



Thank you Chair Hite, Vice-Chair Sykes, and members of the Finance Primary and Secondary Education Subcommittee.

My name is Aimee Kennedy and I am the Senior Vice-President for Education, STEM Learning and Philanthropy at Battelle.

By the time Ohio's next state budget goes into effect, Battelle will have managed the Ohio STEM Learning Network for 10 years. After a decade, the network is at a crossroads. It has more significant opportunities, and more growing challenges, than ever. This budget will set it on one of two paths.

Significant opportunities: On one hand, the Ohio STEM Learning Network has never been more successful. It was launched in 2008 with funding from the State of Ohio and national foundations to build a STEM school in five of Ohio's largest cities. Since then, the network has expanded to include suburban, rural, and religious schools. Today, we count more than 40 schools as members of the network.

Thanks to a series of partnerships with the department, the network's relationship with the Ohio Department of Education has never been stronger:

- Applications for designation as an Ohio STEM school are up 100% from last year. In 2017, thirty schools applied for designation including religious, independent, and rural schools. Elementary schools were eligible to apply for designation for the first time this year; 10 submitted applications. Interest in STEM education and designation continues to grow statewide.
- Fourteen schools joined a push led by the Ohio STEM Learning Network to create new lessons for students on the dangers, treatment, and science of opioid addiction. More than 80 students will present their work in a showcase at Battelle on May 18. This is hands-on, real-world learning; the cornerstone of STEM education.
- Battelle has successfully won contracts for computer science training through Code.org and management of the U.S. Army's portfolio of STEM programs. Battelle has been able to direct these opportunities to network schools.

Growing challenges: This progress comes at a price. Since the start of the network, Battelle has supplied more than \$6 million dollars in support. This support takes the form of financial donations to sustain the network's regional affiliates and staff time to support initiatives like STEM school designation and management of the opioid design challenge.

Supporting STEM education is part of Battelle's mission, and that will not change. However, the network should not become overly dependent on this funding. The full vision of the Ohio STEM Learning Network is much larger. From the beginning, the network has aimed to offer every child the opportunity at a STEM career, if they choose it. This mission demands long-term, sustainable state support.

Growing an organization requires time and personnel to build connections and pursue new opportunities. Across the country, peer organizations in Tennessee, Idaho, Utah, and West Virginia are supported directly by their state budgets.

Across Ohio, from kindergarten through high school, there are simply too many powerful opportunities for Battelle alone to fund.

Results-driven funding proposal: In conversations with Ohio school leaders, parents, and policy makers, we have developed a clear set of initial projects that a fully-funded network could pursue. Immediate milestones would include:

- 1) Training for Ohio teachers in Battelle's College Ready Math and College Ready Science methods, an approach built off the nationally tested Literacy Design Collaborative that integrates reading and writing into daily classroom work.
- 2) Enrollment of a new group of Ohio principals in Battelle's STEM school leadership program, the Innovative Leaders Institute. This program, now training its fifth group of aspiring STEM school principals, is the only dedicated leadership program for STEM/innovative school leaders in the country.
- 3) State-wide rollout of trainings on computer science through Battelle's status as a professional learning partner with the national non-profit Code.org.
- 4) A new yearly summit to supporting STEM schools at every level of experience.

Resuming the vision: From the beginning, the Ohio STEM Learning Network set out to be a public-private partnership. Battelle's role has been to drive the project forward with the results-driven, fast-paced approach that guides our business.

Now that the network has established itself, the State of Ohio can provide sustainability. Ohio is positioned to become the center of next wave of STEM jobs. Of Ohio's fastest growing jobs, eight of 10 Associate degree jobs and 10 of 10 Bachelor's degree jobs specifically name STEM skills.

These are growing fields that pay well. On average, Ohio's fastest paying STEM jobs pay 33% (Associates required) to 24% (Bachelors required) more than jobs with the same education level.

We know that STEM, and STEM education, is about more than just one career. Ohio's next generation of workforce will face greater still demands for complex thinking and skills. Every Ohio community can benefit from this opportunity. From the beginning, our approach to building schools is rooted in local businesses, local colleges, and local jobs.

For the Marysville STEM Early College High School, that meant bringing in engineers from Honda. For Biomed Science Academy in Rootstown, building the school the campus of Northeast Ohio Medical University (NEOMED) with doctors serving as guest lecturers. For Global Impact STEM Academy in Springfield, that meant designing an integrated, agriculture-based curriculum.

It is not enough to simply market STEM better. STEM degrees have some of the highest attrition rates before students graduate. We owe it to our students to follow through.

The solution is a comprehensive approach to these fields that starts early and gets students out of the classroom and into the lab, factory, or farm.

Ohio's first STEM School, Metro Early College has now graduated six classes of students. It still maintains a 100% graduation and 100% college admittance rate. The admission criteria haven't changed either. The school enrolls using non-selective lottery process and requires no test scores or academic qualifications. Metro students succeed. Just as importantly, they stay.

Sixty percent of these students enroll in Ohio State at graduation, opting to turn down admission to out-of-state colleges and instead continue their educations and careers in our state.

This is our vision for Ohio schools: High standards that lift every student. Tested-teaching methods that open high-paying, reliable jobs to Ohio's next generation. Real-world learning where students get outside the classroom to build the connections in businesses and colleges that allow them to see opportunity close to home.

We propose a line of \$250,000 to support the network. In conversations with Ohio school leaders, parents, and policymakers, we have developed a clear set of initial projects that a fully-funded network could pursue:

- 1) Training for Ohio teachers in Battelle's College Ready Math and College Ready Science methods built off nationally tested methods.
- 2) Enrollment of a new group of Ohio principals in Battelle's STEM school leadership program, the Innovative Leaders Institute. This program, now training its fifth group of aspiring STEM school principals, is the only dedicated leadership program for STEM/innovative school leaders in the country.
- 3) State-wide rollout of trainings on computer science through Battelle's status as a professional learning partner with the national non-profit Code.org.
- 4) A new yearly summit to supporting STEM schools at every level of experience.

Why now: This is the time for Ohio to make clear that STEM skills, STEM jobs, and STEM businesses are welcome here. Our state's economy is making measured, but strong, steps forward. But many communities want to know when these opportunities will come to them.

Governor's Executive Workforce Report, *"Building Ohio's Future Workforce,"* outlines a series of clear steps for schools to take. Each is a clear validation of the Ohio STEM Learning Network model.

- **Recommendation 1A advocates for local, regional, and state collaboration.**
 - Our network was built with (and Battelle has maintained) a series of regional hubs to link STEM organizations together.
- **Recommendation 1B advocates for problem-based learning.**
 - This method has been a key part of STEM education in Ohio since the doors opened at Metro Early College High School in 2006.
- **Recommendation 2A advocates for schools to create lasting relationships with businesses.**
 - To join the network, each school must detail and provide letters of support from the local businesses who will work with their students.
- **Recommendation 3A advocates for increased internships.**
 - Last year alone, students in our STEM schools completed more than 25,000 internship hours.

Each of these recommendations mirror the values that the Ohio STEM Learning Network have held for a decade. With your support, we can scale them further to communities across the state.