STE(A)M TRUCK

Strategic Plan
2019-2023

We ignite a passion for learning and forge collaborative communities by making things together.
EXECUTIVE SUMMARY (1 of 2)

- Our rapidly evolving economy and society require students to develop **new, 21st century skills** – and a different learning mindset – than they needed in the past to be successful. STEM/STEAM is a powerful vehicle for this kind of learning, but research has shown that neither students nor teachers are equipped with the **confidence or competence** to engage fully.

- STE(A)M Truck, the primary offering of Community Guilds, is an **answer to this challenge**. Founded in 2012-13, STE(A)M Truck changes students’ trajectories by engaging and inspiring them – and their teachers – through an experiential maker approach to teaching and learning, delivered by staff with deep real-world STE(A)M expertise.

- The organization has **grown rapidly** throughout the metro Atlanta area, and has partnered with over 80 organizations and 1,300 educators to serve over 17,000 students, preK-12; tracked **outcomes have shown impact** in students’ non-cognitive skills and interest in STEM.
• STE(A)M Truck is now looking ahead to the future, with a **vision to**:
  - **Continue to grow**, delivering nearly 120K hours of service to students, educators, and staff over the next five years – with the bulk of growth coming from **long-term “impact” programming**
  - **Focus on elementary schools first then middle school**, with a fully built-out suite of innovative student-facing programming *and* teacher professional development
  - **Rigorously track impact** through robust evaluation and continuous improvement processes
  - **Strengthen relationships with partners** in the field to enable two-way practice dissemination

• To do so, STE(A)M Truck is **preparing to**:
  - Double down on **program development and codification**
  - Invest in supporting **multi-year programming**, through longer-term (vs. one-off) contracts
  - Expand **program staff, organizational structures and resources** (e.g., marketing, communications, evaluation), and physical space to enable consistent, high-quality program delivery
  - Continue to **explore opportunities** to connect with the broader Community Guilds vision
THE OPPORTUNITY
“Learning and innovation skills increasingly are being recognized as those that separate students who are prepared for more and more complex life and work environments in the 21st century, and those who are not. A focus on creativity, critical thinking, communication and collaboration is essential to prepare students for the future.”

– Partnership for 21st Century Learning
21st century skills are the bedrock of many STE(A)M careers, and:

**STEM jobs are growing faster than non-STEM jobs...**

Recent and projected employment growth

<table>
<thead>
<tr>
<th></th>
<th>2000-2010</th>
<th>2010-18 (projected)</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEM</td>
<td>7.9%</td>
<td>17.0%</td>
</tr>
<tr>
<td>Non-STEM</td>
<td>2.6%</td>
<td>9.8%</td>
</tr>
</tbody>
</table>

In 2010, STEM unemployment was approx. half of non-STEM unemployment

**...and commanding higher wages, across education levels**

Average Hourly Earnings, by Education Level, 2010

<table>
<thead>
<tr>
<th>Education Level</th>
<th>STEM</th>
<th>Non-STEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>High school or less</td>
<td>$25</td>
<td>$16</td>
</tr>
<tr>
<td>Some college or associates</td>
<td>$27</td>
<td>$19</td>
</tr>
<tr>
<td>Bachelor degree only</td>
<td>$36</td>
<td>$28</td>
</tr>
<tr>
<td>Graduate degree</td>
<td>$41</td>
<td>$36</td>
</tr>
</tbody>
</table>

THE CHALLENGE: STUDENTS NEED NEW SKILLS/ MINDSETS TO BE SUCCESSFUL

Our schools continue to face significant challenges in delivering 21st century skills, especially through STE(A)M…

- **Heavy change for schools adapting to new standards** (e.g., NGSS) and developing instructional practices for innovative, hands-on STE(A)M learning
- **Lack of access to ongoing, quality training** supporting school leaders and teachers to make this instructional shift
- Political backlash against new standards in many states, creating uncertainty about expectations for teachers
- **Limited in-school time** to develop three “Rs” and invest deeply in the four “Cs” (collaboration, communication, creativity, critical thinking)

…resulting in inadequate (and inequitable) preparation of students for high-potential career opportunities

- **Low STEM proficiency and college readiness** nationwide (and in Georgia), across grade levels
- **Large differences by income, ethnicity, and gender** in K-12 STEM achievement and higher ed certificate/ degree attainment
  - Underrepresented minorities compose ~35% of the college-age population but earn only ~11% of engineering degrees and certificates
- **Evidence suggesting U.S. kids are becoming less creative and more risk averse**
The **Maker Movement** – hands-on, minds-on, project-based learning, creative confidence development, design thinking, and STE(A)M content – **has emerged in response to these needs**

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**The STE(A)M Truck mission is to close opportunity gaps and eliminate inequities by transforming teaching and learning through an experiential maker approach.**
WHO WE ARE
STE(A)M Truck programming is a transformative experience for students, teachers, and schools.

We partner with schools, districts, and education organizations to...

- Serve students through the STE(A)M Truck program, which provides hands-on STE(A)M-focused opportunities for students to make and learn
- Collaborate with teachers and leaders to influence instructional practices to become more experiential
- Connect students to community members with maker-related careers

Resulting in...

- Underserved youth in grades preK-8 experiencing self-efficacy through experiential learning engagement and more likely to be on a path to positive life outcomes
- Educators more regularly using an experiential approach in their work with elementary and middle school youth, with an exponential impact on youth
- Transformational practices spreading through Atlanta, Georgia, and beyond
### Core Features

- Curated mobile maker spaces with a breadth of tools and equipment
- Codified, age- and developmentally-appropriate curriculum
- “Real-world,” applied STEM expertise
- Highly skilled team with diverse role models
- Metrics to measure progress and report outcomes
- Strong and sustained partner, funder, and stakeholder relationships

### Student Programming

- Repeated opportunities for exposure to content that ignites an academic interest and excitement for/comfort with STE(A)M
- Clear connections made between school and life
- Skill development around self-advocacy for the things that matter in life
- Attention to mastery of the skills proven to be important for success in college and career

### Capacity Building

- Access to coaching from professionals who can elevate teacher practice and align it with STE(A)M objectives
- Active engagement in and testing of interventions that reflect the realities of the classroom
- Built-in time for educators to think about their work and incorporate feedback
- Sustained space to develop effective practices
PERSPECTIVES ON STE(A)M TRUCK FROM SOME OF OUR PARTNERS

A few words from a sampling of our valued partners

• “It’s the expertise and passion of the STEAM experts and coaches…. It’s something that drives schools and organizations to continue to participate.”

• “A passionate person in front of a child is the best way to ignite a child’s love of something.”

• “It gave the teachers ideas. They may have had some of the materials on-hand but they just didn’t think about doing them.”

• “One of the things my team said [that] is invaluable, and they’ve urged me to please get STE(A)M Truck to come back for, is professional development around actual tool use.”

• “Some children just blossom because of the interactive, hands-on activities. It’s something different and new.”
WE ARE PROUD OF THE PROGRESS WE HAVE MADE AGAINST OUR 2015 PLAN

• Keen focus on our mission and vision

• “Child-centered” focus, with safety a priority but use of real tools and tech

• At-capacity utilization of current fleet of STE(A)M Truck vehicles

• Dramatically increasing the number of youth served, from 150 during Y1, 5000 Y3 and over 11,000 youth served last year.

• Piloting different programs and partnerships (e.g., preK with Sheltering Arms, after-school with the YMCA, high school work force development)

• Governor’s Office of Student Achievement conducted an independent evaluation and determined: “Overall, the disaggregated data suggests that (these) schools (that complete a 20 day Capacity Build) show statistically significant gains in students’ attitudes towards STEM.”
GOING FORWARD, WE WILL DOUBLE DOWN ON EXCEPTIONAL PROGRAMMING

**Programming Priorities**

**STUDENTS**
- Inspiration (passion, “hooked” on STE(A)M)
- Socio-emotional competence

**TEACHERS**
- Embed “innovation thinking” into day-to-day classroom practice

**Long Term Outcomes**
- Feed the long-term pipeline of STE(A)M-prepared students accessing STE(A)M opportunities
- Strengthen confidence and competence to lead STE(A)M learning

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**We will focus on…**

- Long-term, enduring programming (vs. one-off engagements)
- Elementary school first then middle school, to a more fully built out suite of innovative student-facing programming, teacher professional development and capacity building
- Rigorously tracking impact through robust evaluation and continuous improvement processes, to further develop proof points that can facilitate future growth
- Innovative partnerships, particularly those related to STEM/Maker Spaces, to serve as lead generators for long-term programming, enabling multi-way practice dissemination with the broader STEM eco system and connecting with Community Guilds’ vision
### Cultivation & “Engagement” (Year 1)

- Lighter-touch programming to start: 5 days (or less) per grade level; could include a combination of programs
- Uses a real-world hook to engage and excite students and educators alike
- Aims to break mental models
- Teachers self-select into teacher leadership roles to support broader school-wide adoption

### School Model/ “Impact” Implementation (Years 2-3)

- Extended programming, focused on impact: extended to an average of 20 days
- Deepens students’ and educators targeted skills and knowledge (in addition to engaging and exciting)
- Capacity building with a cadre of teacher-leaders identified in year one
- Schools opt into support for STEM or STE(A)M certification

### “Sustaining” Support (Years 3+)

- Sustaining gains, focused on building partner capacity
- Scales practice throughout school/site or grade levels across a cluster
- Provides targeted consulting support for educators/adults and selected programming (introduction to new practices, ideas, modules) for students
- If applicable, supports schools in efforts to prepare for and/or renew STEM or STE(A)M certification(s)
Over the next five years, STE(A)M Truck will deliver nearly 120K cumulative **hours** of service to students, educators, and staff; we are aiming to significantly expand services and supports year-over-year.

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<tr>
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</thead>
<tbody>
<tr>
<td>Engagement (light-touch, inspiring)</td>
<td>7,700</td>
<td>9,000</td>
<td>10,000</td>
<td>11,000</td>
<td>12,000</td>
</tr>
<tr>
<td>Impact (longer-term, deepening)</td>
<td>5,600</td>
<td>7,500</td>
<td>10,000</td>
<td>15,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Sustaining (building partner capacity)</td>
<td>700</td>
<td>1,065</td>
<td>1,900</td>
<td>3,540</td>
<td>5,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>14,000</td>
<td>17,565</td>
<td>21,900</td>
<td>29,540</td>
<td>37,000</td>
</tr>
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</table>
WHERE WE’RE HEADED
Our first work is to refine these impact measures, set the baseline, and put the systems and structures in place to ensure rigorous and consistent tracking and evaluation.

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### Impact

<table>
<thead>
<tr>
<th>Category</th>
<th>Measure</th>
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</thead>
<tbody>
<tr>
<td><strong>Reach</strong></td>
<td></td>
</tr>
<tr>
<td>Engagement</td>
<td>• Number of students reached and engaged</td>
</tr>
<tr>
<td></td>
<td>• Number of teachers reached and engaged</td>
</tr>
<tr>
<td><strong>Impact</strong></td>
<td></td>
</tr>
<tr>
<td>Student</td>
<td>• Student attitudes toward school, through student baseline and follow-up surveys (including teacher input)</td>
</tr>
<tr>
<td></td>
<td>• Student comfort with engaging in STE(A)M concepts and programming</td>
</tr>
<tr>
<td>Teacher / Administrator</td>
<td>• Teacher attitudes toward engaging in STEM/ STE(A)M programming (e.g., “Because of our partnership with Community Guilds, I am more confident in using high-leverage instructional strategies in my classroom that engage and motivate students” (scale of 1-5))</td>
</tr>
<tr>
<td></td>
<td>• Teacher use of experiential approach in classrooms (through observation of instruction, use of curriculum)</td>
</tr>
<tr>
<td></td>
<td>• Net promoter score: “I would recommend to a colleague that they partner with STE(A)M Truck” (scale of 0-10)</td>
</tr>
<tr>
<td>School</td>
<td>• School attendance of participating students</td>
</tr>
<tr>
<td></td>
<td>• Discipline/ referral rates of participating students (through educator survey)</td>
</tr>
<tr>
<td><strong>Sustainability</strong></td>
<td></td>
</tr>
<tr>
<td>Operational/ Financial</td>
<td>• Revenue mix (philanthropy vs. corporate vs. earned)</td>
</tr>
<tr>
<td></td>
<td>• Program mix (engagement, impact, sustaining)</td>
</tr>
<tr>
<td></td>
<td>• Grant revenue committed over 5 years</td>
</tr>
<tr>
<td>Organization</td>
<td>• Net promoter score: “I would recommend Community Guilds as a place to work to a friend or a colleague” (scale of 0-10)</td>
</tr>
</tbody>
</table>
## ASSUMPTIONS: REVENUE

<table>
<thead>
<tr>
<th>Category</th>
<th>Assumption/ rationale</th>
</tr>
</thead>
</table>
| Programming            | • Programming serves preK-8<sup>th</sup> grade  
|                        | • Begin with engagement/ light touch programming (less than five days)  
|                        | • Convert to multi-year impact programming (20 days “dosages”) – allowing schools to build to deeper relationships  
|                        | • Maintain over the long-term with sustaining support (teacher touchpoints)                                                                                                                                               |
| School partnerships    | • Where possible, partnerships are multi-year; year-over-year retention at 70%  
|                        | • Focus on cluster/ district level contracts with elementary schools first, but look to find synergies with GA DOE STEAM Continuum process  
|                        | • Funding over time remains subsidized by philanthropy/ corporate (but mix shifts to more earned revenue over the course of the partnership)                                                                           |
| “Innovation support”   | • Consulting engagements continue as part of the model  
|                        | • Way to spark innovation and share best practices with the field, and a lead generator for core programming  
|                        | • Tightly maintained as a secondary focus for STE(A)M Truck team |
TO ENABLE OUR PLAN, WE ARE INVESTING IN PROGRAM EXECUTION AND DELIVERY

Our critical priorities include:

1. Invest in supporting **multi-year programming**, through longer-term (vs. one-off) contracts *(see prior section)*
   - Cultivate sustained relationships with past and current school and organizational partners
   - Create forecasting and pricing tools to enable forward planning
   - Grow team capacity to support fundraising and development

2. Double down on **program development and codification**
   - Front-load research and development on curriculum design
   - Invest in amplifying teacher engagement through expanded curriculum and delivery/coaching
   - Ensure consistent program delivery, with top-notch program staff using codified playbooks to create seamless experiences

3. Expand **program staff, organizational structures and resources**, and physical space to enable consistent, high-quality program delivery
   - Build evaluation capabilities to ensure rigorous tracking and evaluation of impact measures and metrics
   - Add resources to support operations, marketing, communications
   - Consolidate physical space into a single location to ensure collaboration and coherence across procurement, operations, logistics, and training

4. Continue to **explore opportunities** to connect with the broader Community Guilds vision
   - Grow partnerships with other entities for collaboration and increased impact (e.g., maker spaces, data evaluation, staff recruitment and retention, teacher training, STEM expertise and role modeling)
FIVE YEAR PROJECTIONS:

- **Programming Expenses**
- **Overhead Expenses**
- **Capital Expenses**
- **Cash Reserves**

YEARLY EXPENSE FORECAST
WE EXPECT ECONOMIES OF SCALE

Programming Student Hours

- **Engagement**
- **Impact**

Year:
- 2018-2019
- 2018-19
- 2019-2020
- 2020-2021
- 2021-2022
- 2022-2023
- 2023-2024
WE EXPECT ECONOMIES OF SCALE

Cost Per Program Day

- 19/20: $4,371.51
- 20/21: $4,436.93
- 21/22: $4,192.31
- 22/23: $4,061.95
- 24/25: $3,814.72
WE PREDICT SUSTAINABILITY

Philanthropy dollars as % of total expenses

- 19/20: 51.71%
- 20/21: 56.06%
- 21/22: 48.73%
- 22/23: 42.09%
- 24/25: 35.24%
WE BELIEVE THIS WILL REQUIRE SIGNIFICANTLY BUILDING OUT OUR TEAM

Existing roles (may reflect different titling); note that CFO is part-time, and current LOD Engineer and Artist in Residence are part-time.

See next slide for # Part time staff
FULL TIME AND PART TIME STAFF HEAD COUNT

FIVE YEAR PROJECTIONS

Part Time & Full Time Equivalents

<table>
<thead>
<tr>
<th>Year</th>
<th>PTE</th>
<th>FTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018-19</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>2019-20</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>2020-21</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>2021-22</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>2022-23</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>2023-24</td>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>
## ASSUMPTIONS: STAFFING

<table>
<thead>
<tr>
<th>Role</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Leadership</strong></td>
<td></td>
</tr>
<tr>
<td>President/Chief Innovation Officer,</td>
<td>Full time FY21/22</td>
</tr>
<tr>
<td>Community Guilds</td>
<td></td>
</tr>
<tr>
<td>CFO</td>
<td>Full time FY20/21</td>
</tr>
<tr>
<td>Director of Development</td>
<td>Part time transitions to full time FY20/21</td>
</tr>
<tr>
<td>Director of Marketing/Communications</td>
<td>Part time transitions to full time FY21/22</td>
</tr>
<tr>
<td>HR Director</td>
<td>Full time hire in FY23/24</td>
</tr>
<tr>
<td><strong>Finance</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Operations</strong></td>
<td></td>
</tr>
<tr>
<td>COO</td>
<td>Full time, currently Director of Operations; transitions to COO FY19/20</td>
</tr>
<tr>
<td>Fleet Maintenance</td>
<td>Part time contract</td>
</tr>
<tr>
<td>Inventory Management</td>
<td>Part time transitions to full time FY20/21</td>
</tr>
<tr>
<td><strong>Program</strong></td>
<td></td>
</tr>
<tr>
<td>Executive Director STE(A)M Truck</td>
<td>Full time</td>
</tr>
<tr>
<td>Director of Curriculum and Teacher</td>
<td>Part time transitions to full time FY18/19</td>
</tr>
<tr>
<td>Engagement</td>
<td></td>
</tr>
<tr>
<td>Lead of Day/STEM Designer</td>
<td>Part time transitions to full time FY19/20</td>
</tr>
<tr>
<td>Lead of Day/Engineer in Resident</td>
<td>New hire in FY19/20</td>
</tr>
<tr>
<td>Lead of Day/Artist in Resident</td>
<td>Part time transitions to full time FY20/21</td>
</tr>
<tr>
<td>Director of STE(A)M Truck Program</td>
<td>Full time</td>
</tr>
<tr>
<td>Evaluation Resources</td>
<td>Contracted support</td>
</tr>
</tbody>
</table>
## ASSUMPTIONS: COST

<table>
<thead>
<tr>
<th>Category</th>
<th>Assumption/ rationale</th>
</tr>
</thead>
</table>
| Full-time staff           | • STE(A)M Truck wants to attract, retain, and motivate a high-quality staff; near-universal feedback that total rewards need to better align with market  
                           • Staff salaries move closer in-line with market rates  
                           • All full-time staff receive full benefits and an annual 2% COLA salary increase  
                           • Includes additional full-time staff for programming and curriculum development                                                                                                                   |
| Contract (PT) staff       | • Differentiated capabilities and expertise required of staff to serve at the upper grades  
                           • Maker Mentor pay ranges from $25/hr (lower grades) to $50/hr (middle school)                                                                                                                                |
| Curriculum development    | • Gradual program creation will enable the team to reflect, modify, and innovate  
                           • 275 hours of curriculum developed over five years  
                           • Assumes 1-2 grade levels phased in each year, and basic revision of existing content year over year                                                                                               |
| Infrastructure            | • Fleet of vehicles able to sustain growth in partners/ programming  
                           • Collaborative space supports innovation, sustains team morale  
                           • STEAM Truck buys 1 truck in year 1, another in year 2; included dollars for refurbishment  
                           • Team office space costs of ~$30k/yr, scaling with team size; equipment and increased fleet size                                                                                                |
| COGS and other            | • COGS includes cost of instructors, equipment/ materials, and travel; all other costs are fixed, and represented in SG&A  
                           • Includes a build-up to 30 days of reserve by Y4                                                                                                                                                          |
It Really Does Take a Village

Below are partners, funders, and supporters of STEAM Truck that have made our impact possible.

The Arthur M. Blank Foundation
The Goizueta Foundation
Civic Accelerator
Big Brothers Big Sisters

40 Schools

KIPP Metro Atlanta Schools
WONDER root

STEM Foundation
PwC

The Best Foundation, Inc.
Boys & Girls Club

Maker Camp
Civic ATL
Maker Faire®

Atlanta Science Festival
Emmaus House

Atlanta Public Schools
The Kindezi Schools

Rotary Club of Decatur
United Way

Enseña por México

Thank you

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