

• NEXT STEP •

Advice from Young Engineers Moving Forward in Their Careers

Round Out the Technical Skills With Personal Creativity

MOSTAQR RAHMAN, Ph.D., P.E., M.ASCE, is passionate about pavement. “I always wanted to contribute to the community by working in the transportation industry,” he says. His education led him toward improving the way states investigate, log, maintain, and improve their pavements. This is why it might surprise some to learn about his second passion: writing. His theory is that by maintaining a balance between the technical and the creative, his contributions to his company, his career, and his clients will be all the richer.

What are the new responsibilities that come with your promotion?

My primary responsibilities previously included pavement field-testing, engineering calculations and designs, and preparing proposals and reports. I spent a lot of time in the field. My new position builds on all that but also includes managerial tasks, such as proposal writing, budgeting, scheduling, reporting, and managing internal and external clients.

What are the chief skills and abilities that you developed in your previous position that enabled you to move into this new position?

One particularly valuable experience I had was performing pavement condition surveys and assessments. I recommended alternative preservation, rehabilitation, and maintenance activities to the owners, who were subdivisions, cities, and counties in North Carolina, South Carolina, Georgia, and Tennessee.

I also contributed to their five- and ten-year maintenance plans and budgets. Those skills and abilities in pavement evaluation and management helped me to achieve my new position.

What personal traits or characteristics do you believe helped you win this new position?

Civil engineering is kind of a family trait. My father is an executive engineer at the Department of Public Health Engineering in Bangladesh, which is responsible for providing

and maintaining water and sewage lines. I have always admired his commitment, discipline, and honesty.

I also believe that my ability to embrace new ideas and maintain a good relationship with my coworkers and clients helped me. I love working with our clients, and I love being able to serve our community.

What technical skills helped you achieve this position?

I always like to learn new software programs and technologies. Two that have been helpful are AASHTOWare Pavement ME Design, and another is PAVER. Pavement ME is very effective software for mechanistic-empirical pavement design, and it is continually updated by experts from state transportation agencies across the nation. PAVER is a pavement management program that I have used for large and small clients to improve their pavement inventory databases, assess the current condition of their pavements, create models to predict future conditions, and plan future projects.

What nontechnical skills helped you achieve this position?

I have served on many technical committees in such organizations as the Transportation Research Board, ASCE, and ASCE's Geo-Institute. These positions taught me leadership skills and have given me an opportunity to talk with experts in various fields from around the country that I otherwise might not get a chance to meet.

How did your education—formal or informal—help you prepare for this position?

I have dedicated much of my education to pavement design and management. I received my bachelor's degree from Bangladesh University of Engineering and Technology in civil engineering with a focus on transportation. I received my master of science from the University of New Mexico [UNM] and completed my Ph.D. from the University of South Carolina [USC], both in civil engineering with a focus on pavement design and management.

And prior to joining S&ME, I worked as a postdoctoral fellow at USC for about three months, contributing to the state's mechanistic-empirical pavement design guide.

In terms of an informal education, while working on some of the research projects at USC and UNM, I gained strong writ-



**Mostaqur Rahman,
Ph.D., P.E., M.ASCE**

EMPLOYER
S&ME Inc., Columbia,
South Carolina, office

NEW TITLE
Project Engineer II/
Pavement Engineer

PREVIOUS TITLE
Staff Professional II/
Geotechnical Staff
Professional

ing skills. I helped my Ph.D. adviser to write multiple project proposals, and because of one of them, USC received \$1.8 million in funding from the state and federal departments of transportation.

What role did mentors, advisers, or your network play in your achievement?

I'll be always thankful to my undergrad supervisor, Jobair Bin Alam, Ph.D., who influenced me to become a pavement engineer. Another influential mentor was my Ph.D. supervisor, Sarah Gassman, Ph.D., P.E., M.ASCE. Her guidance and support helped me to acquire a variety of academic skills. And two friends, Ariful Bhuiyan, Ph.D., and Jayson Jordan, P.E., M.ASCE, helped me to connect with S&ME.

As an employee of S&ME, I have had the chance to work with some tremendous leaders who are continually influencing me to acquire professional and organizational skills, including Shannon Sweitzer, P.E., the vice president and director of the transportation busi-

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ness unit; Stewart Laney, P.E., the vice president and design-build area manager; and my direct supervisor, Vladimir Mitchev, P.E., M.ASCE, who has a lot of experience and is a great person.

Finally, as a civil engineer, I am inspired by F. R. Khan, who was a Bangladeshi American structural engineer and a pioneer in computer-aided design. One of his signature works was the Sears Tower [now the Willis Tower] in Chicago. One of my favor-

ite quotes from him is: "The technical man must not be lost in his own technology. He must be able to appreciate life, and life is art, drama, music, and most importantly, people."

What would your coworkers be surprised to learn about you?

I am a writer. I write poetry, songs, and short stories. I published two poetry books, in 2003 and 2015, and I have my own blog for poetry, all in my native language. I am now working on my first storybook. I write about nature, human relations, travel, humor, satire, and sports.

What advice would you give to other young engineers who would seek positions similar to yours?

Work hard and love what you do. It sounds cliché, but it works. Do the best you can do and try to exceed all expectations. Keep your promises and make your deadlines. Underpromise and overdeliver. And pursue your passion. Those who do what they love end up doing a better job than those who do not.

Communication skills are also a must. The more clearly and effectively you can communicate, the more people will want to work with you. Take time to talk to others and be genuine in your interactions. Speak up and ask questions, make suggestions, and periodically check in with your boss.

Also, try to get involved in as many technical committees and volunteer opportunities as you can. Volunteer leadership responsibilities in organizations like ASCE will enhance your career a lot.

Finally, maintaining a good work-life balance is essential to your productivity at work. Creative work, exercise, and hobbies make you a more valuable employee. I like to play cricket, racquetball, and the violin, and I believe those help me to be more productive at work.

What do you hope to accomplish in this position?

I would like to play a role in improving pavements in South Carolina and

managing more large projects in the southeast region. I also have an interest in marketing and business development. I plan to go for a master of business administration degree after a few more years of experience.

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Where do you think the field of civil engineering is headed in the next five to ten years, and where would you like to see it go?

I think the field of civil engineering is headed toward more mechanistic design and automation in construction. I would like to see one hundred percent connected vehicles on our roads to significantly increase safety.

As a pavement engineer, I would like to see notable improvements in materials and better implementation of the new materials we have now to reduce the life-cycle costs of our road pavements significantly.

—LAURIE A. SHUSTER

Are you a younger member who has recently taken the next step in your career? We'd like to hear from you. Email cemag@asce.org using the subject line "Next Step."