

---

**Higher Education in the  
Three Rivers Community  
An Analysis and Proposal**

---

*Presented to*

**Three Rivers Community Roundtable**

*By the*

**Higher Education Task Force  
August 2004**



## Table of Contents

I. Executive Summary.....	4
II. Introduction and Background.....	5
A. Three Rivers Community Roundtable .....	5
B. Higher Education Task Force.....	5
III. Situation Analysis of Higher Education in the Three Rivers Community .....	7
A. Access Requirements/Demand.....	7
B. Demographic Changes.....	7
C. Economic Development .....	8
D. PNNL Collaboration.....	9
IV. Status of Higher Education Today.....	11
A. Columbia Basin College .....	11
B. Washington State University Tri-Cities .....	12
C. Current Collaborative Initiatives .....	14
D. K-20 Continuum .....	15
V. Recommendations and Conclusions .....	17
A. Vision for Higher Education: A Scenario for 2025 .....	17
B. Benefits of WashTech.....	19
C. Action Recommendations .....	20

## I. Executive Summary

The Higher Education Task Force of the Three Rivers Community Roundtable recommends the creation of the Washington Institute of Technology (WashTech), combining Columbia Basin College and Washington State University Tri-Cities into a publicly-funded four-year institution of higher education offering baccalaureate, master's and PhD degrees. WashTech would also continue to offer the associate degrees, career development and basic skills education traditionally provided by a community college.

**The Roundtable should champion legislation creating WashTech for introduction in the 2005 session of the Washington State Legislature and should encourage a lobbying and political awareness campaign to generate wide-spread support for the project.**

WashTech would leverage a unique resource of the Three Rivers-Pacific Northwest National Laboratory, its staff, facilities and equipment. The proposed relationship between WashTech and PNNL provides a substantial economic benefit to the State of Washington. The State can create a research university, accessing PNNL's state-of-the-art facilities and equipment, at a fraction of the cost that would be required at any other location.

The Three Rivers region, as well as the State of Washington, faces a critical shortage of seats in higher education. The 2004 Strategic Master Plan for Higher Education states:

“Every public college in the state is overenrolled, with the two-year schools supporting about 14,000 more full-time equivalent students than are funded by the state, and the four-year schools enrolling an additional 4,000 students. Enrollment pressures continue to expand. As of June 2004, all five public universities have halted new freshman admissions, some for the first time ever, and slots for transfer students appear to be limited as well.”

The State will graduate its largest high school class ever in 2008, and more of those students will be seeking postsecondary education. A recent national study found that more than 90 percent of high school graduates expect to go to college. The state is not close to meeting those expectations. The time is right for the expansion of four-year education in the Three Rivers communities to help our state meet these needs, and to offer a unique and new higher education paradigm for our region.

This report describes the local need for higher education in detail, outlining the increasing demand for more access. It discusses the demographic changes driving this demand. The report reviews the importance of higher education to the local economy and addresses the critical need of Pacific Northwest National Laboratory for a four-year research institution as a partner.

The region has two outstanding institutions of higher education: Columbia Basin College and Washington State University Tri-Cities. The current status of each is reviewed and their ongoing collaborative efforts are described. The report also discusses the important need for a K-20 continuum of education.

The report concludes with a 2025 Vision for Higher Education in the Three Rivers communities, a discussion of WashTech's benefits, and specific actions needed to achieve the vision.

## **II. Introduction and Background**

### **A. Three Rivers Community Roundtable**

The Three Rivers Community Roundtable (Roundtable) was created in April 2001. The Roundtable serves as a forum where community leaders come together to communicate, coordinate, integrate and facilitate their respective strategies for achievement of the regional vision. The Roundtable serves as the steward of this vision and holds itself accountable to the public by reporting annually on progress toward realizing that vision.

The Roundtable has adopted an economic model that provides a framework for the vision. The model has three elements: starting new businesses, keeping and growing existing businesses, and recruiting new industry. Supporting those elements are the business climate and quality of life in the region.

Five primary business focus areas have been identified as critical to the economic future of the Three Rivers region: agribusiness, federal projects, information technology, manufacturing and business services, and tourism. Five resource focus areas enable the growth of the regional economy: education and training, quality of life, research and development, transportation, and water, dams and power.

Each of these ten focus areas has established a vision and 10-year outcomes and goals. The education and training vision is: "A community system of learning and education that prepares students for fulfilling and productive lives, and significantly improves the region's quality of life and economy."

The 10-year outcomes and goals stated by the education and training focus group are:

- Establish and support a comprehensive post-secondary education program encompassing bachelor, master's, and Ph.D. degrees that are relevant to the region's economic development initiatives.
- Support an initiative underway to formally partner Columbia Basin College (CBC) with Washington State University Tri-Cities, creating a 4-year seamless education program in the regional community.

Education was also identified as one of the key measures of success over the next 10 years by the research and development focus group.

- An accredited research university in the Three Rivers region with Ph.D. programs in strategic science and engineering areas and a K-12 system that produces students who can enter and be productive in research institutions and high-tech businesses.

Other focus areas also implicitly stressed the importance of higher education to the achievement of their 10-year outcomes and goals. Accordingly, the Roundtable, recognizing the importance of higher education to the economic future of the Three Rivers region, created the Higher Education Task Force in late 2003 to study the need and make recommendations to the Roundtable.

### **B. Higher Education Task Force**

The purpose of the Higher Education Task Force is to study the post-secondary education needs of the Three Rivers region and formulate recommendations to the Roundtable on how to grow educational opportunities in the region. Central to the work of the task force is addressing the issue of creating a more comprehensive four-year university in the region.

The task force's work included:

- Analyzing the region's current higher education assets.
- Assessing the need for and the benefits of a four-year college or university.
- Determining how such an institution could be formed.
- Examining what role Columbia Basin College and Washington State University Tri-Cities would play.
- Estimating the operating cost of such an institution.
- Evaluating the alternatives for financing such an institution.

The task force committed to the Roundtable that it would recommend a higher education model that fosters innovative teaching approaches, encourages students to stay in the region for their continuing education, and builds a workforce ready to succeed in a technology-driven economy.

The chair of the task force is Dr. Len Peters, Senior Vice President of Battelle Memorial Institute and Director of Pacific Northwest National Laboratory (PNNL). Other members are:

Mr. Kenneth Alhadeff	Member, Board of Regents, Washington State University President, Alhadeff Companies, Seattle
Mr. J. Frank Armijo	Director, Lockheed Martin Information Technology, Richland
Ms. Cheryl Dell	Publisher, Tri-City Herald, Kennewick
Dr. Larry G. James	Chancellor, Washington State University Tri-Cities, Richland
Dr. Wayne J. Martin	Chair, Board of Trustees, Columbia Basin College Technical Group Manager, PNNL, Richland
Mr. Bill McCurley	Owner, McCurley Dealerships, Pasco
Dr. Paul Rosier	Superintendent, Kennewick School District, Kennewick
Dr. Lee Thornton	President, Columbia Basin College, Pasco
Mr. Richard J. Reisinger	Columbia Basin College Consultant with the task force

### **III. Situation Analysis of Higher Education in the Three Rivers Community**

#### **A. Access Requirements/Demand**

Washington continues to rank near the bottom of the nation in enrollment in and completion of baccalaureate degrees, even though a large number of state residents (relative to other states) have bachelor degrees. This results in many qualified graduates of Washington high schools leaving the state to pursue baccalaureate education while Washington's industries and businesses must import baccalaureate degreed professionals to fulfill their workforce needs. This problem is expected to intensify as the state's population continues to increase. By 2010 the Higher Education Coordinating Board projects that Washington's higher education system will need to provide seats for an additional 33,000 students—that's equivalent to adding three, new regional universities.

WSU Tri-Cities was seven-percent over contract FTEs in fiscal year 2003. Enrollment in education, liberal arts, and several other programs is currently limited by a lack of faculty. This problem will intensify as enrollment at area community colleges continues to rise and the Coordinated Bachelor Degree Program is implemented.

#### **B. Demographic Changes**

In many ways the Three Rivers Community mirrors America with its population becoming more diversified. The influx of Hispanic families is the most dynamic aspect of this change. In 1985 Kennewick School District enrolled 600 Hispanic students which was approximately 6% of the total district enrollment. In 2004 Kennewick enrollment included over 3000 Hispanic students which was 22% of the total district enrollment. In Pasco and Franklin County, the school enrollments are approximately 70% Hispanic. Overall, the enrollment of the seven school districts in the Tri-Cities area is over 30% Hispanic. The vast majority of these children are limited speakers of English. Most families come from the poorest areas in Mexico, Central and South America. The educational level of the parents of many of these recent immigrants is a few years, if any, of a formal education.

Other immigrants are also joining the diversity of the Tri-Cities. Although much smaller than the Hispanic community, a growing number of Russian and former Soviet Union states' immigrants are settling in the Three Rivers area. While the parents are often well educated, their children too are limited English speakers. For example, at Westgate Elementary School in Kennewick, 19 different languages are represented among the recent immigrant families. This situation is not unique to Kennewick. Similar populations of world immigrants will be found in Richland and Pasco. These demographics look very much like those in the eastern U.S. in the first-half of the 20th Century during the heavy immigration from Eastern Europe. Their first and second-generation children were a major part of the growth of higher education following World War II.

Families of school-age children are generally poorer than they were a few years ago. This is reflected in the percentage of students eligible for free and reduced meals. The Kennewick School District's 1980 enrollment report states that 19% of the students were eligible for free and reduced meals, while this past school year 39% of the students were eligible. Only approximately 30% of Tri-Cities families have school age children, so this information may not be representative of the general population.

More high school students (over 90%) than ever report that they are going to attend college. This would include community colleges, colleges and universities. The actual number of high school graduates

who enroll in higher education is between 50 and 60%. A generation ago almost anyone who graduated from high school, or who obtained a GED, or who tested high enough on the college entrance examination could get into college. Today, this is not true. The pressure on higher education for more space (seats) will only grow in the next decade.

### **C. Economic Development**

The future growth of the regional economy is highly dependent on higher education. Being economically competitive is synonymous with being educationally competitive. If the Three Rivers area is to become more educationally competitive, investments in higher education are important.

Few institutions have more to offer in propelling economic development on both a national and local basis than our nation's colleges and universities. They are the creators and disseminators of knowledge and understanding that can help address urban challenges. As leading institutions in their communities, they are powerful economic drivers, technology centers, employers, developers, and investors. (R. Rosan. *The Key Role of Universities in Our Nation's Economic Growth and Urban Revitalization*. 2002)

Premier universities are important drivers of just about every high-tech success story. Silicon Valley developed around Stanford University and the University of California, Berkeley. Harvard and the Massachusetts Institute of Technology (MIT) were at the heart of the entrepreneurial boom on Route 128 in Massachusetts. The Research Triangle Park in North Carolina leveraged the resources of Duke University, the University of North Carolina, and North Carolina State University. The University of Texas has spun-off hundreds of high tech companies in the Austin area.

Each of these areas has been intensely studied as a model for economic development. In Silicon Valley, for example, more than half of its \$100 billion economy in 1996 came from companies started by Stanford graduates and faculty. A 1997 Bank of Boston report emphasized the creation of 14,000 jobs in Cambridge at companies founded by MIT faculty and graduates. In North Carolina the Research Triangle Park has attracted over 100 companies employing more than 36,000 people.

In Washington State, the University of Washington (U of W) is a major factor in the Seattle economy. The U of W attracts almost \$1 billion a year in external research support. Virtually all of that comes from outside the state. This influx of dollars creates jobs, fuels the development of new science and technology, and generates innovations that become the basis for new companies.

This job creation has multiplier effects. For example, state economists estimate that every job at Central Washington University (CWU) creates an additional 2.86 jobs in the community. CWU's payroll alone represents about \$65 million.

Universities also contribute to a local economy through direct purchases of goods and services. One estimate is that each student represents about \$10,000 to a local economy. A university of 10,000 students would then have a \$100 million economic impact.

The presence of a university has other, indirect economic benefits. A university aids directly in the recruiting of employees, especially professional and technical people. Most industrial recruiters cite quality of the workforce as one of the most important criteria in their site searches. The presence of a university contributes directly to the quality of the workforce and can be a competitive advantage in attracting companies to the region. But it is a long-term strategy that requires strong collaborations within the community and the region, and persistence and dedication.

## **D. PNNL Collaboration**

The Pacific Northwest National Laboratory is operated by Battelle Memorial Institute for the U.S. Department of Energy through their Office of Science. The mission of PNNL is to perform basic and applied research to deliver energy, environmental, and national security for our Nation. Consistent with this mission is a vision to be recognized worldwide and valued regionally for leadership in rapidly translating discoveries into solutions for challenges in energy, national security, and the environment by integrating the chemical, physical, and biological sciences.

Battelle is a non-profit organization committed to serving society through education and science and technology. Battelle has operated PNNL since 1965, when PNNL was formed, and relies on close interactions with the science and technology communities in academia, industry, and government. Many of the facilities at PNNL are on Battelle-owned property and are in buildings owned by Battelle or other third parties, rather than just the federal government. This provides flexibility to support expanded higher education in the region. Battelle has extensive investment in PNNL, the Tri-Cities community, and the broader Northwest region, having offices in Seattle and Portland and a Marine Sciences Laboratory on Sequim Bay. Battelle's strong commitment to higher education makes it a logical partner for the next phase of a university in the community.

At PNNL, there are over 3,800 employees with a science and engineering staff of about 2,000, of which about 750 have the Ph.D. or equivalent degree; approximately the same number have Master's degrees. Many of the doctoral-degreed staff have been faculty at universities, including some of the leading research universities in the United States.

There are extensive state-of-the-art research facilities at PNNL, including one of the ten fastest supercomputers in the world. The Environmental Molecular Sciences Laboratory (EMSL) is a national user facility that is host to over 1,500 visitors annually from academia, other national laboratories, and industry. Additionally, many graduate students from around the United States will do part or all of their research at EMSL and/or other facilities within PNNL. Thus, the science and engineering staff have extensive academic experience including being faculty, interacting with leading academics, and directing graduate student research.

There is a long history of DOE national laboratories having close and direct interactions with academia. Examples include Lawrence Berkeley National Laboratory at the University of California, Berkeley and Argonne National Laboratory close to the University of Chicago. Furthermore, PNNL has extensive connections to many universities, but the closest and most extensive interactions have been to the major research universities in the Northwest. Thus, the historical ties of the national laboratories to academia and PNNL's mind-set suggest that a strong and direct connection to an expanded higher education effort in the Tri-Cities is both logical and highly desirable.

PNNL should be an integral part of the vision for higher education in the Three Rivers region. There are several mechanisms for this.

- Joint scientist/faculty appointments
- Adjunct faculty appointments
- Location for and support of graduate student research
- Internships for undergraduate students
- Collaborative research with full-time faculty

These and other mechanisms will assist in implementation of the community's vision for expanded higher education in the Three Rivers region. For example, numerous joint faculty appointments are envisioned for academic programs in the sciences and engineering. PNNL staff would be major contributors to programs in biology, chemistry, physics, geology, mathematics, statistics, computer science, and engineering including chemical, electrical and mechanical. PNNL staff would be central to advancing a leading role in the biological revolution of the 21st century. Other areas would be in business administration, technical writing, and public policy, especially related to national and homeland security and nuclear non-proliferation.

A partnership between an expanded higher education enterprise in the Three Rivers region and PNNL would also greatly benefit the DOE and continued development of its laboratory. Opportunities for joint appointments would enhance recruitment and retention of PNNL scientific staff, as well as the regular faculty at an expanded higher education institution. Strong interactions with graduate students would strengthen science and engineering education overall, and provide a pool of future laboratory employees at PNNL and elsewhere in the DOE laboratory system. Furthermore, the connectedness to the faculty and administration would provide direct mechanisms to shape and influence the undergraduate and graduate curricula in support of DOE priorities and missions. Finally, there would be expanded opportunities for PNNL staff without the terminal degree in their field to complete master's and/or doctoral degrees on-site.

## IV. Status of Higher Education Today

### A. Columbia Basin College

Columbia Basin College is a rural, public, two-year community college based in Pasco. The college's service area (district 190) encompasses 175,000 residents in 3,000 square miles that reach from the Cascade Mountains on the west to the Blue Mountains on the east.

CBC's mission statement is reviewed annually, updated and approved by the Board of Trustees to meet the needs and principles of the community.

Columbia Basin College exists in an environment of diversity, fairness and equity to ensure that the people of Benton and Franklin counties have access to educational programs providing sufficient knowledge for higher educational achievement, meaningful employment, cultural enrichment and physical and emotional well-being.

The programs offered are varied. The School of Arts and Sciences (Associate in Arts and Sciences degree) programs incorporate a depth and breadth of core offerings that include the first two years of a wide selection of academic and pre-professional programs leading to the AAS degree, which is transferable to any four-year college or university within Washington with automatic junior standing. Developmental Education offers basic skills classes in mathematics, reading and English below college level, as well as comprehensive English as a Second Language program. The School of Career Development consists of 26 preparatory programs from Accounting to Welding leading to a certificate or the Associate in Applied Science degree. Student characteristics are shown in Table 1.

**Table 1.** Degrees offered at CBC.

<b>Columbia Basin College Fall 2003 Student Profile</b>	
Head count	7,561
FTE	4,953
Number of graduates in 2003	729
Full-time	59%
Part-time	41%
Male	45%
Female	55%
Average age	52% < 25 years
Students of color	30%

In fall 2003, CBC employed 111 full-time and 232 part-time faculty, 127 classified staff and 89 administrative and professional exempt employees. Eleven percent of the teaching faculty are persons of color and 48% are women. Eleven percent have doctorates or professional degrees, and 69% of the full-time faculty and 29% of the part time faculty have Master's degrees.

The direct tangible economic impact of CBC on Benton and Franklin Counties' economy was \$44.7 million during the 2002-2003 academic year. Gross payroll for 2003-2004 was \$14.9 million and the institutional operating budget was \$23.1 million. Total taxpayer investment in CBC during the 2002-2003 was \$15.7 million. As a result of the college's total economic contribution to the community, for every dollar spent by taxpayers in support of CBC, \$5.71 is returned to the local economy. This is a return on investment of over five to one.

Work-life earnings estimates for those completing associate's degrees are \$400,000 more than people with only a high school diploma. Even for those who attend some college—but do not earn a degree—the estimates are \$300,000 more over their lifetime than those completing only high school or those with a GED. Education is a good investment both for the individual and the community.

The campus of CBC is well known in the Three Rivers region for its beauty and many varieties of trees. It is also known for its preservation of an area of undisturbed desert environment for study by faculty and students. Because of an infusion of capital money from the state legislature, it has become possible to refurbish and build badly needed classroom space. The Pasco campus currently sits on 148 acres with 17 instructional buildings, and the Richland campus at this time has four buildings on 2-1/2 acres. A large building project in partnership with Kadlec, WSU Tri-Cities and others for a Health Sciences Center has begun and will be in place by 2006. Renovation of the business building and replacement of the vocational building will occur within the next five years. The largest project to date is the WISE (Washington Institute for Science Education) building. It will come on line in 2006 and will greatly increase the capacity for students and classes in mathematics and sciences.

In 2008 the U.S. will have the largest graduating high school class in the nation's history, and this comes at a time when 60% of the jobs driving our economy require some further or higher education beyond high school. America's higher education landscape was designed when only 25-30% of graduating seniors were expected to attempt college; that expectation now exceeds 90%. Due to the need for knowledge workers, it is recognized that a college education is becoming the gateway to the "American Dream." Through WISE and other innovative programs, CBC is creating an optimistic future for students and citizens of the Tri-Cities by providing the key to that American Dream.

## **B. Washington State University Tri-Cities**

WSU, along with the University of Washington and Oregon State University, began offering graduate-level engineering programs in Richland as part of the GE School of Nuclear Engineering in 1946. The name was changed to the Joint Center for Graduate Education in 1958, and later, to the Tri-Cities University Center in 1985 when Central Washington University and Eastern Washington University joined to form a five-school consortium. In 1988, legislation assigned WSU as the provider of upper-division (junior and senior) and graduate education in the Tri-Cities.

WSU Tri-Cities officially began July 1, 1989 with 6 full-time faculty, 100 part-time faculty, 800 part-time students, 25 staff, an 84-acre campus, and a single 40,000-square foot building. Today, there are more than 1,200 full- and part-time students, 50 full-time faculty, 350 part-time faculty, 65 staff, and three permanent buildings with a combined area of 200,000 square feet.

The curriculum at WSU Tri-Cities has evolved from primarily graduate-level engineering and science programs for Hanford employees, to an array of baccalaureate and graduate programs that serve the broader community. Two-thirds of today's student body is enrolled in bachelor degree programs with over 75% in education, business, and liberal arts. The remaining enrollment is in engineering, science, nursing, and agriculture.

The campus currently offers the 17 bachelor and 13 master's degrees listed in Table 2. In addition, many students have satisfied most of the requirements for a PhD at WSU Tri-Cities<sup>1</sup>. Approximately 75% of the classes at WSU Tri-Cities are offered in the evening to accommodate the institution's many

---

<sup>1</sup>These PhD students have had to enroll full-time in Pullman for one-year to fulfill the University's residency requirement. This requirement was recently changed to allow the residency requirement to be fulfilled by being a full-time student on a "campus where a given program has received approval to grant residency."

part-time students who have families and/or jobs. Approximately 60% of the undergraduate students transfer to WSU Tri-Cities from Columbia Basin College. Student profile data in Table 3 indicate that approximately 75% of the students reside in Benton, Franklin, and Walla Walla counties.

**Table 2.** Degrees offered at WSU Tri-Cities.

<b>Bachelor Degrees</b>	<b>Master's Degrees</b>
Agriculture	Biology
Business	Business (MBA & MTM)
Computer Science (BA & BS)	Chemical Engineering
Digital Technology and Culture	Chemistry
Education	Computer Science
English	Education (EdM & MIT)
Environmental Science	Electrical Engineering
History	Environmental Engineering
Horticulture (Viticulture and Enology)	Environmental Science
Humanities	Material Science and Engineering
Psychology	Mechanical Engineering
Mechanical Engineering	Nursing
Nursing (RN to BSN, BSN)	
Science	
Social Science	

The mission of the campus, as mandated by the Washington Legislature in 1989, is to provide upper division (junior and senior) and graduate programs to place-bound students in Benton, Franklin, and Walla Walla counties and contribute to the economic development of the region. The Campus' vision for the future is to be a world-class research university offering master's and doctoral degrees and, in association with regional community colleges, 4-year bachelor degrees.

WSU Tri-Cities collaborates with the WSU College of Nursing to deliver bachelor and master's degrees in nursing in Yakima and Walla Walla. The Campus will add degrees in humanities, social science, and psychology to its existing Master of Business Administration program in Yakima. A bachelor degree program in elementary education is scheduled to begin in Walla Walla in January 2005.

**Table 3.** Profile of WSU Tri-Cities' Students for Fall Semester 2003.

	<b>Undergraduate Students</b>	<b>Graduate Students</b>	<b>Campus Average</b>
Average Age	32 yrs	37 yrs	34 yrs
Part-Time	65%	85%	71%
Female	56%	54%	55%
Benton County	57%	59%	58%
Franklin County	13%	8%	11%
Walla Walla County	6%	6%	6%
Yakima County	4%	7%	5%
Columbia Basin College	60%*		
Walla Walla Community College	5%*		
Yakima Valley Community College	5%*		

\* Percent of new transfer students

## C. Current Collaborative Initiatives

There are a number of collaborative partnerships among WSU Tri-Cities, Columbia Basin College, Walla Walla Community College, Yakima Valley Community College, and PNNL.

WSU Tri-Cities and the Pacific Northwest National Laboratory have enjoyed a strong and productive relationship over the years. WSU's Benitz Library and the Hanford Technical Library operated by PNNL are co-located on the WSU Tri-Cities Campus. Library materials are inter-shelved, and personnel and materials shared.

PNNL has provided scholarships, internships, and graduate assistantships for numerous WSU Tri-Cities students. PNNL has loaned or gifted a large amount of equipment to the Campus as well as allowed numerous WSU students and faculty to use their facilities and equipment in their research. The Campus and PNNL have shared the cost of joint faculty/scientist appointments and encouraged numerous research collaborations between WSU faculty and PNNL scientists. Over 200 PNNL scientists and engineers are members of the WSU faculty and teach part-time and/or serve on graduate committees at WSU Tri-Cities.

More recently, WSU Tri-Cities and PNNL have developed a strategic partnership in bioproducts education and research. The centerpiece of this partnership is a 57,000 square foot Bioproducts, Sciences, and Engineering Laboratory that is planned for the WSU Tri-Cities campus. This new building, which is being jointly designed and funded, will enable PNNL scientists and engineers to interact daily with WSU faculty and students as facilities and equipment are shared. The first WSU Tri-Cities PhD program is expected to emerge from this collaboration. The program will attract the finest faculty, scientists, engineers, and students from around the world.

There is continuous dialogue and collaboration between CBC and WSU Tri-Cities. Most WSU Tri-Cities students have attended CBC. There are numerous examples of cooperation between the two institutions including:

- The Health Science Center in Richland;
- The Coordinated Bachelor Degree Program; and
- A joint faculty appointment in chemistry.

The Health Science Center will be constructed at CBC Richland adjacent to the Kadlec Medical Center and four miles from WSU Tri-Cities. The facility will house the nursing programs of CBC and WSU Tri-Cities as well as CBC's paramedic, EMT, and fire science programs. It will also provide space to support continuing education activities of local hospitals and the region's health care industry. The nursing programs of WSU Tri-Cities and CBC will continue to be co-located at WSU Tri-Cities until the Health Science Center opens.

The Coordinated Bachelor Degree Program, which begins in fall 2004, is intended for students wishing to earn one of the 17 bachelor degrees currently offered by WSU Tri-Cities. It enables students to begin a baccalaureate program upon initiating their post-secondary education and, in doing so, choose between:

- Earning a recognizable, transferable degree from CBC while they pursue a BA or BS degree; or
- Completing a WSU BA or BS degree without completing a CBC degree.

The Program is an "invisible transfer" process designed to alleviate many of the barriers currently experienced by students transferring from CBC to WSU Tri-Cities. It is invisible in the sense that processes

such as application, admission, and transcript evaluation are co-managed by CBC and WSU Tri-Cities personnel with little, if any, student involvement. Other features of the Program include:

- Detailed, up-to-date Plans of Study for BA and BS degrees offered by WSU Tri-Cities.
- Formal access to bachelor-directed academic advising as soon as students begin their post-secondary education.
- A Program Handbook that includes policies and procedures for the Program, the plans of study, course descriptions, and information about financial aid, advising and counseling, disability services, student organizations, and other student services.
- Coordinated student services (e.g., financial aid, registration, career services, advising/counseling, student organizations, and disability services).

WSU Tri-Cities has contracted with CBC for a joint faculty member in chemistry. A CBC faculty member will direct the chemistry programs at both institutions with the goal of merging the programs. This will be a model for other programs.

WSU has an agreement with Central Washington University and Yakima Valley Community College (YVCC) to jointly occupy the new Deccio Higher Education Center (DHEC) on the Yakima campus of YVCC. The three institutions share classrooms, computer laboratories, offices, and support personnel in the new 65,000 square foot DHEC, which opened in September 2003. WSU also has offices, classrooms, and computer laboratories for its exclusive use in the delivery of distance education and face-to-face classes. WSU Tri-Cities utilizes the DHEC for its Master of Business Administration Program and upper-division courses in humanities, social sciences, psychology, viticulture and enology, and environmental science. In addition, WSU Tri-Cities offers upper-division and graduate courses in nursing and education courses needed by K-12 teachers to satisfy Professional Certification requirements. WSU will also open a nursing clinic in the DHEC early in 2005.

WSU Tri-Cities has two nursing faculty at Walla Walla Community College (WWCC) to advise students and provide clinical instruction and oversight. Distance education technology is used to deliver the didactic portion of bachelor's and master's degree curricula from Spokane. WSU and WWCC collaborate closely on viticulture and enology. Also, WSU Tri-Cities will begin delivering its BA in Elementary Education in January 2005 via a combination of distance education and face-to-face courses.

## **D. K-20 Continuum**

One of the most significant opportunities for creating a four-year research university in the Three Rivers region is the advantage of the concept of a K-20 continuum. The concept of a K-20 seamless process is not new, but it is only a concept in most areas of the country. The divide between higher education and K-12 is deep and irrational, but real. Both institutions reflect cultures of isolation and self-preservation.

A Three Rivers area university presents a unique opportunity to close the divide and to build a new culture of collaboration and cooperation. With PNNL playing a major role, the culture will be different and more open than in most universities. A collaborative and cooperative relationship with the local K-12 systems will address several needs. Two of these needs are acute to families. First, the cost of the higher education is escalating at rates that are inhibiting too many families and to individual students. Second, the number of seats available to new students at all levels of higher education is becoming limited. It is estimated that Washington will need over 30,000 new seats to accommodate the number of students qualified and seeking admission to state higher education institutions by 2010. Many students could begin taking university course work on high school campuses; this would address both of these needs.

Most high schools in the Three Rivers area already offer Advanced Placement courses. As an additional example, International Baccalaureate courses are available at Kennewick High School. Both of these programs provide college equivalent courses based on college level syllabi and text materials. It would be reasonable to offer a coordinated series of courses in the high schools that would receive both high school and university credit. This process could increase the number of students completing college and university curriculum in three years and in some cases two years. The cost of a college education to a family would be significantly reduced and the number of seats needed also reduced.

Already the local school districts have a good working relationship with CBC through the Running Start Program and the vocational and technical education articulation agreements. Under these programs, high school students are obtaining college course work or equivalent credit. College in the high schools would add one more option. The most important aspect of the college in the high schools program would be that the course work could be specifically designed for the new university's curriculum requirements.

It should be noted that one major emphasis in high school education today is the concept to prepare all students for college entrance standards. The information from businesses, from the military, and from the trades is that most jobs require college entrance level skills. Therefore, the old concept of a comprehensive high school where students are given three tracks—college preparation, general education, and vocational technical education—are being consolidated into a system of meeting high academic standards that prepares students for all options and opportunities. Consequently, more students than ever before will be prepared to enter college if they choose. Of course, there must be seats available and the opportunity to go to college.

The collaboration and cooperation in a K-20 system works both ways. While the K-12 system can be streamlined to engage students in college work during high school and can prepare more students with the foundation for college, the new university could be a vital source of research and development for improving teaching and learning in the K-12 system. Together, the new university and the K-12 systems in the Three Rivers area could collaborate to develop a system of teaching and learning that would be unique and literally revolutionary. Today, K-12 school systems do not look to higher education institutions to solve teaching and learning issues and needs. They turn to private providers. For instance, where do K-12 systems learn of the most effective reading programs and strategies and to whom do they turn for professional development in those programs and strategies? Do they look to higher education institutions? They do not, because most higher education institutions are so distant from the students and staff in the K-12 system that they are not in touch with the reality of today's students. So the K-12 systems turn to private providers for answers.

The new university can provide for the needs of the local K-12 systems if the culture that evolves is open and enterprising. Both institutions have much to offer each other in this area to develop the most effective strategies for teaching and learning. Such strategies would go well beyond the K-12 system and affect higher education as well. The opportunity of a true K-20 seamless system is possible with the creation of a new Three Rivers community four-year research university.

## **V. Recommendations and Conclusions**

### **A. Vision for Higher Education: A Scenario for 2025**

The vision for higher education in the Three Rivers region must be aggressive, be innovative, meet regional needs, and have broad community and state support. The Washington Institute of Technology (WashTech) is just that. It is an independent, public four-year education and research university. WashTech was formed in 2010 by combining Washington State University Tri-Cities and Columbia Basin College, with close collaboration of Pacific Northwest National Laboratory, to advance the educational, research and economic development of the Three Rivers communities in Southeastern Washington. Today, it serves over 15,000 undergraduate and graduate students (full-time equivalents) on campuses in Pasco, Richland and north Richland. The combination of PNNL and WashTech ranks as one of the top 50 research institutions in the country.

#### **Governance**

WashTech is governed by a Board of Regents appointed by the Governor of the State of Washington. One of those Regents, as stipulated in the Memorandum of Understanding between the State of Washington and Pacific Northwest National Laboratory, is the Director of PNNL. The Board of Regents adopted an outcomes-based model of board governance and has guided the institution through rapid growth to a position of national prominence.

#### **Evolution of WashTech**

Persuaded by a compelling case for the creation of WashTech, made by the Three Rivers Community Roundtable in 2004, the State of Washington enacted legislation in 2005 that created WashTech and mandated that Washington State University Tri-Cities and Columbia Basin College develop detailed plans to form WashTech by 2010. The State directed the Higher Education Coordinating Board to work with the State Board for Community and Technical Colleges to develop models that allow WashTech to overcome such barriers as differences in tuition, reporting requirements, and academic schedules. In the Memorandum of Understanding with PNNL, the State of Washington committed to funding WashTech at a level necessary to create a first-class research university. PNNL committed to make available up to 200 staff members to serve as part-time faculty, and to provide laboratory space and research equipment.

#### **Program Focus**

WashTech offers baccalaureate, master's and PhD programs in disciplines ranging from science to the liberal arts. Its primary focus is on cross-disciplinary programs in the sciences. WashTech also has outstanding programs in computer science and information technology. It is known for its leading-edge research and attracts students from around the world. WashTech also offers the associate degrees, career development and basic skills education previously provided by Columbia Basin College.

WashTech has an innovative work-study program with local industry that enables students to complete degree programs while employed. Many of these students are employed in companies that are commercializing technology developed at WashTech and/or PNNL. This emphasis on technology commercialization created the need for a business program with a focus on entrepreneurship and the management of technology-based companies. WashTech is nationally recognized for its programs in these areas.

The Three Rivers area is a regional health care center. Building on CBC's and WSU Tri-Cities' early collaboration and collocation of nursing programs, WashTech expanded its offerings in the health-care field to assure that this growing industry has the well-educated workers it needs. During the second decade of the century, WashTech established a highly regarded health science program.

WashTech offers baccalaureate programs in over 50 disciplines. In addition to its strengths in mathematics, science and IT, WashTech has degree programs in business, health sciences, education, the arts and humanities, and the social sciences.

### **Program Integration**

Prior to the formation of WashTech, CBC and WSU Tri-Cities developed transparent baccalaureate programs for all degree programs. Depending on the degree which they are seeking, students may be taking classes at any of WashTech's three campuses. The schools health care programs are located at the school's Richland campus, adjacent to the Kadlec Medical Center. Career development and basic skills programs are primarily offered at the Pasco campus.

Classes may be taught at any of the three campuses. Advances in interactive media enable students at any one location to participate actively in classes offered at the other campuses. Distance learning, allowing students to access world-class educators wherever they are located, is a major element of WashTech programs. WashTech's distance education capability also allows it to expand its footprint beyond the region to deliver selected programs throughout the state and nation.

WashTech works closely with K-12 systems in the region and throughout the state. Students satisfying graduation requirements and scoring at agreed-upon levels on state-required assessment tests are guaranteed admittance to WashTech. Many students complete college-level requirements while still in high school. Close coordination of courses between the K-12 system and WashTech assures a smooth transition from early childhood education through grade 20.

Leveraging WSU Tri-Cities' strength in teacher education and the Washington Institute for Science Education created at CBC in 2005, WashTech provides substantial continuing education opportunities for teachers in the region's K-12 systems. WashTech has become nationally known for its research on the teaching of mathematics and science and for the development of innovative K-12 mathematics and science curriculum.

### **Faculty**

Joint faculty appointments are common between WashTech and Pacific Northwest National Laboratory. At any given time, as many as 500 PNNL staff may be serving as adjunct or joint faculty at WashTech. Both institutions have liberal leave policies that allow staff members to serve full-time at the other institution. The two institutions recruit jointly for new faculty/staff members.

As part of the integration planning done in its formative stages, WashTech developed an innovative dual-track academic progression for faculty members. This has allowed WashTech to attract a faculty that is not only research-oriented but also student learning focused.

### **Finance**

WashTech operates with a 2025 budget of approximately \$300 million (stated in 2004 \$). About 40% of that amount is State of Washington support, support from tuition, grants and joint appointments provide the remaining 60%.

State support for WashTech facilities has been limited primarily to classroom and faculty/staff office space. Because of WashTech's relationship with PNNL, the State has had to fund little in the way of research laboratories and equipment.

### **Economic Development**

WashTech attracts a number of companies in science-based industries to the Three Rivers communities. These companies usually start with a small research facility of a few people excited by the opportunity to collaborate with researchers at WashTech or PNNL, and to use the state-of-the-art facilities. Some of these companies are now commercializing their research and have production facilities.

Dozens of start-up companies have been formed to commercialize technology developed at WashTech or PNNL. Battelle Memorial Institute's venture capital arm has been instrumental in helping many of these companies get started. WashTech and PNNL researchers and faculty members routinely serve on the boards and/or advisory boards of these companies.

PNNL and WashTech are the largest employers in the region and are major drivers of the Three Rivers economy. The Three Rivers Research and Technology Park in north Richland is recognized as one of the leading industrial parks in the country.

### **Community Impact**

In addition to its role as a force in economic development, WashTech influences the Three Rivers communities in other positive ways. Perhaps the most notable is the growth of a thriving arts community. Many artists and musicians, attracted by the vibrant research and education environment, locate in the area. These individuals joined with other long-time advocates in creating the Three Rivers Performing Arts Center, which hosts the Three Rivers Arts Festival, now in its tenth year of attracting artists and performers of international renown.

WashTech has expanded the career development and community education programs that had been an important element of CBC's offerings. Working closely with the local business community, WashTech trains many of the highly-skilled workers needed by the local high technology industry.

WashTech leases property on its campuses to local developers who construct and manage housing designed to meet the needs of students. This growing segment of campus-based students led to the creation of "districts" catering to the economic, social and entertainment needs of students.

As a result of the growth in WashTech institutions, an additional bridge across the Columbia River in north Richland opened in 2015, reducing the driving time between WashTech's Pasco campus and its Richland campuses. This new bridge also had the salutary effect of reducing traffic congestion in Richland.

## **B. Benefits of WashTech**

The WashTech concept provides substantial benefits to the Three Rivers region and to the State of Washington.

- WashTech helps solve the access problem by creating 10,000 new higher education seats.
- WashTech leverages the unique resources of Pacific Northwest National Laboratory, substantially lowering the cost to the state of creating a new research university.
- WashTech lowers administrative costs by combining WSU Tri-Cities and CBC.

WashTech will have 15,000 students by 2025, approximately an incremental 10,000 students over present FTE enrollments at WSU Tri-Cities and CBC. Many of these students will come from the Three Rivers, greatly expanding the opportunity for higher education available locally.

WashTech's proximity to PNNL is of central importance. By utilizing PNNL's unique resources, the State is able to create a research university at essentially the cost of a regional university. Additionally, the combined research programs of WashTech and PNNL will attract substantial public and private funds from outside the state.

Finally, combining WSU Tri-Cities and CBC generates operational efficiencies. The reduction of administrative overhead lowers costs. The combination of programs also eliminates any difficulties students might have experienced previously in transitioning from CBC to WSU Tri-Cities.

### **C. Action Recommendations**

The Higher Education Task Force recommends that the Three Rivers Community Roundtable, through its participating stakeholder groups, endorse and support the creation of the Washington Institute of Technology, combining Columbia Basin College and Washington State University Tri-Cities into a publicly-funded, four-year institution of higher education offering baccalaureate, master's and PhD degrees.

Following are specific actions for the Roundtable to facilitate:

- Draft legislation for introduction in the 2005 session that creates WashTech and provides WSU Tri-Cities and CBC with seed money to start planning for WashTech.
- Obtain Battelle Memorial Institute's formal commitment of support for WashTech.
- Generate political support for WashTech by obtaining:
  - support from local U.S. Department of Energy officials for the conceptual plan,
  - endorsement of four local state legislators,
  - endorsement of both gubernatorial candidates,
  - endorsement of both candidates for U.S. Senate,
  - endorsement of both candidates for U.S. House of Representatives,
  - endorsement of Benton and Franklin County Commissioners,
  - endorsement of Kennewick, Pasco, Richland and West Richland City Councils,
  - endorsement of local Chambers of Commerce (make creation of WashTech a top legislative "priority of the Tri-Cities Legislative Council),
  - endorsement of TRIDEC,
  - endorsement of local labor unions,
  - endorsement of Tri-Cities Technical Society,
  - endorsement of state-wide organizations such as, but not limited to, Washington Roundtable, Washington Competitiveness Council, Association of Washington Business, Washington Economic Development Association, Technology Alliance of Washington, and state AFL-CIO.

- Generate educational support for WashTech by obtaining:
  - endorsement of Columbia Basin College Board of Trustees,
  - endorsement of Washington State University Tri-Cities Advisory Council,
  - endorsement of Superintendents and Boards of local school districts,
  - endorsement of Mid-Columbia Education Alliance,
  - endorsement of Benton-Franklin Workforce Development Council,
  - endorsement of the Higher Education Coordinating Board,
  - endorsement of the State Board for Community and Technical Colleges.
- Generate public support through a media campaign with:
  - endorsement of Tri-City Herald editorial support,
  - endorsement of editorial opinion of other leading papers around the state,
  - interviews with local radio and television media,
  - preparation of “infomercials” for use on public access and cable television,
  - advertisements/inserts in TRIDEC and chamber newsletters,
  - supporting articles in city, county, public utility district newsletters,
  - establishment of a speakers’ bureau for presentations at meetings of local service groups and other organizations,
  - creation of a WashTech logo, posters, campaign buttons, etc.,
  - hiring of a professional public relations organization to design and implement a public awareness campaign.

