

ABSTRACT: Growing a STEM Ecosystem (GaSE)

The GaSE proposal is an early-phase EIR proposal, addressing Absolute Priority I—Supporting High-Need Students and Priority 4 - Increasing Postsecondary Preparedness. The BRIDGE of Southern New Mexico, a public-private non-profit organization proposes to utilize the power of collective community impact to develop a research-based STEM Community Ecosystem as a pathway to postsecondary success in STEM for at-risk, economically-challenged Hispanic students in the border county of Dona Ana. The project builds on a successful partnership among K-12, colleges/universities, and business from a highly successful Early College HS initiative that boasts a near 100% graduation rate for students who are primarily Hispanic, low-income and first-generation college attenders. The partnership now seeks a \$4M EIR Early Phase grant to expand and enrich the community-based STEM ecosystem to 9,100 at-risk students in grades 8-10. A multi-dimensional approach will engage these students in design-based STEM learning within community-located Makerspaces, facilitated by college-level, engineering- and education-focused near-peer mentors. Students will have access to Makerspaces in-school, after-school, and in the summer. A bilingual STEM mobile app will offer students and their families 24/7 access to STEM resources, career pathways, online communities, and STEM career pathways – a STEM amplifier. The project seeks to increase: 1) students' STEM self-efficacy, 2) math proficiency, 3) STEM career goals, 4) student success in high levels of math, 5) STEM teachers' implementation of design-based learning, and 6) parents' support of their children's STEM career pathways. Implementation sites are the county's three diverse school districts in Las Cruces, Hatch, and Gadsden. Partners include: The Bridge of Southern NM, New Mexico State University, Doña Ana Community College, three local school districts, NS4ed (consultant), and Metiri (evaluator).