

Hardik R. Shah, PE, PTOE

National Practice Director / Group Leader

American Structurepoint, Inc.

July 2005 ~ Present



BRIEF BIO

Hardik is a well-rounded expert in traffic / transportation engineering and an outside-the-box thinker for innovative and value engineering mobility and safety solutions with 21 years of industry experience. He is actively involved with the design, development, and management of transportation engineering and safety services for public and private sector clients. Hardik has provided technical expertise on over 500 transportation projects, including transportation planning, safety studies, operations analysis, traffic simulation and modeling, traffic signals, signal timing and operations, signal and signal systems design, roundabout analysis and design, highway lighting, signing, and roadway design.

EDUCATION

Purdue University, West Lafayette, IN, USA

- M.S. in Civil Engineering (Transportation), 2005
- M.S. in Civil Engineering (Construction Materials), 2004

Nirma University, India

- B.S. in Civil Engineering (Construction Technology and Management), 2002

LICENSE & CERTIFICATIONS

- Professional Engineer (PE) License: IN, OH, MI, GA, KY, VA, TX
- Professional Traffic Operations Engineer (PTOE) Certification by TPCB of ITE

PROFESSIONAL EXPERIENCE – MANAGEMENT AND TECHNICAL ROLE

USDOT Safe Street for All (SS4A) – Comprehensive Safety Action Plan Development (Safety and Planning Study)

Client: Various Local Public Agencies in Indiana and Ohio

- Technical advisor and PIC on Safety Action Plans developed for various local agencies in Indiana and Ohio
- Guided agencies through the safe systems approach principles in identifying high impact low cost safety solutions to enhance safety for all users in these communities
- Led the grant application process both for the planning and implementation grants for numerous communities
 - Managed ~\$7.5M of planning grants
 - Assisted in submission of ~\$40M in implementation grants for various communities
 - Secured ~8M in SS4A implementation grants for couple communities

Keystone Parkway Corridor, Carmel, IN (Construction Cost: \$130M+)

Client: City of Carmel

- Involved with the traffic planning portion of this national multiple award-winning corridor project.
- Evaluated the feasibility of converting six high traffic volume at-grade intersections into elevated grade- separated tight double teardrop roundabout interchanges.
- Performed traffic modeling in VISSIM for the entire corridor to evaluate roundabout capacities and to visualize the design year peak operations for display at public meetings as well as in progress meetings with the City Mayor and his engineering staff.

I-69 Section 6 Contract 5 Design-Build, Indianapolis, IN, USA (Cost: \$1.5B ±)

Client: INDOT, Walsh-Milestone Construction Joint Venture

- Provided value engineering on several complex interchange concepts during the pre-bid technical proposal stage of the project that helped identify cost savings in the range of \$10-15M which reduced the overall project cost to make this a winning project for our design-build team.
- Appointed as the Traffic Design Lead as well as engineer of the record (EOR) for signals, lighting and signing design services on the entire project.

I-66 Transform66 Outside the Beltway P3, Fairfax, VA, USA (Cost: \$3.7B ±)

Client: VDOT, Ferrovial Construction US & Canada and Allan Myers, VA Joint Venture

- Provided value engineering on several complex interchange concepts during the pre-bid technical proposal stage of the project that helped identify cost savings in the range of \$15-20M which reduced the overall project cost to make this a winning project for our P3 consortium.
- Appointed as the Traffic Design Lead as well as engineer of the record (EOR) for signals, ITS and signing and pavement marking design services on the Structurepoint led ~\$1.2 billion 8-mile segment on this project.

Ohio River Bridges East End Crossing, Utica, IN, USA (P3 Project, Cost: \$2.1B±)

Client: INDOT, IFA, Jacobs, Walsh & Vinci Construction

- Provided value engineering on a complex interchange concept during the pre-bid technical proposal stage of the project that helped identify cost savings in the range of \$8-10M which reduced the overall project cost to make this a winning project for our concessionaire team.
- Participated in the high-level 1-1 meetings with the public agency staff during the confidential discussions on “Alternative Technical Concepts” proposed by our team.
- Appointed as the Traffic Design Lead on a Section of the project and managed all traffic design services on the project.
- Provided technical support to the owners for series of public information meetings held on the project throughout its planning, design and construction phase. Prepared information for the owners to debrief the state legislatures and political leaders who requested a status update on this largest project in the state.

I-65/I-465 Interchange Reconstruction, Indianapolis, IN, USA (Construction Cost: \$50M+)

Client: INDOT

- Helped with the technical writeup and project approach on this winning project proposal.
- Involved as lead traffic engineer to provide value engineering ideas for the proposed interchange modifications on this busiest system to system interchange in the metro Indianapolis area.
- Performed IJ Study to get necessary approval from FHWA for the proposed modifications.
- Developed VISSIM simulation model for the complex interchange to evaluate traffic capacities.
- Helped identify the need for a critical capacity addition that wasn't included in the initial project scope which could result in traffic bottleneck on opening day despite the multi-million dollars spent. Managed to present the problem and corresponding impacts to the leadership at INDOT which resulted in some additional capital funds being added to the project.

Wishard Hospital Replacement, Indianapolis, IN, USA (Construction Cost: \$750M+)

Client: Wishard Hospital, HOK Architects

- Involved as project manager on a small \$30K preliminary master planning study and identified opportunity for the traffic group to work on the next phase of the comprehensive traffic study for this project which led to an additional ~\$120K in traffic services.
- Worked closely with business development team to foresee opportunity for other departments in the company to provide design services on this project which led to additional ~\$1M of engineering design for the company.

State Street Redevelopment Project (Traffic Study, P3 Project, Cost: \$120M)

Clients/Owners: Purdue University & City of West Lafayette

- Lead project manager responsible for generating a comprehensive traffic circulation plan synthesis report for the Purdue University Campus with the main goal to synthesize results and recommendation of numerous previous traffic studies that have been done for and around the university campus over the past decade.
- Recommendations from the study were instrumental in defining budget for the project, and helped the co-owners (Purdue and City) make a prudent decision on the future multi-modal transportation improvements and associated funding for implementation to enhance the roadway network surrounding the campus and to help create a much needed gateway to the university campus under a public private partnership procurement model with complete streets design philosophy.
- Key technical player involved throughout the initial scope development of the project under the front end P3 procurement consulting services for the owners working very closely with lead consultant's team (Parsons).

Anson Development Planning Study (Approx. 1,700 Acres of Proposed Mixed-Use Development), Boone County, IN

Client: Duke Properties

- Lead technical expert responsible for evaluating the proposed new transportation system for this large transportation planning study for 1,700 acres of mixed-use development.
- Assisted in writing technical reports for the comprehensive traffic analysis performed as the development moved from one phase to another and led coordination meetings between developer, INDOT, Boone County and Whitestown.
- Identified need for upgrades to two existing interchanges along I-65 and potential for a new mid-point interchange to accommodate future growth and economic development in the area.

Traffic Signal Timings and Re-Timings Plan On-Call Services, Indianapolis, IN, USA (Multi-year contract varies in contract amount)

Client: City of Indianapolis

- Involved as project engineer/manager on development of new signal timings plan for any new signals installed within the City of Indianapolis signal system as well as signal re-timings for existing signals along city's arterial or downtown signal system corridors (varies from 100-200 signals in a given year)
- Development of plans for interconnecting new signals to the signal systems using fiber optic and wireless communications as applicable along the corridor.

HONORS, AWARDS AND LEADERSHIP ROLES

- **ITE Leadership Roles**
 - ITE Private Sector Council, Executive Committee, Vice-Chair – 2018 ~ 2025
 - Contributed to development of Consultant Council Strategic Plan, Action & Communications Plan, ITE Developing Trends Report
 - Judging of Council Sandbox Competition & Council Impact Award
 - Liaison to Industry Council and Public Agency Council for collaboration opportunities on ITE Products
 - ITE International Board of Director (2015-2017)
 - Served on various ITE committees during the 3-year term on IBOD as the Great Lakes District Director: Nominations Committee, Budget & Finance Committee, Advocacy Committee, Awards Committee (Judging projects, research papers and professionals for ITE Awards), International Board Procedures Review Committee, Strategic Plan Committee, Various Member Service Committees, Councils, Task Force/Liaison and Administrative Committees; LAC Member for 2018 ITE Annual Meeting in Minneapolis
 - ITE Great Lakes District Director Executive Board (2015~2017)
 - Introduced collaborative approach with other organizations to improve member experience to make district annual meetings more engaged and profitable
 - Improved student engagement and helped initiate several new student chapters within the district. Introduced new scholarship funding structure for students that increased support level from \$7,500 to \$10,000
 - Helped increase membership by 15%
 - ITE Indiana Section Board Member (2009~2014)
 - Served in various leadership roles including being Indiana Section President in 2013
 - Helped improve sponsorship structure and revamped section website
 - ITE Purdue Student Chapter Member (2004~2005)
 - Served as Social Committee Chair
- **ITE Honors & Awards**
 - 2022 ITE Great Lakes District (8 states region) Transportation Professional of the Year
 - 2021 Inaugural ITE Indiana Section Transportation Professional of the Year
 - 2010 Transportation Consultant Council (TCC) Young Professional Scholarship Award Recipient
- ITE Private Sector Council (Formerly “Consultants Council”), Member – 2005 ~ Present
- Invited to represent ITE on the joint ASCE / ITE Legislative Fly-in to discuss Transportation Funding Issues at Capitol Hill (2015)
- Appointed on various ITE International Committees (2008~present)
- Invited by ITE International CEO to serve on a select Task Force “ITE Membership Task Force” (2013)
- Next Level Leader Inaugural Program at American Structurepoint Leadership Academy (2024-2025)
- Blood Cancer United Indiana Visionary Leadership Team Member (2024-Present)
- IndyGo Foundation Board Member (2026-2028)
- Invited to ASCE Legislative Fly-in to discuss Transportation Funding Issues at Capitol Hill (2024)
- 2019 ENR Midwest (11 states region) Top Young Professionals Top 20 under 40
- Graduate of Lasting Leadership Program by Creating Leaders, Inc (2020)
- Graduate of Engineering Leadership Class of ACEC Indiana (2018-2019)
- Elected as President of Association of Transportation Professionals of Indian Origin (ATPIO) (2011 & 2012)
- Invited Delegate on a high-level International Transportation Systems Professional Delegation to India organized by AASHTO Executive Director John Horsley (2009)
- Selected for the 6th Annual Applied Management Principles Program (AMP) organized by Krannert School of Management, Purdue University (2003)
- Received the Purdue Graduate Student Government (PGSG) \$1,000 Travel Grant Award to attend a technical conference in India (2003)

AFFILIATIONS

- Institute of Transportation Engineers (ITE), International, District and Indiana Section Member
- Transportation Research Board (TRB), Member
 - Affiliated w/several TRB Committees: Congestion Pricing Committee, Roundabout Committee, Joint P3 Subcommittee
- American Society of Civil Engineers Association (ASCE), Associate Member
- Transportation and Development Institute (Affiliated with ASCE), Member
- Construction Institute, Member
- Association of Transportation Professionals of Indian Origin (ATPIO), Member
- Chi Epsilon, Civil Engineer Honor Society
- American Concrete Institute (ACI), Past Member

PUBLICATIONS AND PRESENTATIONS

- Shah H., “USDOT Funded Safe Streets and Roads for All (SS4A) Grant Program Success for Local Agencies”, Presented at TxDOT Safety Conference, Dallas, July 2026
- Technical presentation on various engineering and management topics at various ITE and TRB conferences between 2006 and 2026.
- Driving Home a Long-Term Transportation Funding Solution in Indiana, Representative Ed Soliday, Hardik Shah, Steven J Davidson, and Chris Murphy, ITE Journal, November 2017
- Wei, T., Shah H., and Ambadipudi, R., “VISSIM Calibration for Modeling Single-Lane Roundabouts: Capacity- Based Strategies”, Published and Presented at 91st Annual Transportation Research Board Meeting, Washington DC, January 2012.
- Wei, T., Shah H., and Ambadipudi, R., “VISSIM Calibration for Modeling Roundabouts: Practical Guidance”, Presented at 3rd International Conference on Roundabouts, Carmel, Indiana, 2011.
- Wei, T., Grenard, J., and Shah H., “Developing Capacity Models for Local Roundabouts: A Streamlined Process”, Presented at 90th Annual Transportation Research Board Meeting, Washington DC, January 2011 and 3rd International Conference on Roundabouts, Carmel, Indiana, May 2011.
- Shah, H., “Using Microscopic Simulation Model for Roundabout Interchanges Design in Carmel, Indiana”, Project Presented at the TRB Traffic Simulation Workshop in Graz, Austria, June 2008
- Sinha K. C., Labi, S., Rodriguez, M., and Shah, H., “A Performance – Based Approach for Estimating Bridge Preservation Funding Needs”, Published and Presented at 85th Annual Transportation Research Board Meeting, Washington DC, January 2006.
- Shah, H. R., and Weiss, W. J., “Quantifying Shrinkage Cracking in Fiber Reinforced Concrete Using the Ring Test,” Published at RILEM Concrete Science and Engineering Journal, December 2005
- Shah, H., Labi, S., and Sinha, K.C., “Alternatives to Motor Fuel Tax”, A Proposal Presented and Accepted at the Joint Transportation Research Program (JTRP) at Purdue University, December 2004 (Project Proposal: \$100,000)
- Hodge, S., Tine, G., Shah, H., Labi, S., and Sinha, K.C., “An Assessment of Highway Financing Needs in Indiana”, A project report published in the Joint Transportation Research Program (JTRP), June 2005
- Pease, B. J., Shah, H. R., and Weiss, W. J., “Shrinkage Behavior and Residual Stress Development in Mortar Containing Shrinkage Reducing Admixture (SRA’s),” A paper invited for ACI - Special Publication on Concrete Admixtures, April 2005
- Pease, B. J., Shah, H. R., Hossain, A. B., and Weiss, W. J., “Restrained Shrinkage Behavior of Mixtures Containing Shrinkage Reducing Admixtures and Steel Fibers,” A paper Invited for Publication in the proceedings of International Conference on Advances in Concrete Composites and Structures, Chennai, India, January 2005, pp. 265-274
- Shah, H., Weiss, W. J., “ Using the Restrained Ring Test in Conjunction with Acoustic Emission to Quantify the Role of Steel Fibers in Shrinkage Cracking Mitigation”, A paper invited for presentation and publication in the proceedings of Conference on Fiber Composites, High-Performance Concretes, and Smart Materials organized by

International Center for Fiber Reinforced Concrete (ICFRC), Chennai, India, January 2004, pp.99-111

- Hossain, A. B., Shah, H., Weiss, W. J., "The Restrained Shrinkage Behavior of Specimens Containing a Shrinkage Reducing Admixture and Fiber Reinforcement as Assessed Using the Ring Test", A paper accepted for presentation and publication at ASTM Symposium on Assessing Early-Age Cracking of Concrete, December 2003, Tampa, Florida
- Shah, H., Hossain, A. B., Mazzotta, G., Weiss, W. J., "Time-Dependent Fracture in Restrained Concrete: The Influence of Notches and Fibers", A paper presented and published in the proceedings of "Advances in Cement and Concrete IX: Volume Change, Cracking and Durability", August 2003, Copper Mountain, Colorado
- Shah, H., and Vyas, A., "Model to Simulate the Effect of Earthquake" Presented in a Software competition organized by IIT-Kanpur and National Instruments, Bangalore, India, October 2001

PRESENTATIONS AS INVITED SPEAKER

- Shah, H., and Grenard, J., "Ohio River Bridges Project Update: SR 62/SR 265 Interchange Modeling, Analysis and Operations", ITE Indiana Section Purdue Road School Banquet 2015.
- Shah, H., and Grenard, J., "Railroad Preemption near Roundabouts: Case Studies" WTS Indiana Chapter Technical Banquet 2015.
- Shah, H., "Roundabout – A Traffic Calming Technique", Invited by Purdue Extension Land-Use Planning Team to Speak at the Part II: Transportation Planning and Traffic Calming Educational Program Aired from Purdue University to all 92 Counties in State of Indiana, June 21, 2007, West Lafayette, Indiana
- Shah, H., "Signalized Intersections Countermeasures", Invited by Indiana Local Technical Assistance Program (IN-LTAP) to Speak at the Intersection Safety Workshop Organized for Consultants and Public Agencies in State of Indiana, July 13, 2006, Lafayette, Indiana

RELEVANT TRAINING / WORKSHOPS / CONFERENCES

ITE Annual Meetings and Technical Conferences (2005 ~ Present)

TRB Annual Meeting and Conference (2003~Present)

Purdue Road School Conference (2003~Present)

Creating Leaders Training

Dale Carnegie Training

Various Technical and Project Management Bootcamp Trainings