

Erie County Technical School
The Future Committee

“A Pipe Dream . . . Come True”

Introductory Thoughts

The following ideas are offered as ways to create more career opportunities for Erie County students and offer technical programs that appeal to a college-bound population. These ideas also offer additional opportunities for adults seeking full-time training. Most of the technical programs would be purposefully designed to articulate with local and regional post-secondary institutions.

To a certain extent, there are operational benefits as well. Administrative and instructional staffing levels could be optimized. These plans could encompass multi-generation programs where adult students co-enroll with high school students.

Some of the programs would entail building additions to the Technical School, while others would involve using the Regional Skill Center. Depending upon current enrollment patterns at both the Skill Center and the Erie County Technical School, existing space could be utilized for some of these programs.

Of course, this all lies upon the premises that the programs are of a high caliber and that community sentiment sees value in technical preparation at the high school level.

New Programs

Note: Italicized programs are aimed at students interested in two- or four-year post-secondary training.

- Heating, Ventilation, Air Conditioning & Refrigeration (2 year—ECTS)
- *Network Administration (1 year—ECTS; additional post-secondary program offered in cooperation with NPTI)*
- Diesel Mechanics (2 year—ECTS)
- Heavy Equipment Operation (1 year—ECTS)
- Office Automation (1 year—ECTS)
- Medical Office Assistant (1 year—ECTS)
- *Legal Office Assistant/Paralegal (1 year—ECTS)*
- *Health Care Technology (2 year—ECTS)*
- Dental Assisting (2 year—ECTS)
- *Business Management/Retail Operations (1 year—ECTS)*
- Travel, Leisure and Hospitality (1 year—ECTS)
- *Natural Resources Management/Agriculture (2 year—ECTS)*
- Public Safety Services--Police, Firefighting & Emergency Medical (2 year—ECTS)
- *Manufacturing Automation/Engineering (1 year—RSC)*
- *Quality Control Engineering (1 year—RSC)*
- Manufacturing Machine Repair/Electronics (2 year—ECTS)
- Cosmetology (3 year—ECTS, second class available to high school students)
- Cosmetology (1 year—adult evening program reinstituted)
- Automotive Technician (2 year—post-secondary program offered in cooperation with NPTI)

Erie County Technical School

Emerging & High-Tech Occupations

Manufacturing Cluster

Robotics & Automation

Automation/robotics technicians install, program, and repair robots and related equipment, such as programmable controllers, robot controllers, end-of-arm tools, and conveyors. They review related manuals, blueprints, and schematic diagrams to determine the tasks, tools, equipment, and parts needed to complete a work order. Specific duties include inspecting installation sites, positioning the robots using hydraulic tools, attaching wires between controllers, programming the robots to perform specific tasks, and testing electronic circuitry. Those that work for robot manufacturers, also assist in design and configuration.

TASKS - 1) Operates metalworking machines to fabricate housings, jigs, fittings, and fixtures. 2) Aligns, fits, and assembles component parts, using hand tools, power tools, fixtures, templates, and microscope. 3) Installs electrical and electronic parts and hardware in housing or assembly, using soldering equipment and hand tools. 4) Tests performance of electromechanical assembly, using test instruments such as oscilloscope, electronic voltmeter, and bridge. 5) Repairs, reworks, and calibrates assemblies to meet operational specifications and tolerances. 6) Verifies dimensions and clearances of parts to ensure conformance to specifications, using precision measuring instruments. 7) Inspects parts for surface defects.

Nanofabrication Manufacturing Technology

Nanofabrication is the technology that grew out of making semiconductor chips. Things have gotten so tiny now that this technology has become "machining at the atomic level" and it has spread from being used to make chips to being used to make a variety of technological innovations, including, for example, artificial organs, tiny valves, and flat, picture-like televisions.

The equipment used for machining at the atomic level falls into three categories: tools that deposit films, tools that remove films, and patterning (lithography) tools that lay out where the deposition and removal will occur. These very sophisticated machines are often run by a team composed of an operator, a technician, and an engineer. For more information visit:
<http://www.nanofab.psu.edu/hyperlinks/hyperlink.to.nmt.htm>

Science, Technology, Engineering & Mathematics Cluster

Pre-Engineering

Engineering is the art of applying scientific and mathematical principles, experience, judgment, and common sense to make things that benefit people. Engineers design bridges and important medical equipment as well as develop processes for cleaning up toxic spills and systems for mass transit. In other words, engineering is the process of producing a technical product or system to meet a specific need. Engineering work is also organized by traditional academic fields of study. The five largest of these are chemical, civil, electrical, industrial, and mechanical engineering. There are also more specialized engineering fields, including aerospace, ocean, nuclear, computer, biomedical, and environmental engineering. For more information visit:
<http://www.asee.org/precollege/questions.cfm>

Biotechnology

The term has two components, "bio" and "technology." The prefix signifies that it includes activities in or know-ledge derived from biology (and related life sciences such as medicine). These sciences encompass sub-disciplines ranging from anatomy to zoology that all deal at various levels with living organ-isms. Heretofore, these endeavors were primarily in the domain of researchers. "Technology," on the other hand, suggests problem solving through the application of scientific knowledge – commonly using tools that typically are inorganic and inanimate (such as computers). These endeavors primarily have been in the province of engineers. Biotechnology, however, is more than the coincidental or fortuitous overlapping of two distinctive fields. It is the conscious fusion of biology and technology. It is the conscience collaboration of biologists and engineers.

Health Science Cluster

Biomedical Technology

Biomedical engineering technicians test, adjust, or repair biomedical or electro-medical equipment. They also assist in the design and development of medical devices.

TASKS - 1) Inspects and tests malfunctioning medical and related equipment, using test and analysis instruments and following manufacturers' specifications. 2) Repairs and replaces defective parts, such as motors, clutches, tubes, transformers, resistors, condensers, and switches, using hand tools. 3) Calibrates and adjusts components and equipment, using hand tools, power tools, measuring devices, and following manufacturers' manuals and troubleshooting techniques. 4) Disassembles malfunctioning equipment and removes defective components. 5) Safety-tests medical equipment and facility's structural environment to ensure patient and staff safety from electrical or mechanical hazards. 6) Solders loose connections, using soldering iron. 7) Maintains various equipment and apparatus, such as patient monitors, electrocardiographs, x-ray units, defibrillators, electro-surgical units, anesthesia apparatus, pacemakers, and sterilizers.

Health Information Technician

Health information technicians code patient diagnoses and treatments according to medical classification systems and enter the codes into the patient's records. They use these codes in medical software programs to review and analyze records and to cross-index medical information. They also compile data to be used for statistical purposes by insurance companies, law firms, government agencies, and hospital administration staff. [Source: Barbara Swanson. *Careers in Health Care*. (Lincolnwood, IL: VGM Career Horizons, 1997)].

TASKS - 1) Compiles and maintains medical records of patients to document condition and treatment and to provide data for research studies. 2) Compiles medical care and census data for statistical reports on diseases treated, surgery performed, and use of hospital beds. 3) Maintains variety of health record indexes and storage and retrieval systems. 4) Reviews records for completeness and to abstract and code data, using standard classification systems, and to identify and compile patient data. 5) Enters data, such as demographic characteristics, history and extent of disease, diagnostic procedures and treatment into computer. 6) Contacts discharged patients, their families, and physicians to maintain registry with follow-up information, such as quality of life and length of survival of cancer patients. 7) Prepares statistical reports, narrative reports and graphic presentations of tumor registry data for use by hospital staff, researchers, and other users.

Medical-Technical Occupations

Medical and Clinical Laboratory Technicians--Medical and clinical laboratory technicians analyze tissue and blood samples to prepare and test vaccines, biologicals, and serums for disease prevention. They work in biotechnology, ag-biotechnology, nanotechnology, and other healthcare laboratories under the supervision of medical and clinical laboratory technologists. These technicians use microscopes, chemicals, complex precision instruments, and computers "to carry out serology, parasitology, toxicology, cytology, histology, bacteriology, urinalysis, environmental chemistry, hematology and blood typing, general chemistry, immuno-chemistry, nuclear medicine and more recently, advanced DNA research and cloning." [Source: Barbara Swanson. *Careers in Health Care*. (Lincolnwood, IL: VGM Career Horizons, 1997), 134].

TASKS - 1) Conducts quantitative and qualitative chemical analyses of body fluids, such as blood, urine, and spinal fluid. 2) Performs blood counts, using microscope. 3) Incubates bacteria for specified period and prepares vaccines and serums by standard laboratory methods. 4) Conducts blood tests for transfusion purposes. 5) Inoculates fertilized eggs, broths, or other bacteriological media with organisms. 6) Tests vaccines for sterility and virus inactivity. 7) Prepares standard volumetric solutions and reagents used in testing.

Radiologic Technologists--Diagnostic medical sonographers "operate high-tech ultrasound equipment under the supervision of a doctor to reveal internal anatomical structures and medical conditions that cannot be captured by x-rays. Sonographers use high-tech ultrasound equipment to produce images of the shape, position, or movement of organs, fluid accumulations, masses, or fetuses. [They] select and set up appropriate equipment for the test, explain the procedure to patients, help patients to assume the correct position, and put patients at ease. During the procedures, they observe the sound-wave display screen, adjust equipment to ensure a clear image and maintain a log of ultrasonic tests." [Source: Center for Rural Health Initiatives. *H.O.T. Jobs: Health Opportunities in Texas -- A Cool Guide to Health Careers*. (Austin: Center for Rural Health Initiatives, 1997), 113] Sonography is increasingly being used in the detection and treatment of heart disease, heart attack, and vascular disease that can lead to stroke. It is also used to guide fine needle, tissue biopsy to assist in taking a sample of cells from an organ for lab testing (for example, a test for cancer in breast tissue). Unlike X-rays, sonography is a radiation-free imaging modality.

TASKS - 1) Advise doctors of the best radiographic examination to perform for a particular patient's problem. 2) Explain the more complex examinations to patients beforehand, and may discuss the results with them afterwards. 3) Supervise the

radiographic examination of the patient performed by the medical radiation technologist. 4) Perform and interpret examinations that the medical radiation technologist is not qualified to perform. 5) Interpret images from radiographic examinations. 6) Review examinations with the doctors looking after the patient. 7) May treat some diseases guided by imaging equipment. 8) May teach other health professionals such as medical students, trainee radiologists, medical radiation technologists and nurses. 9) May perform administrative duties.

Surgical Technician--Surgical technologists assist operating room staff throughout surgical procedures. They prepare the patient, equipment, and supplies, hand instruments to the surgeon, hold retractors, and cut sutures. In recent years, the duties of these technologists have expanded to include assisting with fiber-optic technology and monitoring high-tech biomedical devices during surgery. After the operation, they clean the operating room, sterilize equipment, and count all supplies and instruments.

TASKS - 1) Places equipment and supplies in operating room and arranges instruments, according to instruction. 2) Maintain supply of fluids, such as plasma, saline, blood, and glucose for use during operation. 3) Hands instruments and supplies to surgeon, holds retractors and cuts sutures, and performs other tasks as directed by surgeon during operation. 4) Cleans operating room. 5) Counts sponges, needles, and instruments before and after operation. 6) Washes and sterilizes equipment, using germicides and sterilizers. 7) Assists team members to place and position patient on table.

Radiologic Technologist--Radiographers use radiation "to provide images of various body parts . . . and of various body functions . . . to facilitate the diagnosis and, in some case, the treatment of certain injuries and illnesses. The radiographer positions the patient, adjusts the equipment, administers any chemical tracing mixtures that are needed, and makes the required number of radiographs." Although x-rays are still conducted, these technologists also use new forms of diagnostic imaging technology, as in computerized tomography, mammography, digital subtraction angiography, and magnetic resonance imaging. [Source: Barbara Swanson. *Careers in Health Care*. (Lincolnwood, IL: VGM Career Horizons, 1997), 241-244].

TASKS - 1) Operates or oversees operation of radiologic and magnetic imaging equipment to produce photographs of the body for diagnostic purposes. 2) Administers oral or injected contrast media to patients. 3) Operates fluoroscope to aid physician to view and guide wire or catheter through blood vessels to area of interest. 4) Positions imaging equipment and adjusts controls to set exposure time and distance, according to specification of examination. 5) Keys commands and data into computer to document and specify scan sequences, adjust transmitters and receivers, or photograph certain images. 6) Monitors video display of area being scanned and adjusts density or contrast to improve picture quality. 7) Monitors use of radiation safety measures to comply with government regulations and to ensure safety of patients and staff.

Information Technology Cluster

Web Design & Management

Webmasters use their skills in graphic design, animation, and multimedia to create web pages for individual clients or as part of an electronic commerce division of a company. They program scripts and graphics using Internet-specific code such as hypertext markup language, Perl, or Java. They maintain the web pages by tracking the number of "hits" and updating the text and graphics when necessary. They also work closely with Internet development specialists to optimize web utilization.

TASKS - 1) Discuss the requirements of the website with their client, 2) Work out the purpose of the website, 3) Discuss ideas with the client, 4) Develop the website's content, 5) Work out the design aspects of the website, such as how many illustrations it will contain, 6) Develop a technical plan for the website and ways to promote it on-line, 7) Suggest production methods, necessary equipment and investigate costs and co-ordinate other people, such as designers and writers, to help maintain the website

Electronic Commerce

Electronic commerce specialists apply their knowledge of marketing and advertising to design Internet business web pages. They determine the content and layout the design specifications. They then convey this information to webmasters who program the page. Electronic commerce specialists test market the web page through on-line focus groups and surveys. They also conduct trend analyses of resulting sales and gather statistical data on customer preferences in order to improve service.

TASKS - 1) Advises customer in advantages of various types of programming and methods of composing layouts and designs for signs and displays. 2) Exhibits prepared layouts with mats and copy with headings. 3) Visits advertisers to point out advantages of publication. 4) Draws up contract covering arrangements for designing, fabricating, erecting, and maintaining sign or display. 5) Sells signs to be made according to customers' specifications, utilizing knowledge of lettering, color harmony, and sign making processes. 6) Calls on prospects and presents outlines of various programs or commercial announcements. 7) Informs customer of types of artwork available by providing samples.

Law, Public Safety & Security Cluster

Public Safety Services

Law Enforcement-- People depend on police officers and detectives to protect their lives and property. Law enforcement officers, some of whom are State or Federal special agents or inspectors, perform these duties in a variety of ways, depending on the size and type of their organization. In most jurisdictions, they are expected to exercise authority when necessary, whether on or off duty. According to the U.S. Bureau of Justice Statistics, about 65 percent of State and local law enforcement officers are uniformed personnel.

Uniformed police officers who work in municipal police departments of various sizes, small communities, and rural areas have general law enforcement duties including maintaining regular patrols and responding to calls for service. They may direct traffic at the scene of a fire, investigate a burglary, or give first aid to an accident victim. In large police departments, officers usually are assigned to a specific type of duty. Many urban police agencies are becoming more involved in community policing--a practice in which an officer builds relationships with the citizens of local neighborhoods and mobilizes the public to help fight crime.

Police agencies are usually organized into geographic districts, with uniformed officers assigned to patrol a specific area, such as part of the business district or outlying residential neighborhoods. Officers may work alone, but in large agencies, they often patrol with a partner. While on patrol, officers attempt to become thoroughly familiar with their patrol area and remain alert for anything unusual. Suspicious circumstances and hazards to public safety are investigated or noted, and officers are dispatched to individual calls for assistance within their district. During their shift, they may identify, pursue, and arrest suspected criminals, resolve problems within the community, and enforce traffic laws.

Sheriffs and deputy sheriffs enforce the law on the county level. Sheriffs are usually elected to their posts and perform duties similar to those of a local or county police chief. Sheriffs' departments tend to be relatively small, most having fewer than 25 sworn officers. A deputy sheriff in a large agency will have law enforcement duties similar to those of officers in urban police departments. Nationwide, about 40 percent of full-time sworn deputies are uniformed officers assigned to patrol and respond to calls, 12 percent are investigators, 30 percent are assigned to jail-related duties, and 11 percent perform court-related duties, with the balance in administration. Police and sheriffs' deputies who provide security in city and county courts are sometimes called bailiffs. (For information on other officers who work in jails and prisons, see [correctional officers](#) elsewhere in the *Handbook*.)

State police officers arrest criminals Statewide and patrol highways to enforce motor vehicle laws and regulations. Uniformed officers are best known for issuing traffic citations to motorists who violate the law. At the scene of accidents, they may direct traffic, give first aid, and call for emergency equipment. They also write reports used to determine the cause of the accident. State police officers are frequently called upon to render assistance to other law enforcement agencies, especially those in rural areas or small towns.

Security--Guards, who are also called security officers, patrol and inspect property to protect against fire, theft, vandalism, and illegal activity. These workers protect their employer's investment, enforce laws on the property, and deter criminal activity or other problems. They use radio and telephone communications to call for assistance from an ambulance, wrecker, or the police or fire departments as the situation dictates. Security guards write comprehensive reports outlining their observations and activities during their assigned shift. They may also interview witnesses or victims, prepare case reports, and testify in court.

Specific job responsibilities also vary with the size, type, and location of the employer. In department stores, guards protect people, records, merchandise, money, and equipment. They often work with undercover store detectives to prevent theft by customers or store employees and help in the apprehension of shoplifting suspects prior to arrival by police. Some shopping centers and theaters have officers mounted on horses or bicycles who patrol their parking lots to deter car theft and robberies. In office buildings, banks, and hospitals, guards maintain order and protect the institutions' property, staff, and customers. At air, sea, and rail terminals and other transportation facilities, guards protect people, freight, property, and equipment. They may screen passengers and visitors for weapons and explosives using metal detectors and high-tech equipment, ensure nothing is stolen while being loaded or unloaded, and watch for fires and criminals.

Emergency Medical Technician--People's lives often depend on the quick reaction and competent care of emergency medical technicians (EMTs) and paramedics, EMTs with additional advanced training to perform more difficult pre-hospital medical procedures. Incidents as varied as automobile accidents, heart attacks, drowning, childbirth, and gunshot wounds all require immediate medical attention. EMTs and paramedics provide this vital attention as they care for and transport the sick or injured to a medical facility.

EMTs and paramedics typically are dispatched to the scene by a 911 operator and often work with police and fire department personnel. Once they arrive, they determine the nature and extent of the patient's condition while trying to ascertain whether the patient has preexisting medical problems. Following strict rules and guidelines, they give appropriate emergency care and, when

necessary, transport the patient. Emergency treatments for more complicated problems are carried out under the direction of medical doctors by radio preceding or during transport.

At the medical facility, EMTs and paramedics help transfer patients to the emergency department, report their observations and actions to staff, and may provide additional emergency treatment. After each run, EMTs and paramedics replace used supplies and check equipment. If a transported patient had a contagious disease, EMTs and paramedics decontaminate the interior of the ambulance and report cases to the proper authorities.

Legal Office

Paralegal Personnel & Litigation support specialists perform background investigation and research for lawyers. They research legal precedents, articles, and other law materials to prepare briefs, pleadings, appeals and other trial documents. They are increasingly using audio/visual and multimedia technologies to reenact events such as crimes and accidents before a jury.

TASKS - 1) Gathers and analyzes research data, such as statutes, decisions, and legal articles, codes, and documents. 2) Prepares legal documents, including briefs, pleadings, appeals, wills, contracts, and real estate closing statements. 3) Investigates facts and law of cases to determine causes of action and to prepare cases. 4) Prepares affidavits or other documents, maintains document file, and files pleadings with court clerk. 5) Appraises and inventories real and personal property for estate planning. 6) Arbitrates disputes between parties and assists in real estate closing process. 7) Calls upon witnesses to testify at hearing.

Architecture & Construction Cluster

HVAC Technician

Heating and air-conditioning systems control the temperature, humidity, and the total air quality in residential, commercial, industrial, and other buildings. Refrigeration systems make it possible to store and transport food, medicine, and other perishable items. *Heating, air-conditioning, and refrigeration mechanics and installers*—also called technicians—install, maintain, and repair such systems.

Heating, air-conditioning, and refrigeration systems consist of many mechanical, electrical, and electronic components such as motors, compressors, pumps, fans, ducts, pipes, thermostats, and switches. In central heating systems, for example, a furnace heats air that is distributed throughout the building via a system of metal or fiberglass ducts. Technicians must be able to maintain, diagnose, and correct problems throughout the entire system. To do this, they adjust system controls to recommended settings and test the performance of the entire system using special tools and test equipment.

Although they are trained to do both, technicians often specialize in either installation or maintenance and repair. Some specialize in one type of equipment—for example, oil burners, solar panels, or commercial refrigerators. Technicians may work for large or small contracting companies or directly for a manufacturer or wholesaler. Those working for smaller operations tend to do both installation and servicing, and work with heating, cooling, and refrigeration equipment.

Heating and air-conditioning mechanics install, service, and repair heating and air-conditioning systems in both residences and commercial establishments. Furnace installers, also called heating equipment technicians, follow blueprints or other specifications to install oil, gas, electric, solid-fuel, and multiple-fuel heating systems. Air-conditioning mechanics install and service central air-conditioning systems. After putting the equipment in place, they install fuel and water supply lines, air ducts and vents, pumps, and other components. They may connect electrical wiring and controls and check the unit for proper operation. To ensure the proper functioning of the system, furnace installers often use combustion test equipment such as carbon dioxide and oxygen testers.

Sources:

U.S. Department of Labor; Bureau of Labor Statistics; Occupational Outlook Quarterly; Fall 2002 Vol. 46, Number 3

Career Development Resources; 9001 IH35 North, Suite 103B, Northview Business Center
Austin, Texas 78753-5233; <http://www.cdr.state.tx.us/Contact/Directory.html>

America's Career InfoNet; www.acinet.org/acinet/default.asp?soccode=&stfips=

**Erie County Technical School
Quality Action Plan**

Best Practice A. Nationally Accredited Programs					
Vision Anchors: Product and Culture					
Desired State			Current State		
• All programs participate in national skill standard certifications • All teachers and all capable students participate • Have the standard recognized by businesses and industries at a local level • Increase students' transition and employability • Meet industry's need for a skilled workforce locally and nationally • Attract students with academic and technical skills necessary to attain the certification			• ISO certified • Fifteen of 19 programs have accreditation • Three other programs in planning state for accreditation • Some teacher certifications • Limited student certifications • Program improvements noted from current program accreditations		
Action Step	Solutions/Examples	Responsible Party	Time Line	Financial Resources	Other Resources
1. Identify national accreditations for all programs	• Elicit support of national organizations	• Skill Standards Coordinator • Director	• 2003-2004 School Year • Ongoing until complete		• Repository of National Standards • PDE/BCTE
2. Conduct curriculum reviews and development	• Create modularized course outlines • Model after Frances Tuttle Programs	• Curriculum Coordinator • Skill Standards Coordinator • Teachers	• 2003-2004 School Year • Ongoing until complete	• \$50,000 Annually (Innovative Learning & Workforce Development Grant)	
3. Establish a Curriculum Coordinator Position	• Curriculum Coordinator Position	• Director • Human & Quality Resources Coordinator	• 2003-2004 School Year	• \$60,000 (Salary and Benefits) • Existing funding reallocated—Perkins	• Couple job duties with special education coordination
4. Collaborate with businesses to attain program accreditation	• Bay Harbour Electric Partnership Example	• Placement Coordinator • Skill Standards Coordinator	• Ongoing	• \$5,000 annually • New expense	• Occupational Advisory Committees
5. Collaborate with businesses to attain teacher certification	• Bay Harbour Electric Partnership Example	• Community Relations Coordinator • Teachers	• Ongoing	• See #3 above	• Occupational Advisory Committees
6. Collaborate with business to attain student certification	• Fund certification testing for students • Expand school year to help students with certification	• Business & Industry	• Ongoing	• See #3 above	• Occupational Advisory Committees

**Erie County Technical School
Quality Action Plan**

Best Practice B. Teachers as Instructional Managers					
Vision Anchors: Culture, Product and Promotion					
Desired State			Current State		
• More emphasis on student-centered, teacher-managed instruction • Students (adult and high school) able to move through curriculum independently or in small groups • Small group instruction rather than large group instruction • Flexibility in curriculum to allow open-entry, open-exit • Students interact with a variety of instructional media			• Instructors use a limited variety of instructional management techniques • Instructors spend an inordinate amount of time with classroom management • Instructional focus is teacher-centered • Students tend to move through curriculum in large groups		
Action Step	Solutions/Examples	Responsible Party	Time Line	Financial Resources	Other Resources
1. Conduct curriculum reviews and development	• Create modularized course outlines • Monroe and Lancaster County Technical Schools • Model after Frances Tuttle Programs	• Curriculum Coordinator • Teachers	• 2003-2004 School Year • Ongoing until complete	• See Best Practice A, Action Step 1	
2. Conduct staff development in instructional methods		• Human & Quality Resources Coordinator • Curriculum Coordinator • Principal • Teachers	• 2004-2005 School Year • Ongoing until complete	• \$5,000 Annually • Additional expense in existing staff development • Ongoing	• Intermediate Unit Staff Development Series
3. Acquire a variety of alternative instructional resources	• Internet • CD-ROMs • Audio-Video • Published materials	• Curriculum Coordinator • Information Systems & Technology Manager • Teachers	• 2003-2004 School Year • Ongoing	• \$10,000 Annually • Additional expense in existing instructional materials • Ongoing until complete	

**Erie County Technical School
Quality Action Plan**

Best Practice C. Marketing & Public Relations					
Vision Anchors: Promotion					
Desired State			Current State		
• A waiting list in every program • Demand for our students by business and industry • Community awareness of what ECTS does and offers			• We have: ▪ School brochures ▪ Video tape ▪ Newspaper articles ▪ Presentation in home school classrooms ▪ Fall Fest ▪ Public relations agency used to market ECTS ▪ Website		
Action Step	Solutions/Examples	Responsible Party	Time Line	Financial Resources	Other Resources
1. Improve program quality	• See Best Practices A, B and E	• All Campus Faculty and Staff	• Ongoing		• Current use of ISO • National Skill Standards
2. Develop and conduct a planned marketing and public relations campaign	• Radio, TV and newspaper advertisements • Use of booths at county fairs and mall • Mass mailings • Video and CD-ROM • Interactive Web Page	• Community Relations Coordinator	• Ongoing	• \$25,000 Annually • Existing funding	• Local college internships
3. Establish a Community Relations Coordinator	• Community Relations Coordinator	• Joint Operating Committee • Director • Human & Quality Resources Coordinator	• Establish 2004-2005 School Year	• \$50,000 (Salary & Benefits) • Existing funding reallocated—Public Relations Contract & Placement/Recruitment Coordinator	
4. Conduct summer camps or classes	• Lehigh Career & Technical Institute Summer Program	• To Be Determined—contract position	• Establish 2005-2006 School Year • Ongoing thereafter	• Self-supporting through summer camp tuitions	• Workforce Investment Board Request for Proposals

**Erie County Technical School
Quality Action Plan**

Best Practice D. Co-Enrollment of Adults					
Vision Anchors: Customer, Culture and Product					
Desired State			Current State		
• Adult and high school students enrolled in the same programs • An instructional environment that is stronger, more adult-like because of the presence of adults • An improved image of career and technical education because of the “postsecondary prestige” • Improved economies from a dual-purpose training operation • Teachers become instructional managers • Availability of Associate Degrees			• Currently no means for adults to enroll in high school programs • Adults are already in the building for other programming (NC/NO) • Board policy allows for adults to attend high school programs • No programs are accredited for adult training • Reputation and perception of training is weak in the eyes of adults • Adults don’t know the value of what they’ll learn		
Action Step	Solutions/Examples	Responsible Party	Time Line	Financial Resources	Other Resources
1. Develop courses with adult interest and certification	• Change/update current curriculum • Develop flexibility to meet community needs	• Curriculum Coordinator • RCTC Manager • Teachers	• 2003-2004 School Year • Ongoing until complete		• Workforce Investment Board • See Best Practice G
2. Conduct staff development	• Adult learning theory, etc.	• Human & Quality Resources Coord. • RCTC Manager • Teachers	• 2004-2005 School Year • Ongoing until complete	• See Best Practice B, Action Step 2	• See Best Practice B
3. Enroll first adults into selected high school programs	• Advertise • Examine and develop a behavior policy • Training available on part- or fulltime basis	• RCTC Manager • Curriculum Coordinator • Teachers	• 2005-2006 School Year • Ongoing until complete	• Existing funding—RCTC	• RCTC Student Handbook • See Best Practice B
4. Attain accreditation for all programs	• COE, Middle States or PDE • Mercer County Career Center	• Curriculum Coordinator • RCTC Manager	• 2004-2005 School Year • Ongoing until complete	• \$5,000 (initial accreditation) • \$3,000 annually (accreditation fee)	
5. Clarify and obtain funding/subsidy stream	• Community college or technical institute designation	• Director • RCTC Manager • Business Manager	• 2004-2005 School Year		• PDE

**Erie County Technical School
Quality Action Plan**

Best Practice E. Integrated, Contextual Academics					
Vision Anchors: Product and Customer					
Desired State			Current State		
• CTE students with proficient or above academic skills • CTE students pass PSSA's (Reading, Writing, Mathematics) • Academic instruction relevant to CTE program • Academic credit for CTE content related to academic content • Pull-out and push-in approaches to academic instruction • Improve students' perception of academic instruction • Students acknowledge applied academic instruction • Integrated academic instruction reflects the high academic demands of the workplace			• Mathematics program is in place • Professional Skills and math programs are models • Some sending schools try to integrate with vocational education (i.e. writing related to vocational education) • Senior projects in home school related to career and technical school • Students lack academic skills—PSSA evidence • Business and industry have academics as a high priority • Student perception of academics is low and unwelcome • Students take the easy route in terms of academics if allowed		
Action Step	Solutions/Examples	Responsible Party	Time Line	Financial Resources	Other Resources
1. Enroll students with above basic academic proficiency	• Establish academic prerequisites • Cumberland Perry Admissions Policy	• Principal • Student Services	• 2004-2005 School Year		• 24 PS 18—1850.1 (16) Organization & operation of schools
2. Implement a Reading Improvement Program	• Reading in the content/program areas • Coach teachers to improve reading • Team teach lessons	• Reading Resource Coordinator • Curriculum Coordinator • Teachers	• 2004-2005 School Year	• \$5,000 annually • New expense	• Coordinated with Staff Development • IU Reading Institute • PA Literacy Council
3. Establish a Reading Resource Position	• Reading Resource Coordinator	• Director • Human & Quality Resources Coordinator	• 2004-2005 School Year	• \$60,000 (Salary and Benefits) • Existing funding reallocated—Perkins	• Couple job duties with special education teacher
4. Conduct curriculum reviews and development	• Establish a vocational-academic curriculum matrix	• Curriculum Directors • Curriculum Coord. • Reading & Math Resource Persons • Teachers	• 2003-2004 School Year • Ongoing until complete	• See Best Practice A, Action Step 1	• PA Academic Standards
5. Conduct staff development in reading instruction		• Human & Quality Resources Coord. • Reading Resource Person	• 2004-2005 School Year • Ongoing	• \$5,000 annually • Existing funding—ILWD Grant	• IU Reading Institute • PA Literacy Council

**Erie County Technical School
Quality Action Plan**

Best Practice E. Integrated, Contextual Academics (continued)					
Action Step	Solutions/Examples	Responsible Party	Time Line	Financial Resources	Other Resources
6. Conduct pre-and post-assessments of student performance	• Reading • Mathematics • Writing	• Curriculum Coordinator • Reading & Math Resource Persons	• 2004-2005 School Year • Annually	• \$10,000 (assessment set-up costs)	• 8th Grade PSSA Results
7. Implement a Technical Communications Program (written & verbal)	• Consider published packages • Offer on-line content	• Technical Communications Resource Person	• 2006-2007 School Year	• \$5,000 annually • New expense	
8. Establish a Technical Communications Resource Position	• Technical Communications Resource Person	• Director • Human & Quality Resources Coordinator	• 2006-2007 School Year	• \$60,000 (Salary and Benefits) • New expense	
9. Make academic credit available based on academic content in career & technical programs	• Establish a vocational-academic curriculum matrix • Offer academic credit to high school students for CTE programming • Coordinate with sending school districts	• District Curriculum Coordinators • Curriculum Coordinator • Mathematics Resource Person • Reading Resource Person • Teachers	• 2005-2006 School Year		• Tri-County Intermediate Unit Curriculum Coordinators

**Erie County Technical School
Quality Action Plan**

Best Practice F. Regional Collaboration					
Vision Anchors: Culture, Product and Customer					
Desired State			Current State		
• Full coordination of career & technical education from ECTS • Programming should include some form of publicly funded post-secondary technical training • Consumer & Family Sciences and Technology Education should be based on career exploration • There should be inter-district coordination of Consumer & Family Science and Technology Education • The Erie County Technical School is excellent example of collaboration			• Intermediate Unit coordinates some CTE programs (STW, Tech Prep, 3Com) • There are no technical training opportunities for adults in many trade areas • There are CTE programs in several sending districts (e.g. agriculture education, business education, FAMS, child care, 3Com) • There is a bleak reality to share and coordinate limited resources • There is virtually no collaboration between the City and County CTE		
Action Step	Solutions/Examples	Responsible Party	Time Line	Financial Resources	Other Resources
1. Combine secondary and postsecondary technical training into one operation (dual enrollment)	• Build flexibility into course content • Sequence programming for adult availability • Collaborate with community or technical college • Lancaster County — co-enrollment	• School Boards • Joint Operating Committee • Superintendents • Director • RCTC Manager • Postsecondary School or Technical Institute	• 2005-2006 School Year • Ongoing until complete	• \$25,000 (set-up and legal costs) • New expense	• See Best Practice D
2. Develop inter-district cooperation	• Coordinate CTE with RCI • Coordinate City & County secondary CTE programs	• School Boards • Joint Operating Committee • Superintendents	• 2003-2004 School Year • Ongoing until complete		• Transportation services
3. Districts transfer responsibility for CTE programming	• Provide cooperative education and work-based services to sending districts • Establish sending-school-based CTE programs • Great Oaks, Cincinnati	• School Boards • Joint Operating Committee • Superintendents • Director	• 2005-2006 School Year • Ongoing until complete	• \$10,000 (legal set-up costs)	• Legal Assistance • See #1 above

**Erie County Technical School
Quality Action Plan**

Best Practice F. Regional Collaboration (continued)					
Action Step	Solutions/Examples	Responsible Party	Time Line	Financial Resources	Other Resources
4. Establish a Pre-vocational program (middle or early high school)	Existing School-to-Career programs in region	- Superintendents - Director - Curriculum Directors	2005-2006 School Year - Ongoing until complete	\$25,000 - New expense	- School-to-Career Partnership - Tech Prep Consortium - Family & Consumer Sciences and Technology Education classes
5. Establish a three-county career & technical education administrative consortium (Erie, Crawford, Warren)	- Curriculum Coordination - Business & Industry Partnerships - Equipment, Supplies & Materials Purchasing - Administrative Services - Lehigh-Carbon County Consortium	- School Boards - Joint Operating Committee - Superintendents - Vocational Directors	2006-2007 School Year		Workforce Investment Board

**Erie County Technical School
Quality Action Plan**

Best Practice G. New & Emerging Career & Technical Programs					
Vision Anchors: Product, Customer and Promotion					
Desired State			Current State		
• Technical training programs that are of interest to high school students and adults • Technical training programs that meet the needs of business and industry locally and beyond • Incorporate new programs that come with a national certification			• Good programs in place • Need to stay current with technology and occupational changes		
Action Step	Solutions/Examples	Responsible Party	Time Line	Financial Resources	Other Resources
1. Public Safety Services (Firefighter/EMT)	• Senior-only Program	• Curriculum Coordinator • Occupational Advisory Committee	• 2005-2006 School Year	• \$100,000 (start-up costs—equipment, materials, supplies)	• Erie County Firefighting Grounds • Local Fire Departments
2. Natural Resources & Environmental Services	• Three-year Program	• Curriculum Coordinator • Occupational Advisory Committee	• 2005-2006 School Year	• \$50,000 (start-up costs—equipment, materials, supplies)	• Asbury Woods • Presque Isle State Park • D.E.P
3. Health Technician Services	• Three-year Program or Senior-only Option ▪ Radiology ▪ Respiratory ▪ Surgical ▪ Pharmaceutical ▪ Medical Lab	• Curriculum Coordinator • Occupational Advisory Committee	• 2006-2007 School Year	• \$100,000 (start-up costs—equipment, materials, supplies)	• Local hospitals • Coordinated with Medical Assistant Services
4. Electronic Commerce Services	• Senior-only Program	• Curriculum Coordinator • Occupational Advisory Committee	• 2006-2007 School Year	• \$25,000 (start-up costs—equipment, materials, supplies)	• Coordinated with Networking Technologies and Computer Information Systems
5. Digital Publishing Services	• Senior-only Program	• Curriculum Coordinator • Occupational Advisory Committee	• 2006-2007 School Year	• \$25,000 (start-up costs—equipment, materials, supplies)	• Coordinated with Networking Technologies, Computer Information Systems and Electronic Commerce

**Erie County Technical School
Quality Action Plan**

Best Practice G. New & Emerging Career & Technical Programs (continued)					
Action Step	Solutions/Examples	Responsible Party	Time Line	Financial Resources	Other Resources
6. Legal Office & Paralegal Services	• Senior-only Program	• Curriculum Coordinator • Occupational Advisory Committee	• 2006-2007 School Year	• \$25,000 (start-up costs—equipment, materials, supplies)	
7. Medical Information Services	• Senior-only Program	• Curriculum Coordinator • Occupational Advisory Committee	• 2007-2008 School Year	• \$25,000 (start-up costs—equipment, materials, supplies)	
8. Pre-Engineering Sciences	• Three-year Program or Senior-only Option • Four Disciplines: ▪ Mechanical ▪ Electrical ▪ Chemical ▪ Civil	• Curriculum Coordinator • Occupational Advisory Committee	• 2007-2008 School Year	• \$100,000 (start-up costs—equipment, materials, supplies)	
9. Biotechnology Sciences	• Three-year Program or Senior-only Option	• Curriculum Coordinator • Occupational Advisory Committee	• 2007-2008 School Year	• \$100,000 (start-up costs—equipment, materials, supplies)	• Pennsylvania Life Sciences Project
10. Nanotechnology Sciences	• Three-year Program or Senior-only Option	• Curriculum Coordinator • Occupational Advisory Committee	• 2007-2008 School Year	• \$250,000 (start-up costs—equipment, materials, supplies)	• Local Economic Development Organizations • PSU Nanofabrication Network
11. HVAC Technologies	• Three-year Program	• Curriculum Coordinator • Occupational Advisory Committee	• To Be Determined	• \$100,000 (start-up costs—equipment, materials, supplies)	
12. Equine Sciences	• Three-year Program	• Curriculum Coordinator • Occupational Advisory Committee	• To Be Determined	• \$50,000 (start-up costs—equipment, materials, supplies)	• Horse Racing Track

Anticipated Program Implementation & Skill Center Renovation Timeline: 2004-2005—PDE PlanCon; 2005-2006—Skill Center Renovation; 2006-2007—New Program Implementation



Erie County
Technical
School

Creating New Career Opportunities

**A Strategic Vision for the
Erie County Technical School
2001-2007**

**Striving for Excellence in
Career and Technical Studies**

many occupations, skills are becoming obsolete in a few years; an employee who fails to learn new skills will quickly become unemployable. Perhaps the most highly regarded employee is the one who recognizes the need for training and shows the initiative to obtain it.

Business and industry is a unique customer. They have a very clear picture of their expectations. They expect the educational system and vocational-technical education in particular to provide them with a workforce that meets their needs.

Other Important Customers

Although high school students and business and industry get most of our attention, there are other benefactors of what we offer. The eleven school districts that send students to the school are an important customer. They pay the “tuition” for our students that covers our operational costs. They expect a quality return on their investment. The Erie County Technical School is the vocational-technical education department for each of the schools. They want this “department” to reflect the same high quality they expect to see in their mathematics, science, English, music and art departments.

Postsecondary educational institutions are also important customers. Like business and industry, they receive the students we educate. They also seek technically trained and academically qualified students to participate in their educational programs. If students know more leaving high school, then they can study deeper into a postsecondary curriculum.

Lastly, the public and our communities are our customers. They are looking for young people who will be good citizens—students who will take part in civic and social organizations. They are looking for people who will give to their communities and make them better places to live and work.

Strengths & Challenges

This section summarizes the strengths that will propel and the challenges that could deter us. A few characteristics of the Erie County Technical School will facilitate the implementation of this strategic plan and the achievement of the goals we have set. We recognize them, as do our customers. They give our operation confidence and stabilize our

relationships. They are our strengths. These strengths include our partnerships, our quality staff and our successful graduates. Other difficulties and environmental factors keep us from achieving our mission and vision. We have identified these as our challenges and plan to keep them from hindering our progress.

Strengths

Partnerships. The Erie County Technical School is the vocational-technical education department of 11 schools districts. We firmly believe that our partnerships with our affiliate school districts are our strongest asset. These relationships have nurtured over time through mutual respect and service. School board members, superintendents, principals and guidance counselors can count on each other. As this strategic plan evolves, these partnerships will be critical to our success.

Quality Instructional & Support Staff. The success of our students and the success of a program pivot on the instructor. Great teachers provide opportunities for their students to experience success. We have great teachers, teachers who exude two primary characteristics. First, our teachers demonstrate the ability to creatively present their curriculums. Their classrooms and laboratories are places of active learning. Students walk away each day feeling they *learned* something and *did* something. The instructors engage their students in the learning process and push them toward rigorous activities. Second, our teachers demonstrate a sincere interest in their students. They are concerned about and play a role in their academic and personal lives. Their students are motivated to new heights of personal, academic and professional achievement.

For these reasons, we believe that our staff possesses characteristics representative of great teachers. We also believe that a quality staff and a quality work environment attract other quality people. We invite all of our staff members to play an important role in the selection of new personnel. Good people know what to look for in potentially good hires. A large part of our success can be directly attributed to the high quality of our staff members—both instructional and support.

Successful Graduates. Many of the technical school's graduates have gone on to become successful business owners, teachers, nurses, airline pilots and even lawyers. By no means are we training for these occupations. However, if you talk with these graduates, they will tell you that their experience at the Erie County Technical School set the stage for them to achieve success. As noted by one Core Team member, "This school turns kids on!" We do not measure our success by the number of lawyers, nurses or teachers that come from our ranks. What we do measure is the number of graduates who are employed in respectable and valued occupations in the fields for which they were trained. Moreover, when you use that standard to measure our success, then you find we have many successful graduates.

Our strategic planning Core Team was keenly aware of these successful graduates. That is why you will see they have recommended that the school use these graduates to promote the value of the Erie County Technical School.

Challenges

Public Awareness. The public at large knows little about our successful students, graduates and programs. We must therefore market ourselves. To market properly, one must understand their customers and align marketing campaigns to reach their customers. However, marketing and public relations are sophisticated and expensive ventures. Properly designed and implemented campaigns require significant personnel and financial investments. If this strategic plan is to be successful, then there must be a firm commitment to make the necessary investments to persuade the public of the valuable opportunities available through career and technical education and the Erie County Technical School.

Serving New Groups of Students. There are students and parents who perceive vocational-technical education as a career path that leads only to employment, rather than a path to postsecondary education. We are challenged to continue to serve our existing students while expanding our base to include more students who plan to attend 2- or 4-year institutions and those students who are undecided about their career plans. These potential customers often lack the necessary academic preparation or the career orientation to begin collegiate studies. As suggested during our Core Team meetings, when these new students

see the technical school as the “best path” to their careers, they will enroll. We must design and deliver technical training programs that parents and students perceive as viable career preparation options.

Choice and Competition. While we may not readily recognize or admit it, the Erie County Technical School does face competition for enrollees. We know we are a school of choice. Students choose to attend this school. However, there are potential competitors for students, such as the Ford Academy of Manufacturing Sciences, the Tech Prep initiative, the McDowell Academy and other school-to-work programs.

There is also the strong possibility that local businesses and industry could develop career preparation programs designed for high school students. Pennsylvania’s school initiatives lead to the possibility of local businesses or postsecondary schools establishing career or industrial programs that attract students toward charter-based technical training programs. Many colleges permit high school students to enroll in classes for high school and degree credit, and could extend this practice to enrolling students in technical classes.

Changes in the Local Labor Force. When compared to the economic composition of other metropolitan areas, Erie County has a larger percentage of manufacturing than average. However, Erie County’s economic makeup is changing. In previous times, manufacturing represented over 30% of the economic output in our county. Today, that foothold is slipping away and is giving way to the service, finance, insurance and retailing segments, a trend also observed in the U.S. economy. As manufacturing experiences a downturn in employment, fewer young people enter the field. The challenge we face is being able to respond to the changing economic landscape. As student demand for manufacturing-based programs softens, we must be prepared to transform the school’s resources into a different mix of occupational training that better reflects our evolving economy.

Funding. There are two aspects to funding challenges. One, which we do not consider a serious challenge, is the overall financial health of the school. The financial prospects of the school would be excellent in a steady state funding model. However, the political economy of education is anything but steady. What we do consider a challenge is

the availability of the financial resources necessary to carry out this strategic plan. These ideas will require additional funds. For the past three years, the school has operated on a zero-increase budget. Despite a recent effort to establish a fund balance, our reserves are insufficient to completely fund the goals called for in this plan. The challenge therefore is to garner the support necessary to financially support this plan's recommendations. The probability is good that the funding can be acquired through existing local sources. What we must demonstrate to the participating school districts is the need for "new career opportunities" and the "added value" achieved through these opportunities.

Strategic Goals

These goals represent our effort to realize our vision. We expect these goals will be fully executed at the end of this six-year plan. We understand some of these goals are building the foundation for our next vision. Our goals are:

- Goal 1 — Convince students, parents and the public that career and technical education is a choice for every student.**
- Goal 2 — Serve new groups of students with new or revised curricula.**
- Goal 3 — Introduce new instructional techniques.**
- Goal 4 — Examine partnerships in the delivery of career and technical education.**

Action Plans

Goal 1 — Convince students, parents and the public that career and technical education is a choice for every student.

Activity	Start Date	Personnel Responsible	Date Completed
Facilitate a career development program for all students in our service area. - Career Sampler Course - Middle School Tech Week Program - K-12 Career Guidance	July 2002	Director, Superintendents, Curriculum Directors	
Put into practice a marketing plan that educates people, particularly parents of middle and high school students, of the opportunities available through technical education	June 2002	Director, Public Relations Consultant, Joint Operating Committee	
Continue the development of an alumni association and utilize it in the public relations activities	September 2002	Principal	
Establish a Parent Advisory Council to assist with guidance and marketing efforts	September 2002	Director, Principal, Student Services Coordinators	

Goal 2 — Serve new groups of students with new or revised curricula.

Activity	Start Date	Personnel Responsible	Date Completed
Create training programs that articulate with postsecondary programs (schedule is flexible). - Pre-engineering (<i>Project Lead The Way</i>) - Firefighting/Emergency Medical - HVAC - Marketing/Business Management - Diesel/Heavy Equipment Mechanic	August 2003 August 2004 August 2005 August 2006 August 2007	Director, Articulation Coordinator, Principal	

Goal 2 — Serve new groups of students with the new or revised curricula. (Con't.)			
Activity	Start Date	Personnel Responsible	Date Completed
Establish the flexibility to deliver training programs that respond to emerging labor trends and fulfill “demand occupations.”	July 2002	Director, Joint Operating Committee	
Increase total enrollment by 5% over each of the next six years.	July 2002	Director, Principal, Student Services Coordinators	

Goal 3 — Introduce new instructional practices.

Activity	Start Date	Personnel Responsible	Date Completed
Develop career pathways that coordinate academic instruction with technical instruction, and that complement student capabilities and styles. • Develop lists of suggested academic classes for each vocational program • Establish alternative scheduling/delivery patterns (i.e. 3 to 6 Program)	September 2002 January 2003	Principal & Student Services Coordinators Director & Principal	
Establish programs or procedures that allow vocational students to take part in relevant and rigorous academic studies. • Establish a program that integrates academic instruction with vocational instruction (<i>High Schools That Work</i>)	January 2003	Director & Curriculum Coordinators	
Continue to coordinate local curricula with nationally recognized curriculum standards	July 2002	Director, Principal, National Skill Standards Coordinator & Instructional Staff	
Develop additional opportunities for students to receive work-based learning experiences	September 2002	Director & Student Services Coordinators	

Goal 4 — Examine partnerships in the delivery of career and technical education.

Activity	Start Date	Personnel Responsible	Date Completed
Develop an alliance with other career and technical education schools in the delivery of vocational-technical education.	July 2002	Director, Principal & Business Manager	
Continue to develop articulation agreements with postsecondary institutions—especially technical training providers	July 2002	Director, Principal & Articulation Coordinator	
Investigate the opportunities and challenges present in regional operational partnerships.	July 2002	Administrative Staff & Joint Operating Committee	

Erie County Technical School

Building Renovation and Expansion

Feasibility Study

2009-2010

Executive Summary

Introduction

For several years now, the joint operating committee, superintendents, and faculty and staff have been discussing the need to renovate the Erie County Technical School and Regional Skill Center. A building project would correct deficiencies in existing programs, expand facilities to accommodate new programs, and perhaps add classroom space so the school could change to a full-day comprehensive program (technical with academics). As part of the school's strategic plan in 2007, a goal and action plan were developed to conduct a feasibility study and to make a commitment to renovate and expand the facility.

In the following four sections, this executive summary presents the rationale for a renovation and expansion project at ECTS. The first section, *The Need*, identifies the functional issues the school is currently facing, with regard to facilities. The second section, *The Opportunities*, discusses what can be accomplished with this proposed building project. The third and fourth sections, *Brief Facilities History* and *Current Facilities Description*, provide historical and background information to support the decision-making process to move this study to an implementation stage.

The Need

1. Main campus building fully utilized

Space utilization at the technical school building is at capacity, in terms of both instructional and auxiliary space (office, conference, and storage areas). Even though the technical school has an interest in adding technical training programs, there is no space available. In fact, some laboratories are in spaces considered inadequate for their current use. The Tourism and Hospitality Management program only has access to a classroom. The Networking Technologies program is housed in a small classroom that was not designed for 'high-end' computer training.

In order to meet the growing need for classroom and office areas, the facilities department has converted several areas to different uses. As examples:

- a) A tiered auditorium (Room 18) was converted to a 'flat-floor' classroom
- b) A storage area (Room 14) was converted into a two-station office
- c) A classroom (Room 40) was converted to office space to accommodate alternative education faculty and staff; and
- d) Our Information Systems and Technology Manager uses an 'office suite' designed for a school nurse.

Based on current and projected enrollment patterns, regional workforce projections and state program closure requirements, we do not foresee laboratory space becoming available due to program changes. We have also used all of the space that could be converted to other uses without extensive costs. Each year we squeeze a few more things into existing spaces. We anticipate the demands will continue to grow on our instructional and auxiliary spaces.

It is worth mentioning that the Skill Center also has a high usage rate. Of the approximately 40,000 sq. ft. of space, 75% of that space is utilized for instructional purposes. The Skill Center houses RCI Dual Enrollment classes four days a week, and the career alternative education and Transition Center programs five days a week. Hours of operation are from 8:00 a.m. to 7:00 p.m. The remaining 10,000 sq. ft. is used as a storage area for the technical school and leased storage space to the Intermediate Unit.

2. Age & Condition of Infrastructure

The last renovation was completed in 1993. As a means of controlling costs for that \$6 million project, several key infrastructure items were not updated. The boilers, most HVAC units and the main electrical distribution system are from the 1969 installation. The exterior fascia is the original paint and now showing significant signs of rust. Some of the improvements in 1993 are now reaching the end of their life expectancy, or new technologies over the past 16 years are more efficient. The deficiencies noted here are explained more fully in the Tower Engineering Report.

As noted earlier, many programs are operating in spaces considered to be inadequate for effective instructional purposes. Tourism & Hospitality Management and Networking Technologies are new programs that were placed in classrooms in lieu of laboratories. In 1997, the Culinary Arts program was expanded from a single teacher program to a double teacher program. To accommodate the expansion, a production kitchen was used as an instructional kitchen. The accessory spaces like locker rooms are severely undersized for the number of students enrolled in the program. The Career Alternative Education program accepts middle school students in an area converted from a delivery/storage room into a classroom.

Small group interviews were conducted by Chris Coughlin, of Hallgren, Restifo, Loop and Coughlin, with all faculty and staff regarding their space and facility needs. Infrastructure

and space issues were identified during the interviews. Every program has some need to improve space or services. A compilation of those interviews can be found in the appendix.

3. Enrollment should grow

For the past several years, several hundred students have been ‘turned away’ from ECTS because the programs they were interested in had already met their enrollment capacity. Cosmetology, Health Assistant, Early Childhood Education, Metal Fabrication and Culinary Arts have each had more students interested in the program than there were seats available. The enrollment at ECTS could easily increase 100 students annually if we could increase the capacity in popular programs.

Campus enrollment could also increase if ECTS offered programs where significant student interest exists. Examples of programs that students are interested in but not available at ECTS include Natural Resources & Environmental Studies, Public Safety Services, Diesel Mechanics, Web Design & E-Commerce and Pre-Engineering. With just a minimal enrollment in these areas, the ECTS enrollment could increase another 100 students each year.

Finally, serving students whose plans include postsecondary education is constantly a challenge. Despite over 50% of ECTS students going on to postsecondary education, many families perceive ECTS as a ‘not-for-college’ school. There are also students we could serve whose career plans are incomplete. When more families see ECTS as the ‘best path’ to their careers, they could enroll. We must continue to design and deliver technical training programs so families perceive ECTS as a viable career preparation option. New programs, current programs in new spaces and new academic offerings will significantly improve our capability to attract and serve these students.

The Opportunities

Many of the opportunities associated with a building renovation and expansion have already been alluded to in previous sections. To present a comprehensive overview of the opportunities associated with this building project, the following list is provided. The specific opportunities include:

- 1. Build instructional areas for new programs to train for evolving, high priority occupations and expand program offerings to meet career aspirations of a broader spectrum of students.*

The new programs include:

- a. Health Technician Occupations and Pre-Nursing

- b. Computer and Internet-based Occupations
- c. Engineering Occupations
- d. Public Safety Services
- e. Natural Resources & Environmental Sciences
- f. Diesel Mechanics

2. *Create additional instructional space for oversubscribed programs to meet current student demand for career and technical education.*

In particular:

- a. Cosmetology
- b. Early Childhood Education
- c. Health Assistant
- d. Metal Fabrication

3. *Create an instructional environment that allows for the integration of academic and technical instruction.*

In a feasibility study focus group conducted with the superintendents, one of the superintendents posed the question, “What would we build if we were starting from scratch?” The question dealt with a discussion about adding academic classes at the technical school, making it a comprehensive technical school, and allowing students to attend ECTS on a full-day basis. The consensus was that for many students, a comprehensive model would best serve their academic and technical education needs. If this kind of delivery model is adopted, additional classroom space will be needed to accommodate the core academic classes.

In a 2008 survey, students were asked, “If ECTS offered the academic classes of math, English, social studies and science, would you choose to attend ECTS all day?” Of just over 600 responses, 37% responded “Yes” and 34% responded “Maybe.” Nearly 440 students expressed an interest in attending the technical school all day. This indicates a clear interest of many students to obtain their academic and technical education in a single setting.

By adopting a comprehensive delivery model, there is the potential for gains in academic and technical education achievement. There are also significant opportunities for districts to save on transportation and instructional costs.

4. *Create an instructional environment to fulfill the needs of the Regional Choice Initiative.*

For the participating school districts, the Regional Choice Initiative, and the dual enrollment program in particular, is a shining example of what can be accomplished collaboratively. Unfortunately, the RCI college-bound students use classrooms built in 1976 that were

**Erie County Technical School
Program Development System
Suggested Considerations**

Proposed Program:			
Criteria	Considerations	Response (Y/N/NA)	Evidence/Source
1. Employer Demand			
	State demand occupation		
	Regional demand occupation		
2. Personnel			
	Certification required/available		
	Salary range		
	Assessed availability		
3. Partnerships			
	Agencies		
	Companies		
	Industry groups		
4. Infrastructure			
	Facilities		
	Equipment		
	Supplies		
	Instructional materials		
5. Student Appeal			
	High school students		
	Adult students		
	Attributes/interests profiles		
	Similar programs in other schools		
6. Wages of Occupations			
7. Postsecondary Transition Opportunities			
	Survey of postsecondary schools		
	Potential Articulations		
8. Career Ladders & Lattices			
	Availability		
	Career Pathway		

Proposed Program:			
Criteria	Considerations	Response (Y/N/NA)	Evidence/Source
9. Curriculum			
	Availability of proprietary curriculum		
	Need to develop curriculum		
	National program accreditations		
	Industry-recognized student credentials		
	Integration academic standards		
10. Competing Programs			
	Similar programs at ECTS		
	Similar programs in other CTCs		
	Similar programs in postsecondary schools		
11. Cost to Operate			
	Equipment		
	Faculty salary		
	Utilities		
	Supplies		
	Instructional materials		
12. Industry Status			
	Industry Status Reports		
	Industry Projections		
Origination Date:			
Assessment Committee:			
SIC Codes:			
Industry Cluster:			