**Wylie K. Bearup, PE, PhD, DBIA**

**Faculty Associate, Del E Webb School of Construction**

**Education**

University of Illinois, Champaign-Urbana, Ph.D., 1995, Civil Engineering - Construction Engineering and Management

University of Arizona, M.S., 1981, Civil Engineering - Structures

University of Arizona, Tucson, B.S., 1976, Civil Engineering

**Academic Experience**

***Del E. Webb School of Construction***

School of Sustainable Engineering and the Built Environment

Ira A. Fulton Schools of Engineering

Arizona State University, Arizona 2012 – Present

*Faculty Associate* July 2020 - present

*Professor of Practice and Beavers-Ames Heavy Civil Chair* 2012 – July 2020

* Developed and taught class titled “Public Works Capital Construction” offered for both undergraduate student and graduate level credit. Classroom instruction based on years of experience as a construction owner for large government agencies.
* Taught class titled “Construction Methods, Materials, and Equipment,” sophomore-level core vertical construction course for Construction Management majors and cross listed for Construction Engineering majors.
* Developed and taught new “Construction Project Capstone” course to assess graduating seniors’ knowledge of construction management tasks required by industry.
* Assisted faculty in preparation and submission of winning research proposal for the National Highway Cooperative Research Program (NCHRP) related to post-award activities for infrastructure projects using Alternate Project Delivery Methods.
* Participated on PhD candidate graduate thesis committee with research focus on providing best practices and performance measures for use of Alternate Project Delivery Method on infrastructure projects.
* Guest lectured for construction management classes on *Introduction to Construction*, *Contract Law*, *Heavy Civil Project Management*, *Project Delivery Methods*, *Front End Planning*, *Retrofit Construction*, and *Mechanical Construction*.
* Participated in curriculum review to ensure university course work relates directly to needs of the construction industry; also participated in preparation for upcoming curriculum accreditation process.
* Served as liaison between the department and the local architect/engineer/ contractor community; participatds in educational symposiums with local industry representatives.
* Served as Interim Program Chair for 6 months during search for permanent Program Chair

***Military Science Department***

College of Liberal Arts and Sciences

Arizona State University, Tempe, Arizona, 1997-1999

*Department Chairman* 1997 - 1999

* Directed 18-person staff responsible for instructing 150 cadets to prepare them to serve as officers in the US Army
* Managed an annual operating budget of $200K and scholarship budget of $1.2 million
* Provided instruction on military subjects to include ethics, leadership, history, and justice
* Acted as role model and mentor in preparing young men and women to serve their country
* Served as chair of the Military Science Department, College of Liberal Arts and Sciences; interacted effectively with other department heads and university administration

*Adjunct Faculty, Del E. Webb School of Construction* 1998-1999

* Prepared and implemented new instructional materials for a graduate-level course titled “Strategic Planning for the Construction Enterprise.” Provided input to other faculty members on construction management experiences from over 20 years in US Army Corps of Engineers.

**Industry Experience**

***Alliance for Construction Excellence, Del E Webb School of Construction***

*Executive Director* July 2013 – January 2017

* Led outreach efforts with goal to achieve greater integration between DEWSC and the architect/engineer/contractor (AEC) community.
* Prepared and conducted training for AEC participants to enhance project management, construction management, and project delivery skills.
* Provided leadership for proposed legislative changes as needed to improve efficiency and effectiveness of capital construction projects.
* Led broad-based construction industry group with goal of removing legislative obstacles limiting use of the Private-Public Partnership approach for infrastructure construction.

***Street Transportation Department, City of Phoenix, Arizona***

*Street Transportation Director/City Engineer*, June 2010 – April 2014

* Through reorganization and restructuring effort, regained responsibilities as City Engineer in addition to supervising Street Transportation Department with duties as described below.
* Responsibilities included oversight of procurement processes for the selection of architects, engineers, and contractors to execute the City’s $5 billion 5-year Capital Improvement Program.
* Managed the procurement processes for the design and construction of City facilities and infrastructure; makes recommendations for the award of all public works construction contracts to the Mayor and Council; enters into contracts on behalf of the City Manager; and serves as the ultimate arbiter within the City for public works construction projects.
* Supervised the successful execution of the City’s $850 million 2006 General Obligation bond program which has been drawn out in execution due to economic conditions with over $200 million worth of projects still to be executed.

*Street Transportation Director* January 2008 – June 2010

* Directed execution of street transportation services to support the needs of the Nation’s 6th largest city with a population of over 1.4 million residents spread over an area greater than 500 square miles, complicated by the City’s continued growth and need for additional capacity while maintaining portions of the system that are over 100 years old.
* Provided leadership and direction to a department with staff that had shrunk from over 800 employees to 670 employees due to budget constraints, while still operating and maintaining a growing transportation network. Budgetary responsibilities included oversight for a $95 million annual operating budget, and $615 million five-year capital construction budget.
* Directed daily operations and maintenance a multi-billion dollar highly complex, integrated transportation network of over 5,000 miles of City streets which included sidewalks, over 1,075 signalized traffic intersections, over 95,000 streetlights, and hundreds of miles of storm drains.
* Responded to daily requests for services from residents, citizen groups, Mayor and City Council members, and their respective staff; also provided technical advice and direction on surface transportation issues to the City Manager, his staff, and other City departments.
* Directed staff in the technical review of transportation needs for new private development and economic growth while ensuring the safety of the driving public and preserving the quality of life for existing residents and business.
* Provided leadership in the innovation of transportation systems through such projects as credit card enabled parking meters, the Bike Share request for proposals, and the adoption of a new Complete Streets policy as a part of the City’s General Plan Update.
* Served as liaison to the Maricopa Association of Governments, the Arizona Department of Transportation, and the Federal Highway Administration.
* Served as Executive board member of the National Association of City Transportation Officials, an organization representing the 15 largest cities in the country.

***Engineering and Architectural Services, City of Phoenix, Arizona***

*City Engineer* September 2004 – June 2008

* Responsible for execution of the City's five-year Capital Improvement Program, ranging in value from $5.2 to $7.4 billion by establishing effective partnerships with outstanding architects, engineers, contractors and subcontractors who see the City as an “Owner of Choice.”
* Supervised a staff of 110 professional engineers, architects, project managers, engineering technicians, procurement specialists, and other support staff to oversee execution of facilities projects in support of the delivery of municipal services.
* National leader in the application of innovative project delivery methods with numerous presentations at the local, regional, state, and national levels.
* Managed the design and construction of City facilities in support of 16 other departments with monthly and quarterly program reviews with client department management.
* Supervised successful execution of the City’s $850 million 2006 General Obligation bond program, including $600 million Convention Center Expansion, $350 million Downtown Hotel, and $150 million Arizona State University Downtown Campus.

*Deputy City Engineer* December 2000 – September 2004

* Provided project management services for the City's 5-year Capital Improvement Program; successfully executed the $757 million, 2001 General Bond program without a single project going to litigation.
* Responsible for successful implementation of Alternate Project Delivery Methods to reduce total costs, reduce time, and improve final quality of constructed City facilities; by conservative estimates litigation-avoidance alone potentially saved 10% of the total construction value.
* Directly supervised the Project Management Division staff of 28 professionals with annual operating budget of approximately $3 million.
* Provided technical advice and guidance to 70 department personnel.
* Managed the design and construction of City facilities in support of 16 departments.
* Coordinated efforts to establish a City-wide Project Management Information System providing improved customer service for client departments and enhanced accountability of project funds.

***US Army Corps of Engineers, Los Angeles District, Los Angeles, California***

*Deputy District Commander* November 1996 - July 1997

* Directly supervised 200-person staff in support of the district's capital construction mission, one of the most diverse and challenging construction programs in the country due to environmental concerns and importance of military installations
* Served as second-in-command of the District which provides military and civil works construction services throughout southern California, Arizona, and Nevada with projects ranging from shore protection along the California coast to flood protection for the city of Las Vegas to the construction of fences along the border with Mexico.
* Chaired public meetings for large, controversial Federal flood control projects over $250 million in value to communicate intent and need sometimes to a less than enthusiastic public.
* Provided timely and accurate information upon request to the 56 Federal elected public officials (US Senators and Representatives) and 100s of state, county, and city officials within the District’s boundaries with widely divergent views on the Corps’ mission and responsibilities.
* Served as the management lead for the District’s Labor/Management Partnership Council.
* Directly supervised support functions of Logistics, Resource Management, Human Resources, Contracting, Information Systems, Equal Opportunity, and Small & Disadvantaged Business Utilization.

*Division Chief, Construction-Operations Division* April - October 1996

* Directly supervised 300 personnel with operating budget of $30M from offices located at District headquarters in Los Angeles.
* Executed over $300M in capital construction of buildings and major flood control projects throughout southern California, Nevada, and Arizona.
* Traveled extensively to provide leadership and direction to staff members located at project offices across the region, communicating values and expectations of employees engaged in contracting and project management using federal resources.
* Managed the District's Regulatory Office which authorizes permitting activities mandated by Federal law under Section 404 of the Clean Water Act.

*Area Commander, Arizona/Nevada Area Office*, January 1995 - March 1996

* Directed 54 civilian personnel in six dispersed offices, annual operating budget of $ 5 million.
* Executed over $100M in construction annually for military installations and flood control districts throughout Arizona and southern Nevada.
* Provided stellar customer service to five major active duty military installations in the area.

**Professional Licensure**

Arizona Civil Engineer – PE #30256

**Areas of Expertise**

***Teaching***

* Construction Project Delivery Methods
* Heavy Construction Production and Estimating
* Public Works Construction and Financing

***Research***

* Construction Project Delivery Methods
* Public Works Construction and Financing

**Honors and Awards**

***Engineering News-Record Southwest* –** 2015, InauguralLegacy Award Winner,designated as a “Champion of Alternate Project Delivery.”

***American Public Works Association*-** 2013, Top Ten Public Works Leaders of the Year

***Arizona Chapter, American Public Works Association* –** 2013, Outstanding Public Works Employee of the Year

***Institute of Transportation Engineers Western District* –** 2011-2012, Employer Recognition Award

***Design-Build Institute of America* –** 2009, Distinguished Leadership Award, Owner Category **-**

***Engineer’s Week Arizona* -** 2008, Outstanding Engineer of the Year

***Alliance for Construction Excellence* –** 2007**,** “ADVANCE the Industry” Award

***Engineering News-Record Southwest* –** 2006, Owner of the Year Award

***Associated Minority Contractors of America*** – 2005, award for support of the Phoenix Chapter, Minority Contracting Community

***Construction Management Association of American, Arizona Chapter* –** 2003, Co-Person of the Year Award

***City of Phoenix*** *–* 2001, Employee Excellence Project Award

**PUBLICATIONS, INTELLECTUAL PROPERTY, AND PRESENTATIONS**

***Publications***

Bearup, W., Kenig, M. and O’Donnell, J. (2007), “Alternative delivery methods, a primer. proceedings”, ACI-NA Project Delivery Summit II, Airport Board Members and Commissioners Annual Conference, Airports Council International-North America, Chicago, IL, May.

***Presentations at National Events:***

American Public Works Association National Conference, “Alternative Project Delivery Methods: Best Management Practices and Lessons Learned,” Toronto, Canada, August 20, 2014.

Institute of Transportation Engineers 2013 Technical Conference, “A Conversation with Metropolitan Transportation Directors,” San Diego, California, March 4, 2013.

Federal Highway Administration Every Day Counts Exchange, “The Construction Manager / General Contractor Project Delivery Method,” International Webinar, January 2012.

Federal Highway Administration Peer Review Workshop, The CMGC Project Delivery Method – Lessons Learned,” Boston, Massachusetts, May 22-24, 2012.

Federal Highway Administration Peer Review Workshop, “Local Government Perspective on CMAR, Construction Manager/General Contractor,” Salt Lake City, Utah, June 28-29, 2011.

Federal Highway Administration national webinar, “Phoenix’s Use of Construction Manager at Risk for Transportation Projects,” December 15, 2011.

Federal Highway Administration national webinar, “Transportation Project Delivery Methods,” August 26, 2011.

National Cooperative Highway Research Panel. “Local Government Input on Roundabouts in Series,” Washington, DC, November 14-15, 2010.

American Consulting Engineer Companies Annual Convention,”Public Owner Experiences Using Construction Manager at Risk,” Colorado Springs, Colorado, May 10, 2004.

Construction Management Association of America National Conference, “Delivering Municipal Projects Using Alternate Project Delivery Methods,” Orlando, FA, October 2, 2002.

***Presentations at Regional Events:***

Alternative Project Delivery Methods: Project Management and Procurement Training, John Wayne Airport and Orange County Public Works, Santa Ana, CA, August 10 and 11, 2016.

Project Management in Transit, American Public Transportation Association Rail Conference, Phoenix, AZ, June 16, 2016.

CM at Risk – How are Public Agencies Using this Alternate Project Delivery System, Associated General Contractors Joint Highway and Utilities Contractors Issues Forum, Arizona Biltmore, Phoenix, Arizona, November 12, 2010.

Building Information Modeling (BIM), Construction Users Roundtable (CURT), San Diego, California, April 9, 2008.

Owner Expectations of Building Information Modeling, DPR BIM Day, November 13, 2007.

Alternate Project Delivery Methods for Public Owners, Western Council of Construction Consumers Annual Conference Outlook 2006, Hilton Los Angeles Airport, Los Angeles, California, March 2, 2006.

CMAR Preconstruction Services, Western Council of Construction Consumers Annual Conference Outlook 2006, Hilton Los Angeles Airport, Los Angeles, California, March 2, 2006.

CM@Risk Case Studies - Alternate Project Delivery Methods, San Diego, California, June 10, 2005.

Job Order Contracting – What, How and Why, Regional County Engineers Conference, Laughlin, Nevada, October 17, 2002.

***Presentations at State and Local Events:***

Arizona Department of Transportation DBE Forum, Leadership Workshop, Phoenix, AZ, January 4, 2017.

American Public Works Association Public Works Institute, “Ethics and Organizational Culture,” Tempe, AZ, October 16, 2016.

Rummel Construction Leadership Conference, “Project Delivery Methods and Industry Perspective,” Phoenix, AZ, October 14, 2016.

Arizona Business Exchange Public Works Conference, “Use of APDM for Projects with Federal Funds – Agency Perspectives, Future Opportunities.” Phoenix, AZ, October 5, 2016.

American Public Works Association State Conference, “Qualifications Based Selection – What’s Legal and What’s Just Good Practice,” Tucson, AZ, August 12, 2016.

American Public Transportation Association, Project Management in Transit, Phoenix, AZ, June 16, 2016.

Arizona Department of Transportation DBE Forum, Leadership Workshop, Phoenix, AZ, March 29, 2016.

Current and Future Instructure Construction and Funding Challenges, Society of American Military Engineers Infrastructure Resilience Workshop, Tempe, Arizona, January 12, 2016.

American Society of Highway Engineers Sonoran Chapter Meeting, “Ethics in the Construction Industry,” Phoenix, AZ, January 2016.

Institute of Transportation Engineers Leadership Luncheon, “Ethics in the Construction Industry,” Tempe, AZ, October 2015.

Kiewit Southwest Leadership Conference, “Project Delivery Methods and Industry Perspective,” Phoenix, AZ, September 11, 2015.

Keynote Address: Defining and Achieving Project Success, Construction in Indian Country National Conference, Scottsdale, AZ, April 21, 2015.

Pure Technologies Western Region Business Development Meeting, “How to Sell to Municipal Agencies in Today’s Economy,” Tempe, AZ, December 3, 2014.

11th Arizona Pavements/Materials Conference, “Alternative Project Delivery Methods for Infrastructure Projects,” Tempe, AZ November 20, 2014.

Ethics in Public Procurement, AZ Chapter of the American Public Works Association Annual Statewide Conference, Phoenix Convention Center, Phoenix, Arizona, August 6-7, 2012.

Spreading the Gospel of CMGC, AZ Chapter of the American Public Works Association Annual Statewide Conference, Phoenix Convention Center, Phoenix, Arizona, August 6-7, 2012.

The Many Faces of Partnering, American Council of Engineering Companies of Arizona, 62nd Annual Roads & Streets Conference, Tucson, Arizona, March, 2013.

Centennial Way Signature Project, American Council of Engineering Companies of Arizona, 61st Annual Roads & Streets Conference, Tucson, Arizona, April 2012.

Construction Opportunities in Phoenix, Advancing Women in Construction Annual Meeting, Phoenix, Arizona, February 25, 2011.

“State of Public Works in Arizona” Panel Presentation, Monthly Luncheon Program at the AZ Chapter of APWA, Phoenix, Arizona, March 16, 2011.

Project Management Certificate Program – Interacting with Municipalities, ASU Del E. Webb School of Construction seminar, Tempe, Arizona, June 7, 2011.

BIM – City of Phoenix Update, Building Information Modeling Conference, Arizona Diversity Business Development Center, Scottsdale, Arizona, July 21, 2011.

The Public Works Challenge, AZ Chapter of the APWA Annual Statewide Conference, Phoenix Convention Center, Phoenix, Arizona, August 8, 2011.

State of Public Works: Then & Now, AZ Chapter of the APWA Session Presented at The League of Arizona Cities & Towns, JW Marriott Starr Pass Resort, Tucson, Arizona, August 31, 2011.

Capital Improvement Program Training, Public Works Institute of the AZ Chapter of the APWA, Phoenix, Arizona, October 28, 2011.

Deconstructing Construction – The Owner’s Role, ASU Del E. Webb School of Construction symposium, Desert Willow Conference Center, Phoenix, Arizona, February 29, 2008.

Building Information Modeling (BIM) – The Future of the City of Phoenix, Arizona Chapter of the American Public Works Association Annual Statewide Conference, Tucson, Arizona, August 5, 2008.

CM@Risk Preconstruction Services, US Army Corps of Engineers Early Contractor Involvement Training, Phoenix, Arizona, October 15, 2008.

How to do Business with the City of Phoenix, Podcast Presentation, Minority, Women, Small Business Enterprise (M/W/SBE) program. March 11, 2007.

Arizona Project Delivery Methods, AZ Chapter of the American Public Works Association Annual Statewide Conference, August 2007.

Partners in Construction – Industry Roundtable: Leadership Breakout, Desert Willow Conference Center, Phoenix, Arizona, December 3, 2007.

BIM Survey Results, Arizona BIM Conference, Phoenix Convention Center, August 17, 2007.

Arizona Project Delivery Methods for Public Owners, Federal Procurement Symposium, Phoenix, Arizona, March 8, 2004.

Lessons Learned from $2 Billion Worth of APDM, Flagstaff, Arizona, June 21, 2004.

Contracting Opportunities, Maricopa County Parity Partners, March 18, 2003.

City of Phoenix Experiences Using CM@Risk, Lake Havasu City Council, April 12, 2003.

Job Order Contracting – What, How and Why, Del E. Webb School of Construction, Arizona State University, CON 598 Class, December 2, 2002.

City of Phoenix Usage of Alternative Project Delivery Methods, Cleanroom Forum, Del E. Webb School of Construction, Arizona State University, December 3, 2002.

Project Delivery Methods for Construction, City of Nogales staff, Phoenix, AZ, May 17, 2002.

**PERSONNEL: STUDENT SUPERVISION / MENTORING, TEACHING, DISSERTATION COMMITTEES, AND OUTREACH**

**List of Courses Taught at ASU**

ASU 101 The ASU Experience (CON)

CON 223 Strength of Materials

CON 243 Heavy Construction Equipment, Methods, and Materials

CON 252 Building Construction Methods, Materials, and Equipment

CON 441/541 Public Works Capital Construction

CON 491 Construction Project Capstone

CON 547 Strategic Planning for the Construction Enterprise (discontinued)

**New Courses Developed**

Spring 1998 – **CON 547 Strategic Planning for the Construction Enterprise -**with local industry support created and taught a new graduate-level course on the application of strategic planning processes specific to the construction industry

Spring 2012 – **CON 441/541 Public Works Capital Construction** – course structured to fill gap in curriculum related to the role of a large, municipal owner to help prepare students to work for a government agency or to pursue work with a government agency while working for a general contractor

Fall 2016 – **CON 491 Construction Project Capstone** – created and taught course to serve as culminating event for students graduating with a Bachelors in Construction Management to assess the students’ overall mastery of the full curriculum

**PhD Committee Participation**

Evan Bingham, *Analysis of the State of Practice and Best Practices for Alternative Project Delivery Methods in the Transportation Design and Construction Industry*, December 2014

Tober Francom, *Performance of the Construction Manager at Risk (CMAR) Delivery Method Applied to Pipeline Construction Projects*, December 2015

Jong-Hoon Kim, *Sustainability Assessment Framework for Infrastructure: Application to Buildings*, June 2016

Dean Papajohn, *Contract Administration Functions and Tools in Design-Build and Construction Manager/General Contractor Project Delivery in U.S. Highway Construction*, May 2019

Lucien El Asmar, *Industry Expectations and Construction Student Performance*, December 2019.

Jeff Feghaly, *Innovative Delivery of Water Infrastructure Projects*, April 2020

**PROFESSIONAL ACTIVITIES AND SERVICE**

***American Public Works Association:***

* Member since 2000.
* Instrumental in supporting the AZ Chapter’s successful site selection for the APWA Congress 2015.
* AZ Chapter, Co-Chair Congress 2015 Fundraising Committee, 2012 – 2015.
* Education Committee Member, 2007-2008.
* Municipal Engineers Subcommittee Chair, 2003-2005.

***Alliance for Construction Excellence****,* ***Del E. Webb School of Construction, Arizona State University:***

* Executive Director, July 2013 to January 2017.
* Industry Co-Chair, Alternate Project Delivery Method Task Force - 2002 to 2013.
* Industry Advisory Council Board Member - 2003 to present.
* Public-Private Partnership (PPP) Policy and Textbook Committee Member.
* Advanced Integrated Practice (AIP) Textbook Committee Member.

***Other Professional Involvement:***

* Alternate Project Delivery Methods Legislative Review Group for CM@Risk Delivery.
* American Society of Civil Engineers, member.
* American Council of Engineering Companies of Arizona – Phoenix Liaison Committee, member.
* American Council of Engineering Companies, 2009 National Excellence Awards Competition held in Washington DC, judge.
* Arizona Department of Transportation Private-Public Partnership Advisory Committee, member.
* Cardinal Stadium Siting Task Force, member.
* Construction Management Association of America, member.
* Construction Owners Association of America, member and national presenter.
* Design-Build Institute of America, member.
* Institute of Transportation Engineers, member.
* National Association of City Transportation Officials, Vice President.
* National Transportation Research Board, member.
* Society of American Military Engineers, member and past president of a post.