

Building Resilient Infrastructure for Development, Growth, Engagement, and Support

THE PROBLEM

The Mid-Atlantic powers national defense, cybersecurity, and advanced manufacturing — and it is running out of engineers. Virginia alone carries 27,000+ unfilled jobs in key technical clusters. Northern Virginia has 51,000 open cybersecurity positions. Hampton Roads needs 40,000 shipbuilding and maritime workers by 2030. These are not projections — they are vacancies open right now.

The students who could fill these roles exist. But in rural and underserved communities across Virginia, Maryland, DC, and West Virginia, they lack the tools, mentors, and pathways to get there. Geography is determining opportunity. That has to change.

THE SOLUTION

Chesapeake BRIDGES builds the connective tissue the existing STEM ecosystem is missing: shared fabrication hubs, a distributed field access network, university and nonprofit partnerships, and a tiered mentor corps connecting students directly to engineers at Booz Allen Hamilton, Leidos, and Northrop Grumman.

BRIDGES does not add another program to a fragmented landscape — it builds the infrastructure that links every piece together. Long-term coaching from first build through first career, extended to the communities that have never had access to it.

10,000+

Students Served
Annually

405

Active FIRST
Teams

2.3x

More Likely to Major
in Engineering

70%

Students from
Title I Schools

63%

Alumni Working
in STEM Fields

HOW BRIDGES WORKS: FIVE CORE COMPONENTS

1. CHS HUBS — Shared Fabrication Centers

Teams with 3D printers, CNC machines, laser cutters, and advanced fabrication tools serve as designated CHS Hubs, making their equipment and expertise available to nearby teams. A searchable Chesapeake Hubs directory connects teams by location, capability, and technical need — ensuring that a student in a rural county has the same access to industry-grade tools as a student in a well-funded suburban program.

2. Field Access Network

BRIDGES builds and maintains a distributed network of regulation-size practice fields and demo zones across GO Virginia Regions 4, 5, and 7. Teams reserve field time for build-season testing, scrimmages, and outreach events. This directly reduces the travel and cost barriers that price out rural programs, and increases the visibility of FIRST robotics in communities that have never hosted a competitive STEM event.

3. University & Nonprofit Integration

Virginia State University serves as a confirmed university Hub partner, opening its engineering facilities for workshops, team practice, and mentor engagement. Conversations with Howard University are underway to expand the network into the DC corridor. The Maryland Robotics Alliance and other nonprofit partners extend coaching, funding support, and technical training through BRIDGES — ensuring institutional resources reach the teams that need them most.

4. Mentor & Volunteer Framework

BRIDGES deploys a tiered mentor support system that includes structured new mentor onboarding, peer-to-peer coaching networks, access to FIRST Chesapeake's Geared Up educator support library, and professional development pathways. The Chesapeake Senior Mentor Corps places high-impact mentors in focused geographic areas to deepen outcomes for local teams. Micro-grant incentives and regional meetups sustain volunteer engagement and build long-term community investment in STEM education.

5. Access-Focused Growth

Every component of BRIDGES is designed with access as the primary filter. Direct outreach and infrastructure investment is prioritized in Title I schools, rural communities, and underserved urban neighborhoods across the region. Teams with the greatest need receive first access to partner resources, mini-grants, and technical training. The program builds on an existing foundation — 70% of FIRST Chesapeake students already come from Title I schools — and extends that reach systematically into communities where the STEM workforce pipeline gap is widest.

WHO BRIDGES SERVES

Students

K–12 students in rural, Title I, and under-resourced urban communities across Virginia, Maryland, DC, and West Virginia — students with real technical aptitude who have never been handed the tools to prove it.

Mentors & Coaches

Working professionals and educators seeking structured support, peer networks, professional development, and meaningful connection to the next generation of the regional STEM workforce.

Teams & Schools

FIRST teams seeking field time, fabrication access, and nearby technical mentors — and schools building a lasting robotics culture without depending solely on outside grants or individual champions.

Universities & Nonprofits

Campus engineering programs and mission-aligned organizations ready to extend their reach, open their facilities, and invest their expertise in students who need it most — scaling impact through the BRIDGES network.

YOUR INVESTMENT IN ACTION

\$10	Materials for a student's first robotics build session	\$25	One month of Hub tool and training access for a student	\$50	One month of mentor coaching with a working engineer	\$100	Starter build materials for a new team's first season
\$250	Full semester of CHS Hub access — space, tools, and coaching	\$500	One student's complete BRIDGES pathway to championship	\$1,000	Helps establish shared STEM infrastructure in a rural community	\$2,500	Launches a new BRIDGES team — registration, equipment, year-one support

THE EVIDENCE

Brandeis University 10-Year Longitudinal Study

FIRST alumni are 83% more likely to major in STEM, 63% go on to work in STEM fields, and female participants earn 44% more than comparable peers (\$62K vs. \$43K median).

Harvard–Treasury Mentorship Research

Mentorship programs deliver a 15–20% earnings increase with a 7-year government payback period — one of the most cost-effective youth workforce interventions available.

Virginia Workforce Labor Market Data

STEM workers in Virginia earn \$101,650 median wage vs. \$48,060 across all occupations — a 2.1x premium. Virginia loses 41% of college graduates across state lines within 5 years.

FIRST Chesapeake Regional Footprint

10,000+ students served annually. 285 FTC teams and 120 FRC teams across four states. The third largest FTC district globally, with 70% of students from Title I schools.

"BRIDGES doesn't just move students into jobs. It builds the self-sustaining regional talent pipeline that the Mid-Atlantic's defense, technology, and advanced manufacturing sectors depend on — and that the next generation deserves."

2026 GlobalGiving Little by Little Campaign Goal

\$25,000 to expand BRIDGES reach across the Mid-Atlantic