



Connecticut Technical High School System

Assuring Connecticut's Success: A Summary of Current Practices, Conditions and Forecasts in Technical Education at CTHSS – Updated for November 2011

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Introduction

The narrative body of this report has been updated to reflect recent changes (SY 2010-11 and two months of SY 2011-12) in both secondary and adult education programs and ongoing efforts to address budgetary issues. This year, many legislative and governor appointed task forces and ad hoc committees are studying educational matters that will ultimately impact the Connecticut Technical High School System.

These groups are studying issues such as Secondary School Reform, Graduation Requirements, the Educational Cost Sharing (ECS) grant formula and the possible transfer of the technical high schools to Regional Education Services Centers (RESC) or town/regional management.

The CTHSS Task Force appointed by the Governor is studying the school district from the following charge:

The study shall:

- 1. conduct a cost-benefit analysis of (A) maintaining and strengthening the existing regional vocational-technical school system operated by the State Board of Education, (B) developing stronger articulation agreements between the regional vocational-technical school system and the regional community-technical colleges, (C) transferring the regional vocational-technical school system to local and regional boards of education, regional educational service centers or the regional community-technical colleges, and (D) maintaining or transferring adult programs offered at the regional vocational-technical schools;*
- 2. consider the effects of maintaining the existing regional vocational-technical school system or transferring the regional vocational-technical school system to local and regional boards of education, regional educational service centers or the regional community-technical colleges on facilities, equipment and personnel management of the regional vocational-technical school system; and,*

3. *compare and analyze the findings of subdivisions (1) and (2) of this subsection.*

Deliverables for the CTHSS Task Force as well as these other groups have demanded the production of numerous documents regarding the CTHSS budget/positions, enrollment, district policies and procedures and adult programming initiatives. The CTHSS Budget Materials Presentation, CTHSS Adult Education Program Presentation and the CTHSS College Career Pathways document (depicting the CTHSS articulation agreements with post-secondary and higher education institutions) are attached to this report.

Further, the CTHSS has been working within the confines of its current staffing and data collection systems to turn attention toward trend data. Attached to this report is our first draft of the legislatively mandated Results-Based Accountability (RBA) Report Card. It is my hope that these documents will augment the report and give the representatives of the joint committees documents which are aligned with the work of the district and the many study groups currently seated.

The Connecticut Technical High School System (CTHSS) remains committed to its century-old tradition of educating students with the highest expectations for their success. Trade technology and academic curricula are on a continuous evaluation and revision cycle to meet current and forecasted labor market and economic outlooks. Preparing students to graduate from high school both career and college-ready, and able to contribute to their communities, the CTHSS strives to meet the needs of Connecticut's 21st century workforce while furnishing the State with well informed, skilled productive citizens.

The CTHSS includes 17 fully accredited diploma-granting high schools, regionally based in the following locations: Danbury, Bridgeport, Manchester, Danielson, New Britain, Groton, Waterbury, Norwich, Ansonia, Milford, Hartford, Middletown, Hamden, Meriden, Willimantic, Torrington, and Stamford, CT. All schools offer programs for students, grades 9 - 12, as well as programs for re-careering adults. The Stamford school, J. M. Wright Technical High School temporarily suspended its operations in 2009 and is projected to reopen in 2014 as a completely renovated school with a revised program of study.

The CTHSS also operates Bristol Technical Education Center, a non-diploma granting institution for students from regional comprehensive high schools and re-careering adults seeking trade technology skills and credentials. Further, the CTHSS operates two Aviation Maintenance Technician training facilities for adults. They are CT Aero Tech in Hartford and Stratford School for Aviation Maintenance Technicians.

Currently 10,765 students (grades 9 – 12) as well as 433 adult day and evening trade technology students (including Licensed Practical Nursing adult students) are benefitting from the career and post-secondary education options afforded them by technical education

programs offered by the CTHSS. The exceptional results here are due in no small measure to the dedicated academic and trade technology instructors, student support and administrative professionals who work to update the curriculum and instructional delivery, as well as their own trade technology expertise, and ensure our students' competitive edge in meeting Connecticut's labor and economic needs.

Students have the opportunity to complete their high school career, mastering relevant and updated trade technology skills, while simultaneously meeting requirements for post-secondary education and college entry. Their trade technology skills are of high quality, and with earned business and industry credentials, they are able to sit for licensure examinations, serve qualifying apprenticeships at advanced levels, and access Connecticut's job market. CTHSS students graduate each year into the best of both worlds; doors opened to good jobs and post-secondary education/college entry.

Current Programs: Secondary

All CTHSS programs for grades 9 - 12 require students to meet the same comprehensive academic competencies demanded of all Connecticut students, in order to earn a high school diploma. And all CTHSS students must simultaneously complete a rigorous trade technology course of study in order to earn trade technology endorsements upon graduation. The technical programs under each career cluster have a post-exploratory three – and – a - half year program of study that incorporates all academic and technical coursework, resulting in the mastery of both theoretical content knowledge and technical performance skills. The trade technologies offered are grouped in seven career clusters as follows:

- Tourism, Hospitality and Guest Services Management
- Construction
- Manufacturing
- Transportation
- Computer Technologies
- Health Technology
- Arts, Audio/Video Technology and Communications

Tourism, Hospitality and Guest Services Management - Graduates of these programs are employed in the management, marketing and operation of restaurants, bakeries or lodging and travel-related services, personal services (hairdressing/barbering), and fashion design.

- Baking
- Culinary Arts
- Fashion Merchandising and Entrepreneurship
- Hairdressing/Barbering
- Retail Management and Entrepreneurship
- Tourism, Hospitality and Guest Service Management

Construction Cluster - Graduates are employed in residential, commercial and industrial construction areas.

- Architectural Technologies
- Carpentry
- Electrical
- Heating, Ventilation and Air Conditioning (HVAC)
- Masonry
- Plumbing and Heating
- Plumbing, Heating and Cooling

Manufacturing Cluster - Students in these interrelated technologies are employed in manufacturing and assembling goods, drafting and design, machining and welding/fabrication. They also pursue advanced training for production control, product and tooling design and manufacturing engineering.

- Automated Manufacturing Technology
- Computer-Aided Drafting and Design (CADD)
- Electromechanical Technology
- General Drafting and Design
- Manufacturing Technology
- Welding and Metal Fabrication

Transportation Cluster - Graduates apply technical knowledge and skills in diagnostics, repair and maintenance of automotive and heavy-duty engines and equipment as automotive mechanics, diesel engine repair technicians, and in collision repair and refinishing.

- Automotive Collision and Repair Technology
- Automotive Technology
- Diesel and Heavy Equipment Repair

Computer Technology Cluster - Graduates are employed in designing, developing, managing and supporting hardware, software, multimedia and systems integration services within high-technology industries.

- Electronics Technology
- Graphics Technology
- Information Systems Technology (IST)
- Pre-Electrical Engineering and Applied Electronics

Health Technology Cluster - Graduates are employed in health-related and early care and education occupations, as well as those in bioscience and environmental technology research. Graduates may complete competency credentials or certifications within their specialty.

- Bioscience and Environmental Technology
- Early Care and Education
- Health Technology

The Arts, Audio/Video Technology and Communications Cluster - Graduates are employed in planning, organizing, evaluating, creating and performing in the Arts, Media, Music and Theatre Production Technologies.

- Media Production
- Music and Technical Theatre Production Technology

Current Programs: Adult

CTHSS also provides career and life changing training for adult students. These programs are offered at selected school sites and may be offered as day or evening, full-time or part-time programs.

- **Licensed Practical Nursing (LPN)**
- **Dental Assisting**
- **Certified Nursing Aide (CNA)**
- **Medical Assisting**
- **Surgical Technology**
- **Aviation/Aircraft Maintenance Technician**
- **Adult Apprenticeship and Extension Courses**

LPN Program – Graduates meet CT State Nursing Board of Examiners standards as well as prerequisites for Registered Nursing (RN) programs at the Connecticut Community Colleges (CCC). Graduates are eligible to sit for the CT State Board Licensure Examination. They are eligible for college credit by applying to Charter Oak State College.

Coursework in Practical Nursing, Med-Surg Nursing across the Life Span, Developmental Psychology across the Life Span, Fundamentals of Nursing, Pharmacology, Wellness and Health, Human Biology, Maternal to Newborn Nursing and Psychology is accompanied by clinical experiences in the care of adult patients and in the care of selected patients in any age group whose conditions are less than critical. Graduates meet Connecticut’s documented high demand for Licensed Practical Nurses and earn competitive wages with strong retirement and benefits packages immediately after graduation. The average LPN in CT earns \$52,283.00 with full benefits.

Dental Assisting - Graduates are employed in dental offices and clinics performing the full range of chair side procedures, patient care and office duties. Graduates earn Infection Control (ICE) and Radiation Health & Safety (RHS) certifications prior to the start of 350 hours of clinical rotations. The program’s accreditation by the American Dental Association (ADA) provides students with eligibility to take the Dental Assisting National Board General Chairside

Examination upon graduation. Successful completion of this exam along with the ICE and RHS certifications earns students the title of Certified Dental Assistant (CDA).

Certified Nurse Assistant – Graduates are employed in many areas of Long-term care (Geriatrics), Hospital and Home care, Clinics, Medical Offices. CNA graduates often further their education in health and allied health-related fields. Graduates are eligible to take the written and skills examinations for entry onto the CT Nurse Aide Registry.

Medical Assisting - An externship experience is guaranteed and all students are placed in physician's offices, walk-in centers, hospitals or clinics for six weeks and are prepared for employment in those venues.

Surgical Technology - All students are placed in a six month clinical externship in area hospitals. Graduates are in high demand in:

- Hospitals: operating rooms, cardiac catheter laboratories, birthing centers, central sterile supply depts., emergency rooms, endoscopy suites
- Ambulatory Care Centers
- MD Offices
- Harvest Teams
- Med-Surg Product Development
- Research
- Laser Technology

Aviation/Aircraft Maintenance Technology - This twenty-month (2400 hours) aviation maintenance technician program enables students to develop operative skills that meet the requirements of the Federal Aviation Administration (FAA). Students venture into the actual world of aviation, the theoretical content and practical experiences in metal work, woodworking, welding, hydraulics, electrical, electronics, painting and engine (turbine and reciprocating) overhaul. Students will become proficient in approximately 50 skilled trade areas and be able to interpret FAA regulations and manufacturer's technical specifications. Graduates enter jobs as technicians at airports and aircraft and power plant companies.

Apprenticeship and Extension Courses - CTHSS offers a wide range of skilled trade licensure and advanced training in the following trade areas:

- Electrical
- Heating and Cooling
- Sheet Metal
- Plumbing

Additionally, courses for multi-trades include Basic Math Computations, Blueprint reading and Building Trade Safety. Further, courses offered may include: Manufacturing, Machine Theory,

Welding, Computer Numerical Controls (CNC), MasterCam, Phlebotomy, EKG Technology, and Central Sterile Supply.

Collaboration

The CTHSS prides itself on its ability to adapt, enhance and retool existing trade technologies, as well as create new trade technologies in response to emerging labor and economic realities. The CTHSS partners with Higher Education, Dept. of Labor and the Office of Workforce Competitiveness to identify job market trends, short and long-term occupational and economic outlooks, and college/university pathways. The CTHSS actively cultivates articulated agreements with community colleges and universities. Working collaboratively on numerous joint committees and shared grant projects, the CTHSS provides insight, data and a unique perspective on educational and technical issues, as well training, to its partners, and benefits reciprocally from Higher Education, DOL and OWC's research, projections and programming.

We provide ongoing professional development for all staff, monitor and provide training necessary for professional staff to maintain licenses and certifications. Assessment of trade and academic facilities, supplies, equipment and other resources is ongoing and disciplined in order to maintain appropriate teaching environments. Annual and biennium budgets reflect the educational demands of all school programs. Accountability obligations for the management of state and federal funds are monitored closely and the CTHSS vigorously engages in the pursuit of competitive grant funding to supplement the CTHSS budget shortfalls.

Finally, the superintendent's report to the State Board of Education is a standing item. On a monthly basis, the superintendent brings updated fiscal/grant, asset management and student achievement information, as well as recommendations, to the Board. To the extent that Section 3 of Public Act 10-76, known as the Vo-Tech Bill, requires this report, it is a pleasure to operationalize the aforementioned matters for the Joint Committee's attention.

Ramping Up Curriculum, Assessment and Trade Credentialing

"For all the rhetoric in education about 'preparing students for the 21st century,' today's schools are excruciatingly slow to leave the 20th." ("Multiple Pathways: Bringing School to Life," Education Week, July 20, 2009)

In contrast, CTHSS has placed curriculum and the pace of instructional delivery on a cycle of continuous revision and updating. Assessments, both formative and summative, are conscientiously examined for alignment with state standards, as well as business, industry and health standards for licensure, certification and professional credentialing. Our technical programs must be kept current, and the integration of our students' academic skills with trade technology requirements must be just as current. The CTHSS has a century-old tradition of prioritizing this critical work from the ground up.

Toward that end, each trade technology in each school maintains a vitally active Trade Technology Advisory Committee (TTAC), made up of representatives of the working trades. As tradespersons themselves, these men and women are the business owners, product suppliers, contract sales, designers, inventors of new industry standards. More importantly, they are the current employers. In many cases, TTAC members are also graduates of technical high schools and volunteer their time, service and donations to support the school with which they are affiliated. Collectively, they serve as an important review team, making recommendations regarding technology shop practices, resources and procurement. They provide a fresh perspective on maintaining the delicate balance between safety and efficiency, facilities upgrades, equipment replacement or repair decisions and insuring sufficient supplies for performance and production experiences.

TTAC members are actively recruited to become reviewers and editors of our trade technology curricula & textbooks. Trade instructors and department heads discuss critical assessments with them to determine if the assessments are aligned to the curriculum, i.e. District Wide Trimester Assessments, the National Occupational Career Test Instrument, and other written and performance assessments used throughout grades 9 – 12. The purpose of these reviews are to ensure alignment with the trades as they exist today. This is critical work toward ensuring that CTHSS is training its students to meet the real needs of CT employers, so that they can legitimately enter the workforce, job-ready.

Working with TTAC's is vital and designed to include monthly meetings with members, visits to the shops, inspections of supplies and equipment. Further, it provides opportunities for mentorship and for students to communicate with their future employers. Twice a year, all TTAC's are brought together to consult on trade changes, new and emerging trends, and future projections for growth and jobs. Minutes of these meetings are preserved and sent to Central Office as well so that trade technology consultants, managers and the superintendent will be updated on the needs and outlook of each trade. This process is also foundational to collecting and providing data to the State Board of Education during the Trade Reauthorization process.

TTACs are dedicated one to the next, and members are as generous with their connections, supplies, equipment and dollars as they are with their time. Often, the day after TTAC meetings, the plumbing shop will find a load of copper pipe on their loading dock, the carpentry shop will find more board lengths than they can find space to store, the electro-mechanical shop will be burgeoning with small appliances and other items for students to diagnose and repair or the manufacturing shop will be asked to accept lathes and grinding equipment that is more updated than that which they have on the shop floor. In these difficult times, their donations have made production experiences for our students a reality.

The point to be taken here is that all of the input of the TTAC members becomes a factor in our curriculum design and delivery, in our ability to place students in Work-based Learning Experiences, provide them with opportunities to observe, inspect and job shadow, and most important, present them with job prospects.

To be certain, keeping curriculum current, having an updated blueprint for teaching and learning in all trade and academic areas to discuss with the TTAC members and others, requires a high level of vigilance on the part of our trade consultants and our instructors. They must maintain strong ties to the trades they represent, as well as to the world of research and higher education to assure curriculum updates are making it into revisions in real time. A recent presentation to the State Board of Education on November 3, 2010 on the state of Green Technology incorporation within the Construction Cluster programs, Architectural Drafting, Carpentry, Electrical, HVAC, and Plumbing & Heating curriculums, entitled: "Growing up Green in Connecticut," showed clearly the collaboration efforts of our instructors, department heads and trade consultants with other organizations. In this case, work with representatives from the CT Community Colleges, CT Clean Energy Fund (CCEF), CT Energy Efficiency Fund (CEEF), United Illuminating (UI), Northeast Utilities (NU), The Institute for Sustainable and Renewable Energy, Eastern CT State University, The Navigant Report's Consulting Study on the Impact of the U.S. Electric Industry's Regulatory and Market Changes on Renewable Energy, and the Building Performance Institute (BPI), nationally recognized organization for setting standards in Home Performance and Weatherization was involved. Central to the success of this work are the efforts of the CTHSS to respond to the superintendent's call to contribute to the many task forces and committees charged with the responsibility of assuring CT's lead in new technologies. In 2010, the superintendent, as well as trade consultants, joined Speaker of the House, Chris Donovan's Task Force on Green Technology, among others.

Collaboration to the degree mentioned above, has resulted in curriculum updating and the incorporation of the "E-House" in our students' education. These buildings are in various stages of construction on 9 of our campuses (Goodwin completed and opened in September). Our students are having the experience of constructing, installing services, and working and operating the energy systems of the E-Houses which display construction, weatherization and energy efficiency over the past 100 years. **All of this work is being done with partners, without state dollars and with the cooperation (and in many cases personal dollars) of our trade technology professionals.** The CT Clean Energy Fund, and the CT Energy Investment Authority have pledged to fully fund the construction of all of the E-Houses along with contributions from local and statewide businesses and industries. Further, they have approached the CTHSS with an eye toward constructing such green technology sites on the campuses of other school district locations so that all CT students will have the opportunity to learn and work the world of green construction and renewable and sustainable energy efficiencies.

What does this have to do with incorporating and revising curriculum and technical education? Simply put, we continue to move our students toward credentialing. Within the structure of our assessments, the opportunity presents itself to incorporate the various trade standards of expertise that exist in the trade world of work. Students working with "Green" industry standards will be experienced in Solar Photovoltaic and Solar Thermal systems. They will be educated to work with new products and designs, to reduce energy costs by improving energy efficiency, and ensure the health and safety of themselves and others while using renewable energy sources. Those students will earn other kinds of credentials, such as graduating with OSHA 10 Safety certification.

Getting out in front of change is imperative in technical education and the aforementioned green project is an example of the CTHSS obligation to be leaders. Despite labor market projections for a slowdown in the construction cluster due to the economic impact on new and renovation construction, CTHSS has trained its students to be ready for emerging “green” technology jobs: Crew/Chiefs, Supervisors & Installers of green efficiency systems, Energy Auditors, Intake/Eligibility Specialists, Client Education Specialists, Local Agency Coordinators, On-site Technical Monitors, Energy Program Administration Monitors, Energy Efficiency Trainers, and many more new job categories. Surveys have shown that the emerging green sector jobs will be found in the very trades that the CTHSS offers.

And the Construction Cluster is not alone. Many of our trades are incorporating model business and industry standards, certifications, levels of expertise endorsements that are standard in the working trades. Examples include: Culinary students now must earn the National Restaurant Association’s ServSafe Certification before graduating. They will be earning the American Culinary Federation (ACF) professional accreditation as Certified Junior Culinarians. Manufacturing students are now graduating with the first 4 National Institute of Metalworking Skills credentials. Automotive students are becoming ASE and National Automotive Tech Ed Foundation (NATEF) certified. Students are earning job and income enhancing credentials in new production methods and becoming continuous improvement certified within their trades. And we have only just begun!

Transitioning our graduating students into the labor market or to meet college entry requirements demands the aforementioned work. Preparing students to meet the current and future demands of their trade technology, means that CTHSS is obligated to be part of the firsthand research and forecasting of all workforce projections.

Labor Market Indicators and the SBE Trade Reauthorization Process

Trade Reauthorization is another important process that impresses the need for CTHSS to be in front of the current and future viability of the trades. In accordance with CGS Section 10-95i(b), the State Board of Education must evaluate each trade program in the CTHSS and consider reauthorization of each trade for a period of not more than 5 years. A trade program may be reauthorized following each evaluation on the basis of projected employment demand for enrolled students; consideration of the employment of graduates during the preceding five years; anticipated technological changes and 21st century trends that may impact skill employment and advancements in content knowledge training; the availability of qualified instructors; the existence of similar programs at other institutions, as well as student recruitment/interest in the trades.

As part of the evaluation, the State Board of Education must consider geographic differences that may make a trade program feasible at one school and not at another, and whether certain combinations of program offerings might be required. Prior to making any decision to reauthorize, the state board must consult with the committee’s (TTAC) evaluations for any trade being evaluated, as was mentioned in the section above. This is done through CTHSS staff

research, awareness of and archiving of TTAC recommendations among other sources of information including Dept. of Labor and Office of Workforce Competitiveness research.

The Dept. of Labor conducts comprehensive research and publishes labor market projections and economic outlooks every two years, projecting out for the next ten years (i.e. CT Dept. of Labor occupational projections 2008-2018). CTHSS management and trade technology consultants work with and consult the DOL reports regularly and incorporate projections in the preparation of trade reauthorization documents and in retooling curriculum. Current study and projected employment demands in job categories associated with the trades are collected, reviewed and disseminated.

As a case in point, the most recent DOL study (2008 – 2018) indicates that in 2008, 34,123 jobs in Health Technology fields existed and there was a projected growth of 4,241 jobs in 2018. DOL estimates Health Technology related jobs to present approx. 1,218 new jobs per year. The CTHSS works to further that information by collecting its own graduate data approximately 4 months after graduation. Five (5) years-worth of such data is used along with other TTAC trade indicators and recommendations, to make decisions for changing the curriculum, purchasing equipment, supplies, and managing shop enrollment and staffing levels, going forward.

As an example: our graduate employment data for the Health Technology trade indicates the number of graduates for the last 5 years and their immediate post-graduation placements. The data shows that a significant number have gone to post-secondary education, while a smaller number became immediately employed in their field. For planning educational delivery that is current, these statistics along with the DOL projections for 10 years indicates that our curriculum must be reviewed and/or revised toward greater pathways to college or post-secondary education. We can document the demands for advanced skills in the trade/field. However, we cannot assume that the students accessing post-secondary education are not also working simultaneously in their field, as programs exist in regionally based community colleges. Currently, the manner in which graduate data is collected for the ED 540 report to the State of CT, which is required of all public high schools, is limiting and does not survey so that the data can be used to distinguish between pursuit of education exclusively or pursuit of education while employed. (See Draft of CTHSS RBA Report Card)

Further data and evidence in the trade reauthorization process which is derived from other research sources and documented by the CTHSS, provides direction and planning toward the educational decision making process. For example: we know that there is a major change in the technology used in the pharmaceutical and biotechnology-related industries. Computer software connecting hospitals to physicians is a nationwide installation goal. Advancement in epidemiology and toxicology has resulted in more efficient instrumentation, including rehabilitative devices. The internet is allowing for patient monitoring from central locations. We know that 21st century changes in Medicare reimbursement regulations have resulted in significantly less and shorter hospital stays. Patients are discharged in greater numbers to nursing homes, home care agencies, rehab centers and outpatient clinics. Skills taught in the

core curriculum and content knowledge must reflect these new demands, putting more focus on intervention/preventative services, holistic care in other than hospital settings.

Given the time-sensitive information above, the CTHSS has an obligation to maintain a just-in-time approach to educational delivery so that students are prepared for the trade's current vernacular and for the changes that are coming more rapidly than ever before. We agree with the Dept. of Labor and Office of Workforce Competitiveness in that projections should look ahead 5 – 10 years at most. Technology changes rapidly, the fluidity of economics responds to those changes and projecting 30 years out is not valuable. The CTHSS must be an agent of rapid response, and prepare our students for lifelong learning and professional flexibility demands.

Tracking CTHSS Students After Graduation

As referenced above, the CTHSS collects data annually, as required by the CT Dept. of Education for the ED540 Graduate Follow-Up Report. The collection occurs in the fall of each new school year (4 months after the graduation of the class preceding the current school year). The composite report is comprised of 5 sections, each dealing with a different aspect of a student's technical high school career, includes data on graduation requirements by content area, student enrollment by content area, disaggregated by ethnicity and gender, data on the number of college level courses taken and the number of students in each of the courses, and finally, post-graduation activities of each graduate.

While a good start, the post-graduation activities collection more accurately represents our graduates' intentions after leaving their technical school. A sample of the coding used to collect this data is as follows: enrolled at an in-state 2-year college, enrolled in the military, entered the workforce, enrolled in a 4-year out-of-state college. Any information from that capture date going forward is not gathered for technical school or any other public high school graduates. Reasons for that are implicit in the recommendations following that will be necessary to begin that work at the CTHSS.

- A database must be created to track graduates activities and progress to reflect first year, 5 year and possibly 10 year activities.
- High school-aged students, especially students with marketable skills as well as college entry preparation, often change residences swiftly after graduation and frequently as they assume adult roles in their future. Tracking systems would involve a multifaceted approach to gather such information, and involve many staff at central office and in each school to make/take calls, enter information gathered on the spot to a database, create newsletters, flyers, 5 and 10 year reunion questionnaires, and motivate small alumni groups to solicit graduate reporting.

The commitment of funding, staffing and other resources in pursuit of longitudinal post-graduate study cannot be more highly recommended. However, as most colleges and

universities with major Alumni, Development and Advancement offices report, producing high percentages of accurate data is costly and difficult. Mitigating factors that interfere with this kind of data collection involve more than address and career path changes. Financial stability, job readiness, local and national economic factors impacting family units, other human factors such as family support, health and death are among those noted.

The CTHSS would like to begin this work and has undertaken a fiscal, staffing and technology needs assessment toward accomplishing this goal.

Resources and Funding

C.G.S. 10-220 mandates that school districts “provide an appropriate learning environment for its students which include (1) adequate instructional books, supplies, materials, equipment, staffing, facilities and technology, (2) equitable allocation of resources among its schools, (3) a safe school setting.” To ensure compliance with these mandates and ensure equitable allocation of resources the CTHSS requires additional funding.

Our report to the Joint Committees has included much reference to the unique delivery of the CTHSS technical and academic mission. Recognizing the economic condition of the State of Connecticut, the CTHSS nonetheless has to respond to the needs of students as well as the State of CT, who look to this school district to provide career and college ready preparation which will be life sustaining and meet the needs for a skilled workforce, and ultimately job creation in CT. In discussing the immediate and ongoing need to keep our current technical programs updated and lead the educational “rapid response” to address labor market and economic outlook predictions, the urgent needs of the school district have been flagged. While the CTHSS is meeting the needs of our students as well as those of CT’s business and industries, it is with less and less resources to deploy in this pursuit.

The Operating and Capital Budget requests for fiscal years 2012 and 2013, which were approved by our Board and the full State Board of Education, reflect the continued challenges in meeting these statutory responsibilities.

Among the issues detailed in the biennial budget package was a request for increased trade supply resources, reinstatement of the School Resource Officer (SRO) program, and a capital budget request totaling \$56 million (\$28 million in each year of the biennium) to address equipment and technology needs in the schools.

Since 2008, the district in partnership with the State Department of Construction Services (formerly Dept. of Public Works) has substantially completed renovations at seven (7) of our twenty (20) facilities.

Due to the state’s need to limit debt financing costs, five (5) of our school renovation projects originally planned for 2010 and 2011 were delayed from commencing construction. These

projects include H.H. Ellis – Danielson, H.C. Wilcox – Meriden, Eli Whitney – Hamden, Emmett O'Brien – Ansonia and J.M. Wright – Stamford.

As a result of these delays, critical repairs at these facilities had to be made to ensure the health and safety of students and staff, while also protecting the state's investment at J.M. Wright during its period of suspension.

At part of the district's Master Plan, the other eight (8) facilities are tentatively scheduled to be completed by 2020. In the meantime, health and safety issues at these facilities must also be addressed. Thus, resources are required to remediate these concerns.

The inability to acquire bond fund for emergency infrastructure repairs further dilutes the minimal funding made available to the schools for trade and academic supplies.

On a positive note, the State Bond Commission approved an allocation of \$4.8 million at its July 2011 meeting which is enabling the district to replace outdated trade and academic equipment in all schools.

Shops in schools where grant funds have been sourced have been able to do somewhat better in replacing outdated equipment, purchase state-of-the-art equipment and production supplies, but often that good fortune is hampered by the age of the building and its capacity to provide safe and efficient power, lighting, etc. for the new equipment.

Trade manuals and textbooks, supplies, and materials are underfunded, and were presented during school year 2009-10 as falling woefully short of what is needed to maintain basic curriculum delivery. A much-publicized \$105.00 is allocated per year, per student, for trade supplies. In an effort to deliver updated curriculum which incorporates 21st century concepts, i.e. green technology, credentialing, etc., the CTHSS has asked for \$1 million for trade supplies that would effectively increase the per student allotment to \$200.00 per year.

The SDE's Bureau of Information Technology has identified computer technology infrastructure that must be replaced due to aged equipment and the availability of improved technologies which would result in cost savings as well as improved productivity. They have identified CTHSS computers, printers, network switches, backup power supply and servers in need of replacement. Without additional funding in each year, the technical education programs as well as other school operations will continue to fall short of having what is necessary to function, let alone keep current.

The CTHSS does not transport students to technical high schools from the sending school districts. However, it does operate a minimal fleet of production buses in order to provide critical field experience and outside production work to support the education of young tradesmen and women. After much negative press during 2010/11, the district was provided bond funding to replace 68 student transport vehicles at a total cost of nearly \$5 million.

Obviously, another area of serious depletion is staffing. The CTHSS has lost a significant number of staffing positions and the dollars associated with them. Both classified and non-classified position refill approvals have been refused or indefinitely delayed. Currently, the CTHSS is refilling 94 approved teaching, administrator and professional support staff positions (exacerbated by the date of approval which was the last two weeks of August 2011). An additional 44 which includes maintainers, custodians, clerical staff and central office supervision staff (the second tier of position requests) has yet to be approved. Temporary solutions to the impact of this situation on instructional capacity, administrator presence, school safety and cleanliness are becoming more costly in terms of substitute teacher and other staff overtime costs. Those costs are increasing rapidly.

As a division of a state agency (i.e. the State Dept. of Education), the CTHSS has been subject to numerous budget mitigation plans requested by the Governor. As a result the ability to refill critical professional educator and administrator positions has further complicated our equitable staffing distribution among schools or our ability to meet the demands of real time instruction without interruption. The ability to find qualified and quality instructors, especially in the highly technical trade technologies, further hampers student success.

The examples cited are but a few with which to illustrate the growing depletion of the CTHSS academic and trade technology programs. The category of concern in Sec. 3 of P.A. 10-76 addresses adequate resources to deliver the CTHSS mission so sorely needed by the State of CT. The resources have been inadequate and the CTHSS superintendent will continue to present requests for more resources to the State Dept. of Education, and the Board of Education.

Recommendation

Many recommendations have been made throughout this report, presented as requests folded into the state of our affairs. And, there is no doubt that CT's circumstances impact the ability of the Board of Education to endorse all of them. Respecting the position I am afforded as superintendent to report to the Board monthly, and further, to work with a dedicated Board subcommittee, I am aware that representing the most important method of educating high school students in the 21st century must also mean bringing this opportunity to more of Connecticut's students. Our mission is uniquely tied to the solvency and stability of our state, and CTHSS graduates have for 100 years shown their capacity to make immediate contributions toward that end. I recommend the Board and the Legislature look to CTHSS to continue to lead secondary school reform initiatives, to continue to prepare CT students for career and college readiness and to open its doors to more Connecticut students. We continue to accept that challenge.

CTHSS BUDGET MATERIALS PRESENTATION
(October 2011, Task Force)

The primary focus of today's presentation is on the funding of the school district and its annual operating costs.

The tentative operating budget for the Connecticut Technical High School System (CTHSS) for the current 2012 fiscal year (July 1, 2011 to June 30, 2012) is approximately \$181.8M (excluding school construction grant funds and fringe benefit costs budgeted through the Office of the State Comptroller).

The actual amounts that may be received are subject to further budgetary reductions depending on the state's fiscal health and constitutional spending caps for general and bond funds.

How is the \$181.8M funded?

The district receives financial support from the state general fund, federal, state, and private grants and generates revolving funds as detailed below:

State funds (93%)

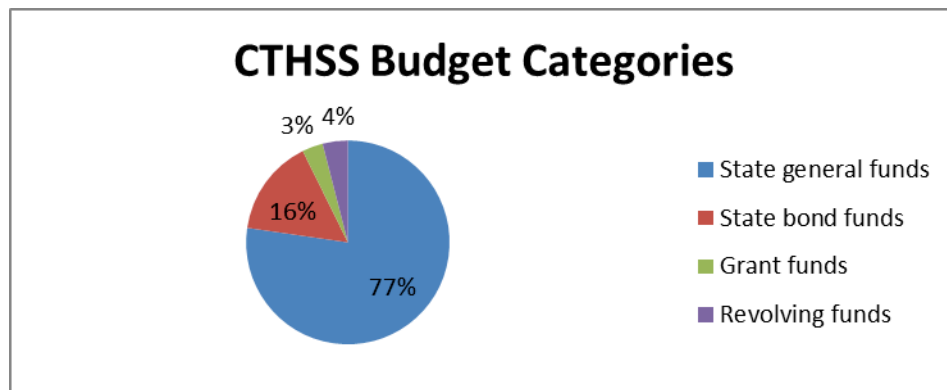
- \$140.5 million from the State of Connecticut's General Fund (excluding fringe benefit costs budgeted to the Office of the State Comptroller);
- \$28 million from state bonding for alterations and improvements to buildings and grounds, including equipment, tools, vehicles and technology (excluding school construction funds);

Grant funds (3%)

- \$6 million from federal, state and private grants;

Revolving funds (4%)

- \$3.9 million from student breakfast and lunch sales;
- \$2.5 million from adult education tuition and fees;
- \$900,000 from production work sales and services;



It should be noted that the federal American Recovery and Reinvestment Act (ARRA) grant funds originally allocated in 2009 have now expired and will not be renewed. Thus, the correct anticipated budget is \$181.8M and not \$184.8M as previously reported.

Are the sending towns responsible for any contributions to the CTHSS operating costs?

Under Section 10-97 of the Connecticut General Statutes, the boards of education of any town or regional school district shall provide reasonable and necessary transportation. The towns are then able to submit to the State Department of Education for pro-rated reimbursement.

It should also be noted that the students attending the CT technical high schools are not included in the Educational Cost Sharing (ECS) calculations. Thus, the sending towns do not receive ECS funding for these students.

Given the current secondary enrollments (listed on page 6 of this report), if the CTHSS were to be closed and students returned to district, most towns would lack the physical capacity to service these students.

How does this funding model compare to other school districts in the State of Connecticut?

Summarized in the table is data taken from the State Department of Education’s Public School Choice in Connecticut 2010-11:

Model	Funding Model
Charter Schools	State - \$9,300 per student Federal and State Competitive grants
Interdistrict Magnet Schools	State grants Contributions from local boards of education Federal grants Corporate contributions Tuition paid by a parent (limited basis)
Open Choice	State pays a grant of \$2,500 per student No tuition cost to parents.

Note: four (4) of the Connecticut Technical High Schools – A.I. Prince, Howell Cheney, Vinal and E.C. Goodwin - currently participate in the Open Choice program.

What are the most recent costs by school?

FY 2011 Costs By School By Funding Source

School	General Fund	Bond Funds	Grants Funds	Revolving Funds	Totals
Central Office	\$6,728,397	\$10,717	\$2,784,758	\$239,539	\$9,763,411
Ella T. Grasso	\$7,423,232	\$13,862	\$394,027	\$258,677	\$8,089,798
Platt	\$8,586,591	\$113,589	\$494,524	\$296,770	\$9,491,474
Bullard Havens	\$9,563,750	\$18,146	\$1,218,576	\$497,976	\$11,298,448
Henry Abbott	\$7,690,072	\$13,804	\$287,472	\$275,057	\$8,266,405
H.H. Ellis	\$6,501,051	\$5,045	\$424,136	\$232,264	\$7,162,496
Eli Whitney	\$7,472,083	\$17,972	\$750,324	\$437,246	\$8,677,625
A.I. Prince	\$10,123,273	\$0	\$1,298,108	\$519,459	\$11,940,840
Howell Cheney	\$8,097,939	\$0	\$173,282	\$278,426	\$8,549,647
H.C. Wilcox	\$8,925,070	\$10,453	\$112,318	\$197,211	\$9,245,052
Vinal	\$7,954,654	\$233,835	\$492,404	\$217,623	\$8,898,516
E.C. Goodwin	\$7,679,306	\$309,782	\$1,107,790	\$246,981	\$9,343,859
Norwich	\$7,363,666	\$76,510	\$236,447	\$345,418	\$8,022,041
J.M. Wright	\$394,745	\$5,592	\$0	\$0	\$400,337
Oliver Wolcott	\$8,022,262	\$156,601	\$360,165	\$201,235	\$8,740,263
W.F. Kaynor	\$8,515,587	\$80,984	\$397,514	\$415,501	\$9,409,586
Windham	\$6,879,432	\$158,482	\$132,612	\$289,852	\$7,460,378
Emmett O'Brien	\$6,377,249	\$244,064	\$326,466	\$292,324	\$7,240,103
Bristol TEC	\$2,038,756	\$36,643	\$648	\$123,752	\$2,199,800
Enfield Sat.	\$8,561	\$0	\$0	\$0	\$8,561
Stratford SAMT	\$531,454	\$2,753	\$0	\$3,108	\$537,315
CT Aero SAMT	\$511,596	\$0	\$0	\$32,221	\$543,817
Totals	\$137,388,727	\$1,508,832	\$10,991,574	\$5,400,641	\$155,289,774

Footnotes: Bullard Havens, Eli Whitney, A.I. Prince, E.C. Goodwin, are Title I schools making them eligible for supplemental federal grant funding. Ella. T. Grasso became Title I eligible late in the school year.

The level of expenditures for each school is dependent on several factors including the types of trade programs offered at the school, the school capacity and enrollment, the age of the facility, the efficiency of the environmental systems, and the level of adult programming offered.

Why are total costs expected to increase by \$26.5M in fiscal year 2012 compared to fiscal year 2011?

Due to state’s continued need to reduce debt financing obligations during fiscal year 2011, a majority of the State Bond Commission meetings were cancelled. The CTHSS received approval for allocations totaling \$2.9M for the replacement of student transportation vehicles, technology equipment, and repairs to a garage floor at Platt THS.

As a direct result of the continued delays in the commencing of new school construction projects, the district must request additional bond authorizations to address critical health and safety issues. The following table provides details to support the district’s request for \$28M in state bonding which was approved by the state legislature and is now pending State Bond Commission action.

Project	Planned Allocation	Anticipated Request Date	Health and Safety Issues	Status
Replacement of trade and academic equipment	\$3,000,000	July 2011	No	Approved – July 29, 2011
Replacement of unrepairable plant vehicles	\$800,000	July 2011	Yes	Pending Inclusion on Bond Commission Agenda;
Agency administered infrastructure projects	\$500,000	July 2011	Yes	Pending Inclusion on Bond Commission Agenda
Replacement of technology equipment	\$1,600,000	August 2011	No	Approved – September 23, 2011
Design of Fats, Oils, and Grease (FOG) systems (statutory requirement)	\$500,000	September 2011	Yes	Pending Inclusion on Bond Commission Agenda;
Design replacement roof at Windham THS	\$1,500,000	October 2011	Yes	Pending submission by DAS Construction Services;
Design replacement roof at Stratford SAMT	\$250,000	October 2011	Yes	Pending submission by DAS Construction Services;

Project	Planned Allocation	Anticipated Request Date	Health and Safety Issues	Status
Agency administered infrastructure projects	\$500,000	October 2011	Yes	Pending Inclusion on Bond Commission Agenda;
Design new sprinkler system at Stratford SAMT	\$100,000	October 2011	Yes	Pending submission by DAS Construction Services;
Replacement of trade and academic equipment	\$3,000,000	December 2011	No	Pending;
Indoor Air Quality at Grasso THS	\$6,600,000	January 2012	Yes	Pending;
Agency administered infrastructure projects	\$500,000	February 2012	Yes	Pending;
Construct replacement roof at Windham THS	\$4,500,000	April 2012	Yes	Pending design;
Construct Fats, Oils, and Grease (FOG) systems (statutory requirement)	\$3,500,000	April 2012	Yes	Pending design;
Construct replacement roof at Stratford SAMT	\$750,000	April 2012	Yes	Pending design;
Construct sprinkler system at Stratford SAMT	\$400,000	April 2012	Yes	Pending design;

What are the CTHSS' per pupil costs and how do they compare to the state average for secondary schools?

It is reasonable to expect that per pupil costs in the CTHSS would exceed the state secondary average due to the increased costs to provide the trade programs with the critical equipment and supplies and the reduced class sizes during the technology cycles.

The following chart provides a three year analysis of the CTHSS per pupil expenditures compared to the state secondary average (based on latest available data). It should be noted that the fringe benefit costs for general fund employees expensed to the State Comptroller should be included in an equitable comparison of per pupil costs. Column C in the chart below illustrates adjusted per pupil costs including the fringe benefit costs estimated at 50% of actual salary costs.

(A) Fiscal Year	(B) CTHSS Reported Per Pupil Calculation*	(C) CTHSS Adjusted Per Pupil Calculation**	(D) State Secondary Average	(E) (C – D) Difference \$	(F) Difference %
2007-08	\$14,641	\$20,145	\$14,310	+\$5,835	+40.8%
2006-07	\$14,050	\$19,592	\$13,655	+\$5,937	+43.5%
2005-06	\$12,724	\$17,627	\$12,733	+\$4,894	+38.4%

*Excludes fringe benefit costs paid by the State Comptroller; ** Includes fringe benefit costs expensed to the State Comptroller estimated at 50%;

Current Enrollments By School as of October 1st, 2011

The Connecticut Technical High School System is currently providing educational opportunities to nearly 10,800 secondary (9 – 12) students and 433 adult students enrolled in full-time programs such as licensed practical nurse (LPN), dental, surgical technology, and aviation.

School	Secondary Enrollment	Adult Enrollment	Total Enrollment
Ella T. Grasso	569	0	569
Platt	885	13	898
Bullard Havens	874	34	908
Henry Abbott	638	0	638
H.H. Ellis	541	0	541
Eli Whitney	524	67	591
A.I. Prince	756	58	814
Howell Cheney	673	0	673
H.C. Wilcox	772	0	772
Vinal	608	37	645
E.C. Goodwin	619	0	619
Norwich	656	33	689
J.M. Wright	N/A	N/A	N/A
Oliver Wolcott	669	0	669
W.F. Kaynor	761	39	800
Windham	572	14	586
Emmett O'Brien	546	0	546
Bristol TEC	102	52	154
Stratford SAMT	0	47	47
CT Aero SAMT	0	39	39
Totals	10,765	433	11,198

What is the status of the CTHSS' Long-Range Strategic Education and Physical Plant Master Plan?

Thus far, the State of Connecticut has granted more than \$400 million dollars for new construction and renovations to existing space in seven (7) of the twenty (20) facilities in the Connecticut Technical High School System. The chart below provides additional details for each of these projects:

School	Description of Work	Latest Legislative Authorization	Status
Henry Abbott – Danbury	Provided approximately 94,197 square feet of new educational facilities plus renovations of approximately 85,716 square feet. Also included reconstruction of athletic fields, parking lots and roadways.	\$62.9M	Completed August 2008
CT Aero – Hartford	Provided approximately 35,000 square feet of new educational facilities including a new aviation hanger, classrooms, and administrative offices. Also included construction of parking lots and roadways.	\$10.0M	Completed January 2009
E.C. Goodwin – New Britain	Provided approximately 54,269 square feet of new educational facilities plus renovations of approximately 176,944 square feet. Also included reconstruction of athletic fields, parking lots and roadways.	\$61.6M	Completed August 2009
W.F. Kaynor - Waterbury	Provided approximately 87,577 square feet of new educational facilities plus renovations of approximately 127,918 square feet. Also included reconstruction of athletic fields, parking lots and roadways.	\$67.8M	Completed August 2009

School	Description of Work	Latest Legislative Authorization	Status
A.I. Prince - Hartford	Provided approximately 43,204 square feet of new educational facilities plus renovations of approximately 228,054 square feet. This project also included the annexation and renovation of approximately 33,033 square feet of space which formerly housed the Capital Community Technical College. Also included the relocation and reconstruction of athletic fields, a running track, parking lots and roadways.	\$85.3M	Completed August 2009
Howell Cheney - Manchester	Provided approximately 87,577 square feet of new educational facilities plus renovations of approximately 127,918 square feet. Also included reconstruction of athletic fields, parking lots and roadways.	\$48M	Completed November 2009
Norwich – Norwich	Provided approximately 93,934 square feet of new educational facilities plus renovations of approximately 99,891 located at the former Mohegan Community College campus. Also included reconstruction of athletic fields, parking lots and roadways.	\$65.7M	Completed December 2009

In addition to these seven completed projects, the district has five (5) other projects at an approximate cost of \$427 million that have been legislative authorized and are undergoing the construction review and approval process. These five projects are explained in the chart on the following page.

Nearly Shovel-Ready Projects

School	Description of Work	Latest Legislative Authorization	Status
H.H. Ellis – Danielson	This project will provide approximately 13,060 square feet of new educational facilities plus renovations of approximately 179,944 square feet. Also included will be reconstruction of athletic fields, parking lots and roadways.	\$83.8M	Pending signing of a construction contract in October 2011.
H.C. Wilcox - Meriden	This project will provide approximately 60,000 square feet of new educational facilities plus renovations of approximately 137,000 square feet. This project will also include new and expanded trade shops, a two-story academic wing, media center, a fitness center and site improvements.	\$77.6M	Bid opening for hiring of construction contractor scheduled for October 25, 2011; Estimated construction start date of January 2012; Estimated completion date of February 2015.
Eli Whitney – Hamden	This project will provide approximately 118,405 square feet of new educational facilities plus renovations of approximately 111,362 square feet. Also included will be reconstruction of athletic fields, parking lots and roadways.	\$98M	Estimated date for issuance of construction bids is April 2012; Estimated construction start date of August 2012;
Emmett O'Brien – Ansonia	This project will provide approximately 47,296 square feet of new educational facilities plus renovations of approximately 172,130 square feet.	\$77.7M	Estimated date for issuance of construction bids is Fall 2012;

Nearly Shovel-Ready Projects

School	Description of Work	Latest Legislative Authorization	Status
J.M. Wright - Stamford	This project will provide renovations of approximately 196,667 square feet.	\$90.2M	Currently in the schematic design stage. Planned construction start date of 2012 with estimated opening date of September 2014.

The remaining eight (8) facilities included in the master plan are tentatively planned for fiscal years 2014 and beyond as further described below:

Remaining Projects

School	Planned new square footage	Planned renovations of existing square footage	Latest Legislative Authorization	Status
Ella T. Grasso – Groton	34,350	205,190	\$61.5M	Pending
Platt - Milford	18,281	212,229	\$57.9M	Pending
Bullard Havens – Bridgeport (A Building)	N/A	70,616	\$27.3M	Pending
Windham - Willimantic	7,170	177,045	\$42.1M	Pending
Oliver Wolcott - Torrington	30,001	161,549	\$44.1M	Pending
Vinal - Middletown	24,394	202,783	\$51.1M	Pending
Bristol Tech. Ed. Center - Bristol	24,000	50,000	\$25.8M	Pending
Stratford School for Aviation Maintenance Technicians - Stratford	3,000	43,000	\$11.2M	Pending

Cost Reduction and Revenue Enhancement Efforts Already Implemented

Like most state agencies, the current economic crisis coupled with the significant increase in the number of state employee retirements has led to reductions in school staffing levels.

However, the district is in the processing of refilling critical instructional positions and three (3) new principals have been hired to replace outgoing administrators.

There continues to be considerable discussion centered on the administrative costs of the district including the staffing levels of school assistant principals, central office program consultants and school business offices.

The over whelming demands placed on the technical high schools mandate an administrative structure of one (1) principal and at least two (2) assistant principals per school in order to appropriately:

- Supervise and evaluate instructional staff;
- Assist in the planning, development and implementation of school improvement plans;
- Monitor the student assessment process;
- Participate in school climate and parent engagement activities;
- Actively participate in community relations and stakeholder inquiries;
- Monitor and resolve school health and safety issues;
- Lead scheduling team to improve student instructional schedules;
- Determine and administer student discipline;
- Business and Industry collaborative efforts;
- Participate in Admissions Advisory Committee;

The district has taken steps to eliminate six (6) assistant principal positions that formally served as regional assistant principals (RAPs) for adult education programs. In addition, several central office program consultant positions have been left vacant in order to comply with budget reduction requirements.

Unfortunately the geographical dispersion of our school system prevents some economies of scale benefits. For example, the school business offices are traditionally staffed with a business manager, one fiscal staff person and one clerical staff person. Despite efforts to centralize some functions of the budgeting and purchasing process, the three person staffing pattern is required to maintain separation of duties concerns raised by the state and internal auditors, particularly in the following areas:

- Cash collections and accounting;
- Payroll and attendance;
- State Asset Management;

In addition to reduction actions already implemented, the district has been more aggressive in solicitation of private grant funds and has increased collaboration with the Department of Higher Education and the Community Technical Colleges.

For example, the CTHSS is participating with the Connecticut Energy Efficiency Fund and the Clean Energy Finance & Investment Authority to construct E-Houses throughout the district.

The E-House is part of the state technical high school system's 'green' approach to provide clean energy curriculum and hands-on experience for its architectural, carpentry, electrical and plumbing departments' faculty and students. Designed and built by faculty and students, the E-House incorporates solar photovoltaic and solar thermal systems and weatherization/energy efficiency labs.

In addition, the district recently secured State Board of Education approval to increase its hourly student labor production rates to generate more revenue that can be redirected back to the trade programs for the purchase of educational supplies and tools.

When are trades reviewed for possible downsizing, elimination or even expansion?

Connecticut General Statutes Section 10-95i (b) requires the State Board of Education to evaluate each trade program in the CTHSS and consider reauthorization for a period of not more than five years.

A trade program is evaluated on:

- projected employment demands;
- consideration of the employment status of graduates during the preceding five (5) years;
- anticipated technological changes;
- availability of qualified instructors;
- existence of similar programs at other institutions;
- student interest in the trade;

Part of the reauthorization process includes the solicitation of input of the Trade Technology Advisory Committees (TTAC) in each school.

In addition, modifications to the program offerings are considered during the preparation of the biennial operating and capital budget requests and the annual rolling capital improvement plan. Where enrollment is not sufficient, schools are required to develop low enrollment plans.

This process has been utilized in the past to close statewide programs such as the dental lab technician, plastics, painting and decorating and ship building.

ADULT EDUCATION PRESENTATION
(November 2011, Task Force)

Overview

The Connecticut Technical High School System (CTHSS) was originally founded to meet the needs of business and industry by providing trade specific education for adults. In the late 1940's, the school system began providing educational opportunities for high school students.

In addition to the wide variety of secondary programs offered in the district, the CTHSS offers five (5) full-time adult education programs in the health care services cluster:

- Licensed Practical Nurse (LPN);
- Surgical Technology;
- Dental Assistant;
- Medical Assistant;
- Certified Nurse Aide (C.N.A.);

The district also offers a full-time aviation maintenance program at CT Aero Tech (located at Brainard Field in Hartford) and the Stratford School for Aviation Maintenance (located at Sikorsky Field in Stratford);

In addition, **post graduate** students attending Bristol Technical Education Center are allowed to fill available slots in a variety of trades including:

- Heating, Ventilation and Air Conditioning (HVAC);
- Automotive;
- Culinary Arts;
- Manufacturing;
- Electronics;
- Welding;

Prior to the 2007-08 school year, adult students were allowed to enroll in secondary programs throughout the district based on availability. However, concerns over the interaction between the adult students and the 9 – 12 students resulted in the elimination of the post graduate program – except at the Bristol Technical Education Center.

The district also provides six (6) part-time adult programs for apprentices and extension students (non-apprentices).

These programs receive clear direction and are accredited by agencies such as the Federal Aviation Administration (FAA), the American Dental Association (ADA) and the Connecticut Board of Nurse Examiners. The adult programs were also accredited by the New England Association of Schools and Colleges (NEASC). However, as NEASC is no longer accrediting adult programs, the district is undergoing a new accreditation process with the Council on Occupational Education (COE).

COE is a regional accrediting association for postsecondary institutions in an 11-state region. According to their website, the mission of the Council is “assuring quality and integrity in career and technical education.”

Upon graduation from these programs, there are a variety of opportunities available to graduates including the option to:

Licensed Practical Nurse

- Sit for the National Council of Licensing Exam for Practical Nurses (NCLEX-PN);
- Attend a community college to become a Registered Nurse (RN);
- Be employable in a health care facility, nursing clinics, doctors’ offices;

Aviation Maintenance

- Sit for the Federal Aviation Adm. Airframe and Power Plant Mechanic test;
- Be employable as a mechanic at airports or as technician with aircraft and power plant companies;

Surgical Technology

- Work in hospitals, surgical centers, birthing centers, laboratories and a variety of other areas supporting the medical field including sales and product development;

Dental Assisting

- Earn their Infection Control (ICE) and Radiation Health & Safety (RHS) certifications;
- Take the Dental Assisting National Board General Chairside Examination;
- Be employable in dentist offices and other dental facilities;

Medical Assistant

- Be employable in a physician’s office, laboratory, or other healthcare facility;

Enrollment

The enrollment in the full-time adult programs was 433 as of October 1st, 2011:

Adult Education Program	Number of locations	Locations	Total Enrollment
LPN	6	Bridgeport, Hamden, Hartford, Middletown, Norwich, and Waterbury	203
Aviation	2	Hartford and Stratford	86
Surgical Tech.	2	Hamden and Hartford	34
Dental Assisting	2	Hartford and Windham	29
Medical Assistant	1	Milford	13
Certified Nurse Aide	2	Bridgeport and Hamden	16
Post Graduates - Bristol	1	Bristol	52
Totals	16		433

Funding for Adult Education Programs

In each of these programs, tuition and fees are charged to the adult students and the resulting revenue is deposited into a revolving fund (the extension fund). The revenue is then used to cover a portion of the operating costs of the adult education program including payroll, fringe benefits, educational supplies and equipment, and other overhead costs. The district is currently not eligible for state adult education grants.

Because these programs are not financially self-sufficient, a portion of the operating costs of the adult education program must be charged to the state general fund.

In fiscal year 2011, the district utilized approximately \$2.7 million of its operating budget to support the adult education programs.

Due to the declining economic conditions in the State of Connecticut, greater emphasis has been placed on increasing tuition rates to reduce the dependency on state general fund resources.

However, we must acknowledge that as a state agency being asked to reduce spending, preservation of the secondary programs has resulted in consolidation in the district’s adult education programs and staffing.

As an example, one of several deficit mitigation plans implemented during fiscal year 2010 included the suspension of the Licensed Practical Nurse (LPN) day program which at the time was operating at ten (10) technical high schools.

After much public outcry, Public Act 10-3 provided \$1.2 million in state funding to restart the program in six (6) geographically dispersed locations throughout the state. The program was restarted in January 2011 with a significant tuition rate increase – from \$4,950 to \$10,200 payable over eighteen (18) months.

Tuition Rates in the CTHSS

The following State Board of Education approved tuition rates are in effect for the 2011-12 school year:

Program	Tuition Rate	Registration Fees
LPN	\$10,200 over 18 months	\$50.00
Aviation	\$6,200 over 2 years	\$50.00
Other adult programs	\$1,650 per semester	\$50.00
C.N.A.	\$1,350 per semester	\$50.00
Apprentice*	\$100 per course	\$50.00
Extension	\$275 per course	\$50.00

*Limited by state statute to \$100 of which employers are responsible for a minimum of 50% of the tuition cost.

Tuition Rate Comparison

There are a number of private occupational schools in Connecticut that offer similar programs but usually at a significantly higher tuition rate than offered in the CTHSS.

Program	CTHSS Tuition Rate	Alternative Provider Rates
LPN	\$10,200	approx. \$24,500 (Stone Academy) (2010 rates)* approx. \$35,000 (Lincoln Tech) (2012 rates)* approx. \$37,000 (Porter and Chester) (2012 rates)*
Aviation	\$6,200	\$26,500 (National Aviation Academy) (2010 rates)*

*actual tuition rates in the occupational schools are difficult to determine without a visit to the school;

What types of students do we serve?

In terms of the full-time health care services programs (LPN, Dental, Med. Asst., C.N.A.), they provide classroom and clinical experiences to students – predominately female of limited financial means attempting to secure a career in order to eliminate reliance on government assistance.

The breakdown by gender in the health care services programs (as of November 8th, 2011):

Program	Females	Males
LPN	171 (86%)	29 (14%)
Dental	12 (93%)	2 (7%)
Med. Asst.	12 (100%)	0 (0%)
C.N.A.	12 (80%)	3 (20%)

The increased tuition rates in the LPN program combined with the limited ability to secure educational financing has resulted in a continued increase in the number of withdrawals from the program.

The current tuition rate of \$10,200 assumed 250 students would enroll and stay with the program through the eighteen (18) months required to complete the program. Unfortunately, the current enrollment is only 203 students (as of October 1st, 2011) – thus the district is currently facing a funding shortfall of nearly \$320,000 (47 less students paying \$6,800 for the fall 2011 and spring 2012 semesters).

Apprentice program

The district annually provides educational training to approximately 2,000 registered apprentices throughout the state. However, as further explained below, the program continues to operate at a loss despite continued consolidation efforts.

Connecticut General Statute (CGS) Section 10-95e (b) requires that “The State Board of Education shall establish an apprenticeship account with the Vocational Education Extension Fund. All proceeds derived from the operation of apprenticeship programs shall be deposited in the Vocational Education Extension Fund and shall be credited to and become a part of the resources of the apprenticeship account which shall be used for the operation of apprenticeship programs and for the purchase of materials and equipment for such programs.”

As the apprenticeship programs are run in the evening, each apprentice program requires a part-time program supervisor and a part-time clerical resource. Prior to fiscal year 2010, the cost of these two critical positions was expensed to the state general fund. The cost of the apprentice instructors continues to be charged to the extension fund.

Due to declining fiscal conditions during that period (fiscal year 2010), the Office of Policy and Management (OPM) required the CTHSS to fund all of the apprenticeship positions from the extension fund. As result of this funding change, the operating deficit was further increased to approximately \$250,000 to \$300,000 annually.

Per C.G.S. 10-95e, the tuition rate which was last modified in 1992 for apprentice courses is limited to \$100 per course and the employer is required to pay at least 50% of the tuition costs.

Due to the continued operating deficit generated by the apprenticeship program, the district has continued to consolidate the number of locations offering a program. The number of locations offering apprenticeship courses in the CTHSS has declined from fourteen (14) in FY 2009 to the current level of six (6) for FY 2012. We anticipate the operating deficit for the apprentice program will exceed \$100,000 for the current fiscal year.

Although the State Board of Education has approved our request to increase the apprentice tuition rate to \$275 per course, our efforts to secure a legislative change to C.G.S. 10-95e have fallen short. The district has been pursuing an increase in the apprentice tuition rate for more than eight years.

Conclusion

One of the primary issues facing the Connecticut Technical High School System's continued operation of the adult programs is the lack of a stable infrastructure to support the programs. Continued reductions in program staff due to retirements and reassignments have left the adult programs extremely thin.

Over the years, we have not refilled the following adult education positions:

- Six (6) Regional Assistant Principals – responsible for program supervising, marketing and recruiting of students;
- One (1) program consultant – responsible for establishing training agreements with business and industries;
- One (1) program consultant – responsible for overseeing the CTHSS apprenticeship program and relations with the Department of Labor (DOL);
- One (1) program consultant – responsible for the district's Pell grant program and communicating with adult students regarding financial aid options;
- Closing of a dental lab program at Eli Whitney THS (Hamden) and adult bilingual programs throughout the district;

The CTHSS **does not have the following critical operational components in place:**

- On-line registration capability;
- Ability to accept electronic or credit card tuition payments;
- A student loan program/officers;

Rather than invest limited resources in creating this infrastructure, there may be an opportunity to take advantage of existing infrastructures (i.e. Registrar's Office, Bursar's Office) in other higher education institutions.

While it is our desire to continue operating the adult education programs, the need for operational improvements must be addressed.