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ABSTRACT

This background paper provides updated information on the Washington State Higher Education Coordinating Board's comprehensive master plan for improving postsecondary enrollment. The plan stresses (1) increased enrollment levels at the four-year institutions to reach full capacity by 2005; (2) increased community college enrollments to reflect population growth and anticipated demand for academic transfer programs at branch campuses; (3) additional branch campuses to serve 17,000 headcount students by 2010; and (4) reliance on independent institutions to help meet the state's goal by meeting their own growth projections. The report examines the evolution of the State's Master Plan; provides a review of higher education funding patterns and their relationship to enrollments as well as the environmental impacts and emerging trends in demographics, economic conditions, and political circumstances within the state. An appendix provides economic trend data for the state, and a comparison of educational attainment for all 50 states broken out by percentage of high school graduates and by percentage of degrees awarded. (Contains 13 references.) (GLR)

ENROLLMENT PLAN UPDATE

• *PLANNING PAPER #1* •

WASHINGTON STATE
HIGHER EDUCATION COORDINATING BOARD

NOVEMBER 1993

ENROLLMENT PLAN UPDATE: PLANNING PAPER #1
Policy Context

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ENROLLMENT PLAN UPDATE: Policy Context

EXECUTIVE SUMMARY

In the 1992 update to the comprehensive master plan, the Higher Education Coordinating Board committed to updating Washington's enrollment plan for postsecondary education by Fall 1994. This paper provides background information for that effort.

The need to revise the enrollment plan presented in *Design for the 21st Century* (HECB, 1990) arises from significant changes implemented or anticipated in state policies, funding patterns, and demographics during the past three years.

Major policy and budgetary changes, with implications yet to be fully incorporated into an enrollment plan, include those which:

- Eliminated use of enrollment lids and student quality standards;
- Restored institutional authority to retain tuition on campus;
- Reduced total institutional operating budgets and targeted new funding for additional students;
- Attempted to ensure that enrollments in postsecondary education keep pace with population growth and expand to meet adopted state enrollment goals;
- Significantly increased both tuition and state support for student financial aid programs;
- Employed two new sources of funding for postsecondary educational activities;
- Enhanced institutional management flexibility and required more information on strategic planning, quality standards, and assessment activities;
- Incorporated the state's former vocational-technical institutes into the community college system; and
- Created the Workforce Training and Education Coordinating Board.

The impact of these changes, all of which arose from legislative actions, will be shaped by concurrent changes in the environment in which postsecondary education operates. These include at least:

- A 47% increase in the number of high school graduates expected in the next decade;
- A 27% increase by the year 2020 in the number of persons aged 17-25;
- Increasing diversity throughout the state's population;
- Approximately 13,500 additional Full Time Equivalent (FTE) students budgeted for state public postsecondary education between 1992 and the end of current biennium;
- Three full academic years of experience operating the new branch campuses;
- A fluctuating economy that has prompted job losses and increased demands for training and retraining; and
- Changing demands in the state's labor force, coupled with a complex array of decisions at the national level which impact the state's economic and political environment.

The Board's challenge is to determine how to revise the state's enrollment plan in order to better serve the needs of the next century. The following working definition will guide the study's efforts:

Enrollment policy expresses a goal for the number of persons who should be participating in postsecondary education and a plan for achieving the desired level of participation.

As Board members review the information included in this document and subsequent planning papers, they are considering the following question: "How many persons should participate in Washington's postsecondary education system?"

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BACKGROUND

1992 Update to the Master Plan

The Higher Education Coordinating Board committed to an extensive study of enrollment policy when it adopted the *1992 Update of the Master Plan for Higher Education: A Commitment to Opportunity* (HECB, 1992). The 1993 Legislature approved the *1992 Update* thereby expressing support for a review of current enrollment policy.

The *1992 Update* specifically recommended that the Board:

> "Conduct a comprehensive, coordinated study of recent enrollment planning efforts, including but not limited to the *Design for the 21st Century,* long-range plans for incorporating technical college enrollment increases into the community college system, the master plan of the Workforce Training and Education Coordinating Board, the Health Professions Resource Plan, a statewide plan for telecommunications, and the High-Technology Study Committee recommendations." (p. 39)

The study would be completed by Fall 1994 to inform decisions affecting the 1995-97 biennial budget and would include reviews of several disparate HECB initiatives (e.g., branch campuses, minority participation, use of telecommunications). Because these initiatives are reported to the Board on an on-going basis, it was decided to focus the first paper on those factors that affect enrollment policy but are not covered by other initiatives.

ENROLLMENT PLAN: A WORKING DEFINITION

The HECB staff team developed the following working definition to guide the study's efforts:

> *Enrollment policy expresses a goal for the number of persons who should be participating in postsecondary education and a plan for achieving the desired level of participation.*

Thus, the Board is asked to consider the following questions:

1. How many persons should participate in Washington's postsecondary education system?

2. How should that goal be expressed?

3. How can the state achieve its chosen enrollment goal?

The current paper provides additional history on enrollment planning in Washington State and describes the types of broad forces (e.g., demographic, economic) that tend to affect the size of need for postsecondary education. A second paper will review different methodologies for expressing an enrollment goal. A third paper will attempt to present a draft plan for achieving the Board's chosen enrollment goal, including, but not limited to:

- The allocation of enrollments by institution and by division (lower, upper, graduate); and

- An identification of policies that impact the state's ability to achieve its enrollment goal.

Enrollment planning will continue beyond this third paper, as institutions incorporate enrollment planning into their own budget and/or strategic planning efforts. Staff will continue to report to the Board on the progress and status of state-level and institutional enrollment planning.

EVOLUTION OF ENROLLMENT PLANNING

Design for the 21st Century

The 1989 Legislature requested the Higher Education Coordinating Board to develop a long-range plan for the orderly development of branch campuses and other programs and facilities located off the main campuses. This need generated the state's "first comprehensive assessment of the role that existing public and independent institutions, as well as branch campuses, can play in achieving a long-range enrollment policy for the state."

Subsequently, *Design for the 21st Century* (HECB, 1990) proposed a long-term enrollment goal to achieve, statewide, a level of upper-division and graduate enrollment

equal to the 70th percentile in national participation rates by the year 2010. *Design* also detailed how enrollment increases should be distributed --- among **divisions** (lower, upper, graduate and professional) -- among **sectors** (public and independent, two- and four-year) -- and among individual four-year **institutions** and **branches**.

That enrollment plan, summarized in **Tables 1 and 2,** was adopted by the 1991 Legislature and endorsed as state policy for use in guiding future decisions about Washington enrollment goals, plans, and policies.

Table 1

Enrollment Goals*
(Design for the 21st Century)

Institutions	Additional 2010 Enrollment				
	1990 Enrollment	Lower Division	Upper Division	Graduate & Prof'l	Total Growth
Community Colleges	143,000	28,650	0	0	28,650
Independent Institutions	30,200	3,550	4,550	3,050	11,150
Public Four-Year	75,500	2,320	2,860	5,580	10,760
Branch Campuses	2,000	0	11,330	3,670	15,000
UW Evening Program	540	0	960	1,500	2,460
EWU Spokane Center	2,200	0	1,400	400	1,800
CWU Yakima Center	100	0	200	0	200
Unallocated	0	0	6,000	2,500	8,500
Total Growth	253,540	34,520	27,300	16,700	78,520
Percent Growth	–	20%	60%	72%	31%

*Note: In headcount.

Table 2

Branch Campus Enrollments,* 2010

Branch Campus	Upper Division	Graduate	Total
UW-Bothell/Woodinville	4,000	800	4,800
UW-Tacoma	5,000	1,000	6,000
WSU-Southwest	3,000	1,000	4,000
WSU-TriCities	700	500	1,200
WSU-Spokane	0	1,000	1,000
Branch Campus Total	12,700	4,300	17,000

*Note: In headcount.

Origins of Enrollment Planning: TACPHE

Enrollment planning in Washington has not been as detailed as the 1990 *Design*. However, the need for some kind of planning commanded legislative attention in the mid-1960s when the nation -- and the state -- witnessed dramatic growth in postsecondary education enrollments.

To respond, the 1965 Legislature created the Temporary Advisory Council on Public Higher Education (TACPHE) as an independent organ that would advise the Legislature and Governor on the need for additional institutions to meet the increasing demands for higher education within the state. In fact, TACPHE recommended the creation of the State Board for Community Colleges and The Evergreen State College. In addition, TACPHE proposed the creation of a Council on Higher Education (CHE) to serve as a statewide coordinating and planning agency that would include all elements of higher education.

As regards enrollment planning, TACPHE criticized the accuracy and amount of data used for developing enrollment projections. This seems to presume that at that time the state was expected to respond to demands for enrollment rather than set enrollment policy.

First Six-Year Plan: 1976-1983

The Council on Higher Education (CHE) was renamed the Council for Postsecondary Education (CPE) in 1975. In 1976, the CPE created the state's first comprehensive plan. However, enrollment plans were not yet on the CPE's agenda.

The 1976 plan set goals in four major areas: responsiveness, access, diversity of institutional programs, and coordination. The "access" goal was stated thus: "Access to education for all persons beyond high school age who desire it and can benefit from it." (pg. 4, CPE, 1976) This goal was not defined numerically, due to the difficulty of estimating enrollments accurately. Nor did the CPE describe an enrollment plan. However, the Council did insist that educational opportunities not be limited because of race, sex, ethnic origin, socio-economic status, age beyond high school age, or geographic location.

Enrollment projections were based on steady decreases in the general fertility rate, a return to positive net migration, and increases in the number of births beyond replacement. It also examined changes in age distribution, defined the most significant pool of postsecondary participants to be that comprised of recent high school graduates, and described the challenges of translating population projections into enrollment forecasts as a process "fraught with uncertainties."

The plan further cautioned that "enrollment growth cannot be solely predicated on a direct extrapolation of historical statistical trends. Ideally it should be based on a conscious policy directed to getting the maximum out of the resources the state has to invest in higher education." (pg. 37, CPE, 1976)

Continuous Planning Efforts: 1981 Enrollment Issues

In 1981, the CPE reviewed 1970s enrollment patterns, offered enrollment projections (not plans) for the 1980s, and explored a range of policy alternatives. At that time, Washington consistently placed in the higher rankings for participation in higher education. By 1980, Washington ranked second in the number of persons per 1000 population enrolled, mostly due to community college enrollments.

Significantly, CPE noted that enrollments in the public sector were controlled by the enrollment contract system which had been initiated by the Legislature for the 1975-77 biennium. This system allowed institutions to exceed contracted enrollment levels, which

were based on enrollment projections negotiated by the institutions and the Office of Financial Management. Institutions had to revert funding if they failed to meet the minimum contract level. If they exceeded the enrollment contract, they received no additional funding that biennium, but the increased enrollment provided convincing argument for additional enrollments -- and state funding to support them -- in the succeeding biennium.

Therefore, enrollments in the 1970s were "not necessarily reflective of demand. Rather they may be more a manifestation of the state's ability to pay." In fact, "past participation rates . . . are in some measure a function of both demand and funding policies." (pg. 11, CPE, 1981) Nonetheless, CPE projected that higher education enrollments would grow by approximately 16% in the 1980s. However, the state was entering into recession.

Those projections and fiscal constraints prompted CPE to ask two major questions:

- How much growth can (should) the system sustain?
- How can (should) enrollments be distributed throughout the system?

The CPE offered several solutions to the issue of funded enrollment size, including:

1. Maintaining a demand-responsive system that funds enrollments as they occur;
2. Developing an enrollment policy keyed to some percentage of either the total population or the over age-18 population or to different age groups;
3. Establishing a state goal to bring the public institution level to some degree of parity with the state's population ranking;
4. Establishing **a priori** funding levels and limiting state-funded enrollments to prescribed levels; or
5. Establishing state-level enrollment priorities, funding some (e.g., daytime on-campus, degree-oriented) but not others (e.g., off-campus, evening, non-degree oriented).

CPE noted that an "open access" system (i.e., solution "1" above) created funding problems. However, all other systems require the application of criteria that affect the educational goals of students and thereby create other problems.

The 1981 report accurately predicted that the state's fiscal emergency would reduce higher education enrollments.

The Next Six Years: 1983-1989

In 1983, CPE issued its second comprehensive plan, *Higher Education in Washington: The Next Six Years* (CPE, 1983). That plan focused on five major issues: enrollments, finance, quality, needs, and institutional missions.

The CPE declared the need for an enrollment policy for public institutions that was responsive to present and projected fiscal and demographic conditions facing the state. Tied to this was a recommendation for sufficient funding to support enrollments for immediate industrial or economic development. In addition, the revised plan focused on needs in specific problem areas, including: vocational education, health science, engineering, and technical education. It also urged that particular attention be directed to Spokane, the Tri-Cities, and Vancouver, which marks the beginning of discussions about branch campuses.

Access continued to be a major principle of the 1983-89 plan, which declared: "The public has a responsibility to ensure reasonable access to education for all persons beyond high school age who desire it, who can benefit from it, and who are willing to exert the effort to get it." (pg. 1, CPE, 1983)

Enrollment projections were based on key demographic trends (births, deaths and migration); age shifts in the population; the significance of community colleges in the state's enrollment profile; and constraints imposed by budget. The CPE sought to bring the system back to pre-1982 enrollment levels by 1986, and maintained that the "normal relationship" between enrollment levels and population would recover later in the decade when economic conditions were expected to improve.

Enrollment projections were extended further: the Council projected enrollments for public two- and four-year institutions as a percentage of the 18-59 age group and defined the "normative service level" as approximately 7% of that population (a participation rate goal). It provided projections for the independent institutions and vocational technical institutes,

which were then part of the K-12 system, but excluded those projections from the participation rate calculation.

This appears to be the state's first mechanism for calculating an enrollment goal.

Building A System: The First HECB Plan

The 1985 Legislature abolished the CPE and created the HECB to "provide planning, coordination, monitoring and policy analysis for higher education." Furthermore, the board would "represent the broad public interest above the interests of the individual colleges and universities." (RCW 28B.80.320)

The Board was to prepare a comprehensive master plan that included an assessment of the state's higher education needs, including the following factors which affect enrollment:

- Basic and continuing needs of various age groups;
- Business and industrial needs for a skilled workforce;
- Analyses of demographic, social and economic trends;
- Consideration of the changing ethnic composition of the population and the special needs arising from such trends;
- College attendance, retention and dropout rates, and
- The needs of recent high school graduates and placebound adults.

The 1985 statute creating the HECB required the Legislature "by concurrent resolution [to] approve or recommend changes to the initial plan and biennial updates. **The plan shall then become state higher education policy unless legislation is enacted to alter the policies set forth in the plan** (emphasis added)."

In 1987, the Board produced *Building A System . . . to be among the best: The Washington State Master Plan for Higher Education* (HECB, 1987). The new plan urged Washingtonians to challenge themselves to achieve a system of higher education that would be one of the five best in the nation.

The plan expected an increase in enrollments to occur in the late 1990s as the "baby boom echo" hit college age. Planners predicted enrollment increases equivalent to more than 30,000 full-time students by the year 2006. One major element to addressing enrollment growth was the branch campuses, which would provide increased access in Vancouver, the Tri-Cities, Spokane, and the Puget Sound area.

The 1988 Legislature endorsed the plan and supported the majority of its recommendations. The Legislature subsequently created a 12-member Joint Study Group to review the plan's funding and enrollment recommendations. The Study Group supported establishment of an **enrollment goal** for the state to achieve a system-wide enrollment level equal to the 90th percentile or above when compared to national rankings (thus ensuring that the system would be among the top five).

Design for the 21st Century: The First Enrollment Plan

The most detailed enrollment plan in state history, *Design for the 21st Century* (HECB, 1990) argued that enrollment growth was essential. The state had fallen behind its sister states in terms of per capita enrollment (participation rate) at the upper-division and graduate levels and in the number of baccalaureate and graduate degrees granted. Washington also ranked below the national average in producing graduates in nearly every degree discipline. "In order to compete effectively in the new economy, Washington's industries will require employees who are highly educated and for whom opportunities for continuing educational advancement are available." (pg. ii, HECB, 1990)

The HECB adopted an enrollment goal and plan (described in an earlier section). As part of that long-term goal, the HECB sought to:

- Increase enrollment levels at the public four-year institutions to full capacity by 2005;
- Increase community college enrollments to reflect population growth and anticipated demand for academic transfer programs in branch campus areas;
- Build branch campuses to serve 17,000 headcount students by 2010; and
- Rely on independent institutions to help meet the state's goal by meeting their own growth projections.

A Commitment to Opportunity: The 1992 Update

The *1992 Update* was reviewed earlier in this document as the genesis for the current enrollment study. However, it also noted that Washington:

> "had failed to keep pace with current population growth. Our colleges and universities are serving fewer students today than they did in 1981 . . . literally thousands of students have been denied admission to postsecondary education . . . Those least well prepared for and least able to afford college have been the most likely to find the doors to their college of choice closed." (pg. 3, HECB, 1992)

Although the cost of denied access to the individual **student** is hard to estimate, persons who achieve higher levels of educational attainment will, on average, live longer, healthier and more productive and secure lives than will people with lesser levels of education. The cost of denied access to **Washington State** also is difficult to measure, but includes higher unemployment rates, greater reliance on welfare and health care, greater costs to employers who must recruit trained employees from outside the state, and less revenue from sales and property taxes unpaid by the un- or under-employed.

The Board concluded that Washington must raise its enrollment lids and increase access to postsecondary education. It also emphasized the need to reexamine the state's enrollment plan and provide not only more, but better targeted, access. "Better targeting must incorporate consideration of improved means to serve students from underrepresented populations, to address workforce training, to identify and provide growth in areas of high occupational demand, and to ensure that all eligible citizens have access to these opportunities regardless of income" (pg. vii, HECB, 1992)

The *1992 Update* promoted the following access goals:

1. Increase access and continue progress toward reaching long-term enrollment goals established in *Design for the 21st Century*;

2. Increase equitable access for the economically disadvantaged by expanding state financial aid programs targeted to the neediest students; and

3. Continue to strengthen efforts to increase access for and retention of persons of color and persons with disabilities.

The 1993 Legislature increased funded enrollments in public colleges and universities by 10,000 FTE, funded workforce training enrollments with a new revenue source, doubled funding for the state's largest financial aid program, and protected support for recruiting and retaining students of color.

REVIEW OF HIGHER EDUCATION FUNDING

Relationship of Funding to Enrollments

Clearly, funding has played an important role in realizing higher education enrollments. This section will review past funding policies for their impact on enrollment levels, or vice versa.

The capital budget, which funds construction projects, makes enrollment growth possible. However, plans for capital construction may precede or follow an enrollment plan. Both have occurred in Washington State in the past. The operating budget has been more clearly tied to enrollment funding, but in the past legislative appropriations have sometimes preceded rather than followed an enrollment plan. Not surprisingly, the state's economic condition has played a crucial role in impacting the level of enrollments funded by the state.

Higher Education Funding: Complex Patterns

Formula Budgeting. In 1992, staff reviewed how other states fund higher education. About half of all states allocate funds based on some type of formula. Most of the rest use a base-plus system similar to the one Washington has used since 1983 or a combination of the two approaches.

The instructional formula used in the budget was driven by student credit hours, by cost area and by course level (pg. 591-2, Ray, 1978). A key formula factor was the relationship of full-time equivalent students to full-time equivalent faculty: the more FTE students an institution enrolled, the more dollars were provided for faculty positions.

Governor Dixy Lee Ray set no statewide goal for enrollments. Instead, her budget continued to allow institutions to enroll as many students as they could as long as they met the projected minimum agreed to in budget negotiations. In practice, institutions that over-enrolled were funded for the additional enrollments in subsequent biennia.

In 1981-83, Governor John Spellman was forced to substantially reduce state services, including an 11% reduction for higher education. Fall headcount enrollment in public institutions dropped from 267,800 students in Fall 1980 to 202,088 in the Fall 1982, a 24.5% decline. Enrollment in the four-year public institutions dropped by 5,097 headcount students; enrollments in the community colleges declined by 60,625 headcount students, the majority of which were enrolled in non-academic transfer courses. During the same period, 985 faculty positions were lost throughout the public system.

Cost-Plus Budgeting. In the 1983-85 budget, formulas had disappeared and the Legislature enacted a new cost-plus budgeting system. This budget process began by assuming previous biennial experiences and enrollments as the base and added factors such as inflation to create a "carryforward" budget. In the first version of this system, the appropriation act set minimum expenditures per student, minimum faculty levels, and minimum faculty/student ratios. It also defined minimum expenditures per student as "minimum quality standards." Subsequent budgets added line-item funding for special institutional projects or targeted statewide priorities (such as assessment or minority recruitment and retention).

Unlike earlier budgets, cost-plus funding through 1992 required institutions to stay within enrollment bands and threatened fiscal penalties for either under or over enrolling. As a result, enrollment growth was restricted during most of the 1980s.

Figure 1 displays annual average FTE enrollments since 1983, the year after major enrollment cuts were implemented. **Figure 2** illustrates total state funding growth through the same period.

Figure 1

Average Annual FTE Students in Public Higher Education, FY83 to FY93

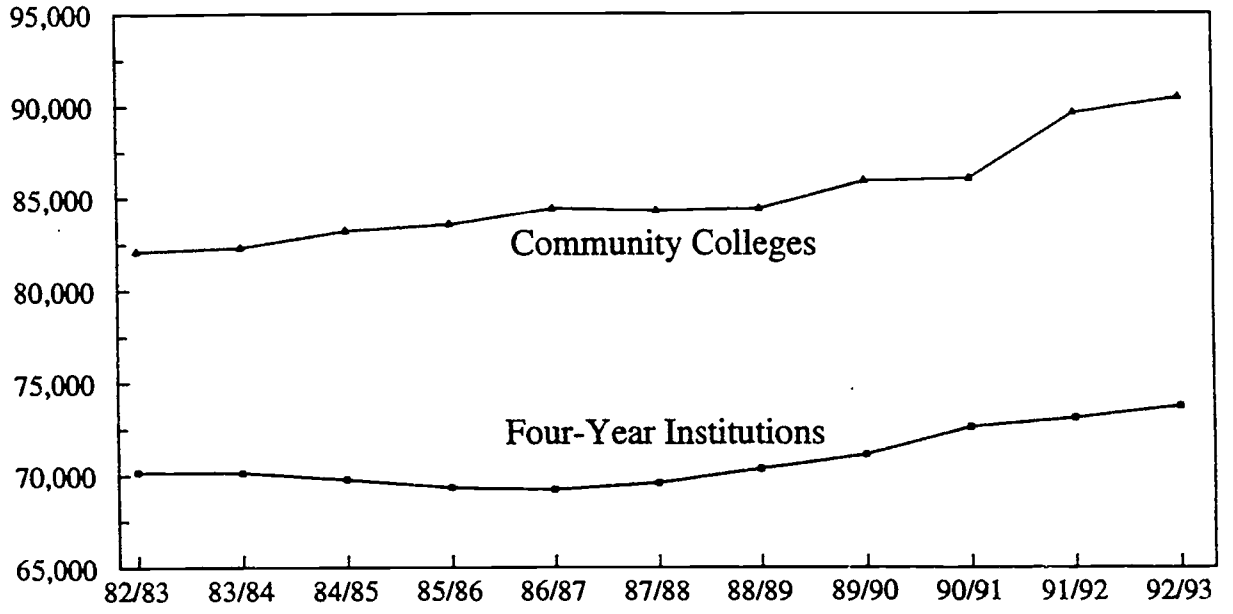


Figure 2

State General Fund Expenditures, FY83 to FY93

								ESTIMATED		BUDGETED	
PUBLIC 4-YEAR	FY83	FY84	FY85	FY86	FY87	FY88	FY89	FY90	FY91	FY92	FY93
UW	150,219	202,916	210,645	219,529	228,891	252,178	275,013	298,742	319,019	329,922	342,272
WSU	89,560	114,696	122,385	125,834	130,612	141,694	148,702	164,601	174,528	182,003	191,073
CWU	24,653	27,067	30,977	30,724	32,474	33,014	36,625	38,154	40,701	41,930	43,903
EWU	26,832	33,949	34,873	36,216	37,265	40,605	41,827	45,361	47,627	48,904	51,897
TESC	12,796	14,605	15,734	16,436	18,606	19,070	21,639	23,651	25,538	26,512	27,810
WWU	29,098	35,530	35,796	38,022	40,627	42,091	46,355	49,971	53,159	54,528	58,020
4-YEAR TOTAL	**333,158**	**428,763**	**450,410**	**466,761**	**488,475**	**528,652**	**570,161**	**620,480**	**660,572**	**683,799**	**714,975**
COMMUNITY COLL.	194,791	217,809	233,848	241,204	253,670	260,990	275,739	306,896	334,682	348,770	366,778
STATEWIDE TOTAL	**527,949**	**646,572**	**684,258**	**707,965**	**742,145**	**789,642**	**845,900**	**927,376**	**995,254**	**1,032,569**	**1,081,753**

SOURCES: LEAP, OFM, HECB

NOTES:

Technical Colleges are NOT included in the Community College figures.

FY92 AND FY93 include funds transferred to the Operating Fees Accounts.

1993 Legislature

Appropriations Act. The most significant change affecting postsecondary education during the 1993 session was the simultaneous reduction of institutional operating budgets and increase in enrollments. This also occurred in 1992 when the Legislature restored enrollment cuts but reduced overall higher education funding. These actions require postsecondary institutions to serve more students with fewer resources.

The 1993-95 budget required institutions to absorb operating budget cuts of approximately 6% from administration, travel, and goods and services. Institutions received a total of $91.4 million to support an increase of 6,500 students in 1993-94 and 3,500 more students in 1994-95, including 8,000 at the community and technical colleges.

New Funding Sources. In 1993-95, the instruction portion of the operating budget for public colleges and universities will be generated from the State General Fund (SGF) and tuition and fees. Significant state support also will be received from two new sources of dedicated revenue: the unemployment insurance trust fund (to fund workforce training enrollments) and the health services account.

Tuition increased by more than 26% for all public students and institutions now retain tuition locally for the first time in nearly two decades. The Legislature also eliminated most "mandatory" tuition waivers and granted institutions more flexibility in awarding waivers, since the "cost" of waiving tuition will now be borne by the institutions. How the increase in tuition and potential decrease in waivers may affect long-term enrollment trends is unknown.

ENVIRONMENTAL IMPACTS AND EMERGING TRENDS

Demographic Trends

Major changes are occurring in this state's demographics. Among the most important to postsecondary education are

- Population growth in all age groups, but especially in those aged 17-25;
- Significant percentage increases in minority populations; and

- A substantial increase in the number of high school graduates over the next decade.

Population. Washington's population has significantly increased over the past two decades and is expected to continue growing through the next several decades. **Table 3** displays Washington's historical population as well as its projected population increases.

Table 3

Washington State Population Growth, 1970-2020

Year	Total Population	Percent Change
1970	3,417,244	--
1975	3,567,900	4.41%
1980	4,132,156	15.81%
1985	4,415,785	6.86%
1990	4,866,692	10.21%
1995	5,467,043	12.34%
2000	5,830,092	6.64%
2005	6,160,339	5.66%
2010	6,493,491	5.41%
2015	6,832,844	5.23%
2020	7,170,607	4.94%

Although any resident is potentially eligible to enroll in postsecondary education, over 70% of the students enrolled in public four-year institutions are from the "traditional" age range (defined as 17-25). For community colleges, almost half of the students are in this traditional range. The number of students aged 17-25 enrolled in public higher education in 1992, not including technical colleges, represented almost 20% of the total population 17 to 25. **Figure 3** and **Table 4** indicate the projected population growth for the 17 to 25 age group.

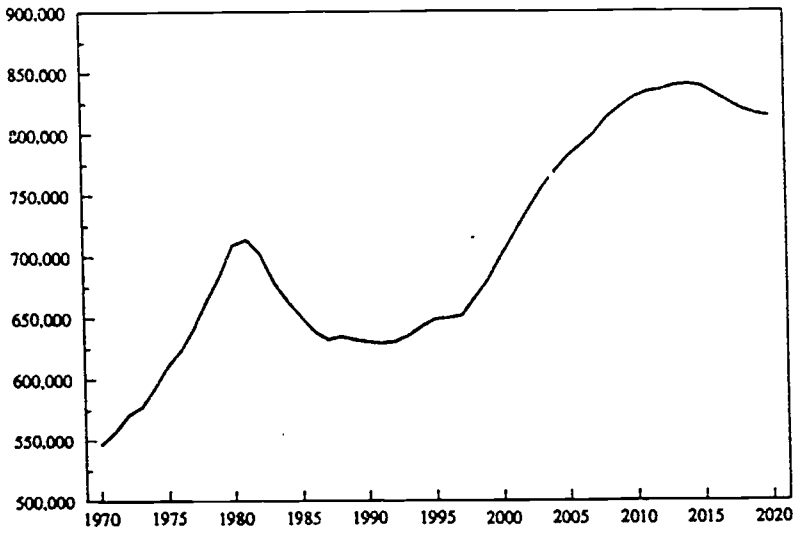
Table 4

Change in 17-25 Year Old Population

Year	17-25 Population	Percent Change
1970	545,917	
1975	610,615	11.85%
1980	709,234	16.15%
1985	650,933	-8.22%
1990	629,993	-3.22%
1995	648,585	2.95%
2000	700,621	8.02%
2005	780,449	11.39%
2010	828,927	6.21%
2015	837,840	1.08%
2020	813,403	-2.92%

Figure 3

17-25 Population, 1970-2020



The projected increases in the 17-25 age group are not reflected in the 26-44 age group. Although this group experienced a period of rapid growth in the 1970s and early 1980s, it is projected to increase by only 6.3% between 1994 and 2020.

The age group 45 years old and above is projected to be the fastest growing age group. Between 1994 and 2020, this age group is projected to increase by over 1.3 million, an increase of 80%. **Table 5 and Figure 4** display a comparison of these three age groups from 1970 to 2020. Although all age groups have increased during this period, it is clear that the fastest growing and largest age group is 45 and above.

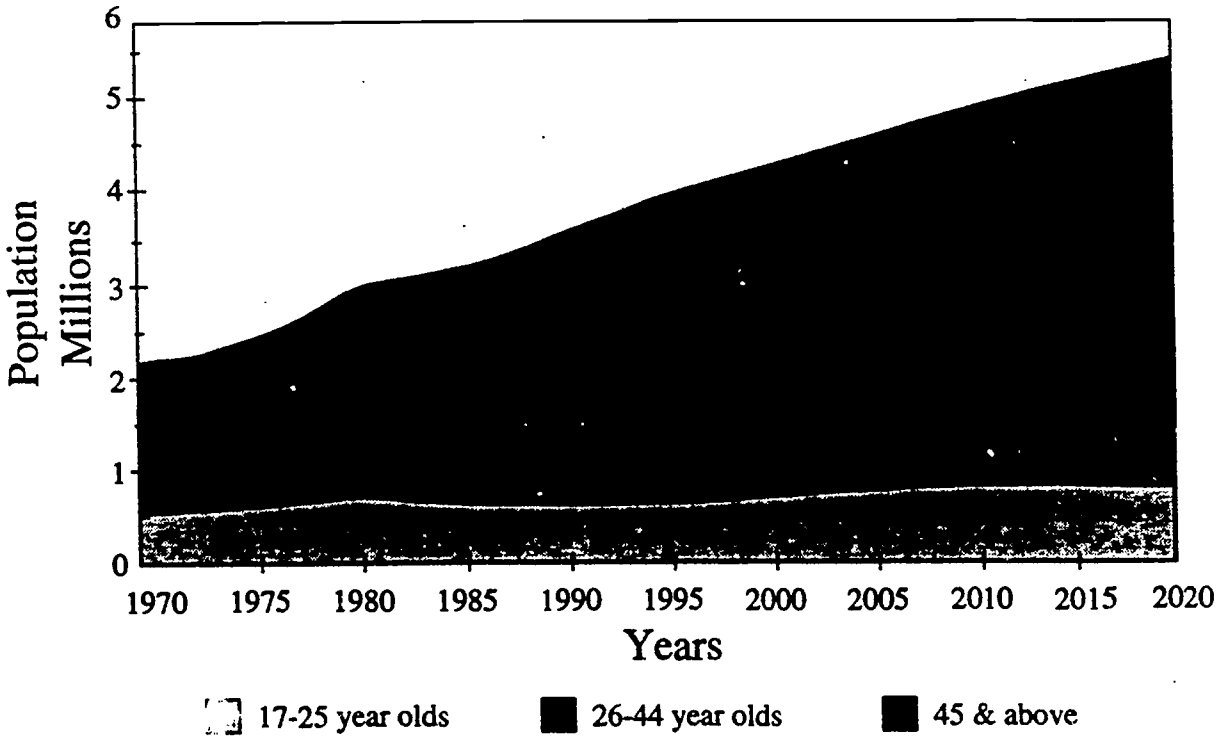
Table 5

Percent Growth in Population by Age Group, 1994-2020

Age Group	Percent Growth
17-25	26.5%
26-44	6.3%
45+	80.3%

Figure 4

Population Growth by Age Groups, 1970-2020



Diversity. Although the state's population will continue to be predominantly white, large percentage increases are anticipated for all minority groups. Contrary to the projection for the white population, most of the increases in the minority population will occur in the younger age groups. **Table 6** shows projected increases in minority populations, grouped into "persons of color" and the Hispanic ethnic classification.

Table 6

Growth in Minority Populations by Age Groups, 1980-2010

	1980		1985		1990		1995		2000		2005		2010	
Age	People of Color	Hispanic	People of Color	Hispanic	People of Color	Hispanic	People of Color	Hispanic	People of Color	Hispanic	People of Color	Hispanic	People of Color	Hispanic
0-9	11.9%	5.0%	14.2%	6.4%	15.4%	7.2%	17.1%	8.8%	19.6%	11.1%	22.9%	13.7%	25.6%	16.1%
10-16	10.2%	3.8%	12.5%	5.0%	14.9%	6.3%	17.1%	7.6%	18.2%	8.3%	19.5%	10.1%	22.5%	12.7%
17-25	10.8%	3.7%	11.3%	4.5%	15.1%	6.3%	17.8%	7.8%	19.2%	8.8%	20.5%	9.7%	21.6%	10.9%
26-44	8.5%	2.7%	9.8%	3.2%	11.4%	4.1%	13.7%	5.3%	16.1%	6.5%	18.7%	8.0%	21.3%	9.4%
45 +	5.0%	1.2%	5.8%	1.5%	6.9%	1.9%	8.1%	2.4%	9.4%	2.9%	10.8%	3.5%	12.3%	4.3%

High School Graduates. For the past decade, the number of high school graduates has been declining. However, it appears this downward trend stopped in 1991 and slight increases were realized in 1992 and 1993. Starting in 1994, dramatic increases are projected to continue through 2008. Specifically, in 1993, approximately 48,270 students graduated from public and private high schools in Washington. This compares to 49,450 graduates in 1983 and 53,450 in 1973. By 2003, the number of high school graduates is expected to be 70,790, a 47% increase over 1993.

The implications of this increase on higher education demand are significant and compounded by a continuing increase in the number of years of education requested for most jobs in Washington. In 1993, most jobs required about 14 years of education; by 2003, staff believe that most jobs will require between 15-16 years of education.

Table 7 and **Figure 5** show the projected number of high school graduates through 2009.

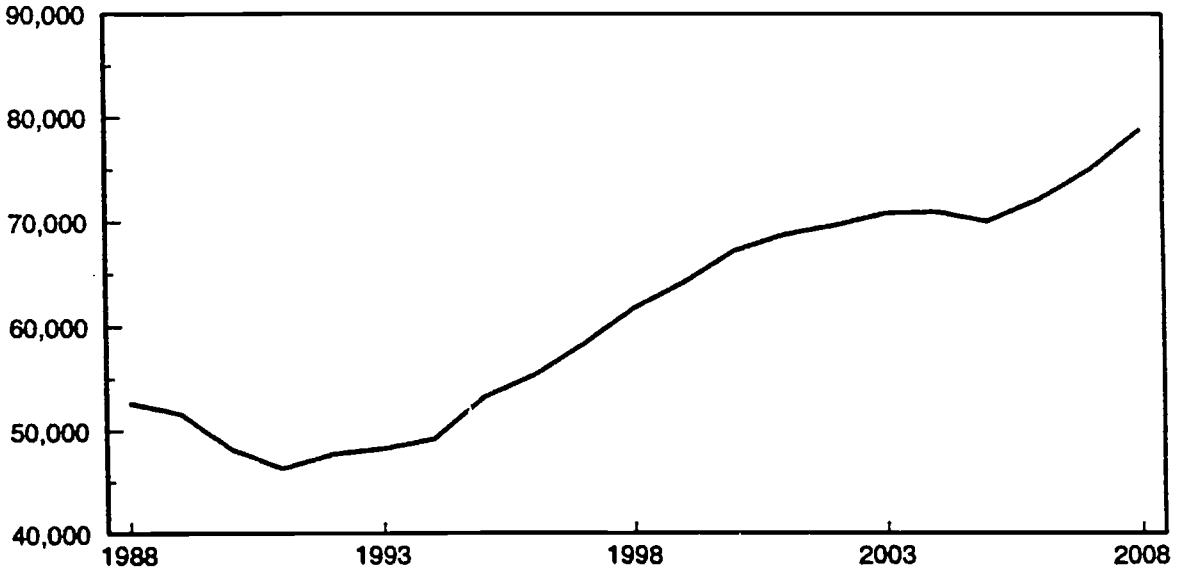
Table 7

High School Graduates

Year	Public and Private Number of Higher School Graduates (Spring)	Percent Change
1988	52,620	
1993	48,269	-8.3%
1998	61,715	27.9%
2003	70,790	14.7%
2008	78,850	11.4%

Figure 5

Spring High School Graduates, 1988-2008



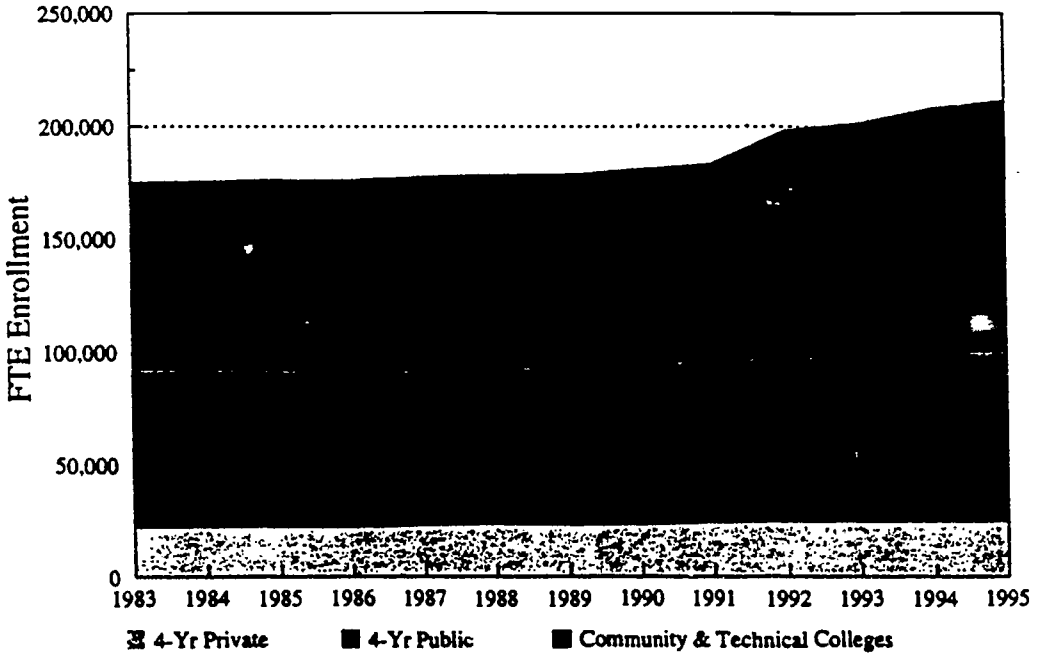
Educational Attainment. Information made available from the 1990 census shows that 83.8% of Washington's population age 25 and older have graduated from high school. Furthermore, 22.9% of Washingtonians have a bachelor's degree or higher. Compared with other states, Washington ranks fairly high on these two measures. Appendix B displays information on high school graduates, where Washington is 4th in the nation and 14th for those holding a bachelor's degree or higher. This level of high educational attainment has been attributed to Washington's attractiveness as a destination state and its ability to draw college-educated individuals to work in its industries.

However, 1990 census data reveal that the distribution of individuals with high school degrees and/or baccalaureate degrees varies widely by county (see Appendix B).

Higher Education Enrollment. Since 1983, funded full-time equivalent student enrollment levels have remained relatively constant for Washington public higher education. However, beginning with Fall 1992, the Legislature increased the number of funded enrollments. **Figure 6** presents enrollment changes from 1983 through the budgeted levels for 1995. Enrollments for independent institutions are included as are enrollments in technical colleges beginning in 1992.

Figure 6

Total Higher Education Enrollment, 1983-1995



Degrees Granted. The number of baccalaureate degrees granted annually in Washington from both public and independent institutions has increased almost 9% between 1981-82 and 1991-92. In 1991-92, the largest number of degrees were granted in Arts and Letters, 27%; followed by Social Sciences, 21%; and Business, 20%. The next three areas granting the most degrees were: Education, 8%; Engineering and Related Technologies, 7%; and Sciences, 6%. Females received 54% and males received 46% of the degrees granted.

The Economic Context

The economy affects postsecondary education enrollment in a variety of ways. A general discussion of ways economic factors tend to operate and their potential impacts on higher education are examined below; details on these trends are provided in Appendix A.

The overall health of Washington's economy affects the level of enrollment and the types of programs in which individuals enroll. More directly, the state's economy is related to the level of resources made available to support higher education and citizens' inclination to seek education. A declining economy appears to encourage enrollment in postsecondary education as unemployed persons seek retraining, youth pursue training and delay entry into an unstable employment market, and the employed seek additional training to retain current employment.

In the past, a growing economy was thought to encourage marketable individuals to delay education in order to gain employment; however, if employment growth is occurring in industries that require some postsecondary education, that growth will also encourage more enrollment in higher education.

Therefore, the growth or decline of various state industries also will impact the need for, and the types of preparation needed by, potential employees. For example, the growth in high-technology and many service industries in Washington implies a need for more individuals trained to work in these sectors and for that training to keep pace with rapid developments in these fields.

In addition, some trends can affect many industries. For example, the application of computers to the modern workplace changed job requirements, eliminated other jobs, created new employment possibilities, and increased entry requirements for many occupations. It also has fueled development and application of more technologies in more jobs. Therefore, while knowing how to use a personal computer is now an important skill for most new employees, it appears that knowing how to learn continuously-evolving technologies may be the new "basic skill" of the 1990s and beyond.

Certain trends impact the labor force, which in turn affect the workplace, and ultimately higher education. For example, increasing numbers of women and minorities entering the labor force have brought about changes both in workplace systems and in higher education. Employed parents may require convenient child care or flexible work schedules and middle-aged workers increasingly require additional training to update and upgrade their skills.

The national economy also clearly affects Washington's economy. Generally, the larger economy affects decisions of individuals in business and government, the outcomes of which will be felt here. The U.S. economy affects conditions for specific industries that operate within the state. Therefore, in analyzing the needs of this state's economy, it is important to review how trends in the U.S. economy may influence Washington's economic future.

Ultimately, no analysis of Washington's economy would be complete without attention to the trends and needs of multi-national (e.g., North America) or regional (e.g., Pacific Rim) economies. The growth and importance of international markets for Washington products have already indicated a need for graduates who can interact successfully with a global clientele and in a growing international marketplace.

The Political Context

Several decisions undertaken in the political arena impact the economy and/or the demand for higher education. For example, the proposed North American Free Trade Agreement (NAFTA) continues to be hotly debated for its purported influence on trade, jobs, the environment, and economic health. For most analysts, its impact on Washington's industries is unclear; some argue that NAFTA will be positive and others predict it won't. Its long-term impact on higher education, or higher education's role in helping the state respond to the effects of NAFTA, is also unclear.

Actions to protect or preserve the environment have economic impacts. As endangered species, the spotted owl and marbled murrelet have been held responsible by some as the cause of economic dislocations in the timber industry. If the salmon runs of the Snake and Columbia Rivers are also declared to be endangered species, the impact on economies of communities using these rivers for transportation or agriculture could be substantial. The subsequent impact on postsecondary education could be two-fold: (a) increased training opportunities to address unemployment and/or (b) new training opportunities to support new regional industries.

Two recent programs in Washington State demonstrate that political and economic conditions can be translated into higher education enrollments. As a result of the state's struggle with timber-related employment cuts, the 1990 Legislature allocated 500 FTEs to the community and technical colleges for displaced timber workers to pursue workforce training and other educational opportunities. In the same year, the HECB receive 75 FTEs to allocate to an upper-division program to be delivered in a timber-impacted community. In addition, a new program funded FTE positions at community and technical colleges for laid-off Boeing workers.

The federal government has and will continue to have an impact on Washington's economic and higher education needs as it attempts to bring federal spending and resources into closer alignment. For example, the government, in response to changes in international relations and a new role for U.S. military forces, has instigated a program of substantial demilitarization and reconfiguration. The impact on this state has so far been relatively neutral; no major installations have been closed and the state expects to receive personnel from closures in other states.

The relationship between changes in the military and higher education is three-fold: (a) further education is an important benefit for active military personnel and increases in their numbers will translate into increased demands for higher education, (b) demobilized military personnel who choose to remain in the state also may call upon higher education for additional training; and (c) spouses and dependents of military personnel may also choose to enroll.

Furthermore, it is currently unclear how and to what extent the federal government's efforts to "reinvent government" will impact Washington. Will the state lose regional offices of federal agencies, as has been proposed in the plan presented by Vice President Al Gore? Will cost efficiencies implemented on the federal level shift these costs on to the states, or could they provide a model for efficiencies at the state level? Will federal payrolls be cut and individuals need retraining? Or will "restructuring" create new business and additional employment opportunities?

Other federal actions have potential impacts on the state's higher education enrollment through changes in federal financial aid programs. For example, a simplified financial aid application process may increase the number of applications from low-income and disadvantaged students. Furthermore, eligibility for financial aid has been extended to the middle class. However, neither action intended to increase higher education enrollments was coupled with an increased appropriation for grant aid.

Demand for Pell Grants has outstripped appropriations, causing the dollar award to gradually decrease to individual students. Continuation of the State Student Incentive Grant

program is in doubt, and President Clinton's "service learning" program may encourage enrollments of students interested in this type of college financing or careers in public service once appropriations allow these opportunities to be more widely available.

At the state level, Washington's Legislature increased appropriations for the 1993-95 State Need Grant program by 125% over 1991-93 appropriations, increasing the number of awards to needy students by approximately 90%. Because financial aid is an important means for enabling students to enroll in higher education, enrollment planning can be positively affected by federal and state financial aid appropriations.

Other elements of Washington's political context include a tax-limitation initiative, a citizenry and media willing to monitor and criticize government representatives, and efforts to reinvent state government to improve accountability, efficiency, and effectiveness. These, too, will substantially impact this state's system of postsecondary education.

CONCLUSION AND A LOOK AHEAD

The Board has reviewed a large body of data on trends that have been shown to impact the need for postsecondary enrollments and should be considered as the study team progresses toward describing an enrollment goal. These trends contribute to a statement of why enrollments are needed, but also to an estimate of how many enrollments should be funded by the state. However, a review of the state's history of enrollment planning and funding reveals that budget realities tend to revise enrollment plans.

The Board tentatively is scheduled to resume discussion of enrollment planning issues and challenges in March, when staff propose to outline alternatives for expressing the state's enrollment goal.

A draft of the 1994 Enrollment Plan will be presented to the Board in April. The draft also will be aired in a public hearing in late spring and considered for final adoption next summer so it can guide Board recommendations for the 1995-97 biennial operating budget.

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APPENDICES

Appendix A: Economic Trends

Appendix B: Educational Attainment Tables

Trends Affecting Specific Industries in Washington State

- The **fastest-growing** occupations (1990-95) are generally in the services arena; e.g., business or legal services, health and social services. **Fastest-declining** occupations are in resource industries (lumber) or where the application of new technology has changed or eliminated occupations (stenographer).

- In 1990, **transportation** equipment (aircraft, trucks, shipbuilding) ranked number 1 in value of shipments, number of employees, and earnings in the industry. This illustrates the continuing economic importance of The Boeing Company.

- In 1989, 40 different **agricultural** commodities produced over $3 million in sales, demonstrating that Washington's diversity of agricultural crops is its economic strength.

- **Food processing** employs the state's second-largest number of employees.

- Employment has declined in the **forest and lumber** industries due to productivity gains (due to new technology) and constraints on timber harvesting due to environmental concerns. Pulp and paper, on the other hand, is less affected by logging restrictions since it depends on wood chips, a byproduct of lumber and plywood manufacturing.

- Employment growth in **machinery and instrument** industries has led the Washington economy since the 1970s; growth in electronics, scientific, and medical instruments are projected to increase employment in these industries by 40% over the next 20 years.

- **High-technology** industries (software, electronics, aerospace, and biotechnology) in Washington contribute jobs and sales to the state's economy. Software and computer service firms contributed 16,000 jobs in 1991, the majority of which are located in Puget Sound. Electronics firms employ over 43,000 persons (not including Boeing). In addition, sales for advanced technology industries topped $28 billion in 1991, due in large part to Boeing, Microsoft, and Nintendo. Biotechnology firms also project continued growth in employment and sales. Many of these jobs require some post-secondary training.

- Services are now the fastest-growing sector of the economy. Although service employment has long been associated with working at McDonald's, 20% of total services employment is in business services (e.g., accounting, marketing, data processing, temporary personnel) as well as packaged software (i.e., Microsoft). Health services will continue to grow, although efforts at health care reform may affect this growth. Other example service industries are engineering, management, and amusement. This belies the impression that employment at McDonald's dictates the educational requirement for most service industry jobs; many service employment opportunities will require education beyond high school and/or a college degree.

- The requirement to educate a rapidly growing school-age population is the major factor in growth of local and state **government** employment. Also, growth in government requirements to provide social services, corrections, and infrastructure construction and maintenance will demand employees educated to provide these functions.

- The region's role as producer of agricultural, transportation, and other products desired by buyers in other countries (especially the Pacific Rim) and transportation center for the Pacific Northwest will increase the importance of **international trade** as a source of economic growth.

- Employment in **environmental** and **planning** sectors directed to conserving natural or energy resources, remediating nuclear and other environmental hazards, and accommodating continued population growth will likely increase.

Broad Trends Affecting Many Industries in Washington State

- The Washington economy has **slowed** dramatically in 1991 and 1992. It is suffering from the loss of over 5000 jobs, cutbacks at Boeing that not only remove jobs but create a sense of regional "malaise," a slow recovery, and a national economy that is performing poorly.

- The application of **advanced technologies** to many industries tends to improve productivity, change job requirements, eliminate jobs, and increase the market for more technologies (e.g., computers). New technology changes skill requirements and increases the educational requirements for entry into many occupations.

Over 50% of the new jobs created between 1976 and 1982 occurred in **small firms** of less than 100 employees.

- In firms of all sizes, the organization of work increasingly requires that employees be able to work in **teams**.

- **Productivity** increases will continue to be of concern to employers in most sectors. Efforts to increase productivity will influence both the number and skills needed by employees and the need for employee retraining. Both private and public sector entities are increasing their application of quality improvement methods (e.g., TQM, CQI) which also affects productivity and the need for employee retraining.

- As the growth cycle in Seattle slowed, growth moved to **mid-sized communities** across the state. Several communities (Vancouver, Olympia, and Bellingham) are expected to exceed the percent growth of Seattle during 1990-2000. Tacoma, Spokane, Yakima, Richland, and Bremerton are slated to grow less than Seattle but at rates higher than other communities in the state.

- Increasingly, the ability of firms and regions to **compete** has been tied to the skills of the labor force; this increases the importance of education as well as retraining programs.

Trends Affecting the Labor Force

- **Part-time, flextime, and working at home** may increase given the growing demands on employees of child care and time- and energy-consuming commute options, and the increasing availability and affordability of telecommunications options.

- Of new jobs created over the 1984-2000 period, more than half will require **education beyond high school** and one-third will be filled by college graduates. Low-skilled jobs are declining; many fast-growing jobs require more language, math, and reasoning skills.

- The labor force is growing approximately 2% per year, which could create greater **competition** among qualified individuals for employment possibilities.

- Because growth in high-income manufacturing jobs is declining and low-income service jobs are increasing, wages may become less equally distributed.

- **Personal income** of Washington residents should increase 6.7% as real disposable income holds steady at 3.3% growth.

- Workers aged 35-54 will increase to equal one-half of the total labor force by the year 2000. **Middle-aged workers** often require additional training to stay current with technological developments, prepare for career changes, or advance in their careers.

- **Young workers** who substituted work for school will increasingly require additional training or education for advancement and career changes.

- **Women** now represent 47.5% of the labor force, and their continued participation in the labor force will increase the importance of childcare and flexible working arrangements. Women will also increase their representation among higher levels of the labor force and among the professions.

- By the year 2000, **ethnic minorities** will comprise 15.5% of the labor force and 29% of the increase in the labor force. Ethnic minorities experience a higher unemployment rate than whites, lower median family weekly income, and a higher percent of individuals living below the poverty line.

- Washington has been, and is expected to continue as, a net **migration** state, receiving almost half of its expected population growth from migrants from other areas.

EDUCATIONAL ATTAINMENT BY STATE

April, 1990

Persons 25 years and over

	% H.S. Graduate or Higher		% Bachelors Degree or Higher
Alaska	86.6	District of Columbia	33.3
Utah	85.1	Massachusetts	27.2
Colorado	84.4	Connecticut	27.2
WASHINGTON	**83.8**	Colorado	27.0
Wyoming	83.0	Maryland	26.5
Minnesota	82.4	New Jersey	24.9
New Hampshire	82.2	Virginia	24.5
Nebraska	81.8	New Hampshire	24.4
Oregon	81.5	Vermont	24.3
Kansas	81.3	California	23.4
Montana	81.0	New York	23.1
Vermont	80.8	Alaska	23.0
Iowa	80.1	**WASHINGTON**	**22.9**
Hawaii	80.1	Hawaii	22.9
Massachusetts	80.0	Utah	22.3
Idaho	79.7	Minnesota	21.8
Connecticut	79.2	Delaware	21.4
Nevada	78.8	Rhode Island	21.3
Maine	78.8	Kansas	21.1
Arizona	78.7	Illinois	21.0
Wisconsin	78.6	Oregon	20.6
Maryland	78.4	New Mexico	20.4
Delaware	77.5	Arizona	20.3
South Dakota	77.1	Texas	20.3
Michigan	76.8	Montana	19.8
New Jersey	76.7	Georgia	19.3
North Dakota	76.7	Nebraska	18.9
Illinois	76.2	Wyoming	18.8
California	76.2	Maine	18.8
Ohio	75.7	Florida	18.3
Indiana	75.6	North Dakota	18.1
Virginia	75.2	Pennsylvania	17.9
New Mexico	75.1	Oklahoma	17.8
New York	74.8	Missouri	17.8
Pennsylvania	74.7	Idaho	17.7
Oklahoma	74.6	Wisconsin	17.7
Florida	74.4	Michigan	17.4
Missouri	73.9	North Carolina	17.4
District of Columbia	73.1	South Dakota	17.2
Texas	72.1	Ohio	17.0
Rhode Island	72.0	Iowa	16.9
Georgia	70.9	South Carolina	16.6
North Carolina	70.0	Louisiana	16.1
Louisiana	68.3	Tennessee	16.0
South Carolina	68.3	Alabama	15.7
Tennessee	67.1	Indiana	15.6
Alabama	66.9	Nevada	15.3
Arkansas	66.3	Mississippi	14.7
West Virginia	66.0	Kentucky	13.6
Kentucky	64.6	Arkansas	13.3
Mississippi	64.3	West Virginia	12.3
United States	75.2	United States	20.3

Source: Census of Population and Housing, 1990: Summary Tape File 3, prepared by the Bureau of the Census, Washington DC: The Bureau [producer and distributor], 1992.

EDUCATIONAL ATTAINMENT BY COUNTY
From 1990 Census
For Persons Age 25 and Above

	Percent Educational Attainment				
County	H.S. Deg	Some Coll	Associate	Bachelors	Grad & above
WHITMAN	91.0%	70.2%	49.4%	42.6%	20.4%
SAN JUAN	91.2%	69.0%	38.5%	33.5%	11.3%
KING	88.2%	65.4%	40.5%	32.8%	10.0%
THURSTON	86.5%	59.2%	33.3%	24.7%	8.6%
BENTON	83.9%	56.2%	31.9%	23.3%	7.8%
KITTITAS	81.2%	51.1%	29.0%	22.2%	7.1%
WHATCOM	83.2%	52.7%	28.6%	22.0%	6.8%
JEFFERSON	82.7%	51.4%	27.6%	21.8%	6.2%
SPOKANE	84.4%	56.5%	30.7%	20.6%	6.6%
ISLAND	88.3%	56.7%	27.8%	20.0%	5.6%
KITSAP	86.6%	57.1%	28.1%	19.8%	6.0%
SNOHOMISH	85.7%	56.0%	28.3%	19.3%	5.1%
WALLA WALLA	79.1%	52.4%	27.6%	18.8%	6.1%
PIERCE	83.2%	50.1%	25.3%	17.5%	5.5%
CLARK	83.9%	53.4%	25.0%	16.8%	5.3%
CHELAN	74.3%	45.8%	24.9%	16.7%	4.8%
SKAGIT	81.0%	50.4%	24.7%	16.3%	4.8%
CLALLAM	79.7%	48.7%	23.5%	16.1%	5.4%
LINCOLN	81.9%	50.4%	24.1%	16.0%	3.6%
COLUMBIA	71.8%	43.2%	25.3%	15.1%	4.3%
DOUGLAS	75.9%	45.0%	23.1%	13.8%	3.6%
GARFIELD	81.8%	47.5%	26.0%	13.7%	3.2%
YAKIMA	66.1%	39.1%	19.6%	13.7%	4.2%
MASON	79.2%	45.2%	21.3%	13.6%	3.7%
FRANKLIN	68.1%	39.7%	21.2%	13.4%	3.4%
ASOTIN	77.2%	43.7%	20.5%	12.4%	4.1%
ADAMS	66.4%	36.8%	18.9%	12.3%	3.3%
STEVENS	80.9%	42.6%	19.6%	12.1%	3.7%
OKANOGAN	71.3%	39.3%	17.7%	12.0%	3.5%
FERRY	72.6%	38.0%	17.5%	12.0%	4.2%
PEND OREILLE	74.8%	40.1%	18.7%	12.0%	3.9%
GRANT	71.6%	40.7%	17.8%	11.9%	3.2%
LEWIS	75.4%	40.5%	18.7%	11.8%	3.5%
SKAMANIA	77.4%	41.4%	16.3%	11.7%	4.2%
PACIFIC	74.2%	36.8%	16.7%	11.3%	2.8%
COWLITZ	77.3%	43.9%	19.5%	11.3%	3.4%
GRAYS HARBOR	74.0%	38.1%	18.0%	11.0%	3.2%
KLICKITAT	70.4%	35.5%	16.3%	10.9%	2.4%
WAHKIAKUM	77.8%	37.6%	16.5%	10.4%	3.7%
TOT STATE	83.8%	55.9%	30.9%	22.9%	7.0%

(Table sorted on the Bachelors Attainment column)

SOURCE: 1990 CENSUS, Summary Tape File 3