

A decorative graphic on the right side of the page features three blue circles of varying sizes. The largest circle is at the bottom right, a medium-sized one is in the upper center, and a smaller one is below it. Thin blue lines extend from the top left and top right corners towards the circles, creating a sense of movement and design.

LINDEN S.T.E.A.M. ACADEMY

Proposed Innovation School, Malden Public School District

Richard Bransfield, Principal
1/11/2012

Table of Contents

1. Innovation Information Form
2. Certification Statement
3. Executive Summary
4. Public Statement
5. Mission and Vision Statement
6. Statement of Need
8. Proposed Partnerships
9. Curriculum, Instruction and Assessment, Schedule and Calendar, Staffing
10. Professional Development
11. Policies and Procedures, Budget
12. Capacity of Applicant Group
13. Timetable for Development and Establishment

INNOVATION SCHOOL INFORMATION FORM

This sheet must be included in all prospectus submissions.

Proposed Innovation School Name:	Linden S.T.E.A.M. Academy
Full/Partial Conversion or New:	Conversion
Proposed School Address (if known):	29 Wescott Street Malden, MA 02148
Primary Contact Name:	Richard Bransfield
Primary Contact Phone Number(s) :	781-388-0868
Primary Contact Fax Number(s) :	
Primary Contact Email Address:	rbransfi@malden.mec.edu

If conversion:

Existing School Name:	Linden School
Existing School Address:	Same as above

Proposed Innovation School opening school year: 2011-12 2012-2013

Proposed duration of innovation plan (up to five years): 3 years 4 years 5 years

School Year	Grade Levels	Total Student Enrollment	Total number of Staff
First Year	K-8	874	105
Second Year	K-8	874	105
Third Year	K-8	874	105
Fourth Year	K-8	874	105
Fifth Year	K-8	874	105
...			105
At Full Enrollment	K-8	874	105

Will this school serve students from multiple districts? Yes No

If yes, list the towns/cities in the proposed regions.

If yes, list the school districts (including regional school districts) in the proposed region. (Use additional sheets if necessary):

INNOVATION SCHOOL PROSPECTUS CERTIFICATION STATEMENT

Proposed Innovation School Name:	Linden STEAM Academy
Proposed City/Town Location:	Malden

I hereby certify that the information submitted in this prospectus is true to the best of my knowledge and belief.

Signature of Lead Applicant _____ **Date** _____

Lead Applicant Information	
Print/Type Name:	Richard Bransfield
Address:	29 Wescott Street Malden, MA 02148
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EXECUTIVE SUMMARY

The Linden School opened in September of 2001 and was one of Malden's theme based and technology focused schools. The theme of the school was the Communications, Humanities and Multi-Media and Magnet/Gifted Education. Over the course of the last ten years much of the original school's design has changed, mainly due to a loss of grant funding and a shift in district goals, leadership and philosophy. Currently the school houses 874 students of which 85% are regular education students, and 15% are special education students. English Language Learners comprise 9% of the total student population and represent 54.5% of all students in the low income range. The remaining remnant of the school's original design, the gifted education program, includes one classroom in each of the grade levels 1-8. Placement in this program is in accordance with the Malden Controlled Choice Plan. Enrollment into the Gifted Program is determined by a student acquiring a specific score on a rubric which was developed by the teachers of the gifted program years ago. Although programming and curriculum are developed to fit the academic talents of the students, the current criteria and process currently employed for enrollment purposes are outdated and do not allow opportunities for equal access to all students. It is in need of improvement.

Currently, the Linden School has approximately 105 staff members including specialists and paraprofessionals. Of the 66 teachers, 100% are highly qualified. In addition, all paraprofessionals are classified as highly qualified as determined by their participation in an extended workshop provided by the Massachusetts Teachers Association or their possession of an associate's degree. Currently, all of the paraprofessionals who work in the kindergarten classes are attending classes through college programs accredited by the National Association of Young children (NAEYC). This will provide them with additional training and skills to better meet the needs of our children in these formative years.

The Linden School fills a niche in the district by providing a rigorous curriculum for high performing students. We also provide a safe learning environment for a large population of special education students with moderate to severe special needs. The ability to service these two distinctive groups of students at a high level is a testament to the professionalism of the staff and their abilities as teachers. Our mission is well defined and focused on being able to meet the individual needs of our students through personalized instruction. The planning and implementation of an innovation school would give the Linden, as well as the City of Malden, the opportunity to look at how we currently provide services to better serve our student constituents.

As an Innovation School, importance will be placed on the individual learning styles of each student based on their specific needs. After carefully exploring several research based

reform models with proven track records of increased student performance, the S.T.E.A.M. model was presented to the parents and community on December 8, 2011. The consensus of all stakeholders is that this is the model of instruction that will provide a rigorous and engaging curriculum necessary to challenge all of our students and increase academic and socio-emotional achievement. This will be accomplished by offering a hands on approach to learning where students across all academic levels will be able to learn with a focus on science, technology engineering, arts integration, and math via project based learning. We look to enhance the social-emotional development of our students by teaching respect, empathy, support, perseverance, enthusiasm, communication and teamwork (RESPECT). We will do this in partnership with WEDIKO Children Services' Side by Side program.

PUBLIC STATEMENT

The Linden School is an urban K-8 school that currently enrolls 874 students. As an Innovation school, we will offer students the opportunity to excel academically by introducing a S.T.E.A.M. (Science, Technology, Engineering, Arts, and Mathematics) theme to the school. This will give all students in Malden the opportunity to attend a school with a relevant curriculum typical of a 21st century education. We will provide instruction that will excite and interest students of all backgrounds by using project based inquiry as a way to engage, assess, and accelerate the learning performance of all of our students, especially our ELL and SPED students. Project based units and celebrations will further increase community involvement and showcase student learning.

We will offer Pre-Advanced Placement opportunities to further challenge our middle school students by providing a rigorous curriculum and instruction to prepare them for advanced classes in high school. This will be accomplished by providing professional development for staff through Laying the Foundation, an organization which specializes in STEM and pre-AP training for staff. In addition, we will partner with the Broad Institute (M.I.T./Harvard) for professional development and curriculum planning to design high powered science lessons, projects, and assessments which incorporate the S.T.E.A.M. theme. To accent the arts theme, we will partner with an accomplished local artist, Jodi Colella, to work with students as they create and connect art with the matter in their everyday lives.

Fully capitalizing on our position as a non-profit organization will be an important method of securing funding, resources, and materials as we implement this new Innovation school. We will use our 501(c)(3) status flexibility to write grants that will increase the availability of technology, arts education, and other outside resources for all students in the school. This will

increase the viability of our partnerships and provide opportunities for us to create new partnerships with organizations to our S.T.E.A.M. theme.

We are committed to further enhancing our social-emotional curriculum as additional supports for our students. We will continue to partner with the PCSM (Partnership for Community Schools in Malden) as a way to offer a more diverse enrichment program for our students. This will enhance our ability to provide high level arts and athletic programs as well as other academic enrichment and enhancement opportunities before and after school. By providing after school programming, we will offer courses that meet the need of our student population and are consistent with the S.T.E.A.M. theme. Additionally, students will benefit from our partnership with WEDIKO Children Services and their Side by Side program for social responsibility.

Our partnership with Baystate Reading Institute (BSRI) will continue as we strive to increase the literacy skills of our students, especially those students in our sub-groups. We will also explore the feasibility of hiring A-net math to track our students' math scores, which have plateaued over the past several years. This will allow us to be able to make curricular and instructional decisions that are based on real-time data.

MISSION STATEMENT

The Linden School mission is to provide a rigorous educational program to meet the individual needs of our unique population. Our students will be provided a well-rounded education with a focus on science, technology, engineering, arts, and math to accelerate learning in their areas of strength and interest. Students will successfully meet the common core standards through instruction that is tailored to meet their unique needs by engaging in project based learning and inquiry based instruction.

VISION STATEMENT

The Linden School is committed to providing our students with the tools to meet the learning styles of our students. Using STEAM as a theme, we will incorporate project based learning and inquiry based instruction, along with state of the art technological advances so our students will leave as productive citizens and proficient learners ready to address 21st century challenges.

STATEMENT OF NEED

As educators it is our responsibility to provide our students with the highest quality education and prepare them to be able to compete in the global marketplace. We recognize the importance and value that science, technology, and art play in our lives. This is why we selected the S.T.E.A.M. model as the means for our students to obtain the requisite 21st century skills to be successful later in their lives. This model embraces science, technology, engineering, art, and math through inquiry based instruction and project based learning. Because this model is extremely engaging, it not only has the potential to motivate our students to reach their potential, but to ignite their desire to learn about new topics.

Although the majority of our students perform quite well across all grade levels, we know that our current instructional practices are not addressing the needs of students in each of our sub-groups: Special Needs; English Language Learners; Black, Hispanic, and Asian ethnicities; females; and low income. The S.T.E.A.M. model is very appealing to learners who have difficulty understanding abstract concepts because it offers opportunities for them to conceptualize ideas through concrete representations and activities. It also fosters the use of higher order thinking skills to solve problems and provides opportunities for authentic or real life learning. We hope to accomplish this with the aid of partners via professional development for teachers, in-kind donations including materials, internships, and real-life experiential education opportunities.

Eric Lander, founder of the BROAD Institute and a possible partner, prepared the Executive Report for President Obama entitled “Prepare and Inspire: K-12 Education in Science, Technology, Engineering and Math” (STEM). In the report President Obama was informed of the country’s need for a world leading STEM workforce. The report highlights the lack of proficiency by American students in these disciplines as well as the lack of interest in STEM education. This lack of proficiency is reflected in the MCAS scores of the sub-groups in our school as well as across the district as evidenced by the following data:

- A high percentage of fifth grade subgroup students taking the Science and Technology/Engineering MCAS scored below proficiency. 93% of the students with disabilities; 71% of Black/African American and 87% of ELL or former ELL students scored in the In the Needs Improvement or Warning category. Female students did not fare much better with 80% in the Needs Improvement or Warning category versus 71% for males.
- In eighth grade, 100% of our SPED students, 84% of Black/African American students and 92% of students that were ELL or former ELL students scored in the Needs Improvement or Warning category. Females again lagged behind their male counterparts with 78% in Needs Improvement or Warning versus 64% of the males.

- In Math 52% of our students scored in the Needs Improvement or Warning versus 49% in the District and/or 42% in the State.

This evidence clearly shows the need for the Linden School to offer an alternative that includes instruction with a focus on math and science while maintaining the integrity of a good literacy program across the curriculum.

S.T.E.A.M. education is also the perfect way to integrate the arts. Several reports, including “Reinvesting in Arts Education: Winning America’s Future Through Creative Schools” cites evidence which indicates an integration of the arts into instruction across the curriculum has proven to be an effective instructional strategy which increases the academic achievement of students. Low-income students with high involvement with arts education performed better on high-stakes tests than their counterparts who did not. Furthermore, band and orchestra students outperformed students with limited band and orchestra participation on the NELS math assessment. A study by Lesley University’s Creative Arts and Learning Division also found the following results of the Integrated Teaching of the Arts (ITA) program offered by Lesley University:

- Teachers rethought their educational philosophies and were much more intentional about developing or tailoring curriculum to improve outcomes
- Teachers described the arts as a tool to provide multiple points of access to curriculum and multiple paths for students to express and reinforce their learning
- 87.70% of teachers reported students with special needs were more engaged
- 93.80% of teachers for gifted and talented students reported that students reflected more deeply
- 84.50% of teachers with economically disadvantaged students reported students more engaged and more collaborative with peers
- 80% of teachers with culturally/linguistically diverse students reported more self-expression and break-through moments in students’ learning.

Research like this convinced the staff and administration at the Linden School to look for alternative methods to how we currently convey curriculum and instruction. These highlights certainly add credence to our aspiration to become a S.T.E.A.M Innovation school that will address the achievement gap between our sub group students and mainstream students. Innovation status will allow the Linden School to use partnerships in the delivery of rigorous and creative curriculum and instruction to meet the individual needs of our students, especially our sub-group population.

Proposed Partnerships

In addition to our partnership with current Linden School community members, additional partnerships linked to science, technology, art, engineering, and math will be critical components in the Linden School's strategy to provide S.T.E.A.M. curriculum and instruction. Currently the Linden School has a well-defined and established partnership with WEDIKO Children Services. This partnership will continue with the hope we can, through creative time management, offer more minutes to continuously build on our goal of promoting social responsibility. We are also in the preliminary stages of garnering a partnership with the BROAD Institute at the Massachusetts Institute of Technology. These organizations will aid us in providing meaningful professional development as well as state-of-the-art learning facility opportunities for our students. These partnerships will also aid in enhancing our Gifted and Talented program as we move to become a Pre-Advanced Placement prototype in our middle school. This will give Linden School students an academic edge when they move to high school because of their exposure to pre-advanced placement coursework. The Linden will also maintain its current partnership with BSRI (BayState Reading Institute) to provide literacy professional development to our teachers so that we can improve the reading skills of our students, especially those who are performing below the level of proficiency. The BSRI model is characterized by:

- Scientifically researched core curriculum and intervention materials
- Regular assessments of all students, and frequent assessments of struggling students
- Regular data meetings to analyze data and plan responsive instruction
- Strong instructional leadership
- Common planning time
- Differentiated small-group instruction
- Tiered literacy instruction
- Skilled school-based literacy coach
- Embedded professional development and individualized coaching

The Malden Public School District also has working relationships with Laying the Foundation (LTF), a comprehensive training program for teachers, school districts, STEM organizations, and schools. Laying the Foundation provides Pre-AP and AP teacher training, technical support, lessons, and classroom materials that improve student performance and create a college-ready culture. We also will continue to work with TERC, an organization that has introduced millions of students throughout the United States to the exciting and rewarding worlds of math and science learning. Led by a group of experienced, forward-thinking math and science professionals, TERC is an independent, research-based organization dedicated to engaging and inspiring all students through stimulating curricula and programs designed to develop the knowledge and skills they need to ask questions, solve

problems, and expand their opportunities. Our partnerships, current and proposed, will give the Linden School a great opportunity to create an educational model for 21st century learning that will be competitive with other high performing schools across the state.

Curriculum, Instruction and Assessment

The Linden School will continue to follow the curriculum as it aligns with the Common Core English Language Arts and Math Standards. However, in order to implement the Science, Technology, Engineering, Arts, and Mathematics theme, the school will have to supplement the existing curriculum. The staff at the Linden School and central office personnel will collaborate to make necessary revisions to the curriculum. In addition, the implementation of the new curriculum across specific grade levels will be accomplished by implementing it in stages. The revision of the curriculum, in addition to the logistics of implementing the new curriculum, will be further explored by the Innovation Team and will be included in the final plan. An integration of arts instruction across all content areas will also be an important addition to the curriculum, instruction, and assessment.

In our efforts to close the achievement gap between our high and lower performing students, Project Based Learning will be an integral instructional strategy we will use across all grade levels. To further challenge our middle school students and expose them to a rigorous curriculum and instruction that will prepare them for advanced classes in high school, we will offer Pre-Advanced Placement courses.

Our current assessments consist of DIBELS and GRADE which we use to better understand students' individual reading fluency and comprehension. We also will continue to look at benchmark testing in Math and ELA along with mid-year exams across the curriculum in grades 6-8. We will use this assessment data to inform us on the professional development needs of our staff.

Schedule and Calendar

The Linden School will use its autonomy to creatively lengthen the school day and give its students access to more instructional and enrichment time. The school will work with the National Center on Time and Learning to look at the options of using current contractual time more efficiently to accomplish this goal.

Staffing

The Linden School is requesting staffing autonomy to accommodate the necessary curriculum and instruction changes that are inherent in implementing the S.T.E.A.M. model. The school will accommodate approximately 874 students with four classes per grade level, from Kindergarten to grade 8. Included in this configuration will be eight SPED classrooms- six P.A.C.E. (Practical Academic Community Education) and two Individual Management classrooms that house students with moderate to severe special needs and behavioral issues. The Linden will also have a Math coach, Literacy Coach, and two Literacy assistants who will provide RTI for students. The Linden School will be headed by a principal who will oversee the daily school operations and curriculum implementation. The principal will be assisted by two assistant principals-one overseeing grades K-4 and the second responsible for grades 5-8. Two administrative assistants will assist in the management of the day-to-day operations and a custodial staff will be responsible for maintaining the physical plant.

A request for staff additions include:

1. A 4th grade teacher to accommodate a projected class size increase and to create a balance for collaboration, as this is the only grade level that has three teachers while there are 4 teachers in every other grade.
2. A social worker will be requested to provide better services to our Special Needs students and to work with outside agencies and assisted technology
3. A teacher for technology and engineering
4. It is the hope of the school to bring in more support for the art and music departments and resources via partnerships and grants from the arts.

Professional Development

Professional development will be paramount to the proper execution of providing a high quality S.T.E.A.M. education for all students. Therefore, autonomy for professional development is requested. Targeted professional development will align with English Language Arts, math common core standards and the S.T.E.A.M. curriculum. Professional development will be scaffolded to support staff in the initial implementation process. Initially we will collaborate with the B.R.O.A.D. Institute and provide professional development for teachers to learn how to design project based learning. This will be offered during the summer so that teachers can begin project based instruction at the school's inception.

In addition, we will partner with the Broad Institute (M.I.T./Harvard) for professional development and curriculum planning to design high powered science lessons, projects, and assessments which incorporate the S.T.E.A.M. Theme. To accent the arts theme, we will partner with an accomplished local artist, Jodi Colella, to work with students as they create

and connect art with the matter in their everyday lives. We will also look to Lesley University to provide on-site for credit opportunities through their Integrated Arts post graduate program. Our efforts will be, in conjunction with the BROAD Institute, TERC, BSRI and Laying the Foundation, to provide teachers with deep content knowledge and understanding of the pedagogy of teaching through a S.T.E.A.M. focus.

Professional development will also continue on the district level with TERC, LTF and BSRI. At the commencement of our program we will roll out our theme in a systematic manner that makes sense to the staff and administration. This schedule of events will be further scrutinized by the Innovation Team and be included in the final plan.

With a partners like the B.R.O.A.D. Institute, the Arts/Science Center as well as our current district partners, Laying the Foundation and TERC, we will use various formative assessments in an effort to maintain the integrity of a true pre- advanced placement program yet meet the needs of all students by giving them opportunities to excel as individuals.

Policies and Procedures

Autonomy from district policies will be requested and a newly developed Linden School Council will replace the current school council. The new council will be charged with carrying out the school's vision and mission. It will set school policy as agreed to by the Superintendent and the Malden School Committee through the approval of the innovative school proposal. They will also be charged with holding the staff accountable to any new policies established as a result of the schools designation as an Innovation school. Also, responsibility for certain decisions about the budget, personnel, and the curriculum will originate at the school level rather than the district level, thereby giving the Linden School Council greater control over the educational process. The Council will be a representative body consisting of the principal, teachers, parents, paraprofessionals, and community members that meet weekly to allow for coordination of efforts, awareness of progress and policy decisions affecting the entire school. The entire school staff meets monthly and on an as needed basis. The school committee will continue to set broad policies and establish a clear and unifying vision for the district and the Linden School being mindful of the S.T.E.A.M. school theme that will be in place as a result of the autonomy an Innovation School proposal allows.

Budget

Although some professional development will be provided by our proposed partners, the Linden School will seek budgetary autonomy in the area of Professional Development. This facet of budget autonomy is important for the implementation of our S.T.E.A.M. theme. As an Innovation School, The Linden School must be able to offer professional development which will allow the staff to design and assess curriculum, instruction, and assessments that will foster the S.T.E.A.M. theme. The Linden will not seek total budget autonomy from the district due to the possibility of losing current positions which may be based upon classified funding.

Capacity of Applicant Group

This proposal is the combination of Linden School staff interest in improving teaching and being able to move our students to the next level. Our concentration will be to develop a program that will integrate science, technology, engineering, art, and math seamlessly across the curriculum while providing rigorous and engaging instruction. Our district level team brings a varied array of experiences and talent which will complement the talents of our building based staff to implement this Innovation School. The group is led by:

- Principal Richard Bransfield has been in the Malden Public School District for over 25 years and has been an administrator for the last eight. In his tenure, Mr. Bransfield has been involved with many district initiatives including the transition of the junior high to middle school model, the development of community schools partnerships, and the city of Malden's initiative to build five new k-8 buildings.
- The new Malden Superintendent, Dr. David DeRuosi, was previously the assistant superintendent in Revere. He was part of the team involved with developing the plan for the Paul Revere School to apply, and eventually become, the first Innovation School in the state. Dr. DeRuosi's knowledge of Innovation Schools and autonomies, as well as his enthusiasm and support for this project, makes him an invaluable asset to the team.
- Peter Dolan, Assistant Principal, has years of experience at Essex Agricultural and Technical High School. His expertise on project based curriculum and instruction and interdisciplinary instruction will be an asset to the team in the design of lessons, assessments, and projects.
- Leba Heigham, Assistant Principal, graduated from M.I.T. has been in the district 17 years and prior to becoming an administrator was a math coach for the district.

Ms.Heigham will play a significant role in disaggregating data in an effort to offer RTI to our students as well as guiding the integration of math throughout the S.T.E.A.M. curriculum.

- Susan Terban is the Literacy Coach at the Linden School and was an elementary teacher for fifteen years. She steered a partnership with Bay State Reading Institute, bringing scientifically researched-based literacy instruction and professional development to our teachers and students. Susan will play an integral role in professional development in reading and writing through a S.T.E.A.M. lens.
- Dr. Diane Peritois the district science director and holds a doctorates degree in Chemistry from Tufts University. She formally taught middle school science and high school chemistry. She has developed working partnerships with Emmanuel College, Tufts University, Boston University, and the Broad Institute whichwill be instrumental in the development of integrating science across the curriculum.
- Maura Johnson has been the SPED Director in Malden for the past 5 years. Mrs. Johnson’s expertise in seeing that a high level curriculum is being provided to meet the needs of the large SPED population will be an asset. Her expertise in SPED curriculum as is applies to the S.T.E.A.M. theme here at the Linden will be important in meeting the needs of this population.
- Jodi Colella is an Art Consultant who brings a wealth of art expertise and how it applies to science and technology. She holds a B.A. in Biology from Boston University and completed additional coursework from The Artists Professional Toolbox, Massachusetts College of Art, and the School of the Museum of Fine Arts.

Within thirty (30) days a committee will be formed to further hone the plan for final submission.

Timetable for Development and Establishment

Once the prospectus is approved, ateam will be formed to begin additional research that will be included in the Innovation Plan. The team will have a diverse representation from all of the constituencies including representatives from partnering groups. This team will be responsible for the development and implementation of the S.T.E.A.M theme to each grade level.

A Governing Board will be created which will include Linden School teachers, members from the School Parent Council, central office personnel, and community stakeholders. Regular bi-weekly meetings will commence to begin the work of organizing and writing the school's final Innovation Plan. All policies and procedures will be followed. The final version of the Innovation Plan will be completed within the timelines mandated by the Massachusetts Department of Elementary and Secondary Education. Upon approval of the Innovation plan, the goal is to begin planning and scheduling staff professional development to current teachers at the Linden School as well as any future teachers in an effort to begin the implementation of the S.T.E.A.M. theme. If this prospectus is approved, we are confident that we will offer every Linden School student a 21st century education which will assist them to successfully complete high school and be college or career ready.

References

Donovan, L., Bellisario, K., & Prendergast, M. (n.d.). Citing Websites, Ford Foundation Grant-funded Assessment Research Project. Retrieved January 13, 2012, from <http://nationalcenter.lesley.edu/arts-education/184-ford-foundation-grant>

President's Committee on the Arts and the Humanities, *Reinvesting in Arts Education: Winning America's Future Through Creative Schools*. (2011). Washington, DC. M. Christine Dwyer. Retrieved January 16, 2012 from http://www.pcah.gov/sites/default/files/PCAH_Reinvesting_4web_0.pdf

President's Council of Advisors on Science and Technology. (2010). Prepare and Inspire: K-12 Education in Science, technology, Engineering, and Math (STEM) for America's Future. Washington, DC: Holdren, J.P., Lander, E.S. & Varmus, H.. Author. Retrieved from <http://www.whitehouse.gov/administration/eop/ostp/pcast>