



WHS engineering students work with city on Woodstock projects

Students in Woodstock High School's Project Lead the Way's Engineering Design and Development class don't have the time or inclination to wonder how they'll use what they're learning in the real world. What's more real world than applying your skills to better your own community?

This year, student teams are working City of Woodstock officials including the Public Works Department leadership to design a 1.3 mile bike path, innovative pothole repair, and developing solar panels to boost electric vehicles.

"These projects are hands-on. They're looking at reality. We don't deal in make-believe, back-of-the book stuff. What we're doing is intensive and real," said Andrew Celentano, chairman of the Woodstock Transportation Commission.

In recent years, other student teams helped design a future roundabout at Lake Avenue and South Street and worked on solutions to the Calhoun and Madison streets railroad crossing.

Jason Huber, PLTW instructor at Woodstock High School, said students in the EDD class identify a city issue then research, design and test a solution, work with the doers at Public works and ultimately make a formal presentation to the Transportation Committee and the City Council.

"Students apply the professional skills they have developed to document a design process to standards, completing Engineering Design and Development ready to take on any post-secondary program or career," Huber said.

Theresa Presisto has been working with teammates Zachary Adams, Jack Hansen and Jay Patel on Woodstock's plans for a bike path connecting the Square with Route 47. Presisto has been taking PLTW classes since freshman year and hopes to study engineering at University of Michigan or Purdue after graduation this spring.

"Our group is now looking into how to maintain the bike path during the winter," Presisto said. "We're looking at a rock salt and beet juice mixture. We're testing out different concentrations to see which one is most effective and looking at costs."

Students Gunner Dunnett, Hector Ruiz and Ben Baker have been working on a cost-effective pothole repair strategy. The team has been testing small wooden frames and a mixture of fly ash, epoxy and wood ash. They've been running heavy vehicles over the repaired potholes to test their stability.

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James Roush has been working on a solar panel design to help boost power for electric cars. Roush said similar panels are being used for public transportation in some other nations, but he hopes to see it expanded in the United States.

“It’s basically looking for an alternative or power source for busses instead of diesel fuel,” Roush said.

Mark Indyke, member of the Woodstock Transportation Commission, said he’s really enjoyed the opportunity to work with these high school students over the years. He said students have designed lighting systems, crosswalks, signage and alternative routes for when Route 47 widening work begins.

“It truly is phenomenal. When I first started I didn’t believe the depth of their knowledge and their commitment to the project,” Indyke said.



Woodstock High School Junior James Roush discusses his project to create solar panels from electric cars with Andrew Celentano, chairman of the City of Woodstock Transportation Commission on Feb, 10. Roush and his classmates work on real city projects as part of their Engineering Design and Development class.



Woodstock High School juniors Gunner Dunnett and Ben Baker show Woodstock Transportation Commission members Andrew Celentano and Mark Indyke their plans to repair city potholes during their engineering class on Feb. 10.