LAKE CHAMPLAIN REGION

Technical Education Pilot Proposal

Submitted by: Lake Champlain Regional Workforce Investment Board

July 31, 1998

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-- Submitted by the Lake Champlain Regional Workforce Investment Board on behalf of the Burlington and Essex Technical Centers, July 31, 1998

The Lake Champlain Regional Workforce Investment Board (LCRWIB) submits this proposal for **funded pilot designation** on behalf of the Burlington Board of School Commissioners, U-46 Supervisory School Board, Regional Advisory Board, Lake Champlain Regional Chamber of Commerce, Lake Champlain Regional School-to-Work Collaborative, Adult Education Council, Greater Burlington Industrial Corporation, Champlain College, Community College of Vermont, Association of Vermont Independent Colleges, University of Vermont, Burlington Technical Center, and Essex Technical Center.

Agreements/Assurances:

1) The LCRWIB agrees to coordinate activities with other pilot sites. We currently work in partnership with Franklin County on the Machining Skills Training Program which has been a very fruitful partnership. (See "Coordination".)

2) The LCRWIB agrees that if a dispute arises between the pilot governance board and any school district board, the Commissioner of Education shall resolve the dispute after an opportunity for a hearing. The decision of the Commissioner shall be final. The LCRWIB also agrees to avoid actions that exacerbate problems caused by the current funding mechanism.

3) The LCRWIB commits to a three year funded project, contingent on continued funding by the general assembly.

4) The LCRWIB demonstrates its commitment by collaborative partners through Letters of Support which are attached.

5) The LCRWIB understands and agrees that expenditure of funds shall be subject to approval of a budget by the Commissioner of Education after consultation with the Chancellor of the Vermont State Colleges.

Identified Need: As stated in our letter of intent, dated June 15, the Lake Champlain region of Vermont is unique in that it is the state's economic engine and hub, with over 5,000 businesses employing over 80,000 people. (Source: Vermont Dept. Of Employment Security Covered Employers). The regional Chamber of Commerce and economic development organization, Greater Burlington Industrial Corporation (GBIC) are jointly housed and share staff in the areas of education and workforce development. **This partnership provides our WIB with important information about the status of the business community and the educational levels of our school age and adult populations.** It is fair to say that our region is experiencing a workforce crisis. For example, a recent survey conducted by the Vermont Manufacturing Extension Center revealed that there is a 10% shortfall of skilled machinists in our region leading to many manufacturers running at as low as 40% capacity. Also, according to GBIC, manufacturers, when surveyed, rank "labor pool" as their most pressing issue. Not only do manufacturers need technically competent employees; they are also searching for employees who are **well-educated** and can demonstrate the "Vital Results" or "soft skills". WIB members indicate that the healthcare, hospitality and banking industries are similarly challenged.

The Lake Champlain Region of Vermont is challenged by a K-12 enrollment of over 20,000 in 57 schools, two technical centers that until recently have not been coordinated, ten sending high schools and several higher education institutions. With funded pilot status, we can accomplish the task of coordinating and aligning our resources with the needs of the workplace; we can restructure governance; and we can improve access to technical education for youths and adults in our community.

The work of our WIB also coincides with the efforts of Burlington's Mayor Peter Clavelle and Plattsburgh's Mayor Clyde Rabideau to develop a strategic revitalization plan which will be submitted this fall to the Department of Housing and Urban Development for designation as an Urban Empowerment Zone. A Champlain Basin Empowerment Zone would create a powerful alignment of resources and initiatives that would bring opportunity, security and sustainability to the region. The plan will focus on several areas that are pressing issues for the City of Burlington and our WIB:

- Job Creation - in seven sectors including manufacturing, transporation, agriculture, sales and service, arts and culture, education, travel/tourism.
- Workforce Development – training and educational programs developed that link workers to jobs in the region and a focus on transportation, childcare and other related services to help workers gain and retain employment
- Education – services to ensure that all children succeed in school be improved and after-school programs expanded to include both recreational and development activities.

The WIB will work closely with Mayor Clavelle to coordinate our regional efforts with the economic development strategies of the City of Burlington.

Opportunity: With the passing of recent technical education legislation and direct participation of key stakeholders , the necessary catalysts are in place to develop a fine-tuned economic development policy for our region, with a focus on workforce development. Pilot designation will provide us with the tools and support to facilitate a better working relationship between the two local host school boards, leading to a trusting, collaborative relationship that will benefit the entire region. Our region will develop strategies, and structures that will serve as prototypes for other regions in Vermont.

Vision: The Lake Champlain Regional Workforce Investment Board, in partnership with the the two technical centers, has created a vision of how technical education should be delivered in our region. The vision is far-reaching and addresses the issues of governance, access and funding. Our proposal also answers concerns about coordination, linkages and partnerships, students achieving high academic standards, and increasing awareness and support for technical education in our community.

Goals: With the opportunity to change the way technical education is delivered through Acts 71 and 138, our region will spend the next three years working to:

- **Integrate** and/or **consolidate** programs at the technical centers;
- Recommend new programs to meet **emerging needs;**
- Develop a strategic process to **consolidate some of the technical education activities of the two local host school boards;**
- **Improve and encourage access** to the technical centers for youth, adults, and families by offering an **eighteen (18) hour schedule daily and an expanded 12 month school year;**
- Establish a **curriculum design team** comprised of technical center and academic educators from sending schools, with post-secondary representation. This team will create a process to successfully deliver an **expanded, applied and integrated, full-time 9-12 technical education curricula** within a comprehensive high school setting and the technical centers;
- Work with the **post-secondary institutions** in our region to ensure that the secondary curriculum meets **college entrance requirements;**
- Offer access to technical center facilities for use by **post-secondary institutions;**
- Tailor **customer-driven programming** that offers more **industry-certified and National Skills Standards certified credentials;**

Goals continued:

- Expand **dual enrollment** opportunities in high school and college during 11th and 12th grades where students can simultaneously **earn high school credit toward graduation and advanced post-secondary standing** ;
- Provide ***open entry, open exit*** for high school students from and to the technical centers during the 9-12 grades; and
- Create a funding process that involves cost-sharing for adults in technical centers and uses resources for all Chittenden County residents and/or, identify alternative funding streams for adults.

At its next meeting the Regional Advisory Board will vote to fold into the WIB, and the advisory governance for programs and specific curricula will shift to the Lake Champlain Regional Workforce Investment Board. *(See letter of support from the RAB chair.)*

Long Range Vision: *As a pilot site, the WIB will work with the technical centers to prepare our region for alignment with the eventual establishment of a statewide LEA for technical education. During the pilot period, the two technical centers will improve coordination, linkages, access, and collaborate on various initiatives in preparation for the establishment of this new statewide technical education system. There are successful models of a dedicated, consolidated, statewide LEA for technical education in other parts of the country.*

Why make changes to technical education?

Outcomes for Students:

- Educational research has cited that approximately 75% of all students learn better when a curriculum is based on applied learning principles. Technical education provides the needed pedagogy and meets the needs of many students.
- With a 9-12 technical education system and *open entry, open exit*, more students will be exposed to and become interested in technical fields.
- Technical education is competency-based and therefore student performance is the focus.
- A 9-12 technical education system will help prevent and recover dropouts in high school. (See "Allow/Encourage Access")
- Changes to the delivery of technical education will address gender equity through exploratory opportunities. (See "Allow/Encourage Access")
- A 9-12 system will allow more workbased learning experiences that are linked to the curriculum.
- An expanded schedule and available services will provide better opportunity for adults and youths to access technical education on the secondary and post-secondary levels.
- Students will have the opportunity to earn high school credit toward graduation and advanced college standing through dual enrollment in secondary and post-secondary institutions.

Outcomes for Employers:

- With the WIB having programmatic authority for the technical centers, employers can be assured that technical education programs are aligned with current market trends and the job market.
- Employers will have better access to the future labor pool by offering more school-to-work opportunities to high school students.
- Employers will see a shortening in response time when a short term labor pool need is identified.

- Employers will participate in developing curriculum and offering facilities and/or equipment to help deliver courses. (In some areas, this has been successful but this strategy is not institutionalized as a "best practice".)

System Outcomes:

- Opportunity to leverage the assets and resources of the technical centers and impact the offerings within the region's comprehensive high schools.
- Increased capacity of the technical education system.
- Employer-driven education and training system.
- Decisions made based on data collection, market trends.
- Consolidation and clarity of governance roles and responsibilities.
- Effective coordination between two technical centers, elimination of duplicative services and more choice for students.
- Opportunity to develop agreements between the two local host school boards about difficult funding issues, i.e adults with and without diplomas.
- Conflicts overcome regarding funding for post-secondary education for adults without diplomas (work with VSAC to expand their non-degree funding programs).
- Integrated technical center program advisory system for both technical centers.
- Alignment of curriculum in both technical centers.
- Seamless access from technical education to post-secondary options.

Proposal Elements:

1) **Governance and the Process for Shifting Governance:** Currently, the Regional Advisory Board serves in an advisory role for program and curriculum oversight and approval and access, with local school boards controlling budget negotiations, i.e. hiring and firing of staff, resources for facilities, supplies, etc.

We propose that the Lake Champlain Regional Workforce Investment Board, a customer-driven, regional organization, will work with local host school boards to be the **programmatic authority for technical education in our region.** *(See Appendix A. for organizational structure before and after pilot.)*

The full WIB, with ***policy recommendation by the Technical Education Committee***, will be responsible for operating as the advisory authority in deciding programs offered at the technical centers and will make recommendations to the local host school boards, thereby shifting this responsibility away from the Regional Advisory Board. These program decisions will be based on: 1) current labor market trends and emerging industries, 2) a continuous assessment by business advisory groups represented by the WIB membership, and 3) student interest in offerings. The Higher Education Council will work collaboratively with the Technical Education Committee and the full WIB to determine linkages and partnerships and/or articulation agreements between local state and private colleges, University of Vermont and technical curricula. *(See Appendix B. for current WIB membership.)*

Members of the Technical Education Committee will be as follows: Representatives from post-secondary education, VT Department of Employment & Training, high school principal(s), employers, VT Department of Social Welfare, Vermont Student Assistance Corporation, Adult Education Council, School-to-Work Advisory Board, at least one school

board member and superintendent from a sending school, and the two technical center directors. Committee members will be appointed by the WIB.

Specifically, the WIB and the Technical Education Committee of the WIB will have the following responsibilities:

- Link, integrate, and coordinate the two technical centers to serve as ONE resource for technical education in our region.
- Recommend technical education budgets to local host school boards;
- Recommend and approve any new programs based on market research,workplace trends and student interest;
- Recommend changes to programs based on market research and workplace trends;
- Provide assistance in securing funding to support programs, personnel and equipment;
- Recommend/provide assistance in utilization of personnel within the technical centers and post-secondary institutions;
- Facilitate and coordinate professional development training for academic and technical educators;
- Assist in recommending space, equipment, curriculum (i.e. Machine Trades, Manufacturing);
- Build a relationship with high schools and local school boards by meeting regularly and developing a common vision for the region. (See "Coordination".)
- Coordinate efforts between the Adult Education Council and local host school boards to develop billing criteria for adults with and without diplomas. This criteria will reflect agreed upon terms for attendance and gain in skills/competencies. Criteria recommendation will be agreed upon by the local host school boards and forwarded to the WIB. This has been a recurring, difficult issue for both local host school boards and the WIB will facilitate the process of bringing about a long-term solution.

Since we know from experience that systemic change cannot be made without strong community collaboration, we have taken deliberate steps to bring key stakeholders together. In preparation for the WIB's role as the advisory authority for the region's technical education system, we recently held two Strategic Planning ½ day retreats at Champlain College, facilitated by Fran Weinbaum, who was provided by the HRIC. The "retreat task force" members present at these two meetings were:

Marcia Baker, Director, Burlington Technical Center
David Buchdahl, Academic Dean, Community College of Vermont
Frank Cioffi, President, Greater Burlington Industrial Corporation (GBIC)
Otto Engelberth, CEO, Engelberth Construction
Richard Flies, Director, Essex Technical Center
Melissa Hersh, Staff, Lake Champlain Regional Chamber of Commerce/GBIC
Donna Jemilo, Superintendent, Burlington School District
Deborah McDowall, IBM (Chamber of Commerce Executive Committee)
Sarah Merritt, Senior Vice President, Chittenden Bank (STW Chair)
Guy Payne, Vermont Heating & Ventilating (WIB Chair)
Roger Perry, President, Champlain College
Wayne Roberts, President, Lake Champlain Regional Chamber of Commerce
Fran Weinbaum, Facilitator
Bill Wintersteen, Vermont Department of Employment & Training

At these two meetings, we reached consensus on organizational issues that will prepare and strengthen the WIB and improve its effectiveness as it assumes its new responsibilities. A summary of organizational decisions is as follows:

Membership: It was agreed that the WIB will be disbanded and reconstituted (in Summer/Fall '98) with an employer majority and a balanced representation of educators and community organizations. The WIB membership will be determined via nomination and ballot system and a WIB member agreement outlining roles and responsibilities will be prepared and signed by each member prior to serving. Nomination and ballot procedures will be outlined in our WIB by-laws. All organizations represented through the WIB will have the opportunity to nominate candidates (RAB, STW, WIB, Chamber, GBIC, etc.). This will be done via a Chamber/GBIC mailing to their entire membership and all agency partners and superintendents, principals from sending high schools and school board members.

Proposed WIB Membership:

Employers (51%)
(3) Manufacturers
(1) Hospitality
(3) Service (Financial, Retail, HealthCare, etc.)
(1) Construction
(2) Small Business Representative
(1) STW Board Chair
(1) Chamber of Commerce Representative
(1) GBIC Representative
(1) Media
(1) Employee

Total: 15

Education & State Agencies (49%)
(2) Technical Center Directors
(1) Superintendent from sending school (RAB Rep)
(2) Superintendents or School Board Members representing local host school boards
(1) 9-12 Building Principal from sending school
(1) Adult Education Council Chair
(1) University of Vermont
(1) Vermont State Colleges
(1) Vermont Independent Colleges
(1) DET
(1) DSW
(1) VSAC
(1) Vocational-Rehabilitation

Total: 14

Recommendations were made about committee structure: All *sub-committees will be established by the WIB and committee members will be elected by the WIB membership.*

Long Range Planning *(existing)*
School-to-Work *(existing)*
Adult Education Council *(existing)*
"Educate & Communicate" Committee *(new)*
— *to work collaboratively with the Chamber's School-to-Work Community Awareness Team*

Technical Education Committee (new)
Higher Education Council (new)
Standards Committee (new)
Coordination Committee (new)
Executive Committee (new)

It was agreed that once the new committees were up and running, the WIB may alter its monthly schedule to quarterly meetings and the real work of the WIB will occur in and between committee meetings. This change should ensure **better business participation**. It was also agreed that: 1) the WIB Chair will always be an employer, 2) the majority of WIB membership will always be a business majority; 3) a quorum is a minimum of 15 people where the majority

of members present are employers with a minimum of seven educators/other members present; and 4) the WIB's fiscal agent will be the Lake Champlain Regional Chamber of Commerce . It was also agreed that the oversight and authority of the Chamber's School-to-Work Collaborative would move from the Chamber to the WIB as part of the three-year pilot project.

These recommendations were brought to the full WIB on July 7 and were unanimously approved.

Changes in the WIB membership, specifically the increase in employer membership and inclusion of sending school representation (RAB, Building principal) will improve community buy-in and involvement.

A shift in programmatic authority from the RAB to the WIB will improve student performance because: 1) there will be a closer connection between the curriculum and the application of those skills in the business community; specifically, the core competencies currently used by the technical centers will meet industry standards and will be linked to the Vermont Framework of Standards *(See Vermont Construction Career Council curriculum – Appendix F.and Career Academy descriptions);* 2) more students will be exposed to technical education either at the comprehensive high schools, or the technical centers; 3) students will have the opportunity to access technical education throughout the entire day and year; 4) students will have better opportunities to access workbased learning experiences (paid or unpaid); 5) employers can more readily support gender equity issues by training their non-traditional employees as mentors for students.

The following waivers are requested to implement our pilot:

- Waiver from program approval process which requires state approval prior to regional approval.
- Waiver to move governance from the Regional Advisory Board to the Workforce Investment Board.
- Waiver to include regional WIB in evaluation of occupational standards and core competencies.
- Waiver to offer variable program schedules in order to meet the needs of students taking post-secondary courses or adults enrolled in training courses at the technical centers.
- Waiver to allow 9th & 10th graders to enter the technical center, if appropriate, without additional approvals.

2) Coordination: Currently, the RAB and School-to-Work Collaborative advise and coordinate efforts between the technical centers and sending schools on career counseling, graduation requirements, credits, grades, special needs students, remedial supports and other matters with final decisions made by the local host school boards. This advisory role will move to the WIB as part of our proposal (see "Governance".) Our region is committed to coordination among the technical centers, VSC, UVM, Vermont Independent Colleges, and Vermont proprietary institutions to: 1) identify workforce education and training needs of the local community; and for 2) state licensing, job training and apprenticeship programs for maximum use of technical center facilities. Agreement to coordinate with other pilot sites will be a benefit to our region and others. Sharing of information and our best practices is customary, utilizing our school-to-work and WIB relationships statewide *(See Appendix C. excerpt from The Lake Champlain Regional School-to-Work Resource Guide, June 1998).*

A critical piece of coordination is to develop strong relationships with all the area middle and high schools and the two local host school boards. Quarterly WIB reports will be presented at

school board meetings beginning in September 1998.

The following steps will be taken to accomplish better coordination, build and strengthen relationships with sending high schools, local host school boards, and higher education.

- **Curriculum Development:** A curriculum will be formed to design and implement a career pathways curriculum that could be delivered in comprehensive high schools and the technical centers. *(Many high schools in our region have expressed a need for a rigorous technical education curriculum which has high academic standards and can be offered within the comprehensive high school.)* This curriculum team will be comprised of at least 4 academic teachers from the ten sending high schools to be nominated by their peers or appointed by building principals or superintendents, 2 technical teachers from each technical center, at least one middle school educator, a professional from the higher education community, and at least one employer. *Note: This effort will be coordinated with the Linking Learning to Life (LLL) School-to-Work grant in the Burlington School District. Many partners from the WIB are working with the LLL staff to develop a Career Pathways model in the high school. With the Urban Rural Opportunities Grant in Burlington, and application for pilot status and funding, we have an unique opportunity to leverage resources and accomplish this long-standing goal.*

  This 9-12 curriculum which will be developed using existing materials from the Center for Occupational Research and Development (CORD) and Agency for Instructional Technology (AIT), will be presented to the WIB for approval and then to the Dept. of Education, School Boards, curriculum coordinators and building principals from the sending schools. This curriculum will be applied-learning, aligned with the Vermont Framework of Standards, National Skills Standards, and will integrate all of the school-to-work learning opportunities developed under the School-to-Work grant. This curriculum team will also visit neighboring states like Connecticut, Massachusetts and New York to learn about different technical education systems.

  We will use the lessons learned by facilitating business-education partnerships and school-to-work activities in our region for several years. We have many successful examples of school-to-work implementation in our middle and high schools and have fertile ground in which to deliver a career pathways model. One of our biggest challenges has been the cross-training of academic and technical educators which will be supported through the pilot.

- **Higher Education Meeting**: At a recent meeting (July 6, 1998) of post-secondary institutions (CCV, Champlain College, Trinity, UVM) and the technical center directors, several agreements were made to continue and expand support for technical education. This ad-hoc task force agreed on the following issues:

1. A Higher Education Council will be formed as a committee of the WIB. This council will work hand-in-hand with the Technical Education Committee on curriculum development, accreditation, etc.

2. Post-secondary institutions will develop an action plan to implement dual enrollment for high school juniors and seniors whereby students can earn graduation credit and college credit toward advanced standing, simultaneously.

3. Our region's technical centers have been very successful in recent years in developing articulation agreements with post-secondary institutions and through Career Academies. (See "Linkages & Partnerships"). A commitment was made at this meeting to work to develop additional articulation agreements.

4. Mentoring: It was recommended that mentoring relationships between local college students and high school students would be beneficial to encouraging enrollment in post-secondary classes. Also, mentoring between college professors and high school/technical education teachers would provide avenues to share curriculum ideas and best practices.

5. Post-secondary institutions will expand courses for secondary teachers and students, i.e. dual enrollment, professional development, etc.

6. As part of the Curriculum Team, post-secondary institutions will work with secondary educators to develop rigorous applied and integrated technical education curricula that meet high standards and correlate to credit accepted for college admissions.

7. The Higher Education Council will provide strategic planning resources to the WIB as it embarks on the pilot over the next three years.

8. The Council will provide distance-learning resources to help develop a sustainable curriculum delivery system.

3) Allow/Encourage Access – Pilot status will guarantee our region the opportunity to improve equity, cost effectiveness of technical education programs, and provide maximum access to the technical center facilities by students of all ages. As mentioned above, distance-learning strategies will also increase access to technical education for youths and adults.

Expansion plans will be supported with some pilot funding but will operate on a "fee for service" basis and eventually will be self-sustaining.

- 18 Hour Facilities: With the expansion of the operating hours of the technical center facilities, additional programming and activities will be put into place to reach more sectors of the community.

- 12 Month School Year: Year-round access will provide students with Community Service-Learning Projects (unpaid), Paid Work-based Learning Opportunities connected to the Framework and enrollment in Technical Camps during the summer months.

a) Child-centered programs: Day care, children's summer programs, learning lab for adult training and education, and school-to-work opportunities.

- **Provide access to day care on or off campus for evening and day student learners who are enrolled in technical education programs.** The majority of adult learners who return to public school programs are displaced workers, single parents, and dropouts. There are increasing numbers of adults under the age of twenty-three who have not attained a high school diploma and find it difficult if not impossible to find jobs that pay enough to support them and their dependents. In addition to this group, a growing number of adult learners are enrolling in technical courses to upgrade their skills in order to meet employer demands and to qualify for higher paying positions.

- **Serve as a learning laboratory for individuals who seek education and experience.** The technical centers' licensed pre-school facilities will be available for use to train private and business day care and pre-school providers. The facilities will also serve as a practicum setting for post-secondary early education majors and for B.S./B.A. degree holders who seek teacher licensing through the Vermont Peer Review process. There are over 40 day care centers in our region that are already used as training sites with the Tech Centers' Human Services programs. Assessment of the training needs of these day care providers will provide the basis for selecting the training curriculum.

- **Offer classes on parenting skills.** These facilities will be available to health and human service providers in the region to conduct parenting skills classes for clients or community groups.

- **Provide a summer program for young children ages three to five.** Summer sessions will include both educational and recreational activities for children. Childcare for adult students taking courses at the technical center during summer sessions will also be available.

- **Make School-to-Work employment opportunities for school credit available for eligible students.** Students in these school-to-work positions will act as assistants for the professional staff operating the evening and summer activities and programs for young children.

b) **Programs for youth: Summer Tech Camps, after-school enrichment and help centers, Community Service-Learning Programs.** The summer offers a perfect opportunity for the technical centers to provide learning opportunities that are educational, exploratory, and fun for youth. The traditional school year ends in mid-June, which enables technical center facilities to initiate year round use of the schools as they evolve into more comprehensive learning centers. Families whose daily lives and work schedules do not change when the school year ends need quality alternative programs for their children who are too young to be left unsupervised or have summer jobs.

- **Tech Camps**: The two technical centers offer twenty-eight technical career preparation programs for secondary and adult students in Chittenden County's service region during the academic school year. We will maximize the ability of our current facilities and state-of-the-art equipment to provide youth ages ten to fifteen with both technical, academic, and recreational opportunities. The camps will provide participating youth with career exploration opportunities, integrate academic skills into hands-on projects, and will also help youth and their parents make more informed educational and career planning decisions. In the first year, summer 1999, we propose to offer four different Tech Camps for youth with two new career areas added each future year. The first four will be Culinary Arts Camp, Computer Camp, Environmental Science Camp (in collaboration with the Basin Science Center and Discovery Museum), and Floating Science Camp. During the morning sessions, each of the camps will have applied academic content integrated into technical skills through project oriented activities. The afternoon sessions will be devoted to providing campers with recreational activities that may include swimming at a local health and fitness center or the lake. Transportation and lunch would be provided with scholarships available for needy families.

- **After School Programs for Youth** – After daytime hours, the technical center programs are available to serve as learning labs and help centers for youth. Teachers as well as qualified

and interested adults from the community will serve as mentors and tutors in after school programs. Enrichment programs unique to technical program career fields will be designed to strengthen academic skills through hands-on projects and activities. Participating youth will gain technical skills and knowledge. Technical program areas will be determined through an interest survey process. A Help and Homework Center will be established where students can get support in developing effective study habits while completing school assignments. Library, computer and Internet access will be available in the centers. High school students, including those enrolled in technical programs, will work with youth in both the help and enrichment centers and gain Community Service-Learning and School-to-Work recognition and credit.

- **Community Service Learning** – Students who participate in community service learning projects experience a sense of worth and community investment through applying newly acquired skills in service to others, and carry with them a lifelong sense of social responsibility and concern. Some projects planned will be weatherizing homes, preparing and delivering Meals on Wheels, servicing cars for low-income families and the elderly, computer data services for local non-profit organizations, designing and printing fliers for organizations such as the United Way.

c) Programs for Adults: Training and retraining courses and programs, post-secondary associate degree opportunities.

1) **Expanded Hours:** The technical centers will be able to provide day-time programs for high school students and two additional sessions for high school students and adults, i.e. 3-6pm and 7:00 - 10pm;

2) **Incumbents**: The centers will continue to deliver courses and provide facilities to meet the needs of employers and their employees who are upgrading their skills. The centers will expand their collaboration with partners to provide instructors for off-site classrooms at various businesses;

3) **Underemployed/Unemployed Adults**: The centers will open their additional facility hours to adults referred by DET, their employers, adults who are self-referred, or referred by Dept. of Social Welfare (i.e. existing Manufacturing Technology and Machining Skills Training Programs, Registered Apprenticeship programs or custom designed courses);

4) **Post-Secondary Degree Opportunities**: The two technical centers will offer their facilities to post-secondary institutions interested in delivering courses during the day and in the late afternoons and evenings. Community College of Vermont has already expressed serious interest in this option. (See "Career Academy Programs");

5) **Summer Programs for Adults**: To provide a smoother transition back into an educational setting, a series of summer workshops specifically designed for adults will enable adults to acquire or maintain certifications for various technical positions.

d) Choice and Transferability: The development of a 9-12 technical education curriculum will include a provision for *open entry and open exit.* This is a very important concept because it allows students to enter in the 9, 10, 11, or 12th grades or to enter and exit during those years and still maintain the proper credits for graduation. The Higher Education Council and Technical Education Committee will work together to ensure that the curricula meet post-secondary entrance standards. This 9-12 model will be beneficial from a career awareness and gender equity perspective. The Curriculum Development Team will work on providing students

entering the technical centers in the 9th grade, the opportunity to do an "Exploratory" whereby they can "try out" various programs and learn about which career areas are of most interest to them. (See Waiver under "Governance".) Ninth grade girls will be exposed to all technical education programs and not just those that are traditionally female. The same is true for 9th grade boys. A version of this "Exploratory" could be offered to all students (in an abridged fashion) at the comprehensive high school or as a full year program through the technical education curriculum.

e) Middle Schools: A significant challenge will be to get our middle schools to enlist support. Working through the School-to-Work Collaborative, the WIB will educate and market this technical education curriculum and ultimately the 9-12 technical center option to middle school students. Visitations to the technical centers and the high schools will assist in this process. Also, focusing on parents and guidance counselors will be a key strategy. Studies point to the fact that many students begin to consider dropping out of school in the 8th grade. Providing the opportunity to attend a technical high school as early as the 9th grade rather than waiting until the 10th or 11th grade should help reduce dropout rates in our region.

4) Linkages and Partnerships:

Since 1991, the Lake Champlain Regional Chamber of Commerce has provided leadership in our community in the area of business-education partnerships The Chamber has successfully developed trust and close relationships with local schools and has been instrumental in bringing the business and education communities closer together, overcoming cultural and "jargon" barriers, and creating working relationships that have led to thousands of hours of school-to-work activities for K-14 students.

In response to the serious workforce concerns of local manufacturers and other supporting employers, the Chamber and GBIC entered into a partnership in 1996, whereby the director of education and training, Melissa Hersh, would be employed jointly by both organizations. As the WIB structure emerged around the state, the business and education communities looked to the Chamber and GBIC to respond by spearheading the WIB effort in our community. This has provided an essential link in our community and has provided us with a direct pipeline to employers and their needs.

The two technical centers in our region, BTC and ETC have individually linked to the business community for each program offered through their program advisory committees system. These committees, comprised of at least four members from the business community specific to the program (e.g. construction companies work with the building trades program) ensure that the curriculum is relevant to current skill needs in industry and that it has rigorous standards. Through the efforts of the WIB, we have further linked the needs of the region's labor market to educational institutions and will continue to strengthen these relationships. There are several examples of how our region's technical centers have linked to employers.

Manufacturing Technology Certification Program: This initiative, spearheaded by GBIC and the Lake Champlain Regional Chamber of Commerce, and the WIB, brought together local manufacturers (Bio-Tek Instruments, Johnson Filaments, VT Electromagnetics (Tensolite), Vermont Heating and Ventilating, Fab-Tech, Inc., and others) with educational institutions (both technical centers, Champlain College, Trinity College, Saint Michael's College, Community College of Vermont, Vermont Adult Learning, and Cyberskills Vermont) to form a consortia to design and deliver 16 technical courses in nine modules, at a cost-effective rate. The courses began in September 1997. To date, 67 adults from eleven companies have participated. Each adult who successfully completes a course receives a Certificate issued by the Manufacturing Education Consortium, the Lake Champlain Regional Chamber of Commerce and GBIC. We are working closely with Douglas Webster from the Vermont Department of Education to obtain

national certification for this program. Doug has arranged a meeting in mid-August between manufacturing managers and representatives from the National Skills Standards Board and National Association For Advanced Manufacturing. Our program aligns with the National Skills Standards for Advanced Manufacturing and is adapted from a curriculum developed by Boeing in the State of Washington. *(See Appendix D. for program brochure and course descriptions.)*

Machining Skills Training Program: This program, initiated by the WIB, is spearheaded by the Vermont Manufacturing Extension Center (VMEC), VT Department of Employment and Training, and WIB employers and was recently launched in June, 1998. It is a six-month, 800- hour intensive training experience, which includes theoretical instruction and practical application. A group of manufacturing employers (Preci-Manufacturing, General Dynamics, and several others), have developed the curriculum with the technical centers both in Chittenden and Franklin counties. DET recruited adults who are currently unemployed, underemployed, or disabled, for entry into the program. Since the curriculum is very difficult (trigonometry, applied physics,) DET qualified each candidate with a battery of assessment tests and a small group of employers conducted interviews with each candidate to determine their readiness. DET also counseled individuals to develop a six-month "life plan" including plans for transportation and childcare needs. Twelve adults from Franklin and thirteen from Chittenden counties have enrolled. An instructor hired by VMEC is teaching the coursework, and all four technical centers are involved in providing facilities. Also, the practical application of the course will take place at a variety of businesses on a rotation every Wednesday. On-the-job machinists will serve as instructors and actual machines will be used. This component of the course is especially beneficial because students have an opportunity to visit several business sites, meet with machinists, and practice their skills. Employers appreciate this opportunity to be active partners and to get a "look-see" at the students and prospective employees. The tuition for this course is being paid for by DET with JTPA funds. We are now developing ways for incumbent workers to access specific modules they may need to improve their work skills on the job. The Vermont Training Program has offered tuition assistance to companies that want to enroll their employees. *(See Appendix E. for program description.)*

Vermont Construction Career Council (VCCC): This organization was established in the last two years as a consortia of construction companies, the Association of General Contractors, and the two technical centers to develop and implement a construction curriculum that meets industry standards. This group has created a successful model whereby employers can link core competencies to industry standards as defined by the National Center for Construction Education and Research and the Vermont Framework of Standards. *(See Career Academy Programs and Appendix F. for an excerpt of the newly completed VCCC curriculum.)*

Student Apprenticeships: Each technical center offers a plethora of student apprenticeship opportunities in the following areas: Allied Health Careers, Auto Technology, Banking, Building Mechanical Operation Technician, Construction, Educational Assistant, Printing, Veterinary Technical Assistant, Marine/RV Technology, Water Technology, Culinary Arts, Office Machine Repair, Diesel Mechanic, Antique Auto Restoration, Metal Fabrication/Welding, Registered Electrical Apprenticeship.

Last year, IBM Corporation contacted the Chamber regarding the need for more building maintenance technicians. A meeting between an IBM facilities engineer, Gary Olberg, several other facilities engineers in our region (University of Vermont, Specialty Filaments, Integrated Control Technologies, and others) and the two technical center directors was organized. Paul Clark at Essex Technical Center, Dan Kresser at Burlington Technical Center and Nancy LaVarnway, a curriculum writer, worked closely with the businesses to develop an appropriate curriculum. Each technical center committed to sending at least one student through in the first year. Three students have already successfully completed their apprenticeships and in the Fall, three additional students will enroll. In the next year, efforts will be made to connect this Apprenticeship with coursework at Community College of Vermont's Facilities Maintenance degree program, which was designed with IBM's direct input.

Three students enrolled in this Apprenticeship from Burlington and Essex Technical Centers are currently working in this field, full-time at IBM.

The WIB is committed to developing more apprenticeship opportunities for students in the coming year, including Manufacturing Technology and Machine Trades.

Articulation Agreements: These agreements are the cornerstone of the technical centers in our region and provide students with the opportunity to excel in a field of choice while earning college credits. Advanced college placement credit is one of the best examples of how the technical centers work effectively with post-secondary institutions. (See Appendix G. for articulation agreements at each technical center.)

Unfortunately, this aspect of technical education is oftentimes the "best kept secret" regardless of efforts to promote this opportunity to students and parents. The WIB is committed to work with the technical centers and post-secondary institutions to increase awareness about these agreements and encourage more parents to steer their children toward technical education as a viable pathway to college and careers.

5) **Career Academy Programs:** Chittenden County's technical centers have taken the lead in providing rigorous career academies for several years. New academies are being introduced to engage more students in technical education that link closely with current market trends and higher education. Chittenden County businesses and industries have been unable to hire employees who have technical training at the post-secondary level in adequate numbers. The region is in jeopardy of losing companies if well-educated employees are not available.

- **Student Performance Standards:** Through the technical education legislation, statewide technical standards will be developed by the new Standards Committee which the technical centers will use. Presently, every technical program in our region is developed with industry-certified standards.

The challenge has been to link these industry standards to the Vermont Framework's Vital Results and Fields of Knowledge. The faculty from the Burlington Technical Center spent the last school year working with the University of Vermont's College of Education to develop these linkages between the core competencies and the Vermont Framework. *(See Appendix H. for "Project Connect" summary.)* This summer, BTC and ETC faculty members are attending the Vermont Teacher Corps at Vermont Technical College to develop curriculum linkages to the Vermont Framework. This fall, the technical centers will be developing more rigorous entrance and exit requirements as part of the School Action Planning process. *(See Appendix I. - Sample of Current Admissions Procedures)*

One role for the WIB and its Technical Education Committeee, will be to coordinate the efforts being made by the two technical centers so that they effectively share ideas and reach common agreements regarding student performance standards.

- **Course Sequences from Grades 9-14: See Appendix J.**

- **New Academies Described:**

Technology Training and Semiconductor Processing: Essex Technical Center is currently negotiating with Vermont Technical College to become their northern campus. Associate degrees in Technology and Semiconductor Processing will be offered in the initial year. In the second year, additional majors will be available in Architectural Engineering, Mechanical Engineering, Automotive Technology, and Business Technology. Degree majors added in the third year will be based on regional needs.

Many high school graduates and adults seeking to further their education cannot afford to become resident students or commute over one hundred miles per day to attend technical college classes. A northern campus for Vermont Technical College will meet the needs of both business and community residents. Vermont Technical College courses at the technical centers will be offered during the summer,

on weekends, and from 2:15pm to 9:00pm during the school year. Accessing the local Vermont Interactive Television studio will allow these students to participate in courses held at the Randolph Center campus of Vermont Technical College.

As the program is developed, industry standards will be identified with several employer advisory groups. Academic standards for this Career Academy will be aligned with those used at Vermont Technical College.

Office Technology – Under Development for Fall 1999: In the Fall, Essex Technical Center and the Community College of Vermont will combine various business courses and provide students with an opportunity to earn a high school credential and an entire year of advanced standing at the Community College of Vermont. Students who successfully complete this program will be able to achieve an Associate Degree in Business in one additional year. The following ETC courses will be included in this career academy: Microcomputer applications #1, Intermediate Wordprocessing, Office transcription, Office procedures, Medical Terminology, Office Accounting, Fundamentals of Selling, Small Business Management, Marketing for Small Business. CCV courses to be offered are: Business and Professional Writing, Interpersonal and Small Group Communication, Business Ethics, Principles of Accounting I.

Industry standards will be developed with assistance from employers in banking, computer technology, and accounting.

The Framework standards are under development but will include:

- **Fields of Knowledge** - *Arts, Language and Literature Standards, English Language, Structures, 5.18: Students demonstrate an understanding of the structures of the English language (e.g. sentence, paragraph, text structure). Science, Mathematics, and Technology Standards, Design and Technology, Outputs and Impacts, 7.18 aaa. Assess ways that people are able to share, compile, use and misuse technology.*

- **Vital Results** - *Communication Standards, Information Technology, Research, 1.18 Students use computers, telecommunications, and other tools of technology to research, to gather information and ideas, and to represent information and ideas accurately and appropriately.*

Principles of Engineering, Architecture, and Construction -- New For Fall 1998: Burlington Technical Center will offer this new Career Academy in the Fall, 1998. Units of study include: career awareness, planning & portfolio development; small business operations & entrepreneurship; surveying & mapping; materials and fastening systems; tools & equipment; forces & structures; construction systems & practices; manual & computer aid drafting (CAD); estimating, bidding & the regulatory process; technical mathematics.

This secondary curriculum was developed in alignment with the Vermont Construction Careers Council (See Appendix F.) This academy will also use industry standards provided by the Associates in General Contractors of America.

The Framework Standards are under development but will include:

- **Fields of Knowledge** - *Science, Math, and Technology Standards, Mathematical Understanding, Geometric and Measurement Concepts 7.7 i. Analyze geometric figures and prove things about them using deductive methods; and j. Present graphs and figures.*
- **Vital Results** - *Communication Standards, Notation and Representation, 1.17 Students interpret and communicate using mathematical, scientific, and technological notation and representation. This is evident when students: bbb. Use appropriate scientific, technological, and mathematical vocabulary, etc.*

Environmental Science, Water Technology -- In Development for Fall 1999: We are currently exploring the possibility of forming an educational partnership among the two regional technical centers, the Lake Champlain Basin Science Center in Burlington and the Discovery Museum in Essex Junction. There is unique opportunity to develop an environmental science or lake science Career Academy, building upon Essex's nationally recognized Natural Resources program and the SOS Explorer floating science classroom and lab funded by Toyota Tapestry and Vermont's Windham Foundation. The Basin Science Center has recently taken over management of the Discovery Museum, which provides a natural connection between Burlington and Essex. Also, the Chamber, Senator James Jeffords, and U.S. Secretary Alexis Herman have recognized the Lake Champlain Basin Science Center as an exemplary learning environment for youth and adults. A new relationship between the Living Classrooms Foundation in Baltimore, Maryland and plans to annex the University of Vermont's new high tech science lab to the Center create an unique Career Academy opportunity. Plans will be made in the next six months to develop this Academy at both Technical Centers in collaboration with the two museums. Mayor Peter Clavelle has also expressed an interest in bringing Burlington's two water treatment plants, which are equipped with state-of-the-art science labs, into this developing partnership.

Industry standards used here will include the California Water Quality Standards. Employees in the Water Technology field are required to demonstrate competency in these standards for certification.

The Framework standards are under development but will include:

- **Fields of Knowledge** - *Science, Mathematics, and Technology Standards, The Living World, Organisms, Evolution, and Interdependence, 7.13 Students understand the characteristics of organisms, see patterns of similarity and differences among living organisms, understand the role of evolution, and recognize the interdependence of all systems that support life.*
- **Vital Results** - *Reasoning and Problem Solving Standards, Questioning/Problem Solving, Types of Questions, 2.1 Students ask a variety of questions. This is evident when students: ff. Ask critical evaluation questions that judge the quality of evidence from experts, evidence from other disciplines, etc.*

6) Outcomes:

- **Student Learning Outcomes:** Following the Malcolm Baldrige criteria, our WIB will establish quantifiable indicators so we know that our efforts have impacted student performance. A preliminary list is as follows:

  1) Decrease high school dropout rate;
  2) Identification and tracking of students who move from technical education to post-secondary institutions or registered apprenticeships.
  3) Increase in non-traditional enrollments in technical programs (gender equity);
  4) Increase in technical center student placements in high paying jobs in technical fields;
  5) Reduce the % of employer recruitment of technical employees from out-of-state;
  6) Increase capacity and access to technical education leading to higher enrollment numbers.
  7) Increase number of adult job placements or promotions as a result of training programs offered through the technical centers; and
  8) Reduce the number of unemployed or underemployed adults.

- **Alignment of Post-Secondary Institutions to Meet Local Training Needs in Coordination with the Technical Center** – Building upon our collaborative success with the Manufacturing Technology Certification Program, various apprenticeships, the Machining Skills Training Program, rigorous Career Academy Programs, and Articulation Agreements, and the strong participation on our WIB, our post-secondary institutions are committed to expanding their role with the technical centers and increasing the numbers of

students accessing post-secondary options as part of their secondary education. (See "Coordination").

- **Alignment to the Framework** – In designing the 9-12 technical education curriculum, the curriculum team will align all units of study to the Vermont Framework. All Career Academies offered will address Fields of Knowledge and Vital Results standards. In addition, we plan to implement the following short term solutions:

  1. Student performance assessment will be based on the Vermont Framework, workplace readiness skills and national occupational standards;
  2. Accreditation and evaluation systems will meet both economic development initiatives and excellent educational practices;
  3. We will support an initiative to define industry skill standards and to develop student assessment leading to marketable credentials;
  4. Instructional procedures will be developed to accommodate learners with varying interests and abilities;
  5. Program performance outcomes will be available to learners and employers through DET one-stop centers.

  Additionally, some long-term solutions that we plan to implement:

  1. Industry-based standards for all programs offered in technical education will be developed;
  2. Program offerings will be based on regional planning;
  3. Academic and industry recognized skill standards will be identified and implemented, achievement measured, and technical skill proficiency documented.

- **Shift in Governance** – Over the next three years, the WIB will oversee, recommend, and evaluate technical education programming and specific curriculum objectives to maintain a focus on current labor market trends and emerging markets. The WIB will establish a close working relationship with the local host school boards and with trust between partners, the WIB will achieve status and authority when making its recommendations. The WIB will also work closely with the technical centers to coordinate post-secondary connections, facilitate consolidation of services and programs, and provide support and resources (facilities, instructors, and equipment). See "Governance".

- **Increase in Public Awareness and Support for Technical Education** – Through the WIB and its many partners, we will implement a variety of strategies to increase public awareness and support. The Lake Champlain Regional School-to-Work Collaborative's community awareness team, which has been working on various initiatives since 1995, will provide support. Some projects that this team has worked on include: monthly television show on Channel 16 – Regional Educational Television Network; monthly newsletter articles in the Chamber's monthly publication which is mailed to over 3,000 business leaders in our region; newspaper articles via press releases; collaborative relationships with KSV Communicators and Keller and Fuller in Burlington; brochures, and the new publication, The Lake Champlain Regional School-to-Work Resource Guide, which features technical education programs in several sections including apprenticeships, co-op learning, and the Manufacturing Technology Certification Program. The WIB has also made a commitment to invite a "media" representative to join the WIB, which should help. Additionally, the development of a 9-12 integrated applied curriculum which will be offered in the comprehensive high school as well as the technical centers will provide much more exposure to students, parents, and guidance counselors.

The WIB has provided support to a new GBIC project, "Learn to Earn", which is being implemented by KSV Communicators. The goal of this strategy is to increase the numbers of high school students taking higher levels of math and science by increasing awareness that taking these courses can lead to good paying technical jobs in our region. In addition to students, this program is targeted at guidance counselors and parents with information about technical jobs in our region, including pay scale and educational requirements. Students will be visited in the classroom by gender-balanced technicians from local manufacturers. They will learn about the skills needed to be successful and their awareness about technical jobs will be increased. Finally, a student-oriented CD-Rom will be designed and distributed.

In Clinton County where this program originated, there was a significant increase of 11th and 12th grade students enrolled in higher levels of math and science with the understanding that this type of coursework leads to high skill, high wage jobs in the manufacturing field. Together with a grant from the VT Dept. of Employment & Training, GBIC has invested its resources to replicate the strategy in our region. Eventually, this initiative should expand to be statewide.

- **Data Collection and Reporting** – Our WIB is strongly committed to developing strategies to collect and evaluate data. We will provide the HRIC and State Board of Education with quarterly progress reports including student outcomes, numbers of students served, and future success after graduation. We have committed $10,000 in our budget to support this work. These data will guide the WIB as it makes program and curriculum recommendations.

- **Sustainability** – Over the course of the three-year pilot period, local school boards will provide support from each technical center budget to support the work of the WIB. Financial support and other in-kind resources from the business community and higher education institutions will also be secured.

7) **Justification of Funds:** Given the complexity of our region (two technical centers, largest school population in Vermont, identified technical workforce shortage), integration and shift in governance is more difficult. Collecting data and conducting useful evaluation of programs to determine if they are meeting the needs of the business community, employees, and prospective employees have been difficult challenges. Coordination of services among school-to-work, Workforce Investment Board, Regional Advisory Board, local school boards, and the community at large is also a time intensive, full-time challenge. If funded, we can ensure that: a) our effective practices become sustainable policies; b) our educational resources are coordinated and targeted to address current needs; and c) as needs change, our region can be flexible, proactive, and responsive in delivering appropriate resources to meet labor trends.