

Frances D. Harrison

Spy Pond Partners

Education

M.E., Civil Engineering/Transportation, University of California at Berkeley, 1980
B.C.E, Civil Engineering, Massachusetts Institute of Technology, 1978

Areas of Expertise

Transportation asset management and pavement management
Transportation performance measurement
Federal, state and local transportation policy and planning
Transportation data and information systems
Software development process and quality assurance

Experience

Spy Pond Partners, LLC (2005-Present)

Co-founder and chief technical officer of consulting practice focusing on improving the use of knowledge and information for better decision-making. Responsible for technical strategy and project delivery. Current projects include:

- Principal Investigator, NCHRP 20-75, Implementing Transportation Knowledge Networks
- Project Manager, Roadway pavement management system implementation for the Virginia Department of Transportation
- Contributor, NCHRP 20-72, Tools to Aid State DOTs in Responding to Workforce Challenges
- Contributor, Performance measures program development for the Pennsylvania Department of Transportation
- Project Manager, Roadway inventory update process redesign for the Virginia Department of Transportation
- Project Manager, needs-based budgeting improvements for the Virginia Department of Transportation
- Technical Lead, Virginia Operations Information System Standards Review
- Contributor, AASHTO AssetManager tools implementation

Cambridge Systematics, Inc. (1980-2005)

Directed transportation consulting assignments for US DOT, State DOTs, and local governments. Provided technical leadership in transportation asset management, data integration and decision support systems. Authored over 100 research reports, design documents, user manuals and handbooks. Developed data and process models. Designed and executed a wide variety of data collection efforts. Managed several software development projects and led the corporate software process improvement initiative. Assignments included:

- Principal Investigator, NCHRP Project 20-57, Analytical Tools for Asset Management (National Academy of Sciences, National Cooperative Highway Research Program)
- Principal Investigator, NCHRP Project 20-64, XML Schema for Exchange of Transportation Data (National Academy of Sciences, National Cooperative Highway Research Program)

Experience (continued)

- Principal Investigator, NCHRP Project 20-60, Performance Measures for Transportation Asset Management (National Academy of Sciences, National Cooperative Highway Research Program)
- Contributing Author, Review of Data Integration Practices and their Applications to Transportation Asset Management (US DOT Federal Highway Administration, Office of Asset Management)
- Contributing Author, Asset Management White Papers (US DOT Federal Highway Administration, Office of Asset Management)
- Project Manager, Elements of a Comprehensive Signal Systems Asset Management System (US DOT Federal Highway Administration, Office of Operations)
- Project Manager, Highway Division Performance Management System (Oregon Department of Transportation)
- Project Manager, Highway System Policy Plan and Corridor Management Handbook (Vermont Agency of Transportation)
- Project Manager, Priority Programming Process Analytical Support (Montana Transportation Department)
- Project Manager, Transportation Enterprise Asset Management System Functional Requirements (Washington DC Department of Transportation)
- Project Manager, Street Inventory, Pavement Management and HPMS Reporting System Enhancements (Washington DC Department of Public Works)
- Technical Lead, Financial Management and Project Tracking System Requirements Analysis (Rhode Island Department of Transportation)
- Technical Lead, Investigation of ERP Solutions for Meeting Maintenance Management Requirements (Virginia Department of Transportation)
- Technical Lead, Performance Data for District of Columbia National Highway System Maintenance Outsourcing (US DOT Federal Highway Administration)
- Technical Lead, Maintenance Management System Prototype Based on Multi-Attribute Utility (Finland Ministry of Transport)
- Technical Lead, University Space Management System Concept and Data Architecture (Massachusetts Institute of Technology Facilities Division)
- Technical Contributor, Transportation Management System Requirements Analysis (Michigan Department of Transportation)
- Lead Author, Bridge Inspection and Management System Functional Requirements Specification (Long Island Rail Road)
- Technical Contributor, Tunnel and Bridge Capital Programming System (Triborough Bridge and Tunnel Authority)
- Requirements and Software Quality Assurance Manager, Commercial Vehicle Information Systems and Networks project (Minnesota Department of Transportation)
- Project Manager, Transit Vehicle Performance Information Management System (Arizona Department of Transportation)
- Technical Contributor, Programming and Prioritization Study (Washington State Department of Transportation)
- Technical Contributor, Development of Freight and Goods Transportation Network (Washington State Department of Transportation)
- Technical Lead, Local Parking Studies (Boston, Massachusetts; Portland, Maine; Philadelphia and State College, Pennsylvania)
- Developer, RoadMAP Pavement Management System for local governments
- Developer, Road Inventory System and Straight Line Diagramming Tool (Seminole County, Florida)
- Developer, Parking Inventory System (City of Portland, Maine)
- Author, User-Side Subsidy Handbook for Special Needs Transportation
- Author, Israel Paratransit Study – Use of School Buses as Feeders to Fixed-Route Service

Professional Activities

Chair, Transportation Research Board Data Section Subcommittee on Metadata

Member, Transportation Research Board Information Systems and Technology Committee

Member, Women's Transportation Seminar, Boston Chapter