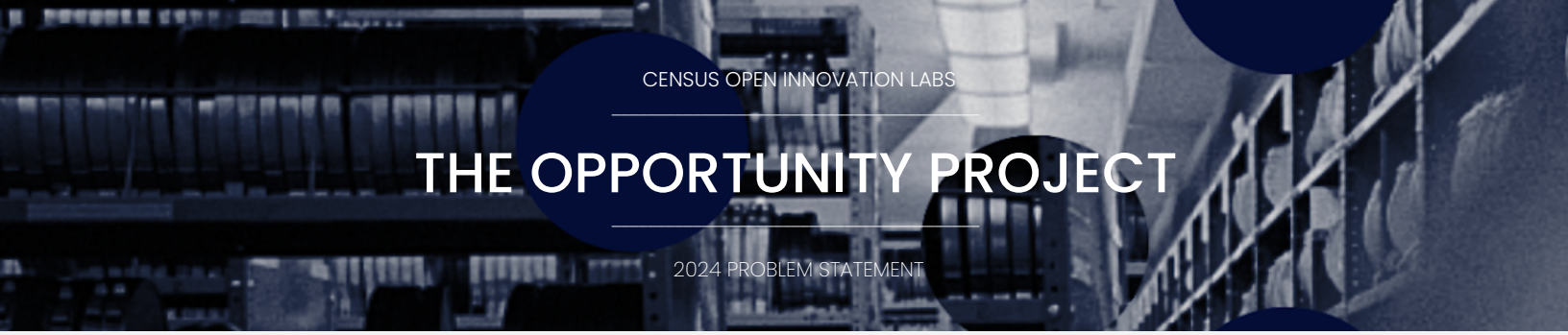

CENSUS OPEN INNOVATION LABS

THE OPPORTUNITY PROJECT

2024 PROBLEM STATEMENT

Strengthening the STEM Educator Workforce

U.S. Department of Education

THE CHALLENGE – Develop tools that enable local education agencies, states, and school districts to expand and strengthen their STEM teacher workforce.

EXECUTIVE CHAMPION – Cindy Marten, Deputy Secretary, U.S. Department of Education

THE PROBLEM – A robust, well-prepared, and sustainable educator workforce is essential to teaching and supporting our children and youth, including their recovery from the impacts of the COVID-19 pandemic. Yet many states and school districts face significant hurdles in attracting and retaining the educators and other school staff they need to best support students. In order to continue increasing the pipeline of teachers entering the profession, the Department is working to reduce and eliminate barriers to becoming a teacher while upholding and improving quality.

For decades, principals and school leaders have struggled to hire STEM teachers, especially highly qualified ones. There are many reasons for this, ranging from low compensation to limited career pathways and teacher autonomy, but this workforce challenge is worsened due to the difficulty of tracking the supply and demand of STEM teachers. Currently, the majority of local education agencies and states lack the tools and information to identify how many teacher vacancies they are facing in a specific year. Without this visibility into teacher supply and demand, they are unable to accurately forecast and make strategic plans to prepare and fill STEM (and other) classrooms with high-quality teachers each year.

The STEM teacher shortage is often discussed as a national problem, but the labor market for teachers is actually quite local. In general, almost 60% of teachers teach within 20 miles of where they went to high school. Yet rarely do educator preparation programs and districts collaborate to build a shared understanding of how many and what type of teachers are needed to fill classrooms each year. As Bellwether's 2019 "Nuance in the Noise" report states, "...despite the perpetual need for certified mathematics, science, and special education teachers and relatively lower demand for elementary education teachers, teacher preparation programs continue to produce far more elementary school teachers than those certified to teach highly in-demand subjects." Staffing needs are often especially

acute at schools that serve high populations of students of color or students living in poverty. Schools need a racially and linguistically diverse workforce of STEM teachers in order to offer a full range of STEM learning opportunities for their students.

THE OPPORTUNITY – We challenge sprint teams to create user-friendly digital tools that empower states, districts, and teacher preparation programs to strengthen the STEM educator workforce and STEM education more broadly. We are interested in building tools for the field that translate to more comprehensive teacher workforce data systems, enabling them to better predict and fulfill their STEM teacher workforce needs. We are also eager for solutions that expand the STEM teacher workforce, help connect teachers with classrooms, boost ways for qualified experts to enter educational settings, and increase and diversify STEM educational experiences.

TARGET END USERS – States, school districts, schools, teachers, and teacher preparation programs.

RELATED DATA SETS

- Teacher Shortage Area Data (U.S. Department of Education)
- Raise the Bar: Lead the World data visualizations (U.S. Department of Education)
- American Community Survey (Census Bureau)
- Household Pulse Survey (Census Bureau)
- Survey of Income and Program Participation (Census Bureau)

SPRINT LEADERS

- Mekka Smith, Senior Policy Advisor, Office of the Deputy Secretary, U.S. Department of Education