

Bridgeport Public Schools

Table of Contents

Program Narrative Addressing Need for Assistance; Promoting Science, Technology, Engineering, and Mathematics (STEM) Education; and the MSAP Selection Criteria

Competitive Priority 1 – Need for assistance.....1
Competitive Priority 4 -- Promoting Science, Technology, Engineering,
and Mathematics (STEM) Education 11

Selection Criteria

(a) Plan of operation.....18
(1) The Secretary reviews each application to determine the quality of the plan
of operation for the project.....18
(2) The Secretary determines the extent to which the applicant demonstrates:
(i) The effectiveness of its management plan to ensure proper and
efficient administration of the project;.....18
(ii) The effectiveness of its plan to attain specific outcomes that--
(A) Will accomplish the purposes of the program;23
(B) Are attainable within the project period;.....23
(C) Are measurable and quantifiable;23
(D) For multi-year projects, can be used to determine the
project's progress in meeting its intended outcomes;.....23
(iii) The effectiveness of its plan for utilizing its resources and
personnel to achieve the objectives of the project, including how
well it utilizes key personnel to complete tasks and achieve the
objectives of the project;.....38
(iv) How it will ensure equal access and treatment for eligible project
participants who have been traditionally underrepresented in
courses or activities offered as part of the magnet school, e.g.,
women and girls in mathematics, science or technology courses,
and disabled students;31
(v) The effectiveness of its plan to recruit students from different
social, economic, ethnic, and racial backgrounds into the magnet
schools.....35

| | | |
|-------|--|----|
| (b) | <u>Quality of personnel.</u> | 43 |
| (1) | The Secretary reviews each application to determine the qualifications of the personnel the applicant plans to use on the project. | 43 |
| (2) | The Secretary determines the extent to which-- | |
| (i) | The project director is qualified to manage the project; | 43 |
| (ii) | Other key personnel are qualified to manage the project; | 45 |
| (iii) | Teachers who will provide instruction in participating magnet schools are qualified to implement the special curriculum of the magnet schools; | 50 |
| (iv) | The applicant, as part of its nondiscriminatory employment practices, will ensure that its personnel are selected for employment without regard to race, religion, color, national origin, sex, age, or disability. | 52 |
| (3) | To determine the personnel qualifications the Secretary considers experience and training in fields related to the objectives of the project, including key personnel's knowledge of and experience in curriculum development and desegregation strategies. | 43 |
| (c) | <u>Quality of project design.</u> | 53 |
| (1) | The Secretary reviews each application to determine the quality of the project design. | 53 |
| (2) | The Secretary determines the extent to which each magnet school for which funding is sought will-- | |
| (i) | Promote desegregation, including how each proposed magnet school program will increase interaction among students of different social, economic, ethnic, and racial backgrounds; | 53 |
| (ii) | Improve student academic achievement for all students attending each magnet school program, including the manner and extent to which each magnet school program will increase student academic achievement in the instructional area or areas offered by the school; | 59 |
| (iii) | Encourage greater parental decision making and involvement; | 77 |
| (d) | <u>Budget and resources.</u> | 81 |
| (1) | The adequacy of the facilities that the applicant plans to use; | 81 |
| (2) | The adequacy of the equipment and supplies that the applicant plans to use; | 84 |
| (3) | The adequacy and reasonableness of the budget for the project in relation to the objectives of the project. | 86 |

| | | |
|-----|---|----|
| (e) | <u>Evaluation plan.</u> | 88 |
| | (1) Includes methods that are appropriate for the project;..... | 88 |
| | (2) Will determine how successful the project is in meeting its intended outcomes, including its goals for desegregating its students and increasing student achievement;..... | 88 |
| | (3) Includes methods that are objective and that will produce data that are quantifiable. | 88 |
| (f) | <u>Commitment and capacity.</u> | 96 |
| | (1) The Secretary reviews each application to determine whether the applicant is likely to continue the magnet school activities after assistance under the regulations is no longer available; | 96 |
| | (2) The Secretary determines the extent to which the applicant-- | |
| | (i) Is committed to the magnet schools project;..... | 96 |
| | (ii) Has identified other resources to continue support for the magnet school activities when assistance under this program is no longer available. | 98 |

Priority 1- *Need for Assistance*. The Secretary evaluates the applicant's need for assistance ..., by considering (a) The costs of fully implementing the magnet school project as proposed.

In Connecticut, residents from different racial, ethnic and socioeconomic backgrounds live near each other, not with each other. Connecticut's three largest cities, Bridgeport, Hartford and New Haven are similar in many ways. They have populations of about 125,000 to 145,000, high rates of poverty, large black and Hispanic populations and are surrounded by affluent, predominantly white suburbs. Connecticut residents, regardless of race or socioeconomic status, are keenly aware that the great differences between their cities and suburbs have shaped their schools. Connecticut's cities have the vast majority of the state's low performing, high poverty schools. Their students are mainly black and Hispanic. Connecticut's suburbs have the vast majority of the state's high performing schools, few low performing schools and serve mainly white and middle class families.

The disparities between Connecticut's city and suburban schools were addressed by the Connecticut's Supreme Court's 1996 *Sheff v. O'Neill* decision. Guided by the court, the state legislature passed laws enabling students to transfer across district lines in an effort to reduce racial isolation. A key feature of the legislation was supporting magnet school construction. Under the legislation, the state pays 95% of the costs of building the new magnet schools. It also pays 100% of the costs of transporting students to interdistrict magnets. However, there was, and is, no money for supplies, equipment, professional development or curriculum development. Those funds have to come from elsewhere.

Hartford and New Haven have created large networks of magnet schools. Hartford has 17 magnet schools. The Hartford region has an additional 8 schools that are open to Hartford students. New Haven has 21 magnet schools. In both districts, magnets are among the top

achieving schools. In both districts, minority group isolation has been significantly reduced for thousands of students who now have the opportunity to attend diverse, high performing schools.

Bridgeport has one interdistrict magnet school. A second interdistrict magnet serves Bridgeport students and is managed by Cooperative Educational Services, a Regional Service Center. Bridgeport has not developed magnet schools in the same way Hartford and New Haven have, even though the state would have paid for new school buildings and transportation.

Unfortunately, lack of effective action was not confined to the area of school choice.

Under No Child Left Behind (NCLB), the Bridgeport School District was identified as "in need of improvement" for 9 consecutive years because of low test scores and high dropout rates. For example, for the 2010-11 school year, 23 of 34 Bridgeport schools, serving 15,849 students, were identified as in need of improvement. Sixteen (16) of these schools were low performing for at least 7 years. Twenty-one (21) were low performing for at least 4 years.

Connecticut's new accountability system, established as a result of the flexibility request approved by the U.S. Department of Education, identifies many fewer schools as low performing than NCLB. However, 16 of Bridgeport's schools are still identified as low performing. In the category of Turnaround Schools (the lowest 5% of Title I schools in Connecticut), Bridgeport has 7 schools or 25% of all turnaround schools in the state, two more than either New Haven or Hartford both of which have more schools. Two of Bridgeport's three large high schools, Bassick and Harding, both serving over 1,000 students, are in the Turnaround category. Central High school, which serves over 2,000 students, is in the Connecticut's Review category which includes the state's lowest performing schools that are not turnaround schools.

Consistently low student achievement and high budget deficits created frustration that finally resulted in unprecedented action.

"In an extraordinary move, Bridgeport's mayor, school superintendent and school board president are asking the state to step in and replace the city's school board.

Faced with budget problems and poor student performance, the school board voted 6-3 Tuesday evening to ask the state education commissioner to reconstitute the board and take other steps to help the school district." (Hartford Courant, July 5, 2012)

The answer came swiftly. On July 6, 2011, the Connecticut Mirror reported: " ..., the State Board of Education on Wednesday gave Bridgeport Mayor Bill Finch the 'miracle' he says is needed to turn around the troubled schools in the state's largest city: a takeover by the state..."

A new board was appointed, some of the previous board members sued, a new election was held and a new board, with many of the state appointed board members now elected, took office. Out of this crisis, after years of stagnation and academic failure, the Bridgeport Public Schools decided to make substantial and exciting changes. A new management team, with a record of success through innovation was hired to begin the process of district turnaround.

Paul Vallas, who previously brought innovation to the Chicago Public Schools, the Philadelphia School District and the Recovery School District of New Orleans following Hurricane Katrina, was hired as Superintendent. Along with him came Dr. Sandra Kase, former Superintendent of the Chancellor's District of the City of New York. They were joined by a team of experts and high level professionals in curriculum, finance, and pedagogy, and opened the doors for parents, corporations, philanthropists and community organizations to join together to reform education in Bridgeport. As a result, a community-wide effort began to change the trajectory of the City's children and youth from academic failure and school dropout to a path where every child can expect to graduate from high school career and college ready. An important part of the new, comprehensive district plan is school choice through magnet schools.

As will be described later in this grant, magnet schools in Connecticut have been successful both in reducing minority group isolation and increasing academic achievement. Much of this success can be attributed to *Sheff v. O'Neill* which led to powerful incentives and supports for developing and implementing magnet schools. The almost total support for new school buildings and transportation has encouraged districts to create state approved interdistrict magnet schools. However, the costs of developing strong curricula for these schools have been left to individual districts. Therefore, it is not surprising that the most successful interdistrict magnet schools in both Hartford and New Haven have been state approved interdistrict magnet schools that have received MSAP support.

The Bridgeport school district serves 20,196 students in 34 highly minority group isolated schools. The vast majority of those schools are low performing. District enrollment is 39% black, 49% Hispanic, 3% Asian and 9% white. Therefore, to remedy the segregation of its high school students, Bridgeport is requesting \$3,995,695 million for year 1 (3 year total request is \$11,975,367) to implement four new magnet schools that will serve both Bridgeport and suburban students. Three of the schools will be located in a newly constructed magnet school complex in Fairchild Wheeler Park. They are: (1) the High School for Information Technology and Software Engineering; (2) the High School for Zoological Science, Research and Biotechnology; and (3) the High School of Physical Sciences, Engineering and Aerospace Science. The fourth school, the Bridgeport Military Academy: A First Responders High School, is a high school for students who want to explore military and public safety careers. These schools will be whole school, dedicated magnets with no resident populations. In other words, every seat in each of these schools will be filled with students who have applied. Students will be selected through a lottery. There will be no academic selection criteria.

Funds are needed for a project director, 8 magnet resource teachers, a recruiter and extensive professional development for classroom teachers. Without MSAP support, these schools cannot develop programs of sufficiently high quality to attract suburban students and create more diverse schools for both Bridgeport and suburban students.

Without MSAP support, it would be impossible to: (1) rewrite the curricula to conform with Common Core Standards while creating both magnet theme classes and integrating the theme into core academic subjects; and (2) provide extensive, high quality professional development for teachers to support both improvement of instruction in core academic subjects and the development and high quality implementation of the magnet theme.

The school based staff hired with the support of this grant (Magnet Resource Teachers) are essential for the successful development of the new magnets. They will: • participate in the writing of curriculum materials that will be produced by this project; • facilitate implementation of new magnet curricula by training and coaching school staff; • teach demonstration lessons, for classroom teachers in magnet theme areas; • demonstrate strategies for meeting the needs of students with a wide range of abilities; • support and facilitate the curriculum alignment process; and • help in the development and implementation of recruitment plans.

Without MSAP support, these schools will not be able to compete with suburban schools and will therefore not be able to attract a diverse group of students. The expectations of parents in the Bridgeport region are high. Beautiful buildings and guaranteed transportation are not enough. Without an exemplary, high quality curriculum and well trained teachers, these schools will not be able to effectively educate a very diverse group of students and become the high performing schools that are essential for this area of Connecticut.

Priority 1- *Need for Assistance.* (b) The resources available to the applicant to carry out the project if funds under the program were not provided;

As late as January, 2012, the Bridgeport Public Schools had a \$12 million deficit. It was this deficit, as well as the poor academic performance of most schools, that precipitated the crisis that led to the state takeover. Although poor management contributed to the crisis, a declining budget only made things worse. From 2008-09 through 2012-13, the budgets were \$211.3 million, \$192.3 million, \$192.3 million, \$215.8 million, \$215.8 million. In other words, as the district struggled to maintain and enhance its education program for its many low performing schools, funding was being cut in 2009-10 and 2010-11. By January, 2012, with a large deficit and no prospect of a resolution, the state stepped in. Even though the budget seemed to jump for 2011-12, in reality, it was reset at a level that was nearly the same as it was for 2008-09.

The Bridgeport Public Schools have struggled with nearly flat funding of its budget by the City of Bridgeport and the State of Connecticut for the last five years while its enrollment has remained about the same. The 2012-13 budget is \$215,843,895. Its enrollment is 20,196. For 2008-09, the budget was \$211,320,135 for an enrollment of 21,478. In other words, there was a 2% increase in funding from 2008-09 to 2012-13, an increase that could not come close to helping the district maintain the same services. In addition, the \$19 million cut (for 2009-10) that was maintained for two years, contributed to the dire fiscal situation. During this time, costs such as teachers' salaries and benefits, student transportation and oil for heating kept increasing.

As will be described in the plan of management section, the current Superintendent, Paul Vallas, has balanced the budget for 2011-12 and 2012-13 by cutting district office positions and renegotiating contracts with vendors and other fiscal reforms. However, because its funding has

been essentially flat for five years and it had nearly \$40 million in budget reductions for 2009-10 and 2010-11, there are no funds for the project that is described in this grant application.

In addition to its regular budget, the Bridgeport Public Schools receive approximately \$57 million in grants from the State of Connecticut and the federal government including Title I. However, these funds support specific activities and cannot be used for this project.

The reality for Connecticut's largest and poorest cities, Bridgeport, Hartford and New Haven, is that none of them can afford the costs of starting magnet schools. However, the Hartford region and New Haven have 46 magnet schools. Most are successful. Most were started with Magnet Schools Assistance Program funds.

Bridgeport is requesting the help of the Magnet Schools Assistance Program to duplicate the successes of Connecticut's other cities. Connecticut's successes in reducing minority group isolation and creating high performing schools could not have been done without MSAP funding.

Priority 1- Need for assistance. (c) The extent to which the costs of the project exceed the applicant's resources;

The requested budget for the project is \$3,995,695 for the first year, \$3,996,968 for the second year, and \$3,982,704 for the third year of the project. The project will serve 875 students the first year, 1,375 year 2 and 1,875 students year 3. Therefore, the per-pupil cost of starting up these magnet schools is approximately \$4,567 for the first year. Increases in student enrollment in subsequent years will cause the per-pupil cost will go down to \$2,907 for project year 2 and \$2,124 for project year 3. Bridgeport currently spends approximately \$10,700 per student. Its budget has increased only 2% over the last five years. Therefore, the Bridgeport Public Schools do not have the resources to increase the per pupil expenditures at the four proposed magnet schools by 43% project year one, 27% project year two and 20% project year three.

Therefore, the Bridgeport Public Schools do not have the funds or resources to implement this project without Magnet Schools Assistance Program support. The cost of the project exceeds the resources of the Bridgeport Public Schools. If a greater proportion of the operating budget were used on magnet schools, nonmagnet schools would be inadequately staffed, and receive inadequate services.

Priority 1- Need for assistance. (d) The difficulty of effectively carrying out the approved plan and the project

There are two Connecticuts. If you are a student, poor and live in Bridgeport, you will attend a low performing, minority group isolated school. If you live in one of the suburban communities surrounding Bridgeport, you will most likely attend a higher performing school where most of the students are white. The Connecticut Supreme Court found this *de facto* segregation unconstitutional. One of the remedies is the implementation of interdistrict magnet schools which the state supports with construction, transportation and operations funds but offers almost no support for magnet school development. There are no funds for supplies and equipment, no support for resource staff, no money for professional development, no money for creating special theme curricula and aligning them with Common Core and state standards. Affluent suburbs are better able to underwrite these activities than Bridgeport.

Implementing the program that will be described in this proposal will be difficult. The years of poor performance of Bridgeport Schools, the large budget deficits and the extreme racial and ethnic isolation of its schools will make it difficult to convince suburban and Bridgeport parents and students that these schools will be exemplary and as good as the best suburban schools with the added bonus of being diverse schools with high quality and unique magnet themes. Some of the most obvious difficulties are:

(1) Many Bridgeport schools are low performing. Under NCLB, nearly two thirds (23 of 34) of its schools were low performing with 16 being low performing for at least 7 years. Under the new accountability system approved in Connecticut's Flexibility Waiver, 16 Bridgeport schools are identified as low performing with 7 in the Turnaround category which includes the 5% of Connecticut schools with the lowest achievement. Bridgeport has 25% of all turnaround schools in the state, more than any other district. All three of its high schools are low performing. Two are in the Turnaround Category. Bassick High school, serving 1,100 students, has a four year cohort graduation rate of 57.1% and a 2011-12 SPI of 34.6 (an SPI of 67 means that on average, all students are at the proficient level). Harding High School, serving 1,550 students, has a four year cohort graduation rate of 50.7% and a 2011-12 SPI of 32.1. Central High School, in the state's Review category, among the lowest performing schools in the state but not a turnaround school, serves 2,200 students, has a four year cohort graduation rate of 73.6% and a 2011-12 SPI of 48.2. (The state-wide graduation rate is 81.8%)

Therefore, many of the Bridgeport students who will attend these new high schools will have low test scores and be in need of added academic support. Most suburban students will come from high performing schools and have high test scores. Creating a school where the needs of these diverse groups of students can be met will be a challenge.

(2) The minority enrollment of Bridgeport's schools is 91% (39% black, 49% Hispanic, 3% Asian). The minority enrollment of Bridgeport's high schools is 92% (44% black, 45% Hispanic, 3% Asian). All four high schools will be competing with suburban schools (for suburban students) and with private schools (for suburban and Bridgeport students). Creating diverse schools by attracting suburban students who want a more diverse environment will be difficult. However, high quality magnets in Hartford and New Haven, two cities with similar

demographics, have reduced minority group isolation of magnet schools significantly.

Highly minority group isolated, low achieving schools and the city's lack of financial resources present a challenge for successful recruitment of a diverse group of students. The magnet schools described in this application must provide unique magnet curricula that are not available in other high schools in the region and have exemplary core subject education programs that can compete with the region's best. Because of Bridgeport's budget difficulties, many parents do not believe that it has the resources to properly develop these schools.

This project's activities and strategies are complex and difficult to implement unless there is adequate professional development, curriculum development and supplies and equipment to support program activities especially in STEM subjects. These resources can only be provided if the district receives MSAP funds.

Without MSAP support, the magnet resource teachers and expert professional development through three area universities will not be possible. This would result in the partial implementation of the magnet themes of these four schools. Without MSAP support, these four magnet schools will have much less impact on student academic achievement and the reduction of minority group isolation.

The impact of this project will go beyond the four new magnet high schools for which MSAP support is being requested. Bridgeport's current high schools, all low performing, serve a total of 4,640 students. By year three of this project, the four new smaller magnet high schools will serve 1,875 students of whom 1,300 will be Bridgeport students. This will reduce the total enrollment of Bridgeport's current high schools to 3,340 making them smaller and giving the reforms that will be put into place in those schools a better chance to be successful. For all of these reasons, the MSAP support that is being requested will have a tremendous impact on all of

Bridgeport's high school students for many years to come.

Priority 4-Promoting Science, Technology, Engineering & Mathematics (STEM) Education.

Projects that are designed to address one or more of the following: (a) Providing students with increased access to rigorous and engaging coursework in STEM.

The Bridgeport Public Schools are requesting funds for three schools with STEM themes: The **Physical Sciences, Engineering and Aerospace/Hydrospace Science High School**, the **Information Technology and Software Engineering High School** and the **Zoological Science, Research, and Biotechnology High School**. All three schools will use science, mathematics, technology and engineering in ways that are unique for Bridgeport and its surrounding suburbs.

First, no high school in Bridgeport and few in the region offer engineering courses. No high school in the region will offer the courses, the integration of all STEM areas, problem based learning and inquiry learning, job shadowing and internships that these schools will offer.

This proposal is the cornerstone of a high school transformation initiative to improve all Bridgeport High Schools by expanding the number from 3 to 7, therefore creating smaller, more personalized learning environments. Three of the new high schools will specialize in a wide variety of STEM courses. Because they will occupy the same campus, they will offer students an unparalleled variety of STEM courses and experiences that no school in the region can match.

Bridgeport currently has 4,640 high school students. By the end of the project period, the four new schools will serve 1,875 students, 1,300 of whom will be from Bridgeport. The three STEM schools will serve 1,500 students of whom approximately 1,050 will be from Bridgeport. Therefore, within three years, this project will dramatically increase access to high quality STEM courses to many students Bridgeport students who would never have these experiences.

For Bridgeport's STEM high schools, STEM education is the integrated, interdisciplinary

study of Science, Technology, Engineering and Mathematics in an environment focusing on project-based learning and real-world applications. This means that the curriculum is STEM-focused, and STEM is woven throughout students' experiences. To enact a high-quality STEM education program, the proposed magnet schools will follow the key elements described by the Committee on Highly Successful Schools or Programs in K-12 STEM Education (NRC, 2011):

Equal access to high-quality stem learning opportunities-- Bridgeport's program will provide access to STEM coursework to all students, especially students in groups traditionally underrepresented in STEM, including minority students, females and English language learners, through high-quality instruction and teachers as well as the requisite facilities, resources and supplies. For all of the schools described in this proposal, there are no academic entrance requirements. Students who feel that these schools meet their interests, aspirations and needs can apply. Students will be selected through a lottery. Students in need of academic assistance will receive a wide range of support that will be described in the *Quality of Project Design* section of this proposal.

Adequate instructional time--Instructional time for STEM will be greater than in Bridgeport's other high schools, through coursework in science and mathematics, and the integration of engineering and technology into literacy and the arts in addition to science and mathematics.

There will also be a much broader selection of STEM courses and early college STEM courses.

Teachers with high capacity to teach in their discipline.--Teachers in all three schools will receive multiple and sustained professional development opportunities that focus on STEM content and their work in their classrooms.

In the schools described below, students will explore science, mathematics, engineering and technology in a project-based, thematic learning approach that integrates STEM topics

throughout the curriculum so that students are able see the relevance of STEM through real-life application of their knowledge. This will lay the groundwork not only for careers in STEM fields but also for the STEM literacy that is essential for everyone.

Science, technology, engineering and mathematics are at the heart of each of the three STEM high schools. Students will learn science and math concepts in project-based ways that make connections to real-world content. Students will learn to think like STEM professionals in the way that they approach problems and plan solutions for those problems. They will generate questions, investigate potential solutions, and design projects. Through this, they will apply the conceptual and procedural skills they have learned in their mathematics and science classrooms, incorporating the technologies used by professionals in STEM areas (e.g., the entire range of tools that scientists, engineers and mathematicians use) and using the engineering design cycle. Each year, all students must complete at least one project with students from one of the co-located STEM schools. Those projects will require further mastery of one or more of these core sciences. Students at the IT school might, for example, create the software for an Autonomous Unmanned Vehicle conceived by the Aerospace/ Hydrospace students, or design software modeling the decline of a frog species studied by the Zoological students. The schools are: **Information Technology and Software Engineering High School** focuses on applying information and software to solve problems. Students will select from three curriculum strands: software engineering, scientific modeling/simulation, and game design and development. The learning experience focuses on understanding problems and their causes and testing possible solutions. The STEM curriculum includes: **Science**--Each student receives at least one year each in Biology, Chemistry and Physics, with a second year in one of those disciplines as an elective during the senior year. **Technology**--Each student will work extensively with information

technology and with scientific instruments such as probes and meters throughout their four years of science courses.

Engineering--Each student will complete a sequence from **Project Lead the Way**. In addition, IT students will learn principles of software engineering in the course of their own work and of physical engineering (aero, hydro, bio) as they design simulations for their collaborative projects.

Mathematics--Each student will take four years of Mathematics, including algebra and geometry. All IT students will take Discrete Structures, directly linking math and IT skills.

Students will take Pre-Calculus, statistics or other advanced courses. The following are

examples of IT courses: Introduction to Structured Programming: HTML and JavaScript; Digital Design Basics; Software Engineering; Data Structures, Database Design, Advanced Programming Concepts Using “C++”; Analysis of Algorithms.

The **Physical Sciences, Engineering and Aerospace/Hydrospace Science High School** will

focus on the design and use of technology to achieve physical science goals (e.g., developing economical solar power) in efficient, safe, and environmentally friendly ways. The learning experience will focus on the exploration and experimentation in space and underwater

environments. The STEM curriculum includes: **Science**--Each student receives at least two years of Physics and one year each in Chemistry and Biology. **Technology**--Each student will work extensively with engineering technology used by aerospace and hydrospace professionals as well as scientific instruments such as probes, meters and other scientific instruments.

Collaborative projects will require the integration of mechanical and information technologies into Physical Science students' work. **Engineering**--Each student will complete a sequence from **Project Lead the Way**. Physical Science students will participate in projects requiring focused study of aerospace/ hydrospace engineering in the course of their own work and of

software engineering as they help build simulations for their collaborative projects.

Mathematics--Each student will take four years of Mathematics, including Algebra and Geometry. All Physical Science students will take Pre-Calculus and Calculus by the 11th grade.

The following are **examples of magnet theme STEM courses**: Astronomy for Aerospace Engineers; Oceanography for Hydrospace Engineers; Geochemistry; Software Engineering; Principles of Robotics; Principles of Aerospace Engineering; Principles of Hydrospace Engineering; CADD; Digital Aerospace/Hydrospace Design; Project Lead the Way.

The **Zoological Science, Research and Biotechnology High School** will focus on using the biosciences to solve problems related to the global ecosystem. Collaboration with Connecticut's Beardsley Zoo will result students participating in research with Zoo staff, becoming part of its Conservation Discovery Corps and internship opportunities. The three main strands of study are:

• Zoology; • Biotechnology; • Ecology and Environmental Science. The STEM curriculum includes: **Science**--Each student receives at least two years of Biology and one year each in Chemistry and Physics. **Technology**--Each student will work extensively with biological technology as well as work with scientific instruments such as probes and meters.

Engineering--Each student will complete a sequence from Project Lead the Way. In addition, Zoological students will study biotechnology engineering in the course of their own work and of software engineering as they build simulations for their collaborative projects.

Mathematics--Each student will take four years of Mathematics, including Algebra and Geometry. All Zoological students will take Pre-Calculus and Calculus by the 11th grade. Other advanced courses, such as Statistics, will be available.

Examples of Life Sciences Courses -- Animal Behavior; Human Anatomy and Physiology I and II; Evolutionary Analysis; Conservation Biology; Genetics including Biotechnology and Genetic

Engineering; Microbiology; Ecology; Principals of Biotechnology ; Introduction to Biomedical Engineering; Animal Development.

Priority 4-Promoting STEM Education. (b) increasing the opportunities for high quality preparation of, or professional development for, teachers or other educators of STEM subjects.

High quality professional development will be provided to the teachers at the three STEM high schools by the University of Bridgeport (UB), Sacred Heart University and the University of Connecticut (UCONN).

The University of Bridgeport (UB) Schools of Engineering, Education and Arts and Sciences will provide professional development for classroom teachers in the STEM subjects, including workshops and courses designed to strengthen the content knowledge of mathematics and science teachers as well as teachers of engineering courses and advanced science and mathematics courses. UB faculty will also offer workshops focusing on using project based learning and inquiry to design projects integrating science, math, engineering and technology.

As part of its partnership with the three STEM high schools, UB faculty will assist in the development of curricula in the areas of mathematics, physics, biology chemistry, earth science and STEM based electives. Because the schools are being phased in with 9th and 10th grades in year one, 11th added in year 2 and 12th added in year 3, the curriculum development will extend over, at the very least, the first two years of the project. University faculty will work directly with the magnet resource teachers as well as classroom teachers in developing specific courses, projects that will be included in courses and units of study. This will occur during summer curriculum development sessions and during the school year, during collaborative planning time and after school. This curriculum and project development will include professional development and be coordinated with other professional development that the university faculty is offering.

Curriculum development sessions will be ideal vehicles for continued professional development.

Each school will form professional learning communities (PLCs) around the STEM professional development that the university is providing. Each school will have at least three STEM related PLCs that meet their needs. Examples include: Engineering Integration; STEM Career Pathways; Differentiating STEM Instruction; Using STEM Data to Monitoring Student Progress. In addition, the magnet resource teachers, who have expertise in STEM (*Quality of Key Personnel* section) will also receive intensive professional development from the UB faculty to be even better prepared to assist teachers with curriculum development, coaching, model lessons and facilitating inter-visitations, PLCs and collaborative planning time.

Under Early College Experience (ECE), high school teachers of STEM courses will be certified to become adjunct faculty at the three partner universities, a process that includes professional development activities. A teacher seeking ECE certification must develop and submit for review a syllabus for each college course he/she wants to offer. Every two years, a teacher, must recertify as an ECE adjunct and attend on-campus STEM workshops, which are free for ECE adjuncts and will strengthen each teacher's content knowledge and understanding.

Sacred Heart University and the Buck Institute for Education, which has extensive experience training high school teachers to use project-based learning (PBL), will conduct multi-year professional development on using PBL to support the STEM learning. Each year includes 5 full day workshops and biweekly webinars. All teachers of Project Lead the Way (PLTW) courses will complete a two-week training sessions for every course they teach.

(The ECE for the Military Academy will be provided by the University of New Haven and will be discussed in the *Quality of Project Design* section.)

(a) Plan of Operation. (1) The Secretary reviews each application to determine the quality of the plan of operation for the project. (2) The Secretary determines the extent to which the applicant demonstrates: (i) The effectiveness of its management plan to ensure proper and efficient administration of the project;

Superintendent Vallas was hired to put the Bridgeport Public Schools on a firm financial footing and reorganize the district to better support the schools with the resources that were available. As previously discussed, Bridgeport had a deeply troubled financial past. It had a twelve million dollar budget deficit as late as January, 2012. Superintendent Vallas and his team balanced the 2011-2012 budget as well as the current 2012-2013 budget.

The root causes of the deficit were: (1) a bloated central administrative office; (2) an outdated funding formula that overstaffed and understaffed schools at the same time; and (3) burdensome contracts with external vendors which disproportionately allocated 10% of the entire budget to just 1.5% of Bridgeport's students, unfairly shortchanging the majority of students and teachers; (4) Some senior central administrative office staff were guaranteed high salaries over the long term regardless of their effectiveness. Superintendent Vallas changed these practices.

The central office administrative organization was reduced by 39 positions. In addition, the district is moving to a school based budgeting model which funds schools in an equitable and transparent way. Bridgeport has renegotiated contracts with all vendors, adjusting terms and/or ending agreements when appropriate to ensure that it is taking advantage of all opportunities to reduce costs and provide services to all students at the most affordable rates. Superintendent Vallas is also offsetting central office administrative salaries by external funding from the Fairfield County Community Foundation.

In addition to achieving two years of balanced budgets, there is a budget plan in place

that will lay the foundation for how balanced budgets will be achieved over the next five years. Financial savings from reductions in central office staff and operational efficiencies are being reallocated to local schools to better support academic priorities.

Superintendent Vallas is transforming the district office into a smaller and more efficient unit that supports schools by reorganizing it into two major components: Academic and Financial/Operational. The reorganization will be complete by September 2013.

The Chief Financial Officer is Ms. Marlene Siegel, former Executive Director of the Queens Integrated Service Center (one of five New York City Department of Education regional offices that had responsibility for fiscal support services for hundreds of schools). Ms. Siegel and her staff oversee all district, school and grant budgets. Ms. Siegel therefore, manages budgets for the educational programs for more than 20,000 students in 34 schools. She has a staff of experienced specialists who will support the implementation of grant activities. The Chief Financial Officer manages a district budget of \$223 million.

Reporting directly to Ms. Siegel is Catherine McGrath, the Grants Development Manager. Ms. McGrath's manages more than \$57 million in grant funds. Ms. McGrath, under the direction of Ms. Siegel, will work directly with the project director to insure that all district and federal financial procedures are followed.

Bridgeport's MSAP program will be implemented by a team of experienced administrators selected by Superintendent Vallas and approved by the school board, who have succeeded in urban districts with problems similar to those of Bridgeport. This team includes Dr. Sandra Kase, Chief Administrative Officer, who was superintendent for the Chancellor's District in New York, a group of several dozen low-performing schools. She gave them a consistent curriculum, recruited highly qualified staff and helped boost test scores. Reporting to

Dr. Kase will be Bridgeport's principals and the Chief Academic Officer.

The Chief Academic Officer, Ms. Amy Marshall, a lifelong educator who was an exemplary principal for a decade and therefore well suited to work with principals and oversee the Instruction, Professional Development and School Performance Department. The MSAP Project Director will report to Ms. Marshall. She will supervise the curriculum area specialists, who will work with and support magnet resource teachers as they develop and implement the magnet curricula and work closely with the project director and with Dr. Kase who supervises the principals. In addition, she supervises the Supervisor of Special Education Services and the Director of Bilingual Education and World Languages.

The Project Director will manage the day to day operation of the grant, manage the budget, prepare all reports (e.g., annual performance reports), supervise the district based (recruiters), monitor and advise school based (magnet resource teachers) project staff and provide leadership for all magnet and recruitment/selection activities. She will monitor all grant activities, insuring fiscal responsibility, and programmatic integrity. One of her primary responsibilities will be to monitor the fidelity of implementation of the grant to insure that the activities that are described in this grant application will be implemented as written and intended.

At the school level, the principals are responsible for the implementation of the grant as described in this proposal and will supervise school based magnet staff (magnet resource teachers). The principals will be aided, supported and advised by the Project Director, the Chief Academic Officer and her staff and by Dr. Kase who supervises all principals. The project director insures that magnet resource teachers' time is spent on the activities described in this proposal, that project funds are spent appropriately, and that all project activities are implemented effectively and on time (fidelity of implementation). Grant purchases will be

approved by both the project director and the office of the Chief Financial Officer. If grant activities are either not being implemented or need to be improved or modified, the project director will discuss these issues with the principals and with Dr. Kase who supervises the principals and monitors needed changes. Two measures that will impact on the evaluation of principals will be the degree of implementation of this grant (i.e., fidelity of implementation) and grant outcomes (i.e., the attainment of performance measures or making substantial progress towards their attainment.)

The Project Director's responsibilities will include project administration, planning, project implementation and coordination between schools and the district office as well as between the schools and their University and other outside partners. Successful implementation will include fidelity of implementation, the attainment of all objectives and performance measures by the end of the project and the attainment or the making of significant progress towards the attainment of performance measures during each year of the grant. The project director will visit schools every day and be in contact with each school's principal, the school based magnet staff and, when needed, the classroom teachers. S/he will perform walkthroughs and speak with school administrators and staff and project staff to determine the extent and quality of the implementation. All of the Project Director's responsibilities are described in the Quality of Key Personnel section of this grant proposal.

Reporting to the director will be the MSAP district (recruitment and clerical staff) and school based staff (magnet resource teachers). The magnet resource teachers will help develop the magnet curricula for each school with both the University Partners and classroom teachers. They will facilitate and coordinate curriculum alignment, the adoption of common core standards especially in mathematics and the next generation science standards, as well as systemic reforms.

Superintendent Vallas' vision for a streamlined district office staff is illustrated in this plan of management. There is a small cadre of district office supervisors who work closely together and supervise the project director and all of the support personnel the director must work with. The project director reports to the same person, Chief Academic Officer, who supervises the subject area directors as well as the supervisors of Bilingual Education and Special Education facilitating joint work. The Chief Academic Officer, in turn, is supervised by the Chief Administrative Officer who also supervises the principals as well as the Chief Financial Officer. Therefore, if the project is not on track to attain its performance measures, the necessary corrective actions will be more easily communicated to the proper supervisor.

The project will be evaluated by a professional team of university based consultants and former school district administrators with special experience and qualifications in evaluating Magnet Schools. The evaluation team--American Education Solutions, Inc. and the National Center for Research on Evaluation, Standards and Testing (CRESST) at UCLA will direct the implementation of formative and summative evaluation activities, including an analysis of test scores using a quasi-experimental design, and the creation of formative, interim and final evaluation reports. This professional team of university based researchers and former school district administrators with special experience and qualifications in evaluating Magnet Schools will monitor the program throughout the school year and make suggestions for program improvement on a continuing basis. As will be explained in the evaluation section of this proposal, they will keep the director informed about the fidelity of implementation and the progress that is being made towards attainment of performance measures.

a) Plan of operation (2) The Secretary determines the extent to which the applicant demonstrates:**(ii) The effectiveness of its plan to attain specific outcomes** that; (A) Will accomplish the purposes of the program; (B) Are attainable within the project period; (C) Are measurable and quantifiable; (D) For Multi-year projects, can be used to determine the project's progress in meeting its intended outcomes;

Project Outcomes: This proposal's outcomes (i.e., objectives and performance measures) are aligned with the six purposes of the Magnet Schools Assistance Program (MSAP). A set of objectives and performance measures follow the Program Purpose they address.

Program Purpose (1): The elimination, reduction, or prevention of minority group isolation in elementary and secondary schools with substantial portions of minority students....All proposed magnet schools will reduce minority group isolation by decreasing the percentage of black and Hispanic students and increasing the percentage of white students through the Interdistrict Magnet Program (Information Technology HS; Physical Sciences, Engineering and Aerospace/Hydrospace HS; Zoological Science Research and Biotech HS) and the Open Choice Program (Military Academy). Both programs were developed by the state legislature as a result of the *Sheff v. O'Neill* decision to reduce minority group isolation through interdistrict transfers. Every student will fully participate in the program. All schools can accommodate the numbers of students needed to achieve desegregation goals.

Objective 1. Minority group isolation will be reduced at the proposed magnet schools. This objective addresses MSAP Performance Measure a.

Performance Measure 1.1-1.4: By October 1 of each project year, approved enrollment targets for each racial group (see **Table 3: Enrollment Data-Magnet Schools**) will be attained by reducing minority group isolation of black and Hispanic students at the following magnet

schools (using 2012-13 as the baseline) by at least 2 percentage points by year 1, 4 percentage points by year two and 9 percentage points by year 3. The schools are: **1.1 Information Technology and Software Engineering High School** ; **1.2 Physical Sciences, Engineering and Aerospace/Hydrospace High School**; **1.3 Zoological Science Research and Biotech High School**; **1.4 Bridgeport Military Academy: A First Responders High School**. For 1.1-1.4, each group of students--black students and Hispanic students--will be reduced by 2, 4 and 9 percentage points respectively for years 1, 2 and 3 relative to the 2012-13 baseline projections.

These are all new schools that will open for the first time for the 2013-14 school year. Therefore, the 2012-13 baseline is a projection based on Bridgeport's 2012-13 high school enrollment data and is the same for all three schools since they draw from the same population of students: 44% black, 45% Hispanic, 3% Asian; 7% white, 1% American Indian/Alaskan Native.

1.5 For each project year, each magnet school will receive at least 100 applications.

Purpose 2: To develop and implement magnet school projects that will assist local education agencies achieve systemic reforms, and provide all students the opportunity to meet challenging State academic content standards and student academic achievement standards;

The implementation of systemic reforms, magnet themes and rigorous curricula for all students will be facilitated and supported by the project and district office resource staff.

Objective 2: All students will receive instruction that includes their school's systemic reforms and magnet themes in units and courses aligned with State standards.

Performance Measures: **2.1** By October 15 of each project year, each magnet school's Comprehensive School Plan will be revised and include objectives and activities that support:
► the adoption of high standards for all students and ► specific systemic reforms (e.g., Common Core Standards, Inquiry, Project Based Learning); and describe how they are coordinated with

MSAP activities. Success will be determined through inspection of each school's plan. Implementation success will be measured by performance measure 3.1.

Purpose 3: The development and design of innovative educational methods and practices that promote diversity and increase choices in public elementary and secondary schools ... Magnet theme development and implementation and adoption of systemic reforms will increase diversity and choice because the curricula are distinctive (not offered at other schools at the same grade levels) and innovative (combine systemic reforms and unique magnet themes).

Objective 3. All students, at each magnet school, will receive magnet theme instruction.

Performance Measures: **3.1** By the end of each project year, all students, at all magnet schools, will receive magnet theme instruction coordinated with or including systemic reforms for at least 3 (year 1), 6 (year 2) and 10 (year 3) hours per week. Success will be determined through unit plan analysis and confirmed with surveys, interviews, and walkthroughs. Units and lessons produced as a result of this program will be peer reviewed.

Program Purpose 4: Courses of instruction within magnet schools that will substantially strengthen the knowledge of academic subjects and the attainment of tangible and marketable vocational, technological and professional skills of students attending such schools.

The U.S. Department of Education has approved Connecticut's ESEA Flexibility Request (NCLB Waiver). The School Performance Index (SPI), a composite of multiple data points that allows the assessment and comparison of school performance across more than one tested grade, subject or performance level. There are SPIs for each school for its total population, for each defined subgroup, and for each subject area tested. The defined subgroups are Black Students, Hispanic Students, Students who are eligible for free or reduced price lunch, Students with disabilities, and English Language Learners. The subject area SPIs are Reading, Writing,

Mathematics, and Science. SPIs are based on the Connecticut Mastery Test (CMT) for grades 3-8 and the Connecticut Academic Performance Test (CAPT) for high school.

The SPI scale is 0-100. An SPI of 0 means that "on average, all students are at the below basic level." 33 means that "on average, all students are at the basic level." 67 means that "on average, all students are at the proficient level." 88 means that "on average, all students are at the target level." 100 means that "on average, all students are at the goal level or higher."

Schools have annual goals for the entire school, for each subject tested and for each subgroup with 20 or more students. Please note that subgroup SPIs are composites that include all subjects tested. For example, the SPI for Black students includes all subjects tested. SPI goals are calculated by the State Education Department based on school base-lines (the means of SPIs for the last three years or whatever years are available for new schools) and the target SPI of 88. Schools with SPIs of 88 or higher must maintain an SPI of at least 88 to meet its goal. Schools with baselines less than 88 must progress $1/12^{\text{th}}$ the distance from their baselines to 88 each year. The maximum annual goal is capped at 3 points.

Objective 4. Each year, for each magnet school, the proportion of students in each subgroup defined by the Connecticut Flexibility Request will meet or exceed its SPI goals for the entire school, for each subject tested and for each subgroup with at least 20 students.

Performance Measures 4: By the end of each project year, each magnet school will achieve its SPI goal: **4.1:** in reading. **4.2:** in mathematics. **4.3:** in writing. **4.4:** in science.

4.5 By the end of each project year, each magnet school will achieve its SPI goals for their total population and for each defined subgroup. (These SPI measures include all subjects.)

4.6-4.8 By the end of each project year, the percentage of students from major racial and ethnic subgroups in magnet schools receiving assistance who score proficient or above on the CAPT

will increase when compared with the previous year in: **4.6:** reading. **4.7:** math. **4.8:** writing. This performance measure addresses MSAP Performance Measures b and c: *The percentage of students from major racial and ethnic groups in magnet schools receiving assistance who score proficient or above on State assessments in reading/language arts and math.*

4.9 By the end of the project period, as a result of the implementation of theme curricula, 75% of students at each magnet school will develop mastery of that curriculum, as determined by methods such as alternative performance measures including portfolios, teacher checklists, etc.

Purpose 5: Improvement of the capacity of LEAs, including through professional development, to continue operating magnet schools at a high performance levels after Federal funding...is terminated. **Objective 5.** Provide professional development for magnet school teachers related to systemic reforms and magnet theme development and implementation.

Performance Measures 5: By the end of each project year, magnet school teachers will receive at least 30 hours of professional development (e.g., workshops, courses, coaching) in each of the following areas: **5.1** the development and implementation of the systemic reforms listed in the comprehensive school plan; and **5.2** directly related to the implementation of the magnet theme.

Other performance measures related to capacity building include: (2.1, 3.1) development and implementation of systemic reforms and magnet theme units and courses.

Purpose 6: Ensuring that all students enrolled in the magnet school programs have equitable access to high quality education that will enable the students to succeed academically and continue with postsecondary education or productive employment.

An important aspect of ensuring that all students enrolled in the magnet schools have equitable access to high quality education is to monitor access. Performance measure 6.1 will be reported on each year and monitored by the each magnet school's principal, the project staff

including the project director, and the evaluator. As with all performance measures, schools not attaining the measure will take corrective action approved by project and district staff.

Objective 6a: All students enrolled in the magnet schools will have equitable access to high quality education. **Performance Measure: 6.1** By the end each project year, for each magnet school, at least 75% (yr. 1), 85% (yr. 2) and 95% (yr. 3) of STEM classes, will reflect their grade's enrollment for each racial/ethnic group and males and females by ± 15 percentage points.

In addition, performance measures 2.1, 3.1 are related to providing all students the opportunity to meet challenging State standards including common core standards.

Parent involvement also promotes equitable access to high quality education for all students. **Objective 6b:** There will be an increase in parent participation at each magnet school.

Performance Measure: 6.2 By the end each project year, for each magnet school, there will be an increase (compared with the previous year) in the numbers of parents who participate in school activities.

a) Plan of operation. (2) The Secretary determines the extent to which the applicant demonstrates: (iii) The effectiveness of its plan for utilizing its resources and personnel to achieve the objectives of the project, including how well it utilizes key personnel to complete tasks and achieve the objectives of the project;

Summary of Objectives: By the end of each project year, minority group isolation will be reduced at four interdistrict magnet schools. **Uses of Key Personnel To Achieve Objective:**

Minority group isolation will be reduced at the four proposed magnet schools by attracting not only Bridgeport students but also suburban students who are predominantly white to three unique STEM high schools and the Bridgeport Military Academy, a school specializing in exploring military and public service careers. District and school level recruitment plans, together with the

magnet programs described in this proposal, will attract diverse groups of students.

The success of these objectives depends on the following key personnel who have important roles in the recruitment plan that is described in the next section: The Project Director, Magnet Recruiter, translators, School Governance Council (SGC) at each magnet school and its members including the principal, magnet resource teachers, teachers, parents and students who will plan and implement these activities. Also, involved is the project evaluator (monitoring applicant pool and school enrollments). Recruitment activities will include open houses and school tours, magnet fairs, focused recruitment of underrepresented students, monitoring of the applicant pool and school enrollments, website, brochure, media commercial, billboard, advertisement, direct mail and email development and distribution.

Objective 2: All students will receive instruction that includes their school's systemic reforms (e.g., alignment with CCSS and NGSS) and magnet themes in courses, units and projects.

Objective 3. All students, at each magnet school, will receive magnet theme instruction.

Objective 4. Each year, for each magnet school, the proportion of students in each subgroup defined by the Connecticut Flexibility Request will meet or exceed its SPI goals.

Objective 5. Provide professional development for magnet school teachers related to systemic reforms and magnet theme development and implementation.

Uses of Key Personnel To Achieve Objectives: The Bridgeport Public Schools have developed curriculum that are completely aligned with Common Core Standards in English Language Arts and Mathematics and Connecticut standards and supported with HMH print and on-line materials (described in *Quality of Project Design*). The chief academic officer and her staff (curriculum supervisors) will ensure that teachers receive training and support with CCSS and NGSS and the new materials. The combination of professional development and curriculum development

provided by the University of Bridgeport, the University of Connecticut, Sacred Heart University, the University of New Haven, the Buck Institute and the Magnet Resource Teachers will help classroom teachers become experts in the curricula that they teach including STEM subjects. The roles of the university partners and magnet staff, and the STEM courses and activities that they will help design and support are described in the *Priority 4* narrative and the *Quality of Project Design* section. Classroom teachers will dedicate a considerable amount of time to professional development provided by the university partners and will participate in professional learning communities, collaborative planning time and data meetings to develop courses and monitor student progress. Teachers will provide interventions for students in need of academic support which are described in the *Quality of Project Design* section. These activities will be monitored and facilitated by the project director.

Objective 6a: All students enrolled in the magnet schools will have equitable access to high quality education. **Objective 6b:** There will be an increase in parent participation at each magnet school. **Uses of Key Personnel To Achieve Objectives:** An important aspect of ensuring that all students enrolled in the magnet schools have equitable access to high quality education is to monitor access. Performance measure 6.1 (see previous section) will be reported on each year and monitored by the each school's principal, the project director, and the evaluator. Schools not attaining the measure will take corrective action approved by project and district staff including examination of effectiveness of interventions and academic supports for students in need of greater assistance as well as teacher and administrator effectiveness.

Cultural competency training for teachers and administrators to support equitable access will be done collaboratively by the Brown University Equity Assistance Center staff with follow-up by the magnet resource teachers. A parent participation plan will be developed at each school

by the School Governance Council with the help of the magnet resource teachers. Each school will offer various workshops for parents to better acquaint them with the school program and make them feel welcome in a school that may not be in their immediate community. The outside evaluators, American Education Solutions, Inc. (AES), an evaluation firm with extensive MSAP experience, and National Center for Research on Evaluation, Standards, and Student Testing (CRESST) at UCLA, have collaborated on the evaluations of 10 MSAP projects. AES has evaluated over 50 MSAP projects since 1998.

(a) Plan of operation. (2) The Secretary determines the extent to which the applicant demonstrates: **(iv)** How it will ensure equal access and treatment for eligible project participants who have been traditionally underrepresented in courses or activities offered as part of the magnet school, e.g., women and girl in math, science or technology courses, disabled students;

The extreme disparities between the schools in Connecticut's cities and suburbs are due, to a great extent, to the fact that school district boundaries are coterminous with town boundaries. Therefore, wealthy suburbs have school districts with a lot of resources and cash starved cities do not. In *Sheff v O'Neill (1996)* the Connecticut Supreme Court determined that *de facto* as well as *de jure* segregation violates the state's constitution. The court stated: "We conclude that the existence of extreme racial and ethnic isolation in the public school system deprives schoolchildren of a substantially equal educational opportunity and requires the state to take further remedial measures." Justice David M. Borden of the Connecticut Supreme Court summarized the decision, in part, by saying "Without explicitly saying so, the majority has effectively struck down, not just for the greater Hartford area, but for the entire state the municipality-based school system that has been in effect in this state since 1909."

Both the governor and the legislature have accepted the interpretation that *Sheff* affects

all districts in the state, and have acted accordingly by establishing the interdistrict magnet program and Open Choice which support interdistrict transfers. The focus of this project is to provide equal educational opportunity for minority students who have been denied access to a high quality education, and to high quality STEM programs, and to remedy the violation cited by the court by establishing four high quality magnet high schools that serve Bridgeport and suburban students.

By the third year of the project, these schools will serve 1,875 students all of whom must apply to attend. Since 70% of their enrollment will be Bridgeport students and since 25 of Bridgeport's 34 schools are low performing, the new magnet schools will allow more than 1,300 students currently attending low performing schools to attend these new magnet high schools which will be higher performing schools because of this MSAP supported project and the interdistrict magnet program. Nearly all of Bridgeport's students will be black or Hispanic. The majority of suburban students will be white.

It is also important to state that students will be selected through a lottery and that there will be not academic selection criteria. These schools will be open to all students.

The Bridgeport Public Schools are committed to equity for members of traditionally underrepresented groups. Racial and ethnic minorities, females and students with disabilities and English language learners will be actively recruited and encouraged to take both foundation and advanced courses in STEM subjects.

Students with disabilities will be actively recruited. Each magnet school will work with the Director of Special Education Support Services to create a special education component that will maximize the mainstreaming opportunities. Bridgeport is committed to making all of its magnet schools accessible to students with physical disabilities. Accessibility is a priority in

every renovation or new construction project.

The magnet schools will include English Language Learners (ELLs) in all of its activities. Language instruction for ELLs will reflect the State Board of Education *Position Statement on the Education of Students Acquiring a Second Language*, which affirms that such students: “master the same content and meet the same academic performance standards expected of students whose first language is English.” The Supervisor of Bilingual Education and her staff will provide professional development to all teachers of ELLs and of students no longer designated as ELLs to ensure their full participation in magnet activities.

Within each magnet school, multicultural curriculum, differentiated instruction, cooperative learning, personalized learning, heterogeneous classes and professional development will prevent resegregation within the school, counter stereotypes and other biases; and facilitate positive interaction among diverse groups of students. To insure that these strategies are fully implemented, the Bridgeport Schools have included a performance measure to insure that students will be taught in heterogeneous classes, will be exposed to the magnet program for the same number of hours per week and will be instructed by teachers who receive the same amount of professional development.

To respond with cultural competence to the needs of students from different cultural and linguistic backgrounds, staff will draw on the personnel and written resources of the Educational Alliance at Brown University, which sponsors the New England Equity Assistance Center. Among these critical magnet resources will be two of its publications: *Leading with Diversity: Cultural Competencies for Teacher Preparation and Professional Development* (Trumbull & Pacheco, 2005) and *The Teacher’s Guide to Diversity: Building a Knowledge Base* (Trumbull & Pacheco, 2005). *Leading with Diversity* provides a synthesis of the research and practical

knowledge related to cultural competency and is designed to help teachers work more effectively with diverse groups of students. It provides: (1) definitions and supporting research as part of its overview; (2) cultural competencies that shape curriculum, instruction, equitable assessment, and parent-staff interactions; (3) language-related cultural competencies that support both native English speakers and ELLs; and (4) cultural competencies related to dealing in the classroom and school environment with race and ethnicity, including having high expectations for students of all backgrounds. Dr. Maria Pacheco, the Director of the Education Alliance and her staff will provide professional development for all project and magnet school staff in this important area.

As part of its larger gender equity focus, the magnet project will support girls' access to and success in challenging STEM activities. For example, the magnet recruitment teams will pay particular attention to making the STEM-focused magnet schools attractive to girls. Girls' attitudes toward STEM as a subject, as an area of exploration, and as a future career are influenced by, among other things, the existence, or absence, of female role models. Working with the staff of the New England Equity Assistance Center, the magnet schools will include female mentors and classroom speakers, especially those who represent the students' ethnic and racial backgrounds, who have chosen STEM careers and can provide information about the needed educational preparation. In addition, Equity Assistance Center staff will draw on training programs and materials such as: *Why So Few? Women in Science, Technology, Engineering, and Mathematics* (AAUW); *Equity in On-line Professional Development: A Guide to E-learning that Works for Everyone* (Education Development Center).

(a) Plan of operation. (2) The Secretary determines the extent to which the applicant demonstrates: **(v)** The effectiveness of its plan to recruit students from different social, economic, ethnic, and racial backgrounds into the magnet schools;

The magnet project's goal is to recruit students from different social, economic, ethnic, racial, and linguistic backgrounds by informing parents and students about the programs so that they can make informed decisions about which school is the best match for their interests and needs. It is important to involve as many families as possible in the choice process. Even if students decide to attend their neighborhood school, the process of examining options will help focus them on education opportunities both during and after high school. The activities described below will take place throughout each project year.

Partners in Recruitment: The Bridgeport recruitment team will have overall responsibility for planning, directing, and coordinating recruitment activities at the district and school levels. The district team will consist of the magnet director and the magnet recruiter and will be supplemented by the magnet resource teachers. The director and recruiter will be housed at the Bridgeport district office. The district team will coordinate district and school level recruitment activities. Working closely with each school's stakeholders, the district recruitment team will create print and online applications, brochures, and guidebooks and work with each school to develop a brand and design a logo. Recruitment team members will develop a Bridgeport magnet website to assist parents and students in selecting and applying to magnet schools. The magnet director and magnet recruiter will work with the language-specific translators (either district/school staff or parent volunteers) to translate all recruitment materials into the languages that are spoken by the parents in the district.

The school-based recruitment team will consist of the principal, the magnet resource

teachers, parents, and students, guided by the school's School Governance Council (SGC). The team will act as recruitment coordinators for their school. Each school's SGC includes the principal, teachers and other school staff, and parents. Parents from every racial and ethnic group play important roles on this team. Also critical to the recruitment process is the Parent-Teacher Student Organization at each magnet high school, which will actively recruit parents and students. Further, the district and school recruitment teams will use the resources of the district's parent involvement programs, including the various parent workshops conducted at the district and school levels, as well as district parent newsletters and bulletins (electronic and print versions), to inform parents of all recruitment events.

The Recruitment Plans: As soon as the grant is funded and staff hired, the project's focus will be on developing and implementing school-specific recruitment plans and fully implementing the district plan for the new magnet schools. Each plan will include clear timelines, staffing responsibilities, description of activities and strategies, target neighborhoods and feeder schools. Each school's recruitment plan will be coordinated with district activities by the magnet resource teachers, the recruiter and the magnet director. As described below, these plans will be reviewed and modified, when necessary, twice during the school year and weekly during the recruitment and application period, to ensure their effectiveness.

The Bridgeport Approach to Recruitment: Listen to the Stakeholders, Look at Results

Ongoing opportunities for input and feedback from all stakeholders will be built into the recruitment plans. Twice each year (after the applicant pool and student selection data is available in the spring and after fall enrollments indicate if minority group isolation goals were attained) magnet and school staffs will engage in an analysis of the recruitment strategy's strengths and weaknesses.

The magnet director will work with the evaluator to ensure that recruitment strategies enable the program to meet its benchmarks and performance measures. The *Reduction of Minority Group Isolation (MGI) Report* (November and updated in April) produced by the evaluator, indicates the success of recruitment strategies (e.g., attainment of performance measures related to reduction of MGI and number of applications and benchmarks related to the diversity of the applicant pool and racial/ethnic composition of students who applied and enrolled in a school) and will help the magnet director, the magnet recruiter and each school recruitment team better understand successes and suggest areas for improvement. Schools that do not reach their recruitment goals and desegregation objectives will, with the assistance of the magnet director and magnet recruiter, either modify the plan or develop a new one. During the recruitment period, applicant pool data will be reviewed weekly to determine the size and diversity of the pools for each school. Adjustments will be made quickly during the recruitment period (e.g., more open houses or tours in some schools, more direct mail or email information sent to some zip codes or families with children in certain feeder schools).

Magnet and school staffs will develop recruitment strategies and materials after analyzing what would be most effective with different groups and soliciting input from all stakeholders. District recruitment team members will, for example, create an online parent-response form, so that, as magnet staff receive comments, they can use them to modify recruitment strategies and make them more responsive to the families of prospective students. Parent focus groups will explore not only the magnet programs, but also parents' feelings about sending their children to Bridgeport public schools, information that will be used to strengthen recruitment strategies.

Central Recruitment Center: Person-to-Person Recruitment: Bridgeport will have one centrally-located, drop-in recruitment center that will be housed in the magnet office, at the

district office, and will be easily accessible to all parents by public transportation. It will house the director, magnet recruiter, computers, and materials, in multiple languages, describing the programs in each magnet school. The center will have hard copies of all online recruitment materials, including application forms, magnet school booklets and brochures, and a list of common questions and answers about the magnet program and how to apply. Parents will be shown how to access the project website at home, at a public library, or school (parent room).

The center will be staffed by the magnet recruiter who will assist parents, individually and in small groups, in selecting a school and completing and returning the application by the closing date. S/he will keep individual records of parent contacts and follow-up visits with letters, emails, and telephone calls. The magnet recruiter will make appointments for parents to visit magnet schools and meet with the magnet staff coordinating with magnet staff through email and using networked schedules. Magnet staff will give presentations both at the recruitment center and at community meetings. When necessary, translators will be available to make these presentations accessible to participants who speak languages other than English.

In addition to the magnet recruiter, the recruitment center will be staffed with one of the magnet resource teachers approximately 1 day each week or more often as needed. The resource teachers will assist with presentations to groups of parents and with counseling individual parents. Scheduling will be supervised by the magnet director.

Magnet Recruitment Training: The magnet recruiter, and project director will provide training that will enable all school staff--administrative, pedagogical, secretarial, custodial, and others--and parents and students on the school-based recruitment team to describe the magnet program in a clear, compelling, and consistent way to parents, students, and other community members. To assist them in the recruitment process, staff and parent and student ambassadors in

each magnet school will have access to the documents and PowerPoint presentations available on the project website and described below.

The Bridgeport Magnet Website : The Bridgeport website will be an important student recruitment tool. Homepage links will take parents to an overview of each magnet school, information on how to apply on-line, frequently asked questions, magnet brochures for each school, and announcements of open houses and other upcoming events. The website might include video of a field trip or a virtual school tour that enables a person to watch theme-based classroom activities, or see the student work posted in the hallways.

Social Media: Each school will develop its own Facebook page, which staff, working with students, will update regularly. It might contain a list of upcoming events or the podcast of videotaped workshops on school choices, including magnet schools, which will be held at the recruitment center and at libraries in different parts of Bridgeport and neighboring communities. Twitter will be useful for sending out short program updates.

Personal Email, Email Blasts, Newsletters and Direct Mail: Magnet and school recruitment staff and teams will use email to answer parent questions and send school information to parents who request it. They will also send parents email blasts (along with U.S. mail) about upcoming events, new school selection information, and application deadlines. (Email addresses will be requested at Open Houses, during school tours, etc., but only used for distributing information with the permission of the parents.) In addition, magnet staff will also email each school's electronic, multi-color, and clearly branded newsletter to parents in during the application period and to libraries and faith-based and community-based groups.

The district has current mailing lists for its target groups and regularly updates them. After the magnet program begins, the recruiter will send periodic mailings to target groups.

Traditional Media Outlets: Along with reaching out to online news sources, such as *The Bridgeport News*, *Connecticut Post*, and *News2 Connecticut*, the magnet staff will place on public radio stations and local TV news stations public service announcements that contain information such as open house dates and application deadlines. The magnet recruiter will also arrange for educators and administrators from the magnet schools to be interviewed on local radio and TV talk shows and for students to be interviewed, discussing their school and its magnet themes on those stations that specifically target high school students.

Magnet staff will also send event announcements and press releases to the *Bridgeport News*, *Connecticut Post*, and *Fairfield County News*, and to *El Canillita*, a free weekly Spanish-language newspaper. Bus advertising and billboards, complete with the school logos, will let the wider community know about the magnet program, while building school pride as students and parents see their school name displayed throughout the region.

Educators Reaching Out to Educators: As part of the magnet choice process, Educators Fairs will bring together magnet high school staff, teachers, and principals with the middle school principals, guidance counselors, and home-school coordinators to whom parents are already accustomed to turning for guidance. Magnet staff will also include middle school grade counselors, administrators, and parent coordinators in email blasts about project events, school selection and application information, as well as email them each magnet high school's newsletter. Middle school home-school coordinators will make information about the magnet schools available in their school's parent room.

Magnet Recruitment Fairs as Meeting Ground and Stimulus: School fairs are powerful tools both to create initial interest and to provide the impetus for parents and students to visit schools that interest them. These fairs will have brochures, displays and posters and student

work that describe the programs and model the themes and educational objectives of the magnet schools, as well as present school videos. Teachers, administrators, parents and students will serve as school ambassadors--providing information, sharing experiences, and engaging in dialogue with parents and prospective students. Each school's table will also have flyers listing its open house dates; a prominent sign or banner that contains both the school name and its brightly colored logo; and a PowerPoint with information about the school.

Parents will be asked to fill out a brief form, asking for contact information and potential schools or themes of interest, to facilitate follow-up email, regular mail, and phone calls. The fairs will also include specifics about the curricula and subject area content. Equally important will be displays of potential careers that students can explore at the new magnet high schools.

Open Houses and School Tours: Open houses and school tours will be critical for getting parents and prospective students into the schools. They will be planned by the school recruitment team with the support of the project recruiter. Open houses will include a group tour of the building and facilities, a presentation, including a short film or a PowerPoint to offer information about the magnet program and a question and answer session. An exhibit to highlight magnet-related student work will also be included. Each school will hold at least three open houses each year. School tours will supplement open houses. They will include only the guided walkthrough of the building, but can be implemented for small groups of parents. The recruiter will set up school tours as needed, to accommodate parents who could not attend open houses or those whose native language is shared by relatively few local residents. Speakers (Bridgeport staff or parent volunteers) of all native languages of parents will be available for open houses and school tours.

Linkages with the Communities: The Bridgeport public schools have strong links to various

organizations throughout the region. All public libraries in Bridgeport and the surrounding communities will have hard copies of the resource materials found at the recruitment center. The magnet recruiter will train the public library staff so that they will be more familiar with the magnet school program. Library staff will refer interested parents to the recruitment center and show them how to use library computers to access the project website, with its wide range of recruitment information.

The recruiter, with the cooperation of local merchants, will set up temporary mobile information centers at supermarkets, shopping malls, grocery stores, public housing projects, and other places where prospective magnet school applicants can be reached. These small booths will be staffed by the magnet recruiter during peak times to disseminate written materials and applications to parents and community members and show them videos of magnet schools.

To enhance its image and prestige in the community, the magnet effort will include outstanding community leaders, as well local media personalities, in community events, printed materials and public service announcements.

Collaborating with Faith-Based and Community-Based Organizations: Many parents in and around Bridgeport have strong ties to their respective religious communities. Their churches, mosques, and synagogues are frequently a focal point for family activities and parental interaction. These religious institutions and other faith-based organizations will be used as critical meeting places where parents and students receive brochures and hand-outs and join together to discuss the proposed magnet schools.

In addition, the proposed magnet schools will build on existing relationships--and forge new ones--with community-based organizations such as: Action for Bridgeport Community Development, Big Brothers/Big Sisters of Southwestern Connecticut, Boy Scouts of America,

Connecticut Yankee Council, Bridgeport Area Youth Ministry, Bridgeport Child Advocacy Coalition, Bridgeport Parent Training Leadership Council, Bridgeport YMCA, Child and Family Guidance Center of Bridgeport, Optimus Healthcare, Jerome Orcutt Boys & Girls Club, McGivney Community Center, United Way of Coastal Fairfield County, and Southwest Community Health Center. The connections with these organizations and others will ensure that more families throughout the region will understand their school choice options for high school.

(B)Quality of personnel. (2) The secretary determines the extent to which (i) the extent to which the project director is qualified to manage the project; (3) Experience and training in fields related to the objectives of the project including the key personnel's knowledge of and experience in curriculum development and desegregation strategies.

A full time project director will be hired to manage this project. As soon as the district is notified of funding, the director's position will be advertised in accordance with district regulations and hiring practices and filled as quickly as possible. Because of the *Sheff* decision, Connecticut has many successful magnet schools and therefore many highly qualified magnet school administrators who could fill this position.

Qualifications of the Project Director (100% FTE)

The Project Director will be a principal with successful magnet school experience, and demonstrated expertise in STEM curriculum development and magnet theme development.

Specific qualifications will include: • advanced education degree and State certification as a School Administrator; • at least five years experience as a high school principal and three years experience in a magnet school; • a dynamic instructional leader; an exemplary administrator; • at least five years experience as a classroom teacher; • proven ability to manage large projects; • experience in the development of magnet themes and specifically with the

themes that are described for the proposed magnet schools; • experience in the teaching and development of STEM high school courses. • experience and knowledge related to the Common Core Standards in English language arts and mathematics and the Next Generation and current science standards; • College degree in science or mathematics education or STEM subjects. Masters degree related to STEM subjects.

The Project Director will: • manage all aspects of the project; supervise all project staff; • ensure that the activities of the magnet school project are focused on promoting desegregation in accordance with the *Sheff* desegregation court order; • assist each magnet school principal in implementing the magnet program. • work closely with the district supervisors of each curriculum area to coordinate their involvement with school-based activities such as curriculum development and alignment, development of magnet courses, unit and lesson planning; • work closely with university and other professional development partners to insure the their coordination with school based magnet staff and principals to insure that teachers receive the professional development that is needed to support the programs described in this proposal; • monitor and ensure fidelity of implementation, the attainment of all performance measures by the end of the project and the attainment or the making of significant progress towards the attainment of performance measures during each project year; • manage all fiscal and budget aspects of the project; • keep all project records with the assistance of the project's secretary; • file all necessary reports with the U.S. Department of Education; • coordinate the recruitment/ application process, the magnet schools lottery, and the student selection process.

(B) Quality of personnel. (2) The Secretary determines the extent to which: **(ii)** Other key personnel are qualified to manage the project.

Superintendent Paul Vallas, who previously brought innovation to the Chicago Public Schools, the Philadelphia School District and the Recovery School District of New Orleans following Hurricane Katrina, was recruited by the Connecticut Commissioner of Education to lead the Bridgeport Schools. By the end of 2011, the Bridgeport Board of Education hired Mr. Vallas as well as Dr. Sandra Kase, former Superintendent of the Chancellor's District of the City of New York. They were joined by a team of experts and high level professionals in curriculum, finance, and pedagogy.

Within a few short weeks of the new Superintendent taking charge of the public schools, the district announced the Good Schools Bridgeport Plan, a blueprint for academic and organizational reform as well as a plan that brought financial stability and funding equity, while emphasizing transparency and accountability. By May, 2012, the district had a balanced budget plan, that did not sacrifice instruction or services, and will provide a foundation for financial stability for the next five years.

A comprehensive education reform plan was approved and implemented. Teachers PreK-12 received new curricula and instructional materials and the training to support them.

Mr. Vallas recently completed his tenure as Superintendent of the Recovery School District of Louisiana, a statewide turnaround district that has successfully reformed the public schools in post-Katrina New Orleans. Under his leadership, schools destroyed by the 2005 hurricane have been rebuilt or relocated. Additionally, during this reconstruction period, he raised student test scores for three straight years and launched a comprehensive restructuring of the district's high schools. In 2010, concurrent with his responsibilities in New Orleans, Mr.

Vallas was appointed the lead education consultant to the Government of Chile and the Government of Haiti in the wake of the January 12 earthquake, under the auspices of the Inter American Development Bank.

Before his tenure in New Orleans and his work abroad, Mr. Vallas served as the Chief Executive Officer of the Philadelphia (2002-2007) and Chicago School Districts (1995-2001) where his accomplishments included managing and balancing operating budgets, implementing broad operational and educational reforms that reversed school failures and raised test scores.

"He's put a lot of ideas on the table that have been very influential with other urban school systems across the country, and he has restored a lot of balance and common sense in urban education," said Michael D. Casserly, director of the Council of Great City Schools, a Washington group representing the nation's 60 largest urban districts. "He has had a major influence on the whole conversation about urban schools, urban school performance and accountability for it." ... In Chicago, Mr. Vallas will leave a legacy of balanced budgets, modernized school buildings, and an upward curve on the testing charts.

"This is the first time we've had a school leader who actually focuses on student achievement," said G. Alfred Hess, director of the Center for Urban School Policy at Northwestern University. "The biggest thing that Vallas and Chico did was change the culture of the school system. It is no longer acceptable to say we can't expect poor children to learn." (New York Times, June 7, 2001)

Prior to Mr. Vallas' work in the education sector, he served in local and state government, including as the Budget Director for the City of Chicago. Mr. Vallas received Bachelors and Masters Degrees from Western Illinois University.

Chief Administrative Officer, Dr. Sandra Kase. Dr. Kase came to her current position in

2012 after nearly 40 years at New York City's Department of Education. As Supervising Superintendent for The Chancellor's District, she was responsible for the reform of 46 low-performing K-12 schools. She has also served as Senior Institutional Manager for Government and Grants, Executive Assistant to the Chancellor for SURR and Priority Schools, principal of a collaborative, shared decision-making school, Education Administrator of a Community School District, early childhood teacher, and school-based resource teacher.

Dr. Kase started her education career as a classroom teacher in Bronx, New York and eventually became principal of PS 42, in the south Bronx, a school that she helped turn into a high performing school during her 14 year tenure. Dr. Kase has a doctorate in Educational Administration from Fordham University and a Professional Certificate from Harvard University's Principals' Institute. She reports directly to the Superintendent.

Chief Academic Officer, Ms. Amy Marshall is the supervisor in charge of curriculum and instruction. She supervises all subject area directors as well as the special education supervisor and director of Bilingual Services. Ms. Marshall served for nine years as principal of Beardsley Elementary School in Bridgeport as well as the School Improvement Facilitator for the Bridgeport Schools for three years. Before she joined the Bridgeport Schools in 2000, Ms. Marshall was a principal of St. Catherine Academy and a bilingual special education teacher. Ms. Marshall received a Bachelors Degree (Spanish and Education) from Denison University and a Masters Degree (Bilingual Special Education) from Fairfield University.

Teresa A. Carroll, Deputy Chief Academic Officer, supports the Chief Academic Officer in the implementation of school reform initiatives. Immediately prior to assuming her current position, she spent eight years as Bridgeport's Executive Director of Elementary Education/Director of Social Studies, where she led a revision of content area curriculum,

mentored new administrators, was project director for two Teaching American History grants, and supervised department staff in grades 7 to 12. Ms. Carroll has a Bachelors Degree in History, a Masters Degree in Teaching, and a Professional Certificate in Administration--all from Sacred Heart University.

Marlene Siegel, Chief Financial Officer, directs and coordinates the fiscal services necessary for the efficient running of the school system. During nearly four decades at the New York City Department of Education, she served in various capacities, including Executive Director of two Integrated Service Centers, and of one Regional Operations Center; Deputy Superintendent of Operations for the Chancellors District; Deputy Superintended and Director of Operations for community school districts; and mathematics teacher. She has a Masters Degree (Math) and a Professional Diploma in Education Administration from Fordham University.

Magnet School Principals. As the educational leaders of their schools, principals will have overall responsibility for meeting the project's desegregation, instructional, systemic reform, and student academic achievement objectives in their schools. They will work collaboratively with the school's staff to develop and implement the magnet programs in their schools. They will oversee the school-based magnet activities and maintain open lines of communication with the central office, parents, and members of the community.

Because all four magnets are new schools, principals will be hired prior to the new school year. The positions have already been advertised. As was previously stated in connection with the hiring of the project director, because of the large number of magnet schools in Connecticut, there will be no shortage of highly qualified candidates for these positions.

The **responsibilities** of the position include: • Provides effective instructional leadership to the school community. • Manages the daily operations of the school in ways designed to foster

optimal utilization of allocated fiscal resources, in accordance with regulations, policies, procedures and statutes. • Ensures that grant performance measures related to desegregation, the development and implementation of the STEM themes and systemic reforms, professional development and student achievement are attained. • Develops, implements, monitors, and evaluates a long-range strategic plan which is inclusive and focused on instructional improvement. • Supervises and evaluates school staff to ensure optimum student achievement. • Supervises and evaluates administrative staff to promote instructional leadership. • Promotes parental, student, and community involvement. • Supervises school level recruitment, registration, scheduling, programming, attendance, grade reports, as well as district, state and national reports. • Establishes procedures to enhance safety and security of pupils and staff. • Implements student discipline and attendance policies. • Develops and implements site-based professional development. • Ability to collaborate with the other STEM High School principals and with professionals in industry and higher education for the development of internships/externships and theme-oriented projects reflecting alignment with career-opportunities.

Qualifications include: • Connecticut certification as Secondary School Administrator. • Certification in Science. • Five years successful record of teaching and five years successful record of administrative experience (high school). • Knowledge and understanding of the teaching and learning process, including STEM curriculum development, instructional improvement and standards of assessment. • Knowledge of/commitment to provide and promote STEM/Inquiry-based instruction throughout the learning community. • Certified in CALI training (preferred) to include: Data Teams, Data Driven Decision Making and Effective Teaching Strategies, preferred. • Demonstrated knowledge of current research and program models for STEM instruction. • Proficient in use of computer and STEM technology;

- Bachelors or advanced degree in at least one STEM subject area (e.g., Science Education).

Magnet School Recruiter (1 at 100% FTE). A full time Magnet Recruiter will have:

- knowledge of the magnet themes and the ability to discuss schools' themes with parents and students;
- a college degree;
- the ability to maintain recruitment records.

Duties and Responsibilities: • implement the recruitment activities described in the recruitment section of this proposal including parent workshops, community outreach, open houses, magnet fairs, advertising, etc. • help parents complete magnet school applications.

Project Secretary (1 at 100% FTE) will provide clerical support for the project director and recruiter. S/he will have extensive secretarial experience, organizational and record keeping skills, and word processing and desktop publishing skills. S/he will be responsible for all clerical duties associated with the project.

(B)Quality of personnel. (iii) Teachers who will provide instruction in participating magnet schools are qualified to implement the special curriculum of the magnet schools;

Qualifications of Magnet School Resource Teachers (8 100% FTE)

School-based Magnet School Resource Teachers will be hired to work in the 4 proposed magnet high schools. There will be 8 Magnet Resource Teachers, two for each school. All magnet resource teachers at the three Fairchild Wheeler STEM schools will be expert in STEM subjects. The two at the Military Academy will be have a background in the military or other uniform service such as the police and considerable expertise in STEM as it relates to the NGSS.

Minimum requirements for the Magnet Resource Teachers will include: • Being a highly effective classroom teacher with proven ability in the STEM subject areas to be taught. • Extensive expertise with curriculum development in the specific (STEM, military, uniform services) magnet theme area, and having written curriculum materials, related to the specific

magnet theme. • Experience in desegregation related programs and/or magnet schools. • Experience in the use of technology, scientific inquiry, project based learning and engineering design in the classroom. • The ability to handle staff training responsibilities. • Experience in the evaluation of student academic performance. • Having college courses, including graduate courses, in curriculum development, and STEM subjects or a degree in STEM subjects (Fairchild Wheeler STEM schools) or a degree related to military or uniformed services work (Military Academy). • A minimum of five years of successful high school teaching experience in STEM subjects. • Experience working with diverse student populations in an urban setting.

Duties and Responsibilities: These master teachers will support all of the school based activities that are described in this proposal. They will: • assist in the development, with teachers and university partners, of the magnet theme curricula and courses; • facilitate implementation of new magnet curricula by training and coaching school staff; • assist in and support the professional development of classroom teachers in the magnet theme areas including facilitating PLCs and collaborative planning time; • teach demonstration lessons, for classroom teachers in magnet theme areas; • demonstrate strategies for meeting the needs of students with a wide range of abilities; • support and facilitate the curriculum alignment process; • help in the development and implementation of recruitment plans; • be responsible for monitoring the fidelity of implementation of the magnet program in their school and working with the project director, principal with input from the evaluator to modify and improve activities.

Bridgeport will use its Human Capital Management System (HCMS) for teacher evaluations to ensure that teachers in the magnet schools are qualified to teach the magnet schools' specialized curriculum. An overall "Outcomes Rating" of Exemplary, Proficient, Developing, or Below Standard will be based on how well each teacher meets individual targets

(student learning objectives) and is derived by combining the weighted indicators of student growth and development ratings with whole-school student learning indicators. All magnet resource teachers hired for this project must be highly effective with a rating of Exemplary or Proficient if they possess special qualifications related to STEM including an advanced degree in STEM subjects. Classroom teachers will be rated either exemplary or proficient. Classroom teachers with lower ratings will receive extensive professional development and will not be continued unless they improve. All classroom teachers in STEM subjects will have a degree in science, mathematics, engineering, technology or STEM education and be licensed to teach that subject in high school.

(B)Quality of personnel. (iv)... will ensure that its personnel are selected for employment without regard to race, religion, color, national origin, sex, age, or disability;

The Bridgeport Board of Education's non-discrimination employment policies: The Board of Education will provide equal employment opportunities for all persons without regard to race, gender, color, religious creed, national origin, age, sex, sexual orientation, disability, marital status, present or past history of mental disorder, mental retardation, learning disability or physical disability, or abilities unrelated to the performance of the duties of the position. The Board of Education directs the administration to set as a goal the recruitment, selection, and employment of qualified people among all racial and ethnic groups.

No advertisement of employment opportunities may by intent or design restrict employment based upon discrimination as defined by law.

The Bridgeport Board of Education will receive each November an annual report from the Superintendent concerning the extent to which the above mentioned Affirmative Action Program goals are being achieved.

In addition: It is the policy of the Board of Education to employ and retain the best qualified administrators, teachers, and other personnel. This shall be accomplished through careful consideration of credentials, references, interviews, and evaluation of previous performance. Personnel shall be considered on the basis of his/her effectiveness without discrimination as defined by law. (cf. 2111-Equal Employment Opportunity, 4111.1/4211.1-Affirmative Action in Recruitment and Selection).

(C) Quality of project design. (1) ... the quality of the project design. **(2)** The Secretary determines the extent to which each magnet school for which funding is sought will-(i) Promote desegregation, including how each proposed magnet school program will increase interaction among students of different social, economic, ethnic, and racial backgrounds.

Sheff v. O'Neill has succeeded in reducing minority group isolation in Connecticut:

In *Sheff v. O'Neill*, 1996, the Connecticut Supreme Court ruled that the *de facto* racial segregation caused by coterminous school district and town boundaries violated the state constitution. The remedy included state legislative and financial support of interdistrict transfers through the Interdistrict Magnet Program and Open Choice which allows students from minority group isolated urban areas and their suburbs to attend the same schools.

These programs have been hugely successful in New Haven and Hartford because:

- (1) The Connecticut Department of Education requires mandatory pre-planning of interdistrict magnet schools.
- (2) Sustainability of the program is guaranteed through state financial support.
- (3) Most successful interdistrict magnet schools have received Magnet Schools Assistance Program funding to establish their programs.
- (4) of leadership.

For example, New Haven has 21 magnet schools. Since 2001, 13 were supported with MSAP funds. Using the first year of operation as the baseline, every school has reduced

minority group isolation and every school is still operating as a magnet school. These schools have gained over 600 white students, mainly from New Haven's suburbs, and have reduced minority group isolation from 91% to 82%. The Hartford region has a similar record of success and Magnet Schools Assistance Program support. Of the six new interdistrict magnet schools started in 2010 with MSAP support, every one has reduced minority group isolation and has a combined minority population below 80%. The demographics of Hartford, New Haven and Bridgeport are very similar. Connecticut's magnet school strategy has worked well and will work, with MSAP support, for the Bridgeport Schools.

Sustainability has been a major factor in the success of Connecticut's interdistrict magnet schools. The state pays 95% of the costs of new buildings (districts must reimburse the state if schools become non-magnets), 100% of student transportation costs and adjusts ECS payments (state funded school aid) to compensate for the movement of students between districts.

Not surprisingly, leadership has also been an important factor. In the Hartford region, the State of Connecticut, the plaintiff in the *Sheff* case, has insured that area superintendents planned and implemented successful interdistrict magnets. In New Haven, its superintendent, Dr. Reginald Mayo, has made interdistrict magnet schools one of the important reforms of this twenty year tenure. Unfortunately, Bridgeport has not had the leadership necessary to duplicate the magnet school successes of New Haven and Hartford. However, that has changed. With the leadership of Superintendent Paul Vallas, Bridgeport is implementing a bold district restructuring that depends on the success of the interdistrict magnet high schools described in this application.

Bridgeport is requesting MSAP support for four new magnet high schools. Bridgeport's current high schools serve a total of 4,640 students. By the third year of this project, the four new magnet high schools will serve 1,875 students of whom 1,300 will be Bridgeport students.

This will reduce the total enrollment of Bridgeport's three current high schools, all of which are low performing. The four new magnet schools for which MSAP support is being requested are Bridgeport's best chance to quickly create high performing schools for about a quarter of its high school students, and at the same time, develop smaller school settings at the three original high schools, giving them an even better chance of improving academically. The new magnets will be the most diverse schools in Bridgeport.

Bridgeport's desegregation plan will be successful because of extensive preplanning, insured sustainability with state funds, and a racially diverse regional student population that is free to apply and enroll in the new magnet schools. For the 2012-13 school year, Bridgeport's three high schools serve 4,640 and are highly minority group isolated (44% black, 45% Hispanic, 3% Asian, 7% white). The total minority enrollment of these schools is 93%. There are seven suburban districts from which students will be recruited for the new magnet schools (Fairfield, Milford, Monroe, Regional School District 9, Shelton and Trumbull). Within these districts, there are nine high schools from which students will be drawn. The total enrollment of these schools is 12,160 (5% Black, 9% Hispanic, 5% Asian, 80% white.) Therefore, there is a large pool of non-minority students who can and will be recruited to the new magnet high schools. With MSAP support to create strong new magnet high schools, Bridgeport will be as successful as Hartford and New Haven.

Heterogeneous Classes Will Promote Equity and Diversity: At each of the new magnet high schools, the interaction of students from different backgrounds will occur because classes will be heterogeneous and cooperative learning will often be used. The guiding philosophy of these four schools is that all students can learn and will be given the opportunity to learn the same things together. This can only be accomplished when all students are taught the

same curricula, are held to the same high standards and are in the same classes, and when their teachers are supported so that they can become experts in teaching students with a wide range of needs. This means that all students will have their learning needs assessed and addressed and the results monitored for effectiveness on a regular basis, that teachers and administrators will be evaluated on the basis of the success of all students, and that students will be ready for and supported in high level STEM courses and be prepared for post-secondary education. To insure that schools progress toward these goals, data will be collected and examined by teachers, administrators, project staff, district staff and the project evaluator.

For example, one of the performance measures for this project requires monitoring of all science, mathematics, engineering and technology classes to determine if any racial or ethnic group or females or males are over or underrepresented. If groups of students are underrepresented, remedies will be found through the systems assisting both students and teachers to grow and improve. Underrepresented groups of students will be encouraged to take advanced courses and their prerequisites by teachers and guidance counselors and supported in those courses. Teachers of those courses will be evaluated, in part, on the basis of student outcomes. In addition, teachers' individual growth plans will include goals and professional development opportunities that will be geared to the themes of the magnet schools. Students will be supported by tutors (e.g., university students and teachers), mentors (university students and faculty) and guidance counselors as well as the entire system in each school that monitors student achievement and adjusts supports.

A magnet school that does not offer all students the opportunity to access rigorous courses and does not offer teachers and administrators the opportunity to grow and better serve all students enrolled in their school, has not adequately fulfilled its mission. This grant will

monitor the attainment of these goals at the classroom and school levels.

Collaboration, Cooperative Learning, and Project-Based Learning (PBL): Increased student interactions are pivotal aspects of the CCSS, the NGSS, and the four Bridgeport magnet high schools. In stressing a 21st-century skill like collaboration, the creators of the CCSS were responding to the recognition that the ability to work cooperatively is essential preparation for many types of work. The CCSS is explicit about the ways in which a standard such as “construct viable arguments and critique the reasoning of others” can be met through cooperative learning groups in which “students in all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments” (Standards for Mathematical Practice, #3). The NGSS emphasizes the importance of students engaging in scientific and engineering practices, which includes collaboration among students and the ability to communicate information effectively.

Cooperative learning models, which stress the value/importance of both group work and individual accountability, will foster interactions among magnet students. In cooperative learning, small teams, each consisting of students with different ability levels--and, in the magnet schools, different racial, ethnic, and economic backgrounds--will engage in learning activities designed to improve their understanding and skills. In particular, collaborative projects provide multiple roles for students with different educational backgrounds and learning styles.

All four magnet schools will require students to collaborate. Instruction will be inquiry-based, with students working alone and together to “solve” open-ended questions and design solutions to them. PBL will be the common structure of delivery for all of the magnet high schools. With a 4x4 block structure with 90-minute classes, each class, in all subjects, will be a 90-minute installment in PBL. Such a learning environment puts a premium on teamwork.

Collaborative projects, a requirement at all four magnet schools, will teach students valuable occupational skills, such as teamwork and communication. Students from the zoological sciences school might, for example, collaborate with the information-technology school to model the ecological impact of a project developed by those in the aerospace/hydrospace school. Participation across the three STEM schools in Project Lead the Way's Pathway to Engineering and Biomedical Sciences programs, will require that students demonstrate the ability to interact with others on their team. In meeting the state graduation requirement for students to complete individual Capstone projects, as well as other challenging projects, students will work with peers from their own or another magnet school. The projects will thereby demonstrate not only the student's STEM knowledge/skills in their major disciplines, but also their ability to communicate effectively with students in other disciplines and collaborate effectively to complete the required tasks. In the Bridgeport Military Academy: A First Responders High School , teamwork will be essential for students learning about providing support in crisis situations.

Teachers will participate in professional development activities that support student interactions, facilitated by Sacred Heart University, the Buck Institute of Education, which has expertise in working with high school teachers on implementing PBL, and the University of Bridgeport (for 3 STEM high schools) and, for the Military Academy, the University of New Haven. Teachers in the magnet schools will learn how to manage a collaborative learning environment and be a mentor who guides students as individuals and in collaborative groups.

C) *Quality of Project Design.* (2) The Secretary determines the extent to which each magnet school for which funding is sought will—(ii) Improve student academic achievement for all students attending each magnet school program including the manner and extent to which each magnet school program will increase student academic achievement in the instructional area or areas offered by the school.

Bridgeport is requesting MSAP funds to develop four exemplary magnet high schools—three with a STEM magnet theme: • Information Technology and Software Engineering High School; • Zoological Science, Research, and Biotechnology High School; • Physical Sciences, Engineering, and Aerospace/Hydrospace High School; and • the Bridgeport Military Academy: A First Responders High School for students who want to explore military and public safety careers. The three STEM schools will be located on the new Fairchild Wheeler Interdistrict Magnet Campus, where they will have access to new state-of-the-art facilities and equipment, as well as professional development, dual-credit opportunities, and other support from three local universities: Sacred Heart University, University of Connecticut, and University of Bridgeport. Their co-location will make possible cross-school student learning and professional development. The Military Academy has a partnership with the University of New Haven's Henry Lee College of Criminal Justice and Forensic Science, which has programs in police science and ROTC as well as programs related to all of Bridgeport's uniformed service agencies.

Common Core State Standards (CCSS) and Next Generation Science Standards

(NGSS): Bridgeport is currently implementing the CCSS in ELA/literacy and mathematics—standards that Connecticut has fully embraced. By 2013-2014, the project's first year, Bridgeport will have fully aligned its district literacy and math curricula to the CCSS. In 2014-2015, BPS students will be prepared to take new fully-aligned state assessments.

Bridgeport will begin implementing the NGSS at the beginning of the project's second year, the point by which the Connecticut State Department of Education is expected to have adopted them. The NGSS framework, which focuses on practices used by scientists and engineers, embeds ELA skills into these practices and is aligned with the CCSS for ELA.

Magnet Standards: Magnet school staff will develop specific magnet standards that will indicate what students will know and accomplish as a result of each school's magnet theme. They will be aligned with CCSS, NGSS, and Connecticut Standards. As a result, when students select a magnet school, they will have a strong sense of what they will accomplish in the magnet program that goes beyond the Common Core, Next Generation Science or state standards. The magnet schools will develop exit criteria based on their magnet standards. Students will demonstrate mastery of standards through projects, portfolios, exhibitions and tests.

Bridgeport's Core Curriculum: Bridgeport's comprehensive five-year plan, which began in June 2012, includes a unified district curriculum, aligned with CCSS, that incorporates literacy into mathematics, science, social studies and all disciplines. Bridgeport teachers have developed curricula for all core subject areas. HMH (Houghton Mifflin Harcourt-Holt) programs and resources, all aligned to the CCSS, were purchased for math, ELA and science to support the district curriculum. The district has established an on-line instructional improvement system that provides teacher and administrator access to curriculum and instructional supports, ongoing professional development, and student performance/progress reports.

Curriculum Mapping to Create Core and STEM/Magnet-Themed Curriculum:

Curriculum mapping is an important strategy for supporting Bridgeport teachers in making the pedagogical shifts that the CCSS and NGSS standards require. During the summer of 2012, high school teachers began using, in the core subjects, a web-based, CCSS-aligned

curriculum mapping protocol, Rubicon Atlas Curriculum Mapping.

Guided by the Connecticut Department of Education's grade level and course requirements, curriculum writers from each magnet school will develop curriculum maps providing overviews of each STEM or magnet theme unit's goals, concepts, essential questions, content, skills, vocabulary, common formative and other methods of assessment, and lists of resources. 21st Century Learning Skills have been added for science and will be added and aligned to the units for mathematics, ELA and social studies. Teachers and administrators will provide ongoing feedback, which the curriculum writers will discuss monthly.

The process of teacher conversations during common planning time, an ongoing review of student data and a focus on best practices will provide a deepening of teacher knowledge and place the emphasis on Common Core Standards. Each project year, the design teams will develop themed units of study aligned to CCSS and NGSS and magnet standards, which will be peer reviewed, and will result in students receiving magnet theme instruction for at least 3 (year 1), 6 (year 2) and 10 (year 3) hours per week.

Language Arts: The HMH materials, which will provide a foundation for ELA, are fully aligned with the CCSS. Teachers will create their own units and align them to the CCSS and their school's magnet standards. To respond to the reading strand, which is divided into two distinct parts (literature and informational text), the curriculum emphasizes the equal importance of each. Every unit begins with a text analysis workshop that provides front-loaded instruction in analysis skills applied to sample texts. Students explore themes, analyzing and responding to literary and informational texts. The writing strand mirrors the emphasis on reading informational text by focusing on informative explanatory and argumentative writing. Students support their claims with credible evidence. Writing Workshops provide process-based

instruction with student models and “Learn How” mini-lessons that teach skills in the context of writing. Acquisition of vocabulary is an important part of the curriculum.

Central to instruction in the magnet schools will be the integration of the CCSS for ELA that relate to College and Career Readiness into social studies/history, science, and technical subjects content. The magnet school teachers will make pedagogical shifts to enhance students’ learning of STEM and other magnet theme content. Teachers who, for example, have long had students primarily read literary texts, will have to balance them with informational texts about STEM and other disciplines. All students will complete four years of English classes.

Mathematics: The core mathematics curricula in the four magnet high schools, Algebra I, Geometry, Algebra 2, Trigonometry, are aligned with the CCSS in mathematics. Materials supporting these courses are available in written and an interactive online format. These materials focus on practice and problem solving, the application of technology, and reading and writing in math. The curriculum provides an effective, integrated Tier 1, 2, and 3 Assessment and Intervention System to help students catch up and keep up with all the important concepts and skills. Teachers will receive professional development in using the Bridgeport curricula, including how to integrate into classroom practice the meaningful and substantive ways in which the CCSS in ELA and math and the NGSS overlap. Students will take four years of mathematics.

Science: Three of the four proposed magnet schools have a science theme, while the fourth, the Military Academy, will include science in both required courses and as part of its military and first responder strands (e.g., forensic science). As with other subject areas, teachers will develop their own units that will be supported by HMH written and online materials. There are multiple assessment formats for teacher and student use and a comprehensive assessment suite for each course. In its second year, once Connecticut has adopted the NGSS, students will

use curriculum that has been revised to meet the NGSS. Students will take four years of science.

Social Studies: The social studies curriculum will be consistent with the Connecticut Social Studies Curriculum Framework, which is organized around three interrelated standards: Content Knowledge, History/Social Studies Literacy Skills, and Civic Engagement. Consistent with the CCSS, the district's social studies curriculum embeds literacy throughout, with teachers providing frequent opportunities to practice and improve reading and writing skills. Students must learn to rigorously weigh evidence, examine other perspectives, and evaluate alternate viewpoints to build, refine, and support their own historical point of view. Students will also learn about the history of science and technological and engineering advances that have addressed people's needs. Students will take at least 3 years of social studies/history/economics.

Improving the Academic Achievement of Students in Need of Greater Assistance

Bridgeport is committed to providing all students with the supports to meet the high bar set by the CCSS and the NGSS. Included in Bridgeport's approach are: • annual Universal Screening, a review of Bridgeport's State Reading/Math test scores of all students in Grades 3 – 12 to determine which students place at or above proficiency; • Formative Assessments; and • frequent Progress Monitoring. Based on Scientific Research-Based Interventions (SRBI), Bridgeport places students who fall above the 25th percentile in Tier I; those who fall between the 25th and 10th percentile in Tier II; and those who fall below the 10th percentile in Tier III. Tier I students receive differentiated instruction in the general classroom. Tier II students require additional intervention programs and additional time, while being monitored weekly to see if they need continued or more intensive supports or can stop receiving that level of support. Tier III interventions are delivered in small groups, outside of the general classroom; are monitored weekly or biweekly; and are generally of longer duration than in Tier II.

To implement ongoing formative assessments and progress monitoring, Bridgeport teachers and principals have been trained in Data-Driven Decision Making. All schools have data teams. Each team looks at individual class data to identify goals for achievement and determine which strategies will be most effective for individual students. HMH formative/unit assessments are administered every six weeks in all grades, allowing for rapid adjustments in pacing and content. These formative assessments, which are aligned with the core curriculum, provide data for teachers to differentiate and personalize education in the general classroom.

To help students in need of academic assistance make a successful transition from 8th grade to high school, there will be a Summer Bridge Program for incoming 9th graders and an intensive 9th grade orientation/preparation program. Course offerings for 9th and 10th grades will provide “double dosing” in critical subject areas such as math and language arts, along with strategic academic interventions. Tutoring and homework help, using students from the four partner universities and classroom teachers, will give students support in academic classes.

The magnet schools will use a variety of research-based programs to address specific student literacy needs. The four magnet schools will start with the following and add other resources for student not making sufficient progress. For grades 9-12, Tier I students will use the Lexia Technology Based Intervention Program, Tier II will use the Wilson “Just Words,” and Tier III students will use the Wilson Reading System and the American Reading Program. Lexia and Just Words, are aligned with the CCSS, include diagnostic screenings and biweekly progress assessments and vary content according to the students' personal progress.

English Language Learners (ELLs): The magnet schools will meet the needs of their ELLs by including them in all of their magnet activities and offering a strong ESL/bilingual education programs that reflects the State Department of Education’s English Language Learner

Framework. The schools will coordinate instruction by bilingual, ESL and regular classroom teachers and train bilingual and ESL teachers to fully support all magnet activities.

By being both flexible (based on how most students actually learn) and focused on depth, the slower pace of instruction that is aligned with the CCSS can be particularly helpful for ELLs, “who need ample time to learn a great deal of academic language and build background knowledge and experience that support reading comprehension” (WestEd, 2012).

Professional development with a STEM focus will emphasize practices such as:

- mathematical or scientific discourse practices (e.g., explaining, conjecturing), rather than on a simplified view of language (Moschkovich, 2012);
- science as a motivator to encourage ELLs to learn both content knowledge and skills and academic language (Brown & DiRanna, 2012);

Bridgeport's Interdistrict STEM Magnet High Schools

The STEM centerpieces of this project are the three interdistrict magnet high schools located on the new Fairfield Wheeler campus. The fourth magnet school, the Bridgeport Military Academy, will have a curriculum that explores military and public safety careers.

These STEM schools will have much in common. They will offer early college opportunities, engineering classes, project based learning and use inquiry and the engineering design cycle. However, each will have a different identity and offer different course work.

The **Information Technology and Software Engineering High School** focuses on applying information and software to solve problems. Student learning is focused on the design of virtual models and the use of technology to present information. The learning experience focuses on understanding problems and their causes and testing possible solutions. Students might, for example, create the software for an Autonomous Unmanned Vehicle conceived by the Aerospace/Hydrospace students, or design software modeling the decline of a frog species

studied by the Zoological students. The school has three main strands of study: (1) Software Engineering--development and programming of software applications; (2) Scientific Modeling/Simulation; (3) Game Design and Development. **The STEM curriculum includes:**

Science--Each student receives at least one year each in Biology, Chemistry and Physics, with a second year in one of those disciplines as an elective during their senior year. In addition, there will be early college science courses available.

Technology--Each student will work extensively with information technology. In addition, students will work with scientific instruments such as probes throughout their four years of science courses. Collaborative projects with students in the co-located schools will require the integration of other technologies into IT students' work.

Engineering--Each student will complete a sequence from **Project Lead the Way**. In addition, IT students will learn principles of software engineering in the course of their own work and of physical engineering (aero, hydro, bio) as they design simulations for their collaborative projects.

Mathematics--Each student will take four years of Mathematics, including algebra and geometry. All IT students will take Discrete Structures, directly linking math and IT skills. Students will take Pre-Calculus or other advanced courses, such as statistics, based on the needs of their specialized tracks and projects.

The following are **examples of IT courses**: Introduction to Structured Programming; HTML and JavaScript; Photoshop and Illustrator; Digital Design Basics; Software Engineering; Advanced Computer Gaming--An object-oriented approach to programming digital objects using Flash and Action Script 3.0; Data Structures, Database Design, Advanced Programming Concepts Using "C++"; Multimedia Applications aids in the understanding of multimedia authoring (Students use Flash and it ActionScripting); Building Computer Games; Managing,

Securing and Designing Modern Networks; Analysis of Algorithms; Project Lead the Way.

The **Physical Sciences, Engineering and Aerospace/Hydrospace Science High School** will focus on the practical application of science and mathematics to solve real-world problems. Student learning will focus on the design and use of technology to achieve physical science goals (e.g., developing economical solar power) in efficient, safe, and environmentally friendly ways. The learning experience will focus on the exploration and experimentation in space and underwater environments. Kongsberg Maritime Simulation, which also works with the aerospace industry, will help develop the curriculum and provide guest speakers for these students and those from the IT school. **The STEM curriculum includes:** **Science**--Each student receives at least two years of Physics and one year each in Chemistry and Biology. Students must complete a project in cooperation with students from the co-located schools (e.g., students designing an Autonomous Underwater Vehicle might collaborate with IT students to model it and with Zoology students to assess its environmental impact.) **Technology**--Each student will work extensively with engineering technology used by aerospace and hydrospace professionals as well as scientific instruments such as probes and meters. Collaborative projects with other students in other schools will require the integration of mechanical and information technologies into Physical Science students' work. **Engineering**--Each student will complete a sequence from **Project Lead the Way**. In addition, Physical Science students will participate in projects requiring focused study of aerospace/hydrospace engineering in the course of their own work and of software engineering as they help build simulations for their collaborative projects. **Mathematics**--Each student will take four years of Mathematics, including algebra and geometry. All Physical Science students will take Pre-Calculus and Calculus by the 11th grade.

Other advanced courses, such as statistics, will be available.

The following are **examples of magnet theme STEM courses**: Astronomy for Aerospace Engineers; Oceanography for Hydrospace Engineers; Geochemistry; Software Engineering; Principles of Robotics; Principles of Aerospace Engineering; Principles of Hydrospace Engineering; CADD; Digital Aerospace/Hydrospace Design; Project Lead the Way.

Zoological Science, Research and Biotechnology High School will focus on using the biosciences to solve problems related to the global ecosystem. Student learning will be focused on how technology and engineering advances affect the world. Students will collaborate with the IT school for modeling the ecological impact of, for example, Aero/Hydro projects. Collaboration with Connecticut's Beardsley Zoo will result in the development of the Wheeler Amphibian Recovery and Conservation (ARC) program and exhibit. Students will work collaboratively on research with Zoo staff; become part of its Conservation Discovery Corps (training and practice in Conservation Biology and Education); and serve as interns at the Zoo. Students will advance along one of three main strands of study: (1) Zoology; (2) Biotechnology; (3) Ecology and Environmental Science. **The STEM curriculum includes:**

Science--Each student receives at least two years of Biology and one year each of Chemistry and Physics. Students will complete projects with students from the co-located schools.

Technology--Each student will work extensively with biological technology as well as work with scientific instruments such as probes, meters and other scientific instruments throughout their four years of science courses. Collaborative projects will require the integration of mechanical and information technologies into Zoological students' work. Students proposing lab or field work will have to become familiar with the technologies used to conduct and analyze it.

Engineering--Each student will complete a sequence from **Project Lead the Way**. In addition,

Zoological students will study biotechnology engineering in the course of their own work, and software engineering as they build simulations for their collaborative projects.

Mathematics--Each student will take four years of Mathematics, including algebra and geometry. All Zoological students will take Pre-Calculus and Calculus by the 11th grade. Other advanced courses, such as statistics, will be available based on the needs of their specialties.

Examples of Life Sciences Courses -- Animal Behavior; Marine Biology; Human Anatomy and Physiology I and II; Evolutionary Analysis; Conservation Biology; Genetics including biotechnology and genetic engineering; Microbiology including biotechnology applications for microorganisms for various purposes; Ecology; Principals of Biotechnology focusing on biotechnology techniques (e.g., nucleic acid analysis and genomics, bioinformatics, proteomics); Ethics in Biotechnology; Introduction to Biomedical Engineering; Animal Development including cellular and molecular aspects of animal development; Project Lead the Way.

Features of All Three STEM High Schools on the Fairchild Wheeler Campus:

While each of the three schools on this campus will focus on a different branch of STEM, students at all of them will experience a unique combination of subjects and instructional techniques. For all students, the entire curriculum will be designed around project-based learning (PBL) via inquiry, the engineering design cycle, collaborative projects, and internships or other work-based learning. With schools' daily 4x4 block structure, each class, in all subjects, will be a 90-minute installment in PBL. Projects will be exercises in applied learning and "Authentic Education" designed in association with local universities and the region's leading aero-and hydro-space, software design, and bioengineering firms to insure their relevance to real world problems. All three schools will integrate the STEM disciplines and will require, at a minimum, functional familiarity with math, physics, biology, engineering, and information

technology. Students will demonstrate their skills and knowledge in addition to taking tests.

All students will take courses in the **Project Lead the Way (PLTW) Pathway to Engineering and Biomedical Sciences** programs, which are problem-based and use design software tools used by industry leaders. Pathway to Engineering (e.g., aerodynamics, astronautics and space life sciences, biomechanics) and Biomedical Science Program modules (e.g., physiology, genetics, microbiology, public health) are readily adaptable to the curricula of each of the three schools or to cross-disciplinary projects. PLTW courses will complement the science and math courses at all three STEM schools. Projects might include designing and constructing circuitry for smart phones or designing processes that directly repair living systems.

The schools will use advanced instructional technology (including a state-of-the-art ship simulator, holographic images of student designs, and advanced software development labs) and experiential learning (including internships and shadowing with some of the STEM fields' leading companies). While all students will benefit from this emphasis on applied learning, it will be especially beneficial for students who have not been engaged by traditional classrooms.

Through the campus's **College Alliance Program (CAP)**, students will, beginning in their second year, be able to take college-level dual-credit courses. The courses will mix core subjects and electives that will be customized for each school's STEM specialties. The model used to deliver these courses will be **Early College Experience (ECE)**, a nationally recognized and practiced program originally developed by the University of Connecticut, one of the partners in this proposal, in 1955. ECE classes are actual college courses on a high school campus that are taken for credit and conducted like college courses by instructors certified as adjunct professors who are part of the high school faculty. Student assessment will occur throughout the school year, including papers, tests, quizzes and other methods, as in a college course. CAP will

also include the University of Bridgeport and Sacred Heart University, partners who have agreed to provide college credit, professional development, and adjunct professor qualifications within the ECE model. ECE courses will be available in the following STEM disciplines: Biology, Chemistry, Computer Science, Environmental Science, Marine Science, Maritime Studies, Mathematics, Physics, Plant Science and Statistics. The University of Connecticut will pilot an Engineering course on the high school campus. Beyond ECE, dual-credit courses will be available in such STEM-related topics as Engineering, Robotics, Astronomy, Oceanography, Digital Arts (e.g., Digital Music, Digital Animation), and Biological Illustration. (The University of New Haven's Henry Lee College of Criminal Justice and Forensic Science will offer courses on calculus, media studies, forensic computer investigation, forensic psychology, and law enforcement science for students attending the Bridgeport Military Academy.)

Students on the Fairchild Wheeler campus will participate in a type of **Capstone** project not available at other schools--a cross-disciplinary project with team members from all three STEM magnet schools. The projects will require STEM content knowledge as well as effective collaboration to address real-world STEM challenges, since they will be developed with the campus's private-sector and university partners. For example, students might design a watercraft using a new means of propulsion, with engineering students conceptualizing and designing it, IT students creating the software and models to simulate it and zoological students assessing the environmental impact of its noise and energy source. The Discovery Museum and Planetarium will provide an excellent venue for sharing Capstone and other student work with the larger community, as will, for students from the Zoological Science, Research and Biotechnology High School, the national conference for scientists hosted there by the Beardsley Zoo and the school.

Making the Magnet Schools Work: Teachers + University and Other Partners

Partner universities--University of Connecticut, University of Bridgeport, and Sacred Heart University--will involve their faculty (education and STEM departments) in magnet school professional development that will take multiple forms throughout the school year. First, university faculty will be involved in the curriculum development/mapping process for all three STEM schools. Second, university faculty will present professional development in a variety of formats based on the needs of a school or STEM program. Professional development will cover STEM subject content, integration of STEM content into other subjects, and instructional methods related to inquiry/problem/project-based learning and engineering. Third, university faculty (along with partners like Kongsberg Maritime Simulation) will serve on an advisory panel for the high school campus, which will address issues related to professional development, STEM content, student assessment, outcome evaluation and project review.

Under Early College Experience (ECE), high school teachers of STEM courses will be certified to become adjunct faculty at the three partner universities, a process that includes professional development activities. A teacher seeking ECE certification must develop and submit for review a syllabus for each college course he/she wants to offer. Every two years, a teacher, must recertify as an ECE adjunct and attend on-campus STEM workshops, which are free for ECE adjuncts and will strengthen each teacher's content knowledge and understanding.

Sacred Heart University and the Buck Institute for Education, which has extensive experience training high school teachers to use project-based learning (PBL), will conduct a multi-year professional development sequence on using PBL to support STEM learning outcomes and meet the CCSS in mathematics and the NGSS. All teachers of Project Lead the Way (PLTW) courses will complete a two-week training sessions for every course they teach.

PLTW's Virtual Academy provides ongoing professional development training, detailed materials for each lesson in every PLTW course; and, collaboration tools, including forums for teachers to ask questions and discuss PLTW lessons.

Bridgeport Military Academy: A First Responders High School The Bridgeport Military Academy will offer students the opportunity to explore careers in the Military and Public Safety in a challenging environment with an emphasis on excellence in academics. Through partnerships with the Bridgeport Fire Department, Police Department, Emergency Management & Homeland Security and the United States Navy Junior Reserve Officers' Training Corps (NJROTC), students will be provided real world, hands-on experiences in law enforcement, firefighting and emergency medical services and military sciences.

The plan for the Bridgeport Military Academy is similar, in part, to that for the three STEM magnet schools. Like them, it will:

- build on Bridgeport's core curriculum including the use of the Next Generation Science Standards (NGSS) beginning in project year 2;
- emphasize PBL;
- support the involvement and success of students needing greater academic assistance, English language learners (ELLS), and students with disabilities.

Like the STEM magnet teachers, its teachers will:

- map curriculum and develop magnet standards;
- be part of the Bridgeport teacher evaluation and professional development process; and
- benefit from the Academy's two on-site magnet resource teachers. The Military Academy teachers will get just as many hours of professional development as those at the STEM magnet schools.

The focus of the Bridgeport Military Academy is to effectively prepare graduates to further their education and careers in a range military and public safety. Students will use innovative technology to solve problems presented in math, science and social studies. More

importantly, they will collaborate as investigators to address problems in their school and city.

The Military Academy will:

- Develop and implement three Public Safety study pathways: law enforcement, fire fighting and emergency medical services focusing on the biological, materials, and structural aspects of emergencies; and a fourth pathway in military science;
- Provide opportunities for nationally recognized industry certifications, such as CPR, First Aid and FEMA;
- Provide mentorships for all students in grades 10 & 11 with active and retired professionals in various public service fields, as well as with faculty and university students;
- Have students create an experiential learning portfolio that will highlight readiness to enter First Responder careers and higher education in public safety disciplines;
- Provide students with career education in public safety pathways in Grade 9 and Early College in grades 11 & 12 with the University of New Haven ;
- Provide students with internships, shadowing and other experiential learning opportunities with public service agencies.
- Give students the opportunity to obtain a scholarship with the University of New Haven.

All students will be offered four years of lab based science including:

- PhyChem, which focuses on matter and energy, and applications in chemicals in the environment, electricity, and energy sources.
- Biology, which has a biotechnology focus, emphasizing genetics, cellular chemistry, and evolution and populations.
- Chemistry, focusing on physical and organic and their applications.
- Physics, focusing on forces and motion, energy, light and sound.

All students will be offered four years of mathematics, such as Algebra, Geometry, Trigonometry, Statistics, and Pre-Calculus. Early College courses, in cooperation with the University of New Haven will allow students to receive college credit.

Each year, the students will be expected to combine their skills in mathematics, science inquiry skills, and the design cycle of engineering to solve a problem and to produce an

interdisciplinary project collaboratively in their chosen pathway.

The Academy's program will also include: • a week-long, required summer orientation program; • morning formation in squads; • enrichment program (after school hours) offering tutoring/homework help and specialized clubs (e.g., law enforcement technology, weather/meteorology, forensics). Each student will be assigned an academic advisor who will be responsible for regular monitoring of the student's progress. With the advisor, each student will develop an Individual Learning Plan that will support ongoing assessment of each student's academic progress.

A major component of the Bridgeport Military Academy will be its affiliation with the United States Navy Junior Reserve Officers' Training Corps (NJROTC), whose focus is to motivate young people to be better citizens. The Character Education Partnership curriculum will support the school's mission and mandates by integrating technology; linking content to the CCSS, NGSS, and state standards; integrating reading and writing; and providing character and financial education. It will inspire students to graduate from high school, attend institutions of higher learning and pursue meaningful careers.

The Bridgeport Military Academy Magnet School has established a key partnership with the University of New Haven's (UNH) Henry C. Lee College of Criminal Justice and Forensic Sciences. UNH has been providing advanced education in Criminal Justice and Forensic Sciences for 50 years and has earned a national reputation as one of the best and most comprehensive providers of advanced education in Criminal Justice, Forensic Science and Fire Science. The faculty of the UNH College of Criminal Justice and Forensic Science will work with the magnet school staff to assist in the development of magnet theme curricula and provide on-going professional development in the Public Safety, First Responder magnet

theme. In addition, all teachers will be trained in the collegial and character education components of the NJROTC program which will unify the magnet program. The college faculty will also provide challenging unique learning opportunities for the magnet school students, which ultimately will include Early College Experience and dual credit courses.

At all four magnet schools, the district's multi-stage teacher evaluation and development system will tie teacher evaluation to STEM or magnet theme-related student outcomes and effective professional development. This process will focus specifically on creating student and teacher goals related to the each school's magnet theme, assessing progress, and developing individualized, STEM-related professional development. The Magnet Resource Teachers will help to implement the personalized teacher learning plans that results from this process. These plans are consistent with the Bridgeport approach to professional development, which is targeted and site-based/job-embedded, making use of mentoring, coaching, class visitations, and professional collaborations.

A major vehicle for training will be subject area team meetings. During these weekly collaborative planning sessions, teachers at all four magnet schools will learn how to teach the magnet theme curricula in ways that align with the CCSS and NGSS, teach heterogeneous classes, infuse the magnet theme into units and lessons, and work collaboratively with colleagues. They will be facilitated by the Magnet Resource Teachers.

By the end of each project year, magnet school teachers will receive at least 30 hours of professional development related to the systemic reforms (e.g., alignment with CCSS and NGSS) listed in their school improvement plans and at least 30 hours related to their magnet theme. Specific STEM and magnet theme training activities, goals, and objectives will be developed for and included in a Magnet Implementation Plan before the beginning of each project year.

C) Quality of project design. (2) The Secretary determines the extent to which each magnet school for which funding is sought will: (iii) Encourage greater parental decisionmaking and involvement

Each magnet school will create a parent involvement plan, as part of magnet school a implementation plan each year. This plan must describe activities to address the five domains that are described below. Next to each domain are district activities and strategies that are related to the domain. Each magnet school will use these activities, strategies and resources as the foundation for their own parent activities. Some examples are given within each domain.

(1) *The basic obligations of parents refer to the responsibilities of families to ensure children's health and safety; to the parenting and child rearing skills needed to prepare children for school; to the continual need to supervise, discipline, and guide children at each level.*

► The *Parents' Guide to Student Success* available on-line and in hard copy in all schools, provides clear, consistent expectations for what students should be learning at each grade in order to be prepared for college and career, and methods for building stronger relationships with teachers. Each magnet school will customize this guide for the specific curricula and courses they offer and present parent workshops to disseminate and explain how the guide can be used.

► The Bridgeport Parent Center serves as a citywide resource, connecting parents to agencies in Bridgeport that provide parenting skills, life skills and enrichment opportunities through monthly workshops. Each school will duplicate these workshops for their parents and have follow-up activities to disseminate the information more widely. ► The Child and Family Guidance Center offers 10-week Parent Project courses in both English and Spanish on topics such as how to avoid arguments with your teen, and preventing or intervening in alcohol or drug use. Each magnet school will co-present these and similar offerings at their school sites.

(2) *The basic obligations of schools refer to the communications from school to home about school programs and children's progress.* ► Each magnet school will have at least five workshops per year highlighting its special magnet curricula and explaining core academic courses and magnet electives and how the curriculum of each school is aligned with the Common Core State Standards (CCSS) and the Next Generation Science Standards (NGSS). ► Each magnet school will have workshops that describe and explain clear expectations for students and provide information on how individual teachers will keep parents informed on a quarterly basis about their child's academic and behavioral progress. ► Parents will receive training regarding how to interpret results from their child's benchmark and formative assessments. ► The PowerSchool Student Information System enables parents to easily monitor their child's grades, class work and assignments; and track student attendance, behavioral incidents, and scores on standardized mastery tests. All online content include tutorials for teachers, students and parents. ► Each school will have workshops and community meetings to help parents understand the information that is available to them and how to access it. To ensure equitable access to digital resources, each school will provide technical support that is tailored to the needs of their parents. In cooperation with the Bridgeport Public Library, each school will offer a number of hands-on technical training sessions to facilitate access to and understanding of the district's student information systems. ► To further ensure that parents without computers and/or internet at home have access to this information, Bridgeport offers computer literacy classes and encourages parents to use the computers at the Bridgeport Public Library.

(3) *Parent involvement at school refers to parent volunteers who assist teachers, administrators, and children in classrooms or in other areas of the school.* ► The Parent Engagement Calendar and Tracker will provide parents with an updated online calendar of

school volunteer and engagement opportunities. This will be highlighted at all workshops and meetings for parents and in the schools' newsletters to parents. ► All schools will provide a list of service opportunities. School stakeholders (parents, teachers and administrators) will determine the activities appropriate for service hours at their particular school. All families will be encouraged to participate in at least ten hours of school and/or district related activities. Each school will have school and community meetings explaining the program and recruiting parents. ► Each magnet school will establish teams of Parent Ambassadors made up of parent volunteers who serve in various roles such as: an information source for parents (e.g. suggestions on improving parent-teacher relationships, serving as a “knowledge resource” to parents with students with special needs); parent-to-parent recruiters and facilitators; arrival and dismissal safety monitors (as part of Bridgeport’s Safe Corridors initiative); and Family Resource Center helpers. ► Parents will be active participants in each school’s recruitment process: in focus groups that help shape decisions about school branding, logo, strategies, and materials, and as ambassadors for the school at magnet school fairs and open houses. ► A Family Resource Center or Parent Room will be established at each magnet school and will provide a broad range of free instruction and educational support for families, including parenting workshops and improvement of parents’ literacy, math, and technology skills.

(4) ***Parent involvement in learning activities at home refers to parent-initiated activities or child-initiated requests for help, and ideas or instructions from teachers for parents to monitor or assist their own children at home on learning activities that are coordinated with the children’s class work.*** Parent-teacher conferences will illustrate ways for parents to support their child’s learning, and PowerSchool will enable parents to monitor their child’s academic progress. Parents will interact with their children about their learning and their future plans as a result of

individual parent-teacher meetings and PTSO meetings and other events that provide information about the specific magnet programs at each school, course selection, Early College, and post-secondary education. Magnet resource teachers and school counseling staff will also offer parent information workshops on such topics as: ► understanding and completing the college application, ► financial aid and the scholarship application process, preparation and test-taking skills for the SAT and ACT; ► learning about different colleges, including Internet research; and ► college and career exploration through the College Board's MyRoad™ website and other websites and materials.

(5) **Parent involvement in governance and advocacy refers to parents' taking decision-making roles in the PTA/PTO, advisory councils, or other committees or groups at the school, district, or state level. It also refers to parent and community activists in independent advocacy groups that monitor the schools and work for school improvement.** ► Parents will be active members of the each school's School Governance Council, which consists of school staff, parents, community leaders, and high school students. It provides advice, recommendations, endorsements, and assistance in support of continuous school improvement designed to improve student achievement. ► Parents will be members of the District Parent Advisory Council. ► Parents will be members of both the district recruitment team and each school-based recruitment team. ► Parents will provide input through membership in each school's Parent, Teacher, Student Organization. ► The Bridgeport Parent Leadership Training Institute, a Connecticut Commission on Children Family Civics Initiative, is a 12-week training for 25-30 parents, guardians, grandparents, and others designed to improve parents' leadership skills. Each magnet school will recruit parents for this training. ► The Superintendent Forum will include two parents from every school, selected by that school's School Governance Council, to meet

with the Superintendent at least four times a year. Parents set the agenda for the Forum.

The Parent Involvement Plan for each magnet school will address each of the five areas described above with activities in each of the categories. The plan must clearly explain how all aspects of the specific school program will be communicated to parents. Finally, the plan must include components to make it easier for parents who do not live near the magnet school to become fully involved in the life of the school.

There will be staff training and parent training for each of the five categories listed above. Professional development for all administrative, pedagogical, counseling, and other staff related to communicating with and collaborating with parents and to engaging families of diverse backgrounds will be incorporated into each magnet school's professional development activities as part of the school's professional development plan. Workshops will address such critical issues as encouraging parent involvement, partnering for student success, collaborating effectively, and fostering communication. Staff training will be facilitated and coordinated by the magnet resource teachers, and the Equity Assistance Center at Brown University.

(d) Budget and resources. (1) The adequacy of the facilities that the applicant plans to use.

The three STEM high schools will be housed in a brand new three school complex in Fairchild Wheeler Park that will open in September, 2013. Each school was designed for its specific magnet theme and built to maintain low operating costs, reduce waste sent to landfills, conserve energy and water, utilize renewable construction resources and reduce harmful greenhouse gas emissions (LEED Silver-certified structures). The buildings have sufficient capacity to accept the numbers of students needed to achieve its desegregation goals.

The schools share several spaces. All three will have access to the Information Resource Center, a space designed to encourage independent research, but is large enough to accommodate

students for large group work, as well as small group and collaborative work. Other shared spaces include: a performing space/theater; general music/band rooms; visual arts rooms; gymnasium; dining area; administrative rooms; a health suite (including two exam rooms and a dental space); and a student services suite. All have wireless networking and internet.

Each school will have approximately 15 learning studio/classrooms divided among three floors as well as an exhibition space, a principal's office, assistant principals offices, conference rooms, a parent room, a guidance room and a partnership lab, where partnering organizations can develop an interactive space, giving students real-world experiences with leaders in their fields.

The following describes the unique spaces for each school:

Information Technology and Software Engineering School: Classrooms will be clustered in groups and include small Flex Rooms, common spaces and teacher support areas. On each floor, there will be two distinct sides: one with regular shaped rooms, and the other with more open spaces to accommodate special projects. There will also be a sound studio, two graphic design laboratories, a video production studio, and three technology labs. The school will also have a dedicated computer repair space where the school's repair needs will be met by the students.

Zoological Science, Research and Biotechnology School: Built in a park, the school complex was designed to support outdoor learning opportunities and embrace the environment, supporting the school's magnet theme. Classrooms are interspersed with specialized laboratories and student workstations. Each floor will have traditional classroom spaces, as well as larger, more adaptable rooms that can be used for special projects and activities. There is a Live Animal Lab where community partners such as the Beardsley Zoo will bring animals for specialized, hands-on instruction. The school includes two biology labs and a micro-biology lab.

Physical Sciences, Engineering and Aerospace Science: The school will house classrooms on

three different floors. Each floor will have a group of four to six learning studio classrooms with dedicated laboratories, as well as student common areas. Further, each floor of the school will provide both regularly shaped classrooms as well as rooms that are more flexible in form and function. The large Group Project Room will be developed to showcase students' magnet themed projects and activities. This space will also serve as the center of Aerospace studies, housing spaces to simulate aircraft flight, graph flight patterns, build gliders and study rocketry. The school will also have three technology labs and a robotics lab.

Bridgeport Military Academy (BMA): Because the three STEM schools are being phased in-- 9th and 10th grades year 1, 11th grade added year 2, 12th grade added year 3--their buildings will not be fully utilized until year 3. Therefore, the Military Academy, which will not have its own building until year 3, and is being phased in one grade each year, will be housed in the Zoological Science, Research and Biotech School for years 1 and 2. Therefore, BMA students will have access to the school's learning studio/classrooms, laboratories, student workstations and other spaces. BMA students will use the two biology labs, and the micro-biology lab. Further, unique spaces specifically designed for BMA students, such as a crime scene lab and science rooms and laboratories featuring emergency medical equipment, will also be developed.

For the third project year, BMA students will move to their permanent location on the University of Bridgeport, Seaside Park campus. The grounds and athletic fields are perfectly suited for student marching units, formal parades and other military exercises. The four-floor building will feature science labs, a crime scene room, and a police substation in the front entryway. The basement of the structure has outdoor access and will be converted to accommodate fire fighting apparatuses. Further, the school is near the Bridgeport Police Department equestrian unit, situating students in close proximity to a special division of this

partnering organization.

(d) Budget and resources. 2) The adequacy of equipment and supplies that applicant plans to use

The budget for equipment and supplies to fully develop and implement this project is adequate and cost efficient and will help the district and each of the schools to attain all performance measures. The requested funds will not supplant local funds supporting the magnet program. Bridgeport will purchase all materials, supplies and equipment needed to implement the required curricula for all students. Only supplies and equipment specifically needed to implement the magnet themes described in this proposal will be requested. Bridgeport will not decrease the funds normally spent on supplies and other materials, equipment, computers, software, textbooks or library books. Per capita local allocations for these items will be the same in magnet and non-magnet schools.

This proposal concentrates on equipment, supplies and materials to establish the new magnet programs. These schools are costly to set-up because of equipment and supplies required for STEM programs and the military and public safety career programs. However, Bridgeport is not relying on the MSAP grant to meet all of the equipment needs of these schools. Rather it is asking MSAP to supplement what has been or will be purchased. Extensive professional development provided by four universities will insure that supplies and equipment will be used as described in this proposal. Supplies for the STEM schools include math, science, engineering books, models, project kits and consumables to support their programs. For the military academy supplies include NROTC manuals, fire cadet and fire training materials, emergency medical supplies and responder manuals, etc. Requested equipment enable the implementation of these programs. Some examples are:

Information Technology and Software Engineering School focuses on applying information

and software to solve problems. The school will have a sound studio, two graphic design laboratories, a video production studio, and three technology labs and a dedicated computer repair space where the school's repair needs will be met by the students. Requested equipment include a flight simulator (to work on cooperative projects with aerospace student), robotics equipment, technology kits, computers, ipads.

Zoological Science, Research and Biotechnology School will focus on using the biosciences to solve problems related to the global ecosystem. There will be a Live Animal Lab where community partners such as the Beardsley Zoo will bring animals for specialized, hands-on instruction. The school includes two biology labs and a micro-biology lab. In addition to lab equipment, requested equipment includes computers, ipads and technology kits.

Physical Sciences, Engineering and Aerospace Science will focus on the practical application of science and mathematics to solve real-world problems. Student learning will focus on the design and use of technology to achieve physical science goals and on the exploration and experimentation in space and underwater environments. The large Group Project Room will serve as the center of Aerospace studies, housing spaces to simulate aircraft flight, graph flight patterns, build gliders and study rocketry. The school will also have three technology labs and a robotics lab. . In addition to lab equipment, requested equipment includes robotics equipment, 2 flight simulator packages, computers, ipads and technology kits.

Bridgeport Military Academy: A First Responders High School will offer students the opportunity to explore careers in the Military and Public Safety. Through partnerships with the Bridgeport Fire Department, Police Department, Emergency Management & Homeland Security and the United States Navy Junior Reserve Officers' Training Corps (NJROTC), students will be provided real world, hands-on experiences in law enforcement, firefighting and

emergency medical services and military sciences. Supplies and equipment include an ambulance simulator, a flight simulator (connected to NROTC), chrome books, interactive white boards, robotics equipment, NROTC uniforms.

(d) Budget and resources. (3) The adequacy and reasonableness of the budget for the project...

This project represents a comprehensive plan for the start-up of four new magnet schools. The budget is reasonable and adequate to achieve the ambitious objectives of the project.

The ambitious curricula that have been described in this proposal could not be successfully implemented without the extensive professional development and support of the University of Bridgeport, Sacred Heart University, the University of Connecticut and Project Lead the Way (three STEM Schools) and the University of New Haven's Henry Lee College of Criminal Justice and Forensic Science (Military Academy).

The total three year cost, for all four schools, of the professional development from these organizations is \$1,485,439. Considering the scope and extent of this professional development, described in both *Priority 4* and *Quality of Project Design*, we believe this total cost, as well as the individual annual cost of each of the providers is reasonable considering the high quality. The three year cost of the equipment and supplies for the four schools, is \$2,017,250 and \$1,221,850 respectively. These expenses were explained in the last section and are reasonable considering that the magnet themes include high school STEM programs and a high school that will have comprehensive programs to allow high schools to explore public service careers.

The requested budget for the project is \$3,995,695 for the first year, \$3,996,968 for the second year, and \$3,982,704 for the third year of the project. The project will reach 875 students in the first year and 1,875 students by year 3. Therefore, the per-pupil cost of starting up these magnet schools is approximately \$4,567 for the first year. Increases in student enrollment in

subsequent years will cause the per-pupil cost will go down to \$2,907 for project year 2 and \$2,124 for project year 3. In addition, the following is an explanation of specific budget items in addition to supplies, equipment and professional development. **Personnel Costs:** The District is requesting salaries and benefits for a Project Director, 1 Recruiter, and 8 Magnet Resource Teachers. All positions are full-time positions. These positions were described in the *Quality of Personnel* section of this proposal.

The **Project Director** will oversee the entire Magnet School Project, coordinating all project activities, monitoring full implementation, and reporting on the progress of the project to the Superintendent, the Board of Education and the community. The **Recruiter** will assist the project director coordinate and implement the recruitment plan. The **Magnet Resource Teachers** ► Participate in the writing of the curriculum materials that will be prepared for this project; ► Help implement the new magnet curricula by training and coaching school staff; ► Help in the development and implementation school recruitment plans. The District is also requesting funds to pay teachers hourly **stipends for professional development, and curriculum development and alignment**. Finally there are funds in each school's budget for tutors an important support for students who might need additional academic help especially in STEM subjects. Funds will also be allocated for the district to **contract** for the services of an **outside evaluator** to provide an independent evaluation of the magnet project and to provide the District with both formative and summative evaluations. The contractor has many years of experience evaluating MSAP projects, as well as other educational programs.

Thus, the budget for this project is reasonable as it covers all areas related to the objectives of the project. It includes only the start-up costs of the four magnet schools. After the three years of funding the District will assume the costs of maintaining the project.

(e) Evaluation Plan...the evaluation plan for the project (1)Includes methods that are appropriate to the project; (2) Will determine how successful the project is in meeting its intended outcomes, including its goals for desegregating its students and increasing student achievement; and (3) Includes methods that are objective and that will produce data that are quantifiable.

This evaluation, spanning the three years of this project, will assist school staffs and district personnel to modify and improve project performance and produce information needed by the United States Department of Education to properly evaluate project effectiveness.

Data Collection: This evaluation will draw on a wide variety of data to provide substance and context for both formative and summative reports. Quantitative, extant data (e.g. enrollment information, standardized test results) will be used in conjunction with questionnaire, interview and observation data, as well with qualitative data (e.g. school improvement plans, curriculum materials, professional development records) to ensure a thorough and balanced evaluation.

The contractor will develop a complete set of data collection instruments (including surveys, document requests, and walkthrough, observation and interview protocols) designed to provide sufficient information to address objectives and performance measures and supplement extant data. However, **extant data will be used whenever possible** to lessen the burden on school based and project staff. The data to be collected will include: **Student achievement, demographic, enrollment and other data:** The contractor will collect standardized test score data (e.g., school and grade level reading, mathematics, writing, science data) needed to address performance measures related to student academic achievement. Enrollment data disaggregated by race/ethnicity collected by the district will indicate the extent to which each school and the project succeeds in meeting desegregation related performance measures including reducing minority group isolation. Applicant pool, student selection and student enrollment data will help

explain the extent to which the reduction in minority group isolation performance measures were attained and help determine how performance in this area can be improved.

Document requests: The contractor will request documentation from magnet school teachers and MSAP staff to help determine the quality and extent of MSAP implementation. Examples include: ► **descriptions of and dosage** (amount of program delivered) **for units and courses** that present the magnet theme to students; and student recruitment, teacher professional development, parent involvement and planning activities (including an implementation plan); ► **schedules** of school based magnet staff; ► School improvement plans; **Observation and interview data** will be collected, during three annual visits to each magnet school, by trained evaluators with extensive experience as magnet school practitioners. During each visit, the visitor will conduct a walkthrough, observe lessons, and interview teachers, administrators, students and parents.

Surveys will be administered annually to all magnet school teachers, a sample of magnet school students and teachers and students at comparison schools. Drawing on its twenty year history of MSAP and regular and rigorous evaluations, American Education Solutions has developed survey items and scales with its survey consultant, Dr. David Silver, a senior researcher at U.C.L.A.'s CRESST Center, and currently, Dr. Jia Wang, a senior researcher at CRESST. *These survey items are directly related to the purposes of the MSAP and the objectives and performance measures of this proposal.* Validated survey items and scales measure constructs including school climate, instructional leadership, professional development hours (formal, collaborative and coaching) and effectiveness, student engagement and motivation, student academic commitment and expectations, student and teacher perceptions of intergroup relations and magnet theme implementation, standards based instruction and systemic reform implementation and parent involvement as well as magnet and professional development dosage.

Formative Evaluation and Reporting: The evaluation contractor will aid in the continual improvement of the project through formative evaluation, an examination of implementation that returns information to project, school and district staff to help them improve program performance. Formative evaluation includes the study of program fidelity (the degree to which a program is implemented as designed) and reach (the proportion of the target group that participates). Components of fidelity include: ► adherence – the degree to which the program adheres to its goals, plans, activities, timeline; ► dosage – the amount of program delivered; ► quality – the quality of program activities and services; ► responsiveness of participants to program activities; ► program differentiation – unique features when compared to non-magnets.

Formative Evaluation Reporting: Data will be collected, as available, and analyzed and recommendations discussed with the project director and school staff throughout the year.

Five formative evaluation reports will be written by evaluators each school year:

Reduction of Minority Group Isolation (MGI) Report: Demographic and enrollment data will be compared with applicant pool, student selection and other data from the previous school year and with performance measures. By November, discussions related to the attainment or partial attainment of performance measures related to the reduction of MGI will help the district and magnet schools modify recruitment strategies and activities to attain better results. (Were MGI outcome targets attained? Was MGI reduced? By how much? Why?)

This report is updated in late spring when new applicant pool and student selection data is analyzed and compared with school enrollment data to determine the success of these activities and create plans of action to improve results, if necessary. Measures of fidelity include adherence to the implementation plan, recruitment plans and student selection criteria and procedures; and dosage, the “amount” of recruitment. Quality and responsiveness will be

determined by changes in school enrollments, especially for entry grades, and the size and diversity of applicant pools. Differentiation will examine if unique program features were implemented and adequately described to the target audience. This report not only informs the district about its successes in meeting desegregation performance measures (1.1-1.5) but also explores reasons for progress or lack of sufficient progress and possible remedies.

Site Visit Reports: Site visits, described above, are opportunities to feed back data related to the development and implementation of the magnet theme. After each of three annual site visits, a report will be written by the site visitor and submitted within ten days. It will summarize the findings of the visit and include recommendations for improvement. Site visitors will discuss recommendations with school and MSAP staff during each visit. **Documentation Reviews,** included in all three site visit reports, will summarize descriptive and quantitative data related to magnet curricula, systemic reforms, parent activities and professional development, and report on: adherence (e.g., activities implemented on schedule), dosage (e.g., the amount of time students, teachers and parents are exposed to grant activities such as magnet units and courses, professional development and parent activities), quality (e.g., peer reviews of magnet related units and courses). The combined site visit report/documentation review summarizes how much progress has been made towards attaining performance measures especially those related to magnet theme and systemic reform implementation (2.1, 3.1), professional development (5.2) and fidelity of implementation. The reports, distributed to and discussed with school staff three times each year, helps them to understand if they are on track to attain project outcomes, including performance measures and if not, why and how the project activities can be improved.

Survey Reports will include item by item results for each school, summaries of survey construct results for each school, and, for years two and three, comparisons between current and the

previous year's results. Trends (e.g., relationship between magnet implementation and student engagement and motivation, between professional development dosage and impact) are explored.

Summative Evaluation and Reporting: The evaluation contractor will determine the extent to which annual objectives and performance measures are attained. Data sources were described above. The evaluation contractor will collect and analyze the data, prepare two annual performance reports and one final report summarizing findings, and discuss the results with district and magnet school staffs. The following section summarizes the means through which evaluators will assess the attainment of performance measures (PM) which are listed the *Plan of Operations* section of this application and summarized below:

PM 1.1-1.4 Reduction of minority group isolation (MGI) at each magnet school meets annual targets. **PM 1.5** Each magnet school will receive at least 65 applications

Assessment: School enrollment data, disaggregated by race/ethnicity will be used to determine the degree of attainment of 1.1-1.4. Applicant pool and student selection data will be used to determine if 1.5 was attained and explore how performance can be improved for all measures.

PM 2.1: Each School Improvement Plan will include activities and objectives supporting the adoption of high standards for all students and systemic reforms coordinated with MSAP activities. **Assessment:** Success will be determined through inspection of each school's plan.

Implementation success will be measured by performance measure 3.1.

PM 3.1: All magnet school students will receive magnet theme instruction coordinated with systemic reforms for at least 3 (year 1), 6 (year 2) and 10 (year 3) hours per week.

Assessment: Success will be determined through unit plan analysis and confirmed with surveys, interviews, and walkthroughs. Units and lessons will be peer reviewed to determine quality. Surveys will measure responsiveness by assessing student engagement and motivation,

academic commitment and expectations and student and teacher perceptions of school climate.

PM 4.1-4.3: State proficiency standards (SPI goals) will be met for each school's total enrollment in: **4.1** reading; **4.2** mathematics; **4.3** writing; **4.4** science; and the SPI goals combining all subjects for: **4.5** entire school enrollment and each subgroup. **4.6-4.7** At each magnet, the percent of students from major racial and ethnic subgroups who score proficient will increase each year in **4.6** reading. **4.7** mathematics. **4.8** Writing. **Assessment:** All students are tested in April of each school year. Data is analyzed by the State Education Department and will be presented in the Annual Performance Reports in tabular form, highlighting the performance targets and how each magnet school – both in aggregate and by subgroups – performed in relation to these targets.

PM 4.9: In each magnet school, 75% of students will master the magnet curriculum.

Assessment: School and magnet staffs will develop, by the end of year one, methods to assess student mastery of magnet curricula. Project director and evaluator will approve methods.

PM 5: Magnet school teachers will receive 30 hours of professional development related to **5.1:** systemic reforms and **5.2:** 30 hours related to magnet theme development and implementation.

Assessment: (**5.1, 5.2**) Magnet staff will collect professional development data including the type of training, the number of hours provided and the number and names of teachers involved.

Quality will be determined through survey analysis and interviews, walkthroughs, etc.

PM 6.1: At least 75% (yr. 1), 85% (yr. 2) and 95% (yr. 3) classes (elementary) or STEM classes (secondary), will reflect their grade's enrollment for each racial/ethnic group and males and females by ± 15 percentage points. **Assessment:** Success will be determined through analysis of class enrollments disaggregated by race/ethnicity and gender. **PM 6.2:** There will be an increase in parent participation at each magnet school each year. **Assessment:** Workshop materials,

attendance records and parent interviews will determine parent participation and satisfaction.

Annual Evaluation Schedule: ► Initial meeting with project and district staff (Week 1);
► Refine data collection instruments and plan; refine analysis plan; (Weeks 1-3); Collect data (Throughout year): Enrollment data (Week 5); Site visits including interviews and observations (Weeks 10, 22, 34); applicant pool data (Week 28); Dosage data (ongoing); Surveys administered (Week 34); Survey results reported (Week 38); Documents collected (e.g. units integrated with magnet theme - Weeks 9, 21, 33); ► Formative evaluation including discussion of recommendations (Weeks 3-40); MGI Report (Week 10) MGI/Applicant Pool Update (Week 31); Site Visit-Document Review Reports (Weeks 12, 24, 36); ► Analyze and process summative data (Weeks 34-36); ► Prepare Annual Performance Report (Weeks 36-37); ► Submit report to school District (Week 38). Week 1 is the week the project begins each year.

Rigorous Evaluation of Magnet School Assistance Program: The rigorous evaluation design proposed below (please see appendix for a more detailed version) will be carried out by researchers at UCLA's Center for Research on Evaluation, Standards, and Student Testing (CRESST). The goal is to measure MSAP impact on student achievement with the statistical rigor of a high-quality quasi-experimental design, but to do so with attention to limitations of available data and sample sizes on a scale that is reasonable within the current funding structure.

The goal of the rigorous evaluation is to measure Magnet Schools Assistance Program (MSAP) impact on student achievement. Using a statistically rigorous, high-quality quasi-experimental design, we examine two broad questions: (1) How did students attending target MSAP schools perform on state tests in relation to matched students at comparison schools in the same district? (2) How did *different subgroups* of students attending these MSAP schools perform in relation to matched students at comparison schools in the same district?

This evaluation strives to bolster the current body of research with instrumentation and analytic methodology aligned directly with the priorities and selection criteria of the Magnet Schools Assistance Program. We will select comparison schools within the district based on how closely they match the characteristics of MSAP supported schools in the year prior to magnet implementation using hierarchical cluster analysis. Specifically, the comparison school selection will take into consideration the grade span of the school, school size based on enrollment, school racial composition (i.e., percentage of Black and Hispanic students), the percentage of ELL students and the percentage of NSLP participants.

To identify comparison students, the evaluation team will restrict the pool of MSAP and comparison students to those who had achievement outcomes for each outcome year and those who have been at MSAP or comparison schools for at least half of the school year. A covariate balancing propensity score will then be computed for the eligible comparison students. Students from each comparison sample will be matched to MSAP students with similar propensity scores using a technique known as radius matching (Huber, Lechner, & Wunsch, 2010).

Our research will examine the effect of MSAP implementation by comparing outcomes of students in MSAP schools to the counterfactual condition of how they would have fared if they had not been a part of the MSAP program. This effect is known in the literature as the average treatment effect on the treated (ATT). We will use regression analysis to examine this effect for each student's achievement outcomes. Specifically, we will examine the effect of prior student achievement on each student's achievement outcome (i.e., standardized tests).

In other words, controlling for prior achievement in both the matching model and the analysis model increases the robustness of the estimates. The average treatment effect on the treated (ATT) effect is determined from the size and direction of the magnet effect coefficient.

A counterfactual estimate can then be obtained by subtracting the ATT effect from the average observed score of an MSAP population in an outcome year. This counterfactual represents an estimate of how these students may have fared if they had not been a part of the MSAP program and had instead attended a control school.

The combination of the rigorous evaluation described above with data from surveys developed by CRESST and AES, and the evaluation site visits and documentation and data reviews by AES provides districts with additional insight into the extent and quality of their MSAP implementation as well as the value the MSAP program has added to its schools.

(f) Commitment and capacity. (1) ... applicant is likely to continue the magnet school activities after assistance...is no longer available (2) (i) Is committed to the magnet schools project

Bridgeport has received state funding to support one interdistrict magnet school and it continues today to offer students a high quality education. Bridgeport is requesting Magnet Schools Assistance Program funds to develop three STEM-themed magnet high schools and one military and public safety careers magnet high school. All four schools will serve both Bridgeport and suburban students.

Connecticut and its large cities are committed to magnet schools and have been for more than fifteen years, to a great extent, because of the *Sheff* decision. The laws the state legislature passes as a result of *Sheff* provide funds to help sustain the programs, an important factor in their success and a commitment to magnet schools and desegregation that few states can match.

Magnet schools work in Connecticut because they offer choice to both urban and suburban students as well as racially and ethnically diverse schools. The state provides 95% of the costs of building a new interdistrict magnet school, 100% of the costs of transporting students to their magnet schools and adjusts the ECS (Education Cost Sharing) state aid to the school

districts involved so that districts are not adversely impacted financially and to insure the sustainability of each magnet school. To insure that interdistrict magnet schools retain their magnet status, districts must reimburse the state for construction costs if the new or renovated school building is used for a non-magnet. In other words, the laws passed as a result of Sheff require not only the development of interdistrict magnet schools but provide for their sustained operation. Because of this built-in sustainability, districts use interdistrict magnet schools as part of long range district construction and improvement plans. The three STEM high schools on the Fairchild Wheeler Campus were built with Interdistrict Magnet School construction funds.

Bridgeport's long-term commitment to the project also reflects its comprehensive five-year plan, begun in June 2012, to improving student performance and closing the achievement gaps for its students with the greatest educational needs. One of this plan's six key reform initiatives relates specifically to the restructuring/building of high schools to increase student choice. The creation of these magnet high schools is essential to Bridgeport's vision for a district turnaround.

Bridgeport currently has three high schools serving 4,640 students. By the third year of this project, the four new magnet high schools described in this proposal will serve 1,875 students of whom 1,300 will be Bridgeport students. This will reduce the total enrollment of Bridgeport's three current high schools, all of which are low performing. The four new magnet schools for which MSAP support is being requested are Bridgeport's best chance to quickly create high performing high schools for about a quarter of its high school students, and at the same time, develop smaller school settings at the three original high schools, giving those schools an even better chance of improving academically. The new magnet high schools are a major reform strategy that can offer a quarter of all Bridgeport high school students opportunities

they would not have in their neighborhood schools. Therefore, Bridgeport is committed to this magnet school project because it will help it improve all of its high schools, offer the opportunity for many of its students to attend high quality STEM schools or its new military and public safety careers school, and offer students the opportunity to attend a more diverse school.

Because of the laws that were past as a result of the Sheff decision, the State of Connecticut is also committed to this project and will sustain the schools described in this proposal long after federal funding is no longer available.

(f) Commitment and capacity. (2) The Secretary determines the extent to which the applicant –
(ii) Has identified other resources to continue support for the magnet school activities when assistance under this program is no longer available.

Laws enacted in response to the Connecticut Supreme Court's *Sheff v. O'Neill* decision took steps to remedy racial isolation and the disparities between urban and suburban schools by offering urban and suburban students the opportunity to attend magnet schools in each other's districts. These laws had clear financial consequences. State legislation provides funding for up to 100% of the reasonable costs for transportation of students to interdistrict schools and 95% of the costs for the construction of facilities to house interdistrict magnet schools. Bridgeport is building three new STEM high schools using these funds.

Connecticut currently provides an award of \$7,085 for each student from a town/city other than the one operating the school. For each student who lives in the town/city that operates the school, the state grant is \$3,000 in addition to its regular per capita state aid (ECS.) In other words, when a suburban child enrolls in a Bridgeport magnet school, the state ensures that most (but not all) of the cost of educating the student is covered by a subsidy and that the sending town is not financially hurt by the transfer (it keeps the ECS for the child). The additional per

capita state aid that Bridgeport will receive for its own students attending the magnet school will help it sustain these programs as well as close the gap between the state subsidy for out of district (suburban) students and the actual cost of educating them. The Military Academy will receive suburban students under the Open Choice program for which the state subsidy is one half of ECS (about \$3,500) plus \$3,000 for each suburban student who attends the school. In addition, costs associated with transporting students to the magnet schools schools will be paid by the state.

What Bridgeport needs now is seed money for its new magnet high schools. After these schools are established, state and local funds are sufficient to continue the programs. That is the great value of the Connecticut state law.

State Priority Aid: In addition to state magnet funds and per capita state aid for students discussed above, Bridgeport receives \$6.7 million in Connecticut State Priority School Aid. These funds are targeted for poor urban districts to support programs for students with low reading and mathematics scores. Part of the priority schools money can and will be used to carry on the magnet programs in these high schools after federal funds are no longer available.

Federal and Foundation Grants, and Competitive Grants: Bridgeport will seek to offer support to the schools described in this proposal by competing for other federal and state competitive grants. For example, it wrote I3 and Race to the Top for Districts (RTT-D) grants. Although, it did not receive either grant, the RTT-D was just out of the funding range (#31).

Sustainability Planning Team: The project director will coordinate the development, starting early in the project's first year, of a detailed plan for program sustainability that will continue to support each magnet school. The director will bring together and lead a strong sustainability planning team that includes representative of all internal and external stakeholders (e.g., principals, magnet staff, school staff, parents, district, and members of community,

business partners, and representatives from the University of Connecticut, the University of Bridgeport, Sacred Heart University and the University of New Haven).

The sustainability planning team will begin by assessing both internal factors (e.g., level of district commitment; organization challenges; staff skills) and external factors (e.g., partnerships; community needs) that affect the operation of the magnet project. The team will: (1) prioritize the project strategies and activities they want to sustain (e.g., outreach, marketing, instructional); (2) determine the project's fiscal and other needs; (3) identify the resources available to meet those needs and the remaining resource gaps; and (4) identify those monetary and other resources (e.g., administrative, management) that would best fill the gaps.

The sustainability planning team will then, based on the priorities and resources identified, develop a multi-year sustainability plan. The plan will include: (1) the rationales for sustaining the project; (2) a timeline; (3) specific actions/tasks (e.g., building partnerships; identifying new funding sources; improving use of existing resources); (4) personnel and other planning resources; (5) clearly defined individual and group responsibilities; and (6) reasonable benchmarks to assess progress. As needed, the team will bring additional partners into the process. Implementation of the sustainability plan will include regular reviews by the team.

The sustainability plan will help each school supplement the state sustainability aid that each project magnet school will receive.