

Feasibility Study for Expanded Bridge Decking over I-290 (**Cap the Ike**)

Professional Engineering and Planning Services

November 2017

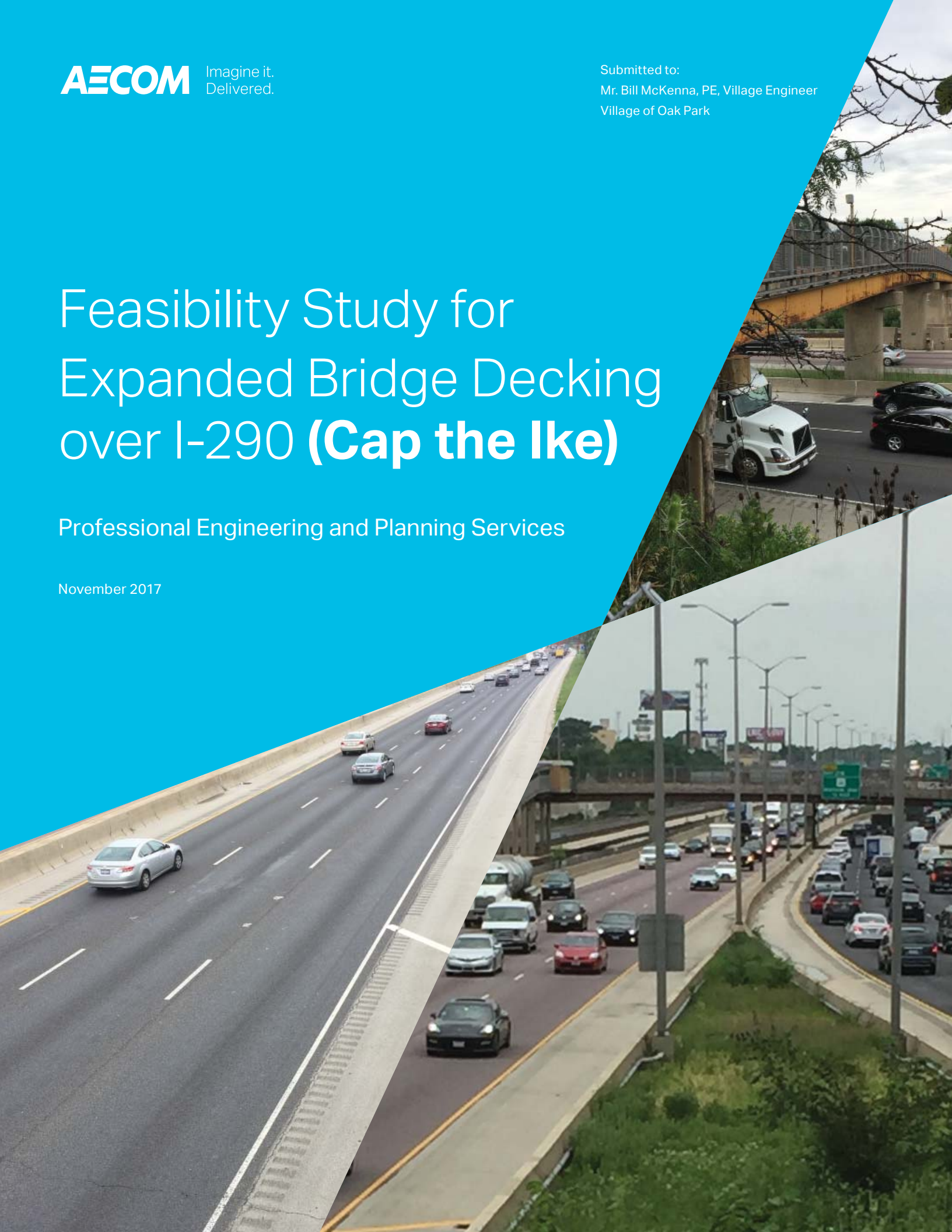


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November 13, 2017

Mr. Bill McKenna, PE
Village Engineer
Village of Oak Park
Engineering Division of the Public Works Department
201 South Boulevard
Oak Park, IL 60302

RE: Professional Engineering and Planning Services for a Feasibility Study for Expanded Bridge Decking over I-290 (Cap the Ike)

Dear Mr. McKenna,

The Eisenhower Expressway (I-290) was Chicago's first major expressway, and the leaders of the Village of Oak Park back in the 1950s were far ahead of their time in forcing highway designers to consider the impacts to communities in the name of progress. Despite the Village's success in minimizing its footprint, the "Ike" continues to represent a major divide between the north and south sides of Oak Park. Famous for being the home of Frank Lloyd Wright, Oak Park has an active community that values "organic architecture" with built elements well integrated within their natural surroundings. This principle serves as the foundation of the Village's vision to put a "cap" on the "Ike", where a bridge can continue to serve the function required by the expressway below while providing a more natural and cohesive environment for the community to enjoy above.

Recognized annually as the #1 Global Design Firm (by *Engineering News-Record*) offering comprehensive services for the infrastructure of public and private sector clients, AECOM brings all the diverse talents needed to tackle this ambitious vision and bring it closer to implementation, along with an impressive portfolio of past project successes directly relevant to the vision such as the Fisher Freeway in Detroit, Park 101 in Los Angeles, and I-95 in Philadelphia. Structural, geotechnical, and civil engineering; architecture, landscape, sustainability and urban design; urban planning and economics; AECOM complements local talent with global expertise and resources.

AECOM's team will be led by **Stan Wang, PE, PTOE** who brings a broad range of experience covering expressway, urban design, and bridge projects from feasibility studies through preliminary engineering/NEPA studies and final design. Along with his proven success in leading multi-disciplinary teams, his familiarity working with the Illinois Department of Transportation Bureau of Programming and the Chicago Transit Authority Strategic Planning Department will be particularly valuable for this project. Stan will be supported by the streetscaping experience of **Dolan McMillan**, the urban planning expertise of **Jennifer McNeil-Dhadwal, AICP**, our sustainable economics group led by **Chris Brewer**, the architectural talent of **Melita Ristovska, AIA**, and our urban design practice lead **Michelle Inouye, PLA, LEED AP**.

Our team looks forward to what we anticipate will be an exciting challenge to work with the Oak Park community and help the Village lay out its vision and define the next steps towards making it a reality. Thank for this opportunity to submit our proposal, and please call Stan at (773) 220-4372 with any questions regarding this proposal. We are eager to start the work.

Sincerely,



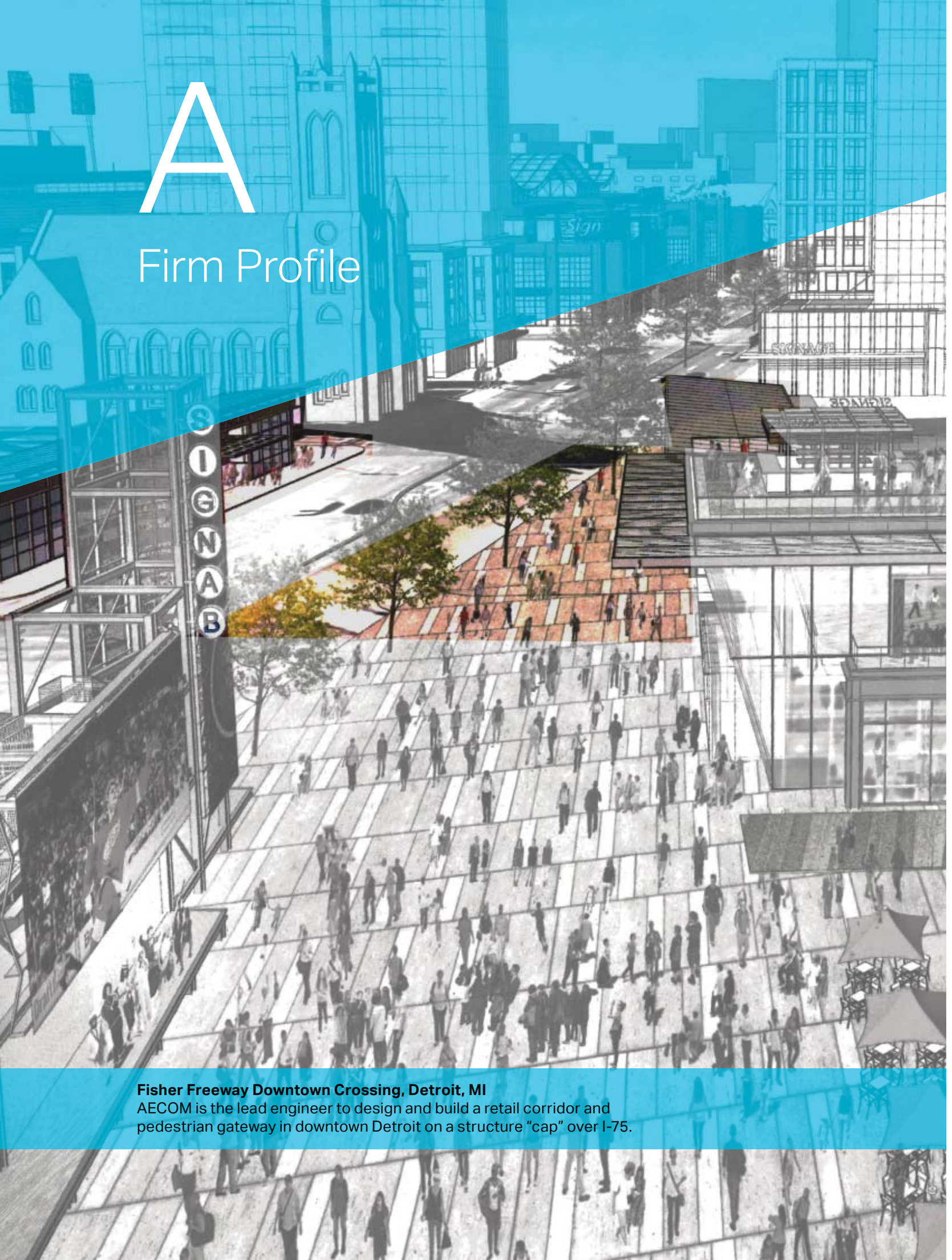
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Associate Vice President/Project Manager
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stan.wang@aecom.com

A

Firm Profile



Fisher Freeway Downtown Crossing, Detroit, MI

AECOM is the lead engineer to design and build a retail corridor and pedestrian gateway in downtown Detroit on a structure "cap" over I-75.

A Firm Profile

About AECOM

AECOM is built to deliver a better world. We design, build, finance and operate infrastructure assets for governments, businesses and organizations in more than 150 countries. As a fully integrated firm, we connect knowledge and experience across our global network of experts to help clients solve their most complex challenges. From high-performance buildings and infrastructure, to resilient communities and environments, to stable and secure nations, our work is transformative, differentiated and vital.

Since it was launched as an independent company in 1990, AECOM has become one of the largest providers of professional construction and management support services in the world. Over the years, more than 40 companies have joined AECOM, including URS which became part of the AECOM family of companies in 2014. With approximately 88,000 professionals, AECOM offers clients greater scale and resources which enables us to provide fully integrated services across a broader range of end markets anywhere in the world. Our combined company is better positioned to deliver the integrated services that clients increasingly demand.

Listed as one of *Fortune* Magazine's "World's Most Admired Companies" for 2017 and part of the *Fortune 500*, AECOM also has been **ranked as the #1 Top 500 Design Firm in *Engineering News-Record* magazine's annual industry rankings for the last eight consecutive years, as well as ranked as #1 in Transportation and Highways**, which proves our company is a leader in all of the key markets that we serve, including transportation, facilities, environmental, energy, oil and gas, water, high-rise buildings and government. AECOM provides a blend of global reach, local knowledge, innovation and technical excellence in delivering customized and creative solutions that meet our clients' needs.



AECOM's record is distinguished by hallmark attributes such as being ranked #1 in Engineering News Record (ENR) Top 500 Design Firms for the past seven consecutive years.

AECOM was also recognized by Fortune magazine as one of the 2017's World's Most Admired Companies. We are an industry leader as one of the world's largest engineering and construction companies.

Our professionals specialize in the following areas:	AECOM Snapshot:
<ul style="list-style-type: none">- Transportation- Civil Engineering- Structural Engineering- Landscape Architecture and Urban Design- Architecture- Planning and Economics- Water Resources and Watershed Concepts- Environmental Sciences- Sustainable Design	<p>Listed as one of <i>Fortune</i> Magazine's "World's Most Admired Companies" for 2017</p> <p><i>Financial Times</i> "Best Workplaces."</p> <p>One of <i>Newsweek</i> Magazine's "Greenest Big Companies."</p> <p>Listed as one of <i>G.I. Jobs</i> Magazine's "Military Friendly Employers" for 2016</p>

B

Organizational Chart & Key Staff Resumes



Park 101, Los Angeles, CA

AECOM performed a feasibility study and economic analysis for a new development district centered around a park built on a structure "cap" over the 101 Freeway.

B Organizational Chart and Key Staff Resumes

Professional Engineering and Planning Services

Since 1919, AECOM has provided professional engineering, architecture and planning services to municipalities throughout the Chicagoland area.

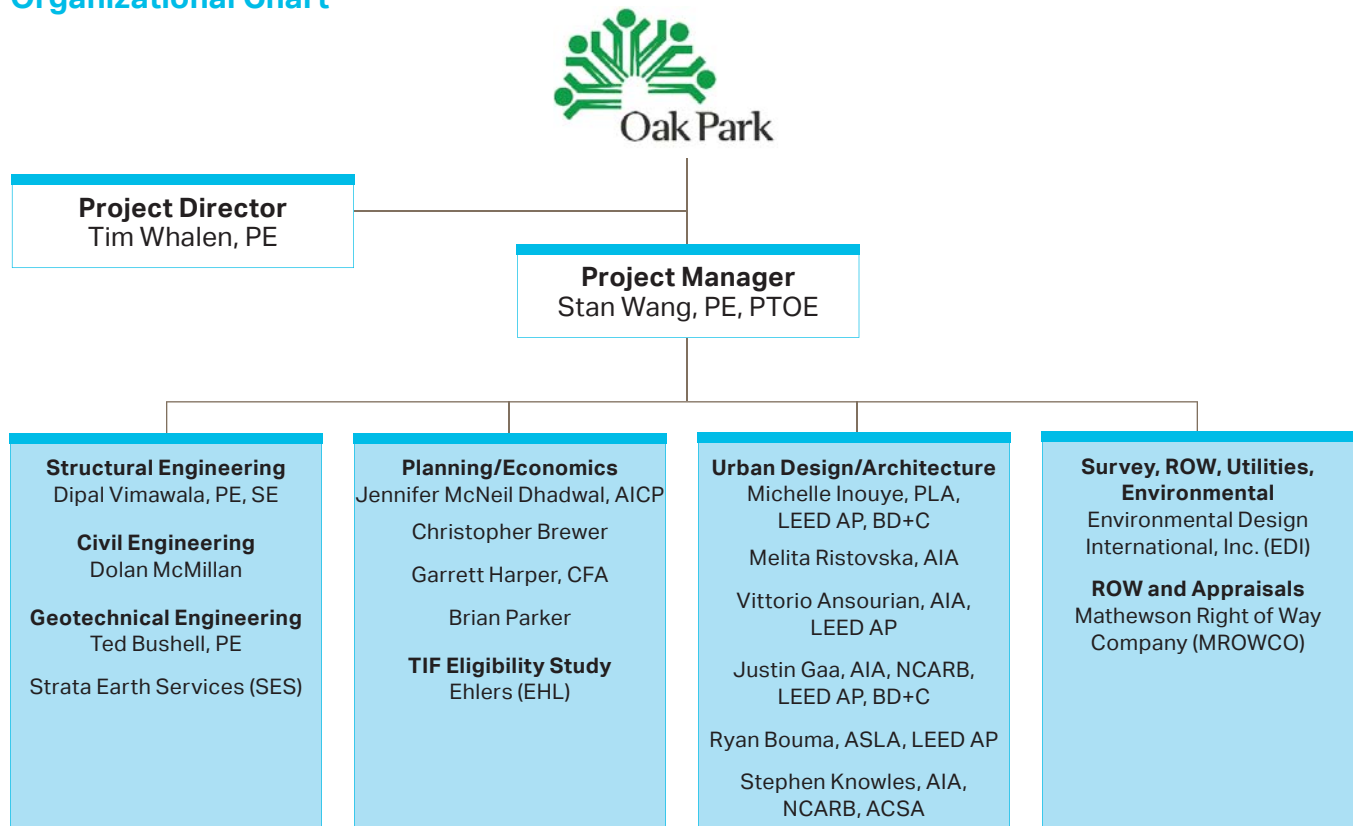
Our comprehensive expertise covers all aspects of public infrastructure planning and design on projects large and small; from feasibility studies, to Phase I preliminary engineering, to Phase II final design, and Phase III construction engineering and program management.

Significant Local Staff Resources

While AECOM may be an international firm, we pride ourselves on our ability to focus and deliver for our local clients from our local offices. For the Village's needs, AECOM has assembled a team with local knowledge and experience from a broad array of engineering disciplines and technical expertise. All of our task leads live and work in the Chicagoland area and have the required expertise to perform any task required by the Village. In our Chicago offices, we have more than 300+ professionals, and if needed, we can utilize any of our 500+ professionals located regionally within the Midwest. This depth of resources will allow us to begin the study immediately and meet the Village's schedule needs.

We have assigned a highly qualified team with the necessary expertise to successfully complete the feasibility study, which is reflected in our organizational chart and resumes.

Organizational Chart



All staff is **AECOM** unless otherwise noted:

EDI Environmental Design International, Inc. (M/W/DBE)
SES Strata Earth Services

MROWCO Mathewson Right of Way Company
EHL Ehlers

Project Manager

Stan Wang, PE, PTOE

With an expansive skill set that covers feasibility studies, Phase I preliminary engineering, and Phase II final design on urban infrastructure projects, **Stan Wang's** proven abilities managing large teams of multi-disciplinary teams of engineers, planners, and architects toward a common vision make him an ideal candidate to lead our team.

In the industry, Stan is primarily known for being the mastermind behind two of Chicago's highest profile projects. As project manager and principal engineer of the award-winning Loop Link, Stan helped transform the way people travel across the downtown Chicago Loop, bringing eight signature stations contributing to Chicago's architecture scene. As lead traffic engineer for the Jane Byrne "Circle" Interchange, Stan was responsible for helping define this improvement that seeks to untangle the worst freight bottleneck in the country.

Also serving a role as the primary traffic engineering consultant to the IDOT District 1 Bureau of Programming's Geometrics Unit, Stan has led numerous programming and engineering feasibility studies to conceive solutions for some of the Chicago area's biggest challenges on the I-90/94 Kennedy Expressway, the I-290 Eisenhower Expressway, the Stony Island/Chicago Skyway Interchange, North Lake Shore Drive, the Cumberland Circle in Des Plaines, and the Houbolt Road interchange in Joliet.

Stan's diverse professional background also includes Phase I studies, streetscape improvement projects and experience collaborating with stakeholders. A leader at our Chicago office, Stan has a thorough understanding of AECOM's local and regional capabilities and knows how to effectively access national and global resources within our organization. The combination of these skills prepare him well for a transformative project like the Cap the Ike Study.



Loop Link BRT



Jane Byrne "Circle" Interchange

Relevant Expertise

- Complete Streets
- Urban Design and Streetscape
- Expressway Design
- Feasibility Studies
- IDOT BLRS Process
- NEPA for Bridge Rehab/Retrofit
- Stakeholder Coordination
- Working with CTA
- Coordinating diverse multi-disciplinary teams of engineers, architects, and planners
- Harnessing AECOM's national and global resources



Lincoln Ashland Belmont Streetscape



Milwaukee Avenue Section 2: Six Corners



Wells Street Bascule Bridge

Stan Wang, PE, PTOE

Project Manager

Education

MS, Civil Engineering, University of Illinois,
1999

BS, Civil Engineering, University of Illinois,
1998

Years of Experience

19

Professional Registrations/ Certifications

Professional Engineer, IL #62056371
Professional Traffic Operations Engineer
AECOM Certified Project Manager

Professional Affiliations

Institute of Transportation Engineers

Relevant experience

Stan is a civil and traffic engineer with a variety of experience in the planning and design of urban roadways and infrastructure. He has a wide range of experience managing planning studies, Phase I Engineering, Phase II Final Design on roadway, bridge, expressway, urban design and transit projects.

On roadway design projects his skills cover urban roadway and complex intersection design; construction staging/maintenance of traffic; streetscape improvements; planning and design of complete street solutions to incorporate transit, bicycle, and pedestrian facilities; ADA compliance; roadway signing, sign structure design, highway geometric design, Phase I coordination and Project Development Reports; and the preparation of construction plans, specifications, and opinions of cost.

Project experience

Chicago Department of Transportation, Loop Link Bus Rapid Transit Phase II, Chicago, IL. Project Manager for the final design to reconfigure five corridors through the heart of the downtown Chicago central business district to incorporate bus rapid transit (BRT) and protected bicycle facility infrastructure, introducing transformative change to the transportation system and establishing a balance of Complete Streets between roadway users. This effort included the implementation of dedicated bus lanes on Washington, Madison, Canal, and Clinton Streets; construction of in-street elevated bus platforms with architecturally-significant canopies and lighting features, digital bus-tracker displays, wayfinding pylons, system brand identifiers, and surveillance cameras; a pavement snowmelt system; construction of sidewalk bumpouts and refuge islands for pedestrians; and the establishment of a new downtown protected bicycle lane system consisting of one-way routes on Randolph and Washington Streets and a two-way facility on Clinton Street. The work consisted of the preparation of construction plans, specifications, and engineer's estimate; reconfiguration of roadway geometrics and lane assignments; coordination of utility relocations;

architectural, electrical, and structural design of the in-street BRT platforms; structural assessment of existing vaulted sidewalk spaces; analysis and optimization of over 40 signalized intersections within the downtown street network; and design of bus queue jump and bicycle-specific signal installations.

Illinois Department of Transportation, Circle Interchange I-90/94 and I-290/Congress Parkway Phase I, Chicago, IL. Lead Traffic Engineer on this fast-tracked project intended to improve one of the worst traffic bottlenecks in the country that affects over 400,000 vehicles daily. Responsible for conducting the traffic assessment providing the primary justification of the need for this project and assisting in the development of geometric design alternatives. Work included managing the collection and processing of necessary data including an aerial reconnaissance origin-destination study; the development of VISSIM traffic microsimulation models to study operations on I-90/94 and I-290 between the I-55 Interchange to the Ohio Street Interchange; and the interpretation and presentation of modeled results for public consumption.

Chicago Department of Transportation, Lincoln, Ashland, Belmont Streetscape - Section 1, Chicago, IL. Project Manager and Engineer of Record for concept design of streetscape and infrastructure improvements to 12 blocks of arterial and collector roadways (Lincoln, Ashland, and Belmont Avenues) and final design of four blocks including preparation of construction plans, specifications, and engineer's opinion of cost.

Chicago Department of Transportation, Division of Engineering, Milwaukee Avenue Section 2 - Six Corners Improvements, Chicago, IL. Project Manager for design of \$20 million in streetscape and infrastructure improvements on 16 blocks of arterial and collector roadways centered around the Six Corners intersection (Milwaukee Avenue, Cicero Avenue/IL Route 50, and Irving Park Road/IL Route 19). Improvements included architectural hardscape and landscape elements intended to spur commercial reinvestment into the neighborhood and new sidewalk, pavement, sewers, water mains, traffic signals, and ornamental streetlighting.

Stan Wang, PE, PTOE (continued)**City of Evanston, Evanston Lakefront Corridor,**

Evanston, IL. Project Manager for Phase I engineering and Phase II final design of a bicycle and pedestrian path system with ornamental lighting through the lakefront park system. Also project engineer for the development of a master plan to guide the redevelopment of the lakefront within city limits. Safety, connectivity, and accessibility improvements were important components to this plan developed through an extensive stakeholder involvement process which emphasized natural enhancement and sustainable maintenance of the city's lakefront parks and beaches.

Chicago Department of Transportation, Wells Street

Bascule Bridge Rehabilitation, Chicago, IL. Project Civil Engineer responsible for the development of a Phase I project development report (Group I categorical exclusion) for one of the most complex, double-leaf, trunion style, double-deck bascule bridges in the city involving a critical link across the Chicago River into the Downtown Loop area for cars and the Chicago Transit Authority's Brown and Purple elevated train lines. Also responsible during Phase II for the development of detour routes and maintenance of traffic plans for the short term closure of the bridge.

Chicago Department of Transportation, Fulton-**Randolph Traffic & Curbside Use Study, Chicago,**

IL. Project Manager of a planning study to evaluate the transportation system of the Fulton Market District area in Chicago's West Loop neighborhood and develop short- and long-term improvement recommendations to meet existing and emerging needs. The study includes the collection, reduction, and evaluation of traffic, on-street parking, and loading occupancy data; traffic capacity analysis; an extensive stakeholder outreach program; a complete analysis of crash history with recommendations on safety countermeasures; compilation of traffic impact studies; observation and study of parking and loading behavior; and traffic signal warrant analyses.

Chicago Department of Transportation, 31st Street

Viaduct Reconstruction, Chicago, IL. Project Manager responsible for the development of a Phase I project development report (Group II categorical exclusion) for replacement of a historic 4-span, steel structure carrying 31st Street vehicle and pedestrian traffic over four Metra and two Canadian National Railway (Illinois Central) railroad tracks.

Chicago Department of Transportation, Milwaukee

Avenue Section 3, Chicago, IL. Project Manager for the final design and preparation of construction plans, specifications, and engineer's opinion of cost for roadway improvements to one mile of Milwaukee Avenue between

Kilpatrick Avenue and Addison Street, including viaduct clearance improvements beneath Metra and Union Pacific rail bridges. Improvements included full-depth pavement reconstruction, roadway safety features, new sidewalk, trunk sewer, water main, traffic signals, and ornamental streetlighting.

City of Chicago, Green Urban Design Framework Plan,

Chicago, IL. Member of the public right-of-way task force appointed to provide recommendations on the design, management, and operation of Chicago's public right of way that will help maximize its environmental benefits while reducing negative impacts for current and future generations. This task force helped identify initiatives that could be implemented into the Chicago green urban design framework plan to improve sustainability for Chicago's man-made and natural environments relevant to land, air, water, and quality of life.

Chicago Department of Transportation, Cherry Avenue Bridge over North Branch Canal Superstructure

Rehabilitation, Chicago, IL. Project Civil Engineer of record for repurposing a historic railroad truss bridge into a bicycle and pedestrian facility.

Illinois Department of Transportation, Illinois Route 47,

Huntley, IL. Project Manager for completing Preliminary Engineering and the Environmental Assessment for improvements to 8 miles of a two lane roadway in a rapidly developing rural corridor between Huntley and Woodstock.

Illinois Department of Transportation, Geometrics

Program Management, Chicago, IL. Lead Traffic Engineer providing on-call support to the District One geometrics engineer for special studies, traffic analysis, technical review, and general consultation. The work includes overseeing the preparation of feasibility assessments, programming studies, traffic analyses, and the development of traffic microsimulation models for unique solutions to expressway and arterial challenges in the Chicago Metropolitan area. Special studies managed included traffic engineering and VISSIM modeling for the Cumberland Circle with Golf and Wolf Roads; outbound I-90 Kennedy Expressway from O'Hare International Airport to the I-90/94 Junction; Inbound I-90/94 Kennedy Expressway from the I-90/94 Junction to the Ohio Street interchange; and the assessment of Managed Lane concepts on the Kennedy and Eisenhower Expressways. Other efforts included overseeing arterial traffic analyses and geometric feasibility studies for complex intersections such as Stony Island Avenue/79th Street/South Chicago Avenue and Archer/Central Avenue in Chicago and the I-80 interchange with Houbolt Road.

Tim Whalen, PE

Project Director

Education

BS, Civil Engineering, University of Dayton,
1999

Years of Experience

18

Professional Registrations/ Certifications

Professional Engineer, IL # 62058067
Professional Engineer, IN # PE11200504
AECOM Certified Project Manager

Professional Affiliations

American Society of Civil Engineers
American Council of Engineering
Companies - Illinois

Relevant experience

Mr. Whalen is a civil engineer with a diverse range of experience in the planning, design, and construction of transportation and civil infrastructure projects. His representative projects include urban highways, municipal roadways, streetscape enhancements, utility improvements, and site work. His primary focus has been on final design (Phase II) projects, but his experience also includes preliminary engineering/planning projects (Phase I) and program management. Mr. Whalen has over 14 years of project management experience on a range of design projects, with his experience centered on leading multidisciplinary teams and coordinating the diverse skills of project teams, specialty subconsultants, and additional AECOM resources and experts.

Project experience

Illinois Department of Transportation, Transportation Program Management Contract, Cook County, IL.

Project Manager responsible for overall management and coordination of the program management contract. The scope of services includes providing geometric engineering services and support on various projects, including Phase I planning, final design, construction, and maintenance. The projects are either in-house, under contract with other consultant engineering firms, or entities other than IDOT such as private developments requesting traffic access permits onto IDOT state routes. Other work includes special geometric studies, traffic studies, Phase I studies, feasibility studies, and scoping evaluation studies. Other responsibilities include the implementation and monitoring of the mentor-protégé agreement with our subconsultant.

Chicago Department of Transportation, Western Avenue Viaduct over Belmont, Chicago, IL.

Project Manager for Phase II design for the viaduct project located on the northwest side of the city between Jones Street and Addison Street. The project involves corridor enhancements for approximately 1.2 miles of urban public way along Western Avenue. Improvements include roadway

reconstruction and resurfacing, drainage improvements, street lighting, traffic signals, structure demolition and rehabilitation, right-of-way acquisition, and streetscape. The project includes extensive coordination with IDOT, Cook County, city agencies, utilities, aldermanic offices, the surrounding communities, and other project stakeholders. A key challenge was to design the maintenance of traffic and construction staging to limit impacts to users of the public way and surrounding residential and commercial interests.

Chicago Public Building Commission, Gateway and 31st Street Harbor - Landscape Architecture Design, Chicago, IL.

Project Civil Engineer for planning and development of concept designs for two proposed harbors in the city. Responsibilities include management of subconsultants, public and private agency coordination, and development of preliminary landside site plans to provide utility service and vehicular and pedestrian access to both locations. Context sensitive solutions and sustainability are driving principles for the project.

Village of Bridgeview, 71st Street Grade Separation, Bridgeview, IL.

Project Manager for the Phase II design of a grade separation project for 71st Street at the existing CSXT/IHB tracks. Design elements include a new bridge structure, retaining walls, roadway and access improvements, drainage improvements, utility relocations, traffic control, lift station, street lighting, and landscape. The project involves public involvement and outreach, land acquisition, full ADA compliance, and extensive coordination with project stakeholders including Illinois Department of Transportation, Federal Highway Administration, CSXT, CREATE, utility agencies, local businesses and property owners, as well as the management of outside subconsultants.

Illinois Department of Transportation, Illiana Corridor Tiered Environmental Impact Statement, Schaumburg, Illinois; Indiana.

Project Manager for the program management work for a 56-mile-long corridor between I-55 in Illinois on the west end and I-65 in Indiana on the east. The project involves providing oversight and management of the

Tim Whalen, PE (continued)

various Phase I engineering services for the management of the EIS, which is under contract with another firm. The Tier 1 EIS involved identification of transportation needs, travel demand modeling, an initial financial analysis, a summary of the known environmental constraints within the corridor, development and evaluation of alternatives for all modes of transportation, and selection of a preferred alternative. Tier 1 will include a final EIS and an initial record of decision. The Tier 2 EIS will involve more detailed engineering and environmental studies, including development of the overall transportation system configuration and determination of the environmental impacts for the preferred alternative identified in Tier 1. Tier 2 will meet the NEPA requirements and will result in a final record of decision.

Chicago Department of Transportation, Wabash Avenue Renovation, Chicago, IL. Project Manager for renovation and streetscape improvement of Wabash Avenue from Harrison Street to Wacker Drive. Design elements included filling and reconstructing sidewalk vaults, special foundation design, drainage improvements, special sidewalk paving, and a custom street lighting system. Urban design elements included decorative lighting features, entry portals, gateway signage, and landscape improvements. The project involved concept design and implementation, full ADA compliance, and extensive coordination with city agencies, community groups, property owners, and tenants, as well as the management of outside architectural firms, other subconsultants, and electrical, civil, and structural disciplines in-house. The project was awarded the ISPE Chicago Chapter Chicagoland Excellence in Engineering Award.

Chicago Department of Transportation, South Lake Shore Drive Reconstruction - Jackson Park Section, Chicago, IL. Project Engineer for the Phase II roadway design and plan preparation for improvement of South Lake Shore Drive from 57th Drive to 67th Street. Project tasks included pavement and roadway design, shared-use bicycle path design, maintenance of traffic, and extensive coordination with the client and other disciplines.

Illinois Department of Transportation, District 1, Dan Ryan Reconstruction Phase I Project Development Report, Chicago, IL. Design Engineer for ramp investigations for the Phase I project development report. Project duties included geometric and vertical profile design for several entrance and exit ramps, and preliminary design for intersecting local roads.

Metropolitan Water Reclamation District of Greater Chicago, 39th Street Conduit Rehabilitation, Chicago, IL. Project Civil Engineer for rehabilitation of the existing 20-foot-diameter sewer located underneath 39th Street. The project included construction of large-diameter deep tunnel and associated connecting structures, sewers, and dropshafts; and involved traffic control, site restoration, utility coordination and relocation, and coordination with the client, city agencies, and subconsultants.

Dolan McMillan

Civil Engineer

Education

BS, Civil Engineering, Washington
University in St. Louis, 1997

BA, Music Education, Illinois Wesleyan
University, 1995

Years of Experience

17

Professional Registrations/ Certifications

Engineer in Training, IL # 061031818
AECOM Certified Project Manager

Professional Affiliations

American Society of Civil Engineers

Relevant experience

Dolan has more than 17 years of professional experience in civil engineering, planning, design, and construction project management; specification and design development; construction oversight and inspection; and large-scale project document control. Dolan's experience includes extensive work in site development and transportation projects, including Phase I environmental studies, Phase II design within the constraints and oversight of various local, State, and Federal environmental agencies, and Phase III construction resident engineering services.

Project experience

Consultant Project Manager, Chicago Department of Transportation, Chicago, IL. Consultant for the Division of Project Development, providing project management services. Managed and directed the activities of engineering and design teams in multiple projects ranging in cost from \$90,000 to over \$27 million. Project duties include community involvement, scoping, securing funds, choosing a design team, reviewing design, and coordinating design implementation with the resident engineering team. Experience includes extensive work in Phase I environmental studies, Phase II design within the constraints and oversight of various local, State, and Federal environmental agencies, and Phase III construction resident engineering services.

Projects include:

- Navy Pier Flyover (Phase I and Phase II Manager)
- Addison Underbridge – Bicycle Trail along the North
- Branch of the Chicago River (Phases I and Phase II Manager)
- 606/Bloomingdale Trail (Phase I manager) Irving Park Road – River to Ravenswood Parkway (Phase II)
- RTA Sheltered bike stations at Metra and CTA stations (Phase II)
- Western Avenue – Van Buren to Monroe Parkway (Phase II)

- Wisconsin/Mohawk Plaza Reconstruction (Phase II)
- Englewood Plaza Reconstruction (Phase II)
- Belmont Green Alley – Springfield and Harding C (Phase II)
- 95th Street – Western to Ashland Parkway (Phase II)
- 111th Street, Central Park to Homan (Phase II)
- Mayor Daley's Chicago Green Office Challenge lead for CDOT at 30 N. LaSalle

Washington Mutual, Phase I Site Surveys. Regional Project Manager/Project Engineer surveyed existing buildings and reported data to design team, which determined the feasibility of the surveyed space and then built-out the space into new facilities. Tracked hours/expenses, reviewed/submitted invoicing, and reported project status based upon reports to project leader.

Chicago Park District, Marquette Park Lagoon Rehabilitation. Project Designer/Resident Engineer coordinating with the contractor, landscape architect, earthwork contractor, and the client for the installation of a prairie scrubber system in order to naturally filter city water and maintain lagoon elevation due to evaporation. Duties included tracking submittals, schedule, budget, and construction progress; ran weekly construction meeting; and was on-call for site-visits and project engineering questions.

Village of Mundelein, Hawley Street Resurfacing, Mundelein, IL. Deputy Project Manager/Resident Engineer was responsible for design; ensured project was completed on time, under budget, and in compliance; and wrote proposal and secured contract for Phase 3 construction services, including subcontractors for materials testing and surveying. The project was completed in half the expected construction schedule and 30% under allocated budget.

City of Dolton, Greenwood Road Reconstruction, Dolton, IL. Deputy Project Manager/Project Engineer assisted in project coordination, budget/schedule tracking, meeting deadlines, and attending client meetings. The project consisted of reconstructing almost three miles of a

Dolan McMillan (continued)

2-lane shoulder section to a 2-lane curb and gutter section, and adding a storm sewer system. Responsibilities included verifying all roadway elements, maintenance of traffic, traffic signal modifications, and producing contract documents/specifications.

Chicago Department of Transportation, Rockwell Gardens Homes Redevelopment, Chicago, IL. Project Engineer/Assistant Project Manager worked on a small project to redevelop several city blocks from highrise, low-income development to a grid area of mixed income housing to blend into, compliment, and enhance the surrounding neighborhood.

Dow Chemical Canada, Outfall Area, Sarnia, Ontario. Deputy Project Manager/Document Control/Project Engineer coordinated the pilot project Phase I evaluation report with client authors from and subcontractors; developed and maintained document control; participated with water resources engineering team in developing a design for the dredging, transporting (pipeline), and treatment (lined holding pond) for the remediation of a shoreline site characterized by mercury, solvent, and pesticide contamination; and assisted the field engineers in implementing and supervising the construction and execution of the design.

Echo Bay Mining Company, Kettle River Tailings Impoundment, Republic, Washington. Deputy Project Manager/Resident Engineer conducted the construction quality assurance monitoring for the earthwork construction for an upstream tailings dam expansion. The expansion consisted of raising the tailings dam 12 feet, building most of the raise over the tailings. The construction quality assurance of the earthwork included observing the response of the tailings as material was placed using liner deformation gauges, inclinometers, vibrating wire piezometers and settlement cells; conducted nuclear compaction testing on materials placed on and around the waste rock, which was utilized in order to remediate a waste site while using the material to erect the embankment; conducted the construction quality assurance monitoring for the installation of geosynthetic clay liner and high density polyethylene geomembrane; provided quality control through laboratory conformance testing, field destructive testing, and non-destructive testing of the geomembrane and welds, as well as continuous monitoring of the geosynthetics installation; and assisted in writing and providing the QA report, instrumentation report, emergency response update, operation and maintenance update, and as-built drawings. The upstream raise required reverse placement of geosynthetic materials (liner, then geosynthetic clay liner), and the new liner was extrusion

welded to existing liner. Existing liner was inspected, repaired, and tested before new liner was attached.

TransAlta Mining Company, Sedimentation Pond System, Centralia, Washington. Resident Engineer/Document Control/Quality Assurance monitored the construction of a new embankment for a sedimentation pond system; implemented the project's on-site quality control and quality assurance plan through controlling lift-thickness, testing soils compaction, and observing specification conformance; conducted monthly inspections on a large-scale embankment for specification compliance with regards to site conditions, lift thickness, and materials; wrote monthly status reports, based on data and field reports; and incorporated the reports into a larger monthly report from the client to the Department of Ecology Dam Safety.

Ted Bushell, PE

Geotechnical Engineer

Education

MS, Civil Engineering, Northwestern University, 1978

BS, Civil Engineering, University of Illinois-Champaign-Urbana, 1975

Years of Experience

41

Professional Registrations/ Certifications

Professional Engineer, IL #62037889

Professional Affiliations

American Society of Civil Engineers

International Society of Soil Mechanics and Geotechnical Engineering

Society of American Military Engineers

American Council of Engineering Companies

Relevant experience

Ted is a project leader for numerous complex geotechnical engineering projects. Ted has been responsible for major geotechnical evaluations involving analysis and design of dams, reservoirs, landfills, excavations, deep and shallow foundations, slope stabilization, pavements, ground improvement, retaining structures, shoreline stabilization, and levees.

Project experience

Illinois Department of Transportation, District 1, Roadway Improvements and Widening, Illinois.

Soil surveys and foundation exploration for various roadway improvements and widening projects. Prepared geotechnical reports according to Illinois DOT guidelines.

Illinois Department of Transportation, Heritage Street Bridge, East Peoria, IL.

Principal Engineer for geotechnical engineering design services. The Heritage Street Bridge is part of the improvements to Camp Street. The new construction will require raising the existing grade approximately 5 to 10 feet at the bridge approaches and the adjacent Camp Street. Conventional earth fill will support the approaches. Site investigation revealed the presence of loose alluvial soils to a depth of 25 feet. Consolidation testing was performed to estimate the time-rate of consolidation of the alluvial soils. The analysis indicated that wick drains would be required to expedite the embankment settlement. Design drawings and specifications including instrumentation were developed for the wick drain installation and embankment construction.

Terra Engineering & Construction, 100 Wisconsin Avenue, Madison, WI.

Provided design of temporary earth retention and underpinning systems for 100 Wisconsin Avenue. The 50-foot-deep excavation for this project was bordered by city streets of two sides and buildings on two sides in the downtown capital area. The earth retention system was composed of soldier beams and lagging with grouted permanent tiebacks. The underpinning system

for the Rifken Building consisted of stiffened steel wide flange sections placed below the existing rubble footing and supported by brackets on the soldier piles. The support brackets were preloaded to reduce movement during excavation. Monitoring of the existing buildings and streets was performed to verify the performance of the system.

Village of Clarendon Hills, Route 83 beneath Chicago Avenue – Retaining Wall, Clarendon Hills, IL.

Complete structural and geotechnical design including preparation of construction drawings and specifications for 4,000 lineal feet of permanent tied-back retaining wall to depress Route 83 beneath Chicago Avenue. The retaining wall, which extended up to 35 feet high, consisted of drilled-in soldier piles, one and two levels of walers, timber lagging, permanent soil anchors (tiebacks), and permanent concrete face wall.

City of Fox River Grove, US Route 14, Fox River Grove, IL.

Design of 2,700 lineal feet of tied-back retaining wall for the road-widening project along US Route 14. Subsurface exploration and laboratory testing program was performed to provide design parameters. Analysis included earth pressure, bearing capacity, anchor capacity as well as tie-back length and slope stability calculations.

US Army Corps of Engineers, Lake Michigan Shoreline Reconstruction, Chicago, IL.

Geotechnical engineering evaluations for major Lake Michigan shoreline reconstruction including I-55 to 30th Street, 33rd to 37th Street, 54th to 57th Street and Montrose Harbor. All work performed in accordance with the US Army Corps of Engineers and city of Chicago guidelines. Slope stability, pile capacity and seepage, settlement, and soil-structure interaction analysis were performed. Construction plans and specifications were prepared in coordination with civil, coastal, and structural engineering team members.

US Army Corps of Engineers, Chicago Shoreline Storm Damage Reduction, Chicago, IL.

Lead Geotechnical Engineer for the design of seawall and shoreline protection structures along several miles of shoreline in

Ted Bushell, PE (continued)

the city of Chicago. Involved design analysis and plan and specification preparation for the complete replacement of shoreline structures comprised of severely deteriorated timber pile crib, rubble, and cap stones. New revetment structures at I-55 to 30th street, 33rd to 37th street, and Montrose Harbor comprise 9,700 feet of deep water Lake Michigan revetment structures and also included a boat ramp. [\$70 million construction cost]

City of Chicago, Shoreline Protection Projects, Chicago, IL. Lead Geotechnical Engineer for the design of 4,200 feet of Lake Michigan shoreline structures at Promontory Point (54th to 57th Streets), and 1,800 feet of Lake Michigan shoreline revetments at Fullerton Avenue - Theatre on the Lake for the city of Chicago. These designs include geotechnical aspects of steel sheet pile retention structures tied back with batter piles, and an integral concrete promenade and steps supported in part by vertical H piles. Designs also include drainage gaps and a 9-acre confined disposal lakefill. [\$35 million construction cost].

City of Port Huron, Military Street Bridge over Black River, Port Huron, MI. Geotechnical evaluation of the Military Street Bridge over the Black River. This project involved replacing an existing bridge having unstable abutments. Subsurface exploration included obtaining undisturbed samples and performing field vane shear testing in soft clay. Special laboratory testing included triaxial, residual direct shear and consolidation testing. Slope stability analyses performed to evaluate foundation piling and other structural methods of stabilizing abutments. Designed cofferdam for new bridge pier construction.

Metropolitan Water Reclamation District of Greater Chicago and USDA Soil Conservation Service, Upper Salt Creek, Lower Des Plaines River, and Little Calumet River Watersheds, Chicago, IL. Geotechnical evaluations of numerous earth dams and reservoirs along the Upper Salt Creek, Lower Des Plaines River, and Little Calumet River Watersheds in the suburban Chicago area. These structures consisted of 20- to 25-foot-high earth dams and 40- to 60-foot-deep excavation reservoirs. Projects included subsurface exploration, geotechnical laboratory analysis, extensive slope stability, and seepage analysis and instrumentation.

Department of Natural Resources, Klein Creek Watershed Plan Development and Flood Control Design, Carol Stream, IL. Lead Geotechnical Engineer coordinating tasks including subsurface exploration, geotechnical laboratory analysis, extensive slope stability and seepage analysis and instrumentation for the Gary Kehoe and wastewater treatment plant flood control projects. Prepared

specifications for these major earth-moving projects including 150 acre-feet for the Gary Kehoe reservoir, and 25 acre-feet for the WWTP project. Develop foundation analysis and design for spillway structures for both projects. [\$10 million construction cost]

Metropolitan Water Reclamation District of Greater Chicago, Heritage Park Stormwater Detention Facility, Wheeling, IL. Extensive slope stability analysis determined that slopes as flat as 8 (H):1 (V) in the organic soils would be required. Drawings and specifications were prepared for the cutoff wall. An instrumentation program to monitor the performance of the slopes was also developed.

Metropolitan Water Reclamation District of Greater Chicago, Geotechnical Evaluation, Chicago, IL. Performed geotechnical evaluations for design of various structures including lagoons, tunnels, pump stations, tanks, and sewers.

Illinois Department of Water Resources and US Army Corps of Engineers, St. Louis District, Len Small Flood Control Levee, Illinois. Principal Engineer providing technical oversight for the geotechnical analysis and redesign of the Len Small flood control levee along the Mississippi River. Primary and secondary levees, 600- and 1,000-feet-long, respectively, failed due to internal piping. Field and laboratory exploration and testing performed to characterize the levee and foundation materials. Finite element seepage and slope stability analysis were performed to assess the cause of failure. Prepared design of remedial measures in conjunction with the Illinois Department of Water Resources and St. Louis District Army Corps of Engineers.

US Department of Energy – Fermi National Accelerator Laboratory, Geotechnical Engineering, Batavia, IL. Performed geotechnical engineering services for numerous projects at the laboratory, with special emphasis on underground structures. Foundation systems generally consisted of footing or heavy mat foundations. Several structures supported on drilled pier and pile foundations. Soil-structure interaction analysis performed for several structures due to varying heavy mat foundation loads as well as complex tunnel loading conditions.

Dipal Vimawala, PE, SE Structural Engineer

Education

MS, Structural Engineering, University of Wisconsin, Madison, 1993

BS, Civil Engineering, South Gujarat University (now Veer Narmad South Gujarat University), 1990

Years of Experience

26

Professional Registrations/ Certifications

Professional Engineer, IL #62056368
Structural Engineer, IL #081005766
NCEES Certificate
AECOM Certified Project Manager

Professional Affiliations

American Society of Civil Engineers, Past Chair for Structural Group
American Railway Engineering and Maintenance-of-Way Association, Active Member of Steel Subcommittee
American Council of Engineering Companies of Illinois, Active Member of Bridge Subcommittee

Relevant experience

Dipal has extensive experience in project management, structural analysis and design and in quality control reviews. Dipal's experience includes traditional design-bid-build and design-build projects involving major interchanges, highway and railway structures, moveable bridges, grade separations, transit facilities, and industrial facilities. Dipal also has practical experience with constructibility reviews and construction management. As manager of the Bridge Design group for the central region of AECOM, his primary responsibilities include project coordination within various offices, leading technical activities, staff supervision and training, coordination between various design disciplines, and supervision of contract documents preparation.

Project experience

Illinois Department of Transportation, Circle Interchange Project, Chicago, IL. Lead Bridge Engineer for the redesign of one of the most congested interchanges in the entire nation. The project is located in downtown Chicago at the intersection of Kennedy/Dan Ryan Expressways (I-90/94) and Eisenhower Expressway (I-290). The improvements include reconfiguration of the interchange geometry and removal and replacement of 8 fly-over curved ramp bridges and 14 mainline bridges over these expressway corridors. AECOM is the prime consultant for Phase I and II engineering, which include final construction documents. The project requires significant coordination with several agencies. Project schedule is extremely aggressive with multiple construction contracts. Responsibilities include significant coordination with client and other local authorities, establishing design standards and criteria for bridge design, and maintaining effective communication with design teams to ensure seamless production work.

City of Chicago, Wells Street Bascule Bridge Rehabilitation, Chicago, IL. Project Manager and Lead Structural Engineer for one of the most complex, double-leaf, trunion style, double-deck bascule bridges in the city.

The project included inspection of the bridge, preparation of bridge condition report, development of Phase I engineering report, and preparation of final construction documents and specifications as part of Phase II engineering. The project included significant coordination with other agencies including Chicago Transit Authority. Developed innovation staging schemes to rehabilitate/replace trusses during the available windows of transit shut downs. During inspection it was discovered that some of the critical structural elements were in significantly poor condition. Developed plans to repair these elements under an extremely tight schedule. The Wells Street bascule bridge carries highway at the lower deck level and CTA transit system on the upper deck. Project also included design of new dolphin along with retrofitting of existing dolphins to protect bridge piers from impacts. The existing bridge abutments were also included new fender systems to distribute impact loads.

Illinois Department of Transportation, Dan Ryan Expressway Reconstruction, 47th Street to 69th Street, Chicago, IL. Project Structural Engineer for preparation of contract plans for reconstruction of 3.1 miles of the existing expressway. The project included bridge design including reconfiguration of the Chicago Skyway/Dan Ryan interchange to provide an additional entrance ramp from the Skyway to serve the northbound Dan Ryan express lanes. The work included design of tall retaining walls, and rehabilitation and/or modifications of several existing retaining walls.

Chicago Department of Transportation, 41st Street Pedestrian Bridge, Chicago, IL. Technical Advisor and Principal-in-Charge for the design phase of the proposed bridge structure, a double-curved steel tube arch (240-foot span) to form a large, graceful S-curve. The bridge curves both horizontally and vertically and spans over multiple lanes of Lake Shore Drive and six active railroad tracks. Significant length of approach structures, supported by a single steel tube, at both ends of the main span provides access to pedestrians, including compliance with ADA. The deck consists of twin steel tubes, spaced 20 feet

Dipal Vimawala, PE, SE (continued)

apart, creating truss in the plan view and supported by cables from the steel arch. Responsible for overseeing the concept and development of the bridge design including bridge type, cross sections, and span arrangements; design methodologies; vibration analysis; constructability reviews; and staging. Also responsible for coordination with the client and providing appropriate staff resources.

Chicago Department of Transportation, 43rd Street Pedestrian Bridge, Chicago, IL. Technical Advisor and Principal-in-Charge for the design phase of the proposed bridge structure, a double-curved steel tube arch (240-foot span) to form a large, graceful S-curve. The bridge curves both horizontally and vertically and spans over multiple lanes of Lake Shore Drive and six active railroad tracks. Significant length of approach structures, supported by a single steel tube, at both ends of the main span provides access to pedestrians, including compliance with ADA. The deck consists of twin steel tubes, spaced 20 feet apart, creating truss in the plan view and supported by cables from the steel arch. Responsible for overseeing the concept and development of the bridge design including bridge type, cross sections, and span arrangements; design methodologies; vibration analysis; constructability reviews; and staging. Also responsible for coordination with the client and providing appropriate staff resources.

City of Nashville, Cumberland River Pedestrian Bridge, Nashville, Tennessee. Lead quality control/quality assurance engineer for the pedestrian bridge which consists of a 3-span continuous steel tub girder having a main span of 500 feet over an 80-foot-deep river. Two end spans are 150 feet long. Sixty-foot-tall steel towers at each pier support suspension cable which are connected to tub girders at regular intervals to enhance an aesthetic appearance of the structure. The structure is wind sensitive and thus dampers are provided at uniform spacing to increase lateral stiffness of the structure. The railing and deck flairs are designed to reduce wind sensitivity of the structure. Responsibility includes proof checking of the structural design including fabrication and erection procedures. Significant work includes coordination with various agencies, and providing constructive suggestions and support to create an efficient structural design system. Value engineering services are provided to reduce construction cost.

Chicago Department of Transportation, Carmen and Bryn Mawr Avenue Bike Path over the North Branch of the Chicago River, Chicago, IL. Structural Engineer responsible for design of foundations for 125-foot-span prefabricated pedestrian bridge, retaining walls, and gabion walls for shoreline protection.

Chicago Department of Transportation, Canadian Pacific Railway Bob-Tail Swing Bridge #Z-2 at Cherry Street over North Branch Canal, Chicago, IL. Project Manager responsible for preparation of contract documents for rehabilitation of historic horizontal swing bridge over North Branch Canal. The project included field inspection, preparation of bridge condition report, replacement of cantilever pedestrian walkway, significant structural repairs, and painting the bridge. Design work also included analysis and design of shoring towers to replace critical, non-redundant compression truss members. The project required extensive coordination between city and railroad authorities.

Illinois Department of Transportation, I-55/I-64 Tri-Level Interchange Reconstruction, East St. Louis, IL. Senior Structural Engineer for this major project which is one of six projects that make up the relocation of I-70 to a new bridge crossing the Mississippi River. The project included approximately four miles of mainline reconstruction, 5.5 miles of ramp reconstruction, and five miles of local road reconstruction, and included total of 13 bridges, including four fly-over structures. Supervised plan preparation and design checks for several bridges including preparation of TS&L plans, final contract plans, specifications, and cost estimates. Structures included long-span curved steel plate girders composite with cast-in-place concrete deck. Substructure design included piers over 60 feet in height, high wall abutments, and retaining walls.

Illinois Department of Transportation, I-55 and Lake Shore Drive Interchange Project, Chicago, IL. Senior Bridge Engineer for the redesign of this complex interchange project located at the intersection of Stevenson Expressway (I-55) and Lake Shore Drive (US 41) just south of downtown Chicago. Responsible for Phase II engineering which includes preparation of final contract documents for 6 major bridges, including 4 long span curved fly over ramps spanning over expressways and railroads. Staging is one of the key elements of the design as 4 out of 6 structures need to be replaced in stages in order to maintain traffic during construction. Responsibilities include significant coordination, establishing design standards and criteria for bridge design, and maintaining effective communication with design teams to ensure seamless production work. Provided significant contribution in refining scope from the earlier study to achieve comprehensive and long term improvement goals.

Jennifer McNeil Dhadwal, AICP Planning

Education

MS, Urban Planning and Policy, University of Illinois - Chicago, 2004

BA, Economics, Vanderbilt University, 1993

Years of Experience

24

Professional Registrations/ Certifications

American Institute of Certified Planners
#020565, 2006

AECOM Certified Project Manager

IDOT Prequalified EIS Socio-Economic
Analyst

Professional Affiliations

American Planning Association

Relevant experience

Jen leads the Planning department in the AECOM Chicago Metro's Transportation practice. In addition to her management responsibilities, she is an active participant on client projects, with roles including Project Director, QA/QC oversight, project management, task leadership, and special topic consulting.

Project experience

Development Advisory Services

Jen has assisted AECOM project teams providing property redevelopment advisory services to enable communities to achieve their planning visions. Representative projects include:

Village of Oak Park, Cap the Ike Feasibility Study, Oak Park, IL. Assisted project management of multi-disciplinary corridor visioning project, including real estate market analysis, land use planning, multimodal transportation planning, urban design and extensive public participation to design a cap over the below-grade stretch of I-290 through suburban Oak Park.

Forest Preserve District of Cook County, Land Acquisition Plan, River Forest, IL. Project Manager to update the strategic plan guiding the FPDCC on acquisition of additional holdings for conservation of natural resources and provision of recreational opportunities in collaboration with the District's Department of Planning and a steering committee of conservation advocates and real estate finance and law professionals; project services included a revision of a property screening process, GIS evaluation of potential opportunity areas, outreach to regional stakeholders, and property value estimation to support financial planning.

Parks Department, Souldard Market and Park Master Plan, St. Louis, MO. Task Leader for real estate market analysis assessing competitive position of historic market in downtown St. Louis, as well as opportunities from demographic trends; assisted with business plan development and implementation strategies in support for various phases of repair and renovation.

El Paso Water Utilities public service board, Development of PSB Lands in Northeast El Paso, El Paso, TX. Real estate analyst for long-term redevelopment master plan and RFQ/RFP materials for the property owner.

City of La Porte, NewPorte Landings Brownfield Redevelopment Program, La Porte, IN. Real Estate Analyst responsible for public involvement materials and developer information packages; state and federal grant applications for environmental assessment and clean-up projects.

Economic Impact Analysis

Jen has conducted or participated in numerous economic impact studies to assess the fiscal and economic benefits of development projects, both public and private. Projects have included:

Village of Oak Park, Cap the Ike Conceptual Engineering Studies, Oak Park, IL. Economics Task Manager, scoped potential economic and fiscal benefits resulting from construction of a cap over the Eisenhower Expressway.

City of Suffolk, Fiscal Analysis Model, Suffolk, VA. Modeled 10-year expected revenues to the City's General Fund based on growth projections identified in the City's 2018 Comprehensive Plan.

Jennifer McNeil Dhadwal, AICP (continued)

Private developer of proposed for-profit educational development, Oak Park, IL. Estimated potential student spending on retail goods and parking compared to alternative office use, including expert testimony to Village Board and Plan Commission.

City of Chicago, Economic Impact of Millennium Park, Chicago, IL. Prepared quantitative estimate of Park's impact on local real estate market and tourism-related spending during the first year of its opening.

Transportation and Land Use Studies

Jen is a leading AECOM resource for the analysis of transit supportive land use and development patterns. She leads assessment and analysis tasks for feasibility studies, alternatives analyses, federal funding applications, and environmental actions for all transportation modes.

Cook County Department of Transportation and Highways, Connecting Cook County 2040 Long Range Transportation Plan, Chicago, IL. Principal-in-Charge of study for the Department of Transportation and Highways to prepare the 2040 LRTP for Cook County. Included extensive coordination with CMAP, municipalities, City of Chicago, RTA, CTA, Pace, Metra, IDOT and Tollway.

Southwest Conference of Mayors, Cicero Avenue Corridor Study, Southwest Suburbs of Chicago, IL. Project Manager of a "Complete Streets" corridor plan for transportation, urban design and economic development improvements along 10-mile corridor involving 6 municipalities. Project oversight is provided by Southwest Conference of Mayors, RTA and IDOT, with input from Tollway, Pace, Metra, CTA, CDOT, Chicago Department of Aviation, and corridor municipalities.

Southwest Conference of Mayors, Harlem Avenue Corridor Plan, Southwest Suburbs of Chicago, IL. Project Manager for a "Complete Streets" corridor plan for transportation, urban design and economic development improvements along 13-mile corridor involving 10 municipalities.

City of Chicago Heights, Downtown TOD Plan, Chicago Heights, IL. Project Manager for RTA-sponsored TOD plan for environs of proposed SouthEast Service Line commuter rail station. Presented project information and solicited community input for redevelopment plans around proposed new commuter rail station in historic but

currently disinvested downtown neighborhood; coordinated multi-agency participation in project steering committee, including charrette-style design sessions to identify station location and future redevelopment plans.

City of Chicago, Central Area Action Plan, Chicago, IL. Deputy Project Manager and Task Lead for land use and economic analysis of current conditions and projected development for Chicago's Central Business District. Assisted with writing and review coordination of formal Plan documents.

Village of Oak Park, Character Plans for Oak Park Avenue and Harrison Avenue, Oak Park, IL. Student Research Assistant at UIC College of Urban Planning & Public Affairs for two neighborhood character plans, including traffic and transportation analysis; land use analysis; urban design; and public involvement.

Christopher Brewer

Economics

Education

MS, Resource Economics,
University of New Hampshire,
1993

BS International Relations and
Economic Development, Drake
University, 1991

Years of Experience

23

Professional Registrations/ Certifications

AECOM Certified Project Manager

Professional Affiliations

Urban Land Institute

Relevant experience

Chris has 23 years of experience in the economic analysis of real estate and land use issues, with specific experience in downtown markets, ranging from smaller communities to larger Midwestern cities.

Project experience

Downtown Tinley Park Market Analysis, Tinley Park, IL.

For the Village of Tinley Park, Chris completed an evaluation of transit oriented development, focused on retail, and residential real estate market conditions in the downtown area. The approach summarized key findings with regard to demographic and economic trends for the community, as well as demand for retail, office, and residential uses in the downtown core. The residential analysis reinforced opportunities for walkable / transit-oriented residential development, highlighting relevant market segments that are looking for a suburban housing option with greater walkability. The analysis evaluated current economic conditions, and the extent to which downtown merchants were weathering the challenging economic climate.

Project "Diamond" Mixed Use Tower Assessment, Chicago, IL.

Working for a confidential client, Chris assessed real estate market potential for a mixed use tower in the downtown core of Chicago. The market analysis focused on demand for hotel, office, retail, apartment and condominium development. Financial analyses were also completed to evaluate the project from a revenue and cost standpoint, using minimum "hurdle" rates of return. Given the immediate proximity of the proposed site to CTA transit stations, additional research was conducted on parking requirements for each use.

Corridor Retail Realignment Strategy, Downers Grove, IL.

Chris was engaged by the Downers Grove Economic Development Corporation (DGEDC) to complete a competitive retail alignment study, focused on Ogden Avenue, 75th Street, Butterfield Road, and Downtown Downers Grove. Need for the study was driven by evolving policy concern about the status several older retail projects

in the community, as well as emerging interest in strategies to encourage corridor revitalization. The effort included a summary of national retail sales trends to frame how retailers are adapting now that the "Great Recession" is fading into the distance. Emphasis was placed on recent recoveries in retail sales, as evidenced through a pull factor analysis.

Southwest Industrial Corridor Assessment, Chicago, IL.

Working as part of a larger team, Chris evaluated industrial real estate markets along the I-55 Southwest Industrial Corridor. The assessment considered land availability for infill development, as well as identification and prioritization of infrastructure projects to sustain economic development efforts. The project culminated with the development of an evaluation tool to help policy-makers assess alternative investments in the corridor.

Downtown Oak Park Adaptive Reuse Analysis, Oak Park, IL.

For the Village of Oak Park, Chris completed a market and financial assessment for the restoration of the 74,000-square-foot Colt/Goldberg Building in downtown Oak Park, Illinois. The approach included a full assessment of retail inventories in Oak Park and adjacent suburbs, as well as vacancy and leasing trends. Analysis of TOD-linked residential development options was also considered, looking at other competitive residential projects served by CTA and Metra. The market analysis identified supportable market rates for condominium and apartment projects that would be competitive with the Colt Building. Resulting real estate metrics were incorporated in a financial model to frame project revenues and costs from a developer perspective, to frame return on investment potentials, and the need for incentives to offset likely gaps. As project costs were greater than likely returns, City officials eventually opted to demolish the building, to make way for redevelopment of the site.

Forest Preserve District Golf Operational Audit, DuPage County, IL.

For the Forest Preserve District of DuPage County, an operational/financial analysis of the 45-hole golf system, including Oak Meadows, Maple Meadows, and Green Meadows golf courses. Need for the study was

Christopher Brewer (continued)

driven by closure of the Oak Meadows Club House, which was destroyed by fire in 2009. The analysis effort included Interviews operations staff and district leadership to clarify operational and policy goals that will govern golf operations. The analysis also considered regional demographic and golf market conditions, as well as operational performance of each course in the system, covering both operating revenues and expenses.

Economic Development Strategy, Village of Bensenville, Bensenville, IL. Chris oversaw the completion of an economic development strategy for the Village, which is located directly adjacent to Chicago's O'Hare International Airport. The study focused on how this community will respond to the planned construction of the Elgin-O'Hare West Access, a new expressway that will traverse the western edge of O'Hare, providing a new connection between I-294 and I-90. When combined with proposals for a new western terminal at O'Hare, there is an expectation that the Village will need to manage a degree of future land use change, to include higher value retail, office, and logistics development opportunities. The year-long effort included practitioners from AECOM Water and Transportation, as well as Economics and Planning..

Industrial District Master Plan, Elk Grove Village, IL. Working for the community of Elk Grove Village between 2009 and 2010, Illinois, Chris updated the market analysis portion of the 1998 Industrial/Commercial Revitalization Master Plan for the 5.4 square mile industrial area located immediately west of Chicago's O'Hare International Airport, supporting about 40 million square feet of industrial space. The revitalization plan considered opportunities for redevelopment of vacant or underutilized property, and evaluate the impact of the planned Elgin O'Hare West Access and proposed western terminal expansion. Existing corridors through the business park were evaluated, including Higgins Rd, Devon Ave, and Thorndale Ave.

CTA Parking Garage Privatization Assessment, Chicago, IL. As part of an AECOM effort to evaluate privatization of the Chicago Transit Authority parking facilities at Cumberland and Rosemont, Chris reviewed an array of demographic, real estate, and economic metrics for the region, as well as specific study areas around each facility. As well, real estate market data, specifically office / hotel occupancy, and housing unit estimates was studied, along with airport passenger activity at O'Hare and passenger loading at CTA Cumberland/Rosemont stations. This information was used to frame likely demand for parking in relation to the subject facilities.

South Suburban Airport Financial Planning, Chicago, IL. As part of the broader master planning process for the proposed South Suburban Airport (SSA) proposed

for south suburban Will County, Illinois, Chris studied the financial performance of other recently built airports in the US to frame financial expectations for how SSA could perform financially when built. The approach looked at revenue and expense drivers for a broader sample of commercial and general aviation airports, to understand how these facilities weathered the recession, and what their growth prospects look like. Revenues associated with general aviation, commercial air service, and air cargo were studied, along with correlations to passenger enplanements and aircraft operations.

Lake Calumet Industrial Strategy, Chicago, IL. Chris evaluated the Chicago area industrial real estate market to place the port district in a strategic regional context. Existing industrial space was mapped and bench marked against competitive regional industrial space. Land values and lease rates were bench marked against recent sales prices, in part to provide an understanding of current ground lease rates for industrial land.

Municipal Revenue Options Analysis, Elgin, IL. Chris was engaged by the City of Elgin to evaluate new public sector revenue streams for consideration by the city finance department. The approach looked at revenue streams that have been developed by other jurisdictions, to focus conversation on a short list of plausible revenue options that could be appropriate for Elgin. In working through the analysis, we identified several revenue options for Elgin, and provided an initial estimate of the amount of revenue that could be expected from each program. In several cases, revenue ideas that have been used in other cities across the US were identified, including solid waste disposal fees.

Chicago Regional Sales Tax Analysis, Chicago Region. Chris worked with the Chaddick Institute at DePaul University to evaluate retail sales trends for the Chicago Area from 1995 to 2010 to better understand the policy implications of the 2008 Cook County sales tax increase. In March of 2008, the Cook County Board increased the county sales tax rate from 0.75% to 1.75%. For Chicago, these increases boosted the overall city tax rate to 10.25%, the highest rate of any major city in the US. For suburbs, the increase created significant sales tax differentials across county boundaries. The analysis was built around a GIS database, which included the following metrics for every year from 1995 to 2009 for every municipality in the region, including retail space inventory and vacancy, sales tax rates, retail sales, and income. Through Q2 2009, Cook County's sales tax rates remained, on average about 2% to 2.5% higher than those in Lake, DuPage, McHenry, Will and Kane. The analysis showed that communities in suburban Cook County were experiencing greater percentage decreases in sales compared to other jurisdictions in the metro area.

Brian Parker

Economics

Education

Bachelor of Business Administration,
Accountancy, University of Notre Dame,
1995

Years of Experience

19

Professional Affiliations

Illinois Development Council
International Economic Development
Council (IEDC)
American Institute of Certified Public
Accountants (AICPA)

Relevant experience

Brian provides dedicated, specialized advisory services to the public assembly, real estate development and economic development sectors. With over 18 years of experience in the sports, recreation and public assembly facility industry, Brian brings a wealth of experience to each client and project. He works closely with both public and private sector clients, providing in-depth, detailed and accurate information that enables clients to make fully-informed decisions regarding facility development. Brian has provided dedicated service to over 250 facility development projects around the country.

Project experience

Soccer Stadium Analysis, Baltimore, MD*. Brian was retained to provide a detailed market analysis related to the proposed development of a new, 10,000-seat soccer stadium that would host a USL professional soccer franchise. The analysis focused on evaluating the ability of the Baltimore market to support the franchise and stadium through attendance, premium seating, sponsorships and other measures. The ownership group also asked Brian to evaluate non-soccer demand for the proposed stadium to maximize revenue generating potential.

Baseball Stadium Analysis, Beloit, WI*. Brian served as the primary contact and lead consultant for the Beloit Professional Association, owner over the Class A Beloit Snappers baseball franchise, as they explored options for a new ballpark. The primary efforts in the analysis focused on determining the best site for the proposed ballpark. The Snappers had two potential options available, a downtown site and a site on the Interstate on the edge of Beloit. The analysis focused on identifying the potential benefits and challenges of each site, with emphasis on the long-term economic viability of the franchise as well as the potential for ancillary economic development.

Proposed Ice Arena, Beloit, WI*. Brian was retained by a group of stakeholders in Beloit, Wisconsin to evaluate the potential demand for a new ice arena. He conducted

a detailed market analysis to determine the potential user demand for the facility, including amateur youth hockey, high school hockey, figure skating, semi-professional hockey and recreational ice skating users groups. In addition, non-ice users, such as concerts, family shows, conventions and other users were interviewed to determine interest in the proposed facility.

Proposed MLS Stadium, Orlando, FL*. Brian, in conjunction with The Pizzuti Companies, assisted the Orlando City Soccer Club of the USL-PRO league in their preliminary planning efforts related to the potential development opportunities for a new stadium in anticipation of a promotion to Major League Soccer. The overall scope of services included feasibility site analysis and selection, funding plan development, building program recommendations, cost estimation and overall program management and owner's representation services.

Proposed Ballpark, Wilmington, NC*. Brian was part of a team that provided a variety of services related to the proposed development of a new ballpark within the City. The overall scope of the team's services included feasibility analysis, site analysis and selection, funding plan development, building program recommendations, cost estimation, economic impact analysis and lease negotiation assistance. Brian served as the primary point of contact between City staff and the project team, ensuring that the lines of communication were properly maintained and effective. In addition, Brian acted as a liaison between the City and Mandalay Baseball Properties, the proposed franchise ownership group.

Proposed Ice Arena/Recreation Complex, Sioux Falls, SD*. Proposed Ballpark, Beloit, Wisconsin*. Brian assisted the Beloit Snappers in their continued efforts to secure a new ballpark for their franchise in Beloit. This current effort builds on previous efforts in which Brian has participated, with the ultimate goal of positioning the franchise to attract a development partner to support a privately-funded, downtown ballpark.

*Experience prior to joining AECOM

Garrett Harper, CFA

Economics

Education

BA Economics, Connecticut College, 2007

Years of Experience

10

Professional Registrations/

Certifications

CFA (Chartered Financial Analyst) charter,
2013, CFA Institute
Full Member, Urban Land Institute

Professional Affiliations

CFA Institute
Full Member, Urban Land Institute

Relevant experience

Garrett is an Associate Principal in AECOM's Chicago office and was previously based in Singapore. He has 10 years' experience providing development advice and evaluating various revenue streams related to real estate and infrastructure assets. His work covers all stages of the project life-cycle, including market analysis, demand forecasts, development strategy & planning, financial analysis, commercial structuring, transactions, and asset disposal.

He focuses on assessing development strategy, risk allocation, economic potential and financial structure, often at the intersection of major infrastructure works and related real estate development.

Garrett approaches his work from first understanding an area's real estate market fundamentals, economic outlook, and the competitive positioning. From this quantitative base, potential development strategies can be tested in both economic and financial terms as well as physically in terms of transport and urban planning impacts. Despite having a focus on the financial outputs, Garrett always makes a point to "look beyond the models" to validate strategies in terms practical operations and sound planning principles.

Garrett received his Chartered Financial Analyst credential from the CFA Institute in September 2013. The CFA Program provides a rigorous real world understanding of the investment decision-making process across asset classes along with a strong code of ethics.

Project experience

Lakefront Trail Separation – Revenue Generation,

Chicago, IL. Market Analysis Lead. AECOM was appointed to design the improved separation of bicycles and pedestrians along Chicago's 19 mile Lakefront Trail. In addition to this effort, Garrett did an evaluation of existing revenue streams achieved by the Chicago Park District (CPD) and attempted to identify additional income

opportunities through activation of different areas of the lakefront and improved connection to the adjacent neighborhoods.

Hospital Consolidation and Redevelopment Potential Pre-Feasibility Study.

Garrett evaluated a proposed campus consolidation among multiple hospitals as well as the redevelopment potential of freed-up land and legacy assets. As part of a broader architectural study, Garrett estimated the value of active hospital assets, development land, and legacy medical buildings intended for conversion. Valuation approaches included transaction benchmarks, replacement cost estimates, residual valuation, and discounted cashflow analysis.

Citizens Coke Plant Redevelopment – Market Analysis, Financial Analysis, & Economic Impact, Indianapolis, IN.

Project Manager. AECOM was appointed to Define the Market for the redevelopment of 140 acres around a remediated coking plant on the east side of Indianapolis. AECOM evaluated the economics, demographics and real estate market conditions to determine supportable residential, industrial, and commercial uses as well as target industry clusters. Industry clusters were evaluated both in the context of local and global trends in end markets and emerging clusters that may drive long term growth. A second stage of work involved AECOM's partner developing a master plan for the site and neighbourhood which AECOM evaluated from a perspective of financial viability as well as to quantify the economic impact of the project.

Project Diamond – Confidential High-Rise Development, Chicago, IL.

Financial Analysis Lead. AECOM has been engaged on a confidential redevelopment project in downtown Chicago by a developer seeking to take advantage of recent changes to Chicago's zoning restrictions. AECOM has provided market analysis, financial analysis, architectural services, and engineering reviews to help formulate the vision for this \$350 million redevelopment project. Garrett's focus was on progressing the financial analysis and commercial structuring for the project.

Garrett Harper, CFA (continued)

Energy Service Portfolio Analysis for National Shopping Center Owner. Project Manager & Financial Analysis Lead. AECOM was appointed by a major owner of shopping centers nation-wide to evaluate their portfolio to determine the potential to establish an energy services business. Partnering between AECOM's Economics, Energy, and High Performance Buildings teams, AECOM helped screen the opportunities by state and utility service area, model the energy usage of tenants, and determine the financial feasibility of investing in various energy service solutions. The portfolio analysis filtered to select target centers that were evaluated as potential pilot projects.

Tollway Oasis Redevelopment Planning. Technical Lead. AECOM was tasked with establishing conceptual site plans and architectural plans for the redevelopment of multiple Tollway Oases along a Midwestern Tollway. Garrett's work included an evaluation of demand for the services offered at the Oases (food, gas, etc) and scenario-oriented forecasting of overall sales turnover, fiscal impact to the local municipality (sales tax, fuel tax), and income to the Tollway.

Suan Lum TOD Feasibility and Investment Strategy, Bangkok, Thailand. Project Manager. AECOM supported Univentures in the development planning for a 16 million square foot Transit Oriented mixed commercial development within Central Bangkok that will be linked to an existing metro line. AECOM conducted a market study to determine site's development potential in order to support in preparation of a TOR for a design competition. Afterwards, AECOM performed financial analysis to develop a phasing and investment strategy based on the winning architectural plan. The analysis included evaluations of multiple ownership and structuring scenarios to identify opportunities to de-risk development and take advantage of transit access.

Laguna Lakeshore PPP Transaction Advisory/Bid Review Greater Metro Manila, The Philippines. Project Manager & Financial Modeling Lead. Support in bid review for a PPP tollway project in the Philippines incorporating the right to reclaim 1,750 acres of land for development. Focus was on financial analysis and economic demand forecasting of the land reclamation to understand the cash flows from either land sales or development and the impact on project viability and potential bid strategy.

Singapore-Johor Bahru Transit Link Commercial Study Singapore – Johor, Malaysia. Commercial Structuring & Cost Modeling co-Lead. AECOM leads a team (KPMG and MVA) appointed by LTA to determine the preferred commercial model for the development of a cross-border

rail link planned to ease the congestion at the existing Woodlands causeway. The rail line would integrate with the planned Thomson Line in Singapore. Following a Phase I ridership and revenue forecasting study, AECOM and KPMG are evaluating commercial models, both vertically integrated and separated PPP structures, for this complex bilateral project culminating in a financial model to determine the funding gap for each model.

CALA Expressway Bid Due-Diligence, Cavite-Laguna, Philippines. Land Use Analysis Lead. Revenue forecasting due-diligence process for a greenfield tollway PPP for a group of leading international infrastructure investors. Forecasting incorporated an analysis of forecasted residential, commercial, and industrial growth.

Kranji Water Reclamation Plant (KWRP) Technical Feasibility Study & Cost Benefit Analysis, Singapore. Cost-Benefit Analysis Lead. AECOM's Water group was engaged by PUB, Singapore's National Water Agency, to do a feasibility study for a replacement water treatment and reclamation plant with an ultimate capacity of 135 MGD (including NEWater capacity, Singapore's reclaimed water program). Three technical options were developed to investigate opportunities to locate portions or all of the facilities underground or in caverns. Garrett's role was to develop a cost-benefit analysis for the three options incorporating full lifecycle costs as well as indirect costs and benefits to both PUB as well as Singapore more broadly.

Financial Due Diligence on Infrastructure and Smart City Developments, Johor, Malaysia. Financial Lead. Review of financial feasibility and business plan for various infrastructure & support service businesses proposed for a 2,250 acre urban new town in Iskandar, Malaysia.

Integrated Heavy Vehicle Parking Technical Feasibility & Cost Benefit Analysis, Singapore. Cost Benefit Analysis Lead. A feasibility study evaluating opportunities to develop increased density heavy vehicle parking solutions via multi-storey parking structures, integration with other industrial uses, and mechanical lift systems. Four models were evaluated from a technical perspective as well as through cost-benefit analysis.

Michelle Inouye, PLA, LEED AP, BD+C

Landscape Architect/Urban Designer

Education

Bachelor of Landscape Architecture,
University of Illinois-Champaign-Urbana3

Years of Experience

23

Professional Registrations/ Certifications

Registered Landscape Architect, IL #157-000983
Registered Landscape Architect, IN #20300105
Council of Landscape Architectural Registration Boards (CLARB) certified
LEED Accredited Professional, Building Design and Construction
AECOM Certified Project Manager

Professional Affiliations

University of Illinois - Urbana-Champaign – Resource Committee Member
American Society of Landscape Architects - Illinois Chapter

Relative experience

With over 20 years of significant public and private experience, Michelle collaborates on long-range planning studies for major public initiatives and leads multi-disciplinary teams to solve and articulate complex design problems.

Michelle guides the creation of plans, specifications and estimates, coordinating with agencies to streamline project execution. Michelle also leads public presentations, meetings and workshops to facilitate the public engagement process; conducts construction observation services; pursues, expands and diversifies business opportunities through proposal preparation and cultivation of client relationships. She participates in professional organizations and educational opportunities to promote the landscape architectural profession.

Project experience

Public Building Commission of Chicago, 31st Street Harbor, Chicago, IL. Served as Project Manager, overseeing design, construction documents, permitting and construction observation for a new Chicago Park District harbor. The marina scope included a ½ mile-long open coast stone breakwater designed to shelter the new harbor marina, as well as 1,000 new boat slips, an accessible fishing pier, on-site covered winter boat storage, a fuel dock, a marina store, dedicated shower facilities, and a public access boat launch ramp. A new ¾-acre green space, was created using on-site fill on a peninsula of land formed by the breakwater.

The landside development included a harbor services building with a 63,000-SF accessible green roof, replete with sculptural shade structures and a great lawn. A new accessible play area that connects the green roof area to the existing beach replaces a smaller, outdated playground. A grade-separated trail underpass improved pedestrian and vehicular circulation, crucial to park accessibility. The development embraces environmental, social

and economic sustainability, and received LEED Gold Certification.

Chicago Park District, North Avenue Beach Planning Study, Chicago, IL. Served as Project Manager for a planning study at North Avenue Beach, a premier destination located along Chicago's Lakefront. The entirety of North Avenue Beach is well-known for conflicts between beachgoers, cyclists, pedestrians, and drivers, and although its amenities do generate revenue, this function is not fully optimized leaving prime opportunities untapped. The plan reviews the current conditions at the site, including revenue-generating activities, to propose strategies which would not only relieve circulation conflicts but also enhance all elements within the park. Such strategies will refresh the identity of North Avenue Beach, excite visitors by the diverse array of recreation, dining and shopping experiences and spur higher revenues.

Chicago Park District, Lakefront Trail Separation, Chicago, IL. Currently serves as design manager for planning and needs assessment to separate pedestrians from commuter bike traffic along the City's congested lakefront. Construction documents will be prepared for select segments and coordinated with ongoing design projects along this 18-mile length of regional park space.

Chicago Department of Planning and Development, Resilient Corridors Project, Chicago, IL. Currently serves as project manager for planning, design, construction documents development and permitting of stormwater landscapes on City-owned vacant parcels. Community stewards along three City corridors are engaged in discussion to determine passive and active spaces which will capture and store stormwater to mitigate flooding and enhance social liveability. Green infrastructure strategies will be monitored for effectiveness and other co-benefits may also be tracked using smart technologies. Project construction will include workforce development opportunities and community members will provide long-term maintenance.

Michelle Inouye, PLA, LEED AP, BD+C (continued)

WisDOT, I-39/90 Corridor Landscape, Illinois State Line to Madison, WI. Serves as landscape architect lead for this expansion project of 48 miles of interstate. AECOM is providing the program management for the design. As a FHWA/WisDOT Mega-Project, the corridor has a higher level of management than a normal Federal Highway improvement project. Three separate design consultant teams are coordinating roadway improvements; initial landscape guidelines look to ensure a consistent vision is implemented holistically, as a single corridor. The guidelines preserve and highlight the rich cultural assets of the south-central Wisconsin region by providing a framework to improve the landscape expression while meeting public safety and transportation needs. Enhancements incorporate diverse seeding mixes and upper story plantings to address snow drift control, interchanges, bridge structures, noise walls, and retaining walls. Thoughtful installation and maintenance programs will sustain growth of a visually memorable corridor and healthier wildlife network for future generations.

Chicago Park District, Humboldt Park Swimming Beach, Chicago, IL. Coordinated landscape development for a naturalized swimming area within a surrounding lagoon system. The existing pond water had been artificially sourced from municipal drinking water. AECOM studied site features, geology and disturbed aspects of the pond to understand water retention and loss, and water quality degradation aspects of the existing pond base. Vegetative buffers provide stormwater runoff treatment and increase plant diversity in this regional park. Working with engineers and ecologists, the pond redesign creates a sustainable swimming beach that enhances both active and passive park uses.

Chicago Department of Transportation, Loop Link, Chicago, IL. Urban Design Lead for the final design to reconfigure five corridors through the heart of the downtown Chicago central business district incorporating bus rapid transit (BRT) and protected bicycle facility infrastructure, introducing transformative change to the transportation system and establishing a balance of Complete Streets between roadway users. Responsible for leading the development of design concepts for station/platform architecture and urban design/sustainability concepts for consideration within the public way.

Metropolitan Water Reclamation District of Greater Chicago, Heritage Park, Wheeling, IL. Served as Project Manager for landscape architecture services. The stormwater side of the project provided compensatory storage for the Corps of Engineers and the Illinois Department of Natural Resources on the Des Plaines River

on property owned primarily by the Wheeling Park District. As part of the Intergovernmental Agreement to complement land use, major site and recreational improvements to the park include a four-plex of ballfields, soccer fields, wetland and naturalized enhancements, a bandshell with viewing amphitheatre and an expansive path system including boardwalk and bridge crossings.

Emmet County, Emmet County Observatory Facility, Emmet County, MI. Currently serves as Landscape Architect Lead for site development of a new waterfront facility along the northern Michigan lakeshore. The former site of the McCormick Beach House, the facility is surrounded by woods within the 550-acre Headlands Park, awarded International Dark Sky designation in 2011. Select views of the water will carry the visitor to the facility entry where an outdoor amphitheater interplays with the entry terrace and interior assembly room. Path, plaza and surface parking systems will be carefully integrated into the rolling landscape to support wider park and Dark Sky programming.

City of South Milwaukee, Shoreline Park Planning Project, South Milwaukee, WI. Served as the landscape architect for site development of a significant 18.5 acres parcel along Lake Michigan. The site was home to the Northwest Barrel Company until the 1960s and ultimately designated a Superfund site because of soil contamination in the 1980s. The City retained AECOM to develop a Park and Ravine Restoration Plan to begin the process of converting the property into a public asset. The plan contains three main components which have been developed concurrently: stormwater management plan, a geotechnical / slope stability analysis for the ravine that traverses the site and, through a public engagement process that explored site issues and opportunities, a preliminary park plan identifying programmed spaces which complement surrounding uses and capitalize on natural site features.

Adrian Smith + Gordon Gill Architecture, Masdar Headquarters, Abu Dhabi, UAE. AECOM provided landscape architecture services for Masdar Headquarters, the centerpiece of the world's first zero carbon, zero waste city. Landscape architecture services included developing plazas, gardens and courtyards, all on structure, with a strong emphasis on quantifiable sustainable design strategies that contribute to the overall performance of the building, slated to achieve a net positive energy use of 3%. Purposeful and direct landscape responses to environmental conditions within the building employed the judicious use of water and materials to create memorable and contemporary spaces. This project expects to attain Estidama Certification based on the Pearl Rating System.

Melita Ristovska, AIA

Architect

Education

MFA, Interior Architecture, School of the Art Institute of Chicago, 1992

BA, Architecture, University of Mathematical and Technical Science, 1984

Years of Experience

24

Professional Registrations/ Certifications

Registered Architect, IL #001022867
LEED Green Associate

Professional Affiliations

American Institute of Architects

Relative experience

Melita is an architect with experience in all phases of architectural, interior, and context-sensitive design including programming, conceptual design, design development, production of contract drawings, and specifications.

Melita has provided design solutions for wide range of projects such as public, recreational, industrial, commercial, residential facilities, and transportation improvements including streetscape design, retaining wall fenestration, bridge aesthetics, and lighting. Melita's experience also encompasses project management, preparing project cost estimate, shop drawing review, field inspection, and production of renderings using 3D CAD, SketchUP, and Photoshop.

Project experience

Illinois Tollway Central Tri-State Aesthetics. Lead Architect responsible for design development of corridor aesthetics guidelines for the Central Tri-State corridor improvements, from 95th street in Bridgeview to Balmoral Ave in Rosemont. The project includes evaluation of existing facilities, replacement, reconstructions and widening of facilities, improvements at interchanges and incorporation of ITS elements to improve traffic flow. The purpose of the aesthetics study and guidelines is to ensure consistent visual theme on the mainline of all new bridges, retaining walls, noise walls, including existing bridges ongoing widening and rehab, signage and drainage.

Loop Link Bus Rapid Transit project. CDOT, CTA, Chicago, IL. As part of the architectural team, Architect responsible of developing various concept designs for BRT stations safe and attractive pedestrian access, bicycle parking, intersection treatments and design development of a bus station including shelter platform with canopy, CTA Identifiers/wayfinding pylons, hardscaping, and coordination between disciplines. This project is part of the overall Central Area Transitway plan and includes designated bus priority lanes for seven CTA bus routes

on the east – west corridor of the Central Loop providing connection from Michigan Avenue to Union Station, Ogilvie Center and other transit terminals to the Streeterville area and Navy Pier.

I-90/94 at I-290/Congress Parkway (Circle Interchange), Illinois Department of Transportation, Cook County, IL. Lead Architect responsible for development of aesthetic treatments and hardscape elements of a major urban interchange in downtown Chicago during design and construction phase of the project. From developing concepts, providing 3D presentation renderings for numerous public meetings and initial architectural aesthetics guidelines, during the design phase and coordination, review and support to all consultants to ensure a consistent vision is implemented holistically, during the construction phase. This project creates a solution to relieve congestion and improve travel times through the interchange. Work includes development of geometric alternatives, extensive replacement of bridges, replacement of the drainage system, improvements to existing stormwater pump stations, environmental documentation, and extensive public involvement.

Stevenson Expressway (I-55) and Lake Shore Drive (US 41) Illinois Department of Transportation, Cook County, IL. Lead Architect responsible for development of aesthetic treatments and hardscape elements including bridge pier and retaining walls design, for a complex interchange project located at the intersection of I-55 and US-41, just south of downtown Chicago.

WisDOT, I-39/90 Corridor Aesthetics, Illinois State Line to Madison, WI. Serves as a Lead Architect in the concept design phase for this expansion project of 48 miles of interstate, providing different aesthetic concepts for the whole corridor, emphasising the rich cultural assets of the south-central Wisconsin region and at the same time to ensure a consistent vision is implemented holistically, as a single corridor.

Melita Ristovska, AIA (continued)

Village of Bridgeview, 71st Street at CSX/IHB Grade Separation, Bridgeview, IL. Architect responsible for aesthetic treatment of the proposed underpass that will carry the CSXT tracks over 71st Street. The underpass location is immediately west of a 20,000-seat multi-use stadium used mainly for soccer games and music concerts, and is to be used as a primary ingress/egress route to the stadium parking lot. The choice for the form liner aesthetic treatment, long playful lines resembling music and soccer theme promotes the strong association with the stadium use.

Chicago Park District, 31 Street Pedestrian Underpass, Chicago, IL. Architect responsible for aesthetic treatment of the pedestrian underpass, part of a larger Gateway Harbor project.

I-90/94 at I-290/Congress Parkway (Circle Interchange), Illinois Department of Transportation, Cook County, IL. Architect responsible for development of aesthetic treatments and hardscape elements of a major urban interchange in downtown Chicago and production of 3D presentation renderings for numerous public meetings. This project creates a solution to relieve congestion and improve travel times through the interchange. Work includes development of geometric alternatives, extensive replacement of bridges, replacement of the drainage system, improvements to existing stormwater pump stations, environmental documentation, and extensive public involvement.

Indian River Inlet Bridge, Delaware Department of Transportation, Rehoboth Beach, DE. Architect responsible for developing aesthetic treatment studies of the Indian River Inlet 2,600 ft long cable stay bridge replacement project. The studies included pedestrian/bicycle railing, tower shape, colors, pylon form liners, sculptural metal and mosaic shapes.

Chicago Department of Planning and Development, Resilient Corridor Projects, Chicago, IL. Architect responsible for design and developing construction documents of site furnishing associated with stormwater landscapes on City-owned vacant parcels. Community stewards along three City corridors are engaged in discussion to determine passive and active spaces which will capture and store stormwater to mitigate flooding and enhance social liveability. Green infrastructure strategies will be monitored for effectiveness and other co-benefits may also be tracked using smart technologies. Project construction will include workforce development opportunities and community members will provide long-term maintenance.

Chicago Transit Authority, Circle Line Alternatives Analysis Study, Chicago, IL. Architect responsible for developing station programming and conceptual design of prototype and site-specific stations that are part of a locally preferred alternative for constructing a new CTA transportation line. Systems studied include heavy rail alignments as well as light rail and bus rapid transit. Conceptual design includes elevated, underground and at grade stations and interface with existing CTA alignments and stations in addition to other heavy rail commuter stations.

Chicago Transit Authority, Blue Line Renovation, Chicago, IL. Architect responsible for conceptual design and design development of Kedzie, Western, and California Avenue elevated transit stations on Blue Line -Douglas Branch. New stations are to provide full accessibility via elevators and escalators, new car platforms and canopies, meet the ADA Act, federal, state, city of Chicago and CTA regulations. While Illinois Historic Preservation Agency designates Kedzie Avenue station as historic and the existing station house is to be restored, Western and California Avenue existing station houses are to be demolished and replaced with new facilities.

Chicago Department of Transportation, Milwaukee Avenue/Six Corners Renovation, Chicago, IL. Architect responsible for design development of custom precast planters, gateway elements, trellis', seating, signage, and producing 3D renderings for the 6-corner intersection that also involves 18 city blocks; two miles of roadway.

City of Chicago, Millennium Harbor Design, Westrec Marinas, Chicago, IL. Architect responsible for design development of a new 430-slip Lake Michigan harbor at the mouth of the Chicago River, including design of harbor gates and new pedestrian walks and plazas containing bronze medallions.

Heritage Park Flood Control Facility, Wheeling, Illinois, Metropolitan Water Reclamation District of Greater Chicago. Architect responsible for design of amenities to the Wheeling Park District in exchange for storm water detention rights for MWRDGC. Amenities included athletic fields, concessions facilities, band shell, pavilion and landscaped pathways.

Chicago Lock Control House, US Army Corps of Engineers, Chicago Harbor Lock, Chicago, IL. Lead Architect responsible for all phases of design and production of construction documents of a new 6000 sq ft facility serving control operations and maintenance of the Chicago Harbor Lock separating Lake Michigan and the Chicago River. Zink clad, curved tilted walls and glass band shaped to resemble a ship bow contributes to nautical look.

Vittorio Ansourian, AIA LEED AP

Architect

Education

Bachelor of Architecture, University of Tennessee-Knoxville, 1997

Professional Registrations/ Certifications

LEED Accredited Professional

Professional Affiliations

American Institute of Architects, Associate

Years of Experience

16

Relative experience

Vittorio is an accomplished project architect with experience in design, consultant coordination, construction documents, and construction administration. He specializes in executing extensive development of seating bowl geometry and interior building design. As a project architect, he is typically involved throughout the planning and design phases, working with a senior project architect to ensure technical execution and coordination across the project team. Vittorio helps lead the development of documents, making sure all aspects identified during programming and design phases are represented. He also assists with the development of BIM models, outline specifications, and coordinating the design among various design disciplines. Vittorio participates in marketing proposals and presentation materials for projects ranging from professional to collegiate, and arenas to stadia to ballparks.

Project experience

Collegiate Sports

- Washington State University, Martin Stadium Improvements, Pullman, WA
- University of Illinois at Urbana-Champaign, State Farm Center Renovation + Addition, Urbana-Champaign, IL
- University of Oregon, Matthew Knight Arena, Eugene, OR
- University of Virginia, John Paul Jones Arena, Charlottesville, VA
- University of Houston, Fertitta Center Renovation, Houston, TX
- Wake Forest University, Stadium Expansion Study, Winston-Salem, NC
- University of Miami, Orange Bowl Renovation Study, Miami, FL
- Missouri State University, JQH Arena, Springfield, MO
- West Virginia University, Olympic Wrestling Training Center, Morgantown, WV

Professional Sports

- Sports Campus Ireland, Design Competition, Dublin, Ireland
- Lambeau Field Expansion + Renovation, Green Bay Packers, Green Bay, WI
- TD Waterhouse Centre, Renovation Feasibility Study, Orlando Magic, Orlando, FL
- Hiram Bithorn Stadium Renovation, San Juan, Puerto Rico
- Foshan Sports Center Stadium Competition, Foshan, China
- FedExField Redevelopment, Washington Redskins, Landover, MD

Civic Sports

- South Jersey Civic Center, Pennsauken, NJ
- City of Greenville Ballpark Study, Greenville, SC

Justin Gaa, AIA, NCARB, LEED AP Architect

Education

Bachelor of Architecture, University of
Kansas, School of Architecture & Urban
Planning

Years of Experience

10

Professional Registrations/ Certifications

Registered Architect, KS
LEED Accredited Professional BD+C
NCARB Certified

Professional Affiliations

American Institute of Architects

Relative experience

Justin has extensive experience in the design and delivery of sports facilities for some of the most competitive athletics programs in the country. More recent projects include high-impact solutions for universities in the Big Ten, SEC, and American conferences. Justin collaborates with clients to deliver highly innovative, creative solutions that work. Merging creative design with a technical expertise allows him to effectively solve complex design challenges. Being part of a highly collaborative design team has afforded Justin the opportunity to test the boundaries of the sports-specific building type, bringing innovative design solutions to some of the country's premier sports programs.

Project experience

Collegiate Sports

- University of Memphis, Basketball Practice Facility, Memphis, TN
- DePaul University, New Arena / McCormick Place Event Center, Chicago, IL
- Arkansas State University, Jonesboro, AR
- Centennial Bank Stadium Expansion
- Football Operation Facility
- University of Miami, Football Practice Facility, Coral Gables, FL
- Utah State University, Maverick Stadium Press/Suite Tower Addition, Logan UT
- Eastern Michigan University, Athletics Master Plan, Ypsilanti, MI
- University of Iowa, Carver-Hawkeye Arena Addition + Renovation, Iowa City, IA*
- University of Georgia, Heritage Hall Football Practice Facility, Athens, GA*
- Georgetown University, Athletic Training Facility, Washington, DC*
- Georgetown University, SAXA West Athletic Site Study, Washington, DC*
- University of Akron, InfoCision Stadium, Summa Field, Akron, OH*

Education

- Johnson County Community College, Physical Education Facility, Overland Park, KS*
- Johnson County Community College, Arts + Technology Building, Overland Park, KS*
- Johnson County Community College, Industrial Training Center, Overland Park, KS*
- Shawnee Mission Unified School District, Rushton Elementary School Addition + Renovation, Overland Park, KS*
- Shawnee Mission Unified School District, Briarwood Elementary School Gymnasium Addition, Shawnee Mission, KS*
- Shawnee Mission Unified School District, Brookridge Elementary School Gymnasium Addition, Overland Park, KS*
- Midwestern Institute of Energy, Feasibility Study + Master Plan, Tarkio, MO*
- Holy Spirit Elementary School, Overland Park, KS*

Other

- Emergency Medical Services Building, Leavenworth County, Leavenworth, KS*
- US Army Corps of Engineers, Army Reserve Center, Kirksville, MO*
- US Army Corps of Engineers, Historic Building 429, Fort Leavenworth, KS*
- US Army Corps of Engineers, FY09 & FY10 Barracks, Fort Riley, KS*
- US Army Corps of Engineers, Historic Building 427, Fort Leavenworth, KS*

** Projects completed while with another firm.*

Stephen Knowles, AIA, NCARB, ACSA

Architect

Education

Master of Architecture, Iowa State University, 1993

Bachelor Art and Design, Iowa State University, 1986

Years of Experience

26

Professional Registrations/ Certifications

National Council of Architectural Registration Boards (NCARB)

Certificate # 58586

Registered Architect, MN #40790

Registered Architect, IA #03598

Professional Affiliations

American Institute of Architects

AIA Minnesota Chapter Member

Urban Land Institute Member

Relative experience

Stephen's professional experience includes master planning, programming, site and building design to interior and furniture design. He engages a collaborative process that takes into account technical, environmental, economic, and social impact for workplace, hospitality and residential projects. With over 25 years of experience in architecture and design, he seeks innovative solutions that integrate the site, surrounding resources and local culture.

Project experience

Architecture

- Blaisdell Manor, Rehabilitation of Event Facility, Minneapolis, MN*
- Deschutes Brewery, 800 SF Bike Shelter of corporate headquarters, Bend, OR*
- Toro Pavilion, 40,000 SF Outdoor pavilion for test garden presentations and meetings, Bloomington, MN
- Turtle Creek Casino + Hotel, 336,000 SF New construction of a entertainment and hospitality facility, Acme, MI*
- IVY Hotel + Residence, 249,000 SF Design development for mixed-use residence & hotel, Minneapolis, MN*
- Lisbon City Hall, 12,000 SF Expansion for City Hall, Police and Fire Departments, Lisbon, IA

Planning

- ASU Hotel + Conference, 284,000 SF Development Proposal for Mesaba Capital, Tempe, AZ*
- Toro Headquarters, 40,000 SF Master plan 40,000 SF of research facility expansions, Bloomington, MN*
- Red Wing Shoes, Branded solutions for corporate headquarters workplace, Red Wing, MN*
- Freedom Court, 100,000 SF Planning for mixed-use housing and office development, Jackson, MS*
- Bridge of the Gods Resort, 605,000 SF Master plan & design for resort & entertainment complex, Cascade Locks, OR*
- Saint Paul Saints, Study Collaboration with HOK sports for minor league ballpark, St. Paul, MN*

** Projects completed while with another firm.*

Ryan Bouma, ASLA, LEED AP

Landscape Architect

Education Master of Design Studies in Urbanism, Landscape and Ecology, Harvard University Graduate School of Design, 2015 Bachelor of Science, Landscape architecture, West Virginia University, 1999 Certificate in Crime Prevention Through	Environmental Design (CPTED), National Crime Prevention Institute, 2005 Years of Experience 13 Professional Registrations/ Certifications Registered Landscape Architect, NC LEED AP, 2006	Professional Affiliations American Society of Landscape architects (ASLA) Select Awards and Honors Virginia Safer By Design Coalition Urban Land Institute (ULI) Technical Assistance Panelist Richmond Highway Corridor, Richmond, Virginia, 2005
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Relative experience

Mr. Bouma is a landscape architect and urban designer working to advance urban resilience and productive redevelopment. He leads regenerative planning and public realm design efforts around the globe, emphasizing the social, environmental and economic resonance of landscape infrastructures.

Mr. Bouma's multi-scalar, multi-disciplinary and multi-functional approach has led to award-winning projects in both the public and private sectors. Mr. Bouma places a strong emphasis on artful solutions and enjoys taking projects from concept to construction.

Project experience

Forest City, The Yards Streetscapes, Washington, DC. Project Manager and Landscape Architect leading Landscape architecture design and documentation services for the streetscapes at 'The Yards' redevelopment near the historic Navy yard along the Anacostia River. The streetscapes feature innovative bio-retention and permeable pavements in an urban context. These elements help the Yards become a signature destination along the Capitol Riverfront. Refined design concepts, coordinated with consultant team, oversaw preparation of construction documents and performed construction administration.

Forest City, The Yards West High Performance Public Realm, Washington DC. Landscape Architect coordinating district energy strategies and landscape infrastructure for a signature mixed-use redevelopment. The project seeks to create unique public space experiences integrated with sustainable infrastructure.

Deputy Mayor for Planning and Economic Development, Buzzard Point Urban Framework, DC, Washington DC. Urban Designer and Landscape Architect developing landscape infrastructure solutions to complex streetscape renovations around the DC United Soccer stadium

and 300 acre redevelopment district. Designs feature permeable pavements, curbside bioretention facilities and streetscape furnishings that blend contemporary design with the industrial heritage of the site.

DC Water, District Energy Planning for Buzzard Point, DC Washington DC. Urban Designer assisting DC water in evaluating the business case of various District energy approaches to heating and cooling large scale redevelopments in the District of Columbia. The analysis utilizes the SSIM District Energy , module to assess options and test viability of systems incorporating fossil based, ground source, water source and waste water source thermal exchange.

Capitol Riverfront Business Improvement District, Capitol Riverfront Urban Design Framework Plan, Washington DC. Project Manager/Urban Designer leading a 500 acre urban design effort addressing public realm and openspace amenities, local circulation enhancements, interim uses, regional transit connections, civic destinations and design guidelines. Coordinated the project team and deliverables, led community engagement.

Wereldhave, EILAN, San Antonio, TX. Project Manager and Landscape Architect for the design of a 150-acre mixed-use residential, resort and commercial destination. The project is themed after an Italian hill town and includes a half-mile long pedestrian promenade linking residential, retail and hotel uses. Prepared schematic graphics depicting the design, coordinated the production of contract documents and construction observation.

Akridge, Burnham Place Public Realm Design, Washington, DC. Landscape Architect and Urban Designer developing initial public realm design concepts for the development planned over the Union Station tracks. Working for the air rights developer, AECOM created preliminary public space designs that connect pedestrians and bicyclists with future attractions, multi-modal transit amenities and the surrounding community.

Ryan Bouma, ASLA, LEED AP (continued)

Planning Bureau of Ningbo, High Tech District

Waterfront Park, Ningbo, China. Landscape Architect developing revised schematic design and design development for the signature park amenity within the Hi-tech District. The 40 acre park design is inspired by the ecological and cultural connection between river and cloud.

enhancements, road diets to calm traffic, creation of new bicycle facilities, Low-Impact development strategies to improve water quality, expanded pedestrian amenities, a new linear park along a naturalized Winkle Doodle Branch and an enhanced gateway to the District of Columbia.

Massachusetts Turnpike Authority, Wharf District Park,

Boston, MA. Landscape Architect responsible for preparing construction details for a new four-acre urban park on Boston Harbor.

DC and National Park Service, Poplar Point Urban Design, Washington, DC.

Project Manager/Urban Designer responsible for impacts for 6-million square feet of development and a 70 acre waterfront park on the Anacostia River. Alternatives addressed land use intensity, community amenities, transit oriented urban design, as well as ecological restoration. Lead the design of each alternative, participated in community outreach and supervised graphic production.

NoMA Business Improvement District, NoMA Public Realm Design Plan, Washington DC.

Project Manager and Landscape Architect developing a public realm enhancement framework for the NoMA redevelopment area. The framework included conceptual designs for signature public spaces and design guidelines for renovated streetscapes that act as linear parks. The public realm improvements infuse art, low-impact development techniques, gathering areas and outdoor living rooms into this emerging neighborhood.

District Department of Transportation, Riversmart

Washington, Washington, DC. Landscape Architect designing neighborhood –wide Low Impact Development (LID) storm water management practices in two DC communities. Riversmart Washington is a partnership to plan, design, install and monitor LID systems to confirm a significant reduction in runoff volume. The project goal is for a combination of permeable vehicular pavements, curbside rain gardens and cisterns for runoff reuse will intercept, filter and retain 90% of all rainfall events.

District Department of Transportation, Southern Avenue renovation, Washington DC.

Landscape Architect and Urban Designer leading the development of alternative streetscape approaches for 2 miles of Southern Avenue. The conceptual plans incorporate public safety

C

Relevant Project Experience

SECTION C
Relevant Project Experience

I-95 Girard Avenue Interchange, Philadelphia, PA

As part of a \$1B replacement of three miles of elevated highway, AECOM is designing a \$20MM investment in programmable open space, green infrastructure, trails and landscape beneath I-95 to support the redevelopment of adjacent neighborhoods.

C Relevant Project Experience

The following is a selection of some of AECOM's relevant project experience, organized by:

1. National experience on highway caps and placemaking above (or beneath) major expressways.
2. Achievements in urban design, landscape architecture and architecture.
3. Examples of transportation projects with major aesthetic design components.
4. Experience managing corridor-wide bridge aesthetics.
5. Planning and economic studies.

Fisher Freeway Downtown Crossing Detroit, MI

Client

Olympia Development of Michigan

National Experience	Landscape/Urban Design/ Architecture	Transportation Infrastructure Aesthetic Design	Corridor-wide Bridge Aesthetic Treatments	Planning/Economics
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AECOM is the lead engineer for a team led by master developer Olympia Development of Michigan to develop, design, construct, finance, operate and maintain a new structure “cap” over I-75 that will create a gateway of economic development and seamless walking environment for Downtown Detroit around the new Little Caesar’s Arena.

This project will transform the Woodward Avenue Bridge into a walkable, multi-modal retail destination with retail shops on the bridge to serve as a centerpiece to the District Detroit’s estimated \$2.1 billion revitalization of Detroit.

As the primary technical lead, AECOM’s responsibilities for this project include bridge, building, roadway, lighting, ITS, signal, signing, and pavement marking design; traffic engineering and project development studies.

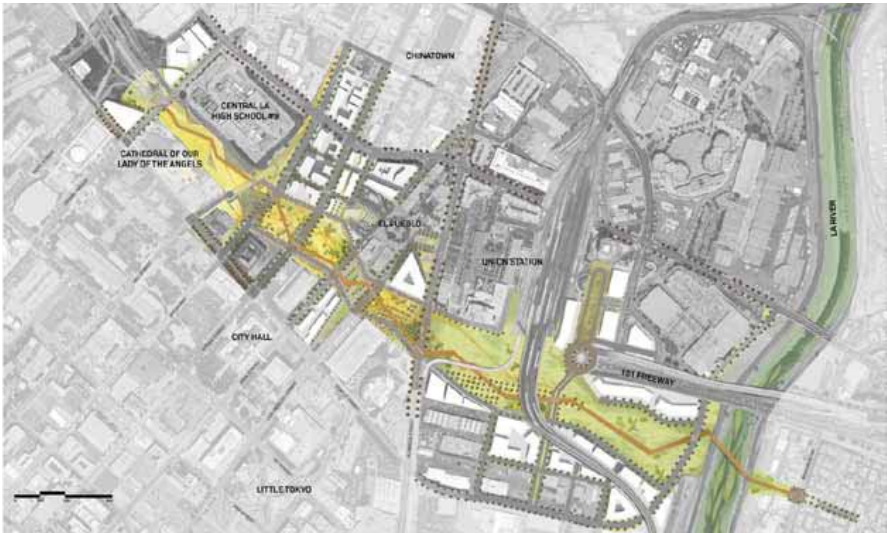


Park 101 District Feasibility Study

Los Angeles, CA

Client
CALTRANS

National Experience	Landscape/Urban Design/ Architecture	Transportation Infrastructure Aesthetic Design	Corridor-wide Bridge Aesthetic Treatments	Planning/Economics
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AECOM completed a feasibility study and economic analysis for the Southern California Association of Governments to develop concepts for a cap over the 101 Freeway.

Strongly being considered by the Los Angeles Community Development Department and Caltrans for implementation, the project provides a unique opportunity to create an iconic urban park in the heart of downtown Los Angeles, focused on re-visioning the existing infrastructure that supports and encircles the core of the city — freeways, channelized rivers, streets, and public transit.

The project proposes solutions that can be applied to both specific opportunities, as well as serve as prototypical approaches to developing new sustainable infrastructure. Examples include improved viability for mixed-use development; greater accessibility and potential redevelopment of the Civic Mall; improved urban grid and transit connections; redevelopment in the historic core; and signature urban boulevards that will become models for developing great streets throughout Los Angeles.

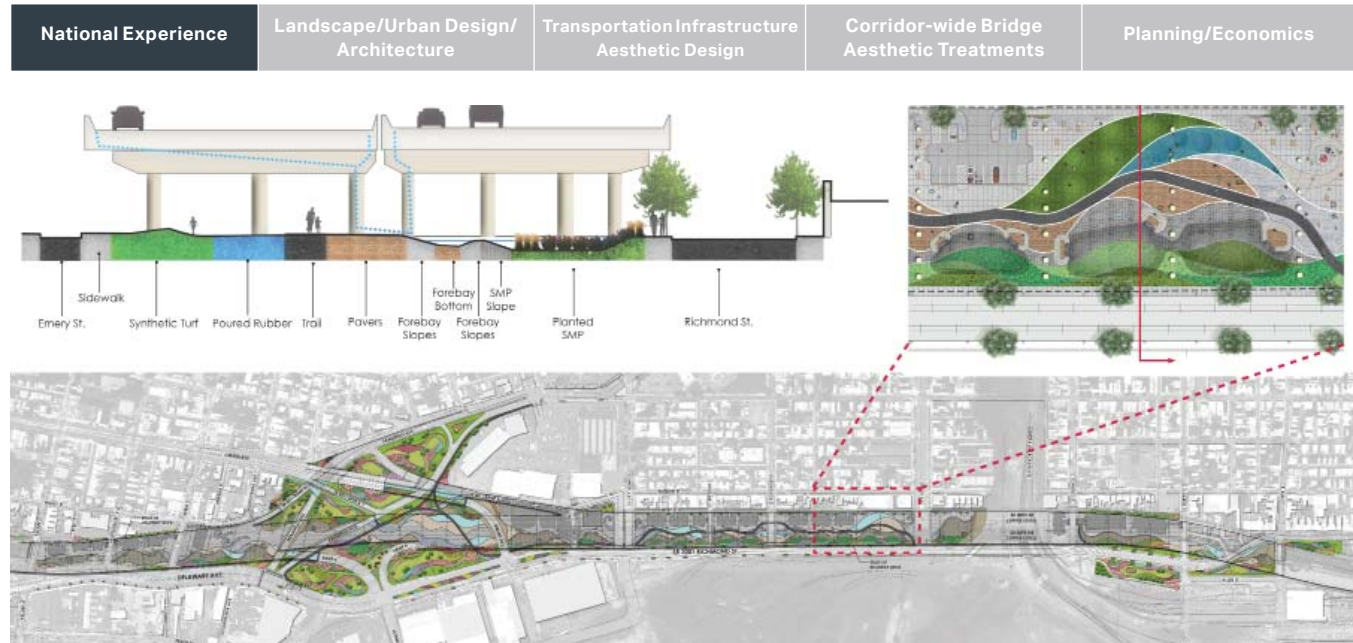


The new park created above the freeway is seen as a key component of a new neighborhood: the PARK 101 District, poised to become the next great place in Los Angeles. Park 101 is seen as both the catalyst for urban renewal as well as the logical outcome and extension of transit investments. It forges a new roadmap toward urban sustainability and economic prosperity for Los Angeles.

I-95 Girard Avenue Interchange Philadelphia, PA

Client

Pennsylvania Department of Transportation (PennDOT)



The Interstate 95 Girard Avenue Interchange is a precedent-setting transportation, green infrastructure, and community place-making project in Philadelphia.

The space beneath highways has traditionally been forgotten and underutilized. The new green corridor beneath I-95 will provide access for pedestrians, cyclists, and vehicles between the Fishtown and Port Richmond neighborhoods and the Delaware River.

The work is the product of the collaborative process between the design team, PennDOT, neighborhood groups, and stakeholders. The design team performed an in depth analysis of long term maintenance costs, and a triple-bottom-line analysis identifying \$63 million of direct economic benefits over a 40-year period.

The completed corridor will be transformative for adjacent communities, improving livability and creating vibrant new places that will enrich urban life.



The Hanging Gardens of Milwaukee

Milwaukee, WI

Client
City of Milwaukee

National Experience	Landscape/Urban Design/ Architecture	Transportation Infrastructure Aesthetic Design	Corridor-wide Bridge Aesthetic Treatments	Planning/Economics
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The design for the Hanging Gardens restores the crucial link between the city and the Lake Michigan with new topography to elevate the pedestrian, affording new perspectives over the landscape.

Parks make memories. More than just open areas with plants and grass, these landscapes provide spaces for many of life's most memorable moments. Those can be the big milestones—a child's first birthday, a graduation picnic, or a marriage proposal—but they can be the quieter, simpler moments, too, like sitting on a bench to appreciate a view. Cities can be busy. Parks slow us down. A good park can make us see the surroundings differently.

The design for the Hanging Gardens celebrates the history of the lakefront by connecting different cultural assets and bringing them into a better spatial and programmatic relationship. The landscape's topography will elevate the pedestrian, affording new perspectives over the landscape. Its transparency will frame the lakefront's architectural setting and its seasonality will offer changing experiences across summer, fall, winter, and spring. It will perform, but, more than anything, it will be a place to create new memories and rekindles the love of place.



31st Street Harbor Chicago, IL

Client
Public Building Commission of Chicago

National Experience	Landscape/Urban Design/ Architecture	Transportation Infrastructure Aesthetic Design	Corridor-wide Bridge Aesthetic Treatments	Planning/Economics
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Through incorporating a new park onto the top of its expansive green roof, the 31st Street Harbor seamlessly blends a major new public amenity into lakefront.

This project took the approach of integrating a 1,000-slip marina with a park, melding high-tech engineering with thoughtful place-making. The result is a vibrant gathering place for Chicago's South Side community. The marina includes a ½ milelong open coast stone breakwater designed to shelter the new harbor, as well as 1,000 new boat slips, an accessible fishing pier, on-site covered winter boat storage, a fuel dock, a marina store, dedicated shower facilities, and a public access boat launch ramp. Peninsula Park, a 3/4-acre green space, was created using on-site fill on a peninsula of land formed by the breakwater.

The landside development includes a harbor services building with a 63,000-SF accessible green roof, replete with sculptural shade structures and a great lawn. A new accessible play area that connects the green roof area to the existing beach replaces a smaller, outdated playground. A grades-separated trail underpass improves pedestrian and vehicular circulation, crucial to park accessibility. The development embraces environmental, social and economic sustainability, and has received LEED Gold



certification. A number of Best Management Practices for water pollution – rain gardens, bioswales, infiltration vaults, and treatment structures – accommodate storm water flows on site and provide natural filtration. The harbor services building and parking structure are heated and cooled via a geothermal system. The project also included the adaptive reuse of removed trees. Some were used to create new fish habitats in the lake while others were painted and carved by local artists and installed throughout the site as a project identifier.

31st Street Harbor (continued)



Milwaukee Avenue Phase II

Section 2: Six Corners

Chicago, IL

Client
Chicago Department of Transportation

National Experience	Landscape/Urban Design/ Architecture	Transportation Infrastructure Aesthetic Design	Corridor-wide Bridge Aesthetic Treatments	Planning/Economics
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AECOM designed custom streetscape amenities for the improvement of Milwaukee Avenue surrounding “Six Corners” in Chicago’s Portage Park neighborhood.

Upon successful completion of the Preliminary Engineering work on the full corridor performed by AECOM, the eight miles of improvements on Milwaukee Avenue were separated into 10 individual contracts for final design and construction. AECOM performed final design and prepare construction bid documents for the second of these contracts centered about the complex intersection of Milwaukee Avenue with IL 50/Cicero Avenue and IL 19/ Irving Park Road, locally known as “Six Corners”, involving streetscape and roadway infrastructure improvements to 16 blocks of arterial and collector roadways. Work included roadway and sidewalk reconstruction; vaulted sidewalk reconstruction; pedestrian design to meet ADA guidelines; custom streetscape elements; ornamental street lighting; storm sewer improvements; traffic signal modernization and new traffic signal installations.

Utility coordination efforts included working with Office of Underground Coordination (OUC) members to resolve conflicts with the proposed improvements and ensure the protection of existing facilities. AECOM worked with the Department of Water Management (DWM) to relocate water mains that were in conflict and assisted CDOT in identifying necessary adjustments for Peoples Gas facilities.

A primary component to this project was the development of unique streetscape elements within the public way such as walk-through gateway trellis structures, precast planter seating areas and light pole banners that would activate and revitalize the neighborhood to spur economic reinvestment. AECOM worked closely with the City of Chicago, community leaders and business organizations to develop unique streetscape elements embracing the history and character of the community.

Lincoln Belmont Ashland Streetscape Sections I and II Chicago, IL

Client

Chicago Department of Transportation

National Experience	Landscape/Urban Design/ Architecture	Transportation Infrastructure Aesthetic Design	Corridor-wide Bridge Aesthetic Treatments	Planning/Economics
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AECOM led the engineering and final design of streetscape improvements around the intersection of Lincoln, Belmont, and Ashland Avenues in Chicago's Lakeview neighborhood.

Section I: Lincoln from Belmont to Roscoe and Belmont from Ashland to Ravenswood

AECOM worked with the design firm of Hellmuth, Obata & Kassabaum, Inc. to provide Civil, Electrical, and Structural engineering design services for streetscape and infrastructure improvements to Lincoln, Belmont, and Ashland Avenues in the Lakeview neighborhood of Chicago. The project consisted of the conceptual design of improvements to 12 blocks and final design of four blocks of arterial and collector roadways including ornamental street lighting, new sidewalk, curb, and pavement, drainage improvements, ADA ramp design, and the inspection of vaulted sidewalks.

Section II: Lincoln from Wellington to Belmont and Belmont from Southport to Ashland

AECOM performed final design and prepared construction documents for the second section of this program, involving streetscape improvements on four blocks of arterial and collector roadways. The project scope included ornamental street lighting, new sidewalk, curb, and pavement, drainage improvements, ADA ramp design, and the inspection of vaulted sidewalks.

Key features

- Conceptual design improvements to 12 blocks
- Final design of four blocks of arterial and collector roadways
- Features include ornamental street lighting, new sidewalk, curb, and pavement, drainage improvements, ADA ramp design, and the inspection of vaulted sidewalks

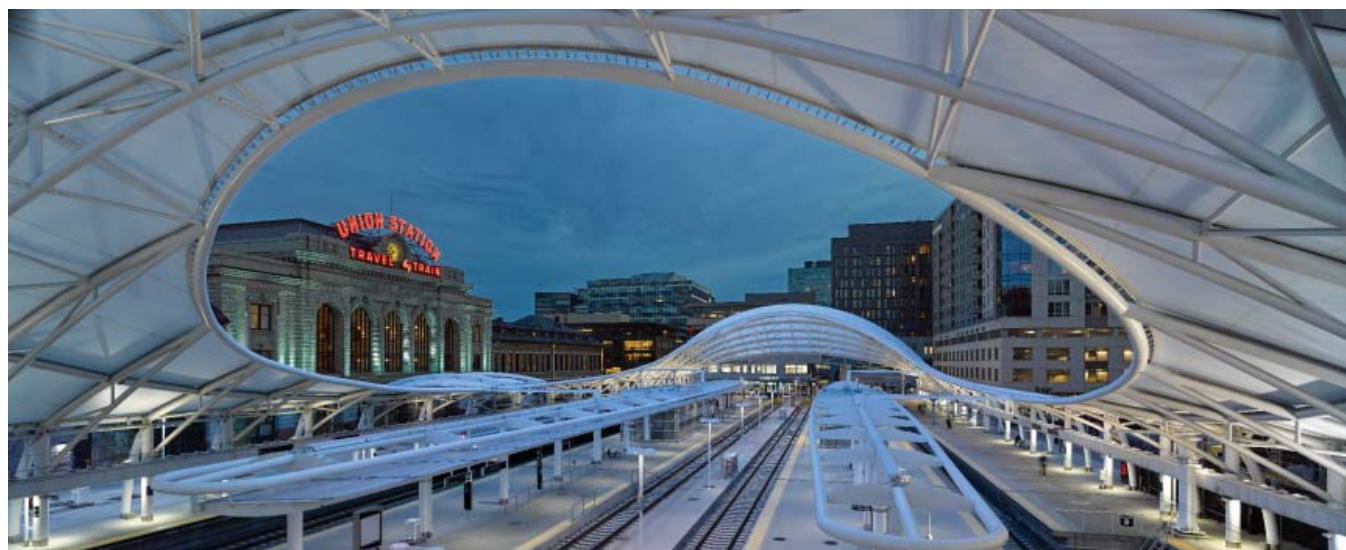
Denver Union Station

Denver, CO

Client

Regional Transportation District of Denver

National Experience	Landscape/Urban Design/ Architecture	Transportation Infrastructure Aesthetic Design	Corridor-wide Bridge Aesthetic Treatments	Planning/Economics
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AECOM was part of a master developer team to develop 20 acres of land behind historic Denver Union Station.

Ultimately, the project provided the enabling infrastructure for development of 42 acres including roadways and utilities. The initial activity centered on design and construction of a multi-modal transportation facility.

AECOM led the final design of the \$375 million transportation facility. Following completion of the 30% design, Kiewit Western Co. was selected as the design-build contractor and AECOM performed as the lead designer coordinating all disciplines.



BLVD Place Houston, TX

Client
Wulfe & Co.

National Experience	Landscape/Urban Design/ Architecture	Transportation Infrastructure Aesthetic Design	Corridor-wide Bridge Aesthetic Treatments	Planning/Economics
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AECOM was selected to provide master planning and design for BLVD Place, a 21-acre mixed use development in the prestigious Galleria area of Houston.

AECOM developed the master plan of the overall site to accommodate the client's desire to self-develop the retail and office components while selling other parcels and development rights to others for the hotel and condominium projects. This new high-density, mixed-use development project is being implemented using a multiphase approach, and, when completed, will link the adjacent upscale residential neighborhoods with the city's premier commercial real estate thoroughfare, Post Oak Boulevard.

BLVD Place contains 750,000 square feet of retail and office lease space distributed across the site in six four-story buildings and one ten-story high-rise tower. The 400,000 square feet of retail space includes a 48,500-square-



foot Whole Foods grocery store, 80,000 square feet of restaurants, 150,000 square feet of high-end shops and a 35,000-square-foot seven-screen cinema. The project has 350,000 square feet of office space.

Hunters Point South Long Island City, NY

Client

New York City Economic Development Corporation

National Experience	Landscape/Urban Design/ Architecture	Transportation Infrastructure Aesthetic Design	Corridor-wide Bridge Aesthetic Treatments	Planning/Economics
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The design of Hunter’s Point buildings F and G has been carefully considered in relation to the city, skyline, urbanism and community.

This is reflected in the layout and disposition of the podium and public spaces, apartments and their amenities. The prominent location of the buildings and adjacencies to a school and large peninsula park provide great potential for an active engagement with city life. Building G features an offset pattern of windows, with a playful mullion system which can adapt to multiple apartment layouts. Tower F has a more linear and stacked idea of windows, which is offset by three zones of recessed glass zones. In every area, the intent is not to overwhelm the buildings with color, but rather to allow light to reflect on the buildings and give them elegance by catching their edges and accenting their



proportions. The overall approach has been of an organic whole which will complete the making of this area into a viable, friendly, hospitable, active and successful addition to New York City. The architecture strives to be clear, lucid, rational and, in the end, an elegant synthesis and solution of the urban brief.

Golden 1 Center Sacramento, CA

Client
Sacramento Basketball Holdings, LLC

National Experience	Landscape/Urban Design/ Architecture	Transportation Infrastructure Aesthetic Design	Corridor-wide Bridge Aesthetic Treatments	Planning/Economics
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To meet the challenge, our architects, sports architects, landscape architects, engineers, urban planners and economists worked together from the beginning to design a basketball arena and entertainment venue that sets the standard and spurs downtown revitalization.

AECOM's team studied the flow of people and activity through downtown, analyzed microclimates and the cooling Delta Breeze, engaged with the community to understand the city's passions and ambitions, and took inspiration from the granite faces of the Sierra Nevada. Golden 1 Center is the world's most comfortable, connected and sustainable sports venue. AECOM's design reconnects neighborhoods and repairs the city grid; rethinks the traditional, introverted arena by opening to the outdoors and inviting the community for year-round activities; and reduces energy, water and carbon use.



Utah State University Maverik Stadium West Side Renovation Logan, UT

Client
Utah State University

National Experience	Landscape/Urban Design/ Architecture	Transportation Infrastructure Aesthetic Design	Corridor-wide Bridge Aesthetic Treatments	Planning/Economics
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The west side addition and renovation of Utah State University's Maverik Stadium improves the overall fan experience and features a new lobby, additional seating, concessions and restrooms encompassing approximately 55,000 sf of new space.



The project adds approximately 1,200 new club, loge, and premium skybox seating consisting of multiple new levels above the existing stadium seats.

The new addition preserves and frames stunning views of the Rockies and reflects the character and tradition of the campus. The architectural design is a collaborative effort combining the local knowledge and expertise of Method Studio with the national sports expertise of AECOM.

Arkansas State University Centennial Bank Stadium Stadium Press Box Renovation and Expansion Jonesboro, AR

Client

Arkansas State University

National Experience	Landscape/Urban Design/ Architecture	Transportation Infrastructure Aesthetic Design	Corridor-wide Bridge Aesthetic Treatments	Planning/Economics
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AECOM led the design of a press box renovation and expansion for Arkansas State University's Centennial Bank Stadium.

The project provides a greater return on investment achieved through the addition of suites and a club, as well as renovation of existing facilities that more than triple the size of the press box. Construction of the project began immediately following the 2014 season and was completed in time for the first home game in 2015.

The building exterior incorporates brick, metal panels, and glass with building archways that reflect existing stadium structural elements. The interior design of the 8,000-sf club and 20 suites emulates the natural outdoor environment of northeast Arkansas, incorporating wood planks, stone tile, patterned carpet, and stained concrete flooring. The new club features 240 indoor seats with enhanced outdoor seating for 300.

In addition to the press box renovation, the University has asked AECOM to also study renovation of the concourse-level concession and toilet buildings.

Loop Link Bus Rapid Transit - Phase I and II

Chicago, IL

Client

Chicago Department of Transportation

National Experience	Landscape/Urban Design/ Architecture	Transportation Infrastructure Aesthetic Design	Corridor-wide Bridge Aesthetic Treatments	Planning/Economics
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AECOM led preliminary engineering and final design to bring this transformative “Complete Streets” urban solution to Chicago.

Phase I

AECOM led the development from initial conception through final design of a next generation Bus Rapid Transit (BRT) facility across the center of the Downtown Chicago Loop to link Union Station and Ogilvie Transportation Center to the Lakefront, Navy Pier, and Michigan Avenue. This project became known as the “Central Loop BRT” and was ultimately branded as the “Loop Link”.

Work in the initial phase included concept development, planning, and preliminary engineering services to secure concurrence on a Documented Categorical Exclusion from the Federal Transit Administration (FTA) with extensive coordination with Chicago Department of Transportation (CDOT) and the Chicago Transit Authority (CTA). The project’s intent was to invest in infrastructure to improve the speed and reliability of existing bus service consisting of six all-day routes consisting of over 1,000 trips and serving nearly 30,000 passengers daily.

The central challenge was in determining how to merge competing modes of travel (car, bus, bike, pedestrian) onto the limited space available on existing public way that would result in safe and efficient transport for all without loss of access to adjoining land uses. AECOM sought to provide the best balance between the needs of each road user, developing truly Complete Streets.

Work required a team with a broad skill set, including roadway design, traffic engineering, traffic modeling, transit operational planning, BRT technology experience, architecture/design, environmental analysis, transportation planning, and public outreach. The major steps of the project included:

- Data collection, including a variety of field surveillance and information gathering
- Development of a full range of conceptual street configuration options to document all alternatives
- Preparation of NEPA documentation (Documented Categorical Exclusion)
- Traffic modeling to assess level of service on affected streets and the Downtown signal grid
- Evaluation of the suitability of various technologies, including cameras for enforcement of bus lanes, transit signal priority/queue jumping, off-vehicle fare collection, and “Next Bus” arrival systems

Loop Link Bus Rapid Transit - Phase I and II (continued)

- Preparation of an operating plan
- Estimation of capital costs
- Stakeholder and public outreach
- Agency coordination (CDOT; FTA; CTA; other city departments; RTA; Metra; Amtrak)

Phase II

AECOM performed the final design of the Loop Link, an ambitious undertaking by CDOT in partnership with the Chicago Transit Authority (CTA) to introduce the first major investment in Bus Rapid Transit (BRT) infrastructure to Chicago through the heart of the Downtown Loop. The improvements will make bus and bicycle travel across the Loop faster, safer, and more reliable with dedicated bus lanes, protected bike lanes and bus/bike signals, serving multiple bus routes linking Union Station and Ogilvie Transportation Center on the west side of Chicago's Central Business District to CTA L stations, Michigan Avenue and Navy Pier to the east.

The project includes eight on-street bus platforms that will offer BRT amenities such as an elevated platform accommodating simultaneous loading by multiple buses, real-time bus tracker information, security cameras, infrastructure for future pre-paid boarding functionality, and passenger comfort features like seating, lighting, wind protection, and a canopy structure designed to blend

into its surroundings at the sidewalk level yet provide a new presence to complement the City's rich architectural reputation.

Other work items include roadway geometric/Complete Streets design to integrate bus lanes and protected bike facilities onto Washington, Madison, Randolph, Canal, and Clinton Streets while maintaining maximum accommodations for pedestrians; traffic signal optimization and timing for the 43 signals of the Downtown Loop grid along with addition of signal mast arms, protected turn arrow phases, and bus queue jump signals providing a Transit Signal Priority (TSP) functionality; utility coordination with the Department of Water Management and numerous private utilities; an extensive public outreach campaign with local stakeholders, businesses, and residents.

Key features

- Data collection
- Conceptual street configuration
- Preparation of NEPA documentation
- Traffic modeling
- Evaluation of the suitability of various technologies
- Preparation of an operating plan
- Estimation of capital costs
- Stakeholder and public outreach
- Agency coordination



I-55 and Lake Shore Drive Interchange Chicago, IL

Client

Illinois Department of Transportation, District 1

National Experience	Landscape/Urban Design/ Architecture	Transportation Infrastructure Aesthetic Design	Corridor-wide Bridge Aesthetic Treatments	Planning/Economics
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AECOM performed the final design of this improvement to reconstruct the interchange of I-55 and Lake Shore Drive adjacent to Chicago’s McCormick Place.

At its eastern terminus, the Stevenson Expressway links into Lake Shore Drive, an urban expressway which connects the neighborhoods and lakefront to the south to the Central Business District, the Loop, to the north. Project limits along I-55 include the structure and approach roadways extending from approximately Prairie Avenue spanning over Martin Luther King Jr. Drive and the Canadian National Railway/Metra tracks to Lake Shore Drive. The improvement limits along Lake Shore Drive extend from approximately 23rd Street near Soldier Field to approximately 1,000 feet north of 31st Street. The total project length, including the six bridge structures, is approximately 11,500 feet (2.2 miles).

The project included bridge construction and reconfiguration of the I-55 and Lake Shore Drive Interchange to provide an additional lane on Ramp NW from Northbound Lake Shore Drive to Southbound I-55 and along Ramp ES from Northbound I-55 to Southbound Lake Shore Drive. Both Ramps ES and NW were widened to accommodate two travel lanes with standard width shoulders. Improvements included removal and replacement of the four curved ramp interchange bridges

and two mainline I-55 bridges over Martin Luther King Jr. Drive and the CN/Metra railroad tracks, construction of six mechanically stabilized earth (MSE) walls or retained earth structures located on the approaches of each of the structures, rehabilitation and/ or reconstruction of four existing retaining walls, roadway widening and reconstruction, resurfacing, development of a traffic management plan, major water main relocation, utility coordination, traffic signal improvements on Martin Luther King Drive Jr., new highway lighting and ITS systems, new highway drainage collector systems, and new expressway signing. Intelligent Transportation system (ITS) work included the replacement of in-pavement loop detectors, a new Dynamic Message Sign (DMS) sign and new pole mounted Closed Circuit television (CCTV) cameras. The Metra catenary relocation work included the installation of two new catenary truss structures, relocating the catenary wires off the existing bridges structures and onto the new trusses, and the installation of new ductbank for the relocation of the overhead power and fiber optic communication lines.

The primary focus of the project involved the total replacement of the six bridge structures along the corridor, improvements to the interchange and ramp geometry, merge areas and acceleration lanes and the alignments of the ramp bridges. This project provided structural and geometric improvements to maintain the current and proposed volumes of traffic, while improving aspects of roadway to meet current design criteria. The 2040 projected



I-55 and Lake Shore Drive Interchange (continued)



traffic volume along I-55 is 130,000 vehicles per day and along LSD north of the interchange is 143,000 vehicles per day.

The proposed methods of construction and temporary traffic control for the reconstruction and reconfiguration of the I-55 and Lake Shore Drive Interchange were limited by the fact that all interchange ramps were currently on structure. The proposed improvements were implemented through staged construction of the interchange ramps. Ramps SW and EN was staged with single lane closures and reduced lane widths during the reconstruction of these structures. Ramp NW was constructed on a new alignment which allowed a single traffic lane to be maintained at all times during its construction. With the offset alignment, Ramp ES was staged with a single traffic lane maintained at all times. The originally proposed detour was eliminated by constructing a temporary bridge between the proposed southern portion of NB I-55 constructed in Stage 1 and existing Ramp ES to maintain traffic during Stage 2. Public outreach and close coordination with McCormick Place, Soldier Field, the Museum Campus, and the City of Chicago were key to the success of the project.

Project Schedule: The project was broken into two primary contracts. The initial Contract 60L70 involved the outbound bridges and included SB I-55, Ramp SW and Ramp NW. It was on the January 2015 letting with construction beginning in April 2015 and is anticipated to be completed by summer 2017. The second contract, 60X07, involves the inbound bridges and includes NB I-55, Ramp ES and Ramp EN. It was on the July 2015 letting with construction beginning in October 2015 and is anticipated to be completed by early fall 2017.

Project Benefits: The proposed improvements addressed the structural deficiencies of the existing interchange structures and also addresses safety and operational/capacity concerns. Notably, a major reduction in bridge piers was achieved with the utilization of larger columns and deeper steel girders. This allowed for fewer roadside crash hazards and provided better sight distances for cross roads underneath the overhead bridge structures. Also, vertical profiles were raised to provide IDOT minimum vertical clearance requirements over Martin Luther King Drive, the Metra/IC railroad tracks, and NB & SB Lakeshore Drive. In addition to that, it is anticipated that the project will generate over 95 jobs for the community and spur and encourage developments in the area thus creating area wide economic benefits.

Several green initiatives are anticipated for use on this project including, but not limited to the use of recycled aggregates, protection of natural habitat through the use of a well-defined and a sediment control and prevention plan, erosion control measures and potential use of swales to utilize existing flows for landscaping maintenance and irrigation. Through coordination efforts with the MWRD and Park District, the project seeks to provide potential water quality improvement measures for the outfall of stormwater to Lake Michigan. The possible water quality improvement measures include:

- A new low-flow connection into the MWRD system and the installation of a new control/overflow structure.
- A dry bottom detention basin constructed in the infield between Ramp NW and NB Lake Shore Drive.
- A mechanical separator installed in the sewer.

41st Street and 43rd Street Pedestrian Bridges Chicago, IL

Client
Chicago Department of Transportation

National Experience	Landscape/Urban Design/ Architecture	Transportation Infrastructure Aesthetic Design	Corridor-wide Bridge Aesthetic Treatments	Planning/Economics
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AECOM led the Phase I preliminary engineering and Phase II final design for two new signature pedestrian bridges crossing Lake Shore Drive (LSD) and the Metra Electric/CN tracks at 41st Street and 43rd Street in the Kenwood/Oakland neighborhoods in Chicago .

The Phase I engineering included the preparation of the project report, development of the bridge condition report, TS&L plans, environmental documentation, architectural concepts and renderings, programmatic Section 4(f) evaluation, and extensive public involvement and coordination with the Chicago Park District, Chicago Housing Authority, Metra, Canadian National Railroad, and community outreach with various community organizations, such as the Friends of the Parks. The Phase II final design included the preparation of contract documents including the structural design of the bridges and approach structures, architectural and accent lighting, water main relocation, Metra catenary line relocation into a duct bank, construction of the Lakefront Trail and secondary paths and landscape enhancements within the adjacent park landings.

The proposed bridge structure uses double-curved arches to form a large, graceful S-curve. The bridge's leisurely curves echo those of the adjacent lakefront park walkways, extending the park west over Lake Shore Drive. The bridge curves both horizontally and vertically creating an urban promenade that is both graceful and dynamic. The double



curvature is visually dynamic from all approaches. The slender, minimal detailing provides excellent views to and from all areas of the bridge. The double curvature provides greater structural dynamism incorporating the simple and unifying structure of the supporting arches. Continuous handrail lighting parallel to the surface of the deck highlights the curves and provides even, low-glare illumination for the entire bridge while architectural accent lighting highlights the primary structural features of the bridge.

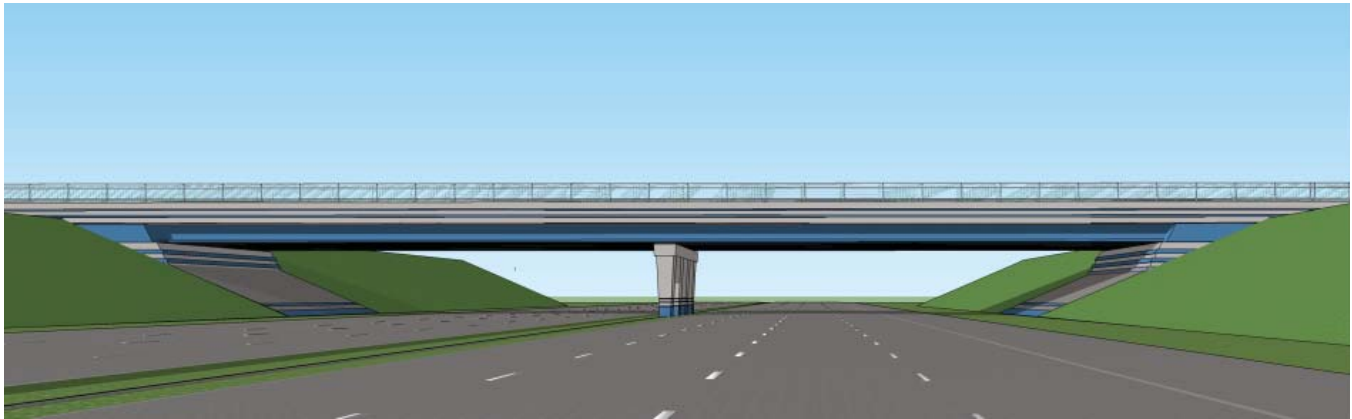
The structures are comprised of two main types of steel superstructures; twin arch spans crossover LSD/RR consisting of inclined steel arches that support a 20' wide curved, concrete deck. The arch ribs and two longitudinal ribs supporting the deck consist of 3' and 4' diameter steel pipe sections. Variable depth transverse steel box beams connect the ribs beneath the deck and align with cables supported from the main arch rib. Both arches and decks spanning over LSD and RR are inclined in opposite directions to create an elegant S-shape look. The approach structures are supported by a single steel deck rib below the center of the 16' wide deck and retained fill approaches supported with MSE walls. At the transition from the 20' wide to the 16' wide deck, 6' wide staircases are supported by a steel deck rib. The Project possesses many challenges such as fabrication, shipping and constructability of the arch and deck ribs over an extremely active RR tracks (263 daily operations) and a major highway carrying 100,000 vpd, existing overhead power and communication lines along the RR tracks, limited availability of overall construction access and stringent welding requirements. A temporary bridge is proposed between the catenary lines and RR tracks to allow for erection of the structure while the RR tracks remain in service.

I-39/I-90 Corridor Study (Illinois State Line to Madison) Beloit to Madison, WI

Client

Wisconsin Department of Transportation

National Experience	Landscape/Urban Design/ Architecture	Transportation Infrastructure Aesthetic Design	Corridor-wide Bridge Aesthetic Treatments	Planning/Economics
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As Program Manager of corridor improvements, one of AECOM's responsibilities is to coordinate aesthetic bridge and landscape treatments throughout the corridor.

AECOM examined the need for a third lane and a number of interchange improvement options for I-39/I-90 along a 45-mile study corridor between the Illinois state line and Madison.

The I-39/I-90 corridor study was undertaken to ensure the preservation and functionality of the interstate system in future years. This stretch of interstate is considered an important backbone route in the state's highway network, providing access for numerous industrial and tourism sites as well as major population and economic centers.

Traffic has increased to more than 60,000 ADT on some segments of the roadway, and the system experienced traffic slowdowns and backups during the peak times. Traffic is expected to continue growing at a higher than normal rate due to its route importance, and traffic volumes are projected to reach 85,000 to 100,000 ADT levels by the year 2030.

Originally constructed in the 1960s, many design standard features of this interstate and its interchanges are considered outdated by today's criteria. AECOM analyzed the cost and location of a third lane on I-39/I-90 and developed interchange improvement options for 11 interchanges along the route. The team conducted traffic and environmental studies, identified potential ITS applications, and undertook an extensive coordination effort with multiple local units of government through three separate policy committees and a technical committee. Life-cycle pavement analysis was completed and traffic control scenarios were developed for maintenance of traffic during construction.



Key features

- Traffic and environmental studies
- ITS applications
- Local government coordination
- Life-cycle pavement analysis
- Development of traffic control scenarios for maintenance of traffic

Jane Byrne “Circle” Interchange Phase I and II Chicago, IL

Client
Illinois Department of Transportation

National Experience	Landscape/Urban Design/ Architecture	Transportation Infrastructure Aesthetic Design	Corridor-wide Bridge Aesthetic Treatments	Planning/Economics
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AECOM performed the initial programming feasibility study, led the completion of the Phase I preliminary engineering study, and is currently leading Phase II final design of this major improvement which includes the design and coordination of aesthetic treatments to piers, bridges, and retaining walls.

The contract provides full environmental and preliminary design services in Phase I, which includes fully inspecting 27 bridges, eight of which are complex curved girder structures; performing a full geometric alternatives analysis to find the best solution based on public consensus; conducting a full drainage analysis of the interchange, including evaluating three pump stations; conducting stakeholder meetings; and determining which urban design elements will be included in the project. Once the preferred alternative was determined and Design Approval obtained, AECOM initiated the Phase II services for the final design of the \$575 million reconstruction.

As the largest city and main freight hub in the Midwest, Chicago is vital in transporting goods and services to the rest of the nation. The Circle Interchange serves as the western gateway into downtown Chicago, linking the city's three major interstate highways: the southern Dan Ryan Expressway (I-90/I-94), the western Eisenhower Expressway (I-90), and the northern Kennedy Expressway (I-90/I-94). Approximately 400,000 vehicles drive through the interchange daily, making it one of the worst bottlenecks in the United States.



Phase I Study
Phase I studies required consideration for the long-range, as well as interim improvement needs of the Circle Interchange and adjacent interchanges, mainline I-90/I-94 and I-290/Congress Parkway, and adjacent local roadway network as necessary.

Long-range improvements are likely to include total reconstruction and reconfiguration of the interchange, providing 2-lane ramps through the interchange and additional lanes along I-90/I-94. Also, interim improvement needs included partial reconstruction of the interchange to address the most severe bottlenecks within the interchange, including the north to west and the east to north movements. Interim improvements will be compatible with the ultimate long-range needs.

Phase I included identifying improvements needed to address safety and operational deficiencies, preparation of access justification reports, complete bridge inspections and reports, data collection, preparation of base maps and mosaics, complete topographic survey, crash analysis, traffic counts and projections, traffic studies, geometric studies including intersection and interchange design studies, traffic maintenance analysis including a traffic management plan, drainage studies and pump station analysis, cost estimates, public involvement, financial planning, and all other work necessary to complete Phase I. The environmental study was processed as an Environmental Assessment.

With 2,819 crashes occurring during a three-year study period from 2006-2008, improving safety at this interchange was essential. A few proposed safety improvements included eliminating tight ramp curves, steep profile grades, and limited sight distance locations.

Jane Byrne "Circle" Interchange Phase I and II (continued)



I-90 and I-94 Dan Ryan Expressway Reconstruction - Phase I, II and III Program Management and Design Chicago, IL

Client
Illinois Department of Transportation

National Experience	Landscape/Urban Design/ Architecture	Transportation Infrastructure Aesthetic Design	Corridor-wide Bridge Aesthetic Treatments	Planning/Economics
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AECOM was the prime consultant for preliminary engineering, final design, construction engineering and program management of the Dan Ryan Expressway, the largest undertaking by IDOT to date.

Highlights of the massive \$825 Million overhaul included expansion of 14 lanes of traffic to 16; reconfiguring 21 cross-street interchanges; adding expressway signing, lighting, and ITS; installing storm sewer collection, storage, and conveyance systems; and, reconstructing 89 retaining walls. The project was constructed over five years and consisted of 120 separate construction contracts.

A project with immense visibility that significantly impacted the city, the reconstruction job also raised the bar for community involvement, including:

- 50% minority workforce.
- Unbundling large contracts into reduced (\$500,000 or less) packages to encourage participation from smaller contractors.

- 20% of contracts awarded to disadvantaged business enterprises.
- Under direction of the Little Black Pearl Art and Design Center, Chicago public school students made original medallion designs that now adorn the expressway's retaining walls.
- Community input led to the addition of rusticated vertical concrete surfaces on retaining walls, frontage road knee walls, and other wall structures to provide more pleasing surface textures and views.
- Collaboration with Chicago Gateway Green to install large sculptures at gateway locations along the route.

Environmental Elements

The largest expressway reconstruction in Illinois history, the Dan Ryan project was also recognized as one of the largest green initiatives in the nation, breaking new environmental ground by requiring that contractors use ultra-low sulphur diesel fuel or retrofit construction equipment to reduce emissions. In addition, IDOT required contractors to limit truck idling, while creating a state-of-the-art network of air quality monitoring stations along the expressway. Special provisions were also developed that included detailed and extensive watering and dust-control measures aimed at



I-90 and I-94 Dan Ryan Expressway Reconstruction - Phase I, II and III Program Management and Design (continued)



minimizing airborne particulate matter. Meanwhile, night-time construction mandated that light in the work area should not protrude and fall into the adjacent residential areas. To ensure prompt response and attention to these and other environmental issues, an environmental deficiency deduction special provision was implemented, which provided for significant fines and possible construction shut-down if contractors' operations were not in compliance with any of the pertinent specifications.

Phase I

Before becoming the largest expressway reconstruction project in Illinois history, the Dan Ryan had far outlived its original projected lifespan. AECOM was the prime consultant for Phase I preliminary engineering and environmental studies for the Dan Ryan's reconstruction. More than nine miles long, its limits extend from 31st Street on the north to just beyond the I-57/I-94 Bishop Ford Junction on the south.

The Federal Highway Administration's environmental class of action documentation procedure was followed for the environmental component of the study, while a separate engineering report (a combined design report) was also prepared. Following approval of the ECAD, it was determined that an Environmental Assessment (EA) should also be prepared to address the issues raised by the public. Another public hearing was held, the EA completed and approved, a combined design report prepared, and all of the ancillary reports also reissued. This was completed in an extremely compressed timeframe to allow continuing construction for the already initiated \$600 Million, 7-year program. Notorious for containing many of the busiest segments of freeway in the country, the Dan Ryan is also very complex, with two Chicago Transit Authority rapid transit tracks running down its center; 61 ramps; two pump stations; six rapid transit stations; two bus bridges; and seven overhead railroad bridges - all within its 9-mile stretch.

Virtually all ramps were either geometrically deficient or too closely spaced, with only two locations meeting full standards. Changing access to and from the Dan Ryan by closing ramps, consolidating access points, redirecting exiting and entering vehicles, and improving standards and traffic flows would affect many neighborhoods, including the Chicago Housing Authority buildings along the east side of the highway, which were also undergoing massive reconstruction.

Roadways and ramps were rebuilt while maintaining access to all modes of transportation and with minimal disruption to neighborhoods and drivers, as staging was one of the project's key elements. Complicating matters, US Cellular Field, home to the Chicago White Sox, is also located within the Dan Ryan's footprint. While the typical 40,000 baseball fans come to see each home game stress an already over-extended system, the reconstruction was staged to handle these crowds.

AECOM used CORridor SIMulation (CORSIM) software to model the existing roadway operating characteristics. Using this same program to model the proposed changed roadways, the project's stakeholders were able to evaluate, and accept or reject, various combinations of ramp closures, auxiliary lane additions, and traffic rerouting. By working with elected officials and neighborhood and community group representatives, IDOT and AECOM built consensus to determine and support a set of access change improvements.

Phase II Design and Program Management

AECOM was responsible for providing comprehensive program management for the entire 9-mile project length. Program management included monitoring and reporting on schedules and project costs; coordinating all lighting design, guide signing and construction packaging for the project; design review; and maintenance of the project website to exchange information and resolve design issues.

I-90 and I-94 Dan Ryan Expressway Reconstruction - Phase I, II and III Program Management and Design (continued)

In addition to managing the entire reconstruction program, AECOM was responsible for design and preparation of contract documents to reconstruct the critical 3.1-mile portion of the expressway within the vicinity of the Chicago Skyway (I-90) interchange from 47th Street to 71st Street. The existing northbound (NB) and southbound (SB) express lanes (four in each direction) and local lanes (two in each direction) were reconstructed, including ramps and retaining walls rebuilt and supplemented with an additional local lane in each direction. The bridge and retaining walls in the system interchange, between the Chicago Skyway (I-90) and the Dan Ryan Expressway (I-90/94), were reconfigured to provide an additional entrance ramp from the Skyway directly to the northbound Dan Ryan express lane. As part of this work, the following bridges in the interchange were replaced or reconstructed to accommodate the proposed changes:

- **Eastbound (EB) Chicago Skyway (EB I-90) ramp over the Dan Ryan Expressway (I-90/94) and the Chicago Transit Authority Red Line (Category: Complex).** The new bridge carries two lanes of EB I-90 ramp and full shoulders over I-94 and the CTA on a reinforced concrete deck composite with five continuous spans of curved steel plate girders. The girders bear on skewed reinforced concrete, cantilevered, and stub abutments and two multi-column and two solid wall piers (adjacent to the CTA track) supported by concrete drilled shafts.
- **Eastbound Chicago Skyway (EB I-90) over State Street (Category: Advanced Typical).** The new bridge carries two lanes of EB I-90 traffic over State Street on a reinforced concrete deck composite with two continuous steel plate girder spans. The girders bear on reinforced concrete integral abutments and a multi-column center pier supported by steel piles and concrete drilled shafts, respectively.
- **Westbound (WB) Chicago Skyway (WB I-90) over State Street (Category: Complex).** The new bridge carries two lanes of WB I-90 traffic over State Street on a reinforced concrete deck composite with two continuous concrete deck composites and two continuous tangent and curved steel plate girder spans. The girders bear on reinforced concrete integral abutments and a multi-column center pier supported by steel piles and concrete drilled shafts.
- **Westbound Chicago Skyway (WB I-90) ramp over the NB local lanes of the Dan Ryan Expressway (I-90/94) (Category: Advanced Typical).** The structure carries one lane of WB I-90 with full shoulders over the NB I-94 local lanes on a curved alignment. The reinforced

concrete deck is composite with three continuous spans of curved steel plate girders. The girders bear on reinforced concrete, cantilevered, stub abutments, and two hammerhead piers supported by concrete drilled shafts.

Retaining Walls

More than four miles of retaining walls, varying in height from four feet to more than 25 feet, were either replaced and/or reconstructed in conjunction with this project. Replacement wall types included mechanically stabilized earth, soldier pile and lagging with cast-in-place conventional T walls on piles. The exposed surface of the retaining walls, parapets, and high-mast light tower foundations were finished with the vertical flutes and horizontal wave patterns, accented by several sizes of raised cost aluminium medallions designed by students in the Chicago Public School system.

Lighting

The project included a high mast tower lighting system for over 10 miles of an urban freeway. AECOM, acting as the lead lighting consultant, prepared the initial tower lay-out for the entire 10-mile section, along with the detailed contract PS&Es for the three-mile section from 47th Street to 71st Street, including the interchange with the Chicago Skyway. The project included underpass lighting for Chicago streets crossing the Dan Ryan, plus lighting of the bridges and lighting of surface streets adjacent to the Dan Ryan. AECOM packaged the contract plans prepared by three consultants into two construction packages. Lighting the bridges and surface streets were incorporated into numerous civil contracts.

Intelligent Transportation System (ITS)

The ITS work for the Dan Ryan reconstruction consisted of installation of changeable message signs, closed circuit television cameras, highway advisory radio systems, ramp metering and mainline detection, and a fiber optic communication system. The CMS installed were full matrix, fully-automated, walk-in signs, and were supplied with UPS systems to aid in emergency evacuation scenarios. The CCTV cameras were IDOT's first major installment of cameras on high mast light towers, and each has full PTZ capability over the installed video over IP system. The HAR system consisted of multiple transmitters broadcasting identical messages throughout the corridor and synchronized for simulcast transmission. The metering and detection systems were connected to the fiber optic transmission system for interface with the IDOT Traffic Systems Center, and the information from these devices is

I-90 and I-94 Dan Ryan Expressway Reconstruction - Phase I, II and III Program Management and Design (continued)

used to calculate travel times for display on the CMS signs and broadcast on the HAR.

Traffic Signals (Wells-Wentworth Frontage Roads from 47th Street to 63rd Street)

AECOM performed capacity analyses and prepared temporary and permanent traffic signal timings for a network of signals along this route. Work included field inventories and a compilation of photologs on all of the signalized intersections. AECOM provided traffic signal, lighting and interconnect contract documents, cost estimates, and specifications for 14 locations. Dan Ryan Expressway reconstruction was carried out in three primary stages: Stage I involved advance work, including improvements to alternate routes and frontage road relocation (Wells Street); Stage II included work items, such as express lane reconstruction, bridge construction, retaining wall construction and rehabilitation, temporary and permanent lighting system installation, and drainage work; and Stage III included local lane reconstruction and expressway signing.

Context-Sensitive Design

Extensive discussion during design and community input during construction added significant features to the project that serve to enhance motorists' visual and perceptive experience, including incorporation of rusticated vertical concrete surfaces to the greatest extent possible on retaining walls, frontage road knee walls, and miscellaneous wall structures to provide a more pleasing surface texture and view, versus dull, uniform, block concrete surfaces where the finished treatment is often only form lines.

In a select stretch of retaining walls between 51st and 59th Streets, special formwork was used to create varying-width wave effects across the wall surfaces, mimicking the waves and wavy shoreline of Lake Michigan. AECOM also corroborated with Chicago Gateway Green to install large sculptures at two gateway locations along the route. In addition, specially coated fencing was used throughout based on the city's requirements and as agreed to by IDOT.

Variable spaced tining was incorporated on the surfaces of the concrete pavement and bridge decks to achieve a significant overall reduction of traffic noise and ensure pavement traction and friction in rain, snow, and ice conditions, thus enhancing traffic safety. The specification detailed that the tining be placed at a 1:6 skew normal to the direction of traffic and also specified the tining's spacing and sizes.

Specialty high mast light towers were used throughout the project to minimize visual clutter and to provide a more uniform distribution of light across all traffic lanes, thus improving the motorist's safety. The towers were 100 or 110 feet tall depending on their location on the side slopes or on retaining walls between the depressed mainline and adjacent frontage roads. All new conduit and cable systems were supplied. This enhanced system replaced the conventional roadway lighting along the median, where the poles were located on top of both barrier walls separating the northbound and southbound mainlines and the CTA's Red Line.

Integral with the design of each HMLT was a 7-foot radius concrete service pad placed at the tower's foundation base. This service pad improved accessibility for periodic maintenance and also provides a mow strip that enhances the aesthetics of the expressway. Rusticated small retaining walls surround the back-side of the HMLT pads, as warranted, in steep side slope areas.

Energy and maintenance savings will be achieved by eliminating conventional lighting for the overhead sign trusses. Instead, a product called super-high efficiency full cube retroreflective sheeting was specified. This product is a thin-sheet coating placed over the sign panel that picks up and intensely reflects the vehicle's lights so the motorist can quickly and safely read the sign message.

A greenscape will be created along the expressway through the cooperation of IDOT, the city, and Chicago Gateway Green. Elements to be provided include tree planting and tree groves along the entire project, varying types of dense perennial and grass plantings with irrigation at selected cross street ramp terminals that coincide with CTA Red Line Stations, irrigated corner gardens at side street/frontage road intersections where feasible, and planting trees and climbing vines along retaining walls that will soften the concrete finish.

Case Study: Chicago Transit Authority Red Line Coordination

During the massive reconstruction of one of Chicago's busiest expressways, train service on the CTA's Red Line, located in the median of the legendary Dan Ryan Expressway, was not interrupted at any time. Single tracking with slow zones was utilized for work that could not be completed outside of the CTA's defined clearance envelope in order to maintain approximately 382 north and southbound trains operating on the line 24 hours per day, seven days a week. To keep the Red Line in full operation with intricate work adjacent to it on both sides,

I-90 and I-94 Dan Ryan Expressway Reconstruction - Phase I, II and III Program Management and Design (continued)

AECOM designed braced excavation and temporary soil retention systems for jacking and receiving pits, and, also, for excavation and construction of a deeper pavement, shoulder, drainage structures, underdrains, and concrete barrier wall. AECOM also developed special retrofitting plans for taller barrier walls in front of the existing stations that could not be removed and replaced. Because the Red Line improvements were complete and separate designs from the comprehensive Dan Ryan project, two design teams were required to ensure each design was constructible and did not conflict with the other's proposed improvements - while designing the proposed expressway improvements around the existing CTA facilities. Throughout each phase of the project, AECOM coordinated efforts among IDOT, CTA, and various Dan Ryan design consultants. And, during final design, IDOT, CTA, and AECOM as program manager met to discuss details specifically affecting the CTA, including retrofitting of the existing barrier wall; proposed plans for station platform extensions; and, fencing and gate locations to provide a consistent design for the entire corridor.

Phase III Construction

AECOM provided contract administration for reconstruction of the NB expressway ramps and C-D roads from the I-57 interchange to 71st Street, with construction costs of \$30.9 Million. Work included reconstruction of nine ramps and 2 C-D systems; construction of accident investigation sites; 12 drilled soldier pile retaining walls; drainage system improvements; installation of lighting and ITS infrastructure; overhead sign structures; and reconstruction of frontage roads.

AECOM administered three contracts for IDOT that totalled \$55.4 Million in construction costs, primarily focused on improvements to the Dan Ryan Expressway (I-90/94)/ Chicago Skyway (I-90) interchange. The firm also provided construction inspection, contract administration, on-site material testing, and material quality assurance testing for bridge replacements at Wentworth Avenue over I-90/94, 67th Street over I-94, I-90 over State Street and the SB I-90/94 to EB I-90 flyover; construction of a new bridge structure to carry WB I-90 traffic to the NB I-90/94 express lanes; reconstruction of the Dan Ryan local lanes from 63rd Street to 67th Street; reconstruction of the NB and SB 67th Street to 71st Street ramps and C-D system; retaining walls; reconstruction of frontage roads along with traffic signal modernization; water main relocations; drainage system replacement; new overhead sign structures; and lighting and ITS infrastructure.

AECOM also provided resident and assistant resident engineer, along with the staff, vehicles, and appropriate test equipment necessary to perform the following tasks:

- Onsite inspection
- Layout, including design changes
- Construction layout when not provided for in the contract plans
- Geotechnical inspection and testing records
- Documentation, pay estimates, and change orders

Construction Innovations

All lanes of the Dan Ryan had been ground into rubble and the roadway rebuilt from the ground up. This new pavement is designed to last 30 years, and consists of a 24-inch recycled gravel sub-base; a six-inch asphalt base; and, 14 inches of continuous steel reinforced concrete.

With a project of this magnitude, there were significant opportunities to incorporate existing roadway materials in the final product:

- Existing concrete pavement was removed and recycled to provide aggregate in the roadway sub-base layers. Existing bituminous pavement and overlays were removed and recycled, to be used as reclaimed asphalt pavement (RAP) for backfill material for roadways and trenches.
- Suitably graded capping aggregate in the existing pavement section was used for general roadway backfill and miscellaneous embankments.
- Steel and aluminium products were salvaged from the roadways and structures and recycled. Included were steel reinforcement bars, steel beams, handrails, sign structures and panels, and light poles.

Central Tri-State Design Corridor Management Illinois

Client

Illinois State Toll Highway Authority

National Experience	Landscape/Urban Design/ Architecture	Transportation Infrastructure Aesthetic Design	Corridor-wide Bridge Aesthetic Treatments	Planning/Economics
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AECOM is the Design Corridor Manager for the Central Tri-State, the most heavily traveled corridor on the Illinois Tollway's system. One aspect of this work is to coordinate the design of bridge aesthetic treatments throughout the corridor.

The Central Tri-State is the most heavily travelled corridor on the Illinois Tollway's system, with average traffic ranging from 120,000 to 185,000 vehicles per day, with over 24,000 of those trips consisting of commercial truck traffic. Its improvement must be carefully planned and executed to minimize impacts to customers as well as to the toll revenue stream it provides. Nearly 20 percent of the Illinois Tollway's toll revenue is generated on the Central Tri-State, with freight traffic providing much of it.

AECOM is the Design Corridor Manager, responsible for coordinating schedules of deliverables, estimated construction costs and the permitting process; resolving utility conflicts; coordinating a systematic Maintenance of Traffic (MOT) strategy; representing the Illinois Tollway Engineering Department in making and following through with decisions; managing the input from various external and internal stakeholders; providing recommendations to

the Engineering Department; and assisting with securing the right-of-way (ROW) to enable construction to proceed unimpeded by conflicts among the numerous design teams working on the project.



Connecting Cook County

Cook County, IL

Client

Cook County Department of Transportation and Highways

National Experience	Landscape/Urban Design/ Architecture	Transportation Infrastructure Aesthetic Design	Corridor-wide Bridge Aesthetic Treatments	Planning/Economics
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AECOM completed the first Long Range Transportation Plan in over 75 years for Cook County to serve over 5 million residents and over 100 jurisdictions.

In 2013, Cook County kicked off the project to prepare Connecting Cook County, the first long range transportation plan since 1940. The County's goal is to strengthen the County's multi-modal transportation system so that people and goods can move through Cook County safely and easily whether by train, bus, car, truck, bike or on foot.

The plan, which was adopted by the Cook County Board of Commissioners in August 2016, will serve as a road map for the design and implementation of a fully integrated multi-jurisdictional transportation system, a system that serves individuals and businesses and improves the County's competitiveness. Cook County is the second largest county in the United States, with 5.2 million residents and 100+ jurisdictions.

The project involves extensive public and stakeholder outreach mechanisms. An executive-level Advisory Committee and technical Program Committee provide input and oversight from various transportation agencies and political organizations from across the County, including IDOT, Metra and CDOT.



Economic Development Strategy Bensenville, IL

Client

Village of Bensenville

National Experience	Landscape/Urban Design/ Architecture	Transportation Infrastructure Aesthetic Design	Corridor-wide Bridge Aesthetic Treatments	Planning/Economics
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AECOM was engaged by the Village of Bensenville, IL to complete an airport compatibility assessment, land use plan and economic development strategy.

The O'Hare Modernization Program (OMP) laid the groundwork for a period of considerable economic challenges for the Village of Bensenville. In addition to ORD-linked improvements, the Village also needed to respond to proposed construction of the Elgin-O'Hare West Access (EOWA), a new interstate by-pass around the west side of ORD that would dramatically increase interstate access to the Village. The study has provided a framework for the Village as construction of the OMP and EOWA unfold over the next 15 to 20 years.



CTA Station Strategic Parking Assessment

Chicago, IL

Client

Chicago Transit Authority

National Experience	Landscape/Urban Design/ Architecture	Transportation Infrastructure Aesthetic Design	Corridor-wide Bridge Aesthetic Treatments	Planning/Economics
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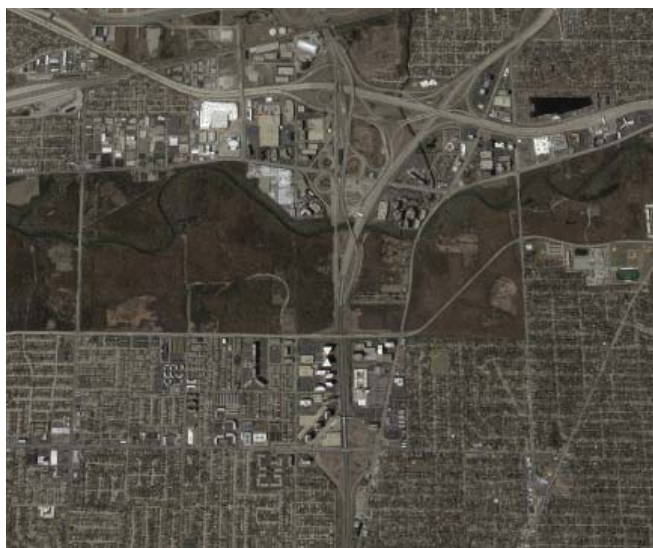
AECOM was engaged by the Chicago Transit Authority (CTA) to evaluate existing conditions associated with parking facilities located at the CTA Cumberland and Rosemont transit stations. Our objective was to evaluate the existing parking facilities, and frame options for repositioning of these assets.

The scope of services included:

- Evaluation of current operating/financial performance and usage of both facilities, and guidance regarding current market positioning.
- Development of preliminary capital and operational parameters to support preliminary recommendations regarding strategic procurement options for both facilities.

The two parking facilities were evaluated from physical and market standpoints. While the Rosemont station includes only a surface parking lot, the Cumberland CTA station includes a larger 3-story parking deck. Condition assessments were completed for both facilities. Conclusions from the Cumberland Garage assessment noted significant deferred maintenance concerns.

From a market standpoint, land use conditions around each station were studied, as well as real estate market trends, covering retail, office, and hotel segments. In addition, CTA station boarding data was collected and evaluated, in relation to parking lot utilization and revenue factors. Broader performance factors for O'Hare International Airport were studied, including the emergence of several off-site private parking facilities. Other local demand drivers, including the Rosemont Convention Center and the Hyatt Regency Hotel (1,096 hotel rooms), were also factored into the analysis. Primary findings from a market standpoint focused on the primary role of the Cumberland Garage as a park-and-ride facility for downtown commuters. With downtown office occupancies only slowly recovering from the recession, demand for parking at that time was limited.



Colt Goldberg Building Options Analysis

Oak Park, IL

Client

Village of Oak Park

National Experience	Landscape/Urban Design/ Architecture	Transportation Infrastructure Aesthetic Design	Corridor-wide Bridge Aesthetic Treatments	Planning/Economics
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AECOM was engaged by the Village of Oak Park to assess market and financial aspects of restoring the 75,000-square-foot Colt Goldberg Building, located in downtown Oak Park.

The existing art deco-style building, located on the south side of Lake Street, just east of Harlem Avenue, had been viewed as “historic” locally, but had also undergone multiple renovations in its history.

Working with the architecture firm HPZS, AECOM evaluated the local real estate market to understand demand potentials for office, retail, and residential condominium development, including options for higher-density TOD residential development linked with immediate proximity to Metra and CTA transit. We also developed a financial analysis to test the implications of three adaptive reuse concepts, each with variations in retail, office, and residential components, with estimates for supportable rents, operating expenses, and total development costs.

A financial model was then developed to identify the level of private sector investment that would be tolerated for a specified developer rate of return, with identification of the gap that would require a public sector role to fill. The analysis suggested that all renovation/restoration options for the building would require further public subsidy, in part because the majority of the historic character of the building was gone, and would need to be replicated.

In September of 2006, based on team analysis of the options, city leaders in Oak Park decided to develop an RFP to identify developers who can renovate, restore, or otherwise redevelop the Colt Building. Between 2006 and 2008, the fate of the Colt Building was also increasingly wrapped up in broader debate about the need for additional downtown parking, as well as alternative proposals for the “superblock” area (which includes the Colt Building), bounded by Marion Street, Lake Street, Harlem Avenue, and North Boulevard, adjacent to Metra and CTA stations.

In 2009, the building was finally demolished to make way for redevelopment, and with the broader regional economic recovery gaining strength since 2014, the site is now being redeveloped.



Monument Circle Improvement Funding Alternatives Analysis

Indianapolis, IN

Client

City of Indianapolis / CHA

National Experience	Landscape/Urban Design/ Architecture	Transportation Infrastructure Aesthetic Design	Corridor-wide Bridge Aesthetic Treatments	Planning/Economics
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AECOM was retained by CHA, Inc. (formerly R.W. Armstrong) as part of their contract with the City of Indianapolis, Dept. of Public Works to develop a funding strategy to support infrastructure improvements to Monument Circle, an 4.5-acre urban park, which is anchored by the Soldiers and Sailors monument, all located in the heart of downtown Indianapolis.

Need for the study is linked to the advancing age (approaching 50 years) and resulting deterioration in condition of the road base that supports the brick streets and sidewalks that surround the monument. As a result, costs associated with emergency repairs to the brick streets have grown over the last 10 years, as the weakened substructure allows bricks to shift. Lastly, there is a desire to enhance pedestrian safety as well.

From an operations standpoint, while Monument Circle continues to serve as a defining attraction in downtown Indianapolis, its use and programming reflect additional challenges, with city ownership of the streets around the circle and state ownership of the monument itself. The nature of the monument as a memorial to Indiana's war dead from conflicts before 1900 adds a solemn dimension to the space, which at times can conflict with efforts to expand use and programming.

The effort has been broken into two phases of work. In Phase I, we summarized the defining market drivers associated with downtown Indianapolis, and outlined at a conceptual level an array of revenue streams that could support reconstruction. Specific work efforts included:

- Interviews with stakeholders, including downtown retail tenants, real estate brokers, and building owners
- Evaluation of visitor data associated with Monument Circle & Downtown, and analysis of demographics for downtown relative to the region
- Assessment of potential infill / redevelopment opportunities
- Development of case studies for how other urban parks have financed operations and capital costs, including use of parking revenues

The analysis revealed surprisingly strong downtown residential and visitor markets, supported by IUPUI as well as convention and public assembly venues such as Lucas Oil Stadium. Strength in these markets has been reflected in restaurant performance in the downtown area, as well as construction of new apartment and hotel projects/

In Phase II, our scope of services refined financing options for operations & maintenance and capital. The analysis focusing on the role of naming rights, sponsorship, TIF, benefit districts, and parking revenue.

The overall project has been led by Cynthia Bowen, initially with CHA, and now Director of Planning with REA in Indianapolis.



St. Charles Rock Road Corridor/TOD Redevelopment Plan Wellston and Pagedale, MO

Client

St. Louis County Economic Council

National Experience	Landscape/Urban Design/ Architecture	Transportation Infrastructure Aesthetic Design	Corridor-wide Bridge Aesthetic Treatments	Planning/Economics
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AECOM was engaged by the St. Louis County Economic Council, the Cornerstone Partnership, and the Great Rivers Greenway District to complete a real estate market, blight, financial, and fiscal impact assessment for the St. Charles/Rock Road Corridor which traverses through Wellston and Pagedale, and includes the Rock Road Metrolink light rail station. The analysis looked at general property conditions along the corridor, including an array of older store front buildings, as well as older/vacant industrial sites, and residential areas.

The study also evaluated a specific assemblage of property under consideration for transit-oriented mixed use development. The developer had requested tax increment finance (TIF) to support property assemblage efforts and related reinvestment requirements. We evaluated residential, retail, office, and industrial real estate market conditions for the target area and St. Louis County as a whole. The analysis covered an extensive trade area, from Clayton to the south up to the northern reaches of St. Louis County.

The market analysis work was used to refine and test development assumptions provided by the developer relating to the mix of residential units, commercial space, pricing / rents, construction costs, and phasing. Outputs included a financial analysis to test developer returns on investment, and a TIF-linked cost benefit assessment, which looked at likely growth of property taxes and sales taxes in relation to potential public investment requirements for the proposed project. Case studies of transit oriented development projects in other second tier markets including Baltimore, Cleveland, and Denver were conducted.



D

Proposed Subconsultants

SECTION D
Proposed Subconsultants

31st Street Harbor, Chicago, IL

AECOM's award-winning and LEED Gold-Certified design for this new harbor built on Chicago's lakefront is highlighted by blending the harbor facility and parking garage into the landscape with a park and natural area built directly on its 63,000 SF green roof.

D Proposed Subconsultants



OVERVIEW 2017

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Founded in 1991, Environmental Design International inc. (EDI) is an MBE/WBE/DBE certified professional engineering firm headquartered in Chicago. EDI's team of engineers and scientists offer a variety of environmental, engineering, industrial hygiene, and survey services to clients within the private and public sector.

Clients turn to EDI for complete project management services. From preliminary planning, and on through design, permitting, construction management, and reporting, our staff will respond with an uncompromising commitment to quality. EDI understands that to truly make ourselves stand apart from the others, it takes a mix of hard work, technical excellence and outstanding client service. Our objective is to serve our clients by providing the best engineering solutions to achieve their business objectives.

Representative Parks and Recreation Experience:

EDI has worked on numerous development projects for the Chicago Park District (CPD), and Forest Preserves of Cook County (FPDCC), providing professional design services from civil engineering design, property surveys (ALTA and topographical) to environmental consulting (environmental site assessment, report reviews, UST removals, and hazardous material assessments and abatement.)

EDI's environmental team recently completed work for CPD's Magid Glove project, and held an IDIQ contract with the FPDCC and has worked on sites such as the Green Lake Pool Aquatic Center.

EDI's Civil Engineering Department is experienced in site utility work for park projects and completed the documentation necessary for Jonquil Park, Printer's Row Park, the Midway Plaisance Soccer Fields, Public Building Commission of Chicago new schools, the DuSable Museum Expansion project, and for Heritage Park in Wheeling.

EDI's Surveying Department has completed hundreds of site surveys for design and permit submittals, including topographic, utility, and ALTA Surveys for FPDCC, CPD and playground projects for schools. Key CPD projects include Maggie Daley Park, Big Marsh, and the Bloomingdale Trail. EDI has also conducted surveys for FPDCC and CPD as subconsultant to Chicago's major landscape architecture firms.





OVERVIEW 2017

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EDI offers full services associated with engineering planning, preliminary and final design documents, and construction inspection and observation. Clients such as the Illinois Department of Transportation, Illinois Tollway, Chicago Department of Transportation, and the Cook County Department of Transportation and Highways turn to EDI for Civil Engineering, Construction Engineering, Environmental Consulting, and Professional Land Survey Services.

Transportation Project highlights:

- EDI successfully completed two prime IDOT Phase III contracts as a joint venture partner with Ardmore Roderick (formerly Ardmore Associates LLC). The work included construction management, inspection, and quality assurance testing for improvements to the interchange of I-94 (Bishop Ford Expressway) and Stoney Island Avenue, and for improvements to the Stevenson Expressway (I-55)/ Dan Ryan Expressway (I-94) to Lake Shore Drive (US 41).
- Additional prime IDOT District 1 contracts include Phase I engineering services for various projects, and professional land survey services for various projects.
- EDI holds a current prime Illinois Tollway contract to develop civil site plans and prepare contract documents for new maintenance facility sites. Previously, EDI was part of a team providing professional land surveying and Phase I Environmental Assessments for the preparation of the master plan and design/architectural plans for the Tollway's system-wide maintenance facilities.
- As a prime consultant to the Illinois Tollway, EDI provided Phase II and Phase III engineering services for ramp rehabilitation and reconstruction on the Ronald Reagan Memorial Tollway and the Jane Addams Memorial Tollway.
- An additional Illinois Tollway contract included construction management as needed for the I-294/57 Interchange.
- EDI provided Construction Engineering services to CDOT for several street resurfacing projects on Chicago's far south side. EDI was awarded a CDOT contract to provide similar services on Chicago's south side in 2014.



- EDI is providing Hazardous Waste Surveys including Preliminary Site Investigations (PSIs) conducted along Illinois roads for the Illinois Department of Transportation (IDOT).
- EDI completed Special Waste Assessments (SWA) and Preliminary Environmental Site Assessments (PESA) for several CREATE project locations.





Firm Overview

Mathewson Right of Way Company (MROWCO) has been serving the land acquisition needs of state, county, and municipal agencies, as well as railroad clients, since January 3, 2006. Mark D. Mathewson has decades of land acquisition experience working on literally thousands of parcels throughout the State of Illinois prior to and since forming MROWCO. We believe we have assembled the highest qualified, most experienced team of employees in the State of Illinois.

MROWCO has a proven track record of servicing large contracts (often two or three at a time) and meeting all scheduled requirements set out by our clients. That capacity does not detract from our focusing on highly important individual projects for our local agency clients. We do so professionally and cost effectively and we are confident that we can continue to meet the needs of all of our existing clients while servicing potential contracts at our consistently high level of quality.

We believe we have the most qualified and most experienced staff in the State of Illinois today. We currently employ five full-time attorneys. Aside from the legal staff, we employ one full-time General Certified Appraiser. We also have four additional full-time employees providing administrative and accounting support to our acquisition professionals. Our business is exclusively involved in land acquisition.



Ehlers' Financial Advisory Services for Illinois Local Governments

Ehlers is an independent municipal public finance advisory firm. Since 1955, Ehlers has designed financial solutions to help counties, municipalities, townships, school districts, and other local government units build better communities throughout Illinois and the Midwest. Ehlers provides a wide range of financial services designed to help resolve issues facing local governments:

Debt Issuance

Planning, issuance and management of debt is an ongoing process. The issuance of debt requires a stream of tasks including: evaluating options for upcoming projects; looking to the future for balance in capital investment and revenue demands; responding to legislative change; understanding financial market conditions; planning for refinancing; and bringing issues to market. Ehlers helps structure debt issues, navigate the rating agency process, produce the official statement, provide the bond attorney with details for the sale resolution, take competitive bids or negotiate on your behalf, and coordinate closing details.

Economic Development and Redevelopment

There are multiple steps required to generate thoughtful tax base growth, new employment opportunities, vibrant commercial centers and quality housing. Ehlers can help with each step, from attracting qualified developers to utilizing tax increment financing and other development tools. Ehlers analyzes *pro forma* statements from developers and helps negotiate equitable agreements, all in the best interest of our clients.

Financial Planning

Budgeting should not be year to year. Long-range financial planning makes the annual budgeting process less painful and enables policy makers to focus on big picture questions related to property levies, utility rates, user fees, and debt-to-cash ratios. Rating agencies are increasingly emphasizing the need for regular review of financial management policies and plans. Ehlers can guide you through this process.

Strategic Communications

The success of financial endeavors often requires public understanding and support. Open houses, newsletters, press events and hearings are key factors in informing the public. Well-informed citizens are more likely to pass referenda and support elected officials. Ehlers enhances your staff in managing communications and boosting public participation, including website design and social media tactics.



Ehlers' Approach

Ehlers is a trusted Municipal Advisor for public officials who work every day to make prudent decisions regarding public resources and public debt. Our experienced advisors work in our four basic service areas of Debt Issuance, Economic Development and Redevelopment, Financial Planning, and Strategic Communications. Many community leaders see Ehlers professionals as integral extensions of their own staff.

Capital Markets Expertise. In 2015, Ehlers ranked Number 3 nationwide for the number of competitive bond sales advised (Source: Bloomberg competitive sales between 1/2/2015 and 12/31/2015. (212) 318-2000). Our active market presence means we are in daily contact with the national underwriting community, bond attorneys, rating agencies, and other market participants, and have developed innovative ways to address market uncertainty.

Economic Development Expertise. Local financial resources often play a role in economic development. Ehlers' staff brings to their clients the experience gained from participation in hundreds of development projects. This experience covers all forms of development and all types of public participation. Ehlers helps you assemble the pieces of the puzzle determining need, assessing risk, evaluating options, and making it happen.

Trust. Financial advice should be free of conflicts of interest. Ehlers does not work for underwriters, developers, or the private sector. Our allegiance is to the local governments we serve.

Hands On Experience. Most of Ehlers' Municipal Advisors have local government experience. They have a clear understanding of the complexities of the municipal market, our clients' financial objectives, and state and federal regulations that dictate how governments may budget, borrow, and plan.

Customized Options. Every service Ehlers delivers focuses on customization to a local government's unique situation, objectives, and needs.

Employee-Owned. At Ehlers, all employees have ownership through an employee stock ownership trust. As an employee-owned firm, we are all incented to serve our clients. Philosophically, we believe in experience, adaptability, and independence.

Fiduciary Responsibility. The Dodd-Frank Wall Street Reform and Consumer Protection Act enacted on July 21, 2010, includes several new requirements for "municipal advisors." Ehlers as a firm and our municipal advisors are included within the definition of "municipal advisors" and are registered with the SEC as such. We adhere to all fiduciary regulations as a true independent financial advisory firm. Because we do not work for the private sector, we can remain your trusted partner to provide the advice in the best interests of your organization.

Ehlers Inc., Ehlers Investment Partners and Bond Trust Services are affiliate companies.

1-800-552-1171 | www.ehlers-inc.com

The information provided in these materials does not create or imply any fiduciary relationship, and is being provided solely for the purpose of marketing our services to you as a prospective client of Ehlers & Associates, Inc.



ABOUT STRATA

Strata's roots go all the way back to 1948 with the founding of Soil Testing Services, STS. As STS built its strong reputation as a premier geotechnical engineering firm, their drilling capabilities became very well-known and respected. As STS helped to set the standard for Chicago and the rest of the country the drillers were asked to tackle some of the biggest projects and challenges of their time. It has been this irreplaceable experience that our drillers and managers, most of whom started with STS, use to this day to come up with innovative, cost effective solutions no matter how difficult the task.

This valuable experience was recognized by AECOM, one of the largest engineering consulting firms in the United States, when it purchased STS and the wholly owned drilling subsidiary, SEI, in 2007. This continued to open up opportunities for challenging projects all over the Midwest. The next step forward for this drilling operation takes us to the present day organization when Strata Earth Services, LLC purchased the drilling subsidiary, SEI from AECOM in 2010. Strata is owned and operated by Sara Knight, P.E. Sara is a geotechnical engineer and worked for STS and AECOM for the last 10 years prior to founding Strata.

Our tremendous experience, knowledge and vast capabilities are what sets us apart from the field and makes us a valuable partner on any size project. That said, it is our lineage of innovation, integrity and excellence that drives us at Strata today.

OUR SERVICES

- Geotechnical and Environmental Soil Exploration
- Instrumentation and Monitoring Installation
- Specialized soil sampling and in-situ testing



E

Objections to Terms of Proposal

Fullerton Theater on the Lake Shoreline, Chicago, IL
AECOM designed this \$32MM project focused on building a new shoreline
revetment and creating 6 acres of new parkland on Chicago's lakefront.

E Objections to Terms of Proposal

AECOM has reviewed the RFP for Professional Engineering and Planning Services for a Feasibility Study for Expanded Bridge Decking over I-290 (Cap the Ike) and have no objections to any terms of the request for proposal.

F

Required Forms & Fee Schedule

I-55 and Lake Shore Drive Interchange, Chicago, IL

The designer of several of Chicago's most complex expressway interchanges, AECOM considers and incorporates aesthetics in even the most functional of structures.

F Required Forms and Fee Schedule

The following forms are provided in our proposal:

- Compensation Estimate Schedule
- Respondent Certification, including
 - Attachment I: Respondent Certification
 - Attachment II: Tax Compliance Affidavit
 - Attachment III: Organization of Bidding Firm
 - Attachment IV: Compliance Affidavit
 - M/W/DBE Status and EEO Report

AECOM has thoroughly reviewed the project scope defined by the Village of Oak Park in the Request for Proposals (RFP). For scope items documented in the RFP, we have provided further clarification on our understanding of the task including expectations and exclusions. These clarifications form the basis of our fee proposal, provided in IDOT CECS format.

Section III. Compensation Estimate Schedule

Please complete all forms and submit the information requested on the following pages and submit one (1) hard copy of the compensation schedule along with the proposal. The Compensation schedule shall include the total fee and signature below.

Note: the fee schedule should follow the Attached forms for cost plus fixed fee compensation form in accordance with IDOT standards for consultant services.

The Consultant shall identify the cost for each major component of the feasibility study.

\$1,314,946

The undersigned proposes to perform the work as specified in Section II, "Scope of Services," of this call for proposals.

Proposal Signature: 

State of IL)

County of COOK)

Timothy Whalen
_____,
(Type Name of Signee)

being first duly sworn on oath deposes and says that the Vendor on the above Proposal is organized as indicated below and that all statements herein made on behalf of such Vendor and that their deponent is authorized to make them, and also deposes and says that deponent has examined and carefully prepared their proposal from the Contract.



RESPONDENT CERTIFICATION

PROPOSAL SIGNATURE: Tim Whalen
State of IL
County of COOK
Timothy Whalen
TYPE NAME OF SIGNEE

being first duly sworn on oath deposes and says that the Respondent on the above proposal is organized as indicated below and that all statements herein made on behalf of such Respondent and that this deponent is authorized to make them, and also deposes and says that he has examined and carefully prepared their bid proposal from the Contract Exhibits and Specifications and has checked the same in detail before submitting this proposal or bid; that the statements contained herein are true and correct.

Signature of Respondent authorizes the Village of Oak Park to verify references of business and credit at its option.

Signature of Respondent shall also be acknowledged before a Notary Public or other person authorized by law to execute such acknowledgments.

Dated 11/9/2017

AECOM Technical Services, Inc.
Organization Name

(Seal - If Corporation)

By Tim Whalen
Authorized Signature
303 E. Wacker Drive, Suite 1400, Chicago, IL 60601
Address
(312) 373-6736
Telephone

Subscribed and sworn to before me this 9th day of November, 2017.

In the state of Illinois. Notary Public

My Commission Expires: July 6, 2019
(Fill Out Applicable Paragraph Below)

(a) Corporation



The Respondent is a corporation, which operates under the legal name of
AECOM Technical Services, Inc.
and is organized and existing under the laws of the State of
California.

The full names of its Officers are:

President Timothy H. Keener
Secretary Preston Hopson

Treasurer Keenan E. Driscoll

The corporation does have a corporate seal. (In the event that this bid is executed by a person other than the President, attach hereto a certified copy of that section of Corporate By-Laws or other authorization by the Corporation which permits the person to execute the offer for the corporation.)

(b) Partnership

Name, signature, and addresses of all Partner

The partnership does business under the legal name of _____ which name is registered with the office of _____ in the county of _____ in the state of _____.

(c) Sole Proprietor

The Respondent is a Sole Proprietor whose full name is _____.
If the Respondent is operating under a trade name said trade name is _____ which name is registered with the office of _____ in the county of _____ in the state of _____.

Signed _____
Sole Proprietor



Attachment I.

RESPONDENT CERTIFICATION

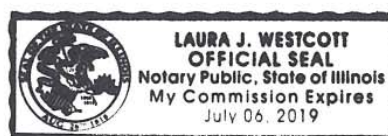
AECOM Technical Services, Inc., as part of its bid on a contract for
(name of Respondent)

professional engineering and planning services for a feasibility study for expanded bridge decking over I-290 in Oak Park to the Village of Oak Park, hereby certifies that said Respondent is not barred from bidding on the aforementioned contract as a result of a violation to either Section 33E-3 or 33E-4 of Article 33E of Chapter 38 of the Illinois Revised Statutes or Section 2-6-12 of the Oak Park Village Code relating to "Bidding Requirements".

By: 
(Authorized Agent of Respondent)

Subscribed and sworn to
before me this 9th day
of November, 2017.


(Notary Public)





Attachment II.


TAX COMPLIANCE AFFIDAVIT

Timothy Whalen, being first duly sworn, deposes
and says:

that he/she is Associate Vice President of
(partner, officer, owner, etc.)

AECOM Technical Services, Inc.
(bidder selected)

The individual or entity making the foregoing proposal or proposal certifies that he/she is not barred from entering into an agreement with the Village of Oak Park because of any delinquency in the payment of any tax administered by the Department of Revenue unless the individual or entity is contesting, in accordance with the procedures established by the appropriate revenue act, liability for the tax or the amount of the tax. The individual or entity making the proposal or proposal understands that making a false statement regarding delinquency in taxes is a Class A Misdemeanor and, in addition, voids the agreement and allows the municipality to recover all amounts paid to the individual or entity under the agreement in civil action.


By: Timothy Whalen
Its: Associate Vice President

AECOM Technical Services, Inc.
(name of bidder if the bidder is an individual)
(name of partner if the bidder is a partnership)
(name of officer if the bidder is a corporation)

The above statement must be subscribed and sworn to before a notary public.

Subscribed and sworn to before me this 9th day of November, 2017.


Notary Public's Signature

- Notary Public Seal -





Attachment III.

ORGANIZATION OF BIDDING FIRM

Please fill out the applicable section:

A. Corporation:

The Consultant is a corporation, legally named AECOM Technical Services, Inc. and is organized and existing in good standing under the laws of the State of California. The full names of its Officers are:

President Timothy H. Keener

Secretary Preston Hopson

Treasurer Keenan E. Driscoll

Registered Agent Name and Address: Timothy Whalen, 303 E. Wacker Drive, Suite 1400, Chicago, IL 60601

The corporation has a corporate seal. (In the event that this Bid is executed by a person other than the President, attach hereto a certified copy of that section of Corporate By-Laws or other authorization by the Corporation that permits the person to execute the offer for the corporation.)

B. Sole Proprietor:

The Consultant is a Sole Proprietor. If the Consultant does business under an Assumed Name, the

Assumed Name is _____, which is registered with the Cook County Clerk. The Consultant is otherwise in compliance with the Assumed Business Name Act, 805 ILCS 405/0.01, et. seq.

C. Partnership:

The Consultant is a Partnership which operates under the name _____

The following are the names, addresses and signatures of all partners:

Signature

Signature

(Attach additional sheets if necessary.) If so, check here _____.

If the partnership does business under an assumed name, the assumed name must be registered with the Cook County Clerk and the partnership is otherwise in compliance with the Assumed Business Name Act, 805 ILCS 405/0.01, et. seq.

D. Affiliates: The name and address of any affiliated entity of the business, including a
description of the affiliation: _____

Signature of Owner



AECOM Technical Services, Inc. 312 373 7700 tel
303 E Wacker Drive 312 373 6800 fax
13th Floor
Chicago, IL 60601
www.aecom.com

SECRETARY'S CERTIFICATE

**AECOM TECHNICAL SERVICES, INC.
a California corporation**

I, Matthew S. Riley, DO HEREBY CERTIFY that I am the duly elected and acting Assistant Secretary of AECOM Technical Services, Inc., a corporation organized under the laws of the State of California ("ATS"), and the keeper of its records and corporate seal.

I FURTHER CERTIFY that ATS's full legal address is c/o CT Corporation System, 818 West 7th Street, Los Angeles, CA 90017-0000 and that the Corporation's principal place of business is 300 South Grand Avenue, 9th Floor, Los Angeles, California 90071.

I FURTHER CERTIFY that pursuant to the Written Consent of the Board of Directors of ATS, adopted on August 31, 2017, Timothy J. Whalen has signatory authority for ATS and is authorized to execute contracts and other documents on behalf of the company.

IN WITNESS WHEREOF, I have subscribed my name and affixed the seal of the Corporation, this 2nd day of November, 2017.


Matthew S. Riley
Assistant Secretary





Attachment IV. Compliance Affidavit

I, Timothy Whalen being first duly sworn on oath depose and state as follows:
(Print Name)

1. I am the (title) Associate Vice President of the Proposing Firm ("Firm") and am authorized to make the statements contained in this affidavit on behalf of the Firm.
2. The Firm is organized as indicated on Exhibit A to this Affidavit, entitled "Organization of Proposing Firm," which Exhibit is incorporated into this Affidavit as if fully set forth herein.
3. I have examined and carefully prepared this proposal based on the Request for Proposals and verified the facts contained in the proposal in detail before submitting it.
4. I authorize the Village of Oak Park to verify the Firm's business references and credit at its option.
5. Neither the Firm nor its affiliates¹ are barred from proposing on this project as a result of a violation of 720 ILCS 5/33E-3 or 33E-4 relating to bid rigging and bid rotating, or Section 2-6-12 of the Oak Park Village Code related to "Proposing Requirements".
6. The Proposing Firm has the M/W/DBE status indicated below on the form entitled "EEO Report."
7. Neither the Firm nor its affiliates is barred from agreement with the Village of Oak Park because of any delinquency in the payment of any debt or tax owed to the Village except for those taxes which the Firm is contesting, in accordance with the procedures established by the appropriate revenue act, liability for the tax or the amount of the tax. I understand that making a false statement regarding delinquency in taxes is a Class A Misdemeanor and, in addition, voids the agreement and allows the Village of Oak Park to recover all amounts paid to the Firm under the agreement in a civil action.
8. I am familiar with Section 13-3-2 through 13-3-4 of the Oak Park Village Code relating to Fair Employment Practices and understand the contents thereof; and state that the Proposing Firm is an "Equal Opportunity Employer" as defined by Section 2000(E) of Chapter 21, Title 42 of the United States Code Annotated and Federal Executive Orders #11246 and #11375 which are incorporated herein by reference. **Also complete the attached EEO Report or Submit an EEO-1.**
9. I certify that the Consultant is in compliance with the Drug Free Workplace Act, 41 U.S.C.A, 702.

¹ Affiliates means: (i) any subsidiary or parent of the bidding or contracting business entity, (ii) any member of the same unitary business group; (iii) any person with any ownership interest or distributive share of the bidding or contracting business entity in excess of 7.5%; (iv) any entity owned or controlled by an executive employee, his or her spouse or minor children of the bidding or contracting business entity.

Signature: Tim Whalen Printed Name Timothy Whalen
Name of Business: AECOM Technical Services, Inc. Your Title: Associate Vice President
Business Address: 303 E. Wacker Drive, Suite 1400, Chicago, IL 60601
(Number, Street, Suite #) (City, State & Zip)
Telephone: (312) 373-6736 Fax: (312) 373-6800 Web Address: www.aecom.com

Subscribed to and sworn before me this 9th day of November, 2017.

Laura J. Westcott
Notary Public



M/W/DBE STATUS AND EEO REPORT

1. Consultant Name: AECOM Technical Services, Inc.
2. Check here if your firm is:
- ☐ Minority Business Enterprise (MBE) (A firm that is at least 51% owned, managed and controlled by a Minority.)
- ☐ Women's Business Enterprise (WBE) (A firm that is at least 51% owned,

Failure to respond truthfully to any questions on this form, failure to complete the form or failure to cooperate fully with further inquiry by the Village of Oak Park will result in disqualification of this Bid. For assistance in completing this form, contact the Department of Public Works at 708-358-5700.

- ☐ managed and controlled by a Woman.)
- ☐ Owned by a person with a disability (DBE) (A firm that is at least 51% owned by a person with a disability)
- ☒ None of the above

[Submit copies of any W/W/DBE certifications]

3. What is the size of the firm's current stable work force?
- | | | |
|---------------|-------------------------------|---|
| <u>14,708</u> | Number of full-time employees | (Numbers reflect AECOM's Design and Consulting Services for the United States which total 17,970) |
| <u>3,262</u> | Number of part-time employees | |
4. Similar information will be requested of all subConsultants working on this agreement. Forms will be furnished to the lowest responsible Consultant with the notice of agreement award, and these forms must be completed and submitted to the Village before the execution of the agreement by the Village.

Signature: 

Date: 11/9/2017

EEO REPORT

Please fill out this form completely. Failure to respond truthfully to any questions on this form, or failure to cooperate fully with further inquiry by the Village of Oak Park will result in disqualification of this proposal. An incomplete form will disqualify your proposal. For assistance in completing this form, contact the Purchasing Department at 708-358-5473.

An EEO-1 Report may be submitted in lieu of this report.


Consultant Name AECOM Technical Services, Inc.
Total Employees 88,000 Firm Wide (Numbers below reflect AECOM's Design and Consulting Services for the United States which total 17,970)

Job Categories	Total Employees	Total Males	Total Females	Males				Females				Total Minorities
				Black	Hispanic	American Indian & Alaskan Native	Asian & Pacific Islander	Black	Hispanic	American Indian & Alaskan Native	Asian & Pacific Islander	
Officials & Managers	4953	3875	1078	90	173	6	291	51	54	2	94	761
Professionals	9167	5900	3267	184	340	15	722	142	241	9	416	2069
Technicians	2064	1675	389	103	135	8	94	27	32	4	25	428
Sales Workers	0	0	0	0	0	0	0	0	0	0	0	0
Office & Clerical	1679	509	1170	61	66	4	52	152	139	3	92	569
Semi-Skilled	27	25	2	0	2	0	3	0	0	1	0	6
Laborers	31	31	0	6	5	0	0	0	0	0	0	11
Service Workers	49	48	1	11	1	0	0	0	0	1	0	13
TOTAL	17,970	12,063	5907	455	722	33	1162	372	466	20	627	3857
Management Trainees	0	0	0	0	0	0	0	0	0	0	0	0
Apprentices	0	0	0	0	0	0	0	0	0	0	0	0

This completed and notarized report must accompany your Proposal. It should be attached to your Affidavit of Compliance. Failure to include it with your Proposal will be disqualify you from consideration.

Timothy Whalen Tim Whalen, being first duly sworn, deposes and says that he/she is the Associate Vice President
(Name of Person Making Affidavit) (Title or Officer)
of AECOM Technical Services, Inc. and that the above EEO Report information is true and accurate and is submitted with the intent that it be relied upon. Subscribed and sworn to before me this 10th day of November, 2017.

[Signature] (Signature)
Nov 10, 2017 (Date)



REQUEST FOR PROPOSALS

AECOM CLARIFICATIONS

A. Overall corridor wide aesthetic treatments

Develop aesthetic concepts for treatments for expanded bridge decking and for aesthetic enhancements to other bridges over I-290 in Oak Park. Corridor aesthetic concept shall include how potential noise wall aesthetics and materials fit within these concepts.

Home Avenue Bridge will be part of a separate phase I study. As such the only proposed scope at Home Avenue Bridge included in the feasibility study is related to item A for evaluating potential designs for how they relate to the overall corridor aesthetic.

AECOM will review the project area with the Village and its stakeholders, making initial assessments and noting adjacent projects and ongoing planning efforts. We will listen to preliminary programming ideas identifying goals, challenges and key milestones in conjunction with structural analysis and economic opportunities early on in the design process. Development of concepts will build upon technical and stakeholder / community feedback.

B. Community coordination

i. The Consultant shall work with the Village's Community Design Commission to refine aesthetic treatment options, as well as through public open houses, and ultimately Village Board meetings for aesthetic treatments

AECOM understands that the Oak Park community is active and engaged in public interests. Collaborating with the Oak Park Community Design Commission, East Avenue stakeholders and the Oak Park community at large will be a priority of the project. The Village will assist in scheduling and facilitating all meetings, as well as provide a meeting venue. The cost of facility rental to host meetings is not included in this estimate. AECOM will conduct a design charrette with the Community Design Commission, working closely with this group to develop criteria for the establishment of design options and solicit feedback on conceptual ideas. This effort includes meeting presentation materials for up to five (5) meetings with the Community Design Commission.

ii. The Consultant shall work with a stakeholder group for East Ave decking after preferred usage is identified

Attendance and presentation at up to five (5) meetings each with the Community Design Commission and the East Avenue Stakeholder Group are assumed.

iii. The Consultant shall host public open house meetings to gather input from the community about the project

Up to three (3) public open house meetings of up to four (4) hours duration each are assumed. AECOM's work will include preparation and printing of meeting exhibits and materials.

iv. The Consultant shall attend Village Board meetings to present proposed concepts and gather Board input and to present the final feasibility study

AECOM will attend up to three (3) Village Board meetings to present the work and solicit feedback.

REQUEST FOR PROPOSALS

C. **Oak Park and East Avenue Decking**

The Oak Park Avenue and East Avenue expanded decking locations shall be studied for necessary information to determine the feasibility of construction, the best use, and community benefits. The feasibility study at both locations shall include the following elements:

- i. Incorporating CTA blue line station into decking concepts as part of the Blue Line Vision Study and coordinate study with CTA
- ii. Incorporating aesthetic treatments on bridge into any expanded decking options. Conceptual ideas for treatments, or level of investment, were identified in the LOI with IDOT.
- iii. Incorporating environmental sustainability concepts into design and/or creating a net neutral building/amenities
- iv. Preparing topographic surveys of areas

AECOM CLARIFICATIONS

The primary deliverable will be a comprehensive feasibility study summarizing engineering challenges, architectural/aesthetic, economic, capital and operating cost, and next steps to proceed with the effort. The effort for compiling this document is included within the various work tasks. A draft study will be submitted to the Village of Oak Park for review, followed by a final study addressing or incorporating review comments. With the effort developed in coordination with Village stakeholder groups, only one round of review/comment is anticipated.

AECOM will review current plans for the Blue Line Vision and meet with CTA to integrate the Blue Line Vision Study into design concepts for proposed improvements.

AECOM anticipates developing design concepts for comprehensive, integrated treatments involving the bridge, the CTA station, and proposed development/commercial building options and/or athletic field/park space.

General concepts for incorporating green infrastructure will be incorporated into the concepts. The detailed design of these systems is not included in the work.

Survey efforts will be led by Environmental Design International (EDI). Survey control will be horizontally based on Illinois State Plane Coordinate System, NAD '83 (2011) East Zone, vertically based on NAVD 88 from NGS Published Data. EDI will conduct route surveys to locate physical features including pavement differentiated by type and usage, traffic signals, signs and street lighting, as well as public and private utilities. Roadway cross sections will be taken at 50-foot intervals.

Oak Park Avenue Cap Survey

- Oak Park Avenue survey limits: approximately 500 linear feet north of Harrison Street and 500 linear feet south of Garfield including the structure over I-290.
- Harrison Street survey limits: 500 linear feet east and west of S. Oak Park Avenue
- Garfield Street survey limits: 650 linear feet east of and 500 linear feet west of S. Oak Park Avenue.
- S. Grove Avenue and S. Euclid Avenue survey limits: 200 linear feet north of Harrison and 200 linear feet south of Garfield
- Alleys within the limits will be surveyed to 50 feet of the adjacent streets.
- The deck of the S. Oak Park Avenue structure over I-290.

REQUEST FOR PROPOSALS

AECOM CLARIFICATIONS

East Avenue Cap Survey

- East Avenue survey limits: approximately 500 linear feet north of Harrison Street and 500 linear feet south of Garfield including the structure over I-290.
- Harrison Street and Garfield Street survey limits: 500 linear feet west of S. East Avenue to 1,000 linear feet east of S. East Avenue (the east line of S. Elmwood Avenue extended) including the IDOT Traffic Control Center between Harrison and I-290.
- S. Grove Avenue, S. Euclid Avenue, and S. Elmwood Avenue will be surveyed 200 linear feet north of Harrison and 200 linear feet south of Garfield.
- Alleys within the limits will be surveyed to 50 feet of the adjacent streets.
- The deck of the East Avenue structure over I-290.

I-290 and adjacent CTA and rail facilities

EDI plans to utilize LiDAR scanning technology to gather feasibility stage existing conditions of the I-290 mainline, limited structural elements, medians, and rail facilities.

- v. Geotechnical investigation for subsurface structural soil conditions

The new caps will span over active lanes of I-290 (EB and WB) and CTA right-of-way (ROW), which includes four tracks. At the time this estimate was created, it is assumed that the caps will be supported on deep foundations (steel piles or drilled shafts). We assume that preliminarily, piers will be located along the shoulders of I-290, in the median between the EB and WB lanes of I-290, and in the median space between CTA tracks 3 and 4. Based on IDOT geotechnical investigation standards, a boring would normally be advanced at each substructure location.

However, as this is a feasibility-level study, we understand that a full geotechnical investigation is not required at this time. For this reason, we have only included borings at the abutments of the two structures.

- Our drilling subcontractor will obtain public utility clearance through a Joint Underground Locating Information for Excavators (JULIE) request at the proposed boring locations. Our drilling subcontractor will also coordinate with the Village of Oak Park personnel to obtain the appropriate drilling permits and identify if any existing onsite utilities and other below grade structures that might interfere with the selected boring locations are present.
- Mobilize a truck-mounted drill rig to the site to complete four (4) borings, with two (2) borings being completed at each structure location. We anticipate that at each cap location, two of the borings will be located at the abutments on opposite ends of the span on the shoulders of Harrison Street and Garfield Street. Our subcontractor drillers will coordinate with the Village of Oak Park to obtain any needed permits and

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AECOM CLARIFICATIONS

give notification in advance of the soil borings performed. We do not anticipate needing any IDOT permits to perform this work. After boring locations have been approved, we will have an AECOM representative from our Chicago office (or a representative of the drilling subcontractor) field locate each boring prior to the start of drilling operations.

- Advance each of the four borings to a minimum depth of 70 ft or practical refusal, whichever occurs first. Per IDOT requirements, bridge borings should be advanced to a minimum depth suitable to achieve a minimum Nominal Driven Bearing capacity of 500 kips for a 14 in. diameter metal shell pile (per the side resistance and end bearing given in Tables C.3-1 through C.3-9 in Appendix C.3 of the IDOT Geotechnical Manual). (If design loading values are known at the time of drilling, deviation from the 500 kip value is permitted). Borings deeper than the depths noted above may be required to ascertain foundation bearing capacities in accordance with project requirements if suitable bearing soils are not encountered, or the minimum estimated Nominal Driven Bearing capacities are not achieved, prior to the proposed termination depths. If suitable bearing soils are not encountered prior to the proposed termination depths, then the borings will be advanced a minimum of 5 additional feet until suitable bearing soils are encountered, or the minimum estimated Nominal Driven Bearing capacities are achieved. If rock is encountered prior to the termination depths listed, rock coring will be completed in up to two (2) of the boreholes. The price for rock coring is not included in the estimate.
- Obtain representative soil samples at 2.5-foot intervals in the upper 30 feet and at 5-foot intervals thereafter to the planned termination depths of the borings, in accordance with IDOT requirements. Soil samples will be obtained using split-spoon sampling techniques in general accordance with ASTM Standard D 1586. A field geologist or engineer will classify and log the recovered samples. Hand penetrometer and Rimac tests will be performed on the recovered samples in the field.
- Observe soil and groundwater conditions while drilling and sampling and prepare field logs documenting drilling methods, SPT results, soil condition observations, and groundwater measurements.
- Backfill and abandon the boreholes in accordance with Illinois Environmental Protection Agency (IEPA) regulations after completion. The surface of any existing asphalt will be restored with cold asphalt patch.

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- Review and classify the retained samples in general accordance with the Unified Soil Classification System (USCS). Routine visual classification and moisture content tests will be performed on representative samples obtained from the borings, as necessary, and boring logs prepared.
- Prepare a combined Preliminary Geotechnical Engineering letter report that covers both structures, under the direction of a Professional Engineer registered in the State of Illinois. The geotechnical report will describe the subsurface exploration program and provide geologic characterizations of the soil and groundwater conditions encountered in the borings and those expected during construction. The geotechnical report will also include preliminary recommendations for the design of the structure foundations in accordance with the AASHTO LRFD Bridge Design Specifications, 7th edition, published 2014, with 2016 updates, and IDOT requirements. The preliminary recommendations are summarized as follows:
 - a. Bearing capacity (compression and uplift) and settlement estimates for deep foundations;
 - b. Lateral pile analyses (LPILE) parameters for deep foundations;
 - c. Design depths for frost protection;
 - d. Lateral earth pressure parameters and coefficient of sliding friction for design of below grade structures;
 - e. Subgrade preparation procedures;
 - f. Slope stability recommendations;
 - g. Backfill materials recommendations, including placement and compaction requirements, as well as recommendations for the potential re-use of on-site materials as compacted fill;
 - h. Seismic site classification in accordance with the International Building Code; and
 - i. Construction considerations based on the soil and conditions encountered during drilling operations

We do not anticipate any IDOT drilling permits being required for the four abutment borings. Permits for drilling within Oak Park typically take between 1 and 2 weeks. The lead time required for scheduling a drilling subcontractor is approximately 3 weeks at this time. However, these items can be done concurrently. We would start the scheduling and permitting process upon receiving a notice to proceed. At least a 2 day notice is required to obtain JULIE clearance. It should take us approximately 4 working days to complete the field portion and one week to perform the laboratory portion of work for the base scope of services. Preliminary verbal recommendations can be provided as the results of our field and laboratory test programs become available.

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This proposal and cost estimate was developed with the following assumptions:

- The boring locations are accessible via a truck-mounted drill rig and overhead utilities or other structures will not impede the implementation of the scope of work presented within this proposal.
- Per the descriptions above, a boring will not be completed at each proposed substructure location.
- Pricing includes an allowance for drilling permits within Oak Park. No IDOT permits, interstate lane closures, or movement of traffic barriers is included.
- Pricing includes a roadway flagger for drilling along public streets.
- We assume that no environmental impacts will be encountered during our subsurface exploration program.
- Restoration activities other than backfilling the boring, pavement patching, and general cleanup around the drilling site have not been included in the cost to perform the work.
- Subsurface utilities that are present within the work area will be located through JULIE.
- AECOM and its subcontractor will not be responsible for damage to unmarked utilities.
- No soil or water disposal is included in the scope of work. Cuttings and spoils from the drilling activities will be placed in steel drums as needed, and AECOM assumes that these can remain on site.
- No mark-ups have been included for subcontractors.

- vi. Structural analysis to investigate structure type, abutment and pier locations, and develop draft TS&L. This shall be coordinated with IDOT's I-290 reconstruction project to determine opportunities for synergy, construction planning, and avoiding conflicts.

The cap at the East Ave is proposed to be 415' long while the cap at Oak Park Ave is proposed to be 150' in length. The caps are anticipated to support a variety of aesthetic features, including landscaping, recreational and moderate one story commercial establishments. AECOM will perform a feasibility study to determine potential structural solutions for the caps. Due to the large span and anticipated loads, it will be supported on multiple rows of substructure units. The caps will span over active lanes of I-290 (EB and WB) and CTA tracks. We anticipate that piers can be located along the shoulders of I-290, median between EB and WB lanes and median space between CTA tracks 3 and 4. Substructure design will include feasible types and locations of piers/abutments and deep foundations (steel piles or drilled shafts). Crash walls are anticipated to protect the piers adjacent to CTA tracks. AECOM will investigate the possibility of existing retaining walls along the north and south of the expressway to support partial loads from the caps, though separate foundations are more likely. Existing bridge elements most likely will not be utilized to provide any supports to the caps; rather an independent substructure will be proposed. Superstructure options will consider the requirement of minimum vertical clearance over the Expressway and CTA. This feasibility study will

REQUEST FOR PROPOSALS

AECOM CLARIFICATIONS

include preliminary structural analysis to determine superstructure elements that will meet the desired clearances while providing the ability to connect to the existing bridge sidewalks. Substructure elements will have to be selected to keep the footprints as small as possible to minimize impacts to traffic below during construction.

Exclusions:

- Existing bridges at East and Oak Park Avenues and retaining walls along the north and south of the expressway will receive a cursory inspection only. Detailed inspection and load rating/repairs of existing bridge elements are not included in the scope.
- Draft Type, Size and Location (TSL) Plans for the caps will include general plan, elevation and section through critical areas to identify key design elements and minimum vertical clearances. AECOM will coordinate with IDOT, CTA and other affected agencies to obtain their initial input and incorporate their comments; final approvals from these agencies is anticipated to be obtained at a later stage during the Final TSL preparation and not for this feasibility study.

- vii. Determine any right-of-way (ROW) acquisition needed by researching historical title records (including air rights research), performing ALTA surveys, and estimating cost for any ROW acquisition needed.

EDI will survey up to ten (10) parcels for boundary/Right of Way and development of ALTA/NSPS Land Title Surveys, including the IDOT Traffic Control Center between Harrison and I-290. EDI will acquire Title Commitments to base the surveys on. Parent tracts will be surveyed, and Land Acquisition documents including Legal Descriptions will be developed in conformance with Illinois Standards of Practice for Boundary Surveys and signed and sealed by an Illinois Professional Land Surveyor.

Additional budget has been included for ROW acquisition consultation and appraisals (limited by available budget) by Mathewson Right-of-Way Company. ROW acquisition services and negotiation are not anticipated for this effort.

- viii. Determining potential environmental impacts from expanded decking according to NEPA guidelines

EDI will perform an Environmental Survey (Records Phase) in compliance with the Illinois Bureau of Design and Environment Manual Section 24-2.03. A cursory evaluation will be performed to identify the implementation "roadmap" going forward but will not consist of formal NEPA documentation or processing.

- ix. Determining any recommended changes to geometry of adjacent local street network from expanded decking

This assessment will focus on tying in adjacent roadways to proposed improvements and is not anticipated to include substantial roadway corridor concept design more than 500' beyond the anticipated caps.

- x. Determining parking and traffic impacts, needs, and opportunities

AECOM will utilize existing traffic data as available, using ITE trip generation methodology to perform a cursory assessment on the

REQUEST FOR PROPOSALS

AECOM CLARIFICATIONS

from decking and usages	operational capacity of intersections and roadways directly adjacent to the caps. Sophisticated traffic projections and Travel Demand Modeling on a network basis are not anticipated, nor is the preparation of a formal Traffic Impact Study for a potential development.
xi. Determine utility impacts of expanded decking including public and private utility relocation and coordination (such as Village's water and sewer, ComEd, ATT, Nicor, etc.)	EDI will conduct a utility survey collecting rim and invert elevations of public utilities and correlated them with available records. The work will involve identifying utility conflicts and suggesting potential relocations, but will not include the design of, coordinating with or resolution of utility conflicts for future construction.
xii. Determine potential impacts to proposed noise walls along I-290	AECOM anticipates integrating noise wall considerations and aesthetics into the design of Oak Park and East Ave. cap concepts in-kind as designed by the I-290 consultant. This work is not anticipated to include a new noise analysis.
xiii. Economic analysis to provide information about benefits and impacts to surrounding community from planned use	<p>As the AECOM team moves into the analysis of infrastructure and design issues that result in the development of order of magnitude construction costs, AECOM can begin to identify more specific economic and fiscal impacts associated with the project.</p> <p><i>Construction Period Impacts</i> Using standard industry benchmarks tied to input-output models such as IMPLAN, we can estimate construction period spending and the number of construction jobs created over the duration of the project.</p> <p><i>Operating Period Impacts & Fiscal Benefits</i> Based on real estate market analysis findings associated with analysis of the core study area surrounding the Oak Park / East Avenue area conducted during task D.iii, the team will define a series of potential impacts (economic and fiscal) associated with the project. The nature of these impacts will link with decisions made in task D.i regarding preferred revenue streams that might be accessed. Quantification or monetization of potential benefits in a benefit-cost framework in conformance with USDOT grant application guidance (e.g., TIGER grants) is not included but can be prepared upon request.</p>
xiv. Developing detailed architectural renderings of proposed improvements	Renderings will be a combination of 3D images as well as colored plans.
xv. Determining potential long term operating costs	
xvi. Determine preliminary cost estimates for each deck including	

REQUEST FOR PROPOSALS

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design engineering, land acquisition, construction, etc.

D. Oak Park Avenue Expanded Decking

(in addition to items A & B above)

- i. Identifying potential funding mechanisms for construction including evaluating options to create a TIF or public/private partnership

AECOM will work with Village Staff to evaluate fiscal implications associated with additional funding mechanisms and revenue streams that could sustain project construction, which based on experience could include:

- Parking Revenue
- Tax Increment Financing
- Special Assessment Districts
- Storm water impact fee
- Advertising, Sponsorship, and Naming Rights
- Tax on off-street parking
- Event permitting revenue
- Sales Tax / Food & beverage tax
- Zoning and density bonuses
- Rents collected on commercial space developed within the project
- Public-private partnerships
- Other taxes under consideration by Village officials

Discussion of these revenue streams would be tied to broader policy discussions with Village Staff, linked with analysis of Village Comprehensive Annual Financial Statements.

As noted in task C.xiii, AECOM can develop order of magnitude estimates of potential revenue generation associated with the preferred alternative.

Ehlers will perform a TIF eligibility study for a TIF District in the vicinity of the Oak Park Avenue CTA Blue Line Station including feasibility analysis, preparation of redevelopment plan, and adoption of project. Additional budget has been included for Ehlers to perform a Housing Impact Statement/Study if necessary for this project.

- ii. Determine potential uses of expanded decking including commercial building and/or public plaza type spaces

AECOM will review demographic, land use and residential and commercial real estate market trends for a defined study area around the Oak Park & East Avenue site, put in context with Village-wide and regional trends. The intent of the analysis will be to clarify:

- iii. Evaluating economic viability and demand for a development on expanded decking including building size, usage, potential marketability and leasing of commercial spaces

- Local market demographic drivers and income levels
- Trends regarding lease rates and land & building values for residential and commercial uses
- Indications regarding condition and occupancy for existing retail, residential, and commercial buildings.
- Estimation of baseline assessed real estate values within the

REQUEST FOR PROPOSALS

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core study area, in context with Village-wide data; trends over time will be studied.

This focused market analysis will produce real estate performance metrics that will drive subsequent feasibility and impact analysis. AECOM will support team efforts to:

- Determine potential uses of expanded decking including commercial building and/or public plaza type spaces
- Evaluate economic viability and demand for a development on expanded decking including building size, usage, potential marketability and leasing of commercial spaces
- Provide conceptual plans, elevations and 3D sketches of commercial building options.

Outcomes from this task will drive understanding of the order of magnitude program requirements and the need for offsetting revenue streams.

E. East Avenue Expanded Decking (in addition to items A & B above)

- i. Determine potential uses of expanded decking including track and field type usage or other athletic fields and park spaces.
- ii. Identifying potential partnerships for funding and maintaining amenities on surface of deck such as school districts, private schools, or park district for such usages as track and field or athletic fields. Work with these potential stakeholders in the planning process of the expanded decking.
- iii. Conceptual design of preferred alternate of athletic field/park space
- iv. Evaluate if expanded decking would create a tunnel condition with I-290 and determine infrastructure necessary for a tunnel and impacts to IDOT's design of I-290 reconstruction project
- v. Determine opportunities for acquiring ROW from adjacent properties on south side of Harrison Street east of site for

Placement of athletic fields in an assortment of locations and options for Olympics sports such as softball, track, soccer, etc. Includes plan and 3D sketches, sections.

A cursory evaluation based on anticipated tunnel length will be performed with key infrastructure needs identified but not designed.

This proposal includes effort for ROW consultation and appraisal services by Mathewson ROW Company, limited by available budget

REQUEST FOR PROPOSALS

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incorporating into proposed concepts

F. Other Bridge enhancements at Harlem, Ridgeland, Lombard, & Austin (in addition to items A & B above)

- i. Identify aesthetic enhancements to bridges which fit with the surrounding community and the overall I-290 corridor. Conceptual ideas for treatments, or level of investment, were identified in the LOI with IDOT in exhibit 6. (applies to Ridgeland and Lombard)
- ii. Determining potential long term operating and maintenance costs of bridge aesthetic enhancements
- iii. Determine preliminary cost estimates for each bridge aesthetic enhancement including design engineering, land acquisition, construction, etc.
- iv. Determine feasibility, best land usage, and conceptual level cost estimates (per square foot type estimate) for expanded decking opportunities at Ridgeland and Lombard identified in LOI in exhibit 2 to determine if these locations should be considered for further study and development. No subsurface investigation, surveying, or engineering studies at these two locations are included in this scope.
- v. Determine opportunities for utilizing expanded decking opportunities at the Harlem Ave and Austin Blvd bridges identified in exhibit 2 of LOI. Potential options could include solar farms or prairie planting type spaces.

Renderings will be a combination of 3D images as well as colored plans.

This task will leverage the real estate market analysis work conducted in Tasks D.ii and D.iii as a basis for concept development in these locations.

COST ESTIMATE OF CONSULTANTS SERVICES

AECOM

Cap the Ike

Feasibility Study for Expanded Bridge Decking over I-290

Date: November 13, 2017

Village of Oak Park

Engineering Division of the Public Works Department

Overhead Rate (OH) = 135.09%

Complexity (R) =

CPFF = 14.5%[DL + R(DL) + OH(DL) + IHDC]

		HOURS	PAYROLL	OVERHEAD AND FRINGES	IN HOUSE DIRECT COSTS	FIXED FEE	SERVICES BY OTHERS	TOTAL	% OF GRAND TOTAL
1	Overall Corridor Wide Aesthetic Treatments	1,240	59,717	80,671	8,548	21,596		170,531	13.0%
2	Community Coordination	980	54,296	73,349	7,500	19,596		154,741	11.8%
3	Oak Park and East Avenue Decking Feasibility Study	3,800	200,369	270,678	8,011	69,463		548,521	41.7%
	Environmental Design International (Survey and Environmental)						132,993	132,993	10.1%
	Mathewson ROW Company (Appraisal and ROW Services)						20,000	20,000	1.5%
	Strata Earth Services (Geotechnical Drilling)						34,000	34,000	2.6%
	Ehlers (TIF Eligibility and Housing Impact Analysis Services)						60,000	60,000	4.6%
4	Oak Park Avenue Expanded Decking	360	19,116	25,823		6,516		51,455	3.9%
5	East Avenue Expanded Decking	760	34,319	46,362		11,699		92,379	7.0%
6	Other Bridge Enhancements	360	18,696	25,256		6,373		50,325	3.8%
	TOTAL	7,500	\$ 386,512	\$ 522,139	\$ 24,059	\$ 135,243	\$ 246,993	\$ 1,314,946	100.0%

HOOR ESTIMATE AECOM

Cap the Ike
Feasibility Study for Expanded Bridge Decking over I-290

Village of Oak Park
Engineering Division of the Public Works Department

	ITEM DESCRIPTION	CLASSIFICATION and AVERAGE RATE															AECOM HOURS
		PD	PM	TS	PE	PP	PA	SE	SP	SA	E	P	A	ET	PMS		
		70.00	69.47	68.51	59.18	59.18	59.18	56.75	56.75	56.75	39.37	39.37	39.37	40.45	34.80		
A	Overall Corridor Wide Aesthetic Treatments	20	200				120			120			440	240	100	1240	
i	Concept Design						120			120			200			440	
ii	Corridor Renderings												240	240		480	
	Project Management and QA/QC	20	200												100	320	
B	Community Coordination		166	166			156			156		192	72	72		980	
i	Coordination with Village Community Design Commission (5 meetings)		80	80			80			80		80				400	
ii	Coordination with East Ave Stakeholder Group (5 meetings)		40	40			40			40		40				200	
iii	Host Public Open House Meetings (3 meetings assumed)		36	36			36			36		72	72	72		360	
iv	Attendance and Presentation at Village Board Meetings (3 meetings)		10	10												20	
C	Oak Park and East Avenue Decking Feasibility Study		40	724	730	32	168	390	4	164	570	64	604	310		3800	
i	Coordination with CTA on Blue Line Vision Study		40	20	20											80	
ii	Aesthetic Treatments			320			120			120			240			800	
iii	Environmental Sustainability						20			20			40			80	
iv	Topographic Survey (by EDI)										20					20	
v	Geotechnical Investigation			20	20			50			40			70		200	
vi	Structural Analysis and Draft TS&L			240	600			240			400			80		1560	
vii	ROW acquisition title research, survey, and estimated cost (by EDI)																
viii	Potential environmental impacts per NEPA (by EDI)																
ix	Changes for roadway geometry, adjacent local street network			10	40			40			40					130	
x	Parking and traffic impacts, needs, opportunities			20				40			40					100	
xi	Utility impacts, public and private (by EDI)																
xii	Potential impacts to proposed noise walls along I-290			40	20			20								80	
xiii	Economic analysis on benefits and impacts to surrounding community			16		24						60				100	
xiv	Develop renderings of proposed improvements												320	160		480	
xv	Potential long term operating costs			8		8	8		4	4		4	4			40	
xvi	Preliminary cost estimates for each deck			30	30		20			20	30					130	
D	Oak Park Avenue Expanded Decking			156		20						184				360	
i	Identify potential funding mechanisms (TIF, PPP)			20		20						60				100	
ii	Determine potential uses of expanded decking			16								24				40	
iii	Evaluate economic viability and demand for development			120								100				220	
E	East Avenue Expanded Decking			60	12	12	44	8	12	40		12	320	240		760	
i	Determine potential uses of expanded decking			4	4	4	4		4			4				24	
ii	Identify potential partnerships for funding and maintenance			4		4			4			4				16	
iii	Concept design of athletic field / park space			40			40			40			320	240		680	
iv	Evaluate potential tunnel condition for I-290 and impacts			8	8			8								24	
v	Determine opportunities to acquire and incorporate adjacent ROW			4		4			4			4				16	
F	Other Bridge Enhancements			32	8	16	80		8	80	8	16	112			360	
i	Identify aesthetic enhancements						40			40			80			160	
ii	Potential long term operating and maintenance costs of aesthetics			8			16			16			16			56	
iii	Preliminary cost estimates for each enhancement			8			16			16			16			56	
iv	Feasibility, best land usage, concept level cost estimates for Ridgeland and Lombard to assess for further study			8		8	8			8	8	8				48	
v	Potential opportunities for expanded deck on Harlem and Austin			8	8	8			8			8				40	
TOTAL		20	406	1138	750	80	568	398	24	560	578	468	1548	862	100	7,500	

AVERAGE HOURLY PROJECT RATES

FIRM AECOM
CLIENT Village of Oak Park
Project Cap the Ike

DATE 11/13/17

SHEET 1 OF 2

PAYROLL CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJECT RATES			Overall Corridor Wide Aesthetics			Community Coordination			Oak Park and East Avenue Decks			Oak Park Avenue Expanded Deck			East Avenue Expanded Deck		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Project Director (PD)	70.00	20	0.27%	0.19	20	1.61%	1.13	0			0			0			0		
Project Manager (PM)	69.47	406	5.41%	3.76	200	16.13%	11.20	166	16.94%	11.77	40	1.05%	0.73	0			0		
Technical Specialist (TS)	68.51	1138	15.17%	10.40	0			166	16.94%	11.60	724	19.05%	13.05	156	43.33%	29.69	60	7.89%	5.41
Project Engineer (PE)	59.18	750	10.00%	5.92	0			0			730	19.21%	11.37	0			12	1.58%	0.93
Project Planner (PP)	59.18	80	1.07%	0.63	0			0			32	0.84%	0.50	20	5.56%	3.29	12	1.58%	0.93
Project Architect (PA)	59.18	568	7.57%	4.48	120	9.68%	5.73	156	15.92%	9.42	168	4.42%	2.62	0			44	5.79%	3.43
Senior Engineer (SE)	56.75	398	5.31%	3.01	0			0			390	10.26%	5.82	0			8	1.05%	0.60
Senior Planner (SP)	56.75	24	0.32%	0.18	0			0			4	0.11%	0.06	0			12	1.58%	0.90
Senior Architect (SA)	56.75	560	7.47%	4.24	120	9.68%	5.49	156	15.92%	9.03	164	4.32%	2.45	0			40	5.26%	2.99
Engineer (E)	39.37	578	7.71%	3.03	0			0			570	15.00%	5.91	0			0		
Planner (P)	39.37	468	6.24%	2.46	0			192	19.59%	7.71	64	1.68%	0.66	184	51.11%	20.12	12	1.58%	0.62
Architect (A)	39.37	1548	20.64%	8.13	440	35.48%	13.97	72	7.35%	2.89	604	15.89%	6.26	0			320	42.11%	16.58
Engineering Technician, Design	40.45	862	11.49%	4.65	240	19.35%	7.83	72	7.35%	2.97	310	8.16%	3.30	0			240	31.58%	12.77
PM Support (PMS)	34.80	100	1.33%	0.46	100	8.06%	2.81	0			0			0			0		
TOTALS		7500	100%	\$51.53	1240	100%	\$48.16	980	100%	\$55.40	3800	100%	\$52.73	360	100%	\$53.10	760	100%	\$45.16

AVERAGE HOURLY PROJECT RATES

FIRM	AECOM
CLIENT	Village of Oak Park
Project	Cap the Ike

DATE 11/13/17

SHEET 2 **OF** 2

PAYROLL CLASSIFICATION	AVG HOURLY RATES	Other Bridge Enhancements																	
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Project Director (PD)	70.00	0																	
Project Manager (PM)	69.47	0																	
Technical Specialist (TS)	68.51	32	8.89%	6.09															
Project Engineer (PE)	59.18	8	2.22%	1.32															
Project Planner (PP)	59.18	16	4.44%	2.63															
Project Architect (PA)	59.18	80	22.22%	13.15															
Senior Engineer (SE)	56.75	0																	
Senior Planner (SP)	56.75	8	2.22%	1.26															
Senior Architect (SA)	56.75	80	22.22%	12.61															
Engineer (E)	39.37	8	2.22%	0.87															
Planner (P)	39.37	16	4.44%	1.75															
Architect (A)	39.37	112	31.11%	12.25															
Engineering Technican, Des	40.45	0																	
PM Support (PMS)	34.80	0																	
TOTALS		360	100%	\$51.93	0	0%	\$0.00	0	0%	\$0.00	0	0%	\$0.00	0	0%	\$0.00	0	0%	\$0.00

PAYROLL ESCALATION TABLE
ANNIVERSARY RAISES

FIRM NAME PRIME/SUPPLEMENT	<u>AECOM</u>		DATE	11/13/17
	<u>Prime</u>			
CONTRACT TERM START DATE RAISE DATE	<u>12</u> MONTHS		OVERHEAD RATE	<u>135.09%</u>
	<u>12/1/2017</u>		COMPLEXITY FACTOR	<u>0</u>
	<u>ANNIVERSARY</u>		% OF RAISE	<u>3.00%</u>

ESCALATION PER YEAR

DETERMINE THE MID POINT OF THE AGREEMENT

6

CALCULATE THE ESCALATION FACTOR TO THE MIDPOINT OF THE CONTRACT

1.50%

The total escalation for this project would be: 1.50%

PAYROLL RATES

FIRM NAME
PRIME/SUPPLEMENT
PTB NO.

AECOM	DATE
Prime	
Cap the Ike	

DATE 11/13/17

ESCALATION FACTOR	1.50%
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[illegible]

COMPANY NAME: AECOM

PTB NUMBER: **Village of Oak Park, Cap the Ike**

TODAY'S DATE: **11/13/2017**

ITEM	ALLOWABLE	UTILIZE W.O. ONLY	QUANTITY J.S. ONLY	CONTRACT RATE	TOTAL
Per Diem (per GOVERNOR'S TRAVEL CONTROL BOARD)	Up to state rate maximum		12	\$215.00	\$2,580.00
Lodging (per GOVERNOR'S TRAVEL CONTROL BOARD)	Actual cost (Up to state rate maximum)			\$0.00	\$0.00
Lodging Taxes and Fees (per GOVERNOR'S TRAVEL CONTROL BOARD)	Actual cost			\$0.00	\$0.00
Air Fare	Coach rate, actual cost, requires minimum two weeks' notice, with prior IDOT approval		12	\$436.00	\$5,232.00
Vehicle Mileage (per GOVERNOR'S TRAVEL CONTROL BOARD)	Up to state rate maximum		300	\$0.535	\$160.50
Vehicle Owned or Leased	\$32.50/half day (4 hours or less) or \$65/full day			\$0.00	\$0.00
Vehicle Rental	Actual cost (Up to \$55/day)		5	\$55.00	\$275.00
Tolls	Actual cost			\$0.00	\$0.00
Parking	Actual cost			\$0.00	\$0.00
Overtime	Premium portion (Submit supporting documentation)			\$0.00	\$0.00
Shift Differential	Actual cost (Based on firm's policy)			\$0.00	\$0.00
Overnight Delivery/Postage/Courier Service	Actual cost (Submit supporting documentation)		10	\$30.00	\$300.00
Copies of Deliverables/Mylars (In-house)	Actual cost (Submit supporting documentation)		1,000	\$1.50	\$1,500.00
Copies of Deliverables/Mylars (Outside)	Actual cost (Submit supporting documentation)		1,000	\$3.00	\$3,000.00
Project Specific Insurance	Actual cost			\$0.00	\$0.00
Monuments (Permanent)	Actual cost			\$0.00	\$0.00
Photo Processing	Actual cost			\$0.00	\$0.00
2-Way Radio (Survey or Phase III Only)	Actual cost			\$0.00	\$0.00
Telephone Usage (Traffic System Monitoring Only)	Actual cost			\$0.00	\$0.00
CADD	Actual cost (Max \$15/hour)			\$0.00	\$0.00
Web Site	Actual cost (Submit supporting documentation)			\$0.00	\$0.00
Advertisements	Actual cost (Submit supporting documentation)		3	\$500.00	\$1,500.00
Public Meeting Facility Rental	Actual cost (Submit supporting documentation)			\$0.00	\$0.00
Public Meeting Exhibits/Renderings & Equipment	Actual cost (Submit supporting documentation)		3	\$2,000.00	\$6,000.00
Recording Fees	Actual cost			\$0.00	\$0.00
Transcriptions (specific to project)	Actual cost			\$0.00	\$0.00
Courthouse Fees	Actual cost			\$0.00	\$0.00
Storm Sewer Cleaning and Televising	Actual cost (Requires 2-3 quotes with IDOT approval)			\$0.00	\$0.00
Traffic Control and Protection	Actual cost (Requires 2-3 quotes with IDOT approval)			\$0.00	\$0.00
Aerial Photography and Mapping	Actual cost (Requires 2-3 quotes with IDOT approval)			\$0.00	\$0.00
Utility Exploratory Trenching	Actual cost (Requires 2-3 quotes with IDOT approval)			\$0.00	\$0.00
Testing of Soil Samples*	Actual cost		1	\$0.00	\$0.00
Lab Services*	Actual cost (Provide breakdown of each cost)		1	\$3,511.00	\$3,511.00
Equipment and/or Specialized Equipment Rental*	Actual cost (Requires 2-3 quotes with IDOT approval)			\$0.00	\$0.00
Geotechnical Drilling (70' borings)			4	\$8,500.00	\$34,000.00
TIF eligibility services			1	\$50,000.00	\$50,000.00
Housing Impact Analysis			1	\$10,000.00	\$10,000.00
Appraisal and ROW services			1	\$20,000.00	\$20,000.00
				\$0.00	\$0.00
				\$0.00	\$0.00
				\$0.00	\$0.00
				\$0.00	\$0.00
				\$0.00	\$0.00
TOTAL DIRECT COST					\$138,058.50

*If other allowable costs are needed and not listed, please add in the above spaces provided.

LEGEND

W.O. = Work Order

J.S. = Job Specific



About AECOM

AECOM is built to deliver a better world. We design, build, finance and operate infrastructure assets for governments, businesses and organizations in more than 150 countries. As a fully integrated firm, we connect knowledge and experience across our global network of experts to help clients solve their most complex challenges. From high-performance buildings and infrastructure, to resilient communities and environments, to stable and secure nations, our work is transformative, differentiated and vital. A Fortune 500 firm, AECOM had revenue of approximately \$17.4 billion during fiscal year 2016. See how we deliver what others can only imagine at aecom.com and [@AECOM](https://twitter.com/AECOM).

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