

UNIVERSITY OF HAWAI'I SYSTEM

TESTIMONY

SB 2980

RELATING TO EDUCATION

Testimony Presented Before the
Senate Committee on Education & Military Affairs
Senate Committee on Higher Education

February 14, 2006

By

Ramsey Pedersen
Chancellor for Honolulu Community College
University of Hawai'i

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Chair Sakamoto, Chair Hee, and Members of the Committees:

Honolulu Community College supports the intent of SB 2980, "Relating to Education." SB 2980 appropriates funds for the expansion of the Honolulu Community College initiated Construction Academy program. However, we do recommend amendments to this measure in its current form.

In November 2005, HCC was asked to develop a proposal that would address worker shortages in the construction industry. With a quick turnaround time of 2 weeks, HCC developed a construction initiative proposal that was designed to respond to construction industry needs. The proposal seeks to accomplish two things:

- 1) Widen the pipeline of qualified construction workers by addressing educational issues at the front end, secondary education, and expanding the back end post-secondary apprenticeship training.
- 2) Provide individuals who are either in high school or who are out of high school, with viable career opportunities in the construction industry.

SB 2980 does take some steps to meeting these purposes, specifically it expands the Construction Academy program at Hawai'i's high schools. However, to fully meet the goals above we recommend the following amendments that will bring this measure more in line with the original intent of the construction initiative proposal.

Our recommended amendments are as follows:

Amend page 1, lines 15-18 to page 2, lines 1-2:

"To meet the State's critical labor shortfall, one strategy of some trade organizations has been to plant seeds early in the minds of young people who may be interested in working in the trades as adults. One way to do this is through the development of pre-apprenticeship programs designed to spark trade interest and appreciation at the high school level."

Recommended replacement language:

“To meet the critical labor shortfall, the State needs a multi-pronged strategy. The first part of the strategy is to develop awareness and interest in the construction industry while at the same time providing foundational education to students. This can be accomplished through a pre-apprenticeship program. The second part of the strategy involves ensuring that a larger base of candidates can enter professional construction training programs. This can be accomplished through an expansion of the State’s Apprenticeship Training programs.”

Amend Page 2, Lines 3-16:

“A highly attractive feature of a pre-apprenticeship program is two-fold: it provides high school students a head start on two-year post-secondary degrees, while at the same time allowing students to enter a post-secondary apprenticeship program at a higher, more qualified skill level. Entering an apprenticeship at a higher skill level could potentially mean an acceleration of the typical three- to five-year apprenticeship program, the individual's licensing period, and the entrance into the work force. Such training programs provide enormous benefit to the state by generating awareness among students who may not even have known such career options existed. These trade organizations hope to bolster the notion that becoming a plumber, carpenter, or an electrician can provide a successful, satisfying, and lucrative career.”

Recommended replacement language:

“A highly attractive feature of a pre-apprenticeship program is two-fold: it provides individuals with a head start on two-year post-secondary degrees, while at the same time allowing students to enter a post-secondary apprenticeship program at a more qualified skill level. Entering an apprenticeship program at a higher skill level provides the Apprenticeship Training program with a better candidate that has a higher probability of success in making it through their apprenticeship training and, therefore, a better qualified entrant into the work force. Such training programs provide enormous benefit to the state by generating interest and awareness among individuals who may not even have known such career options existed. Through a pre-apprenticeship program, trade organizations hope to bolster the notion that becoming a plumber, carpenter, or an electrician can provide a successful, satisfying, and lucrative career.”

Amend Page 2, Lines 18-21 to Page 3 Lines 1-13:

“The Construction Academy was created with just these goals in mind. The Department of Education launched the Construction Academy in the fall of 2005 in partnership with eight Hawaii public high schools: Kailua, Radford, Waipahu, Mililani, Kahuku, Pearl City, Waiialua, and Hawaii Academy of Arts and Sciences on the Big Island. The program allows high school students to take classes in various construction trades at their respective high schools and, at the same time, earn credit towards an associate degree at an affiliated community college. At this time, a single community college, Honolulu Community College, is affiliated with the Construction Academy program, the State's primary training facility for the building trades. The 2005

Construction Academy class is comprised of 232 high school students, eighteen teachers, and two traveling instructors. This first class has generated such excitement and promise on the high school campuses that Construction Academy organizers hope to expand their program to include other public high schools and community colleges, particularly on the outer islands."

Recommended replacement language:

"The Construction Academy was created with just these goals in mind. Honolulu Community College and the Department of Education launched the Construction Academy in the fall of 2005 in partnership with eight Hawaii public high schools: Kailua, Radford, Waipahu, Mililani, Kahuku, McKinley, Pearl City, and Waialua. The program allows high school students to take classes in various construction trades at their respective high schools and, at the same time, earn credit towards an associate degree at an affiliated community college. The 2005 Construction Academy class is comprised of 232 high school students, eighteen teachers, and two traveling instructors. This first class has generated such excitement and promise on the high school campuses that Construction Academy organizers hope to expand this program to include other public high schools and community colleges, particularly on the neighbor islands."

Recommend new language inserted at Page 3, Line 14:

"SECTION 2: The expansion of the Construction Academy is a necessary step to preparing employable candidates for the industry. However, it is only the first step to addressing construction employee shortages. The intent of the Construction Academy is to develop interest in the industry and to build a foundation of general construction skills that prepares the student for more in-depth professional trades training. In addition, the Construction Academy curriculum does not meet the minimum standards of a journey worker as prescribed by the US Department of Labor. Under the current law a student must still 1) qualify for an apprenticeship trades program and 2) meet the number of training hours to complete the program. For example, a sheet metal apprentice is required to spend 1,080 classroom hours in a state registered apprenticeship training program (approximately 5 years); a carpenter 620 classroom hours (approximately 4 years).

At present, the Apprenticeship Training programs at the university of Hawaii community colleges train approximately 3,000 apprentices each semester in the construction trades. These tradespersons include: carpenters, masons, sheet metal workers, glaziers, roofers, painters, electricians, elevator repair workers, plumbers, floor layers, tapers, insulators, boilermakers, and iron workers. On average only 1 out of every 3 apprentices will make it through their respective apprenticeship program. These numbers are well below what is necessary to accommodate the needs of the industry. To ensure that the construction industry can continue to employ qualified workers, the Apprenticeship Training programs must also be expanded.

An expansion of the Construction Academy program allows for a larger number of interested candidates entering the "pipeline" and an expansion of the State's Apprenticeship Training programs will translate into a larger number of qualified construction workers exiting the "pipeline".

Amend page 3, lines 14-16:

"Accordingly, the purpose of this Act is to appropriate funds to expand the existing Construction Academy program to all public high schools."

Recommend replacement language:

"Accordingly, the purpose of this Act is to appropriate funds to expand both the Construction Academy program and the Apprenticeship Training program."

Amend page 3, lines 17-21 to page 4, lines 3-5:

"SECTION 2. There is appropriated out of the general revenues of the State of Hawaii the sum of \$ _____, or so much thereof as may be necessary for fiscal year 2006-2007 to expand the existing Construction Academy program to all public high schools, and to train high school instructors to develop and teach a specific building and construction curriculum in conjunction with affiliated community college teachers.

The sum appropriated shall be expended by the department of education for the purposes of this Act.

SECTION 3. This Act shall take effect on July 1, 2006."

Recommend replacement language:

"SECTION 3. There is appropriated out of the general revenues of the State of Hawaii the sum of \$5,500,000, or so much thereof as may be necessary for fiscal year 2006-2007 to expand the Construction Academy program from 8 to 26 high schools and to expand the Apprenticeship Training programs at Honolulu community college, Hawai'i community college, Maui community college, and Kauai community college.

The sum appropriated shall be expended by the university of hawai'i for the purposes of this Act."

SECTION 4. This Act shall take effect upon approval.

For the Committees' information, we have attached the following information:

- Original proposal, titled "WORKFORCE DEVELOPMENT INITIATIVE: PROPOSAL TO ADDRESS EMPLOYEE SHORTAGES IN THE CONSTRUCTION INDUSTRY"
- Proposal budget, as amended February 2006

Thank you for the opportunity to testify in support of the intent of this measure.

**WORKFORCE DEVELOPMENT INITIATIVE:
PROPOSAL TO ADDRESS EMPLOYEE
SHORTAGES IN THE CONSTRUCTION
INDUSTRY**

University of Hawai'i
Honolulu Community College in conjunction with the
Office of the Vice President for Community Colleges
November 2005

PROPOSAL SUMMARY

THE NEED

Hawai'i is currently experiencing one of the greatest shortages of employees in the construction industry. Unfortunately, this comes at a time when demand for qualified construction workers is at an all time high. Not including the current construction "boom", nearly 1,200 jobs per year need to be filled. Industry organizations, trade unions, and employers have all stated that, "...the benches are empty..." there simply are no trained, qualified employees to perform the work.

THE PROBLEMS

There are several reasons for the shortage.

Workforce Supply Issues

- Hawai'i has a small workforce pool
- There is concurrent demand from all industries and sectors of the economy
- Hawai'i's aging population

Education and Training Issues

- The educational pipeline must be improved
- Students are unprepared to enter the workforce

THE SOLUTION

The solution to this issue is multi-pronged: attract new talent; expand training and educational capacity; and, develop career opportunities. The State can do this through existing agencies and programs. However, all stakeholders (industry, education, and government) must develop a partnership to:

Recruit

Costs: Minimal

The State needs a marketing blitz if it hopes to attract new employees to this industry. Recruitment will occur through the network of state and county employment agencies at the direction of the Hawai'i Workforce Development Council. Efforts will be most profitable if they are targeted toward new workforce entrants, service-based career transition entrants, Department of Human Services clients.

Expand Educational Capacity

Immediate Cost: \$3,441,842

Ongoing Costs: \$2,681,842

Build On-going Awareness

To ensure that students are introduced to the numerous opportunities in the industry, receive adequate time for pre-training, and engaged in a subject they understand and enjoy, the pilot Construction Academy program will be expanded from 8 to 26 high schools statewide. In meeting expansion needs high school faculty will be augmented with community college faculty. College faculty will be placed directly in the classroom to ensure that industry standards and minimally required industry skill sets are taught to students. Due to the age and disrepair of training equipment and supplies, schools will also receive upgrades to instructional resources.

Expand Training Capacity

Immediate Cost: \$2,163,840

Ongoing Costs: \$672,840

Once students graduate from high school, the need for a higher level of training through apprenticeship training continues. The apprenticeship programs, through the University of Hawai'i Community Colleges, will be expanded from approximately 3,000 to 3,600 apprentices statewide. To accommodate this expansion an upgrade to equipment, teaching hours, and an increase in facility space is required.

Total Cost: \$5,605,682

Recurring Costs: 3,354,682

Success of the State's efforts will require communication and coordination between existing agencies, some steeped in organizational bureaucracy. A long-term solution is important; not only for this industry, but also for the State's overall workforce development requirements. The State must find a strong lead to guide the effort and align industry with education. Unfortunately, when it comes to the construction industry we do not have the gift of time – their need is now. Fortunately, we have proven training programs and curriculums that can make the difference at this moment.

Table of Contents

THE NEED	2
THE PROBLEMS	3
Workforce Supply issues.....	3
Education and Training Issues.....	3
Increasing the Efficiency of Hawai'i's Educational Pipeline.....	3
Better Preparation for Entry Level Jobs.....	4
1) Improve basic skills education: needs and means to get there.	4
2) Promote real world understanding and experiences	5
3) Increase the number of individuals ready for employment in selected fields.	5
4) Build a better system to re-educate and re-train current employees.	6
5) Continuous communication between industry and education.	6
6) Meet Industry-specific education and training needs.....	6
7) Encourage and support community-based education and training initiatives	7
Assistance in Recruiting Experienced Personnel.....	7
THE SOLUTION.....	8
Short Term Recruitment: Marketing Blitz	8
Long-Term Recruitment: Building Awareness.....	9
Short and Long-Term Training: Apprenticeship Program Expansion	9
Short and Long-Term Training: High School Construction Curriculum Expansion	9
Short and Long-Term Career Development: Retention.....	10
Long-Term Recruitment and Training: Retention	10
Coordinating Our Efforts	11
Strategic Tasks & Responsibilities: Industry, Education, and Government.....	11
Industry Strategic Tasks & Responsibilities:	11
Education Tasks & Responsibilities	12
Government Tasks and Responsibilities.....	13
THE COSTS.....	15
Description of Apprenticeship Budget.....	15
Description of Construction Academy Budget.....	17

THE NEED

There is a demand for qualified construction workers. Estimates of employment in construction and construction related jobs in 2004 were approximately 42,600 and are projected to grow by nearly 10% to over 46,400 jobs by 2012. In addition to needing to fill about 480 jobs per year due to growth of the sector, we need to fill approximately 700 jobs per year as replacement for existing workers who are expected to leave their current positions. The total of 1,180 jobs per year to fill does not reflect the potential for job growth presented by the significant increase in federal government investment in modernizing military facilities and new state and private investments committed to the development of rail transit, the life sciences complex in Kaka`ako, and the continued demand for housing.

The shortage of construction employees has been made even more evident with the current building boom in Hawai'i. On Oahu trade unions, industry organizations, and employers have all stated that there are no available bodies – “the benches are empty”. And, on the neighbor islands many of the apprenticeship programs are empty because workers are needed on the job.

Although, occupations in construction are well paying, averaging \$53,000 per year including fringe benefits, most are difficult to fill quickly since they require the development of complex skills and knowledge, usually through long-term or moderate-term on-the-job training and apprenticeships.

While figures for industry shortages may vary slightly, below is one organization's projection on the number of employees needed on an annual basis¹:

	Needed <u>Annually</u>	Average <u>Earnings</u>
Carpenters	182	\$55,000
Electricians	150	\$66,000
Laborers	150	\$45,000
Painters	90	\$46,000
Plumbers	78	\$56,000
Operating Engineers	50	\$68,000
Sheet Metal	<u>40</u>	\$70,000
Total Industry Shortage	740	

Unlike what many perceive, construction is not just a blue-collar industry. In fact, in 2003² the industry employed over 4,500 white-collar professionals. Although these positions do not require a 4-year degree, they do require training and experience that is gained through an understanding of the construction industry. There is an ongoing need for experienced bookkeepers, auditing clerks, cost estimators, first-line supervisors, office clerks, payroll/timekeeping clerks, and secretaries.

¹ Extract from data published by Economic Modeling Specialists, Inc. (EMSI) in June 2005.

² State of Hawai'i, Department of Labor and Industrial Relations, “*Nearly one in four construction jobs involved white collar work!*” October 2004.

THE PROBLEMS

WORKFORCE SUPPLY ISSUES

The availability of a qualified workforce is dependent upon a number of critical components including:

- Workforce Entrants
 - a. In-Migrants
 - b. New Entrants
- State Workforce and Economy
 - a. Characteristics of the Workforce
 - b. Economic Conditions
- Workforce Leavers
 - a. Out-Migrants
 - b. Retirees

Workforce Entrants: The pool of entrants to Hawai'i's workforce is constrained by a number of major factors, including: the cost of housing relative to the prevailing wage structure; the number of youth in the educational pipeline (less than 1/2 the annual statewide requirement); and the relatively low level of educational skill attainment, particularly in mathematics which is critical for entry into the education and training required for many jobs in construction.

The Economy: Hawai'i's growing economy has resulted in increased demand for workers in just about every industry. The expected demand for qualified workers in construction takes place within a tight employment market (a 2.7% State unemployment rate), and within a sector that has identified shortages in many craft specialties.

Workforce Leavers: Hawai'i's aging population and workforce may result in a significant number of individuals leaving the workforce in the next decade. Many of the potential retirees are in fields that require significant education and training for entry to employment. The capacity for the existing workforce preparation system to meet this potential training demand will be in competition with the preparation of qualified workers in construction. In addition, approximately 3,000 eighteen year olds leave the state annually for education, training, and employment opportunities elsewhere in the world.

EDUCATION AND TRAINING ISSUES

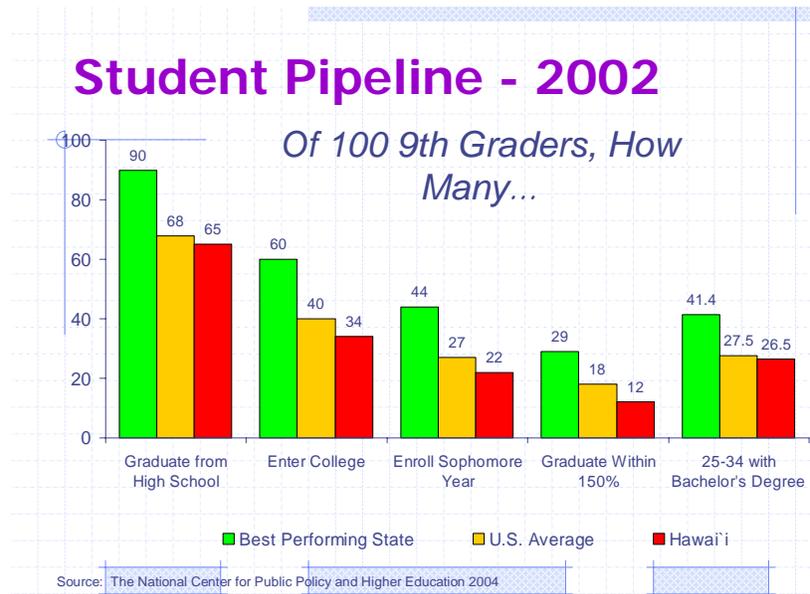
Our ability to grow a sustainable construction industry workforce will be significantly affected by the ability of the current education system to prepare a sustainable number of qualified individuals to meet employment demands. The following issues must be addressed if Hawai'i's future demand for construction workers is to be met:

Increasing the Efficiency of Hawai'i's Educational Pipeline

Hawai'i's long-term success in a competitive global environment is dependent upon the skill and knowledge of its workforce, and our ability to consistently replace individuals who leave the workforce with increasingly better educated and trained new entrants. However, when one examines the existing educational pipeline, the flow of individuals from grade nine through to successful completion of postsecondary degrees and certificates, it is clear that we need to

make significant improvements if we are to be successful. A snapshot of the Hawai'i educational pipeline taken in 2002, Figure 1, indicates that for every 100 students in the 9th grade, only 12 are likely to complete a postsecondary degree or certificate within 150 % of the time the degree was designed to be completed within (e.g. 6 years for a 4-year degree).

Figure 1



Better Preparation for Entry Level Jobs

A very large part of the need that emerged in discussions with employers as part of the State of Hawaii Millennium Workforce Development project (2001) revolved around the needs for more students who are better prepared to become new employees in their organizations. The specific needs fall the following areas.

1) Improve basic skills education: needs and means to get there.

Enhance the ability of schools (K-12) and colleges to provide basic skills education of the kinds and at the levels identified/expected by the employers. These skills include:

- Communication: speaking, writing, and listening
- Analytical, problem solving and critical thinking skills for real world application
- Basic technology skills necessary for the jobsite as well as other administrative skills such as keyboarding, word processing, spreadsheets, databases and use of the Internet to acquire needed information
- The ability to work in teams especially with individuals from different cultures
- The ability to communicate in more than one language
- A strong work ethic that includes responsibility, reliability, initiative, flexibility, and the willingness to continually learn and improve
- Business/professional ethics

It should be noted that the need for basic skills education is not confined to individuals who are just entering the workforce. Many incumbent workers also need basic skills education or refreshers in one or more of the above areas.

In order to accomplish this objective, it will be necessary to:

- Ensure that educational standards reflect application of academic learning. This means that these skills must be taught or reinforced “across the curriculum” rather than as stand-alone topics. That is, those specific content skills should be taught in the context of learning to use technology appropriately in each field of study rather than as a set of skills unconnected to applications.
- Provide concentrated and continuous provision of professional development of teachers and faculty so that they can effectively teach to these standards. In addition, academic and industrial communities need to increase teachers’ familiarity with commercial application of construction and construction-related careers for students.
- Ensure that College of Education programs are designed to train new teachers to educate students in accordance with these more rigorous standards and expectations.
- Develop capacity (and expectations) in postsecondary education institutions (primarily the community colleges) to deliver basic workplace skills education to adults.

2) *Promote real world understanding and experiences*

An understanding of the real world, specifically:

- An understanding of the kinds of work and problems being addressed by entry-level employees in various sectors of the construction industry.
- A grasp of the kinds of behaviors expected by employers as necessary if their organizations are to be successful.
- Realistic expectations concerning the job market.
- The creation of internships and cooperative education opportunities that provide students and teachers with hands-on experience in a company laboratory, production facility or field station setting, thus allowing better understanding of both real world applications and the basis for classroom education.
- The creation of industry-sponsored “content and skills” workshops for teachers, particularly those in colleges and universities, and more meaningful industry participation on education policy and advisory boards.
- The use of company employees to serve as mentors, resources and instructors within the academic environment.

All of these mechanisms require the active participation of employers.

3) *Increase the number of individuals ready for employment in selected fields.*

This will require expanding the pipeline from high school into selected high-demand jobs creating sufficient capacity within existing programs to service existing demand, especially in craft oriented jobs. The objective must be to remove instances in which students are denied access to technology programs because of limited instructional capacity in the institutions.

4) *Build a better system to re-educate and re-train current employees.*

Continuing Workforce Education—education of individuals already employed to enhance their abilities to assume more responsibility, to function more effectively in their jobs and to move into positions for which they previously have not been trained. Many of the concerns expressed by employers were focused on process, where:

Industry expresses its needs.

Establish mechanisms by which employers can articulate training needs in a clear and organized way, including:

- Specifying the desired learning outcomes developing skills inventories that can be transmitted to the education community to update curriculum and workplace training needs.
- Indicating the conditions (time, place, etc.) under which training would have to be delivered to be maximally useful.

And Education responds.

- Develop infrastructure in colleges and universities to inform employers about available workforce development programs and to tailor content to employers' needs and deliver it in a "just-in-time" mode.
- Increasing industry awareness of education's current and planned efforts to improve workforce development training.
- Tailoring available courses and programs to more appropriately respond to identified needs.
- Brokering in short-term training programs, if they cannot be taught by local providers (a particular concern on the neighbor islands)

5) *Continuous communication between industry and education.*

Develop and sustain ongoing (not ad hoc) venues for communication between employers and education.

One mechanism could be industry specific consortia with representatives from industry, education, and trade associations that will be established to provide formal communications mechanisms between industries and the state's education community to plan for and meet the anticipated increases in employment and training needs.

In addition to the consortia, other systems for interaction and mutually beneficial cooperation are encouraged. Examples are the advisory committees associated with most technical/vocational education programs in community colleges, with professional schools in the universities, and with School-to-Work and other programs in secondary schools. The objective is not to replace these mechanisms with the proposed industry consortia, but to strengthen them and give them more coherence across the industry.

6) *Meet Industry-specific education and training needs*

Delivering construction projects on time is extremely reliant on a readily available and highly skilled work force. While the categories of workers stays relatively constant, the numbers of

employees needed and their attendant skills sets change as new construction techniques and technology advances. Incumbent workers must gain new skills and students moving into the work force need greater proficiency in a number of work place readiness skills if they are to be of immediate value to construction employers.

To ensure that students are prepared to enter the workforce, there are four categories of skills that are relevant to all industries and require more educational effort and better training. They are:

- Basic Skills
 - Social skills: ability to work in teams or user groups
 - Interpersonal skills: the ability to be sensitive to other cultures and peoples needs
 - Communication skills: ability to communicate in writing or verbally to the target audience
 - Analytical skills: ability to analyze problems beyond immediate operations in a larger organizational or operational context
 - Time management skills: ability to manage time effectively
- Analytical Skills
 - Mechanical analysis: ability to analyze and understand a basic construction process/principle
 - Workplace safety analysis: ability to recognize hazards and risks that may be present on the worksite
- Technology Skills
- Other Skills
 - Management skills leadership, communication, mentoring, business skills
 - Teaching and transferring skills to those inexperienced co-workers.

7) Encourage and support community-based education and training initiatives

Hawaii must work to increase the percentage of its population that is participating in the workforce if it is to be successful in meeting its economic development goals. Many of the individuals not currently in the workforce reside in communities not convenient to most current education and training resources. A number of established community-based economic and workforce development initiatives can play a significant role in preparing individuals in those communities to play a larger role in the life sciences sector development.

ASSISTANCE IN RECRUITING EXPERIENCED PERSONNEL.

In addition to developing and growing a workforce through improved and expended education and training opportunities, there are a number of needs that can best be met by through a systematic recruitment in specialized areas. This approach has limitations; however, given the gap between salaries and the cost of desirable housing.

Many of the construction companies in Hawai'i need experienced employees who can make an immediate contribution to organizational success. Given the relative dearth of such individuals in the state, the options are to:

- 1) steal employees from other Hawai'i employers,
- 2) do without and become increasingly noncompetitive in the marketplace, or
- 3) recruit such employees from elsewhere. While employers and staffing agencies must take primary responsibility in this arena (and are being assisted by state agencies and trade associations), they could be assisted further by efforts of educators and alumni organizations to:

Undoubtedly, there are better options.

- Make it known that Hawai'i has a growing construction-based economy.
- Make job opportunities widely known.
- Contact expatriates and encourage them to consider coming home to practice their professions.

THE SOLUTION

All attempts at resolving the construction employment crunch must include short and long-term components. The solution must also be designed to incorporate the state's entire slew of resources in a coordinated statewide effort. As with any industry facing employment issues recruitment, training, and retention are the keystones to success.

SHORT TERM RECRUITMENT: MARKETING BLITZ

Because Hawai'i enjoys one of the nation's lowest unemployment rates, short-term recruiting efforts must be broad reaching and ongoing. Compensation and wages aside, construction is not considered a glamorous industry and can be characterized as physically strenuous and difficult. It is well understood that attrition rates in the construction industry are high; many apprentices leave before successfully completing 3-5 year apprenticeship programs. Therefore, recruiting for the industry is largely a "numbers game".

Recruiting efforts will be most profitable if they are targeted toward audiences who are currently not working or transitioning into work, these include:

- New entrants to the workforce (i.e., parolees and those transitioning from incarceration)
- Service-based career transition entrants (i.e., those currently employed but looking for new, better paying opportunities)
- Department of Human Services clients (i.e., Temporary Assistance for Needy Families and General Assistance clients)

Hawai'i's Workforce Development Council can lead recruiting efforts using the organizations and avenues that are already in place. In addition, trade unions and industry organizations should be active participants through active communication and, if necessary, sharing in the costs of recruiting.

LONG-TERM RECRUITMENT: BUILDING AWARENESS

Another target audience is recent high school graduates. 35% of Hawai'i's high school students do not graduate from high school and nearly 14% of graduates do not enroll in college within 2 years of graduation. Many of these people lack stable career opportunities, as such, construction represents a legitimate way to earn a good living. The construction curriculum (discussed below) that is in place in 8 Oahu high schools can serve as a primary avenue for ongoing industry awareness.

SHORT AND LONG-TERM TRAINING: APPRENTICESHIP PROGRAM EXPANSION

Within the state, the University of Hawaii Community College (UHCC) system, specifically Honolulu Community College (HCC), is responsible for delivering construction and technical-occupational programs. As part of this mission, the UHCC's administers the related instruction components for non-union, and most of the union, State approved apprenticeship programs. These programs include, but are not limited to, elevator constructors, carpenters, electricians, ironworkers, plumbers, masons and sheet metal workers.

Since there is already an insufficient pool of skilled workers for construction industry employers to draw from, and even more dramatic shortages are predicted for the near future, expanding the training programs of the different trades should be one component of a multi-faceted solution. As an example of the current size of the apprenticeship programs, in Spring 2005 and Fall 2005, approximately 350 and 700 new apprentices, respectively, started their programs at HCC. However, if attrition rates remain typical even in this time of low unemployment, we can expect, on the average, that only approximately 50% will persist through journey worker level. As such, to significantly impact shortages, the intake of new apprentices must be at least doubled each year.

Resources and space will remain obstacles toward an expansion of the apprenticeship programs. With current apprenticeship enrollments at HCC approaching 2,600, all available classrooms and training spaces on campus are being utilized. In fact, some training spaces are over-utilized in that two or three classes are being forced to work in the same areas at the same time. Moreover, with burgeoning enrollments, funding for apprenticeship instructor payroll is now barely adequate. While Hawai'i Community College, Maui Community College, and Kauai Community College maintain smaller program enrollments (150-200, 200-250, and 100-150, respectively), because of the overall scale of their programs their needs for resources, space and equipment are just as pressing. To make expansion viable, UHCC's will look to the Administration, the Legislature, and public and private partnerships for increased support.

The UHCC's will also work in collaboration with those trades (i.e., Operating Engineers and Laborers) that offer their own apprenticeship programs to assist, as necessary, in expanding their enrollment.

SHORT AND LONG-TERM TRAINING: HIGH SCHOOL CONSTRUCTION CURRICULUM EXPANSION

In 2004, HCC received a federal Department of Labor grant to develop, implement, and administer a secondary education construction curriculum to serve as a model for eventual statewide deployment. This curriculum, the Construction Academy, is currently in 8 initial high schools throughout Oahu and includes 232 students in 4 construction related courses

An excellent opportunity exists to expand this program in Oahu and to reach out to the neighbor islands of Hawai'i, Maui, and Kauai. The program has met wide success by both the Department of Education (DOE) and HCC and can be expanded from its initial 8 schools to 26 schools statewide. This would include 4 schools each on Hawai'i and Maui, 2 schools on Kauai, and 8 additional schools on Oahu. The number of high school seniors ready to go into the construction field would expand from 100 to well over 300 per year.

Initial discussions have already taken place between HCC and the DOE. Under this proposal, students would receive dual credit for both high school and college level courses. After graduation, a student in this program could have as many as 12 credits that can be applied toward college and an apprenticeship program. More importantly, the student would be armed with a greater understanding of the construction industry and more career options than they would have without this program. They could go directly into the construction field, or they could go into an engineering or project management curriculum in the UH system.

For those students who do not have room in their course of study or may not have had the opportunity to enroll because the program is new, the community colleges would offer a summer program for upperclassmen in the form of a Summer Academy.

SHORT AND LONG-TERM CAREER DEVELOPMENT: RETENTION

Another issue that many trade unions and industry organizations must face is workers who decide to leave before they reach true journeymen status, a process that normally takes 2-5 years. Many leave because there are better supervisory or management opportunities that exist in other industries or with other companies. To stem this tide, classes and eventually a degree-granting program should be offered to supplement on-the-job training and experience.

HCC will offer non-credit classes focusing on the construction management (i.e., basic cost accounting, human resources management, etc.). At inception, current staff or professionals in the field can teach these types of continuing education/professional development courses. Because the cost of tuition is always an issue, HCC would look to partner with trade organizations and employers as primary funding mechanisms for those employees who qualify and enroll in these classes.

In the long-term, discussions regarding the offering of a project management degree will increase. Hawai'i would not be the first community college system to offer such a degree. While not widespread, documentation already reviewed shows that coursework toward this type of degree is feasible and is already offered at community colleges and universities on the mainland.

LONG-TERM RECRUITMENT AND TRAINING: RETENTION

As mentioned above, based on a cursory survey, it appears that, on the average across the different trades; only about 50% of apprentices complete their programs. Therefore, in addition to expanding apprenticeship programs, on a mid-to-long term scale, the community colleges and apprenticeship training programs will work together to increase retention rates.

There is any number of reasons why apprentices choose to withdraw from programs before completion. The current upturn building as well as the dire need for warm bodies on the jobsite is currently a large reason. However, societal issues burden construction, much like the rest of the state's workforce. Accordingly, one component of the retention strategy will focus on offering on-going classes and workshops on drug use awareness and prevention.

COORDINATING OUR EFFORTS

Strategic Tasks & Responsibilities: Industry, Education, and Government

Working together...with individual responsibilities. If the workforce development agenda is to be accomplished and if the intended benefits are to accrue to the individual and corporate citizens of Hawai'i, an effective business/ education/government partnership must be formed and sustained. To be effective, this partnership must be characterized by:

- An orientation toward action, not discussion
- Increased strength/capacity of each of the partners
- A commitment to a long-term relationship
- Efforts at continual improvement
- An agreement to partner and share the costs and benefits of improving the system
- A commitment to serve all of Hawai'i

The requirements of each of the partners are as follows:

Industry Strategic Tasks & Responsibilities:

Short Term:

- Proactively work with educators to provide meaningful internship and cooperative education opportunities for both teachers and students. Examine and promote successful models in this area.
- Develop effective, industry-specific working groups that can articulate the training/workforce development needs of employers in the industry (and on each island, as appropriate).
- Active participation with educators in establishing outcome expectations of training programs.
- Visible support for efforts of educators to achieve their obligations as effective partners.
- Proactively seek to build community support for the larger agenda supporting statewide economic development through building an effective communication and response system between industry and education.
- Promote mentor programs for K-12 students, postsecondary students, and entrepreneurs getting started in the industry.

Intermediate Term:

- Actively participate in efforts to establish outcomes standards for schools.

Long Term:

- Assume an increasingly larger share of the costs of:
 - Recruitment
 - Internships and cooperative education experiences
 - Apprenticeship and training

Education Tasks & Responsibilities**Short Term:**

- Proactively work to increase internship and cooperative education opportunities for both teachers and students.
- Begin the process of expanding the pipeline to increase graduates.
- Serve as the frontline to build industry awareness.
- Begin the dialogue with business about standards for applied academics in the basic skill areas (how would you know satisfactory work?)
- Involve individuals from the private sector who indicate interest.
- Use groups to 1) advise on specification of knowledge and skills needed by graduates, and 2) assess outcomes.
- Compile the inventory of training and education programs that work.
- Demonstrate responsiveness to business by responding to requests from industry associations for specific short-term training practice education's end of the partnership.
- Proactively seek to build community support for the larger agenda supporting statewide economic development through building an effective communication and response system between industry and education.

Intermediate Term:

- Develop the infrastructure for organizing content tailored to industry needs and delivering it on short notice. Similarly, develop the capacity to deliver basic skills training activities to adults.
- Develop and publicize training networks on all of the islands.
- Establish expectations that all technology program graduates will have a structured work experience (internships and cooperative education experiences) as part of their academic program and establish the mechanisms for implementing this requirement.
- Change the curricula of teacher education programs to ensure that teachers have the skills necessary to teach the new standards for applied basic skills.
- The Department of Education and private K-12 schools engage in a concerted professional development program for the current cadre of classroom teachers.

- Broaden faculty development programs at schools, colleges and universities to ensure their understanding (and proficiency) in incorporating basic skills development as part of their classroom activity teaching basic skills across the curriculum.

Long Term:

- Support the changing needs of the industry
- Continually develop the intellectual assets of the University to ensure an ongoing base of technical expertise.
- Assume the organizations share of:
 - Recruitment
 - Internships and cooperative education experiences
 - Apprenticeship and training

Government Tasks and Responsibilities

Short Term:

- Support the creation and maintenance of a central job-posting Web site and advertise its existence to potential employees locally, on the mainland and elsewhere.
- Support development of effective industry associations through trade organizations and bodies.
- Extend the life of the Employment Training Fund and increase its utilization by industry.
- Work with employer groups to ensure that members know how to get access to available government programs/funds.
- Support and fund the programs and curriculum of the University of Hawai'i Community Colleges.
- Support the standards and professional development initiatives of the Department of Education.
- Proactively seek to build community support for the larger agenda supporting statewide economic development through building an effective communication and response system between industry and education.
- Develop a mechanism for continually supporting the internship and cooperative education initiatives suggested previously and implementing positive models into education programs on a regular basis.

Intermediate Term:

- Support the development of the educational component of the infrastructure required to deliver tailored, just-in-time education to employers.

Long Term:

- Commit to development of world-class workforce training assets at the Community Colleges.
- Provide policy support and assume the necessary costs of maintaining a qualified workforce through:
 - Recruitment
 - Education
 - Apprenticeship and training

THE COSTS

Community Colleges
 Construction Workforce Initiative
 Budget-Apprenticeship

	Oahu	Hawaii*	Maui **	Kauai	Total
Personnel					
	(1.00)				(1.00)
Clerical Support, SR10	30,000				30,000
					-
Apprenticeship Lectureship Costs	285,600		80,240		365,840
	(1.00)				(1.00)
Total Salaries and Wages	315,600	-	80,240	-	395,840
					-
Other Costs					-
Educational Supplies	40,000	8,000	15,000	34,000	97,000
Equipment	945,000	195,000	285,000	66,000	1,491,000
Lease Rent@10,000sq.ft@\$1.50	180,000				180,000
Total Direct Costs	<u>1,480,600</u>	<u>203,000</u>	<u>380,240</u>	<u>100,000</u>	<u>-</u>
					-

*Includes Hilo and Kona

**Includes Molokai and Lanai

Description of Apprenticeship Budget

To meet the needs of an expanded Apprenticeship program, workshops and training classrooms must be properly equipped. Properly acquiring and equipping a shop from "scratch" for construction craft instruction would likely easily run in excess of \$100,000 and additional planning, design, and building costs would be impractical. Considering that the building of brand new workshops is cost prohibitive, it would be more feasible to refurbish and upgrade existing shops and lease rather than build new shop space.

It is estimated that there are approximately 30 shops on Oahu, 6 shops on the Hawai'i , 9 shops on Maui and 3 shops on Kauai. The costs are projected to be \$31,250 per shop for the upgrade of existing equipment, purchase of new equipment, and repair of broken equipment. The amount will permit purchasing one or two large pieces of equipment such as a wood surfacer (\$10,000) or a multi-purpose welder (\$6,500), several smaller pieces, and the repair of broken and unsafe equipment.

UHCC's in Conjunction with DOE
 Construction Workforce Initiative
 Budget-Construction Academy

	Oahu	Hawaii*	Maui**	Kauai	Total
High Schools Served	16	4	4	2	26
Personnel					
	(1.00)				(1.00)
Coordinator	70,000				70,000
	(4.00)	(2.00)	(1.00)	(1.00)	(8.00)
Traveling Instructors***	207,648	103,824	51,912	51,912	415,296
	(16.00)	(4.00)	(4.00)	(4.00)	(28.00)
High School Teachers	830,592	207,648	207,648	207,648	1,453,536
	(2.00)	(1.00)	(1.00)	(1.00)	(5.00)
Placement Counselors	103,824	51,912	51,912	51,912	259,560
	(1.00)	0.00	0.00	0.00	(1.00)
Intern Coordinator/Cooperative Ed.	51,912	-	-	-	51,912
	(1.00)	(1.00)	(1.00)	(1.00)	(4.00)
Clerical Support, SR10	30,000	30,000	30,000	30,000	120,000
Summer Academy-Teach the Teachers	5,000				5,000
Summer Academy-Teach the Students	17,520				17,520
	(25.00)	(8.00)	(7.00)	(7.00)	(47.00)
Total Salaries and Wages	1,316,496	393,384	341,472	341,472	2,392,824
					-
					-
Other Costs					-
Educational Supplies	32,000	8,000	8,000	54,000	102,000
Equipment Supplies(items<\$5,000per unit)	430,770	107,692	107,692	53,846	700,000
Tech and other support	20,000	20,000	10,000	10,000	60,000
Travel Costs, including mileage	30,000	15,000	15,000	15,000	75,000
Summer Academy-Teach the Teachers	32,000				32,000
Summer Academy-Teach the Students	80,000				80,000
Total Other Costs	624,770	150,692	140,692	132,846	- 1,049,000
	(25.00)	(8.00)	(7.00)	(7.00)	(47.00)
Total Direct Costs	1,941,266	544,076	482,164	474,318	- 3,441,824
Less UH Support					
	2.00				2.00
Personnel	90,000				90,000
	(23.00)	(8.00)	(7.00)	(7.00)	(45.00)
Adjusted Grand Total	<u>1,851,266</u>	<u>544,076</u>	<u>482,164</u>	<u>474,318</u>	<u>- 3,351,824</u>

*Includes Hilo and Kona

**Includes Molokai and Lanai

***One of the Instructors to be designated the Island Coordinator

Description of Construction Academy Budget

The Construction Academy program will expand from 8 to 26 schools statewide. Projected dispersion of high schools is: 16 on Oahu, 4 on Hawai'i, 4 on Maui, 4 on Kauai.

Personnel

(1.0) Coordinator is necessary for overall statewide management of the Construction Academy program.

(4.0) Traveling Instructors (TI) on Oahu, (2.0) TI on Hawai'i, (1.0) TI on Maui, (1.0) TI on Kauai.

Traveling instructors will hold expertise that regular teachers do not. For example, if the instructor is not versed in welding, the traveling instructor will teach that portion of the curriculum. Because each island oversees the program on their respective islands, Hawai'i, Maui and Kauai, will designate one TI as the island's Academy coordinator. The Coordinator position noted above will serve as both the Oahu and statewide program coordinator.

(16.0) High School Teachers on Oahu, (4.0) Teachers on Hawai'i, (4.0) Teachers on Maui, (4.0) Teachers on Kauai. Teachers will be UHCC employees, but be directly placed at high schools. These positions will teach the Academy's curriculum and augment a high school's faculty, positions will not replace current industrial arts teachers

(2.0) Placement Counselors for Oahu, (1.0) Counselor for Hawai'i, (1.0) Counselor for Maui, and (1.0) Counselor for Kauai. Counselors will coordinate with HCC and with each union to ensure students placed in the construction industry. Student progress will have to be tracked from 9th grade through graduation, and then 2 years into the construction field. Trackers are also responsible for tracking pre and post testing results, as well as monitoring entrance exam results to ensure the program meets Student Learning Outcomes.

(1.0) Co-Op Coordinator. The Co-Op Coordinator will oversee placement for students to receive industry experience during summer and other academic breaks.

Each island will have (1.0) clerical support position.

Other Costs

All 26 high schools will receive \$2000 for educational supplies

Oahu schools will receive \$430,769 for equipment that will upgrade each high school from a shop environment to a true construction academy training center. Hawai'i and Maui will receive \$107,692 and Kauai will receive \$53,846 for similar upgrades. Upgrades include large equipment purchases, which are not included in typical high school training outlays.

Each high school will receive \$4,000 annually to allow for intermediate and final construction projects. Projects cost a minimum of \$722 for ever 5 students. Costs included in this item are material costs under \$5,000 such as lumber, nails, etc.

Technical and other support costs include software and hardware requirements for each of the high schools.

Travel costs are necessary to support intra-island to allow for benchmarking.

The Summer Academy-Teach the Teachers is a staff development item. Funds will allow industrial arts teachers to stay abreast of the latest construction trade skills.

Summer Academy-Teach the Students will allow students who, because of academic loads or requirements, can only join the Construction Academy during summer periods.

Construction Workforce Initiative
 Combined Budget

Short Term Solution	Oahu	Hawaii*	Maui**	Kauai	Total
Personnel					
	(1.00)	0.00	0.00	0.00	(1.00)
Clerical Support, SR10	30,000				30,000
Apprenticeship Lectureship Costs	285,600	-	80,240	-	365,840
	(1.00)				(1.00)
Total Salaries and Wages	315,600	-	80,240	-	395,840
					-
Other Costs					
Educational Supplies	40,000	8,000	15,000	34,000	97,000
Equipment	945,000	195,000	285,000	66,000	1,491,000
Lease Rent@10,000sq.ft@\$1.50	180,000	-	-	-	180,000
	(1.00)				(1.00)
Total Direct Costs	1,480,600	203,000	380,240	100,000	- 2,163,840
Long Term Solution	Oahu	Hawaii*	Maui**	Kauai	Total
High Schools Served	16	4	4	2	26
Personnel					
	(1.00)	-	-	-	(1.00)
Coordinator	70,000	-	-	-	70,000
	(4.00)	(2.00)	(1.00)	(1.00)	(8.00)
Traveling Instructors***	207,648	103,824	51,912	51,912	415,296
	(16.00)	(4.00)	(4.00)	(4.00)	(28.00)
High School Teachers	830,592	207,648	207,648	207,648	1,453,536
	(2.00)	(1.00)	(1.00)	(1.00)	(5.00)
Placement Counselors	103,824	51,912	51,912	51,912	259,560
	(1.00)	-	-	-	(1.00)
Intern Coordinator/Cooperative Ed.	51,912	-	-	-	51,912
	(1.00)	(1.00)	(1.00)	(1.00)	(4.00)
Clerical Support, SR10	30,000	30,000	30,000	30,000	120,000
Summer Academy-Teach the Teachers	5,000	-	-	-	5,000
Summer Academy-Teach the Students	17,520	-	-	-	17,520
	(25.00)	(8.00)	(7.00)	(7.00)	(47.00)
Total Salaries and Wages	1,316,496	393,384	341,472	341,472	2,392,824
					-
Other Costs					
Educational Supplies	32,000	8,000	8,000	54,000	102,000
Equipment Supplies(items<\$5,000per unit)	430,770	107,692	107,692	53,846	700,000
Tech and other support	20,000	20,000	10,000	10,000	60,000
Travel Costs, including mileage	30,000	15,000	15,000	15,000	75,000
Summer Academy-Teach the Teachers	32,000	-	-	-	32,000
Summer Academy-Teach the Students	80,000	-	-	-	80,000

Total Other Costs	624,770	150,692	140,692	132,846		1,049,000
	(25.00)	(8.00)	(7.00)	(7.00)		(47.00)
Total Direct Costs	1,941,266	544,076	482,164	474,318	-	3,441,824
Less UH Support						
	2.00					2.00
Personnel	90,000					90,000
	(23.00)	(8.00)	(7.00)	(7.00)	0.00	(45.00)
Adjusted Grand Total-Long Term	1,851,266	544,076	482,164	474,318	-	3,351,824
	(24.00)	(8.00)	(7.00)	(7.00)		(46.00)
Combined Total	<u>3,331,866</u>	<u>747,076</u>	<u>862,404</u>	<u>574,318</u>	-	<u>5,515,664</u>

*Includes Hilo and Kona

**Includes Molokai and Lanai

***One of the Instructors to be designated the Island Coordinator

CONSTRUCTION WORKFORCE DEVELOPMENT INITIATIVE

(Draft)

Combined Budget-Dated Feb 7, 2006

<u>Short Term Solution</u>	<i>Oahu</i>	<i>Hawaii*</i>	<i>Maui**</i>	<i>Kauai</i>	Total
Personnel					
	(1.00)	-	-	-	(1.00)
Clerical Support, SR8	22,930	-	-	-	22,930
Apprenticeship Lectureship Costs	285,600	-	84,294	-	369,894
	(1.00)	-	-	-	(1.00)
Total Salaries and Wages	308,530	-	84,294	-	392,824
					-
Other Costs					-
Educational Supplies	50,438	89,000	7,200	16,500	163,138
Equipment	432,891	112,500	278,264	52,500	876,155
	(1.00)	-	-	-	(1.00)
Total Direct Costs	791,859	201,500	369,758	69,000	1,432,117
<u>Long Term Solution</u>	<i>Oahu</i>	<i>Hawaii*</i>	<i>Maui**</i>	<i>Kauai</i>	Total
High Schools Served	16	7	4	2	29
Personnel					
	-	-	-	-	-
Coordinator ^{^^}	-	-	-	-	-
	(4.00)	(2.00)	(1.00)	(1.00)	(8.00)
Travelling Instructors ^{***}	207,648	103,824	51,912	51,912	415,296
	(16.00)	(7.00)	(4.00)	(2.00)	(29.00)
High School Teachers	830,592	363,384	207,648	103,824	1,505,448
	(1.00)	(1.00)	(1.00)	-	(3.00)
Placement Counselors ^{^^^^}	51,912	51,912	51,912	-	155,736
	(1.00)	-	-	-	(1.00)
Intern Coordinator/Cooperative Ed.	51,912	-	-	-	51,912
	(1.00)	(1.00)	(1.00)	(1.00)	(4.00)
Clerical Support, SR8	22,932	22,932	22,932	22,930	91,726
Summer Academy-Teach the Teachers	5,000	-	-	-	5,000
Summer Academy-Teach the Students	17,520	-	-	-	17,520
	(23.00)	(11.00)	(7.00)	(4.00)	(45.00)
Total Salaries and Wages	1,187,516	542,052	334,404	178,666	2,242,638
					-
Other Costs					-
	-	-	-	-	-
Educational supplies and small tools	887,600	411,355	235,060	117,530	1,651,545
Tech and other support	18,000	17,000	10,000	8,000	53,000
Travel Costs, including mileage	30,000	15,000	11,000	9,000	65,000
Summer Academy-Teach the Teachers	10,000	-	-	-	10,000
Summer Academy-Teach the Students	45,700	-	-	-	45,700
Total Other Costs	991,300	443,355	256,060	134,530	1,825,245
	(23.00)	(8.00)	(7.00)	(3.00)	(41.00)
Total Direct Costs	2,178,816	985,407	590,464	313,196	4,067,883
Combined Total	2,970,675	1,186,907	960,222	382,196	5,500,000

*Includes Hilo and Kona

**Includes Molokai and Lanai

***One of the Instructors to be designated the Island Coordinator

^^Oahu received funds FY 2006 for Coordinator position

^^^^One Placement Counselor funded FY 2006 Funds