



Syracuse City School District

Report of the Blue Ribbon Task Force Career and Technical Education December 2012

December 2012

A. Introduction

In spring 2012, the superintendent of the Syracuse City School District (SCSD) engaged the Career and Technical Education Technical Assistance Center (CTE TAC) of New York to facilitate the development of a five-year plan for CTE. The TAC was charged with achieving the following objectives:

1. Assess the status of the current CTE programs in the district, including student performance, facilities, personnel, and other relevant outcomes and resources.
2. Develop a common understanding on the part of district and building leaders, including those in core academic areas, of national CTE Program Standards, model programs, and quality indicators of CTE programs.
3. Provide the superintendent and the Board of Education with a five-year plan for CTE aligned with the recommendations of the superintendent from the Curriculum, Instruction, and Assessment Review of December, 2011 (later amended to align with the *Great Expectations: Syracuse City School District Strategic Plan 2012-2017*).

In summer 2012 a Blue Ribbon Task Force on CTE (see Appendix A) was formed and included representatives from business and industry, nonprofit, labor, postsecondary, government, and the school district. The Task Force met on six occasions (see Appendix B). The agendas for the first two meetings provided contemporary information on CTE programming, research, and program models to the Task Force. The final four sessions were devoted to engaging the Task Force in clarifying the issues, identifying priorities, and developing this plan which is now offered for consideration by the superintendent of schools and the Board of Education.

B. Where Are We: Current CTE Efforts, Opportunities, and Challenges

In order to assess the current status of CTE in the SCSD, the TAC conducted a review of the current levels of CTE programming, student performance, facilities, and personnel. As part of that process the TAC met with each secondary building principal (see Appendix C), selected members of the Central Office staff, and middle school administrators. In addition, meetings were held with two focus groups, one from business and industry and the other from postsecondary institutions — all of which have a relationship with the SCSD (see Appendix D).

Curriculum, Instruction, and Assessments

As with all education institutions, the basics of all programs are *curriculum, instruction, and assessments*. The CTE programs have curriculum documents at various states of formality and completion. In response to the new Regents initiatives, however, all curricula need to be aligned with the new Common Core State Standards.

The curriculum for Project Lead the Way (PLTW), which is a pre-engineering program, must follow specific guidelines developed through the Rochester Institute of Technology. PLTW is in its third year of implementation at Corcoran and its fourth year at Nottingham.

There are “academy” themes in the high schools, but the programs are not necessarily developed with an intentional career focus that is pervasive throughout the academy.

Several of the programs that have gone through the New York State (NYS) CTE program approval process and the schools for which they are approved are:

- Automotive Technologies (ITC), articulations with Onondaga Community College
- Cosmetology (ITC), articulations with Bryant and Stratton
- Culinary Professions (ITC), ProStart articulations with several institutions
- Early Childhood Education (ITC) articulations with Onondaga Community College
- Proposed Electrical/Pre-engineering (ITC) articulations with Onondaga Community College
- Fashion Technology (ITC) articulations with Cazenovia College
- Pre-engineering (Corcoran and Nottingham) articulations with Onondaga Community College

These programs all need to be reapproved by June 2013. They are the only programs specifically aligned with industry-endorsed assessments, through which students become eligible for a Regents diploma with a technical endorsement. The self-study review process, as part of the re-approval, will help the district align the curricula, identify industry-acknowledged assessments, and provide an opportunity to work with industry and postsecondary partners. Careful thought must be given to which programs should submit to re-approval. Likewise, consideration must be given to employment and postsecondary opportunities, student interest and alignment with the Central New York Regional Economic Development Council priority industry areas, and the assessment of employment opportunities by the NYS Department of Labor (NYS DOL).

While there are CTE-certified teachers in all of the secondary buildings, many of the courses offered are dependent on the number of teachers that remain after downsizing has taken place over the past several years. In selected offerings at ITC, the teachers are not CTE certified and the programs are not SED approved. These programs in computer science, media, and biotechnology provide significant employment opportunities following participation and completion of postsecondary programs. The following outlines the CTE teachers in each high school:

	Fowler	Nott.	Corc.	Henn.	ITC	Johnson	TOTAL
Technology	2	2	2	2	1	0	9
Cosmetology	1	0	0	0	0	0	1
Electrical	1	0	0	0	0	0	1
Auto Technology	0	0	0	0	1	1	2
Culinary	0	0	0	0	1	0	1
Welding	0	0	0	0	0	new	0.5
Fashion	0	0	0	0	0	0.4	0.4
Computer Science	0	0	0	0	1*	1	1
Media	0	0	0	0	1*	0	0
Biotechnology	0	0	0	0	1*	0	0
*Not CTE certified							26.4

Funding, Facilities, and Equipment

At the start of the 2012-13 school year, ITC and Fowler opened their doors as new facilities with new CTE programs.

Decisions about which programs would be housed in the new facilities were made at the Central Office prior to Superintendent Contreras' start at the district. The cosmetology program moved from the Johnson Center to Fowler. Construction trades were anticipated to be offered at Fowler as well. However, due to the amount of space in the new construction, it was decided that only the electrical trades would be offered.

The other buildings have historically made decisions on programs based on student enrollments in courses and the number of teachers available in the building. There has not, in recent years, been an administrator with the sole responsibility for coordinating all district CTE programs and initiatives. Therefore, building principals have been making decisions based on what they have determined meet the needs of their students given the resources available.

There is a districtwide facilities master plan, which may change due to the Great Expectations Syracuse City School District Strategic Plan recently presented by Superintendent Contreras and accepted by the Board of Education. Facility planning is conducted by a Joint School Construction Board which has representation from the City of Syracuse and the SCSD. The projected total for future investments in the high schools is approximately \$200 million. The superintendent, the director of facilities and the school architect communicate frequently with the city engineer. While Fowler and ITC have almost completed their renovations, work still needs to be done at Henninger, Corcoran, and Nottingham. Several community-based programs are housed at the Johnson Center, as well as alternative education, GED, and credit recovery programs. In its present condition, the Johnson facility would be considered sub-standard for a modern CTE program. Other buildings in the district, which need work, continue to be discussed in the planning as well.

The SCSD's allocation of Perkins funding for the 2012-13 school year is \$300,613. The proposal for this year is based on program and staffing needs at ITC. The Perkins grant typically supports, initiates, or updates NYS-approved CTE programs. Care will need to be given to monitoring the Perkins reauthorization. The U.S. Department of Education has outlined its change in priorities and allocations in *Investing in America's Future: A Blueprint for Transforming Career and Technical Education*.

For the most part, the principals indicated that the district has been supportive of the programs in the high schools in terms of upgrades for computers and provision of materials and supplies. However, as funds have become scarcer, allocations have decreased as well. The automotive program at the Johnson Center has not had equipment upgrades based on current industry standards for many years. And while the welding program spent \$100,000 on new equipment (ventilation and booths), not all equipment is up to current industry standards.

In some cases, local businesses have offered financial support. For example, Lockheed Martin has provided financial support for PLTW. A donation of \$10,000 to support a TV studio and a traditional media/broadcasting program was made to Nottingham High School.

Feeder Programs and Counseling

There are no districtwide programs or consistent and pervasive expectations to introduce careers at the elementary level. Usually introductions to the world of work and careers would occur through the social studies programs. However, with the focus and initiatives on English language arts and math at the K-6 levels, some of those opportunities have been lost.

Technology and family consumer science programs are being reintroduced at the middle school levels this year, but even these programs are not equally available in all schools. The middle level technology programs are focused on pre-engineering.

Naviance, a college and career planning computer program, is marketed as a solution to optimize student success, enhance school counselor productivity, and track results for school and district administrators. While there seems to be a high level of acceptance, it is still in the implementation stage, and is not consistent throughout the district. No consistent data on CTE student participation in CTE courses or programs, completion rates, or use of postsecondary articulation agreements were available to the consultants. Often this information is dependent on the student management system used by a school district. Data collection will be important for future planning.

Each high school (except for the Johnson Center) indicated that there is a career center with a guidance counselor and career specialist to assist students in planning their grades 9-12 and postsecondary programs. Students who express an interest in the CTE programs are interviewed through the career center. The appropriateness of the placement into a desired CTE program is determined based on the individual student profile. This process can result in limiting access to CTE. The goal expressed by the principals is to have all students capable and on track for graduation. This implies a focus on successful completion of academic courses and passing Regents examinations. Factors such as AIS (Academic Intervention Services) and other remediation, limited CTE electives, and scheduling limitations can diminish access to CTE. With the exception of ITC, the programs offered in each high school are the only CTE options available to students in that building, unless they transfer to another school or engage in a shared time option at the Johnson Center. For example, if a student wants to participate in the new electrical trades program at Fowler, the student would have to transfer to that school. Finally, with 26.4 CTE teachers, 10.5 dedicated to business education, and 9 dedicated to Technology (PLTW) only 6.9 teachers (3 are uncertified) are dedicated to other career clusters. All of these conditions place significant limitations on access to CTE programs.

The district has made a commitment to support services for students; however, at 250:1 the student to guidance counselor ratio is very low in comparison to other NYS schools. The counselors report that guidance into CTE is difficult due to limited choices, travel to the shared time option, and the strong focus directed to the buildings on admission to postsecondary degree programs generally associated with a traditional high school course of study.

The district has a High School Graduation Initiative Grant, currently in year three of a five-year cycle. The focus is on the prevention, intervention, and recovery of students who have withdrawn from school. There is an alternative high school setting that is smaller and individually focused, as well as focused efforts in the buildings to meet the needs of students who may not necessarily fit the full-day traditional high school schedule. The availability for students to recover credits in an online format in each high school is a big shift to get students on track for graduation. Student requests for a Certified Nurse Assisting program have been increasing and there is a concern that they have nothing to offer these students in terms of medical technology career prep options.

Students with Special Needs

Students with disabilities in the SCSD at the high school level have access to and participate in the general education curriculum. The majority of high school students receive IEP (Individualized Education

Program) services which include resource, consultant teacher, and/or prioritized curriculum. Students with the most severe disabilities are offered the general education curriculum, which is modified to provide the opportunity to progress. The majority of students with severe disabilities are assessed utilizing the New York State Alternate Assessment.

Access to viable and quality CTE programs for students with disabilities is challenging. Most students who receive resource, consultant teacher services, or prioritized curriculum find they are fully scheduled with academic classes. Some students, particularly those in the prioritized curriculum program, participate in Life Skills. This program utilizes community partners: ARC of Onondaga and the Syracuse Cooperative Federal Credit Union. Students rotate through the programs which emphasize budgeting and job shadowing. Fowler High School has initiated a credit union within the school with the support of this program.

Many high school teachers who work with self-contained students have ensured that their students receive opportunities to participate at job sites in and around the community. These sites include grocery stores, clothing outlets, pharmacies, and veterinary offices. The programs emphasize soft skills needed for employment as well as on-the-job skills. The SCSO also offers three off-campus locations for students with moderate to severe disabilities. Project Search is a one-year program at Upstate University Hospital for students in their last year of high school; 12 students attend yearly. The program includes both classroom and various work rotations. Several students have been hired by Upstate upon completion of the program. OCC and SU on-campus programs also provide class time and workplace experience, and students may remain in the programs for two to three years.

While these programs provide valuable work and pre-employment skills, only a small number of students participate. Access to viable vocational programming is limited for all students. Students with disabilities have a particularly difficult time accessing programs with certification exams as the end point due to lower reading and math levels. Additional assistive technology can help students compensate for their disabilities but is not functional for all of students. Transition planning is a requirement on the IEPs (Individualized Educational Programs) for students older than 15. Currently, most of the transition focuses on employability soft skills such as attendance, resume writing, and interviewing skills as opposed to actual CTE classes and job placements. Online programs such as Career Zone are also used.

Partnerships: Business and Industry, Postsecondary, and Community

Advisory committees are one of the most common partnerships that CTE programs involve in their decision making. The contribution can be anything from providing information on current business and industry practices to working on curriculum alignment projects with postsecondary institutions and providing work experience opportunities for students.

At Fowler, an advisory council works with the school on the program offerings as a part of the renovation project. They meet about once a month. The committee is comprised of the principal, vice principal of the academy, a representative of the International Brotherhood of Electricians (apprentice/outreach program), the vice president of Weydman Electronics, and the district architect. The electrical program has not commenced. Fowler does have a cosmetology program this year.

ITC has an ad hoc committee including practitioners from business and industry and postsecondary institutions involved in their programs. They focus on career experiences, skills assessments, and career fairs.

The Johnson Center did have a program advisory committee with one business representative and one postsecondary representative for each program that was offered at the Center. That committee is not currently in existence.

As evidenced by our discussions with both the Postsecondary Focus Group and the Business and Industry Focus Group, the SCSD has a wide variety of partnerships and opportunities offered. Say Yes to Education in Syracuse and Junior Achievement of Central New York, Inc. provide many resources to students, teachers, and counselors in the district.

There is little evidence that all these opportunities are known districtwide, or that all students have access to the same opportunities. Building principals, guidance counselors, and teachers make decisions regarding visitations, career fairs, early college programs, summer opportunities, after-school programs, mentors, etc., based on their connections with various agencies. Inventorying these options, coordinating them across schools, and providing comprehensive information to school leadership, guidance, staff, students, and parents are essential in order to capitalize on this rich set of options and resources.

A review of the Regional Economic Development Council's plan reflected six Priority Industry Concentrations in the following areas: (1) *Clean Energy and Environmental Systems (CEES)*, (2) *Health, Biomedical Services and Biosciences*, (3) *Financial Services*, (4) *Agribusiness and Food Processing*, (5) *Tourism*, and (6) *Advanced Manufacturing*. Forging a partnership with the council and concentrating CTE program development and offerings in these priority industries makes good sense. This is where the state is placing its economic development wager and regional business, government, and nonprofit leaders are leading the way.

Professional Development

The technology teachers who have been involved in PLTW receive focused professional development through the Rochester Institute of Technology. Development includes ongoing training and updating in technology, curriculum, assessment, and instructional practice.

Currently, most of the district's professional development is focused on the new Regents initiatives regarding the CCSS in ELA and Mathematics, and the Annual Professional Performance Review requirements. CTE teachers receive no dedicated professional development in CTE curriculum, instructional strategies, assessments, working with business and industry, or other elements designed to strengthen their programs. Professional development for CTE teachers is self-guided.

If there is collaboration between the CTE teachers and the core academic teachers, it is usually on a collegial basis rather than with an intentional focus. This strategy would need to be addressed if the district were to consider approving math-, ELA-, science-, or social studies-integrated credits through CTE programs.

It was noted that there are few opportunities for teachers to visit business and industry to develop an understanding of current expectations of the workplace. These opportunities are limited not only for CTE teachers, but for other K-12 teachers as well.

Programs of Interest Prior to the Study

In our conversations with building administrators we asked, “Are there any programs that you don’t offer your students that you wish you could? Why?” Most CTE programs are concentrated at the 11th and 12th grade levels. It was noted that CTE feeder programs in the middle schools, as well as program opportunities for 9th and 10th grade students would enhance engagement and relevance for all students. The most compelling arguments about new programs came from guidance counselors who felt strongly about expanding the portfolio of CTE options for students. They lamented the loss of options for students and their inability to provide programs to address career interests. The counselors spoke strongly about the need to use CTE as a “hook” to capture student interest and retain them until graduation.

C. Central New York Priority Industry Concentrations and Labor Market Opportunities

Based on the Summary of Central New York Regional Economic Development Council Strategic Plan Priority Industry Concentrations, the following six areas should be career clusters included in priorities for the CTE programs of the SCSD. Additional priorities have been identified by the NYS DOL. The Blue Ribbon Task Force developed a CTE Program and Employment Area Crosswalk (see Section F), outlining priority areas.

Central New York (CNY) Priority Industry Concentrations

- **Clean Energy and Environmental Systems** – CNY has the 8th highest concentration of private sector “green jobs” of any region in the country and is the home to NYS’s Center of Excellence in Energy and Environmental Systems. The following systems include products and services that improve energy efficiency and indoor environmental quality in green buildings:
 - **Biomass Thermal Energy Systems:** Technologies and services (including supply chains of raw materials from local sources) that utilize woody biomass to produce thermal energy.
 - **Clean and Renewable Energy:** Advancements that reduce emissions from fossil fuels, and deployment of solar and wind technologies to produce power from local sources.
 - **Water Resources:** Systems that leverage regional strengths in green infrastructure, waste water treatment, drinking water supply, remediation of polluted water bodies, and access to abundant quantities of fresh water.
 - **Controlled Environment Agriculture:** Systems that combine regional strengths in building technologies and agriculture to provide food security, locally grown protein and vegetables, reduction in carbon footprint, renewable energy, and carbon sequestration.
 - **Nuclear Energy:** CNY is one of only three regions in NYS with nuclear power plants, which have the potential to be an important strategic asset, depending on state and federal energy policies.

- **Health and Biomedical Sciences** – The region’s hospitals directly employ more than 23,000 people and another 3,500 are employed in private, high tech biomedical companies with average wages approaching \$70,000, nearly double the region’s median wage. CTE programs will reflect the capacity to pursue a pathway to:

Health and Biomedical Services

- Large number of acclaimed health care institutions
- High-quality academic medical and nursing colleges
- Medical technology companies
- Higher education institutions with research capability

Biosciences

- University level biotechnology and life sciences research and development
 - Biomedical services
 - Pharmaceutical manufacturing
 - Manufacturing of analytical instruments and medical devices
 - Research, testing, and medical laboratories
- **Financial Services** – This industry employs more than 24,000 people within the existing labor market and has grown as financial services and insurance firms look for lower cost locations for back-office operations. The areas of focus in CNY are specific to:
 - Cyber security
 - Insurance
 - **Agri-business and Food Processing** – NYS is the third largest producer of fluid milk and commodity crops representing more than \$1 billion in sales alone. CNY is a significant contributor and is increasingly focused on value-added opportunities for agri-business. Agri-business programs should develop relationships with business and postsecondary institutions based on the following statistics about CNY:
 - 2nd largest producer of corn for silage
 - 3rd largest fluid milk producer in the country
 - 5th largest producer of equine animals
 - 6th largest producer of fruits, tree nuts, and berries
 - 7th largest producer of Christmas trees
 - 8th largest producer of vegetables for market
 - **Advanced Manufacturing** – Manufacturing represents 10% of the region’s total employment, and subsectors such as digital electronics, radar, and sensor systems serve expanding global markets for security, information technology, and defense. Specific areas of focus should include:
 - Digital and electronic devices
 - Metals production and manufacturing
 - Precision manufacturing
 - **Tourism** – Tourism is a \$1 billion industry in CNY, and current global economic conditions, including the weak dollar, create opportunities for the region to draw additional international visitors across the shared boundary with Canada and from entry points downstate. While the SCSD offers one culinary arts program, additional hospitality programs could include:
 - conventions
 - sporting events
 - leisure travel
 - arts and culture
 - special events

- hospitality services

D. Blue Ribbon Task Force Recommended Strategic Vision and Goals

Mission: *Build, support, and sustain a CTE program in collaboration with business, labor, and postsecondary partners to provide relevant and rigorous courses of study based on contemporary industry and academic standards that prepare students for success in education, careers, and citizenship in a global society.*

Vision: *The SCSD will offer “gold standard” CTE programs preparing all students to be career and college ready.*

Major Goals and Key Recommendations

1. Standards

The SCSD will develop and provide a career education program for all students grounded in the academic standards embodied in the CCSS and Regents assessments (PARRC – Partnership for Assessment of Readiness of College and Careers), 21st century employability skills, and industry-based technical skills.

a. Complete a rigorous curriculum crosswalk for all CTE programs.

All CTE programs will have a rigorous curriculum crosswalk to the CCSS, Regents (PARRC) assessments and the Common Career Technical Core (CCTC) standards.

b. Provide CTE completers with access to an industry-approved credential.

All students completing an approved CTE program of instruction will have access to a technical assessment leading to an industry-approved credential. Upon meeting all Regents graduation requirements, students will be able to earn a Regents Diploma/Regents Diploma with Advance Designation with a Technical Endorsement.

c. Establish and deploy an employability profile/portfolio.

Students in every career cluster will develop industry-validated 21st century employability skills embodied in the 12 Career Ready Practices of the CCTC¹ (see Appendix E), receive periodic feedback, and leave school with an employability portfolio.

d. Provide a comprehensive college and career professional development program for all PreK-12 and related faculty.

Ensure that CTE and academic-related faculty have the skills to deliver, reinforce, and assess the CCSS, technical, and employability standards within daily instruction.

¹ National Association of State Directors of Career and Technical Education Consortium

2. Program Pathways

The SCSD will provide all students with multiple pathways to graduation consistent with the National Career Clusters Framework and provide a coherent set of learning opportunities for development of career knowledge, academic, and technical skills, and transitions to a selected pathway.

a. Integrate career awareness into the PreK-8 curriculum districtwide.

The PreK-8 curriculum will include age-appropriate and intentionally delivered opportunities for students to develop an understanding of the importance and value of careers and jobs and to develop a graduation plan based upon personal interest/career cluster area.

b. Infuse STEM (Science, Technology, Engineering, and Math) knowledge concepts and understandings in the PreK-8 curriculum districtwide.

The PreK-8 curriculum will offer interdisciplinary instruction introducing and connecting ELA and STEM using a nationally validated curriculum model.

c. Provide every middle level student with applied learning experiences.

Each middle level program will provide daily opportunities for students to participate in practical learning opportunities which foster career awareness and exploration and an applied opportunity in STEM and other career clusters.

d. Implement a modified career academy model.

Each high school will have career-themed academies related to the employment opportunities and needs of the region, state, and nation. Students will have the opportunity to participate in related NYS-approved CTE programs with integrated academics resulting in a technical credential and technical endorsement on their Regents diploma.

BRTF Recommendations for Career Cluster Priorities

- Finance
- Health Sciences
- Hospitality and Tourism
- Agriculture Food and Natural Resources
- Human Services
- Information Technology
- Manufacturing
- Science, Technology, Engineering and Mathematics
- Architecture and Construction
- Transportation Distribution and Logistics
- Business Management and Administration

The Task Force, in making these recommendations, considered the Central New York Regional Economic Development Plan, Department of Labor High-Need Careers and the fastest-growing jobs in CNY.

Further, the Task Force recommends that each CTE program include a strong entrepreneurial focus.

The academies will be small learning communities that are consistent with the Career Clusters/Pathway model² with a focus on the priority business areas of the Central New York Regional Economic Development Council's high-priority industry areas.

e. Provide early college CTE opportunities.

Expand early college opportunities to students pursuing career education, which would accelerate a student's opportunities to earn dual credits toward an associate's degree.

f. Complete the re-approval of selected existing approved programs.

Evaluate and renew the program approval for those existing and effective CTE programs within the district.

3. Business/Industry/Economic Development/Labor/Postsecondary Partnership Council

The SCSD will work with business, industry, economic development, labor, and postsecondary representatives to establish a Partnership Council to develop career education programs that are academically and technically rigorous, aligned with local state and national employment needs and opportunities, and provide:

- multiple authentic opportunities for student learning and access to the trades and professions
- articulated programs of study for students that lead to completion of certificate, apprenticeship, and degree programs without the need for remediation

Leadership of the Partnership Council will be provided by the superintendent of schools and leaders from the business and industry and postsecondary communities who will serve as co-chairs. Overall goals are as follows:

a. Create a dedicated CTE leadership position.

Develop leadership infrastructure within the district to coordinate CTE program development, implementation, and evaluation and serve as the primary link to the Partnership Council and other supportive partners.

b. Create and support the Advisory Boards for CTE programs.

In conjunction with the Partnership Council, develop and support career program advisory committees for each CTE-approved program in the district. Meet with them regularly to seek advice on curriculum, equipment, and industry standards.

Business/Industry/Economic Development Goals

c. Inventory and evaluate the effectiveness of current SCSD partnerships with business and labor.

² National Association of State Directors of Career and Technical Education Consortium

Inventory, evaluate, and develop existing business and labor relationships while continuing to develop new and more effective relationships to the benefit of students of the SCSD and business and industry.

d. Create a dedicated work-based learning leadership team.

Develop a district-wide and building level leadership and coordination infrastructure to find, establish, and implement high-quality work-based learning opportunities for students.

e. Provide opportunities for workplace visitations, internships, and other work-based opportunities.

Provide opportunities for students (academic and CTE) to visit local employers and view the work setting to explore careers and work opportunities.

f. Assist in the promotion of industry standards to teachers.

Provide a variety of opportunities for teachers to learn the technologies, climate, culture, and market conditions of local employers.

Postsecondary and Labor Goals

g. Inventory and establish standards for articulation agreements.

In collaboration with the Partnership Council, inventory and continue to develop dual credit and advanced standing articulation agreements for the benefit of students who complete approved CTE programs.

h. Expand linkages with the trades to foster increased apprenticeship opportunities.

Expand the relationships with trade unions to foster seamless transitions to apprenticeship programs for trade-bound students.

i. Create mechanisms to coordinate college visitation opportunities for students.

Provide coordinated opportunities for all students to visit college campuses and explore programs and facilities related to their career interests.

4. Access

The SCSD will provide students and families with the information required to make informed choices about education and careers and ensure that all students have access to desirable options that expand rather than limit their postsecondary choices.

a. Ensure equity of access in student CTE program selection.

Schools, academies, and CTE programs will not have any selective admissions criteria.

b. Expand opportunities for students to select CTE options.

In making the transition from middle school to high school, students should be allowed to demonstrate their career interests through selection of programs and schools, and those requests should be honored.

c. Promote all secondary programs, including CTE, as equally rigorous pathways for high school students.

Provide parents and students with information using various media, middle school presentations, and visits to career education programs to explain program quality, opportunity for postsecondary education, and paths to employment.

d. Create transfer options and limit new enrollment in upper grades for CTE students.

Students should be allowed to transfer between CTE programs in the 9th and 10th grades as their interests change or wane. Changes in 11th and 12th grade should be discouraged to ensure on-time graduation.

e. Monitor CTE admissions, enrollment, and performance data over time.

Collection of CTE data should be part of the core of the district student information system: provide the data required for state reporting, allow for reflection on student performance, and drive instructional practice in CTE.

5. Infrastructure

The district will ensure that the facility, staff, equipment, and supplies and materials support state-of-the-art CTE programs in the district's schools.

a. Develop a comprehensive implementation plan to address and meet all of the infrastructure implications of the CTE Strategic Plan. Key components of the implementation plan should include:

- Renovations and additions to facilities
- Expansion/reallocation of staffing
- Equipment purchase and acquisition
- Ongoing material and supplies





b. Establish a career high school.

To provide for program expansion and/or growth in student population plan for a career high school guided by the Partnership Council to support programs which require a high specialization in facility, equipment, and software support.





E. Goals and Objectives Implementation Guide



The Goals and Objectives Implementation Guide can be found in the following pages.

- Standards.** The SCSD will develop and provide a career education program for all students grounded in the academic standards embodied in the CCSS and Regents assessments (PARRC), 21st century employability skills, and industry-based technical skills.

Strategy	Who	2012-13	2013-14	2014-15	2015-16	2016-17
1a. Complete a rigorous curriculum crosswalk for all CTE programs. All CTE programs will have a rigorous curriculum crosswalk to the CCSS, Regents (PARRC) assessments, and the CCTC standards.	Dir Sec Prog CTE Coor Self-Study Team Adv Comm TAC					
1b. Provide CTE completers with access to an industry-approved credential. All students completing an approved CTE program of instruction will have access to a technical assessment leading to an industry-approved credential. Upon meeting all Regents graduation requirements, students will be able to earn a Regents Diploma/Regents Diploma with Advance Designation with a Technical Endorsement.	Principals Guidance Industry Partners Partnership Council CTE Coor TAC					
1c. Establish and deploy an employability profile/portfolio. Students in every career cluster will develop industry-validated 21 st century employability skills embodied in the 12 Career Ready Practices of the CCTC, receive periodic feedback, and leave school with an employability portfolio.	Partnership Council Principals CTE Coor Teachers Guidance					
1d. Provide a comprehensive college and career professional development program for all PreK-12 and related faculty. Ensure that CTE and academic related faculty have the skills to deliver, reinforce, and assess CCSS, technical, and employability standards within daily instruction.	CTE Coordinator Principals Dir Staff Dev TAC					

2. **Program Pathways.** The SCSD will provide all students with multiple pathways to graduation consistent with the career cluster model and provide a coherent set of learning opportunities for development of career knowledge, academic and technical skills, and transitions to a selected pathway.

Strategy	Who	2012-13	2013-14	2014-15	2015-16	2016-17
2a. Integrate career awareness into the PreK-8 curriculum districtwide. The PreK-8 curriculum will include age appropriate and intentionally delivered opportunities for students to develop an understanding of the importance and value of careers and jobs and to develop a graduation plan based upon personal interest/career cluster area.	Principals Subject Coor.s					
2b. Infuse STEM knowledge concepts and understandings in the PreK-8 curriculum districtwide. The PreK-8 curriculum will offer interdisciplinary instruction introducing and connecting ELA and STEM using a nationally validated curriculum model.	Principals Coor of Science & Tech Sub Coor.s Faculty TAC					
2c. Provide every middle level student with applied learning experiences. Each middle level program will provide daily opportunities for students to participate in practical learning opportunities which foster career awareness and exploration, and an applied opportunity in STEM and other career clusters.	Dir Sec Prog CTE Coor Principals Faculty					
2d. Implement a modified career academy model. Each high school will have career-themed academies related to the employment opportunities and needs of the region, state, and nation. Students will have the opportunity to participate in related NYS-approved CTE programs with integrated academics resulting in a technical credential and technical	Partnership Council Principals CTE Coor SLC Coor Sub Coor Guidance					



<p>endorsement on their Regents diploma.</p> <p>The Academies will be small learning communities that are consistent with the Career Clusters/Pathway Model³ with a focus on the priority business areas of the CNY Regional Economic Development Council high-priority industry areas.</p>	<p>Faculty TAC</p>					
<p>2e. Provide early college CTE opportunities. Expand early college opportunities to students pursuing career education, which would accelerate a student's opportunities to earn dual credits toward an associate's degree.</p>	<p>Partnership Council Dir Sec Prog CTE Coor Coor. HSGI College Partners</p>					
<p>2f. Complete the re-approval selected existing approved programs. Evaluate and renew the program approval for those existing and effective CTE programs within the district.</p>	<p>Dir Sec Prog Principals & Faculty Coordinator SLC Self-Study Team TAC</p>					





³ National Association of State Directors of Career and Technical Education Consortium




3. Business/Industry/Economic Development/Labor/Postsecondary Partnership Council. The SCSD will work with business, industry, economic development, labor, and postsecondary representatives to establish a Partnership Council to develop career education programs that are academic and technically rigorous, aligned with local state and national employment needs and opportunities, and provide:

- multiple authentic opportunities for student learning and access to the trades and professions
- articulated programs of study for students leading to completion of certificate, apprenticeship, and degree programs without the need for remediation

Leadership of the Partnership Council will be provided by the superintendent of schools and leaders from the business and industry and postsecondary communities who will serve as co-chairs.

Strategy	Who	2012-13	2013-14	2014-15	2015-16	2016-17
3a. Create a dedicated CTE leadership position. Develop leadership infrastructure within the district to coordinate CTE program development and implementation and serve as the primary link to the Partnership Council and other supportive partners.	Supt Board of Education					
3b. Create and support the advisory boards for CTE programs. In conjunction with the Partnership Council, develop and support career program advisory committees for each CTE-approved program in the district. Meet with them regularly to seek advice on curriculum, equipment, and industry standards.	Partnership Council CTE Coor CTE Faculty Business Partners					



<p>3c. Inventory and evaluate the effectiveness of current business/labor partnerships. Inventory, evaluate, and develop existing business/labor relationships while continuing to develop new and more effective relationships to the benefit of students and business and industry.</p>	<p>Partnership Council CTE Coor Principals Teachers</p>					
<p>3d. Create a dedicated work-based learning leadership team. Develop the districtwide and building level leadership and coordination infrastructure to find, establish, and implement high-quality work-based learning opportunities for students.</p>	<p>Board of Education Supt Dir Sec Prog Principals</p>					
<p>3e. Provide opportunities for workplace visitations, internships, and other work-based opportunities. Provide opportunities for students (academic and CTE) to visit local employers and view the work setting to explore careers and work opportunities.</p>	<p>Partnership Council CTE Coor WBL Coor.s Principals</p>					
<p>3f. Assist in the promotion of industry standards to teachers. Provide a variety of opportunities for teachers to learn the technologies, climate, culture, and market conditions of local employers.</p>	<p>Partnership Council Dir Sec Prog Dir Staff Dev Principals</p>					

<p>3g. Inventory and establish standards for articulation agreements. In collaboration with the Partnership Council, inventory and continue to develop dual credit and advanced standing articulation agreements for the benefit of students who complete approved CTE programs.</p>	<p>Chief Academic Officer Dir Sec Prog CTE Coor Coordinator HSGI Principals Distr Legal Office</p>					
<p>3h. Expand linkages with the trades to foster increased apprenticeship opportunities. Expand the relationships with trade unions to foster seamless transitions to apprenticeship programs for trade-bound students.</p>	<p>Partnership Council CTE Coor WBL Coor.s</p>					
<p>3i. Create mechanisms to coordinate college visitation opportunities for students. Provide coordinated opportunities for all students to visit college campuses and explore programs and facilities related to their career interests.</p>	<p>Partnership Council Coordinator HSGI Say Yes to Education Guidance</p>					

4. Access. The SCSD will provide students and families with the information required to make informed choices about education and careers and ensure that all students have access to desirable options that expand rather than limit their postsecondary choices.

Strategy	Who	2012-13	2013-14	2014-15	2015-16	2016-17
4a. Ensure equity of access in student CTE program selection. Schools, academies, and CTE programs will not have any selective admissions criteria.	Board of Education Supt					
4b. Expand opportunities for students to select CTE options. In making the transition from middle school to high school, students should be allowed to demonstrate their career interests through selection of programs and schools and those requests should be honored.	Board of Education Supt					
4c. Promote all secondary programs, including CTE, as equally rigorous pathways for high school students. Provide parents and students with information using various media, middle school presentations, and visitation to career education programs to explain program quality, opportunity for postsecondary education, and paths to employment.	Board of Education Supt Principals CTE Coor Comm Coor All faculty, guidance, school staff					
4d. Create transfer options and limit new enrollment in upper grades for CTE students. Students should be allowed to transfer between CTE programs in the 9 th and 10 th grades as their interests change or wane. Changes in 11 th and 12 th grade should be discouraged to ensure more on-time graduation.	Board of Education Supt Dir Sec Prog CTE Coor Principals					
4e. Monitor CTE admissions, enrollment, and performance data over time. Collection of CTE data should be part of the core of the district student information system: provide the data required for state reporting, allow for reflection on student performance, and drive instructional practice in CTE.	Principals Guidance CTE Coor School Acct Office					

5. Infrastructure. The district will ensure that the facility, staff, equipment, and supplies and materials are adequate to support a contemporary CTE program in the district’s schools.

Strategy	Who	2012-13	2013-14	2014-15	2015-16	2016-17
<p>5a. Develop a comprehensive implementation plan to address and meet all of the infrastructure implications of the CTE Strategic Plan. Key components of the implementation plan should include:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Renovations and additions to facilities <input type="checkbox"/> Expansion/reallocation of staffing <input type="checkbox"/> Equipment purchase and acquisition <input type="checkbox"/> Ongoing material and supplies 	Supt Director of Facilities Sr Dist Staff CTE Coor					
<p>5b. Establish a career high school. To provide for program expansion/growth and/or student population plan for a career high school guided by the Partnership Council to support programs which require a high specialization in facility, equipment, and software support.</p>	Partnership Council Board of Education Supt Dir Sec Prog CTE Coor					

F. CTE Program and Employment Area Crosswalk

National Career Clusters	Syracuse Programs	Economic Dev. Council	DOL High-Need Careers	CNY Fastest-Growing Jobs
1. Agriculture, Food, and National Resources		<ul style="list-style-type: none"> • Clean Energy and Environmental Systems • Biomass Thermal Energy Systems • Clean and Renewable Energy • Water Resources • Controlled Environmental Agriculture • Agribusiness and Food Processing 	<p>Agriculture and food production is an important industry in CNY and is a focus of many local economic development organizations. Company interest lately has been especially centered in dairy/milk/cheese processing facilities. There is increased emphasis on buying local produce.</p>	
2. Architecture and Construction	Electrical/Pre - Engineering		<p>The architecture and construction sectors have not fully rebounded from the recession in CNY. Commercial construction, especially in the City of Syracuse, seems to be rebounding faster than residential construction. The construction sector has an aging workforce with few new workers training for these occupations. Apprenticeship training is an important avenue of entry into the construction occupations. Demand for skilled construction workers (<i>e.g.</i>, welders, plumbers, and carpenters) will be good in the long-run both locally and nationally. There are still more men in construction than women. Many good paying jobs can be found within the</p>	

			architecture and construction sectors as well as opportunities for self-employment. Green-related weatherization, remediation, and new construction jobs are also growing within the construction field.	
3. Arts, A/V Technology, and Communications	Media		There is a big push in the City of Syracuse and smaller cities such as Auburn to welcome and expand the arts and artists to these areas, as well as expand their cultural offerings to make them even more vibrant communities. Competition is still high within the arts, journalism, and entertainment fields and pay can vary widely. Journalism is turning to more digital formats versus print media.	
4. Business Management and Administration			There is always demand for individuals with smart/savvy business skills to run existing firms or start new enterprises. Competition has increased due to the recession and layoffs of middle managers. It is still a popular area of study for students.	
5. Education and Training			Education and training is a large and important sector in CNY at both the private and public levels. There is demand for constant training throughout the work lives of today's workers, especially with changing technology. There are also increased retraining needs for local workers who have been laid off, especially from the manufacturing sector. In the CNY economy, a glut of public school teachers and assistants/aides who have been laid off and are looking for work still remain. Education is still a popular field of study for students. Increasing demands and accountability are being placed on today's teachers.	
6. Finance		• Cyber Security	Finance is a smaller industry in CNY and employment in	

		<ul style="list-style-type: none"> • Insurance 	<p>the sector has been stable over the year, and jobs pay well. Employment has increased at credit unions. Some consolidation in the banking industry is occurring. The need for financial workers to help with retirement planning has increased.</p>	
7. Government and Public Administration			<p>Government is a large sector in CNY, especially at the local level. State and federal positions are smaller in numbers. Budget cuts and decreasing revenue streams still are leading to cutbacks, especially at the local levels. Government has an aging Baby Boomer workforce who will be retiring over the next several years which will create opportunities for new entrants. Oftentimes more unionization, protection, and worker benefits are in the public sector versus the private sector. Civil service tests are relied on for hiring and promotional opportunities.</p>	
8. Health Science	Bio-technology	<ul style="list-style-type: none"> • Health and Biomedical Services • Biosciences 	<p>Health is a large, important, and growing sector in the CNY economy. There are job opportunities at many education, pay, and skill levels in this sector. Demand is especially strong in the local economy for registered nurses, dermatologists, and mental health professionals. Demand at various doctors' offices and hospitals has been strong. Demand for biomedical and biotechnology positions is growing.</p>	<ul style="list-style-type: none"> • Physical Therapist Aides • Physician Assistants • Pharmacy Technicians • Physical Therapist Assistants • Dental Hygienists • Medical Assistants • Physical Therapists • Medical Scientists
9. Hospitality and Tourism	Culinary	<ul style="list-style-type: none"> • Convention Planning and Services • Sporting Events Planning and 	<p>The hospitality and tourism sector is still rebounding from the recession. Many economic development groups in the area are putting a strong emphasis on this sector. Hotel development in the CNY region remains strong. Turnover in the restaurant industry is often</p>	

		<p>Services</p> <ul style="list-style-type: none"> • Leisure Travel • Special Events Planning and Services • Hospitality Services 	<p>high. Wages tend to be a bit lower in this cluster.</p>	
10. Human Services	<p>Cosmetology Early Childhood Education Fashion</p>		<p>Good demand for human services workers in CNY as the need for these types of services increase. More people seeking help, an aging population base, people living further away from their family unit and support systems, and higher unemployment all help to increase the need for these types of workers. Wages tend to be lower in this sector.</p>	<ul style="list-style-type: none"> • Personal and Home Care Aides • Fitness Trainers and Aerobics Instructors • Home Health Aides
11. Information Technology	<p>Computer Science</p>		<p>Demand in information technology is growing with increased computer reliance and greater social and digital communication needs. This industry includes many good paying, skilled occupations. Workers in this field must constantly keep up with technological changes and new programs. Not enough new workers are entering these technical fields.</p>	<ul style="list-style-type: none"> • Network Systems and Data Communications Analysts
12. Law, Public Safety, Corrections, and Security			<p>Demand for workers in this industry will be good, although budget cuts and declining revenue streams could impact overall budgets. Greater legal complexities and increased need for security will help the industry.</p>	
13. Manufacturing		<ul style="list-style-type: none"> • Digital and Electronic Devices • Metals Production and Manufacturing 	<p>Manufacturing represents 20% of all wages outside the NYC metropolitan area and the NYS advanced manufacturing sector is growing. In 2009, the NYS Comptroller’s Office reported that “as of 2008, there were over 250,000 high tech industry jobs upstate and 44 percent were in the most advanced technology</p>	

		<ul style="list-style-type: none"> • Precision Manufacturing 	<p>areas.” According to the NYSDOL, there will be almost 10,000 annual job openings for various occupations within the advanced manufacturing field for the period of 2012-18. Nationally, there are over 600,000 openings today in advanced manufacturing.⁴</p>	
14. Marketing			<p>This is still a competitive sector locally as the region is recovering from the effects of the recession but the long-term outlook should be good.</p>	
15. Science, Technology, Engineering, and Mathematics	Project Lead the Way		<p>Demand is strong for these skilled occupations and industries, yet not enough new workers are training in these fields. STEM jobs usually pay well above the average wage for the region.</p>	<ul style="list-style-type: none"> • Environmental Scientists and Specialists, incl. Health • Environmental Science and Protection Technicians, incl. Health
16. Transportation, Distribution and Logistics	Automotive Technologies		<p>Good demand for this sector in CNY is due to the central location in the state and access to Lake Ontario. Road transportation and warehousing is doing satisfactorily. Demand has increased for tractor trailer truck drivers. Air transportation is still weak.</p>	

⁴ Manufacturers Association of Central New York

Appendix A
Blue Ribbon Task Force on Career and Technical Education
Business and Higher Education

Business and Higher Education

	Title
Abdul-Qadir, Yusuf	Public Relations Associate of Ecologique, Inc.
Allen, Elizabeth	Associate Director of Academic Affairs of Syracuse Educational Opportunity Center
Black, Laurie	Administrator of 20/20
Buerkle, Anne Marie	Congresswoman of United States
Deacon, Colleen	Regional Director of K. Gillibrand
Phillips, K.	Regional Director of K. Gillibrand
Harter, Kathy	President of Junior Achievement
Lancette, Greg	Business Manager of Local 267
Lowery, Nancy	District Office Director of Burkle
McDonald, Kit	Director of Human Resources of SRC
Penix, Tim	Vice President of Syracuse EOC
Thompson, Wanda	Operations Vice President of Upstate University
Wilson, Ashley	MWBE Compliance Officer
Wolken, Randy	President of MACNY

Syracuse City School District

	Title
Blasland, Ed	Business Teacher
Briand, Ella	SLC Coordinator
Crawford, Nancy	Assistant Director of Special Education
DiFlorio, Robert	Principal of Henninger High School
Dittman, John	Principal of JVC
Grulich, Laurie	Science Teacher
Howe-Tennant, Debbie	Supervisor/Guidance/HSGI Coordinator
Kelley, Laura	Chief Academic Officer
Maturo-Grasso, Gwen	English Teacher
Monrone-Wilson, Margaret	Director of Professional Development
McGinty, Jim	Technology Teacher
Nolan, Brian	Director of HS Career and Technical Education
Odom, Pamela	Principal of Clary Middle School
Ruddy, Patrick	Special Education Teacher
Shepard, Bob	CTE Automotive Teacher
Swift, Stephen	President of SCSD Board of Education
Williams, Matt	Principal of ITC
Liddle, Kate	ITC teacher

Appendix B

Meeting Dates and Agenda Items

August 24, 2012: Task Force Orientation

- I. Introductions and Review of the Charge: Sharon Contreras, Superintendent of Schools
- II. Review of the Planning Proposal: Edward Shafer, CTE Technical Assistance Center of NY

September 13, 2012

- I. Education and Business Engagement, Hans Meeder, Meeder Consulting
- II. College and Career Ready, Carol Zygo, Field Team Associate, CTE Technical Assistance Center of NY
- III. Transition from Vocational Education to CTE and Relevant Research, Edward Shafer
- IV. CTE, the Common Core and the Power of Integrated Academics, Kathy Finnerty, Oswego BOCES
- V. National Career Cluster Standards and the National Common Career Technical Core, Edward Shafer
- VI. CNY Labor Market Information

September 27, 2012

- I. STEM Education in Urban Schools, Dr. Christopher Emdin, Columbia University
- II. Work-based Learning, Sue Gubing, Career Smarts
- III. NYS CTE Program Approval Model, Dawn Scagnelli, NYS Education Department
- IV. National and Formative Technical Assessments, Keith Babuszcak, Field Team Associate, CTE Technical Assistance Center of NY

October 10, 2012

- I. Introduction to Strategic Planning
- II. Review of District CTE Assets
- III. Great Expectations Strategic Plan Crosswalk
- IV. Draft CTE Mission Statement and Overarching Goal
- V. Review of CTE Program Elements
- VI. Seeking Answers to Key Questions

October 25, 2012

- I. Where Are We in the Process and How Do We Cross the Finish Line?
- II. Review and Discussion of Draft Plan Framework
- III. Review and Discussion of Mission Statement, Goal Setting, and Questions from October 11
- IV. Reflection, Discussion, and Additions/Deletions to the Framework
- V. Work Groups: What Are the Priority District Actions to Support the Framework Elements?
- VI. Work Group Reports

November 8, 2012

- I. Review of Framework and Changes Made
- II. Mission/Vision Review
- III. Standards Review
- IV. Pathways Review
- V. Partnership Council Review

- VI. Access Review
- VII. Discussion, Timelines, Resources, and Open Questions

November 27, 2012

- I. Review of Framework and Changes Made
 - a. Mission/Vision Review
 - b. Standards Review
 - c. Pathways Review
 - d. Partnership Council Review
 - e. Access Review
 - f. Infrastructure
- II. Review of Timelines and Responsibilities
- III. Priority CTE Clusters
- IV. Next Steps
 - a. Final draft and sign off
 - b. Report to superintendent
 - c. Development of Implementation Plan

**Appendix C
Plan to Review District Assets**

Documentation Area	Specific Information	Source	Collection	Miscellaneous
Key documentation and plans addressing CTE	Any new plans on principals' agendas Program descriptions or promotional material	Principals	On building visitation	Any material related to program development or communication with partners that was distributed to students and parents or provided to the district office. Other
CTE student performance information	Perkins data District info. Info. kept by building principals	Director Secondary Programs Building Principals	Principals: on building visitation	
Course offerings and locations	By building	Principals	On building visitation	
Curriculum documentation	By building	Principals	On building visitation	
Personnel with CTE certification	By building	Principals/District Personnel Office	On building visitation In advance	
STEM programming	By building District CTE/science and math leadership	Building Principals	On building visitation	
Assessment of career guidance	District plans, staff allocation and focus, programs or supports provided to students	Principals Middle School Principals District Pupil Personnel Services (PPS) Leadership	On building visitation	
Services for students with disabilities				
Professional development for CTE provided to CTE and other faculty/staff	Agendas District professional development plans	District PD Staff Principals	In advance On building visitation	

Status of approved programs including quality of the documentation	Copies of all approved program submissions Review of selected "binders" list of approval dates	SED Website Principals and/or Director Secondary Programs	On building Visitation	
Facilities/facilities plans for CTE	Building floor plans for existing or under construction	Principals or District Facilities Administration	On building visitation Tour of all CTE/secondary school facilities	
Equipment	Laboratory assessments	Principals	On building visitation	
Funding sources	Perkins application District budget for CTE if broken out (include: personnel, equipment, materials, professional development)	Director Secondary Programs District Finance Officer	In advance	
Relationships with business and industry, existing and potential	Formal agreements Informal agreements	Director Secondary Programs Principals	In advance On building visitation	
Articulations with postsecondary	Agreements	Director Secondary Programs or other Central Office	In advance On building visitation	
Others as may be identified by the CTE TAC and district and school building leadership				

Appendix D Focus Group Reports

Business and Industry Focus Group August 23, 2012

What is your definition of college and career ready?

- To be able and willing to learn and to be taught. To relate to others in team setting.
- To have the ability to influence others, and have good listening skills.
- Students have to know themselves. What skills do you actually have, what you are good at and what you like to do? They have to believe in those transferrable skills and use them to make a living. Students who actually believe they can succeed.
- Being self-driven. Students should be able to function on their own and have a good work ethic. Whether for college or career, your work ethic will get you through and help you be able to learn.
- To obtain the requisite 21st century skills, need to integrate into a career in a viable company and have appropriate skills — science, technology, engineering, math, the ability to think critically and be problem solver. There are jobs available, but there is a mismatch in skills. Good CTE — well-planned programs could play a pivotal role.
- Having basic life skills — being on time, dealing with colleagues, being able to follow through, following directions, not calling in sick, etc. (soft employability skills)
- There is a willingness on the part of businesses to hire students from SCSD if the curriculum is tailored to meet the business needs and students have life skills. Weed out the students who are not willing to work, dedicate themselves in school and once they are hired.
- If there isn't accountability that is direct, clear, and strong with students, the business community will not embrace it.
- Engineering companies, information commerce, Stickley, Inter Tech, Martin Marietta, (many local companies are looking for employees with specific skills).
- There are many different roles in business and industry — example, health care, everyone doesn't have to be a doctor.
- National Grid takes students through levels of employment from HS to college graduates.
- Students don't know that there are future college opportunities through employment. (Lack of understanding that there are pathways.)

- Able to handle the concepts (college aspects), career ready (speak, communicate professionally, and other soft skills). Take whatever you have learned and apply it to job functions. We see that these skills are not being taught in high school or college.
- Most businesses are willing to train — people need to be able to learn — have the ability and desire.
- Many companies do all the training — if they have 2- or 4-year degree, they are trainable — ability to learn.
- When I hire, I stopped hiring for skills — you don't know how much they actually did themselves by their resume. I hire for personality and soft skills, and can teach many of the skills.
- Confidence — I can take this job and learn what I need to learn. Understand that there are consequences if you cannot meet the needs of the business.
- It is powerful to know “I'm good at something” before starting high school courses. Assessment of skills, aptitudes, attitudes is very important before high school.
- From early on — helping students see the big picture, see what is beyond this year and high school.

What role should career and technical education play in the preparation of SCSD students for postsecondary employment and education?

- Important to engage students, develop interests, keep them interested. Provide hands-on activities, they shouldn't be talked at all day.
- Direct explanations — why are Regents (such as global studies, ELA) relevant to them personally or in a future career. May be a vehicle to get them to a skill, but it isn't explained to students in that way.
- School needs to be relevant — why am I here.
- Help students understand that school will help them get a job and support their family.
- Lack of exposure — for example, “We need engineers” – kids don't know what that means. Make career exploration mandatory.
- Things such as Career Days, bringing in people from business/industry, increase exposure.
- In college, many students change majors — became more aware of options.
- Students need better awareness of job market — will you have to move or stay — for example, marine biology, fashion design will need to move.

- Curriculum, if you can incorporate an element of leadership training. Group work, meet a goal, ultimately — how does the work positively impacts the community. Looking for engineers, architects, etc., but also looking for leaders. Students should understand that projects that people work on in their jobs are crucial to the fabric of the community.
- Trying to expand options — non-traditional roles.

Who should be involved in CTE — business community, parents, educators, etc.?

- There has to be a way to integrate CTE into everyday life of all students.
- BOCES — students are separated from their own school.
- Historically, it was either or — college or career prep.
- Raise the bar to get into these programs, so that you are *choosing* students to get into programs, *not dumping* students into the program. Change concept of CTE as an option.
- Career exploration (300 students) fair — students have inaccurate understanding of trades and the life it can lead to.
- Career exploration should be a focus for all students for college and career readiness — more in depth. Need to involve others (adults) with the students as mentors.
- CTE should be like a funnel where students are initially exposed to many different paths. If they express interest in something — identify students in areas who can work with someone in the community — down to a 1:1 shadow. Internships — help students understand how work works.
- Include public safety, EMS, and fire in the programs. Put them all in the same programs, learn from each other.
- Need to change their belief that they can't succeed. What they are experiencing in HS, home and community centers — it is very different than what is expected in the workplace. Focus on soft skills, that can be painted with a broad brush — this is what I do, how I work, and what I make. Workplaces look for people of integrity.
- Before starting skills training, career exploration and soft skills must be stressed.

What has been the involvement of your business with the SCSD?

- Career Zone (user friendly tool for students) throughout some areas of SCSD and career fairs. Give outlook (growing occupations) to some classes. Portfolio to use throughout high school.
- Career fairs

- Apprentice program would be ideal for someone 18-19 coming in at entry level and learning. Employment opportunities are good. Don't have interest or feeder programs currently from high schools. No construction programs in general in the district.
- Set up programs for engineering/architecture/public safety — top level academy title with all pathways as a part of the program: engineering/architecture, construction trades.
- Start early with a broad array of considerations, narrow from broad to specific outcome — which would be focused at secondary program.
- Provide hands on experiences in the community — make it real.
- Hands-on, project-based learning.
- Have volunteers teach basic financial literacy. There are a lot of people in the community that would like to help, but don't know how. Junior Achievement can help facilitate.
- Engineering mentoring program — SU students go into schools and teach engineering camp after school. Have expectations to be in program (15-25 students per site) SU students volunteer with faculty coordinator.
- Corporate C-Camp — bus students to work site from 2:00 – 3:00 after school and get help with algebra. Modeled after program in Massachusetts. Students see the workplace; meet the people who work (20 per year, in its second year.) Recruited Lockheed to take on another camp. Continue to add companies and schools each year.
- Support organizations like Junior Achievement, Boys and Girls Club, Say Yes
- Would like to narrow some of the focus into STEM.
- King & King — tours, job shadows, 10-week series at Fowler World of Construction and Design — after school.
- Elementary schools have DARE, junior highs' GREAT program — police officers teach curriculum and their supervisor runs recruitment office.
- High school — School Info Resource Officers — also look at recruitment.
- Police Explorer program for high school students interested in becoming police officers.
- Put something in place that all students have to participate in — would remove some of the stigma as the district looks at reconfiguring the programs.
- Help people find their passion — know what it is they enjoy, that they can make a good living, and make an impact.

- Students need to hear people’s life stories to understand that there is not one cookie cutter route to finding your passion.
- Have to find companies that would like to help you out. More people you can partner with; however, the district needs someone to oversee the initiatives.
- Deal with nuts and bolts issues, transportation — how do you get them where they need to be.
- Is there coherence with all of the good initiatives going on throughout the community with students? Currently, it is a shotgun approach. Need clearinghouse.

**Postsecondary Focus Group
August 23, 2012**

What is your definition of college and career ready?

- Career-prepared/certified to enter a desired field of work that has an adequate living wage and pathways, including links to postsecondary education, in-house training, etc. Smoothly transition without beginning from ground zero.
- Can hit the ground running — don’t need general training (induction) that companies can no longer afford.
- When you go into the city schools and talk to students, career ready means “making money” to them. The ideas that the schools and most adults hold have not trickled down to the students. Many times schools districts concentrate on the college, not career ready.
- Key skills missing — self-accountability and soft skills to function in business or college setting. Not tied to any specific disciplines.
- College ready — maturity level for independent living, respect for others’ individuality, and acceptance of diversity. Ability to meet timelines; make wise choices; have oral, written, and quantitative skill; moral and ethical accountability.
- Career ready — knowledge of a discipline (content), credentials that say you are qualified to be in a position, regard for policies and procedures, integrative thinking skills, honesty, integrity, and confidentiality.
- Cuts across both — having a plan of action, “What am I going to look like 5, 10 years from now.” Having a personal-life plan.
- Part of the reason they don’t have plans is they don’t have exposure.
- Awareness of organizational structures that they connect with talents and interests.
- Have been exposed to careers that allow them to learn the tools they need (knowledge, skills, and training) with programs that gives them the skills to access.

- Ability to analyze what they are exposed to.
- Many students don't have the social capital to navigate the world of work or the college landscape.
- Multiple pathways — students listen to things adults say — need to see the reason to continue to grow as a person.
- Professional orientation — understanding communications in a professional environment (not interrupting), flexibility, on-site experiences. Elements of having some career savvy, making decisions for one's future, while weighing it against the economic options of getting to the goal.
- Aspirations for one's family — balancing and researching decisions. Individuals going into options that are good for them.
- Talk about function and responsibility. The kinds of things students would like to engage in and then match the pathways to make that possible. Example: If you are interested in medicine — you don't have to become a doctor, there are many options.

What role should career and technical education play in the preparation of SCSD students for postsecondary employment and education?

- Should be a model that can be implemented to approve the outcomes of all students. Should be a part of all students' pathways.
- Particularly for juniors and seniors — they should have an internship experience for all interests. Even if they are interested in English — work at a library or newspaper. Focus on something they are interested in — then focus on different areas of work in the field of interest. They should see that the area that they love has a variety of areas of work that a student could pursue.
- CTE teachers are resources for other content teachers. Example: STEM — could be a think tank for other areas in the school. Give their colleagues ways to bring their content alive. Real, authentic assessments of ability.
- There are disparities between the world of K-12 and the world of CTE. In the world of CTE, the teachers are not prepared in being teachers of ELA, literacy. To them it is academic jargon. Kids can come out golden with their hands, but can't independently meet the standards. They need the literacy skills.
- Role of CTE needs to merge the field of academics. (If students are going to be able to grow and continue to reinvent themselves — the same is true for CTE teachers.)
- Certification requirements for CTE are a problem — you need highly qualified CTE teachers with a master's degree like all other teachers so that they gain these experiences and skills. Also, speaks to the perception of the programs.

- Perception — guidance does not always put students into CTE programs even though the students want to participate. Who gets placed in the CTE programs is not always who will be successful.
- Need to look at building skills and interests in elementary and middle schools as well, so that they don't disengage. Situation exacerbated in middle school — need to bring the programs to middle school students to provide a pathway for them to follow.
- At some comprehensive high schools, the CTE projects serve across disciplines with collaboration and serve as evaluative tool. Assessed in each specific area — CTE not a separate silo.
- The integration process requires high involvement with all CTE and academic teachers.
- How long are we going to let the current structure stand in the way of achieving success?

What has been the involvement of your institution with the Syracuse City School District?

Bryant & Stratton:

- Workshops in college, resume writing, money management
- Work with guidance counselors
- Workshops in ELA/global studies
- Bus trips to bring students to college, bring in diverse schools/students
- Career day for every program
- Early High School College program, into classes for their programs that are accredited and free. Signed contract with SCSD — went from 18 students to 6. Passing rate goes up when they are on campus.
- Evening classes successful. Non-traditional students like the high school students. Outcomes of program are positive, but not getting students into the programs at the high school level. They counsel students to help them understand the course is a college credit. Reading comprehension test is difficult for some of the students recommended. Contract signed through 2013.

OCC:

- Early college, Liberty Partnership. College level classes at high school are free.
- There are so many initiatives and options that guidance and students may be overwhelmed.
- Program at Nottingham started with a much larger number than actually participated. Colleges could be better at coordinating efforts. Have found that we have to offer most of the programs during the day during the school year. Summers have not worked well. High school principals (coordination defaults to them) have many initiatives to deal with. Bring smaller group interested in specific field (electronic media) and have them learn about the program.

Oswego:

- College visits are sometimes focused on the students who are decided, have a direct pathway in mind. Need to focus on students who don't know what they want to do.

- Lose the students at middle school, do some of the same campus activities with younger students.
- Many colleges rely on guidance for the information about student needs.
- Data is available on Syracuse students, completion rates, etc. What is the comparison for students from SCSD compared to other schools for completion? Example: Liberty Partnership — not one has completed.
- Possibilities of scholarship program, admits students from SCSD interested in the STEM disciplines — needs-based, 4-year full ride. Includes study abroad experience.
- Project BLEND: Building leadership excellence for needs-based districts. Connections with SCSD, recruited leadership candidates to study CAS (Certificate of Advanced Study). Support for internship as well.
- ORITE: Oswego residency initiative for teacher excellence. Placing masters level teachers in schools, mentor teachers receiving professional development.
- Mostly grant opportunities.

LeMoyne:

- Teacher leader program, then into CAS.

Syracuse University:

- 1000 points of light, many different projects. Partnership for better education, OCC, ESF, Oswego, Upstate Med. Get hands around the things that each of the organizations is doing to be better coordinated.
- Early college high school programs. Students allowed to take courses at SU, and also on Nottingham campus.
- Counseling program at school of education, students doing their field work with the SCSD.
- One-week science program — all hands on science. (Girls get it, a couple of years ago — science and technology, lived on campus).
- SU also experiencing declining enrollment in these many opportunities. Not sure that there are not students to take advantage of the opportunities, coordination/communication.
- Meet as a collective group of schools to try to prevent fatigue for Syracuse City schools.

SUNY Cortland:

- CURE(Cortland Urban recruiters of educators) training for mentors
- AVID: Sending pre-service teachers in district
- NOYCE: Available for science and math
- Say Yes campus visit

ESF:

- ESF in HS — dual enrollment — has been offered in all high schools, two smart scholars with ITC and Nottingham — taking college courses as well in math and landscape architecture.
- ESF SCIENCE: 100-200 students
- ESF Science challenge — 500-600 middle school students, research projects, 100 volunteer judges. Use Carrier Dome because of capacity.
- Professional development for teachers — faculty provides content education for SCSD elementary teacher.
- HOST ITC graduation

What are the key challenges faced by SCSD graduates upon arrival at your institution?

- Being at the appropriate skills levels to read, write, and compute.
- Only a small handful come to ESF — very focused on specific kinds of programs.
- Feel that the challenges are similar to those faced by students from other districts (lack of that specific analysis).
- Level of support available for the admissions process is important for students to be successful.
- Possibility of undergraduate students to help with the application process for colleges. The ratio of students to guidance is about 250:1. In addition, financial aid for students and families very complicated.
- Dissonance between expectations of ELA and math at the high school level and things that students are asked on placement exams.”
- Summer success academy — if students placed into remediation through the placement tests, they could possibly start at college level in fall.

What can or does the SCSD do to ease that transition?

- Gap — inability to do the work on time — not necessarily the ability to do the work, but to do it on a schedule. Phase out the concept of handing work in whenever it gets done.

Appendix E

Career Ready Practices

The Common Career Technical Core (CCTC) is a state-led initiative to establish a set of rigorous, high-quality standards for CTE that states can adopt voluntarily. The initiative is being coordinated by the National Association of State Directors of Career Technical Education Consortium (NASDCTEc), which represents the state and territory heads of secondary, postsecondary, and adult CTE across the nation.

Forty-two states, the District of Columbia and Palau supported the development stage of the CCTC.

The CCTC includes a set of standards for each of the 16 Career Clusters™ and their corresponding Career Pathways that define what students should know and be able to do after completing instruction in a program of study. The CCTC also includes an overarching set of Career Ready Practices that apply to all programs of study. The Career Ready Practices include 12 statements that address the knowledge, skills, and dispositions that are important to becoming career ready.

The Career Ready Practices component of the CCTC provides a framework for the developmental experiences necessary to becoming career ready; experiences that can be “practiced” using many different approaches in a variety of settings. A student refines these practices throughout their full continuum of learning: through their journey in school, college, the workforce, and when they return to advance their education.

Each Career Ready Practice includes an overarching statement along with a more detailed description. Below are the 12 overarching statements:

- Act as a responsible and contributing citizen and employee.
- Apply appropriate academic and technical skills.
- Attend to personal health and financial well-being.
- Communicate clearly and effectively and with reason.
- Consider the environmental, social, and economic impacts of decisions.
- Demonstrate creativity and innovation.
- Employ valid and reliable research strategies.
- Utilize critical thinking to make sense of problems and persevere in solving them.
- Model integrity, ethical leadership, and effective management.
- Plan education and career paths aligned to personal goals.
- Use technology to enhance productivity.
- Work productively in teams while using cultural global competence.

The Career Ready Practices are intended to establish goals for CTE programs, yet the practices are relevant for all students.⁵

⁵ National Association of State Directors of Career Technical Education Consortium

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