Transit tunnels typically exist because there is a demonstrated need to move people when no other mean is practical or applicable, or to make the required movement more direct, more quickly, or less obtrusively. Such has become the case in Nashville, where growth in downtown Nashville over the next 5-7 years is expected to cause downtown office space to increase nearly three-fold, double the number of downtown workers, and triple the number of residents. Furthermore, traffic in and around the area is only expected to increase in the short-term.

The proposed downtown tunnel, part of a $5.4B transit plan, would create downtown capacity, improve reliability and travel time for the overall transit system, and reduce congestion from the city streets. While the traveling public typically sees the tunnel as a hole in the ground that carries the trains, there is much more to the design, construction and operation of a transit tunnels than meets the eye.

The design of tunnels considers the size of the vehicles, the need for utilities and other ancillary features, as well as the fire-life safety of the overall system. Not only are the tunnels designed to move the trains, but also to provide safe evacuation and a tenable environment in the case of an emergency. Two separate bores are typically required to provide a safe back-and-forth system movement; in the case of the downtown tunnel, north and south under 5th Avenue. In addition to stations along the way, cross passages between the twin bores, ventilation facilities, and electrical equipment are critical elements of underground transit projects. Concrete lining rings provide support and waterproofing of the tunnels. The design of these rings accounts for the depth of the tunnel, the type and quality of soil and rock around the tunnel, and the groundwater depth, among other concerns.

In the modern era, transit tunnels in rock are typically constructed utilizing tunnel boring machines (TBM) that provide a safe and relatively quick means of excavating the ground and installing the tunnel support systems. Transit tunnel rock TBMs are typically on the order of 20 feet in diameter and consist of a complex system of equipment that cut through the rock, forming rock chips that can be easily removed from the tunnel. The excavated material, commonly referred to as “muck” is removed from the tunnel by a system of conveyors where it can be hauled off-site to be re-purposed as gravel or rip-rap, or used in asphalt or concrete.

Once tunneling operations begin, the effect to the surrounding environment, including people, business and facilities above the tunneling, are extremely minimal. The earth can dissipate vibrations and sounds such that the tunnel can be mined by a TBM without the public above even knowing what is happening below the ground. Urban transit tunnels have been constructed successfully in nearly all major cities around the world, including New York, Paris, London, Los Angeles, Singapore and Sydney, alleviating congestion, reducing commuting time and increasing commerce. The expectation for Nashville, as a vibrant and thriving modern city, is no different.
RECAP FROM 2018 ENGINEERS’ DAY ON THE HILL

Thank you to everyone who participated in this year’s Engineers’ Day on the Hill, March 6, 2018 at Cordell Hull. We had a great turnout with almost 70 ACEC TN members in attendance. Participants met with 75 Tennessee Senators and Representatives speaking on topics such as qualification based selection, transit, infrastructure, sprinkler regulations, smart meters, professional privilege tax, and other topics related to the Engineering Industry.

CALL FOR ENTRIES FOR ENGINEERING EXCELLENCE AWARDS

We are now accepting the Initial Entry Application Form ONLINE for the 2018 ACEC TN Engineering Excellence Awards. The new submission portal will streamline the entry process for all entrants.

Begin by creating a user profile. Once a profile has been created, entrants should complete the initial entry form; this step takes approximately 10 minutes and instructions are available in pdf format on the site. You may save your work at any step in the process.

Once the initial entry information has been completed the system will allow you to pay the entry fee online. This entry fee is non-refundable. In addition, there is a multiple project entry promotional discount of 25% after the first initial entry form and fee have been completed by an entrant. This promotion will automatically be applied during the additional submission process.

We have extended the deadline for initial entry forms and entry fees to June 15, 2018.

Full online submissions and panel delivery are due August 3, 2018. This second step in the submission process involves uploading project images, a narrative, and mailing the physical project display panel to ACEC TN.

Please visit acectn.org to learn more and to connect to the online submission site.

WELCOME NEW MEMBER!

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SERVING IN WAYS THAT MATTER

By: Charlie Smith, PE
Barge Design Solutions, Inc.
President of ACEC Tennessee

Why do we choose to be consultants? Is it for the money? Hardly. We all persevered through challenging college programs, many of us obtain professional licensure, and we can certainly make a decent living. But very few consultants are getting wealthy. So, if money isn’t the draw, then why do we choose a demanding job that takes up so much of our lives and energy? I recently sat down with several colleagues and peers to ask.

The first consultant I spoke with is a young, fresh out of college civil engineer. He did both public and private sector internships while in school. His general interest in civil was born from interest in math, science, and occasionally working outdoors. His decision to take his first permanent job in the consulting realm was because he believes the private side will allow him to work on larger and more complex projects. He also enjoys the collaboration between multiple disciplines. I remember similar ideals influencing my own decisions when I switched from public to private about 20 years ago.

I also spoke with two well-seasoned consultants who have been at it for 23 years and 41 years. With more experience, they had a full perspective on what they have accomplished and what the reality has been compared to their thoughts starting out. They both tell very similar stories - We like to work on projects that mean something. We care about our communities, we care about our clients, we care about the people with whom we work so hard, and we want to make the world around us a better place.

Better means safer, healthier, and with increasing opportunities for everyone we impact. There are many examples I can list from the team of professionals (public and private) who designed and built the Music City Center and all of the jobs and economic impact that has had on Nashville; the Fast Fix 8 interstate bridges and how that well-conceived and executed project allowed our weary commuters to spend time with their families instead of waiting in seemingly endless construction delays; the flood resiliency projects going on in Memphis and in Johnson City that protect people and property while creating public recreation space. The list of projects and benefits to society goes on and on. Aside from our paid work, so many of us devote volunteer hours and days every week, month and year giving back to our communities and our profession because we think we can make a difference.

So, why consulting? Because it is a rewarding and challenging job, and we get to serve in ways that matter.

HIGHLIGHTS FROM 2018 LEADERSHIP PE CLASS

The 2018 Leadership PE gathered February 12 - 13th for their second session in Knoxville, TN visiting the Tennessee Valley Authority (TVA) and the Knoxville Chamber of Commerce. While at TVA, participants received a tour of the River Forecast Center from Tom Barnett, TVA’s General Manager. For their second day, participants discussed developing presentation skills from engaging the audience, to speaking with confidence, and incorporating PowerPoint.

The third session was held March 6 - 7th in Nashville, TN. On March 6th, the class met at Barge Design Solutions’ new office discussing SDI assessment tools and conflict resolution resources. The next day, participants congregated at Cordell Hull, led by Kasey Anderson, the class participated in a Capital tour and discussed the significance of participating in the legislative process. Thank you to guest speakers, Beth Harwell, Speaker of the House, and Kevin Vaughn, engineer and Shelby County Representative, for sharing their insights on the importance of being engaged with local, state and federal agencies and representatives.

ACEC TN ANNOUNCES 2018 SCHOLARSHIP RECIPIENTS

Each year, ACEC TN awards scholarships to engineering and land surveying students in Tennessee. A committee of ACEC Tennessee members, chaired by Charlie Smith, ACEC TN President, reviewed all submitted applications.

Based on the national ACEC program guidelines, the committee chose two $1,000 scholarship winners.

Both applicants will continue on to the ACEC National Scholarship Program. Congratulations to scholarship recipients:

Leah Stephens, Civil Engineering student at the University of Tennessee-Knoxville.

Nathan Miller, Civil Engineering student at Vanderbilt University, Nashville.
ACEC Tennessee is saddened to share the passing of Kenny Diehl, PE on February 20, 2018, from complications of End Stage Renal Disease. He was 65.

Over a forty-year career, Kenny worked for two engineering firms – first at Lewis and Kuhlman as a Civil Engineer acting as a Design Engineer and Project Manager, and then for the remainder of his career with Smith Seckman Reid, Inc. (SSR).

During SSR’s growth years of the 1980s and 1990s, Kenny was Director of Marketing where he took a leading role developing SSR’s national reputation in healthcare design. In 2000, Kenny shifted his focus to operations, leading SSR’s civil and infrastructure division. For the next twelve years, he grew revenues for this group and received five Engineering Excellence Awards from ACEC Tennessee, including the 2005 Grand Iris Award. In 2013, he became SSR’s Director of Business Development, responsible for developing new business on the national and local levels.

Kenny served as a mentor and teacher to many marketing and business development professionals in the AEC community across the US. Active at the local and national levels in the Society for Marketing Professional Services (SMPS), Kenny was a founding member of SMPS Nashville in 1988. He served in many local, regional, and national leadership positions including SMPS national president in 1995-96. In 2016, he received SMPS’ Weld Coxe Marketing Achievement Award, which recognizes marketing or business development professionals whose career achievements, leadership role, and lasting contributions to the industry are exemplary.

His involvement with and commitment to ACEC Tennessee included serving as President of the Nashville chapter and his work on the Business Practices Committee. But most importantly, Kenny was an essential advisor to me in every strategic and tactical decision we have made politically throughout my tenure with ACEC.

As word of this loss spread through the AEC community, colleagues from across the nation shared their memories of Kenny.

Two, in particular, perfectly summarized him and his influence on so many:

“You could always count on Kenny to do what he said he was going to do and better than you could have imagined. You could also count on him to be there when you needed him, even when you didn’t realize that you needed him.”

“Kenny was a consummate gentleman, always ready and willing to lend his ear and wisdom without making you feel any less of someone who had achieved and accomplished as much as he had.”

For those who knew Kenny, we remember his willingness to share and encourage, his love for family and all things Vanderbilt, and his trademark laugh. He was truly “one of the good ones,” and will be missed.