Bob McQueen

Smart mobility expert

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Expertise

- Concept & use case development
- Value propositions
- Needs analysis
- Customer characteristics
- Business process
- Procurement & funding
- Technology selection
- Organizational alignment

Overview

Bob has followed a rich and varied career path that blends technical, business, marketing and sales experience. It features a steady migration from his roots in traffic engineering and transportation planning to specialization as a senior advisor in the application of advanced technologies to transportation. He has experience across a wide spectrum of technology and transportation assignments for public sector organizations at national and local levels in the USA, Europe, the Middle East and the Asia-Pacific region.

His widely varied expert-level consulting assignments region combines with an extensive network of collaborative practitioners to enable him to maintain a state of the art knowledge of current and emerging technologies capabilities, costs, operational management and performance issues. He has a particular forte in the definition of cost and performance relationships for new technologies and expert evaluation of business and procurement models for transportation-related businesses.

Bob was also instrumental in developing both European and international standards for system architecture, terminology and dedicated, short-range communications applications for Intelligent Transportation Systems as part of the CEN TC 278 Committee.

Past public sector assignments

SENIOR ADVISOR, FLORIDA DEPARTMENT OF TRANSPORTATION, I-4 ULTIMATE PROJECT
Bob served as a public sector advisor on this $2.2 billion project in Central Florida. The project involves the reconstruction of the I -4 to provide express lanes that will be operated using dynamic tolling. As part of this project Bob has helped to write the request for proposals, developed the concept of operations and prepare the system engineering management plan for the project.

PROJECT MANAGER, INTEGRATED CORRIDOR MANAGEMENT (ICM) PROJECT SAN DIEGO ASSOCIATION OF GOVERNMENTS (SANDAG)
This assignment involved the development of a competitive bid for Federal funding and the subsequent management of the project. The ICM project took a multi-modal, multi-agency approach to management of traffic and transit along a 22 mile section of the I-15 corridor in San Diego.

ORLANDO ORANGES PROJECT, LYNX, ORLANDO
This project involved the conceptual planning, development delivery and operational management of a working regional electronic payment system spanning the local toll, parking and transit agencies. This involved identification and agreement of user needs across tolls, transit and parking, the development of a coordination and cooperation framework and the implementation of inter-jurisdictional arrangements. The project was carried out under the auspices of the Federal Transit Administration Field and Operational Test program. Bob developed the initial concept, led the preparation of a successful bid for Federal funding and directed the execution of the project.

CHIEF TECHNOLOGIST, FLORIDA'S TURNPIKE ENTERPRISE (FTE)
FTE is one of the largest toll road networks in the USA. This assignment involved the provision of senior advisor consulting services to the Executive Director and Chief Operating Office of FTE. This required the identification and evaluation of new information and telecommunication technologies that might be applied to the development, operation and management of the FTE road network. Technologies considered included advanced open road electronic toll collection, automated highways, congestion pricing and bus rapid transit technologies. Bob conducted the technology evaluations and developed briefing documents and presentation to senior executive staff at FTE.

SENIOR ADVISOR, SAN FRANCISCO COUNTY TRANSPORTATION AUTHORITY, URBAN CONGESTION PRICING
Bob served as an advisor on technology and business model choices for this feasibility study, the first of its kind in the USA. The project addressed transportation impacts, economic, legal and commercial aspects of a proposed congestion pricing zone implementation in the downtown San Francisco area.

Education

M.S., Highways and Transport, City University, London, 1993

B.S., Civil Engineering, University of Strathclyde, Scotland, 1980

Affiliations

- Member, Intelligent Transportation Society of America
- Member, Intelligent Transportation Society of America, Road User Charging Working Group
- Member, Intelligent Transportation Society of America, Urban Air Mobility Working Group
- Member, Broadband Deployment Task Force, ITS America
- Former member of the Board of Directors, ITS California
- Former Chair, Electronic Payment Systems Forum, ITS America
- Intelligent Transportation Society of Florida (ITSFL), Former President and Chairman of the Board
- Member of Graduate Faculty, University of Central Florida

Past public sector assignments (continued)

TRAFFIC SPEED ANALYSIS, MICRO TRAFFIC MANAGEMENT ZONE IDENTIFICATION, FLORIDA DEPARTMENT OF TRANSPORTATION, DISTRICT 4

This work involved the use of the NPMRDS combined with other data under the auspices of the RITIS tool at the University of Maryland. 12 months of speed data was analyzed to determine congestion limits in a scientific approach to traffic management zone definition. The work involved analysis of discrete data, the development of analytics and support to define traffic management zones. The work is the 1st phase in a new approach to regional transportation management that incorporates a microscopic focus on smaller zones, in addition to the regional approach taken by the traffic management center. The project involved close coordination with the University of Maryland, Florida DOT district 4 staff, traffic engineers and transportation

TRAFFIC ENGINEERING ANALYTICS: BOTTLENECK ANALYSIS FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT 5

A brief study was conducted to identify and characterize bottlenecks on the I for freeway in the Orlando area and make comparisons with State Route 417, also in the Orlando area. The number of bottlenecks over a defined period were calculated, along with the recovery time after the bottleneck, for the road to return to normal operation.the work involved detailed analysis of traffic speed data from probe vehicles.

Traffic engineering analytics: Evaluation of the Effects of Variable Speed Limit Signs on the I 285 Top-End Atlanta

Georgia Department of Transportation installed approximately 100 variable speed limit signs on this major freeway around the northern limits of the City of Atlanta, Georgia. The work involved the definition of suitable analytics and the analysis of approximately two years of speed data to identify and quantify the effects of the variable speed limit signs on traffic turbulence. This was an application of scientific traffic engineering techniques, based on big data analysis.

SYSTEM INCIDENT MANAGEMENT REVIEW, NORTH TEXAS TOLLWAY AUTHORITY (NTTA), DALLAS, TEXAS

NTTA own and operate a major toll road network in the Dallas/Fort Worth region. One of the more significant activities within the organization is the planning and management of traffic incident response and management activities. Bob was asked to conduct a review of current system incident management activities and compare these against national and international best practices. The work resulted in the development of an inventory report, a best practices review document and a set of recommendation for operational improvements including technology applications.

REGIONAL ELECTRONIC PAYMENT SYSTEM, NORTH TEXAS TOLLWAY AUTHORITY, DALLAS TEXAS

North Texas Tollway Authority, in collaboration with Dallas Area Rapid Transit (DART) and The City of Dallas, identified the need to take a cohesive regional approach to electronic payment methods for transportation. NTTA already operates one of the most advanced electronic toll collection systems in the USA and the other agencies wished to build on this facility and experience to develop a regional payment system for toll collection, transit fares, parking fees and civic services/amenities.

Bob worked in close association with all three agencies to develop a technical and organizational solution for the planning, development and operation of a regional electronic payment service, known as the RapidCard. This will enable residents of the Dallas/Fort Worth region to make use of multiple payment devices (toll transponders and smart cards) to pay for a range of transportation and civic services from a centrally held “universal transportation account. In the course of the work, Bob developed a conceptual technical solution that defines possible technologies and systems elements. He also defined the organizational arrangements required to plan, develop and operate the RapidCard and developed a financial model for system costs.

STRATEGIC PLANNING FOR ITS, SAN DIEGO ASSOCIATION OF GOVERNMENTS (SANDAG)

This assignment involved the development of an inventory of current and planned Intelligent Transportation Systems in the San Diego County region and the definition of needs, issues, problems and objectives to be addressed by future investments. SANDAG is the Metropolitan Planning Organization for San Diego County in Southern California and one of the leading users of Intelligent Transportation Systems in the USA. They have successfully harnessed multiple advanced technologies to save time lives and money, including electronic toll collection, advanced traffic management and traveler information systems.

A significant element of this work involved the assessment of the operating costs for the existing Compass (smart card based transit ticketing) and FasTrak (electronic toll collection for managed lanes) back offices. This identified a high level of synergy and led to development of recommendations to converge both business process and plan for a single back office addressing both applications.

ISRAEL ITS, PUBLIC WORKS DEPARTMENT, STATE OF ISRAEL

As project manager, Bob developed an integrated statewide ITS architecture utilizing the tools, products, and methodology from the U.S. National ITS Architecture Program. This project involved identification and confirmation of local transportation needs, policy objectives, issues, and the definition of technical and institutional/organizational ITS architecture solutions.

NATIONAL ITS ARCHITECTURE DEVELOPMENT PROGRAM, JET PROPULSION LABORATORY (JPL)

Bob served as ITS specialist in support of the effort to develop and apply a National System Architecture (NSA) for ITS. For this work effort, Bob provided expert-level consultant services to assess and evaluate likely policy impacts of the NSA. The scope of services included using system engineering and architectural development skills, combined with an in-depth understanding of transportation planning processes and policy issues.