

Northeast Tennessee College and Career Ready Consortium

Part III – Project Narrative

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Responses to Absolute and Competitive Preference Priorities

(Absolute Priority 3) Innovations that Complement the Implementation of High Standards and High-Quality Assessments

The Northeast Tennessee College and Career Ready Consortium (henceforth referred to as the “Consortium”) will improve the supply of academically rigorous courses and under-represented students’ access to, participation in, and completion of these courses in 15 local education agencies (LEAs) in Northeast Tennessee. Specifically, the project will expand the supply of Advanced Placement courses; Science, Technology, Engineering, and Mathematic (STEM) courses; upper-level foreign language courses; advanced Career and Technical (CTE) courses; and dual enrollment courses. Although all students will benefit from these courses, the program is designed to specifically target under-represented students. The increased supply of these rigorous courses will be critical in supporting the implementation of Tennessee’s new college and career-ready standards adopted under the Tennessee Diploma Project in 2007 and the

likely adoption of the Common Core Standards in July 2010 by the State Board of Education.

(Competitive Preference Priority 6) Innovations that Support College Access and Success

The Consortium will improve students' preparedness for college; help students understand issues of college affordability, financial aid, and college application processes; and provide support to students from peers and knowledgeable adults. Specifically, the project includes six college and career-ready counselors who will serve two to three LEAs each. These counselors will: (1) help school leaders identify students from under-represented populations who will excel in rigorous coursework; (2) coordinate a series of workshops and seminars at each high school on issues relating to college expectations, college affordability, college application processes, and financial aid processes (some of these workshops will feature former alumni who are successfully enrolled in college); (3) coordinate a series of college visits for high school students; (4) train district and school-level personnel as well as a small-group of community leaders to provide college and career-counseling support to individual students and; (5) provide individualized counseling to both high-potential and at-risk students from under-represented populations. These counselors are modeled on a successful team of seven career and college-counselors in Greene County Schools.

(Competitive Preference Priority 8 – Innovations that Serve Schools in Rural LEAs)

This project serves 15 LEAs located in rural Appalachia in the northeastern corner of Tennessee. Five of the participating LEAs are defined as rural based upon federal RLIS guidelines. These rural LEAs include 44 schools serving 22,559 students, including nine high schools serving 6,119 students. The average unemployment rate in March 2010 in these LEAs was 15.8% compared to a state average of 10.6%; the median household income was \$29,718 compared to a state average of \$43,610; the percent of the population with a high school diploma was 61.3% compared to a state average of 75.9%; and the percent of the population with a

Bachelor's degree was 9.0% compared to a state average of 19.6%.¹ Within the 15 participating LEAs, six high schools (21%) are classified as rural-distant and an additional six (21%) are classified as rural-fringe according to National Center for Educational Statistics local codes.²

While the project serves 15 LEAs, it is designed in three ways to leverage the resources of the more densely populated LEAs to address some of the particular challenges of the more rural LEAs. First, the distance learning classes will primarily leverage highly qualified teachers in the more densely populated districts to teach rigorous courses to students in the more rural districts. Although highly qualified teachers in rural districts will also be offering some distance learning courses to students in more densely populated areas, a survey of all 15 participating districts showed that the vast majority of distance learning already occurring in the region was leveraging teachers in the more densely populated districts to teach students in the more rural districts. Second, the Consortium will leverage the resources of the more densely populated LEAs to help purchase online learning courses that rural districts by themselves could not afford to purchase. As described later in this proposal, the Consortium will only purchase courses that all members of the Consortium can use on a recurring basis without paying a per pupil licensing fee. Third, the Consortium will help fund college- and career-counselors that will be shared across mini-consortia of two to three LEAs. Although the more densely populated LEAs could potentially fund these positions by themselves, the more rural LEAs would likely be unable to do so if they were not sharing the cost with better resourced LEAs.

Section A: Need for the Project and Project Design

(A-1): Need, Project Design, and Innovation

Historically, Tennessee has had some of the nation's lowest standards, receiving an "F" for "truth in advertising" on the U.S. Chamber of Commerce's 2007 *Leaders to Laggards* report.³ In response, in 2007 the Tennessee State Board of Education – under the guidance of

Governor Phil Bredesen – launched the Tennessee Diploma Project (TDP), which substantially raised the state’s K-12 standards and increased high school graduation requirements, requiring all students to take four years of math (instead of three) and three years of a lab science (instead of two) to graduate high school. The Tennessee Diploma Project is modeled on the American Diploma Project of Achieve, Inc., which Governor Bredesen now co-chairs.

Tennessee was fortunate to win Race to the Top funding in Round I of the competition. As a result, the State Board of Education is expected to adopt the Common Core Standards in July 2010, raising the state’s standards even further. Approximately \$3.1 million of Race to the Top funds is dedicated to training teachers on how to teach the new standards using a train-the-trainer model. However, no Race to the Top funds are set aside to support the expansion of rigorous coursework necessary to meet the new high school graduation requirements and better prepare students for college or a career. For the Tennessee Diploma Project, Common Core Standards, and Race to the Top to have their full impact in Tennessee, the state needs a scalable, sustainable model of how districts can offer more rigorous courses to students, especially students in under-represented populations and rural areas.

Nowhere is this challenge more apparent than in the Appalachian region of Northeast Tennessee. As the chart below illustrates, Northeast Tennessee lags behind the state average on key economic and education indicators including unemployment rate, median income, and the percent of the population with a high school diploma and Bachelor’s degree. The five counties labeled as rural under federal RLIS guidelines, and which this grant specifically targets, fair even worse on these indicators than the entire Northeast region. Among these five counties, none is more disadvantaged than Hancock County, which many would argue is the poorest county in the state with an unemployment rate of 17.3%, a median income of \$23,526, and only 55.9% and 10.2% of its citizens possessing a high school degree and Bachelor’s degree respectively.

	National	Tennessee	Northeast TN	Rural Northeast TN
Unemployment Rate ⁴	9.7%	10.6%	12.8%	15.8%
Median Income ⁵	\$52,029	\$43,610	\$33,880	\$29,718
% Population with High School diploma ⁶	80.4%	75.9%	69.7%	61.3%
% Population with Bachelor's degree ⁷	24.4%	19.6%	14.9%	9.0%

In addition to these broad economic and educational disadvantages, Northeast Tennessee faces several specific challenges in delivering rigorous coursework that can best be understood in the context of a simple supply and demand model. First, there is currently a very limited supply of rigorous courses in the region to meet the existing demand. For example, in a survey of 15 LEAs in the region, 14 reported they were not able to provide as many rigorous courses as they would like. In addition, for the purposes of this grant, the SAS Institute has used its proprietary statistical model that utilizes a student's previous TCAP, end-of-course, and ACT PLAN scores to predict that approximately 1,318 students in the region would be likely to excel in a wide array of Advanced Placement or other college-level science classes. However, only 648 students were participating in such courses, with 10 of 15 LEAs saying that they cannot offer as many advanced science courses as they would like. There is also a dearth of Advanced Placement courses in the region. For example, ten of the 28 high schools offer no AP courses, an additional 12 high schools offer AP courses to less than 5% of their students, and an additional 12 high schools offer one AP courses to less than 10% of their students. The second problem is that there is not adequate demand for rigorous coursework in the region. The new graduation requirements of the Tennessee Diploma Project, which went into effect for the 2009-10 freshman class, will go a long way in increasing the demand for rigorous coursework. However, the requirements of the Tennessee Diploma Project are intended as a minimum requirement, and many students could increase their chances of success in college or a career by going beyond

these minimum requirements. Because of the region's relatively low high school and Bachelor's degree attainment rates, the region lacks a strong career and college-going culture and, as a result, is not demanding an adequate amount of rigorous coursework. Third, the region has a problem matching the existing demand and existing supply of rigorous courses. In school systems where there is sufficient capacity to deliver rigorous courses, this supply is not being maximized. For example, several affluent, well-resourced LEAs in the region offer advanced courses that often have empty seats in them – seats that students in another district that is unable to offer these courses could be filling.

The Northeast Tennessee College and Career Ready Consortium aims to simultaneously address these challenges by scaling up successful programs from the region in a cohesive way that can be sustained after the grant period ends and become a model for other areas of the state and nation. Specifically, this grant will scale up: (1) the course supply and demand study conducted semi-annually by the Northeast Tennessee Distance Learning Consortium; (2) the distance learning courses provided by the Northeast Tennessee Distance Learning Consortium; (3) the online learning courses provided by the Niswonger Learning Center; (4) AP courses which have been provided at scale in Johnson City Schools and Hamblen County Schools; (5) dual enrollment programs modeled on the Educate and Grow program in Kingsport, Tennessee; and (6) the college counselor program in Greene County Schools. Each of these six programs shall be discussed in turn. The Consortium will include all 15 LEAs located in Northeast Tennessee that have at least one high school. Together, these LEAs and their two feeder K-8 LEAs serve 84,340 students, including 26,910 high school students. Over the five-year grant period, the project will result in students enrolling in 45,646 additional rigorous courses, with students enrolling in 15,804 additional rigorous courses on an ongoing basis after the grant period concludes.

The first successful program that will be scaled up is the semi-annual course supply and demand review currently conducted by the Northeast Tennessee Distance Learning Consortium. This consortium, which currently includes seven schools in Northeast Tennessee, was established by the Niswonger Foundation to increase and coordinate distance learning courses across LEAs in the region. With this grant, these semi-annual meetings will be expanded to include discussions on the supply and demand of distance learning, online learning, Advanced Placement, and dual enrollment courses across the entire 15 LEA region. These meetings will assist project, district, and school staffs in planning and coordinating course offerings for the upcoming semester. The Consortium will prioritize the provision of STEM, foreign-language, CTE, and other upper-level courses. Meetings will be led by the Project Director and attended by key project personnel (see Section G-2); representatives from each of the participating LEAs, high schools, and higher education institutions; an analyst from SAS; and the formative evaluation team. These meetings will be informed by annual analyses from SAS that use TCAP, end-of-course, and PLAN data to predict the number of students who are likely to excel in various rigorous courses as well as by quarterly formative reports provided by CNA Education, the grant's external evaluator (see Section D-2).

The second program that will be scaled up is the Northeast Tennessee Distance Learning Consortium itself. As referenced above, this consortium currently includes 17 schools in Northeast Tennessee. In 2008-09, 435 students participated in distance learning courses through this consortium, and completion rates for the courses have risen from 30% in 2006-07 to 85% in 2008-09, largely because of the new leadership of Jason Horne (the consortium's part-time director). The consortium has improved access to rigorous courses, such as German I and II in Greeneville City Schools and French I and II in Johnson County, that LEAs previously could not offer because they either could not find a qualified teacher or could not justify the cost of

providing the course to a small number of students. With this grant, the Consortium will be expanded to include 11 additional high schools. Each school will participate in one distance learning course per 1,000 students (either as the school offering the course or the school receiving the course) in Spring 2011, three distance learning courses per 1,000 students in the 2011-12 school year, five distance learning courses per 1,000 students in the 2012-13 school year, and eight distance learning courses per 1,000 students in all subsequent years of the grant and on an ongoing basis after the grant period ends. Teachers leading these courses will be selected based on their Tennessee Value-Added Assessment System (TVAAS) scores and other objective measures of student achievement and will receive professional development from the project's Instructional Coaches. These six Instructional Coaches will be experts in specific subject areas (e.g., math, science, language arts, social sciences, foreign language, and CTE) and will be funded for the first five semesters of the grant to provide ongoing instructional coaching to distance learning, online learning, Advanced Placement, and dual enrollment instructors to ensure all instruction is of a high-quality. Facilitators will receive training through the Greeneville Professional Development Center. Teachers leading a course will not be provided a stipend as such duties will be part of their regular teaching course load, but teachers facilitating the distance education course in the receiving school (often during their planning period) will receive a \$2,500 stipend. The scheduling and coordination of these courses and the professional development for facilitators will be led by the project's Distance Learning Coordinator (see Section G-2). All participating LEAs will also receive technology sub-grants to purchase distance and online learning equipment as needed in Fall 2010.

The third program the grant will scale up is the online learning courses provided by the Niswonger Learning Center. Currently, the Center is partnering with Bristol Tennessee City Schools to provide free access to locally-developed online courses. Currently, the Center has 22

online courses that have been developed locally and approved by the State Board of Education. As of the 2008-09 school year, 200 students in eight different LEAs had completed at least one course. With this grant, the Center will significantly expand its online course offerings both by developing more courses locally and by purchasing online courses from proven providers. Moving forward, only teachers with high TVAAS scores will be permitted to develop online courses locally, and mostly only in partnership with high-quality outside partners. For example, the Center is currently partnering with the University of Tennessee and Oak Ridge National Lab (a U.S. Department of Energy facility) to develop an online physics course. In addition, the Center will purchase online courses from proven providers such as the Florida Virtual School, Education 2020, and Apex Learning. The Center will only purchase courses aligned with the state's standards and will prioritize courses that can be purchased for a one-time fee without an ongoing per student subscription cost. The Center will specifically focus on developing and purchasing STEM, foreign-language, CTE, and other upper-level courses. Each school will offer one online course per 1,000 students in Spring 2011, three online courses per 1,000 students in 2011-12, five online courses per 1,000 students in 2012-13, and eight online courses per 1,000 students in all subsequent years of the grant and on an ongoing basis after the grant period ends. Teachers facilitating online courses (often during their planning period) will receive a \$2,500 stipend and receive training through the Greeneville Professional Development Center. The development, purchasing, and coordination of these courses will be led by the project's E-Learning Coordinator (see Section G-2).

Looking to Kingsport City Schools, Johnson City Schools and Hamblen County Schools as models, the fourth program that will be expanded is Advanced Placement (AP) courses. Today, 1,329 students in the region are taking a total of 2,171 AP courses. These students are concentrated in three districts, with 61.8% of all AP students and 67.5% of all AP courses being

offered in Kingsport, Johnson City, and Hamblen County Schools. Each high school participating in the grant will add one AP course to its curriculum in each year of the grant beginning in 2011-12, resulting in a total of four new AP courses being offered in each high school at the end of the grant period. New AP teachers will attend summer training institutes operated by the College Board, while experienced AP teachers will receive ongoing professional development through the College Board and Greeneville Professional Development Center as well as one-on-one coaching from the project's six Instructional Coaches.

The fifth program this project will expand is dual enrollment, using Kingsport City Schools as a model. In addition to Kingsport's successful Educate and Grow last-dollar scholarship program, the district has developed an Academic Village in the city center where an estimated 110 high school students attend dual enrollment classes each day. The Academic Village offers dual enrollment, as well as houses the Kingsport Center of Higher Education, where students can earn a four-year degree from a variety of colleges and university, and the Regional Center for Advanced Manufacturing and the Pal Barger School of Automotive Technology, where students can earn technical credentials. Together, Educate and Grow and the Academic Village were named one of Harvard University's Top 50 Innovations in Government for 2009. With this grant, the project will increase participation in dual enrollment courses by partnering with seven postsecondary institutions, including one public university, two public community colleges, and four private universities. The three institutions with the most experience working with LEAs to provide dual enrollment courses will begin their partnership with the project in year 1 of the grant, with the remaining four institutions beginning participation in year 2 and year 3 of the grant. Dual enrollment programs will focus on STEM, foreign language, CTE, and other upper-level courses. By the end of the grant period, at least 10% of high school seniors will graduate with at least a full year of college credit (24 credits),

and an additional 20% of seniors will graduate with at least half a year of college credit (12 credits). Institutions of higher education have agreed to waive tuition and fees for these courses, and instead fund these courses at the cost of instructors plus a 30% indirect cost.

The sixth and final program this project will scale up is the successful college counseling program in Greene County Schools. Currently, Greene County has a team of seven guidance counselors that start meeting with students in 7th and 8th grade and then provide continuous workshops, individualized counseling, and college application and financial aid application assistance throughout high school. These college counselors were trained by the Southern Regional Education Board in collaboration with the Greeneville Professional Development Center. With this grant, the project will hire five new college and career-ready counselors who will operate in service areas of two to three LEAs. These counselors will (1) help school leaders identify students who will excel in rigorous coursework that will better prepare these students for college, (2) coordinate a series of workshops and seminars at each high school on issues relating to college expectations, college affordability, college application processes, and financial aid processes; several of these workshops and seminars will feature student alumni who are now successfully enrolled in college, (3) coordinate a series of college visits for high school students in the service area and larger region, (4) train district and school-level personnel as well as a small group of community leaders to provide college and career-counseling support to individual students, and (5) provide individualized counseling to both high-potential and at-risk students from under-represented student populations. The counselors will have at least monthly meetings with leaders in each district and high school focused on item #1, as this will be the most critical component of the grant in ensuring that students in under-represented populations begin to be enrolled in rigorous coursework.

There are three particularly innovative components to this project. First, the project

provides a proof point of how rigorous courses can sustainably be provided at scale in a rural setting. Over the last six months, the Niswonger Foundation has partnered with the Tennessee State Collaborative on Reforming Education (SCORE), a statewide education group based in Nashville, TN and chaired by former U.S. Senator Bill Frist, to investigate how other rural areas have expanded rigorous coursework at scale. In interviews with numerous organizations including the New Mexico Department of Education, the University of Kentucky, the Public School Forum in North Carolina, and the Rural School & Community Trust, no models were identified that were delivering rigorous coursework at scale in rural areas. This project, however, will deliver rigorous coursework at scale, with students enrolling in an additional 45,646 rigorous courses over the five year grant period and an additional 15,804 rigorous courses on an ongoing basis after the grant period ends. Second, both the regional support structure created in this project and the commitment by LEAs to jointly fund personnel on an ongoing basis (see section F-2) appear to be one of the few examples in the nation where LEAs are partnering together to jointly fund personnel they could not fund alone. Third, the grant's use of predictive student-level data will be highly innovative. As discussed above, SAS will help the Consortium use TCAP, end-of-course, and ACT PLAN data to predict how many students are likely to excel in specific rigorous courses, thereby informing the courses offered by the Consortium. Additionally, this data will be used by the career and college counselors mentioned above to help districts and schools identify and encourage individual students from under-represented populations to enroll in these rigorous courses.

(A-2): Project Goals and Strategy Alignment

Goal 1 – Improve the likelihood that students successfully complete college

- *Objective 1.1:* The first-year to second-year college persistence rate in the region will increase by 15% relative to a baseline that will be established in Year 1 of the grant.

- *Objective 1.2:* The college enrollment rate in the region will increase from 70% to 80%.
- *Objective 1.3:* By the 2012-13 school year, at least 10% of students in the region will graduate from high school with at least one year of college credit (24 credits).
- *Objective 1.4:* By the 2012-13 school year, an additional 20% of students in the region will graduate from high school with at least half a year of college credit (12 credits).

As described in Section B-1, Advanced Placement, dual enrollment, and other rigorous courses, such as those outlined on pages 6-11 of this proposal, have been shown in quasi-experimental and high-quality correlational studies to increase college enrollment and persistence rates (Objectives 1.1. and 1.2). The successful scaling up of the AP and dual enrollment courses outlined on pages 10-11 will increase the percent of high school students graduating with either a half year and full year of college credits (Objectives 1.3 and 1.4).

Goal 2 – Ensure all students, especially students from under-represented populations, are college- or career-ready by improving access to academically rigorous courses.

- *Objective 2.1:* All students in the region will have access to the rigorous courses required by Tennessee’s new standards, including four years of math and three years of lab science, as measured on an annual survey of district and school leaders.
- *Objective 2.2:* Participation in dual enrollment courses will increase so that by the 2012-2013 school year an additional 10% of high school students will have taken eight courses (24 credit hours) and an additional 20% of students will have taken four courses (12 credit hours) by the time they graduate. 90% of students will successfully complete these courses.
- *Objective 2.3:* Each high school will add an additional Advanced Placement (AP) course to its curriculum in each year of the grant beginning in 2011-12, for a total of four new AP courses in each high school over the grant period. At least 65% of all students taking these courses will score a 3 or higher on the AP exam.

- *Objective 2.4:* At least 35% of online, distance, AP, and dual enrollment courses offered as part of this project will be STEM-related. 90% of all students will successfully complete these courses.
- *Objective 2.5:* The number of online and distance learning courses offered in the region will increase as outlined in detail on pages 8-10 of the proposal. At least 75% of the new distance and online courses offered will be upper-level STEM, Advanced Placement, foreign-language, and CTE courses.
- *Objective 2.6:* Among students likely to succeed in rigorous courses based on SAS projections, the percent of free and reduced lunch students enrolled in rigorous courses will be at least equivalent to the percent of non-free and reduced lunch students enrolled in these courses.
- *Objective 2.7:* Among students likely to succeed in rigorous courses based on SAS projections, the percent of students in rural LEAs enrolled in new rigorous courses will be at least equivalent to the percent of students in all other LEAs enrolled in new rigorous courses.

The expansion of online learning, distance learning, AP courses, and dual enrollment outlined on pages 6-12 will assist districts in providing access to all courses required by Tennessee standards (Objective 2.1). The dual enrollment and AP course expansion plans outline on pages 10-11 will increase access to dual enrollment and AP courses (Objectives 2.2. and 2.3). The semi-annual course supply and demand review will ensure 35% of all new courses are STEM-related and that 75% of all distance and online courses are upper-level STEM, Advanced Placement, foreign-language, and CTE courses (Objectives 2.4 and 2.5). A combination of the semi-annual course supply and demand review and the college and career-ready counselors will ensure that economically disadvantaged students and rural LEAs have equal access to the new rigorous courses (Objectives 2.6 and 2.7).

(A-3) Project Design Alignment with Existing Research

The programs outlined in Section A-1 are well-aligned with existing research. Specifically, the evidence discussed in Section B outlines in detail quasi-experimental and high-quality correlational studies that find rigorous coursework (including online and distance learning, Advancement Placement and dual enrollment courses) and college counselors have a positive effect on high school graduation, college enrollment, and college persistent rates. All the studies cited in Section B either use nationally representative samples or examine programs in Tennessee and/or other rural areas similar to Appalachia.

The only potential issue relating to whether this project aligns with existing research is that all these interventions have rarely been tried at scale simultaneously. This raises two potential challenges: (1) ensuring there is an adequate supply of students who are prepared to succeed in these courses and (2) ensuring there is regional and LEA capacity to successfully implement these programs simultaneously. On the first issue, data from SAS and the College Board show there is unquestionably an adequately prepared supply of students for the new rigorous courses included in this proposal. Specifically, data from SAS finds that approximately 1,536 current 11th and 12th graders in the region have at least a 50% probability of scoring a 24 on the ACT Science section. Based on projections from the College Board, this means these students would have around a 50% chance of scoring a three or higher on the AP Biology, Calculus AB, Calculus BC, and Statistics exams. However, currently in the region, only 48 students are enrolled in AP Statistics, 173 in AP Biology, 313 in AB Calculus, and 98 in BC Calculus. Clearly, there is a large supply of adequately prepared students who could excel in additional rigorous courses. On the second issue, Section G outlines how the region, LEAs, and schools have the capacity to successfully implement this proposal. Specifically Section G describes the four outstanding regional staff that have committed to lead this work full-time and

the commitment each LEA has made in their formal MOU to reallocating at least 50% of one certified staff person's time in each school to helping execute this grant.

Section B: Strength of Research, Significance of Effect, and Magnitude of Effect

(B-1) Moderate Evidence

As discussed in Section A, the local programs described above have improved access to rigorous courses. However, due to the newness and small scale of these programs, their effects on graduation rates, college enrollment rates, and college persistence rates is only anecdotal. However, there is significant moderate evidence – as defined in the I3 grant notice – from both national studies and studies in similar settings that both rigorous coursework (including distance learning, online learning, Advanced Placement, and dual enrollment courses) and college counselors have positive effects on student achievement, graduation rates, college enrollment rates, and college persistence rates. This evidence is discussed in detail below.

Moderate Evidence on Rigorous Courses

There is moderate evidence – as defined in the I3 grant notice – that advanced coursework in high school (whether Advanced Placement, dual enrollment, or otherwise) has a significant effect on postsecondary enrollment patterns, achievement, and persistence.⁸ For example, a study by the National Center for Education Statistics found that 71% of students who had a very rigorous high school curriculum enrolled in a selective college, whereas 40% of students with a moderately rigorous curriculum and 32% of students with only a basic curriculum did so.⁹ Furthermore, the benefits of a rigorous curriculum on the rate of bachelor degree attainment are greater for low income students.¹⁰

Moderate Evidence on Distance and Online Learning

In rural settings, it is often hard to find highly qualified teachers for many rigorous courses, and there are often too few students to justify high schools offering specific rigorous

courses. Both distance and online learning offer possible ways to improve rural students' access to rigorous courses, and there is moderate evidence that both distance and online learning can provide access to rigorous courses at least as well as traditional classrooms. Cavanaugh, Gillan, Kromrey, Hess, & Blomeyer (2004) conducted a rigorous meta-analysis of studies on the effects of online and distance education on K–12 student achievement.¹¹ Informed by the What Works Clearinghouse guidelines, studies included in the meta-analysis were required to be experimental, quasi-experimental, or correlational studies for which effect size could be computed. The meta-analysis compared the achievement of students in either a distance or online learning environment to the achievement of students in a traditional classroom setting. Fourteen K-12 distance and online education programs between 1999 and 2004 were included in the review, which equated to 116 effect sizes and a combined sample size of 7,561 students. In each of the 14 studies and in all but one of the 116 outcomes, no significant differences were found between students who learned via distance and online learning and those who learned via the traditional classroom. The effect size reflects the difference in student performance between students who participated in online and distance learning compared with a control group of students who did not. Because 75% of the 116 included effect sizes occurred in grades 6-12, this meta-analysis shows that online and distance learning courses can be effective in delivering secondary school coursework. Other studies have found similar effects, such as Means, Toyama, Murphy, Bakia, & Jones (2009) meta-analysis of previous experimental and quasi-experimental studies on online learning.¹²

Distance and online learning have specifically been shown to be effective at delivering rigorous coursework in rural Appalachia. In 2006, Rockman *et al* conducted a quasi-experimental study to determine the effectiveness of the West Virginia Virtual School Spanish Program.¹³ Similar to schools in Northeast Tennessee trying to implement the Tennessee

Diploma Project, schools in West Virginia suffered from a shortage of qualified teachers and did not have the capacity to comply with the state's mandate to provide Spanish classes to all 7th and 8th grade students. For year one of the study, 342 students took the Spanish proficiency test; 132 8th grade Virtual Schools Students, and a sample 210 students in face-to-face classrooms with comparable characteristics. Comparing student achievement data over three years of students in virtual courses to those in a traditional classroom setting, the study concluded that students in virtual classes performed as well as those in face-to-face classes on the state's Spanish Assessment. These findings are likely generalizable to Appalachian Tennessee, as rural poverty rates in 2008 in Tennessee and West Virginia were respectively 18.1% and 19.9% and the percent of rural residents who had not completed high school was respectively 31.8% and 28.9%.¹⁴

Moderate Evidence on Advanced Placement and Dual Enrollment Courses

There is also moderate evidence in both national and Tennessee-specific studies that Advanced Placement and dual enrollment courses increase college enrollment and college persistence rates. In 2009, the Tennessee Higher Education Commission conducted a rigorous correlational study to ascertain the effects of AP and dual enrollment courses on students' persistence in college.¹⁵ A series of logistic regression models that controlled for key demographic and high school achievement characteristics were used to determine effects among all first-time freshmen in Tennessee's public higher education institutions (n=22,894). The study found that students that had taken an AP course had 51% greater odds to persist at two-year community colleges (B=1.511, $p < .01$). This effect was greater than the effect size for family income (B=1.004, $p < .001$), first general status (B=.733, $p < .001$), and high school grade point average (B=1.095, $p < .01$). Similarly, students that had taken dual enrollment had 39% greater odds of persisting into the third year of college than non-dual enrollment students, and dual

enrollment participation appeared to have a stronger effect on persistence ($B=1.389$, $p < .001$) than student race ($B=.848$, $p < .01$), family income ($B=1.004$, $p < .001$), and first generation status ($B=.722$, $p < .001$).

National studies have also shown the positive impact dual enrollment can have on students. For example, Swanson (2008) studied the effect of dual enrollment course taking on college persistence and degree attainment. Using data from the nationally representative National Education Longitudinal Survey (1988/2000) and Post-Education Transcript Study (PETS: 2000), Swanson controlled for demographic characteristics and high school attributes (e.g., socio-economic status, race, first generation status, high school GPA, standardized test scores) and found that dual enrollment students were 12% ($p < .001$) more likely to enroll in college immediately after high school and were 11% ($p < .01$) more likely to persist into their second year, as compared to their non-dual enrollment peers.¹⁶ In addition, students that earned at least 20 credits by the end of their freshman year, which dual enrollment students are more likely to do, were 38% ($p < .001$) more likely to earn a degree in 4.56 year (the average time-to-degree established by Adelman (2004)).

A study by the National Research Center for Career and Technical Education confirmed these effects of dual enrollment.¹⁷ Using ordinary least squares and logistic regression methods to analyze longitudinal administrative databases from Florida ($n=299,685$) and New York City ($n=2,303$), Karp and Hughes (2008) found that students that took dual enrollment in Florida were 4.3% more likely to graduate from high school ($p < .001$), 16.8% more likely to enroll in postsecondary education ($p < .001$), and 7.7% more likely to enroll at a four-year institution ($p < .001$), as compared to their peers who did not take dual enrollment. All of these regression models control for several demographic and high school achievement characteristics. Once in college, dual enrollment students were 5.4% more likely to persist through a second year of

college ($p < .001$), have higher college grade point averages ($p < .001$), and have earned more college credits after three years ($p < .001$) than their non-dual enrollment peers. This study also found that career and technical education (CTE) dual enrollment was similarly effective to academic dual enrollment. Dual enrollment had a particularly strong effect on postsecondary enrollment for males and low-income students.

Moderate Evidence on College Counselors

There is also moderate evidence that college counselors increase college enrollment rates. Plank and Jordan (2001) used nationally representative data from the National Educational Longitudinal Study (1988) to study the impact of specific resources on college enrollment.¹⁸ Controlling for an array of demographic and achievement characteristics, the authors' multinomial logistic regression analysis found that increased guidance and assistance at the high school level increases the odds that a student would enroll in a four-year university over a two-year institution of higher education ($\text{expB} = 1.19$) or never enrolling ($\text{expB} = 1.27$). In addition, a student who had the opportunity to visit a college campus has more than three times greater odds of enrolling at a four-year institution than never enrolling in postsecondary education ($\text{expB} = 3.47$). Lastly, access to financial aid information significantly increased a student's odds of enrolling at a four-year institution ($\text{expB} = 1.32, 1.36$). These findings support the Consortium's plans to train college- and career-ready counselors to train high school counselors on college access issues, organize college visits for students, and provide students information on college application and financial aid processes.

College counselors have also been shown to be effective in rural areas. For example, one rigorous correlational study of rural high school students ($n = 87$) used structural equation model analyses and confirmatory factor analysis to find that students who had been exposed to "career development" strategies and had received support from adults, including school counselors,

during their 12th grade year were more likely to have positive career expectations for themselves and, most importantly, more likely to achieve higher levels of education and training after high school.¹⁹ This longitudinal study followed a group of high school seniors for three years after graduation, and used follow-up surveys to determine the effect of curriculum strategies, perceived support, and career development on educational and career outcomes.

(B-2) Importance and Magnitude of Expected Effect

Based on the evidence cited above, the Consortium's activities should result in improvements in access to rigorous coursework, high school graduation rates, college enrollment rates, and college persistence rates. The specific expected outcomes are laid out in detail in Section A-2. In terms of rigorous coursework, the Consortium should result in students enrolling in an additional 45,646 rigorous courses over the grant period, with students enrolling in an additional 15,804 courses on an ongoing basis after the grant concludes. In the studies cited in section B-1, high school graduation rates increased by about 2.5%, and a very similar result is expected from this project, as the graduation rate in the region is already 90.5%. The biggest effects of this project will be on college enrollment and persistence rates. In the studies in Section B-1, college enrollment rates increased 12% (+/- 3%) and college persistence rates increased 8% (+/- 4%). Given that this grant will be scaling up several interventions around rigorous coursework at the same time as a college counseling program, it is likely the magnitude of the effects will be on the high-end of these ranges. Over a five to ten year period, this could have a tremendous impact on the educational attainment level and economic development prospects of the region.

Section C: Experience of the Eligible Applicant

(C-1) Past Performance of Eligible Applicant in Implementing Complex Projects

The Niswonger Foundation's record of success and leadership in Northeast Tennessee

makes the non-profit the natural project leader and lead applicant. Established by businessman and philanthropist Scott M. Niswonger in 2001, the Niswonger Foundation is a private operating foundation with a mission to “create opportunities for individual and community growth through education” in Northeast Tennessee. The Foundation serves 17 LEAs in Tennessee’s 1st Congressional District: the 15 partner LEAs in this proposal plus two K-8 LEAs. In total, this service area educates nearly 84,340 students annually, making it the equivalent of the second largest LEA in Tennessee (after only Memphis City Schools).

The Niswonger Foundation is much more than a local funder. As an operating foundation, the organization has developed close working partnerships with the schools in Northeast Tennessee through managing its own programs and projects. Since 2001, the foundation has established 39 partnerships with LEAs ranging from an Algebra I program in Carter County to a college counselor program in Greene County to an elementary teacher professional development program in Hancock County. Foundation staff members regularly travel to these communities and work hand-in-hand with school leaders to identify specific needs, brainstorm solutions, and then provide training, resources, staffing, and materials as needed to make improvements in the schools. Rather than giving grants to the LEAs, the foundation maintains control of all invoices and accounts for these programs.

In addition to these 39 partnerships, the foundation operates a college access scholarship program for students. Established in 2001, the Niswonger Scholars program selects scholarship recipients primarily for their leadership potential and commitment to the betterment of themselves and their home communities. The students selected participate in a planned program of leadership development during their four years of undergraduate study. The program includes exposure to community and national leaders, service learning, internships, large and small group discussion, and the building of a strong network of fellow Niswonger Scholars. Currently, there

are 21 alumni, 29 Scholars, and five new Scholars who will begin the program in Fall 2010.

The Niswonger Foundation has the experience and capacity to develop and manage large, complex, and rapidly growing projects. In 2009, the foundation reported total assets of \$25 million, though this is often supplemented with additional gifts from Mr. Niswonger. The operating budget in Fiscal Year 2009 was \$2,999,459, with the great majority of funds allocated to direct programmatic expenses (53% program partnerships with LEAs, 36% scholarship program, 7% direct grants to LEAs, and 5% general operating expenses). The foundation's work has grown significantly over time, with two partnerships in 2001, five partnerships in 2004, and 19 active partnerships today. The foundation's work relies primarily on private funding, though the organization also has experience working with federal grants. For example, The Niswonger Foundation helped three local school system partnerships (Greene County and Hawkins County in 2009, Johnson County and Unicoi County in 2009, and Cocke County and Carter County in 2010) write and implement Rural Utilities Service (RUS) grants from the U.S. Department of Agriculture to develop of distance learning programs.

The Niswonger Foundation serves as the hub and primary support capacity for LEAs in the region. For example, the foundation contracts with the Tennessee Department of Education to operate the Greeneville Professional Development Center – a regional extension of all state professional development activities. As outlined in Section A, the Foundation has also taken the lead on developing distance and online learning programs for the entire region and running an annual School Success Symposium which highlights best practices in the region. As discussed in Section F, the Foundation also has connections across the state – specifically with the Tennessee Department of Education, Hyde Family Foundation in Memphis, Ayers Foundation in Parsons, and Tennessee SCORE – that would allow the Foundation to rapidly expand the project across the state after it proves to be successful in Northeast Tennessee.

(C-2) Eligible Applicant's Effect on Student Achievement, Attainment, and Retention

Through its 39 partnerships with LEAs, the Niswonger Foundation has a clear record of success increasing student achievement, improving student attainment, and increasing high school retention rates. Several of the Foundation's partnerships and the associated results are highlighted below:

- *Greene County College Counselors:* In 2004, the graduation rate in Greene County was 78%. As a result, the Niswonger Foundation has begun supporting professional development for a team of seven school counselors and four classroom teachers in the district and funded the creation of an in-depth college counseling program that focuses on one-on-one counseling and providing each student an individualized career path. As a result, Greene County's graduation rate today is 93%.
- *Hancock County Elementary School:* Two years ago, the school was receiving "Fs" in its value-added reading, math, and science scores, and over 32% of all 5th graders were below proficient in reading. The Niswonger Foundation then began a partnership providing professional development and coaching to all the school's elementary teachers. In two years, those value-added F's have turned into A's in both reading and social studies and a B in math, and the percent of 5th grades below proficient in reading has decreased to 8%, a reduction of 75% relative to two years ago.
- *Unaka High School Algebra Initiative:* In 2004, only 48.3% of Unaka High students passed the state's Algebra Gateway exam. As a result, the Niswonger Foundation helped the school revise its curriculum and began providing professional development to the school's Algebra teachers and tutoring for the Algebra students. The program saw immediate results. In 2005, 56.3% of students passed the Algebra Gateway, a 16% increase over 2004. Today, the passage rate has risen to 78%, a 60% increase over 2004, and ACT Math scores have risen

nearly a point.

- *Grassy Fork Elementary School:* In 2003, Grassy Fork Elementary, a rural K-8 school where 97% of students are economically disadvantaged, received 7 Fs and 1 D in achievement and value-added on the state report card. The Niswonger Foundation began a partnership that included coaching for the principal and professional development focused on individualized instruction for the teachers. Today, Grassy Fork ranks in the top 10% of all Tennessee schools academically, receiving 7 As and 1 B on its latest state report card. The success of this partnership was highlighted in *The School Administrator's* November 2009 edition.

Although it's much harder to attribute the entire region's success to the Niswonger Foundation in an analytically rigorous way, the Foundation is clearly a leader in the region as discussed in section C-1. Over the last six years, the average graduation rate in the region has increased from 83.4% to 90.5%, and the average ACT score has increased from 20.1 to 20.8.

Section D: Project Evaluation Plans

(D-1) Evaluation Design

The Consortium has contracted with CNA Education to provide an independent, external evaluation that will include: (1) quarterly formative analyses to assist the Consortium with achieving the objectives outlined in Section A-2 and (2) annual summative analyses that will measure the impact of the Consortium's programs on student achievement and academic attainment relative to a group of matched schools and inform replication of the program in other sites. There will be two parts of the evaluation team – the formative team led by Dr. Christine Mocker and the summative team led by Dr. Linda Cavulluzzo.

The summative team will implement a quasi-experimental, matched-control study. Beginning in Year 1, the summative evaluation team will use a propensity scoring model to identify matching control schools from across the state for all Consortium schools. The

treatment sample size will be 26,910 students in 28 high schools in 15 LEAs, with the control sample size being comparable. This large sample size should ensure that statistically meaningful results can be drawn even from relatively small effect sizes (the goal is a MDE size of .20 with .80 power using a two-tailed test of significance at the 5 percent level).

Data for the study will come from publicly available sources, including Tennessee school report cards (to identify matching schools for the evaluation), as well as restricted-use files, including student high school transcripts and enrollment records (for analysis of growth in enrollment in higher level high school and college-credit courses). Control schools will be given \$15,000 over the course of the grant (\$3,000 per year) to provide the appropriate data. Tennessee SCORE, which has a strong statewide reputation across the state, will work with the Niswonger Foundation to secure the participation of control schools identified through the propensity scoring model. Access to the National Student Clearinghouse (NSC) will also be purchased to track the enrollment of students in Consortium and matched schools into college. The NSC is the largest national database of U.S. college enrollment, claiming participation from over 3,000 colleges and universities that enroll 91% of U.S. college students. Outcome data for students in both Consortium and matched schools will be collected for the three years prior to the start of the grant and the first four years of the grant to identify trends both before and after project implementation.

The summative evaluation will incorporate detailed analyses of individual student outcomes using two-level hierarchical linear and non-linear modeling, controlling for prior test scores and student demographic characteristics. A program indicator will be included at the school level. Conclusions about program impacts will be based on two-tailed tests of statistical significance at the five percent level. HLM/HGLM provide standard errors that are corrected for clustering associated with the nested nature of the data. In determining statistical significance of

program impacts, corrections for multiple comparisons will be made.

The summative evaluation will specifically examine whether the treatment schools and the matched schools from across the state differ in the degree to which they increase: (1) student enrollment and success in rigorous high school and college-credit bearing courses, measured by a C or better in relevant courses, or a 3 or higher on AP exams (2) high school graduation rates (3) college enrollment rates, as measured in the fall following high school graduation and (4) first-year to second-year college persistence rates, as measured by enrollment in the first and second fall following high school graduation.

(D-2) Implementation Data, Performance Feedback, and Progress Assessment

The formative evaluator will work closely with the Project Director and Consortium Advisory Board (see Section G-1) to provide ongoing performance feedback and progress assessment. The formative evaluator will participate in all key Consortium meetings, including the kickoff meeting in Fall 2010, the quarterly Advisory Board meetings, and the semi-annual course supply and demand reviews. During the kickoff meeting, the formative evaluator will describe the evaluation to participants to ensure their understanding of their obligations to provide data and allow classroom observations. During Fall 2010, the formative evaluator will audit the LEA data systems that will be used to support the evaluation to identify and help rectify any deficiencies in those systems. Over the next four years, the formative evaluation will include: (1) semester-by-semester tracking of enrollment data in the program's components with a focus on the number of students from under-represented populations enrolled in these courses (2) site visits to participating schools to conduct interviews with principals, teachers, and student data managers to collect information on project implementation (e.g., communications, technical or logistical challenges, professional development, and attitudes about the project), conduct classroom observations to assess instructional quality, and discuss any data issues that may affect

the success of the evaluation and (3) site visits to other partner organizations and interviews with project staff (including instructional coaches and college and career counselors) to discuss project implementation and audit data systems. The formative evaluator will produce quarterly reports that will be presented at the quarterly Advisory Board meetings to provide feedback on what is going well, what is not going well, and how program implementation could be improved. These reports will include program participation rates, highlighting any variations across schools or student subgroups. The summative evaluation team will provide an annual report focused on the overall effects of the interventions relative to control schools and lessons that could be learned regarding replication.

(D-3) Facilitating Replication and Testing in Other Settings

The summative evaluation team will produce annual reports as well as a final project report that will inform how the program could be replicated or tested in other settings. In addition to the evaluation described in Section D-1, these reports will include: (1) a detailed description of the program, the program's context, and characteristics of study participants (e.g., the region, students, schools, technology resources) (2) an assessment of the program's impact highlighting any differences in the effect sizes between the Consortium schools in more affluent areas and the Consortium schools in more rural areas as well as between the general student population and students from under-represented populations and (3) a summary of three to five key findings about the implementation process from the quarterly formative evaluations that could be used to inform replication or testing in other settings.

(D-4) Evaluation Resources

\$4.0 million has been set aside for the evaluation and reporting of findings. This includes funding for the formative and summative evaluation personnel; travel for the kickoff, site visits, and quarterly Advisory Board meetings described above; compensation to control schools for

gathering the necessary data; purchasing of the National Student Clearinghouse dataset; and the production of quarterly formative reports, an annual summative report, and a final project report.

(D-5) Rigorous, Independent Evaluation Throughout Project

The Consortium has selected CNA Education to provide independent formative and summative evaluations throughout the grant period. CNA is a long-standing non-profit research and development center with extensive experience in the education field, currently operating the U.S. Department of Education's Appalachian Regional Laboratory. CNA Education has no preexisting relationships with the Lead Applicant or any of its partners.

To ensure the summative evaluations are rigorous, objective and unbiased, CNA will use different personnel for the formative and summative evaluations. The formative evaluator will work closely with the Project Director and project team, make frequent site visits to Tennessee, and act as a liaison between the project team and the summative evaluators. The summative evaluators will keep an arms-length distance from the project, to provide unbiased summative analyses of the project's effectiveness. To ensure a high level of research quality, CNA will assign an internal reviewer to the study who will monitor the progress of the evaluation and conduct an independent internal review of all reports and analysis prior to publication.

Section E: Strategy and Capacity to Further Develop and Scale

(E-1) Proposed Students to Be Reached During Project and Partner Capacity

The project will serve 15 LEAs with a total enrollment of 84,340 students, including 26,910 high school students. The Lead Applicant and partners have a proven record of implementing programs at a regional scale, with the Niswonger Foundation currently having 19 LEA partnerships and the Greeneville Professional Development Center and six regional higher education institutions already serving the entire region. Even more importantly, as the chart below illustrates, the projected growth in each type of rigorous course is aggressive yet practical.

	Current Seats	Total New Seats (not additive across years)				
Course Type	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Distance Learning	435	140	420	700	1,120	1,120
Online Learning	270	280	840	1,400	2,400	2,400
AP (In-Person)	1,261	0	420	840	1,260	1,680
Dual Enrollment	2,174	1,346	2,691	5,382	10,764	10,764
Total	3,138	1,766	4,371	8,322	15,384	15,804

Specifically, both distance learning and in-person AP courses will build slowly over time, with distance learning doubling by 2011-12 and quadrupling by 2014-15 (from a very small base), and in-person AP courses only slightly more than doubling by 2014-15 (also from a relatively small base). Although online course expansion is more aggressive, quadrupling by 2011-12 and increasing ten-fold by 2014-15, this is still practical given the current low rate of online learning in the participating LEAs and the ability to purchase already developed online courses from proven providers. The most aggressive growth will be in dual enrollment, which doubles by 2011-12, quadruples by 2012-13, and increasing six-fold by 2013-14. Although these targets are aggressive, even at their peak they only represent an additional 10,764 seats in dual enrollment classes, which is the equivalent of increasing total college enrollment at the six higher education institutions in the region by 1,346 students, assuming an average college student takes four courses per semester.

(E-2) Ability to Scale at a State or Regional Level

The Niswonger Foundation’s main partner in taking this project to scale will be the Tennessee State Collaborative on Reforming Education (SCORE), a statewide education organization chaired by former U.S. Senator Bill Frist. SCORE is currently implementing several projects at the state-level including managing a team of eight consultants to assist districts in developing their local Race to the Top scopes of work (in collaboration with the TN Department of Education) and designing a field testing of the state’s new principal and teacher

evaluation system (in collaboration with the Governor's office). SCORE, which has an annual budget of over \$3 million, is also part of the national Policy Innovators in Education network and has deep relationships with national education reformers. The Niswonger Foundation is also closely connected to SCORE, with Scott Niswonger serving on SCORE's board and Linda Irwin serving as one of SCORE's RTTT scope of work consultants. SCORE has committed to help the Niswonger Foundation scale this project across the state beginning in 2013-14 if the first three years of implementation are successful. The most likely targets for expansion are 22 counties in the Upper Cumberland region of Tennessee and 12 counties in Southwest Tennessee. SCORE has been helping both of these regions apply for I3 grants similar to this one, illustrating there is already a desire to implement somewhat similar projects in both regions. If successful in these additional two regions, SCORE would look to partner with the Niswonger Foundation to scale the grant to other states, possibly including North Carolina which already has launched a five county rural collaborative project run by the North Carolina Public School Forum.

(E-3) Feasibility of Project to Be Replicated Successfully

There are three reasons it will be feasible for this project to be replicated successfully in a variety of settings and with a variety of student populations. First, as discussed in Section B-1, the evidence around these intervention strategies has been shown to work in a variety of settings, suggesting lessons learned in this project will be applicable to other sites. Second, the 15 LEA region covered by this project includes a range of districts, including relatively advantaged medium-size districts (e.g., Kingsport City and Sullivan County) and some of the most disadvantaged rural districts in the nation (e.g., Hancock County). The formative and summative evaluations will examine differences in implementation across these various LEAs and provide insights as to what the key implementation steps are in a variety of settings. Third, many of the specific strategies utilized in this grant (e.g., dual enrollment, AP courses, distance and online

learning) have been tried sporadically in other regions, thereby creating some base to start from when scaling up this grant in other regions or states.

(E-4) Cost Estimates

The estimate cost of the project is \$37.8 million, this includes \$17.8 million from the federal government, \$4.4 million from a private sector match, and \$15.6 million in commitments from LEAs. The costs can best be broken down into four categories: (1) start-up costs - \$8.1 million (2) recurring costs not picked up in LEA budgets - \$2.9 million (3) recurring costs picked up in LEA budgets - \$22.7 million and (4) evaluation costs - \$4.0 million. The recurring costs picked up by LEAs are defined as those costs that LEAs have completely picked up by an LEA's fifth year of participation in the grant, and recurring costs not picked up by LEAs are defined as those costs that are funded 100% by the grant and private sector funds throughout the grant period. This grant will allow students to take 45,647 rigorous courses. Assuming it is two courses per high school student, this breaks down to a total of \$1,654.72 per high school student including \$355.01 per high school student for start-up costs, \$998.19 per high school student for LEA recurring costs, and \$125.98 per high school student for non-LEA recurring costs, and \$175.55 per high school student for evaluation. However, since there are 26,910 high school students in an area of 84,340 students, one could easily conclude that these are the costs for providing rigorous high school courses to this entire population of students. If these were the numbers taken into account, then the total costs would be \$527.96 per K-12 student including \$113.27 per K-12 student for start-up costs, \$318.49 per K-12 student for LEA recurring costs, and \$40.20 per K-12 student for non-LEA recurring costs, and \$56.01 per student for evaluation. All of these cost estimates cover all five years of the grant.

Assuming there would be no evaluation cost in scaling up and that LEAs would initially pick up the expenses that are eventually funded by LEAs in this grant, the total cost for scaling

up over a five-year period per student would be approximately \$240.50 per high school student or \$153.47 per K-12 student. Thus, the total cost would be \$48.1 million per 100,000 high school students or \$15.3 million per 100,000 K-12 students; \$120.2 million per 250,000 high school students or \$38.4 million per 250,000 K-12 students; \$240.5 million per 500,000 high school students or \$76.7 million per 500,000 K-12 students.

(E-5) Information Dissemination Strategy

The Lead Applicant and its partners are committed to publicly sharing information about the grant project, both successes and challenges, in at least four ways. First, the applicant will post a project summary to the U.S. Department of Education Open Innovation Portal and participate in any sharing opportunities provided by the U.S. Department of Education. Second, project personnel will work with Tennessee SCORE to disseminate project information across the state and nationally. Specifically, SCORE will highlight the Consortium's work in its annual report, on its blog, and with a once-a-year statewide event bringing together statewide (and potential national) leaders to talk about strategies for improving access to rigorous coursework. Third, the applicant has developed a relationship with the Rural School and Community Trust, a national non-profit organization devoted to rural education issues, and will consult with them to identify national opportunities to share this project with other rural regions. Fourth, project personnel will work with the project evaluator to actively seek professional and academic conferences at which to present lessons learned, best practices, and evaluation findings.

Section F: Sustainability Plans

(F-1) Resources and Stakeholder Support After Grant

In terms of stakeholder support, there is broad support for the Consortium across the region. All participating LEA MOUs were signed by both the superintendent and school board chairman, and the area Superintendents Study Council and Tennessee Department of Education

Field Service Center played key roles in organizing meetings to plan this proposal. Additionally, Appendix D contains letters of support in which the Tennessee Education Association commits to supporting the inclusion of the stipends for distance and online learning facilitators in local bargaining processes; the Greenville Professional Development Center agrees to help deliver professional development for AP teachers, distance and online learning facilitators, and college- and career counselors; the six participating higher education institutions agree to waive tuition and fees for dual enrollment courses and instead provide these courses at the costs laid out in the grant; the College Board agrees to assist with training AP teachers; SAS Institute agrees to support and participate in the semi-annual course supply and demand study; the Tennessee Department of Education agrees to explore providing ongoing support for the Consortium after the grant period ends (see details in Section F-2); Tennessee SCORE agrees to help scale up the project statewide if the Consortium's programs prove to be successful; and Eastman Chemical Company and the Northeast Tennessee Regional Alliance for Economic Development agree to assist with the required \$4.4 million private sector match. In regards to this match, the Niswonger Foundation has agreed to lead the fundraising effort and guarantee any of the matching funds that are not raised through other national, state, and local sources.

In terms of ongoing financial support, the costs of this project breakdown into four categories as outlined in Section E-2: startup costs, recurring costs picked up by LEAs, recurring costs not picked up by LEAs, and evaluation costs. Both the startup and evaluation costs will not continue after the grant period. As part of their MOUs, LEAs have agreed to pick up many recurring costs at a rate of 25% in the 2011-12 school year, 50% in the 2012-13 school year, 75% in the 2013-14 school year, and 100% in all future years even after the grant period concludes. Specifically, LEAs have agreed to this formula for covering the costs of stipends for distance and online learning facilitators, exams for AP students, instructors and the indirect costs for dual

enrollment programs, and a college- and career-coach for each service area. By 2014-15, these commitments will add up to more than \$4.3 million in LEA recurring funding. The recurring costs that LEAs will not pick up are \$594,272 in annual personnel costs and \$68,000 in annual professional development costs. The Niswonger Foundation has agreed to play a key role in covering these costs, as detailed in Section F-2.

(F-2) Incorporation of Project Activities and Benefits into Lead Applicant and Partners' Work

As outlined in Section F-1, LEAs have agreed to pick up many of the activities and costs both during and after the grant period. After the grant period concludes, the Lead Applicant and various partners will help sustain all activities and costs not picked up by LEAs. Those costs include eight line-items (Project Director, Technology and Online Learning Director, Distance Learning and Dual Enrollment Director, Professional Development Director, Administrative Assistant, office space, supplies and travel, and ongoing professional development). The Greeneville Professional Development Center has agreed to incorporate the Professional Development Director as well as the ongoing professional development training into its annual operating budget. The Niswonger Foundation will continue to fund the Project Director and Administrative Assistant positions to ensure the Foundation retains control over the project. The remaining two staff positions, office space, and travel and supplies will be picked up through a combination of the Tennessee Department of Education (TDOE) and Niswonger Foundation. As part of Race to the Top, TDOE is going through a restructuring that is focused on making it more service-oriented. As part of this restructuring, the Department is exploring how its regional Field Service Centers can become more supportive of districts. Both during and after this grant period, the Niswonger Foundation will work with TDOE to determine the extent to which the Technology and Online Learning Director, Distance and Dual Enrollment Director, office space, and travel and supplies can be rolled into the Field Service Center. The Niswonger Foundation

will retain any of these costs that cannot be rolled into TDOE's Field Service Center.

Section G: Management Plan and Personnel

(G-1) Management Plan

The project will be overseen by The Northeast Tennessee College and Career Ready Consortium Advisory Board. The Advisory Board will be chaired by Scott M. Niswonger and will include a representative from each of the participating LEAs, each of the participating higher education institutions, the Tennessee Department of Education, and several large local corporations and community organizations (see Appendix H for detailed list). This Advisory Board will meet quarterly to monitor the progress of the grant, identify what is working well, and address any challenges that are arising. CNA Education, the grant's external evaluator, will present their quarterly formative evaluations at each Advisory Board meeting. Two of these meetings will occur on the same day as the semi-annual course supply and demand reviews so that relevant Advisory Board members can participate in those reviews.

The project will be managed on a daily basis by the project team composed of the Project Director, Director of Technology and Online Learning, Director of Distance Learning and Dual Enrollment, and Director of Professional Development. Detail descriptions of these roles and the individual who will fill them are provided in Section G-2. An overview implementation timeline including responsibilities is below.

An overview implementation timeline is below, and a more detailed implementation timeline can be found in Appendix H.

<i>Academic Year</i>		2010-2011				2011-2012				2012-2013				2013-2014				2014-2015			
<i>Seasons</i>		F	W	S	S	F	W	S	S	F	W	S	S	F	W	S	S	F	W	S	S
Project Management																					
	• Finalize consortium staff (PD)	X																			
	• Hire counselors and instructional coaches (PD)	X																			
	• Advisory Board Meetings (PD)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Supply and Demand Review																					
	• SAS contract completed (SAS)	X																			
	• SAS analysis completed (SAS)	X		X		X		X		X		X		X		X		X		X	
	• LEA survey completed (PD)	X		X		X		X		X		X		X		X		X		X	
	• Semi-annual course review (PD)	X		X		X		X		X		X		X		X		X		X	
Rigorous Coursework																					
	• Train facilitators (DDD, DOT, DPD)		X		X		X		X		X		X		X		X		X		X
	• Train AP teachers (CB / DPD)				X				X				X				X				X
	• Schedule courses (DDD)		X		X		X		X		X		X		X		X		X		X
	• Develop courses (DOT)																				
	• Purchase courses (DOT)		X		X		X		X		X		X		X		X		X		X
	• Deliver distance learning courses (LEAs)		1 p/sch				3 per school				5 per school				8 per school				8 per school		
	• Deliver online learning courses (LEAs)		1 p/sch				3 per school				5 per school				8 per school				8 per school		
	• Deliver AP courses (LEAs)						1 per school				2 per school				3 per school				4 per school		
	• Deliver courses (IHEs)		5/10%				5% / 10%				10% / 20%				10% / 20%				10% / 20%		
	• Analyze instruction quality (CNA / IC)																				
Career- and College Counselors																					
	• Train counselors (DPD)	X			X				X				X				X				X
	• Deliver support (detailed on page 11)																				
	• Train district and school personnel (CCRC)		X		X		X		X		X		X		X		X		X		X
Evaluation																					
	• Formative analysis (CNA – FE)																				
	• Summative analysis (CNA – SE)				X				X				X				X				
	• Final project review (CNA – SE)																				X
Scale Up																					
	• Statewide conference (SCORE)								X				X				X				X
	• Identify areas for potential scale up (SCORE)																				
Sustainability																					
	• Percent LEA funding (LEAs)			0%				25%				50%				75%				100%	
	• Develop Partnership with TDOE (PD)																				
X	One-time Event	CB = College Board; CNA = CNA Education; CNA-FE = CNA Formative Evaluation Team; CNA-SE = CNA Summative Evaluation Team; CCRC = College and Career Ready Counselors; DDD = Director of Distance Learning & Dual Enrollment; DOT = Director of Online Learning and Technology; DPD = Director of Professional Development; IC = Instructional Coaches; IHE = Institution of Higher Education; LEA = Local Education Agency; PD = Project Director; SAS = SAS Institute																			
	Ongoing Activity																				

(G-2) Project Director and Key Personnel

- **Linda Irwin, Project Director:** As Assistant Director of the Niswonger Foundation, Linda oversees all the Foundation's LEA partnerships, providing on-the-ground technical assistance to LEAs, managing up to 15 consultants at any one time, and overseeing an annual budget of over \$2 million. As Project Director, Linda will oversee all aspects of the project, managing all personnel and grant expenditures, making plans to ensure the sustainability and scaling up of the project, and managing key relationships with LEAs, higher education institutions, the external evaluator, and other partners.
- **Blair Henley, Director of Technology and Online Learning:** Dr. Henley will oversee the Consortium's online learning efforts and relationships with district technology directors. Specifically, Dr. Henley will coordinate the development, purchasing and delivery of all online courses; coordinate the purchase, installation, and maintenance of all online and distance learning technology in LEAs; and partner with Ms. Mitchell to deliver professional development to online learning facilitators. Dr. Henley is currently the Career and Technology Director at Tennessee High School in Bristol, where he manages the Niswonger Learning Center on a part-time basis.
- **Jason Horne, Director of Distance Learning and Dual Enrollment:** Jason will lead the Consortium's distance and dual enrollment efforts. Specifically, Jason will work with LEAs and higher education institutions to coordinate the delivery and scheduling of distance and dual enrollment courses. He will also partner with Ms. Mitchell to deliver professional development to distance learning facilitators. For the past year, Jason has been the Director of Virtual Learning in Greeneville City Schools. In this role, Jason has overseen the Northeast Tennessee Distance Learning Consortium on a part-time basis.

- **Robinette Mitchell, Director of Professional Development:** Robbie will oversee all professional development activities associated with the grant, including the training of AP teachers, distance and online learning facilitators, and career and college-counselors. For the past four years, Robbie has been the Professional Development Coordinator for Greeneville City Schools. In this role, Robbie has coordinated all professional development in the district and, on a part-time basis, overseen the Greeneville Professional Development Center.

With this grant, the Foundation will bring on a new employee to assume Linda's current responsibilities, and Blair, Jason, and Robbie will join the Foundation staff full-time.

(G-3) Independent Evaluator – Principal Investigator and Key Personnel

- **Linda Cavalluzzo, Principal Investigator:** Dr. Cavalluzzo is Managing Director of CNA Education, the project's external evaluator. As principal investigator, Dr. Cavalluzzo will oversee the summative evaluation team. Dr. Cavalluzzo has experience in evaluation of dual enrollment programs, professional development programs in Tennessee, and the effectiveness of online and blended courses, including a randomized control trial of a blended Algebra I course for grade 9 students in 41 primarily rural schools in Kentucky. As project manager for CNA's Appalachian Education Lab, Dr. Cavalluzzo has led a number of experimental and quasi-experimental studies of educational initiatives across the region.
- **Christine Mokher, Formative Evaluation Lead:** Dr. Mokher, a senior research analyst with CNA Education, will be the lead formative evaluator. Dr. Mokher's research has focused on P-16 councils in Tennessee, the delivery of educational programs in rural areas, and the effectiveness of online and hybrid secondary high school courses. Dr. Mokher has co-authored a number of experimental and quasi-experimental studies.

For additional details on Dr. Cavalluzzo's and Dr. Mokher's research, please see Appendix C

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