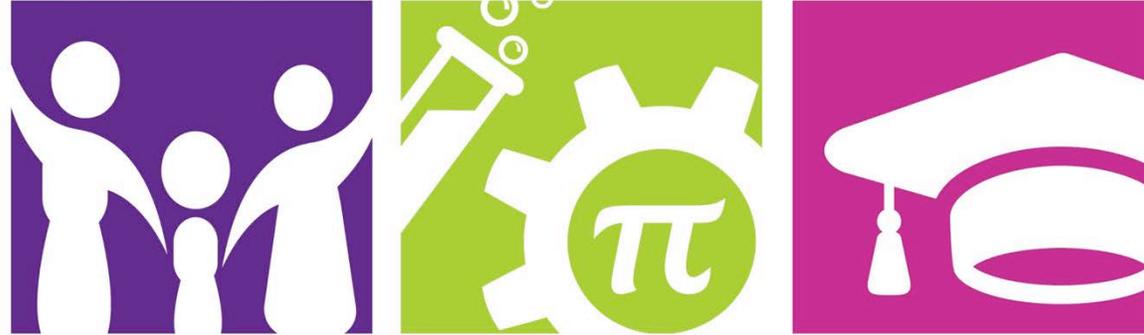


DAPCEP



**PRESENTATION TO THE
MICHIGAN SENATE AND HOUSE SUB-COMMITTEES:
K-12, SCHOOL AID, EDUCATION**

Michelle L. Reaves, Executive Director

March 11, 2020

Who is DAPCEP?



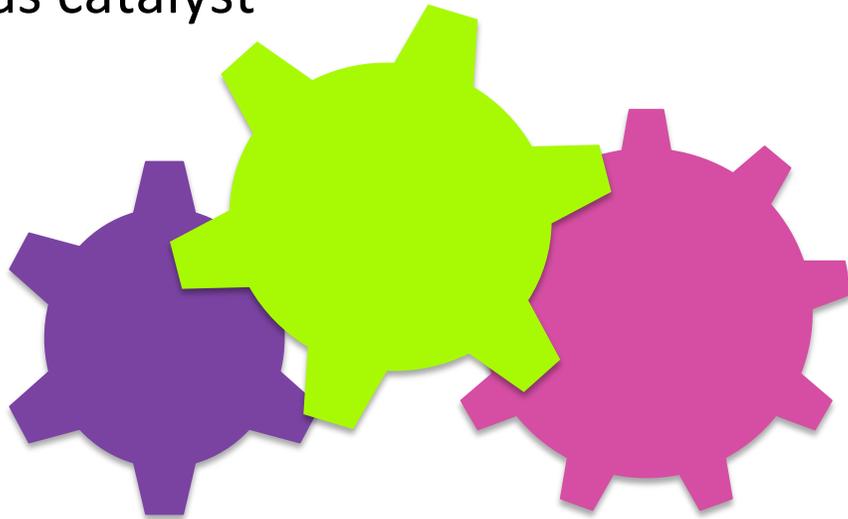
What is DAPCEP?

- Detroit Area Pre-College Engineering Program (DAPCEP)
- Established 1976 as a Michigan non-profit organization - supported 11,000 students in 2019 with 52% female participation
- **Mission:** Increase the number of K-12 historically underrepresented students who are motivated and prepared academically to pursue degrees leading to STEM careers
- Partners with 11 Michigan colleges and universities and more than 40 corporate, community, and foundation organizations to connect youth to acclaimed K-12 supplemental educational programming and experiences

DAPCEP Impact

Alumni

- 64,000+ students
- 68% in STEM Careers
- 78% indicate DAPCEP was catalyst



Current Students

- Average increase of 79% on pre/post test scores
- 89% learn new things
- 75% say DAPCEP teaches them to think in new ways
- 57% want to take more STEM classes

DAPCEP Reach



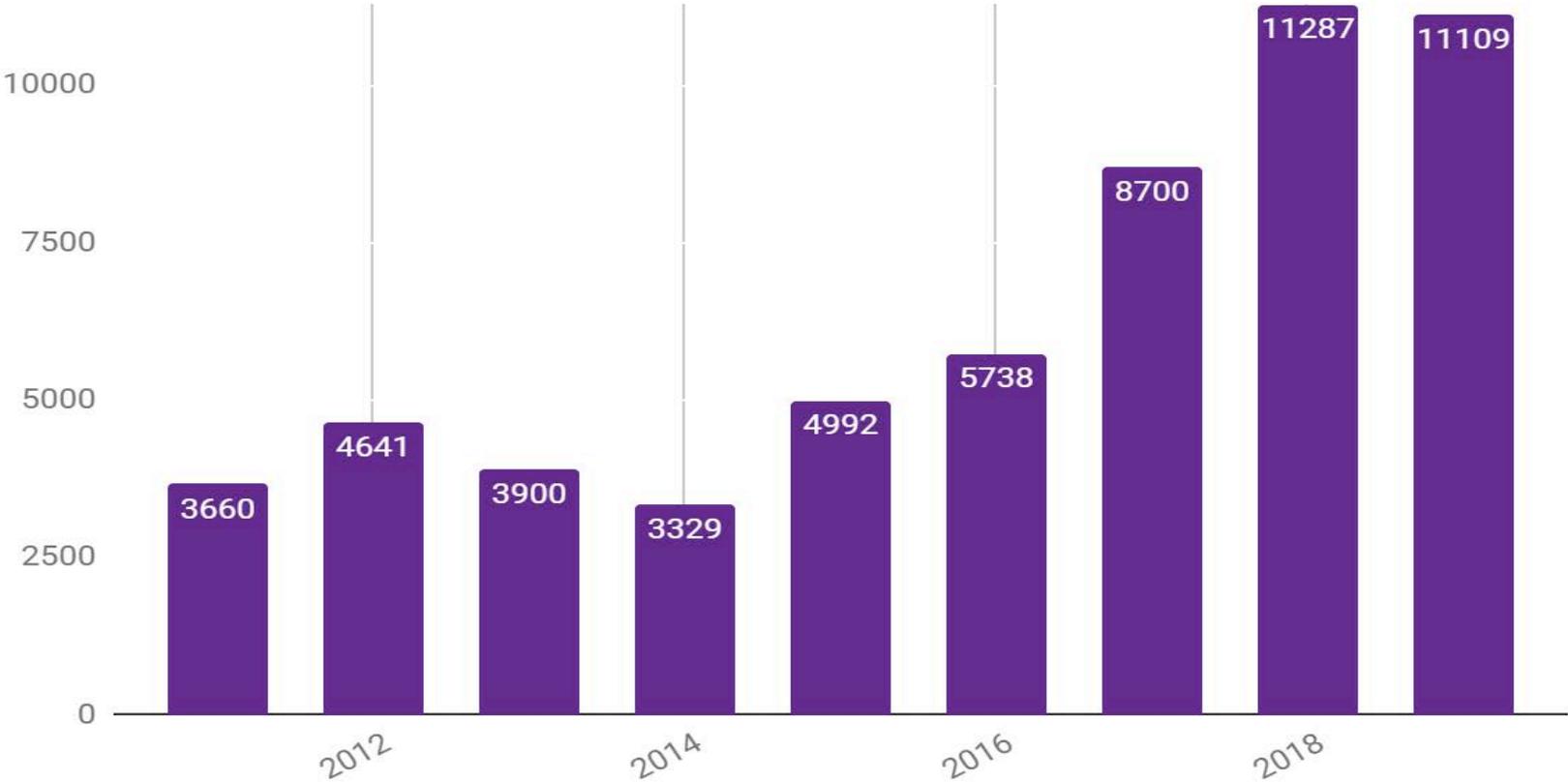
- 99.7% of students reside in the State of Michigan
- 40% of students attend Detroit Public Schools Community District
- 30% of students attend charter schools
- 58% of students are Detroit residents
- 70% of students qualify for Free/Reduced Lunch



Our Reach



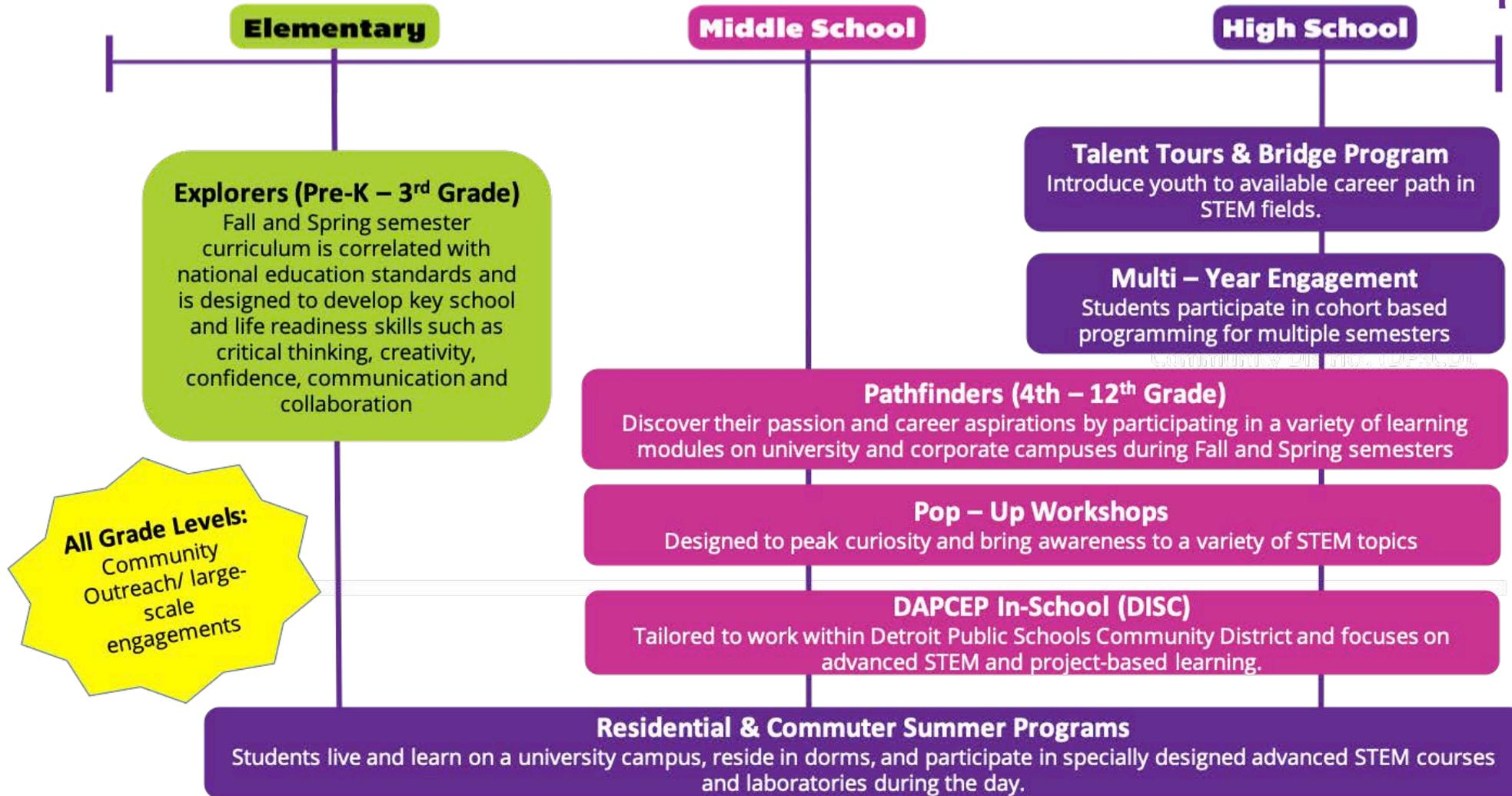
Students served since 2011



Methodology

Segments	Pre-K to 3rd Grade	4th-6th Grade	7th-9th Grade	10th-12th Grade
Goal	School Ready	Middle School Ready	High School Ready	College/Career Ready
Methods	<ul style="list-style-type: none"> • Early learning (highly motivational) • Academic reinforcement • Exposure to STEM concepts 	<ul style="list-style-type: none"> • STEM group work • Hands-On Learning • Exposure to University Campus • Critical Mathematics & Problem Solving Skills 	<ul style="list-style-type: none"> • Career exploration through exposure • Hands-on learning • Refinement of critical algebraic & problem solving skills • Group dynamics 	<ul style="list-style-type: none"> • Advanced concepts • Exposure beyond K-12 systems capacity • Scientific reasoning • Critical academic reinforcement • SAT/ACT Preparation • Senior Transition Program

Core Program Models



Programming

- Multi-Year Engineering and Energy Program (MEEP): 18-month program focused on nuclear energy, petroleum fuels, renewable energy, and energy efficiencies 40 students
- New courses:
 - Artificial Intelligence (AI)
 - Drone Pilot Certification
 - Cybersecurity
 - Entrepreneurship
- Explorers:
 - PreK-3rd grade; students studied natural resources, alternative energy, and biology



DAPCEP & Michigan Business

Working Together to Close the Technical Workforce Gap



- Ford African Ancestry Network & IT Department
 - Employees facilitated a DAPCEP Saturday course on Mobile App Design at Ford IT Headquarters to expose High School students to automotive IT opportunities



- General Motors
 - Volunteers facilitated summer STEM workshops to Southeast Michigan elementary school students focused on electrical engineering



- Quicken Loans
 - Employees led a school year (8 weeks in the fall, 7 in the spring) course onsite at Quicken Loans headquarters for middle school students teaching coding and computer programming



DAPCEP & Michigan Business (2)

Working Together to Close the Technical Workforce Gap



- Blue Cross Blue Shield of Michigan

- Facilitated DAPCEP Saturday course at BCBSM Detroit offices to expose high school students to business practices, underwriting, and actuarial sciences



- Consumers Energy

- Hosted DAPCEP students at Michigan State University for a 1-Week program on renewable energy. CMS Engineers actively engaged students and hired some as summer interns.



- DTE Energy Foundation

- Provided funding to support DAPCEP Saturday and Summer programs and hired DAPCEP students as summer interns



NOTE: In 2019, DAPCEP received \$1.7 million of in-kind services and support from corporate, university, and K-12 partnerships.

State of Michigan (SOM) Return on Investment



- During the last 7 years, DAPCEP received \$2,400,000.
- The ROI is \$29,400,000 over a same time period. Assumptions include:
 - Fewer than 1% of alumni working in Michigan earn only \$50,000 per year
 - 5% tax rate
 - The 7 multiplier as provided by municipalities and data by State of Michigan

YEAR	State of Michigan Investment	>1% of DAPCEP Alumni	Taxes paid to SOM \$50K/Year = \$2500)	Business Multiplier (X7)
2013	\$340,000	120	\$300,000	\$2,100,000
2014	\$340,000	160	\$400,000	\$2,800,000
2015	\$340,000	200	\$500,000	\$3,500,000
2016	\$300,000	240	\$600,000	\$4,200,000
2017	\$340,000	280	\$700,000	\$4,900,000
2018	\$340,000	320	\$800,000	\$5,600,000
2019	\$400,000	360	\$900,000	\$6,300,000
TOTAL	\$2,400,000		\$4,200,000	\$29,400,000

SOM Impact

- 49% of DAPCEP students enroll in Michigan colleges and universities, many are influenced by having attending DAPCEP classes on those campuses as youth
- With more than 64,000 alumni, DAPCEP contributes to Michigan's capacity to fill in-demand technical career gaps and build a thriving STEM workforce
- Long-term STEM academic programs offer multiple entry-points to pursuing STEM career pathways; increases student access to programs to build on initial interest

2020 SOM Funding Impact



- Offset personnel costs to allow low to no-cost programs for students
- Supported DAPCEP Explorers, Pathfinders, Pop-Up, and other programs
- Improved program evaluation and design
- Reduced transportation barriers for students participating in DAPCEP programs and events
- Hosted experiential large-scale events for thousands of students and school districts



2021 SOM Funding Request



DAPCEP requests \$750,000 in SOM funding for the 2021 fiscal year.

Our organization has a proven record of good financial stewardship evidenced by more than 20 years of unmodified (clean) annual audits, 95% of income being applied to direct program services, and sound financial management policies.

Funding requested to:

- Continue services that engage more students in high quality STEM programs to prepare youth for future jobs
- Expose more students to skilled trades and certificate programs
- Expand program engagements to more students in other regions of Michigan beyond Southeastern Michigan
- Increase the number of students attending Michigan colleges, universities, and vocational programs
- Help more Michigan students fill Michigan jobs, close Michigan's technical workforce gap, and compete in global STEM economy

Thank you for your support of DAPCEP!

*Thank
you!*