure, and develop bridge business for large, 30,000+ staff, international engineering consulting firm.
- Internal coordination of 150 bridge design staff located across the country, to facilitate work sharing and dedication toward common, company goals within geographically dispersed offices.
- Strategic planning coordinator for Major Crossings division
- Team building efforts for long span and complex bridge and highway projects for alternative project delivery (design-build teaming of design consultants and construction contractors for joint ventures).
- Also managed the following research projects:
 - Project Manager – FHWA contract to investigate Bridge Information Modeling (BrIM) capabilities on Open BrIM software, 2015
 - Project Manager – SHRP2 R19b Service Limit State Design Research Implementation Phase, 2015
 - Project Manager – SHRP2 R19a Service Life Design for Bridge Implementation Phase, 2014

Program Manager for Bridges and Structures; American Association of State Highway and Transportation Officials (AASHTO); Washington, DC, 2003-2014

- Program Manager for Bridges and Structures, responsible for managing the Committee on Bridges and Structures (COBS). Principal accomplishments included the following:
 - Worked with all 52 state highway departments and their Directors of Bridge Design to develop structural specifications.
 - Worked with volunteer members organizing meetings, developing documents, and monitoring publication schedules for structural design specifications and guidelines.
 - Performed research and draft testimony for legislative briefings (such as the House Subcommittee on Transportation and Infrastructure) and support of reauthorization efforts (MAP-21).
 - Acted as contract manager for the project devoted to Maintenance of the Load and Resistance Factor (LRFD) Bridge Design Specifications (\$2.2 million technical service program funding).
 - Worked closely with the Federal Highway Administration (FHWA) on research needs and program implementation such as SHRP2 Research and the Long-Term Bridge Performance Program.
 - Worked closely with the Transportation Research Board (TRB) and the National Cooperative



- Highway Research Program (NCHRP) to collaborate on research panels and update research needs.
- Worked with other associations such as the American Society of Civil Engineers (ASCE), the Precast/Prestressed Concrete Institute (PCI), and the National Steel Bridge Association (NSBA) on policy, research, and publications.
- Worked closely with AASHTO Standing Committee on Performance Management to develop white papers on Bridge Performance Measures as indicated in MAP-21.
- Worked with SCOBS to respond to Notice of Proposed Rule Makings on tunnel inspection inventory, NBI Coding Guides, Element Level Inspection Research, etc.
- Worked as a committee member to draft the *1st Edition of the Guide Manual for Bridge Element Inspection*.
- Worked closely with FHWA (as part of an expert task group) to collaborate with Bridge Safety Engineers to update Bridge Inspection Quality Assurance Programs (23 metrics).
- Program Manager for the Technical Committee on Hydrology and Hydraulics
 - Worked with the committee and AASHTO publications to update the AASHTO Drainage Manual as well as other Hydrology and Hydraulics related documents
 - Liaison to the FHWA Turner Fairbanks Hydrology and Hydraulics Lab
 - Liaison to task force groups on Climate Change/ Sea Level Rise

Independent Research Consultant, Nashville, TN, 2010-2013

- Researcher; NCHRP 14-23 Practical Bridge Preservation Actions and Decision Making – Phase I; Michigan State University and the National Center for Pavement Preservation.
- Integrated Remote Sensing and Visualization (IRSV) with Applications in Bridge Management Project – Phase II; University of North Carolina, Charlotte, and US DOT.
- Researcher; Sub-consultant to Arora and Associates, P. C. for NCHRP 20-68A 09-01 Domestic Scan on *Best Practices for QA/QC for Design Plans*. Reporter and Principal author July 2011.

Project Engineer, Kentucky Transportation Cabinet; Frankfort, KY, 1997-2003

Special Projects Engineer; Kentucky Transportation Cabinet (KYTC); Frankfort, Kentucky. Managed Memorandum of Agreement contracts with city, county, and private entities requesting state funding for transportation projects and other special project management as assigned by the State Highway Engineer.

Bridge Design Engineer; Division of Bridge Design; Kentucky Transportation Cabinet; Frankfort, Kentucky. Responsible for design of bridge substructures (spread footings, pilings, abutments, piers, end bents), design of bridge superstructures (prestressed concrete I- beams, box beams, steel rolled girders, welded plate girders, steel truss beams and connections, concrete deck slabs), and culverts (12 total bridge designs completed in Kentucky). Also used various design software, reviewed other squad members' work, calculated quantities, completed cost estimates, and reviewed graphics and detailing.

Specific bridge project experience included the following:

- 13-meter, single-span concrete box beams, 26-degree skew (metric design) in Menifee County.
- 158-foot, single-span through-plate girder, plate girder floor beams, 40-degree skew in Fayette County
- 100-foot, single-span, Type IV concrete I-beams (seven beams) in Boone County
- 48-foot, single-span, side-by-side concrete box beams (six beams) in Bullitt County
- 18-meter, single-span, side-by-side concrete box beams (11 beams), 15-degree skew in Harlan County
- Warren steel through-truss design over Cumberland River in Pulaski County, responsible for steel superstructure geometry, and beam sizing and analysis (GTStrudel). Length of largest span: 786.1 feet, Total length: 1,712.0 feet.
- Three-span (25 feet, 60 feet, and 25 feet) prestressed concrete I-beam Type III, wing wall abutments,



two piers on spread footings in Jefferson County

ADDITIONAL RESEARCH ACTIVITIES

- NCHRP 20-07/Task 335 – Strategic Plan for AASHTO Subcommittee on Bridges Panel, 2012
- FHWA Long Term Bridge Performance Program Advisory Committee, 2011 to 2014
- FHWA/AASHTO National Bridge Inspection Task Force Member (23 Metrics Review) 2012
- FHWA Expert Task Group on Bridge Preservation, 2010 to 2014
- AASHTO liaison for FHWA SHRP2 bridge research programs and implementation, 2010- 2014
- AASHTO liaison for Transportation System Preservation Program, Bridge Preservation (TSP2)
- AASHTO-ASCE/SEI Joint Ad Hoc Group on Bridge Inspection, Rating, Repair, and Replacement, January 2008
- Transportation Systems Preservations Research and Implementation Workshop Panel (FHWA Asset Management Office) – Bridge Preservation Workshops, May 2007
- NCHRP Panel 20-07 / Task 230 Safety and Security of Roadway Tunnels, January 2007- 08
- NCHRP Panel 20-07/ Task 199 Development of the Strategic Plan for Research in Bridge Engineering (through 2010), March 2004.

NON-PROFIT AND BOARD EXPERIENCE

Bridging the Gap Africa - Board of Directors, Chair of the Technical Advisory Committee - 2011 to 2018

- Member of the Board of Directors of Bridging the Gap Africa, a non-profit organization that builds footbridges for rural marginalized communities in East Africa. These bridges allow communities to reach schools, markets and clinics when flooded, dangerous rivers block their way. Bridging the Gap Africa is a small, all-volunteer run, non-profit that has built over 70 footbridges throughout East Africa.
- Acted as technical lead for the organization, collaborating on the development of standard bridge designs, materials research, and construction methods
- Participated in the physical construction of two bridges in 2013 and 2014 in Kenya.

Advisory Board - State University of New York at Buffalo Institute of Bridge Engineering - 2016 to present

- External advisory board member providing industry professional views on curriculum for bridge topics in the UB School of Engineering

Nashville Youth Sailing Foundation - Board Member, 2019 to Present

Oasis Charter School STEM Advisory Board – January 2021 to present

Executive Director - Venice Youth Boating Association - Venice, FL, September 2019 to October 2021

- Summer programs serving over 300 students in the community in Learn to Sail summer camps.
- School Year Race Team consisting of approximately 85 local youth sailors ages 8yrs to 18yrs old participating in sailing practices and regattas throughout Florida
- Manage the Venice High School Sailing team in coordination with the South Atlantic Interscholastic Sailing Association (SAISA)
- Manage coaching staff of approximately 10 year-round instructors
- Manage fleet of over 40 various types of sailboats and powerboats
- Program logistics including marketing (website, flyers, summer camp fairs, social media), registration, payment, donations and fundraising, discipline, parent communication, transportation, hiring and



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- managing instructors, managing all boats and equipment, safety requirements, first aid, coordination of food services and overall lesson plans
- Coordination with local middle schools (Pine View, Venice Elementary, Student Leadership Academy) to present monthly STEM presentations to 5th to 7th grade students related to water environment, sailing physics and math lessons using small boats

Summer Sailing Director – Harbor Island Yacht Club, Nashville, TN, Summers 2020-21

Waterfront Director – St. Croix Yacht Club, USVI, Summers 2018-2019

NON-PROFIT LEADERSHIP TRAINING

Gulf Coast Leadership Institute –June 2021

- Applied and selected for group of 25 local leaders in Sarasota County, FL business – training on assessment-based leadership skills and networking. (<https://www.gulfcoastcf.org/gcli>)

Gulf Coast Community Foundation Board Institute – February 2021

- Applied and selected for group of 25 local Sarasota County, FL board members participating in month long, once weekly sessions covering all aspects of successful board governance and operations. (<https://www.gulfcoastcf.org/gulf-coast-board-institute>)

Annenberg Foundation - January 2014 (www.annenbergfoundation.org)

- Intensive week-long specialty training for non-profits on board building, fundraising and overall management and growth of non-profit organizations. Special invitational training for CNN Hero Winners through Bridging the Gap Africa (CNN Hero Award organization 2010)