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Snohomish County Engineers Build Bridges with Middle School Students to Encourage Future Professionals

Students learn from Public Works employees during Washougal School District "Brain Boot Camp"

EVERETT, Wash., Aug. 31, 2021 – Planning and designing public projects are what Snohomish County Public Works engineers Oscar Fuentes-Liendo and Tim Tipton do every day. Sharing with and mentoring young students are among the more satisfying parts of the job. The engineers took part in Washougal School District's summer "Brain Boot Camp" in Camas, Wash., earlier this month via video conferencing. The camp gave middle school student opportunities to learn through real-world project-based learning.

"I was so impressed with these middle-school students," said Fuentes-Liendo, a Snohomish County Public Works project engineer. "They displayed an impressive level of knowledge that I'd normally expect from college interns. When we were asked by one of the teachers to participate at the Brain Boot Camp I thought we'd answer a few general questions and help cultivate an interest in engineering. I didn't anticipate the high level of interest and excitement these students had."

The math and science students in the Washougal Middle School camp put their skills to work by designing a bridge project. The students were required to have the correct building specifications, proper materials and incorporate accurate design features. While a book or website could have given the students the information they needed, learning directly from professional engineers was a better option.

The students peppered Fuentes-Liendo and Tipton with specific questions concerning climate compatibility with building materials, the required distance of support beams on a span and the requirements for a bridge near utility power lines. The students also were required to establish a budget, learn building codes and create a mock proposal.

"These are the kinds of things we have to know when we're going through preliminary design," Fuentes-Liendo said. "They knew what to ask. Tim and I were surprised, and we really had to think about the answers to some of their questions."

"I'm encouraged when I see young people excited about science and math and how they see the connection to the kind of work that we do every day," Snohomish County's bridge engineer Tipton said. "I'm confident some of these students will be part of the next generation of engineers who build our

infrastructure. With their creativity and passion for learning, it will be better than anything that has been previously built.”

Additionally, Fuentes-Liendo, who is Latino, said he was pleased to be able to serve as an example to the minority students at the camp. He believes it is harder for Latinos to transcend barriers to land a career in engineering and hopes he encouraged them to excel.

“If they speak to somebody else (who made it), it really helps,” he said. “To see a minority become an engineer, it’s good to see that. If you put in the work, you’ll make it.”

When there are opportunities to encourage and demonstrate careers paths, Public Works employees have shared their expertise and knowledge with their peers and the public over the years. Visit: snohomishcountywa.gov/3703/About-the-Roads-Divisions. If interested in speaking engagements, contact ROAD@snoco.org.

About Snohomish County Public Works

Snohomish County Public Works is responsible for approximately 1,600 miles of county roads, more than 200 bridges and manages about 200 traffic control signals. The department also processes nearly 600,000 tons of garbage per year. Its mission is to focus on safety and mobility while practicing fiscal responsibility and preserving the environment. Public Works has won numerous state and national honors for its work and is the largest department within Snohomish County government with approximately 500 employees plus seasonal staff. Its main office is located at 3000 Rockefeller Ave., Everett, WA 98201. Visit www.snohomishcountywa.gov/PublicWorks or follow the department on Facebook and Twitter for more information about Snohomish County Public Works.

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