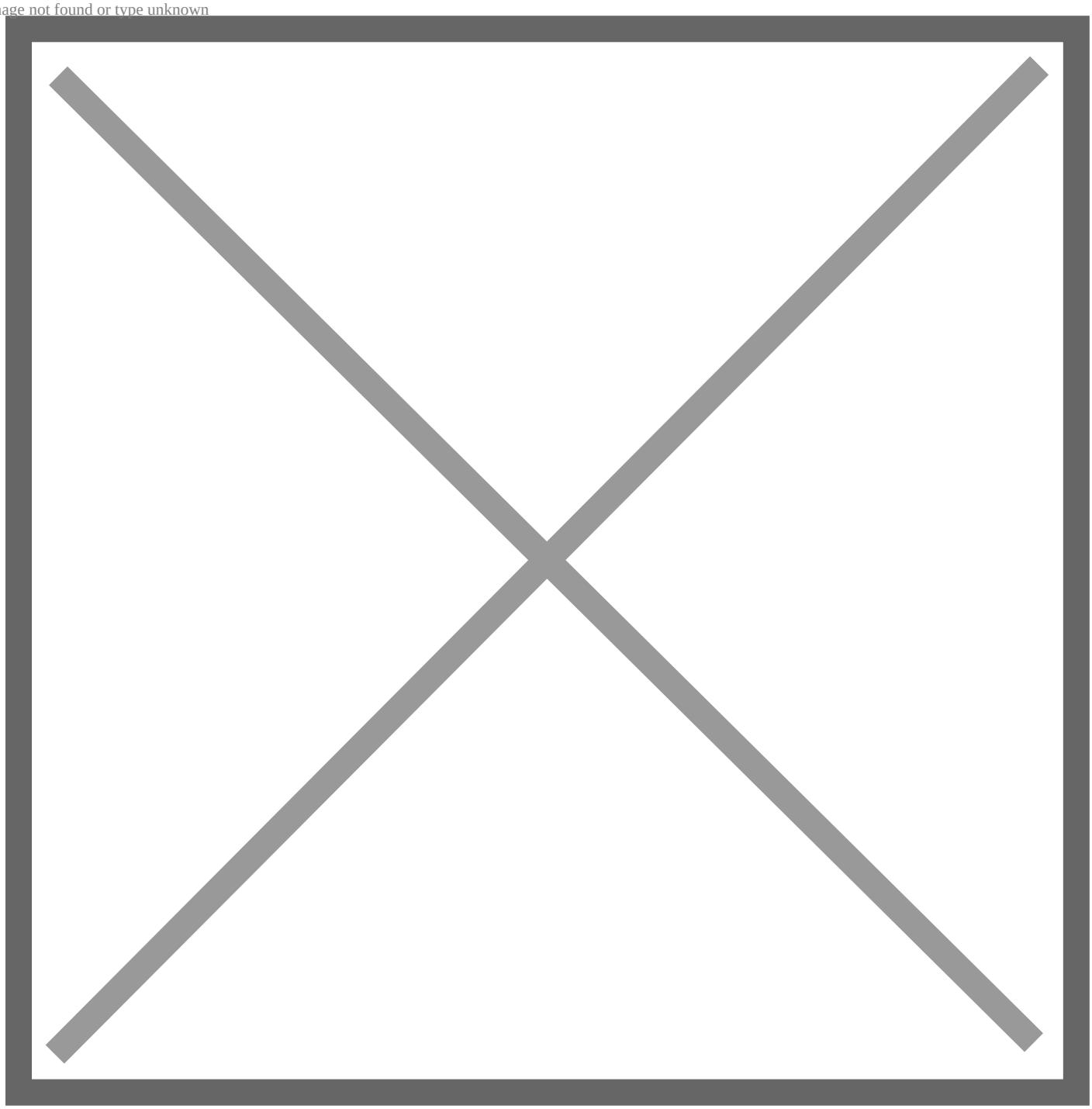
Creating Empowering Futures: Students and Teachers Gain Momentum with Hands-On STEM

February 24, 2026

Image not found or type unknown



Unlocking potential, inspiring futures, and bridging gaps — these are the powerful promises of education. Across the U.S., a novel approach to STEM education is reshaping how students and educators approach Science, Technology, Engineering, and Math.

At the heart of this change is Toyota USA Foundation's Driving Possibilities program. The program is making strides to increase access to STEM education and create interest in STEM careers, addressing a critical need in the U.S.

According to a study by Deloitte and The Manufacturing Institute, the U.S. manufacturing sector is growing, but a severe talent shortage that could leave up to 1.9 million jobs unfilled by 2033. Yet, Amanda Rosemann, chief impact and operations officer of shift_ed disagrees.

"We don't have a skills' gap; we have an exposure gap. Our students have those skills; they just lack the exposure to know how to access these industries with good jobs," Rosemann said.

Shift_ed works to improve student outcomes in more than four dozen community partners in North Carolina's Greensboro metro area. Their connection with Driving Possibilities is one example of how Toyota is leading with a community-driven approach to help close gaps in STEM education.

"Toyota believes all kids deserve access to high-growth careers," Destiny Whitaker, senior workforce development analyst at Toyota, said. "We dig into communities to find ways to close the gaps preventing students from reaching those opportunities."

Co-created Programs Meet Essential Needs

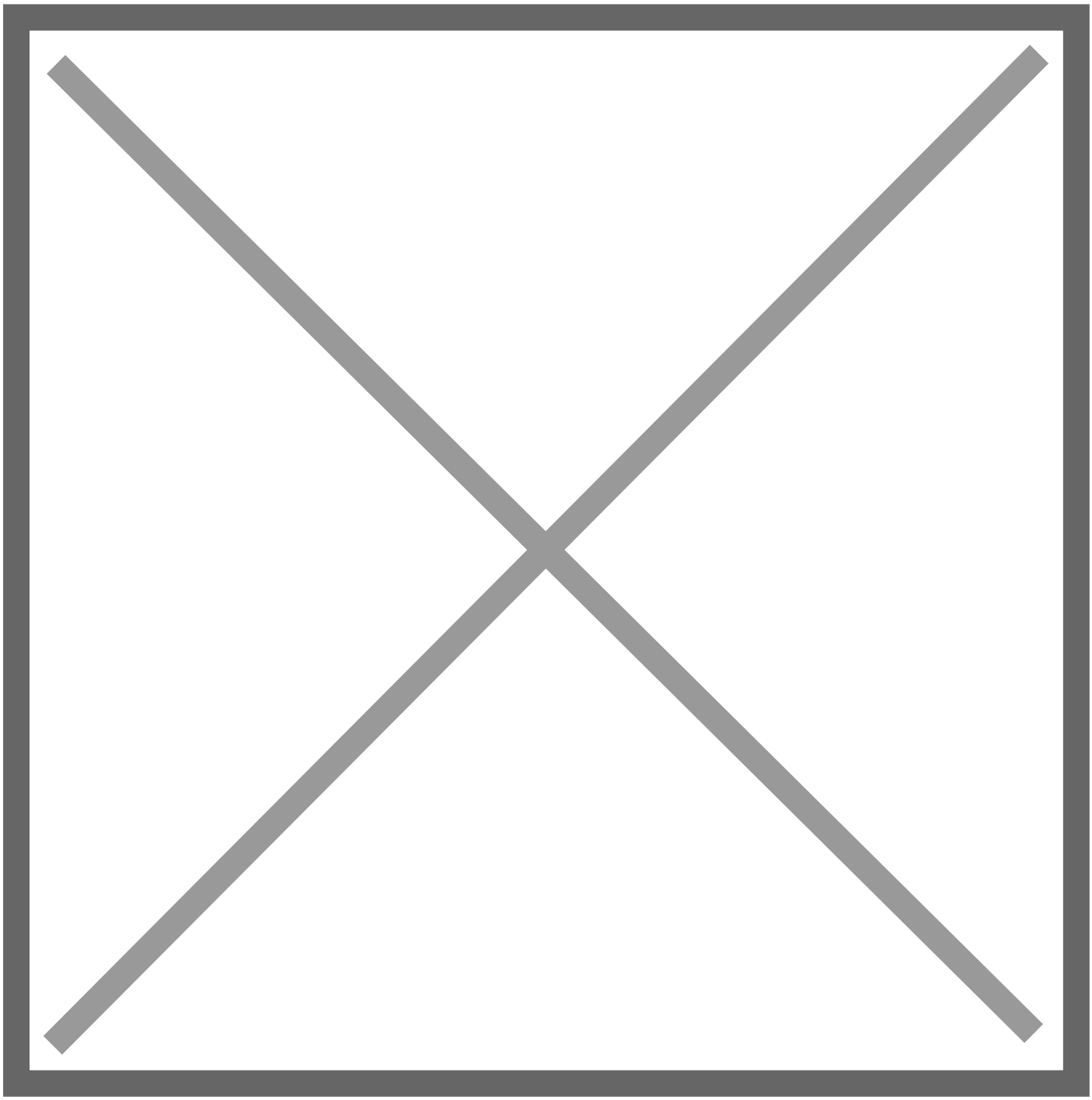
Driving Possibilities identifies local partners and schools to co-develop a program for each town. "We're not the experts in education," Whitaker notes. "We work with partners to plug gaps based on the highest priorities."

Driving Possibilities works to remove anything that can hinder learning, such as missing a meal, school supplies, and a ride to school. The program also supports hiring social workers, connecting parents, and starting community programs to support students.

While the full impact will take years to realize as students graduate and make their career choice, early indicators are promising. Nationally, the Driving Possibilities program has driven results, such as:

- 30% increase in student awareness of STEM subjects
- 13% increase of elementary, middle, and high school students interested in STEM
- 19% increase in commitment to STEM

Overall, students in a Driving Possibilities school have also seen progress in English, Arts, Math, and Science.



Early Success at Jackson Middle School

At Jackson Middle School in Greensboro, changes are already visible in the first year. Tonisha Coburn, the school's program coordinator, reports that seventh graders are more engaged and willing to discuss class projects. She credits hands-on STEM activities integrated into core subjects.

For example, during a unit on the Industrial Revolution, students selected inventions to improve. Each team created prototypes using cardboard and K-Nex. They designed everything from fold-out couches to boat propellers and Henry Ford-inspired cars.

“The work is shifting from direct instruction to inquiry-based learning,” Coburn explains. “We’re creating student-centered classrooms where kids discover information and take ownership of their learning.”


Science • Technology • Engineering • Math
Nehemiah
CEC
Creating career awareness in STEM, Roboti
ensure equal access for all. Hands-on ac
apprenticeship opportunities to empowe
leaders, innovators and change agents in
lucrative fields.
1 STEM Summer Camp & Afterschool
2 FIRSTNC Robotics FRC/FLL/FTC
3 Adult Appr
IT Certifi
4 Teen Appre
Summer Empl
711 Creek Ridge Rd.
Greensboro, NC
(336) 324-7902
for more info
ENTER'S

Building Foundations for Long-Term Success
In North Carolina, the program's impact also includes key building blocks for school like backpacks for each student and improving attendance. There is also a family academy where parents can support their children's STEM learning. Driving Possibilities aims to create a program for the whole student.

Looking ahead, the seventh graders at Jackson Middle will continue the program into high school. The hope is that older students will mentor younger ones, creating a pipeline from elementary through high school for STEM interest.

Whitaker emphasizes two key lessons from the program: "It's never too early to engage students in STEM. Starting in high school is too late. And focusing solely on academics isn't enough. We must address the whole student to prepare them for high-growth careers."

Series Note:
This article is part of a series of feature articles about the various workforce development programs across Toyota Motor North America. These programs span STEM education programs from Pre-K to 12, high-school and post-secondary industry programs, scholarships, internships, and on-the-job training. To learn more about AMT, 4T Academy, T-TEN, Driving Possibilities, scholarships and internship programs, visit Community Engagement in the Toyota Newsroom.