



FIRST2 NETWORK



www.first2network.org



The First2 Network is supported by the U.S. National Science Foundation under Award Numbers: HRD-1834586, WV Higher Education Policy Commission; HRD-1834601, Green Bank Observatory; HRD-1834575, Fairmont State University; HRD-1834595, High Rocks Educational Corporation; HRD-1834569, West Virginia University.

The First2 Value Proposition

Understanding and Communicating the Impact of our Change Work



The First2 Network is supported by the U.S. National Science Foundation under Award Numbers: HRD-1834586, WV Higher Education Policy Commission; HRD-1834601, Green Bank Observatory; HRD-1834575, Fairmont State University; HRD-1834586, WV Higher Education Policy Commission; HRD-1834595, High Rocks Educational Corporation; HRD-1834569, West Virginia University.



WHO WE ARE



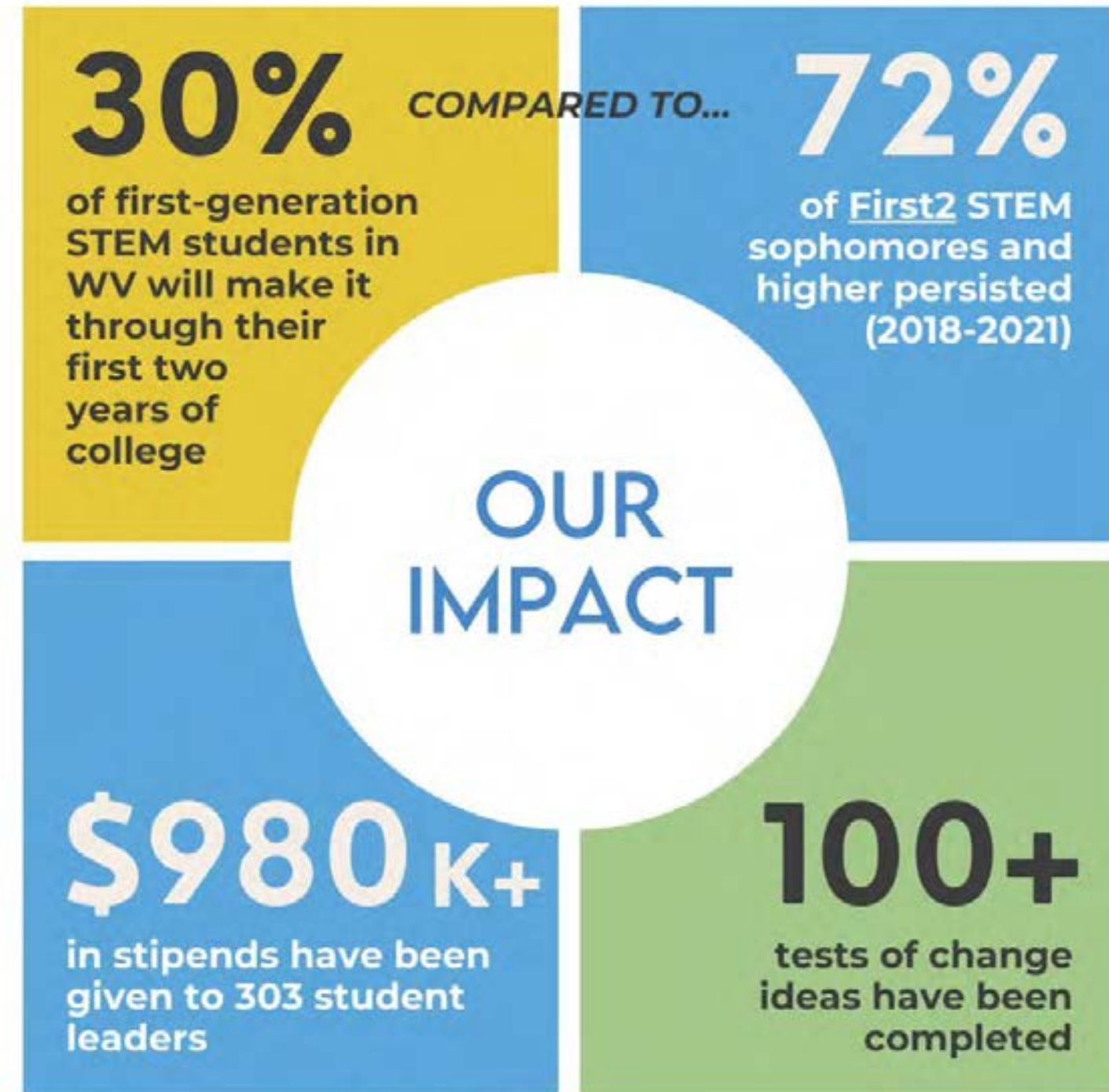
**U.S. National Science
Foundation INCLUDES
Alliance with 5
collaborating PI
organizations since 2018**



**An expanding group of
over 1000 people and 30
organizations in West
Virginia and beyond**



**Working to double the
graduation rate of rural,
first-generation,
low-income and other
underrepresented STEM
students**



*who provided consent for tracking

WHAT WE DO



**WORK IN TRUE
PARTNERSHIP WITH
STUDENT LEADERS**



**TEST AND LEARN
WITH STAFF AND
STUDENTS TO SHARE
AND SCALE
HIGH-IMPACT
PRACTICES**



**WORK TO DRIVE
SYSTEMIC CHANGE
THROUGH INFORMED
POLICY AND
RESOURCE
ALLOCATION**

OUR PARTNERS:

COLLEGES & UNIVERSITIES



GOVERNMENT



NON-PROFIT



INDUSTRY



ADDITIONAL PARTNERS





IMPROVEMENT SCIENCE

Higher Education Institutional Teams test CHANGE IDEAS

that center lived realities of students, faculty, and others

- Templates for high impact practices
- Coaching Requests to Improvement Science Team
- Data-sharing for cross-institution learning and scaling

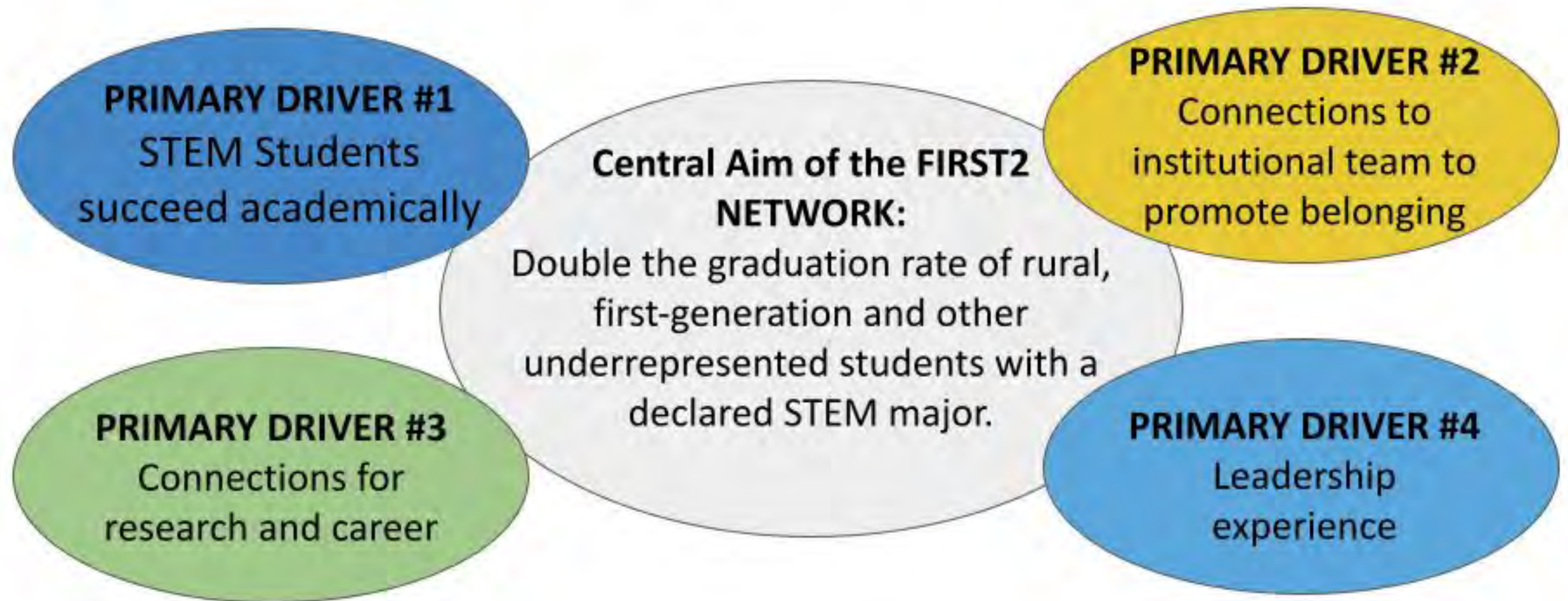
GOALS:

SUSTAINABILITY

**SYSTEMS
CHANGE**

SCALABILITY

FIRST2 Drivers: how First2 Network achieves its central aim



CENTERING STUDENTS

Student Leadership Components

- Co-mentoring
- Community Building
- Career Development
- Introduction to content-area research and on-the-job training

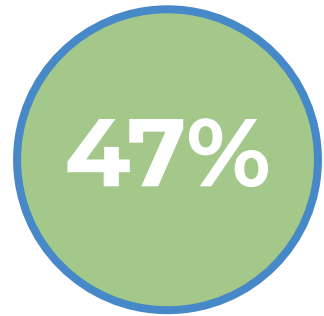
To date, we have provided over
\$980K in stipends (not loans)
to
303 students



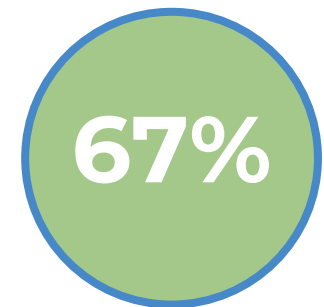


of WVU STEM students persisted through graduation in 2019

COMPARED TO:



of all WVU STEM students who participated in the First2 Network through programs, running clubs, and testing change ideas remained enrolled in a STEM major



of WVU first-generation and underrepresented students who participated in First2 paid two-week summer research immersions persisted in STEM (2018-2022)



of paid First2 Network STEM sophomores and higher persisted fall-to-fall (65 of 90 students, fall 2018-2022)

Financial Impact: Retention is good business.

First-generation STEM undergraduate students at WVU have fall-to-fall persistence rates between **49%** and **64%** (2005-2018). The STEM persistence rate among all First2 Network freshmen and sophomores is **72%**. Based on the 2023-2034 tuition rates, in-state residential students pay \$22,668 a year for tuition, fees, and housing at WVU.

If 100 WVU STEM students participate in First2, 72 students persisting (**72%**) vs. 49 students persisting (**49%**) at WVU could equal

\$521,364

in income per year for retaining an additional

23 students.

Over 100% return on investment.

Persistence and First2 Engagement

WVU: student persistence from **63%** to **84%**

Of the **1106 WVU STEM majors** who participated in at least one First2 Change Idea test (PDSA) activity this academic year, 927 (**83.8%**) **remained in a STEM degree** and 179 (16.2%) left STEM. Students participating in at least one First2 activity had a higher persistence rate in STEM (83.8% persistence) than the current WVU STEM persistence rate (**63.4%**). The rate of 63.4% is the persistence rate of our comparison group.

WVUIT: student persistence from **48-54%** to **93%**

Of the **55 WVUIT** students impacted by First2 Change Idea tests (PDSAs) in 22-23, 44 were STEM majors; as of 8/30/24, 41 of those STEM majors (**93%**) are currently in good standing (have persisted) or have graduated (success). The overall STEM population 2-year retention rate at WVUIT for 2022 was **54%** and the 3-year retention rate for the same group in 2021 was **48%**; therefore, this group has a higher retention rate than the overall WVUIT STEM population.

Persistence and First2 Engagement

MARSHALL: student persistence from **53%** to **100%**

Of the **10 Marshall STEM majors*** who were identified as participating in at least one First2 Change Idea test (PDSA) activity this academic year, **10 (100%) remained in a STEM degree.** Students participating in at least one First2 activity had a higher persistence rate in STEM (**100% persistence**) than the current Marshall STEM 6-year graduation rate (**53%**).

FAIRMONT STATE: student persistence from **34-46%** to **92%**

Of **68 Fairmont students** impacted by First2 Change Idea tests (PDSAs) in 22-23 and 23-24, 36 (=54%) started college as STEM majors. They have substantially higher persistence rates of **92% persistence** overall average to date than the overall STEM population during those years. For comparison, the 5 or 6 year graduation rates are **43-46%** for all STEM students and **34-38%** for first-gen STEM students who started in 2018 or 2019.

Persistence and First2 Engagement

GLENVILLE STATE: student persistence from **59% to **63%****

Of the **19 Glenville students*** who were identified as participating in at least one First2 Change Idea test (PDSA) activity in 23-24, 12 (**63%**) **re-enrolled in Fall 2024**. All students were in Good Standing and most were STEM/STEM adjacent; several changed to a STEM major. Students participating in at least one First2 activity had a similar persistence rate to the 2022 Glenville STEM cohort one year persistence rate (**59%**).

SHEPHERD UNIVERSITY: student persistence from **42-79% to **95%****

Of **57 Shepherd students** impacted by First2 Change Idea tests (PDSAs) in 23-24, all(=100%) started college as STEM majors, and 51 (89%) have remained in a STEM major. They have substantially higher persistence rates of **94.7% persistence** overall average to date than the overall STEM population during those years. For comparison, the **one-year** persistence rates for **all STEM majors** ranges between **42% (Sophomores) and 79% (Seniors)**.

Persistence and First2 Engagement

UNIVERSITY OF CHARLESTON:

data pending

BLUE RIDGE CTC: student persistence from **11-32%** to **83%**

Of **71 BRCTC students** impacted by First2 Change Idea tests (PDSAs) in 22-23 and 23-24, 47 (=66%) started college as STEM majors. 44% of these are first-gen. They have substantially higher persistence rates of **83% persistence** overall average to date than the overall STEM population during those years. For comparison, the 2-3 year graduation rates are **11-32%** for all STEM students and **12-25%** for first-gen STEM students who started between 2017 and 2022.



FROM OUR STUDENTS

“Participation with First2 allowed me to access professional and educational channels within the network itself, to further my efforts in my other scientific and professional endeavors. My participation has also allowed employers and internship recruiters to acknowledge my experience in research.”

“Without the support from the network, both emotionally and financially, I would not be able to effectively pursue my college degree.”



FROM OUR STUDENTS



“The ability to connect with other first-generation students has been helpful to me, a first-generation student as well, because their insight and perspectives have helped me to remain optimistic about college. Because of their counseling and guidance, I feel that I am more likely to persist in STEM.”

“I have become more comfortable with the staff in my college community, which has encouraged me to ask for help or reach out for opportunities.”

FUNDING TO DATE

- **\$9M** secured since 2018 from NSF
- **\$1M** recent NSF Supplement award fully funds the network through 24-25
- **\$2M** ARC POWER award (embargoed till Oct. 16)
- **\$100K** S-STEM planning grant award
- **\$9.2M** supported in collaborative applications in 23-24

...

- **\$1.3M** annual operating budget through High Rocks (student support) and HEPC (institutional support)
- Working actively on financial sustainability through partnership and grants



Next: SUSTAINABILITY and SCALE

NON-PROFIT STATUS

CREATE FIRST2 NETWORK
NON-PROFIT TO ENHANCE
GOVERNANCE AND
SUSTAINABILITY

*FIRST2 HAD OUR FIRST
BOARD MEETING AND
DISCUSSED BYLAWS.*

FUNDING FOR FIRST2

CONTINUE TO FIND A FUNDING
PATH FOR THE FUTURE

*FIRST2 HAS LEVERAGED \$9 MILLION
DOLLARS INTO CREATING AND
GROWING THE NETWORK AND ITS
IMPACT OVER THE LAST 7 YEARS. WE
ARE WORKING TO ARTICULATE THE
VALUE PROPOSITION OF FIRST2 AND
IDENTIFY STAKEHOLDERS AND
FUNDERS TO INVEST IN OUR WORK.*

Questions and Conversation