

Budget

Teays Valley Local (049098) - Pickaway County - 2015 - Straight A Fund - Rev 0 - Straight A Fund - Application Number (203)

U.S.A.S. Fund #:

[Plus/Minus Sheet \(opens new window\)](#)

Purpose Code	Object Code	Salaries 100	Retirement Fringe Benefits 200	Purchased Services 400	Supplies 500	Capital Outlay 600	Other 800	Total
Instruction		19,125.00	3,712.50	144,873.00	569,067.27	4,528,709.86	0.00	5,265,487.63
Support Services		0.00	0.00	125,550.00	0.00	0.00	0.00	125,550.00
Governance/Admin		0.00	0.00	73,535.02	0.00	0.00	0.00	73,535.02
Prof Development		0.00	0.00	394,660.00	0.00	0.00	0.00	394,660.00
Family/Community		0.00	0.00	99,000.00	0.00	0.00	0.00	99,000.00
Safety		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Facilities		0.00	0.00	0.00	0.00	3,212,923.48	0.00	3,212,923.48
Transportation		4,320.00	1,128.00	0.00	2,112.00	0.00	0.00	7,560.00
Total		23,445.00	4,840.50	837,618.02	571,179.27	7,741,633.34	0.00	9,178,716.13
Adjusted Allocation								0.00
Remaining								-9,178,716.13

Application

Teays Valley Local (049098) - Pickaway County - 2015 - Straight A Fund - Rev 0 - Straight A Fund - Application Number (203)

Please respond to the prompts or questions in the areas listed below in a narrative form.

A) APPLICANT INFORMATION - General Information

1. Project Title:

The Frontiers Project: Retraining and Retooling for Progress

2. Executive summary: Please limit your responses to no more than three sentences.

The Frontiers Project is a ground-breaking "coming together" of key players in the economic development of three localities in central Ohio. Members of this consortium include three central Ohio school districts; the Educational Service Center of Central Ohio; the DuPont; PPG; and Honda corporations; Columbus State Community College; The Ohio State University; the economic development councils of Pickaway County, Delaware County and the City of Worthington; and local libraries. Together, these entities will enjoin people, efforts and ideas to effect a fundamental shift in the existing relationships and programs that support economic development in these respective communities. This shift will be realized through investment in 21st century learning spaces that will be equipped to support project-based learning focused on relevant local, global and academic problems; in teacher professional development that will establish and then magnify an extensive "retooling" of existing practice; and through partnership with industry, public libraries, and local business leaders that will bring emerging technologies into classrooms with the support of a variety of mentorship models. Ultimately, the broad reach of the Frontiers Project is about connecting young people, teachers, families, community services, and local and global leaders in higher education and business in ways that will measurably enhance the economic future of our communities and the educational experience of our students.

This is an ultra-concise description of the overall project. It should not include anything other than a brief description of the project and the goals it hopes to achieve.

31500 3. Total Students Impacted:

This is the number of students that will be directly impacted by implementation of the project. This does not include students that may be impacted if the project is replicated or scaled up in the future.

4. Please indicate which of the following grade levels will be impacted:

Pre-K Special Education

Kindergarten

1

2

3

4

5

6

7

8

9

10

11

12

5. Lead applicant primary contact: - Provide the following information:

First Name, last Name of contact for lead applicant

Jeff Sheets

Organizational name of lead applicant

Teays Valley Local Schools

Address of lead applicant

385 Viking Way Ashville, Oh 43103

Phone Number of lead applicant

740-983-5010

Email Address of lead applicant

jsheets@tvsd.us

6. Are you submitting your application as a consortium? - Select one checkbox below

Yes

No

If you are applying as consortium, please list all consortium members by name on the "Consortium Member" page by clicking on the link below. If an educational service center is applying as the lead applicant for a consortium, the first consortium member entered must be a client district of the

educational service center.

[Add Consortium Members](#)

7. Are you partnering with anyone to plan, implement, or evaluate your project? - Select one checkbox below

Yes

No

If you are partnering with anyone, please list all partners by name on the "Partnering Member" page by clicking on the link below.

[Add Partnering Members](#)

B) PROJECT DESCRIPTION - Overall description of project and alignment with goals

8. Describe the innovative project: - Provide the following information

The response should provide a clear and concise description of the project and its major components. Later questions will address specific outcomes and the measures of success.

The current state or problem to be solved; and

The impetus lies in the challenges presented by a shifting economic future for central Ohio students and communities. Currently, three silos of community development - k-12 schools, private industry, and postsecondary institutions -coexist, but operate independently and are not connected in regular, meaningful communication, mutually beneficial program development, or in the creation of local goals that will encourage emerging businesses and other economic opportunities. The intent is to provide a framework that will allow these forward-looking entities a way to work together to invest in a cultural change that promotes innovation, interdependence, economic progress, and academic achievement, especially in the areas of science and math education. Consider this: As a model student advances through grades K-12, it is unlikely she will spend time in a classroom with a STEM mentor. It is also unlikely, despite the close proximity of numerous laboratories, universities, and business contacts, that she will work side-by-side with a professional off-site. She will learn with the same type of science lab equipment her parents used when they were in school. Her teachers will be general education majors rather than content-area specialists. During high school, this student's studies will broaden with more course choices, including AP and Honors classes. If she's lucky, she'll have a teacher with an engineering background, but that is improbable despite her talents and interests. She will graduate on time even though her coursework is completed when she is a junior. She will set her sights on matriculation at a nationally recognized university with a highly competitive admissions process for future engineers. She goes for it, despite the fact she has never experienced the work of the profession. Ultimately, college/career take her far from home and a community that is actually rich with potential and resources that were never made available to her.

The proposed innovation and how it relates to solving the problem or improving on the current state.

The primary goal of Frontiers is to address the fragmented nature of economic development in our communities through the creation of a consortium that will bring together instructional leaders from three school districts and the Educational Service Center of Central Ohio; business partners from Honda, DuPont and PPG corporations; program leaders from The Ohio State University and Columbus State Community College; and community resources including public libraries and local agencies of economic development. Each member of the consortium and the partners will provide services to achieve the goals of the Frontiers Project: -The Education Service Center of Central Ohio will manage administrative details, including procurement; will provide specialized training for teachers; and will serve as an external auditor. -Participating school districts will create learning environments in which students can develop 21st century capabilities with the support of highly skilled teachers and mentors. -Three international corporations, DuPont, Honda and PPG, will support the consortium in creating local research and business "incubators." -Agencies of economic development will facilitate communication between local businesses and the schools to recruit STEM-mentors to work with students. -Public libraries will partner with the school districts in unprecedented ways. They will develop programming that will support business, student, and community activities, both in the school-based fabrication lab in each district and in the scaled-down maker spaces to be installed in libraries. -Two institutions of higher learning, Columbus State Community College and The Ohio State University's Women in Engineering Program, will bring STEM-content expertise, program development, and business liaison support to the consortium.

9. Which of the stated Straight A Fund goals does the proposal aim to achieve? - (Check all that apply)

Applicants should select any and all goals the proposal aims to achieve. The description of how the goals will be met should provide the reader with a clear understanding of what the project will look like when implemented, with a clear connection between the components of the project and the stated goals of the fund. If partnerships/consortia are part of the project, this section should describe briefly how the various entities will work together in the project. More detailed descriptions of the roles and activities will be addressed in Question 16.

Student achievement (Describe the specific changes in student achievement you anticipate as a result of this innovation (include grade levels, content areas as appropriate) in the box below.)

Existing accountability measures: Students will demonstrate gains in achievement in science and math (for the 2015-2017 school years) as measured by nationally-normed standardized tests including Terra Nova, Measures of Academic Progress (MAP), and ACT Quality Core; and state testing that includes the OAA's and the OGT. Scores will improve by a factor of 5% over the next three years. Increase STEM coursework: The number and type of STEM mentor visits and the project assistance offered by the partners will be tracked, and students' resulting interest will be reflected in an increase in the number of graduating seniors who commit to STEM majors. Both post-secondary partners track the reporting of declared majors. Another long-term measure will be an increase in the participation of females in engineering fields. The American Society for Engineering Education reports that 20% of engineers are female. This proposal is designed to double the number of girls who pursue STEM coursework in grades 7-12 and post-secondary while also doubling the number of high school students who take dual enrollment credits to access more challenging college-level course work. Formative data: Student, parent, and teacher satisfaction

surveys will provide important anecdotal feedback that will serve as formative assessment information so quick corrections can be made to programming.

Spending reductions in the five-year fiscal forecast or positive performance on other approved fiscal measures (Describe the specific reductions you anticipate in terms of dollars and spending categories over a five-year period in the box below or the positive performance you will achieve on other approved fiscal measures. Other approved fiscal measures include a reduction in spending over a five-year period in the operating budget approved by your organization's executive board or its equivalent.)

Shared resources: The cost of professional development course offerings will be negotiated on the basis of teachers in 48 schools rather than schools in just one district, for substantial savings. Another great savings will be achieved by cross-training within the consortium. This will be especially important among the science, technology, art, and engineering teachers who will use the updated labs in the middle and high schools. Engineers from Smith Lab at Ohio State and Columbus State Community College have already provided guidance on the necessary equipment and possible instructional methods for use in the fabrication lab. This is typically an expensive wrap-around service that, as consortium partners, is already being provided at no cost. Additionally, costs for many services, equipment and supplies will be negotiated on behalf of the consortium rather than just one school for significant savings. Save money for students and families: Significant savings are expected for students and their families as they earn both high school and college credit while still enrolled in the consortium school districts. Dual enrollment numbers will more than double in the next three years with the support of the Frontiers Project. Columbus State Community College currently has 36 courses nearing completion in the catalog of their digitized curriculum. Each district, under terms of the grant, can develop two more courses with Columbus State which can then be shared within the consortium at no extra cost.

Utilization of a greater share of resources in the classroom (Describe specific resources (Personnel, Time, Course offerings, etc.) that will be enhanced in the classroom as a result of this innovation in the box below.)

Reimagine existing spaces: The redesign and retrofit of existing areas in schools that are not currently used as learning spaces will redistribute a greater share of district resources to the classroom when the construction or purchase of a new building can be avoided by making the most of current facilities. The district consortium council is tasked with "recycling" existing spaces and will reuse furnishings and equipment as well. Retrain and retool: The cost of retraining and offering professional development in STEM areas to current (and proven) teachers eliminates the cost of hiring new teachers with unpredictable skill sets. Also, while the fabrication labs will be a costly investment, they will be an invaluable resource especially where they replace aging and outdated shop equipment and science labs.

Implementing a shared services delivery model (Describe how your shared services delivery model will demonstrate increased efficiency and effectiveness, long-term sustainability, and scalability in the box below.)

Working together: Members of this consortium will enjoin people, efforts and ideas to effect a fundamental shift in the existing relationships and programs that support economic development in these respective communities. Ultimately, the broad reach of the Frontiers Project is about connecting young people, teachers, families, community services, and local and global leaders in higher education and business in ways that will measurably enhance the economic future of our communities and the educational experience of our students.

10. Which of the following best describes the proposed project? - (Select one)

- New - never before implemented
- Existing: Never implemented in your community school or school district but proven successful in other educational environments
- Mixed Concept: Incorporates new and existing elements
- Established: Elevating or expanding an effective program that is already implemented in your district, school or consortia partnership

C) SUSTAINABILITY - Planning for ongoing funding of the project, cost breakdown

11. Financial Documentation: - All applicants must enter or upload the following supporting information. The information in these documents must correspond to your responses in questions 11-14.

* Enter a project budget in CCIP (by clicking the link below)

[Enter Budget](#)

* If applicable, upload the Consortium Budget Worksheet (by clicking the link below)

* Upload the Financial Impact Table (by clicking the link below)

* Upload the Supplemental Financial Reporting Metrics (by clicking the link below)

[Upload Documents](#)

For applicants without an ODE Report Card for 2012-2013, provide a brief narrative explanation of the impact of your grant project on per pupil expenditures or why this metric does not apply to your grant project instead of uploading the Supplemental Financial Reporting Metric.

The project budget is entered directly in CCIP. For consortia, this project budget must reflect the information provided by the applicant in the Consortium Budget Worksheet. Directions for the Financial Impact Table are located on the first tab. Applicants must submit one Financial Impact Table with each application. For consortium applications, each consortium member must add an additional tab on the Financial Impact Tables. Partners are not required to submit a Financial Impact Table.

Applicants with an "Ohio School Report Card" for the 2012-2013 school year must upload the Supplemental Financial Reporting Metrics to provide

additional information about cost savings and sustainability. Directions for the Supplemental Financial Reporting Metrics are located on the first tab of the document. If your organization does not have an "Ohio School Report Card" for the 2012-2013 school year, please provide an explanation in the text box about how your grant project will impact expenditures per pupil or why expenditure per pupil data does not apply to your grant project.

Educational service center, county boards of developmental disabilities, and institutions of higher education seeking to achieve positive performance on other approved fiscal measures should submit the budget information approved by an executive board or its equivalent on the appropriate tabs of the Financial Impact Table. Educational service centers should use the "ESC" tab and county boards of developmental disabilities and institutions of higher education should use the "non-traditional" tab.

12. What is the total cost for implementing the innovative project?

Responses should provide rationale and evidence for each of the budget items and associated costs outlined in the project budget. In no case should the total projected expenses in the budget narrative exceed the total project costs in the budget grid.

9,178,716.13 State the total project cost.

* Provide a brief narrative explanation of the overall budget.

The total cost for implementation will be \$9,178,716.13. This total cost can be broken down into four major categories: professional development, \$264,000; capital improvements, \$6,863,969; supplies, \$1,400,000; and communications with the community, \$100,000. At the elementary school level (\$525,000), the grant will pay for the introduction of "Maker Spaces" for every elementary school student by purchasing equipment to spark creativity and provide students with their first exposure to technological design. These items will be placed in every elementary school library. The grant will also pay for the start-up costs associated with First Lego League (FLL) competitions. A limited number of FLL robots will also be placed in the public libraries as a connection to the "Little Makers" who visit them. The final portion designated for elementary schools will provide the appropriate professional development for our teachers and librarians to make the best use of the new innovative equipment. At the middle school level (\$2,409,315), the grant will pay for the continuation of these "Little Maker" spaces and provide a formal maker space at each middle school. These maker spaces will include 3D printers and other fabrication equipment so students can work an idea from conception to design and then on to creation of their very first prototype. The grant will renovate existing spaces previously under-used by students to create a fabrication type lab space. The middle school science and math teachers will be able to have students gather and evaluate real data from outside the classroom as well as within by using data collection probes from Pasco. These data collection devices will make it possible for students to design their own experiments and quickly gather the data describing the outcomes. The middle school teachers will access even more professional development to learn about the new equipment and its appropriate use as well as a cross-disciplinary project based learning (PBL) course to provide the instructional background for teachers to fully implement the transformational learning environment needed for future generations. At the high school level (\$6,244,401), the full implementation of maker spaces and fabrication equipment is amplified by our local partners (Honda, DuPont, PPG and various small businesses) contributions. Not only will the lab renovations provide a realistic college and career experience for the students, it will also grant access outside of the school day to local community members. This outside access will be monitored and paid for by the partners that use the equipment and spaces. The equipment is too valuable to be left idle after 3 pm and during June, July and half of August. Along with the fabrication lab equipment, the high school level will also renovate some existing spaces to provide flexible learning areas to support the up-to-date equipment. The high school math and science teachers will build upon the data collection probes used in the middle schools and add greater detail to their usage. The grant will also fund the creation of dual enrollment courses available to high school students to earn college credits from Columbus State Community College. These courses will be available to all of the consortium members and will be developed to further aid students and families to deal with the high cost of tuition, to get early college level experience, and to expose students to the more rigorous curriculum required to be successful in college. The high school level will also require the same professional development to learn the detail of this new equipment as well as PBL training to maximize the impact upon student learning.

13. Will there be any costs incurred as a result of maintaining and sustaining the project after June 30th of your grant year?

Sustainability costs include any ongoing spending related to the grant project after June 30th of your grant year. Examples of sustainability costs include annual professional development, equipment maintenance, and software license agreements. To every extent possible, rationale for the specific amounts given should be outlined. The costs outlined in the narrative section should be consistent and verified by the financial documentation submitted and explained in the Financial Impact Table. If the project does not have sustainability costs, applicants should explain why.

Yes - If yes, provide a narrative explanation of your sustainability costs as detailed in the Financial Impact Table in the box below.

No - If no, please explain why (i.e. maintenance plan included in purchase price of equipment) in the box below.

Based on the consortium's financial impact table, the monies are allocated to professional development, capital improvement, supplies, and to fund a communication plan. Nevertheless, after the life of the grant, we do not anticipate any recurring cost, for the following reasons: Professional development: The costs and the training itself will be confined to the grant year alone. The grant will purchase the service of a project manager from the ESC to help oversee all PD and purchases for the grant. Capital improvement: Educational environments are most powerful when they offer students three fundamental conditions: a sense of security and inclusion, mechanisms for involvement, and an experience of community (Strange, C. Carney, Educating by Design: Creating Campus Learning Environments That Work. The Jossey-Bass Higher and Adult Education Series. 2001). According to a report from the American Association of School Administrators, "... well designed systems send a powerful message to kids about the importance their community places on education." (Preparing Schools and School Systems for the 21st Century; Page 53, 1999). Each of the renovations will be done to existing spaces which are either underutilized or currently designed around learning environments which are outdated and not as effective. These spaces will require the same maintenance and resource demand as they have in previous years because the renovations are repurposing the spaces. Some spaces will even reduce costs by updating electrical and HVAC systems to be more efficient. All of the new equipment will replace existing outdated equipment. For example, the wood shops will be updated to new fabrication labs. Funds previously spent on the outdated equipment will be spent to maintain the new equipment. Supplies: Consumable items are always part of a school budget. The modernization only allows for more resources to be placed in active classrooms rather than maintaining unused space. The renovation of antiquated wood shops and the

reduction of the wood shop program will allow for funds to be moved to the fabrication classrooms and support the success of the program. The consumable resources of wood and saw blades will be replaced with new consumable items such as plastics for 3D printers and cutter blades for CNC machines. The science and math classrooms will also modernize by replacing the old test strips and single-use chemical tests with data collection probes. These new probes will replace the use of titrations for dissolved oxygen with DO probes, and spark tape for motion sensors. In both examples, the data collection probes replace costly consumable items which are used by individual students at a slower, less engaging pace. The data probes promote multiple trials at no additional costs. All of the instructional equipment will come with extended warranties and service plans to cover five years of usage. Communication: The final aspect of the project is to send a clear concise message to our students, families and the communities about the Frontiers project. The goal of Frontiers is to accelerate economic development in our local communities. Along with the support of the local government and public libraries, the schools will work with these stakeholders to provide access to the makerspace equipment for economic development. Local inventors, artisans, and innovators can get together and access the maker spaces at the schools during non-school hours, and possibly during school days when they are brought in to support the learning of students.

14. Will there be any expected savings as a result of implementing the project?

Yes

No

Applicants with sustainability costs in question 13 or seeking to achieve significant advancement in spending reductions in the five-year forecast must address this response. Expected savings should match the information provided by the applicant in the Financial Impact Table. All spending reductions must be verifiable, permanent, and credible. Applicants may only respond "No" if the project will not incur any increased costs as a result of maintaining and sustaining the project after June 30th of your grant year. The Governing Board will use the cost savings as a tiebreaker between applications with similar scores during its final selection process. Cost savings will be calculated as the amount of expected cost savings less sustainability costs relative to the project budget.

127,319.00 If yes, specify the amount of annual expected savings. If no, enter 0.

If yes, provide details on the expected savings (i.e. staff counts and salary/benefits, equipment to be purchased and cost, etc.). If no, please explain

Students are always at the heart of our decisions, and we know there will be significant cost savings granted to them through the impact of the Frontiers Project. This will be accomplished through dual enrollment. Students will earn both high school and college credit while enrolled in the dual enrollment courses created by our partnership with Columbus State Community College. Through this grant, CSCC will develop STEM digitized courses to support our efforts to enhance the economic future of our communities and the educational experience of our students. For example, an individual student participating in STEM dual enrollment options can have total of 11-20 credit hours earned through her high school career, which is estimated at around \$3300-6000 in savings per student. Each of the consortium members comes with unique opportunities for cost savings in our facilities. In one district, the renovation to outfit 21st century learning spaces will prevent necessary renovation costs due to increasing enrollment, outdated facilities, and/or underutilized space. In the other districts, cost savings will come from maximizing unused spaces which are costly to maintain. Furthermore, considering both economic development and college and career readiness benchmarks, schools are aligning their curriculum with innovative practices to ensure students are better prepared for career and/or college. Each participating school district has been looking for ways to purchase STEM equipment and create the infrastructure for 21st century flexible learning spaces. This equipment comes with a high start-up cost, however, as a consortium, the districts will receive substantial discounts due to quantity. Vendors are motivated to work with the consortium and high-profile, innovative education programs in central Ohio and offer an average 5-10% discount on equipment and supply cost. With a sum of \$4,000,000 in equipment cost, that is a savings of \$400,000. The idea of shared resources as a cost savings is not only crucial to equipment and supplies but also professional development. The consortium has designed a professional development implementation structure that supports shared professional development. Project Based Learning and STEM training will be delivered in the summer to the consortium members at one location. By centralizing the training, consortium members are saving \$50,000. Also, when teachers are out during the school day/year for additional training, our partners will deliver STEM lessons in their classrooms which will save on substitute costs. Innovation learning labs lend themselves to virtual learning/experimenting, which creates a paperless environment. With this shift and the use of Pasco's paperless labs in all participating middle schools, the consortium districts will save in paper and printing cost. With the technology readily available, students will not need the traditional textbook. Students will rely more on published research obtainable through the web.

15. Provide a brief explanation of how the project is self-sustaining.

All Straight A Fund grant projects must be expenditure neutral. For applications with increased ongoing spending as documented in question 11-14, this spending must be offset by expected savings or reallocation of existing resources. These spending reductions must be verifiable, permanent, and credible. This information must match the information provided in your Financial Impact Table. Projected additional income may not be used to offset increased ongoing spending because additional income is not allowed by statute. Please consider inflationary costs like salaries and maintenance fees when considering whether increased ongoing spending has been offset for at least five years after June 30th of your grant year. For applications without increased ongoing spending as documented in questions 11-14, please demonstrate how you can sustain the project without incurring any increased ongoing costs.

For educational service centers and county boards of developmental disabilities that are members of a consortium, any increased ongoing spending at the educational service center or county board of developmental disabilities may also be offset with the verifiable, permanent, and credible spending reductions of other members of the consortium. This increased ongoing spending must be less than or equal to the sum of the spending reductions for the entire consortium.

Explain in detail how this project will sustain itself for at least five years after June 30th of your grant year.

This proposal is intentionally designed to assure long-term financial sustainability through minimal expenditures beyond the first year of the grant. The three major expenditures of year one are the purchase of equipment/supplies, construction costs to retrofit the space, and the cost of professional development. Equipment/Supplies Sustainability: Most of the recurring costs are triggered solely by consumable items which are replacing previous consumable items. These will simply be funded by the same dollars used in previous budgets. Equipment costs will be unchanged since the maintenance costs for the old shop tools will be switched to maintain the newly purchased equipment. The funds

once used for the purchase of saw blades and wood will be used to maintain the new equipment and new raw materials. Despite the fact that expensive technical equipment is an important part of this project, product warranties are expected to cover breakdowns or maintenance beyond year one. Another item which commonly requires recurring funds is the support to software. The Spark Vue (Pasco) software is a purchased site license which does not require any ongoing financial support. Construction Sustainability: The renovations, once completed, will not increase the footprint of the buildings and therefore not cause an increase in maintenance or energy costs. The building costs of custodial assistance will be commensurate with user fees charged to the non-consortium entities that rent the innovative learning centers during after-school hours and on weekends. Professional Development: The professional development portion of the grant will conclude by June 30, 2015 leaving the program with tactics and assets needed to continue teacher- to- teacher training. The consortium governing board and partners will also continue to conduct professional development with building administrators, guidance counselors and classroom teachers to build the capacity of this team to maintain the articulated initiatives of Frontiers.

D) IMPLEMENTATION - Timeline, scope of work and contingency planning

16. Please provide a brief description of the team or individuals responsible for the implementation of this project, including other consortium members and/or partners.

This response should include a list of qualifications for the applicant and others associated with the grant. If the application is for a consortium or a partnership, the lead should provide information on its ability to manage the grant in an effective and efficient manner. Include the partner/consortium members' qualifications, skills and experience with innovative project implementation and projects of similar scope.

Enter Implementation Team information by clicking the link below:

[Add Implementation Team](#)

For Questions 17-19 please describe each phase of your project, including its timeline, scope of work, and anticipated barriers to success.

A complete response to these questions will demonstrate specific awareness of the context in which the project will be implemented, the major barriers that need to be overcome and the time it will take to implement the project with fidelity. A strong plan for implementing, communicating and coordinating the project should be outlined, including coordination and communication in and amongst members of the consortium or partnership (if applicable). It is recognized that specific action steps may not be included, but the outline of the major implementation steps should demonstrate a thoughtful plan for achieving the goals of the project. The time line should reflect significant and important milestones in an appropriate and reasonable time frame.

17. Planning - Activities prior to the grant implementation

* Date Range Summer 2013 - Summer 2014

* List of scope of work (activities and/or events including project evaluation discussions, communication and coordination among entities).

Summer 2013: Teachers from consortium attended various STEM- focused training. Core teachers participated in Project Based Learning workshops. Administrators from two of the districts sought support from district leadership to consider use of current facilities for STEM initiatives. Teachers and administrators visited 3 innovative middle school programs and talked to teachers about how to implement design thinking in existing instructional programming. Quotes gathered from potential vendors to determine cost to renovate existing spaces. Winter 2014: The consortium, made up of a group of networked educators, formalized. Consortium leaders met with potential partners to share consortium goals. The Governing Committee began monthly and then weekly meetings to formalize project goals. Meeting with ESCCO was organized to formalize the project evaluation component. Meeting with Columbus State University to finalize partnership. Spring 2014: Gathered quotes to formulate budgets. Consortium members began writing the draft of the application and worked on finalizing budgets with treasurers. Ongoing meetings with ESCCO to discuss their role in the partnership resulted in a detailed list of administrative duties that will be managed by the ESCCO. Consortium members worked out details of partnership agreements in numerous meetings with DuPont, Honda of America and PPG, along with the economic development agencies. Communication with the libraries on proposed programming and available space. Drafting of the Straight A Fund proposal was a critical process for the consortium to undertake and ultimately led to consensus in the presentation of a coherent and detailed program. Summer 2014: Governing Board will meet upon notification of the grant award to start implementation phase. Professional development planning related to STEM-coursework, support of fabrication labs and project-based learning will begin. Partnership meetings to shape upcoming year's relationships.

* Anticipated barriers to successful completion of the planning phase

Barriers in summer of 2013: Extensive discussions at every organizational level within schools met some resistance to change; key contacts ultimately found like-minded STEM advocates but the networking process was time-consuming and haphazard. Barriers in winter of 2014: As the concept behind the consortium and Frontiers began to materialize, establishing time to meet and easy communication between the consortium members was a barrier. In our experience, it is unprecedented that public school districts collaborate to this degree and it took time establish common ground and shared goals. Barriers in spring of 2014: Informing, educating, presenting, and responding to questions from administrators and teachers is important to building support for the fundamental shifts proposed in The Frontiers Project and it is time-consuming. Innumerable details are involved developing a project of this size and finding time on top of regular duties to meet, discuss, and plan for the grant was challenging. Barriers in the summer of 2014. The infrastructure needs to be in place prior to grant approval in order to be successful in the tight frame afforded by the bid. All parties involved will be basing decisions and taking steps in anticipation of the awarded grant. This constitutes a large number of planning hours and allocation of resources.

18. Implementation - Process to achieve project goals

* Date Range Summer 2014 - Spring 2015

* List of scope of work (activities and/or events, including deliverables, project milestones, interim measurements, communication, and coordination).

Summer 2014: After approval of the grant, the participating districts will provide a presentation outlining the terms of the grant to their school boards. During this meeting, various marketing and facility renovation bid packages will be presented to the respective Boards of Education for their approval. We will also work with the districts' facility manager to finalize construction plans. District Governing Council will begin to

meet monthly within the school districts and communicate even more frequently to implement the project at the district level. Fall 2014: Continue to build a bank of mentor contacts aligned by areas of expertise with our consortium partners; begin renovation and outfitting of space; ESCCO develops a professional development strategy and timetable for each school district. Teachers, in collaboration with partners, will receive training on new equipment and software. Finalize plan for progress monitoring measures that will be used to determine student engagement, mastery of standards, and personal inventories. Winter 2015: Teachers, administrators, and public libraries' staff participate in ESCCO developed professional development in the conglomerate of Fab Ed, Advanced Technologies, Pasco, TIES, and Lego Academy. Ongoing evaluations will occur in the following areas: facility renovations, purchasing and services, and scheduling of students. ESCCO will provide our project management and evaluation. Short term objectives are to increase STEM course enrollment, increase underrepresented demographic enrollment, and increase community awareness of connecting to industry. Spring 2015: Long term objectives to be evaluated by the ESCCO in the following areas: retention of students in the PBL/STEM program, achievement measured by state assessments, growth measured by the state-approved vendor, and longitudinal studies which will allow us to monitor the enduring impact of the project upon postsecondary enrollment and employment.

* Anticipated barriers to successful completion of the implementation phase.

The biggest barrier for capital improvements is the timeline of the grant period. The ability of our contractors to meet these deadlines and the necessity of renovating during the school year will be a barrier to success. In some schools, this will have to be accomplished by reassigning classes to other parts of the schools as needed and limited access to equipment during these renovations. Thomas Worthington and Worthington Kilbourne High School administrators have identified classrooms and space for temporary instruction, and they will prioritize scheduling for STEM student requests. Construction of the innovation centers in Olentangy and Teays Valley will not require displacement of students. Another challenge is the number of people impacted and the number of substitute teachers required for meaningful professional development. These numbers are proportional by district and differ considerably among them. To minimize this barrier, professional development days will be spread over the grant year and opportunities offered during the summer break time for teachers. As an incentive, our consortium will also provide graduate credit for professional development (paid for by the participants and not the grant). Opening the school's lab space to outsiders is an unknown relationship not previously explored by our consortium members. The ability to manage, oversee, provide tech support and maintain equipment and safety are all challenges for a relationship of this type. Having already agreed to take on these challenges in our partnership agreements, these agencies are poised and ready for the opportunity.

19. Summative Evaluation - Plans to analyze the results of the project

* Date Range June 1, 2015 - June 30, 2015

* List of scope of work (activities and/or events, including quantitative and qualitative benchmarks and other project milestones).

The task of evaluating the consortium's efforts to fully implement the program and its impact upon academic achievement, cost savings for each district, and greater percentages of resources dedicated to instruction will be multi-phased. This proposal will purchase the services of performing an evaluation from the ESC of Central Ohio. This evaluator will be asked to summatively report back on our progress throughout the grant year. A mid-year report will be collected and documented and will summarize the to-date progress of the project in each of the four goals articulated in the Straight A Fund grant (question #9). This 30-day evaluation period will chronicle the success of the project. The final evaluation will summarize progress toward the goals of the project as well as all stakeholders' attitudes and dispositions toward areas of success and areas where improvements are needed. This will be accomplished through the use of focus groups, surveys, and other qualitative data collected throughout the previous school year. Evaluation of progress in meeting goals of the project timeline will be assessed monthly, especially in the areas of renovation/construction, procurement, professional development, and mentor visits to schools. Scope of work: Use state and national standardized measures (the OAs, ACT QualityCore, Terra Nova, MAP) to establish a baseline of the students enrolled in year one of the STEM program to measure progress within each district. The metrics will also include pre- and post-program student engagement and satisfaction surveys. The Ohio Teacher Evaluation System (OTES) and student growth measures for core academic courses will be included in this evaluation of student progress. Teacher satisfaction surveys and the teacher performance measures from OTES will be voluntarily collected to measure growth in teachers' instructional practice and pedagogical skills. Areas of strength and deficit in the program will be identified and addressed.

* Anticipated barriers to successful completion of the summative evaluation phase.

The members of the consortium commit to maintaining this important initiative long-term, but key players -- the "cheerleaders" and consensus-builders -- may come and go as is typical in human resources management. That is why the school leaders involved in the District Council are critical to sustaining this effort in the short- and long-term. With their shared knowledge and commitment they will share with others who have a passion for student-centered education and the work of the Frontiers Project and fold them into the Council. Also, there is work to be done with our partners in constructing short- and long-term methods of tracking and reporting students who declare STEM majors and ultimately work in STEM fields.

20. Describe the expected changes to the instructional and/or organizational practices in your institution.

The response should illustrate the critical instructional and/or organizational changes that will result from implementation of the grant and the impact of these changes. These changes can include permanent changes to current district processes, new processes that will be incorporated or the removal of redundant or duplicative processes. The response may also outline the expected change in behaviors of individuals (changes to classroom practice, collaboration across district boundaries, changes to a typical work day for specific staff members, etc.). The expected changes should be realistic and significant in moving the institution forward.

Please enter your response below:

The three school districts in the consortium share common challenges despite very different demographics. In recent years, funding and other resources for innovative instructional programs have, out of necessity, taken a backseat to the essential needs of educating more than 35,000+ students (collectively). In this project, we reach a critical mass of shared understanding and commitment to evaluate current practices in our districts and transform them to ready our students for the new realities of college preparation and the workplace. This proposal articulates the consortium's plan to make transformational change in local k-12 and post-secondary education. The Frontiers Project is designed to correct the course of three current trends: Student engagement: When tasked with work they consider disconnected from their own lives and futures, more students are expressing resentment and frustration. Students need authentic, hands-on learning experiences within the domains of science, technology, engineering, mathematics and the arts. They need to "do" science, not just learn

science. Using math to solve an engineering design challenge under the tutelage of a STEM mentor in a well-equipped fabrication lab is far beyond the current experience of most of our high school students. A 21st century school must have a flow of community members and experts -- not just educators -- into the learning space, and a flow of students outward, from middle school on, to meaningful visits in the professional domains. This enhanced student experience will move from dream to reality within the cooperative framework of the consortium. Teachers caught up in traditional roles in a new age: Direct instruction is teachers' primary mode of instructional delivery, despite professional training in other proven methods. As districts unpack the Common Core State Standards, it becomes increasingly clear that project-based learning methods are the key to unlocking this rigorous curriculum. The CCSS challenges teachers and students to connect ideas, concepts, skills and applications in myriad ways. PBL places the learner in the driver's seat, following lines of inquiry and incorporating new learning along the way. But PBL is not embedded in teaching practice after a half-day workshop. An introductory course (usually two days) is followed up by courses that elaborate on project design, assessment, and project management. With the Frontiers plan, 200 teachers across the consortium will be trained in project-based learning through the ESCCO. This initiative alone will profoundly affect learning for the 35,000+ students within the districts. Students who are engaged and excited about STEM fields will continue to pursue these interests beyond high school and college, for the benefit of Ohio's local and statewide economic concerns. Because Frontiers is a model that includes a large, medium and a small district with markedly different socio-economic profiles, the model is designed for ease of scalability and replication outside of central Ohio. Community-building: Beyond the four walls of schools, students and the community at large must find ways to work together beyond the experience of intermittent projects, guest speakers and fields trips. A critical piece to forging new patterns of communication and cooperation is the establishment of the Consortium Council and the District Consortium Council. The focus of the Consortium Council will be implementation of the terms of the bid proposal and will consist of school district leadership. This council is already in place and was the guiding force in the development of the Frontiers Project. The District Council will include building principals and teacher leaders, and the business, government, community service and post-secondary partners. At this level, programs, teacher professional development needs, dual enrollment courses, construction timelines, mentor visits, etc. will be discussed and acted upon.

E) SUBSTANTIAL IMPACT AND LASTING VALUE - Impact, evaluation and replication

The responses in this section are focused on the ability to design a method for evaluating the project's capacity for long-term sustainable results. Therefore, the questions focus on the method of defining the problem(s) the project hopes to solve and the measures that will determine if the problem (s) have been solved.

21. Describe the rationale, research or past success that supports the innovative project and its impact on student achievement, spending reduction in the five-year fiscal forecast or utilization of a greater share of resources in the classroom.

The response should provide a concise explanation of items which provide rationale that will support the probability of successfully achieving the goals of the project. Answers may differ based on the various levels of development that are possible. If the proposal is for a new, never before implemented project, the response should provide logical, coherent explanations of the anticipated results based on some past experience or rationale. For projects that have been implemented on a smaller scale or successfully in other organizations, the response should provide the quantifiable results of the other projects. If available, relevant research in support of this particular proposal should also be included.

Please enter your response below.

Georgetown University's 2012 report titled "STEM" examines trends in STEM education and employment nationally through 2018. Key STEM competencies must be cultivated in students at early stages to increase the number of students and ultimately workers in the STEM pipeline. The pipeline will produce young people ready for challenging and well-compensated work in a variety of professions, from health services to manufacturing and many unimagined professions in advanced manufacturing, bio-medical research, etc. Research points us toward an inevitable shift to a more relevant and needs-based educational approach. Richard Larson is an MIT professor in engineering systems and a leading STEM thinker. He describes the impact of STEM education: "A STEM-literate person... sees the beauty and complexity in nature and seeks to understand. She sees the modern world that mankind has created and hopes to use her STEM-related skills and knowledge to improve it (Larson, R. "Stem is for Everyone" 2013). To address the engineering know-how deficit among teachers in the consortium, professional development offered by Teaching Fab Team Project Support | TIES Teaching Institute for Excellence in STEM and local provider Advanced Technologies will be critical to building a STEM program with digital fabrication capabilities that is securely anchored in sound content knowledge and an extensive network of resources to help teachers. The support of TIES and Advanced Technologies during the grant period will assure us the program has measurable components that can be isolated, assessed and altered. Proper training in STEM education and effective instruction in the integration of the fabrication labs will maintain the sustainability of these maker spaces for years to come. This program has critical components indicating successes worthy of enhancement and scaling up to include more students. Substantial amounts of data exists, showing the growth of STEM students exceeding the average math students' growth in all quartiles (MAP). STEM students show growth in excess of typical students' years' worth of growth for all quartiles. This type of growth is highly unusual compared to the expected growth for high and low achieving students outside of the STEM cohorts. The results are even more pronounced when the MAP Science test is compared between the STEM cohort and the typical students. STEM students grew as much as two years of expected growth while the typical students averaged one years' growth. Status quo indicates that the current offering of AP courses and honors math and science classes at the high school level offers most students a sound preparation for continued work in STEM majors in college. But recent studies indicate even the best graduating high school seniors are not prepared for the rigors of university study. Making STEM fun and satisfying for younger students is a building block for the STEM workers of the near future. Typically, only gifted students have the opportunity to accelerate their science and math coursework and to take first level technology courses. It is our belief that students of all ability levels who want to learn by solving problems collaboratively in a hands-on fashion should have an opportunity to select a STEM focused program. Ultimately, our goal is to prepare young people for a world where STEM-learning is a prerequisite for success. "American business is facing the stark reality that in a world increasingly based on science and technology, fewer U.S. students are preparing themselves for careers in these fields. Unless action is taken now, future employers will encounter a declining pool of qualified workers," states the National Resource Center. Overall, engineering employment is expected to grow by 11 % over the 2008-18 decade (Bureau of Labor Statistics, 2010-11). 1. Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2010-11 Edition, Engineers, on the Internet at <http://www.bls.gov>

22. Describe the overall plan to evaluate the impact of the concept, strategy or approaches used in the project.

This plan should include the methodology for measuring all of the project outcomes. Applicants should make sure to outline quantitative approaches

to assess progress and measure the overall impact of the project proposal. The response should provide a clear outline of the methods, process, timelines and data requirements for the final analysis of the project's progress, success or failure. The applicant should provide information on how the lessons learned from the project can and will be shared with other education providers in Ohio.

* Include the name and contact information of the person who will be responsible for conducting the evaluation and whether this will be an internal or external evaluation.

An external evaluation of the project will be handled by the Educational Service Center of Central Ohio (ESCCO). The ESCCO has a long and successful history of designing, coordinating, and monitoring district-specific innovations, Race to the Top initiatives, online and face-to-face professional development, and Straight A Grant projects. The ESCCO has extensive experience with program evaluation. Dr. Thomas G. Reed, Executive Director Center for Achievement and Leadership Services, will oversee the evaluation of the Frontiers Project. The ESCCO is located at 2080 Citygate Drive, Columbus, Ohio, 43219. Dr. Reed can be reached at tom.reed@escoco.org or (614) 542-4120.

* Include the method by which progress toward short- and long-term objectives will be measured. (This section should include the types of data to be collected, the formative outputs and outcomes and the systems in place to track the project's progress).

Scope of work: State and national standardized measures (the OAAs, ACT QualityCore, Terra Nova, MAP) will be used to establish a baseline of the students enrolled in year one of the STEM program to measure progress. The metrics will also include pre-and post program student engagement and satisfaction surveys. The Ohio Teacher Evaluation System (OTES) student growth measures for core academic courses will be included in this evaluation of student progress. Teacher satisfaction surveys will be administered and the teacher performance measures from OTES will be voluntarily collected to measure the growth in teachers' instructional practice and pedagogical skills. Areas of strength and deficit in the program will be identified and addressed. TIES support continues through the summative evaluation phase. The second year of program implementation will be based upon the results of the first year. These items include: possible expansion of the curriculum, implementing online teacher professional development, testing data will continue to be collected to provide longitudinal measures of student progress and the evaluation of program retention rates. The type of data to be collected will include the following informal measures along with the sources of data: -Student Growth - Vendor data (MAP, STARS), Growth measures(SLOs), Value Added (OAA/OGT) -Student Achievement - OAA/OGT performance levels -Teacher Growth - OTES Teacher performance -Financial - Treasurers audit, Final expenditure reports -Community Economic Development - Qualitative measures of student interactions, as well as makerspace utilization/access by the community. -Dual Enrollment - Number of college credits earned by students while enrolled in high school -Consortium - ability of the governance board to meet established goals, timeline and budget restrictions of the grant

* Include the method, process and/or procedure by which the project will modify or change the project plan if measured progress is insufficient to meet project objectives.

The ESCCO will conduct a mid-year review which will include a report to the consortium members and local boards of education. This mid year review will show evidence of: 1) student growth, 2) equipment usage, and 3) the pedagogical shifts in teachers' instructional practices. The report will also include evidence of student growth which matches or exceeds previous academic progress. If students are not meeting expected growth targets, teachers will be provided with additional online professional development in identified weakness. Battelle for Kids Formative Instruction Practice modules are an example of a tool to improve teachers' progress monitoring skills. The power of the consortium can be leveraged to allow opportunity for teachers to visit other classrooms to view effective practice. Informal walk through data will describe the extent to which the new equipment is used to create a contemporary learning experience for students. If the equipment is not being used or used ineffectively for student learning, similar interventions will be made, such as online training, peer mentoring, professional collaboration. Shifts in teacher practices will be appraised, looking specifically for the evidence of project based learning and a teacher's progress towards full implementation. Teachers will be evaluated to determine the extent to which they are applying the strategies learned through professional development. Teachers failing to make progress will be able to receive additional support through online training, peer mentoring, and professional collaboration. Although the intervention strategies are the same for each section, the destinations differ significantly. This mid year review will also provide the consortium with bright spots as well. These exemplary practitioners will be able to serve as mentors, offer best practices and guidance to other educators in or outside of the district. This will also help prepare these teachers for roles as future leaders.

23. Describe the substantial value and lasting impact which the project hopes to achieve.

The response should provide specific quantifiable measures of the grant outcomes and how the project will lead to successful attainment of the project goals. Applicants should describe how the program or project will continue after the grant period has expired.

Please enter your response below.

The long-lasting positive impact of any new initiative is best assured through its organic inception in the needs of today's students and their communities. We know students want a more coherent and self-directed learning experience. Our job as educators is to build programs that help students grow beyond current measures toward future careers that will require them to be self-motivated and resourceful problem-solvers; leaders and "team players"; and ethical, creative and critical thinkers. Ultimately, the broad reach of the Frontiers Project is about connecting young people, teachers, families, community services, and local and global leaders in higher education and business in ways that will measurably enhance the economic future of our communities and the educational experience of our students. By establishing cooperative relationships with STEM professionals in private industry and post-secondary educational institutions for our students, college and career will no longer take students far from home and a community because they will realize the rich potential and resources that are made available to them here in central Ohio. The new sense of community, through structured mentorships with future employers, will retain innovation and development in our community. Beyond the substantial value to economic development, specific achievements in student growth is a lasting and recurring impact on the districts. The enhanced learning environments grounded within the framework of the deeper learning necessary to meet College and Career Readiness benchmarks instill the self-confidence in science abilities and fulfill the innate need to discover things. As a result, we are inspiring successful completion in STEM post secondary. According to C. Adelman in The Toolbox Revisited: Paths to Degree Completion From High School Through College, "The intensity and quality of one's secondary school curriculum was the strongest influence not merely on college entrance, but more importantly, on bachelor's degree completion for students who attend a four year college at any time." The Frontiers Project will have deep and lasting impact upon all of the students enrolled in the program as well as the central Ohio community. Through the connection to higher education and industry, students participating in the project will be simultaneously building the 21st century skills required for employment -communication, collaboration, critical thinking and creativity. These skills are not only encouraged within the program but they have been explicitly taught to students by placing them into authentic learning scenarios common to STEM related fields. The time has come to focus on developing integrated, engaging and relevant instructional

programs to build the 21st century skills and inspire future discoveries. 1The Toolbox Revisited: Paths to Degree Completion From High School Through College. Washington, D.C.: US Department of Education, 2006

24. Describe the specific benchmarks, by goal as answered in question 9, which the project aims to achieve in five years. Include any other anticipated outcomes of the project that you hope to achieve that may not be easily benchmarked.

The applicant should provide details on the quantifiable measures of short- and long- term objectives that will be tracked and the source of benchmark comparative data points. Responses should include specified measurement periods and preliminary success points that will be used to validate successful implementation of the project. If a similar project has been successfully implemented in other districts or schools, identification of these comparable benchmarks should be included.

*** Student Achievement**

Existing accountability measures. Each district will compile and publish a report, in a readable and easily interpreted format including graphs and brief descriptions, that will show benchmarks of current achievement levels in science and math. These benchmarks will be established based on available data points as measured by nationally-normed standardized tests including Terra Nova, Measures of Academic Progress (MAP), and ACT Quality Core; and state testing that includes the OAA's and the OGT in the fall of 2014. Aggregated scores in Science and Math will improve by a factor of 5% over the next three years. Aggregated achievement by subject (e.g. Chemistry, Calculus, etc.) will be tracked for five years to capture what is expected to be a dramatic uptake in the number of students taking higher level math and science courses. Also, the overall performance of students on the end-of-course and ACT Quality Core tests will be reported. Again, an overall improvement of 5% is the goal. Individual students who are benchmarked in year one of the grant will be tracked for five years. Those same individual students will be followed as a sample group for research purposes as they select higher-level courses in high school, including post-secondary options; college destinations and majors. We will explore ways to remain in contact with students in the first cohort so we can survey their ultimate career choices and where they choose to live and work. Another measure of achievement will be an increase in the participation of females in STEM fields. In engineering alone, vast improvement is needed. The American Society for Engineering Education reports that 20% of engineers are female. This proposal is designed to double the number of girls who pursue STEM coursework in grades 7-12 and post-secondary, while also doubling the number of high school students who take dual enrollment credits to access more challenging college-level courses.

*** Spending Reduction in the five-year fiscal forecast**

Shared resources: The cost of professional development course offerings will be negotiated on the basis of teachers in 48 schools rather than schools in just one district, for substantial savings. The cost for a teacher to attend PBL 101 at the ESCCO is \$250. This will be the high mark in negotiations for a more advantageous rate for the consortium. Another great savings will be achieved by cross-training within the consortium: This will be especially important among the science, technology, art, and engineering teachers who will use the updated labs in the middle and high schools. Wrap-around services provided by the fabrication lab installers are expensive, but necessary to establish careful care of equipment and to gain the full potential of instructional use from these maker spaces. Nevertheless, after year one of the grant, teachers and administrators within the consortium will be trained and will train others to use the equipment safely and effectively. Save money for students and families: Significant savings are expected for students and their families as they earn both high school and college credit while still enrolled in the consortium school districts. Dual enrollment numbers will more than double in the next three years with the support of the Frontiers Project. The number of college credits earned by students while enrolled in high school will be compared to the 2014-2015 benchmark year. Whether tuition costs are charged to the districts or the families of dual enrolled students, the savings on traditional tuition costs will be recorded and reported to the consortium semi-annually. The calculation can be made by subtracting the dual enrollment tuition from the average cost of credit hours for matriculating students at several universities and colleges in this area.

*** Utilization of a greater share of resources in the classroom**

Reimagine existing spaces: The redesign and retrofit of existing areas in schools that are not currently used as learning spaces will redistribute a greater share of district resources to the classroom when the construction or purchase of a new building can be avoided by making the most of current facilities. The district consortium council is tasked with "recycling" existing spaces and will reuse furnishings and equipment as well. Floor plans for redesigned and retrofitted spaces are already drawn up, with cost estimates. The consortium members will be ready to begin procurement and construction as soon as funding is released. Monthly reports to the governing council will help smaller projects meet the benchmarks of the overall time line, for example: Olentangy Shanahan's original cafeteria space (currently unused) will be made into two flexible learning spaces for the i3STEM program's science and math students, and a Fab Lab --the construction phase will conclude by January of 2015. The completion dates for all ordering, construction, professional development and trouble-shooting matters will be reviewed by the governing council each month. Retrain and retool: The cost of retraining and offering professional development in STEM areas to current (and proven) teachers eliminates the cost of hiring new teachers with unpredictable skill sets. Also, while the fabrication labs will be a costly investment, they will be an invaluable resource especially where they replace aging and outdated shop equipment and science labs. By the summer of 2015 the consortium innovation centers will be fully operational providing opportunities for project based learning.

*** Implementation of a shared services delivery model**

Working together: Members of this consortium will enjoin people, efforts and ideas to effect a fundamental shift in the existing relationships and programs that support economic development in these respective communities. Ultimately, the broad reach of the Frontiers Project is about connecting young people, teachers, families, community services, and local and global leaders in higher education and business in ways that will measurably enhance the economic future of our communities and the educational experience of our students.

*** Other Anticipated Outcomes**

The Frontiers Project is designed to meet the needs of young people in this new century, who clearly think and learn differently than previous generations. With enhanced student learning as the primary focus of this project, successful implementation starts with the programs that are established to scaffold success. If Frontiers is depicted as a circle, the 35,000 students of the consortium are at the center. The 48 schools and all of their components -- teachers, administrators, learning spaces, instructional materials -- comprise the next layer of the concentric circle. The schools will still be where the essential transaction of learning will be planned and will often, but not always, take place. In other words, authentic learning will begin to happen outside of the walls of schools in laboratories and university classrooms, in stream beds and hospitals. The next layer of the model is where the strength of the Frontiers Project lies - with the partners. Public libraries now extend classroom learning in new hands-on ways; international corporations offer their facilities and experts to work with students on projects

that offer authentic learning about relevant problems. Government agencies, including offices of economic development, serve as intermediaries -- even as "translators" -- between educators and STEM professionals. The colleges and universities bring the full-force of ideas, research and experts to the work of educating younger students. Ultimately, in the furthest reaches of the circle lies the world of college and careers. In the decade between 2010 and 2020, eight of Ohio's 10 fastest growing occupations are STEM-related. The Frontiers Project is a pathway for thousands of Ohio's young people to build the problem-solving skills, content knowledge, and creativity to get the best out of college and to give the best back to their communities through meaningful work.

25. Is this project able to be replicated in other districts in Ohio?

Yes

No

If the applicant selects "Yes" to the first part of the question, the response should provide an explanation of the time and effort it would take to implement the project in another district, as well as any plans to share lessons learned with other districts. To every extent possible, applicants should outline how this project can become part of a model so that other districts across the state can take advantage of the learnings from the proposed innovative project. If there is a plan to increase the scale and scope of the project within the district or consortium, it should be included here.

* Explain your response

Every district in the state of Ohio has access to public libraries, a local government, and local businesses. Our consortium is showing how to break down those barriers and leverage resources to attain the goals for all. This project also shows how innovative classrooms and community connections can exist in all schools without the construction of new school buildings which further divide resources and communities. A primary goal of this consortium is to show that this project, which emphasizes economic development through collaboration, experimentation and innovation, is achievable no matter the size of the district or community. Because of the nature of the consortium, scalability issues have been addressed from the group's inception. The make-up of the consortium offers a unique model for districts desiring to replicate this project on a small, medium, or large scale. The Frontiers Projects and its trailblazing relationships lay the roadmap for others to follow. The consortium has grown from an informal network of innovative leaders rooted in shared learning experiences to a formalized group with the plan in place to form a pathway to success for others to follow. Innovators from other districts will be able to access our road map, which highlights roadblocks and pitfalls but also shortcuts to success. Districts will be able to replicate the project, maximizing our successes but minimizing our struggles. Individually, and through inter-district communication efforts, we have assessed facilities, researched methods and outcomes, completed needs-assessment studies of professional development in light of the Common Core State Standards, and best practices in STEM education, and established norms and expectations of the highest quality of STEM education. As districts that spread over very different areas in central Ohio each with unique demographics, we have found that we have much more in common than what separates us, especially in terms of what we want for our students, their futures and our communities. Community interaction and knowledge sharing will be mediated through networked technologies, such as the consortium's Frontiers Project website. Our consortium will use our website and social media tools as a knowledge repository and a central channel for information sharing and exchange of ideas. The Frontiers Project will investigate the use of a learning management system for digital content sharing within and outside of the consortium. The teachers and administrators in our districts have been welcomed by colleagues during on-site visits to innovative schools in Reynoldsburg City and at Metro School, and have been encouraged and supported through countless conversations with members of the Ohio STEM Learning Network. The site visits have been helpful as we shaped our vision and we welcome the opportunity to "pay it forward" and provide the same assistance to other districts who seek to build similar programs.

By virtue of applying for the Straight A Fund, all applicants agree to participate in the overall evaluation of the Straight A Fund for the duration of the evaluation time frame. The Governing Board of the Straight A Fund reserves the right to conduct an evaluation of the project and request additional information in the form of data, surveys, interviews, focus groups and other related data on behalf of the General Assembly, Governor and other interested parties for an overall evaluation of the Straight A Fund.

PROGRAM ASSURANCES: I agree, on behalf of this applicant, and any or all identified consortium members or partners, that all supporting documents contain information approved by a relevant executive board or its equivalent and to abide by all assurances outlined in the Straight A Assurances (available in the document library section of the CCIP).

I Agree Jeff Sheets Superintendent Teays Valley Local School District 4/17/14

Consortium

Teays Valley Local (049098) - Pickaway County - 2015 - Straight A Fund - Rev 0 - Straight A Fund

Sections 

Consortium Contacts

First Name	Last Name	Telephone Number	Email Address	Organization Name	IRN	Address	Delete Contact
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Jessica	Fields	740-657-5070	jessica_fields@olsd.us	Olentangy Local	046763	814 Shanahan Rd Ste 100, Lewis Center, OH, 43035-9078	

Partnerships

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Sections

Partnerships

First Name	Last Name	Telephone Number	Email Address	Organization Name	IRN	Address	Delete Contact
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Ryan	Scribner	740-420-6498	rscibner@pickawayprogress.com	Pickaway Progress Partnership		114 W. Franklin St., , Circleville, Ohio, 43113	
Mary Jane	Santos	740-362-3861	mjsantos@delawarelibrary.org	Delaware County Library		84 Winter Street, , Delaware, Ohio, 43015	
Jim	Guenther	740-477-1644	jguenther@pickawaylib.org	Pickaway County District Public Library		1160 North Couth Street, , Circleville, Ohio, 43113	
Chuck	Gibson	(614) 807-2600	cgibson@worthingtonlibraries.org	Worthington Libraries		820 High Street, , Worthington, Ohio, 43085	
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Implementation Team

Teays Valley Local (049098) - Pickaway County - 2015 - Straight A Fund - Rev 0 - Straight A Fund

Sections 

Implementation Team						
First Name	Last Name	Title	Responsibilities	Qualifications	Prior Relevant Experience	Delete Contact
Jessica	Fields	Instructional Technology Supervisor	Will serve on the Consortium Governing Board to direct project implementation; oversee procurement and spending; evaluate and assess the project's efficacy at the levels of the consortium and the districts; complete a mid-year reporting for stakeholders; and provide information to the external validator.	Instructional Technology Supervisor, manages the integration of all systems that support learning in classrooms and connects teachers with technology to enhance learning	Teacher - 9th Grade English, Speech, Creative Writing; Teaching highlights: Transformed traditional speech course into a 21st century learning course through Olentangy's O2A (virtual initiative), developed student action research to produce/present to local business, and incorporated blended learning practices. Assistant Principal- Olentangy Shanahan Middle School. Administration highlights: Guided a team of teachers with a TRECA R & D project to implement PBL. Worked with the middle school science teachers on inquiry approach in the classroom Collaborative efforts to create an 8th grade STEM team. Current Leadership Roles in District: Supervisor of Instructional Technology Building Leadership Team; Instructional Technology Professional Development Designer and Facilitator; Alternative Learning Environment Committee Member; Leader of the district's learning management systems	
Vince	Detillio	Secondary Curriculum Supervisor,	Will serve on the Consortium Governing Board to direct project implementation; oversee procurement and spending; evaluate and assess the project's efficacy at the levels of the consortium and the districts; complete a mid-year reporting for stakeholders; and provide information to the external validator.	Secondary Curriculum Supervisor, is responsible for curriculum and instruction in middle and high schools and is an experienced instructional coach in the practice of inquiry teaching.	Teacher - 7th Grade Social Studies, World Geography, US Government Teacher Support Specialist - High School; Leadership Roles in District: Building Leadership Team Member; Professional Development Designer and Facilitator; Professional Learning Committee Member; Grading Committee; Mentor Teacher. Leadership Roles Outside of District: Align, Assess, Achieve - professional development facilitator; Innovative Learning Environments Conference - facilitated "Building; Contextual Playgrounds"	
Beth	Keplar	Curriculum Supervisor	Will serve on the Consortium Governing Board to direct project	Teays Valley Curriculum Supervisor - responsible for curriculum and instruction. Develops and evaluates academic programs, manages	Teacher - 4th Grade Teaching highlights: As a building technology instructional leader created a work plan and led	

			implementation; oversee procurement and spending; evaluate and assess the project's efficacy at the levels of the consortium and the districts; complete a mid-year reporting for stakeholders; and provide information to the external validator.	accountability reporting, and is tasked with bringing innovation and 21st teaching practices to teachers and administrators.	collaborative efforts to integrate technology into instruction to improve learning outcomes. Administrative Roles: Curriculum Supervisor - Supervisor of Instruction; Coordinator of Professional Development; Facilitated the development of reading, math and science courses; managed accountability reporting and data analysis; Managed budget for Pickaway Literacy United for Success grant.	
Robert	Thompson	Math/Science Enrichment Coordinator	Will serve on the Consortium Governing Board to direct project implementation; oversee procurement and spending; evaluate and assess the project's efficacy at the levels of the consortium and the districts; complete a mid-year reporting for stakeholders; and provide information to the external validator.	Teays Valley Math/ Science Enrichment Coordinator - Provides math and science enrichment activities for students and teachers K-12.	Prior Administrative Experience: Served as Assistant Superintendent, Middle School Principal, Assistant High School Principal; Wrote numerous successful grants including one for the development of a local land lab. Worked with budgets in state funding for CCIP. Served as Assistant Superintendent during the construction of five new buildings in the district.	
Brian	Geniusz	Science and Health Curriculum Leader	Will serve on the Consortium Governing Board to direct project implementation; oversee procurement and spending; evaluate and assess the project's efficacy at the levels of the consortium and the districts; complete a mid-year reporting for stakeholders; and provide information to the external validator.	Worthington Science and Health Curriculum Leader. Provides professional development to K-12 Science, Health and Technology teachers. District data analyst providing complete visual and information support K-12 for teachers and administration.	Science, Health, and Technology district course development. K-12 professional development in Science and Engineering integration across the content areas. District leadership in Teacher Evaluation, Race to the Top transformation team, Data analysis, Community Technology Committee, Creator of the multi-district data analysis tool - the Data Tool Box.	
Tom	Kaczmarek	Math Curriculum Leader	Will serve on the Consortium Governing Board to direct project implementation; oversee procurement and spending; evaluate and assess the project's efficacy at the levels of the consortium and the districts; complete a mid-year reporting for stakeholders; and provide information to the external validator.	Worthington Math Curriculum Leader. Provides professional development to K-12 Math and Technology teachers. District data analyst providing complete visual and information support K-12 for teachers and administration.	Math and Technology district course development. K-12 professional development in Math and Engineering integration across the content areas. District leadership in Race to the Top transformation team, Data analysis, Community Technology Committee, Creator of the multi-district data analysis tool - the Data Tool Box.	
Thomas	Reed, Ph.D.	Executive Director	* Provide Project Manager:	The Educational Service Center of Central Ohio (ESC) has a long,	Dr. Reed holds a Doctor of Philosophy from The Ohio	

		<p>Center for Achievement and Leadership Services Educational service Center of Central Ohio</p>	<p>*Coordinate the implementation of the grant * Plan & Implement Evaluation * Provide and implement a PBL PD Plan * STEM training for high school teachers * PD Days for teacher collaboration at various levels * Coordinate Purchasing to combine quotes to get best prices and volume discounting for the consortium.</p>	<p>successful history designing, coordinating, and monitoring district-specific innovations, Race to the Top initiatives, online and face to face professional development, and Straight A Grant projects. The ESC conducts approximately 1,500 online and face-to-face professional development activities annually attracting more than 26,000 participants per year. In the past three years, the ESC PBL team has trained 439 teachers from 29 districts and 67 different schools. The ESC's primary support for the project will be provided by Jean Kugler, Innovation Specialist, who has served as a lead facilitator of Project Based Learning and is certified along with three other ESC staff members as Buck Institute for Education certified PBL facilitators. Dr. Reed holds a Doctor of Philosophy fromThe Ohio State University School of Educational policy and Leadership where he concentrated on neuroscience, brain development, and quantitative statistical methods and data analysis. Reed is the Executive Director Center for Achievement and Leadership Services at the Educational Service Center of Central Ohio. His responsibilities include implementing and monitoring the Ohio Network for Education Transformation (ONET) partnership and network development and program evaluation.</p>	<p>State University School of Educational policy and Leadership where he concentrated on neuroscience, brain development, and quantitative statistical methods and data analysis. Reed is the Executive Director Center for Achievement and Leadership Services at the Educational Service Center of Central Ohio. His responsibilities include implementing and monitoring the Ohio Network for Education Transformation (ONET) partnership and network development and program evaluation.</p>	
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