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ABSTRACT

Background materials are presented on demographic trends, economic changes, financing patterns and governance decisions affecting community colleges in the western United States. Following an executive summary, chapter I provides an overview of the characteristics of public community colleges and the particular challenges they face. Chapter II presents information about demographic patterns within the service areas of community colleges, as well as information on enrollment patterns, student characteristics, and faculty characteristics. Chapter III explores the economic and technological environment of community colleges in the west, describing changing economic and labor market conditions. Chapter IV is devoted to the financial environment of community colleges, focusing on sources of support, tuition and fees, funding allocation systems, federal support, and financial outlook. In chapter V, the organization and governance of community colleges are examined. Finally, chapter VI offers conclusions regarding access, economic development, and responsiveness and accountability as key areas of challenge for the community college. (LAL)

Community Colleges at the Crossroads

Challenges Facing the Western States

The Western Interstate Commission for Higher Education

Community Colleges at the Crossroads

Challenges Facing the Western States

Background Papers for a Legislative Workshop

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WICHE, the Western Interstate Commission for Higher Education, is a nonprofit regional organization. It helps the thirteen member states and one affiliate state to work together to provide high-quality, cost-effective programs to meet the education and manpower needs of the West. Member states are Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming; North Dakota is an affiliate state. WICHE's Information Clearinghouse publishes research documents to provide assistance to higher education and government policymakers in the West.

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Community Colleges at the Crossroads

Challenges Facing the Western States

Executive Summary

The Western Interstate Commission for Higher Education

Executive Summary

Community colleges in the West have substantially expanded and diversified their roles during the past 25 years. These roles are shaped by demographic trends, economic and technological conditions, financial constraints, and governance decisions. Conditions contributing to change in each of these components of the community college environment are summarized below.

Chapter I. Community Colleges in the West

Community colleges serve a great variety of educational needs including pre-baccalaureate transfer education, job-related training, basic skills, and personal development. Many colleges also provide community service activities.

Four characteristics generally differentiate public community colleges from other postsecondary institutions:

- the local orientation of community colleges in meeting the educational needs of the residents of a distinct geographical area;
- the length of program--maximum two-year, associate degree level, with many shorter certificate and non-degree options;
- open admissions policies; and
- a combination of local and state funding and governance.

Community colleges play prominent roles and face particular challenges in three areas:

- providing access to educational opportunities for diverse population groups with varied backgrounds, needs, and objectives;
- contributing effectively to economic development through enhanced training and increased options for both individuals and local economies; and
- remaining responsive and accountable to both community needs and state priorities.

Chapter II. The Demography of Community Colleges in the West

The 240 public community colleges in the West are shaped by characteristics of the region, including the demographic patterns of their locales. Most community colleges are located in population centers where substantial growth and change in the population are expected to continue. While the United States as a whole is projected to experience a 10 percent population increase between 1980 and 1990, growth in the western region is projected to be considerably higher, as indicated by the following table.

Population Growth

	1970-1980	Projected 1980-1990
U.S. Total	11.5%	10.0%
WICHE States	23.7%	22.3%
Alaska	33.8	30.4
Arizona	53.5	46.9
California	18.6	16.3
Colorado	30.9	30.0
Hawaii	25.5	17.9
Idaho	32.5	28.6
Montana	13.3	12.9
Nevada	63.8	59.6
New Mexico	28.2	18.2
North Dakota	5.7	3.9
Oregon	25.9	26.1
Utah	37.9	[illegible].7
Washington	21.2	[illegible]1.3
Wyoming	41.3	49.0

Source: U.S. Bureau of the Census

In general, the West's population is relatively young and well educated. This generalization does not, however, apply equally to all population groups. The educational attainment of most minority groups is below that of whites, especially for American Indians and those of Spanish origin. The region's population includes a higher proportion of minorities than does the U.S. as a whole. The West has considerably larger proportions of Spanish-origin people, Native Americans, and Asians, but a smaller proportion of blacks, than the nation.

Minority Populations

	Spanish Origin	Black	American Indian	Asian	Total
WICHE States	14.3%	5.2%	1.7%	4.8%	25.8%
U.S. Total	6.4%	11.7%	0.6%	1.5%	20.4%

Source: U.S. Bureau of the Census

Projections indicate that minority groups will continue to increase rapidly as both a proportion of the total regional population and as part of the youth group progressing through the educational system.

Enrollment Patterns and Student Characteristics (Chapter II)

More than one-half of the region's total higher education enrollment is in two-year colleges.

Postsecondary Enrollment, 1982

	Total Postsecondary Enrollment	Percent in Two-Year Institutions
U.S. Total	10,892,306	36.0%
WICHE States	2,573,491	51.9%

Source: National Center for Education Statistics

Along with growth in community college enrollments, there has been a shift in the attendance and interest patterns of students. Education to prepare for transfer to four-year institutions remains an important function of community colleges, but involves proportionately fewer students than earlier. Conversely, proportionately more students now pursue vocational and occupational curricula, job enhancement, retraining, personal enrichment, and other goals. Almost two out of three community college students are enrolled part time, and the average age of students has increased to 29 years. Women outnumber men in community colleges, and tend to enroll in occupational programs, special interest courses, and attend part time.

Student Characteristics--U.S. Averages

	Community Colleges	Four-Year Colleges
Percent Part-time	59%	19%
Percent Minorities	21%	14%
Percent Female	55%	49%
Percent with Family Income less than $7,500 (aid recipients only)	30%	18%*
Percent enrolled in Remedial Reading	19%	12%

* Includes all institutions.

Sources: U.S. Department of Education and American Council on Education

Community colleges are the first point of access to postsecondary education for many families as well as individuals. These colleges enroll students from a much wider range of economic backgrounds and provide access to higher education for a larger proportion of lower income students than do four-year institutions. The percentage of community college students with parents having a college degree is less than one-half that of students in public universities.

Community college enrollments encompass postsecondary students preparing for four-year institutions, previous high school dropouts, older persons with diverse work and life experiences, individuals engaged in remedial education, and those with other degrees who are seeking special technical skills or new employment credentials. As a result of this diversity in clientele, community colleges are called upon to provide a wide array of educational programs geared to a variety of backgrounds and abilities. For these individuals, community colleges facilitate postsecondary access.

Faculty Characteristics (Chapter II)

Community college faculty appear to have changed as much as the students in recent years. After a seven-fold increase in faculty from the mid-1950s, there was a decline in numbers in the early 1980s. The number of part-time faculty has more than doubled since 1973, and now comprises almost 60 percent of community college instructors. Periodic studies show an increasing proportion of community college instructors with master's or doctorate degrees.

Faculty salaries are difficult to pin down because of varying contractual arrangements. It appears that full-time faculty salaries at community colleges are about $1,500 per year less than at four-year colleges and $3,700 less than public universities. These differences are not consistent, however, since in several WICHE states full-time faculty salaries at community colleges equal those of four-year colleges.

Chapter III. The Economic and Technological Environment of Community Colleges

Education and the economy are closely related. This interaction has a special force in the case of community colleges because of the local nature of these institutions, their heavy dependence upon government funding, and the role the community colleges play in meeting local manpower requirements.

An examination of the economy of the West shows that, while economic growth in the WICHE states was higher than the nation as a whole during the 1970s, the advantage diminished in the early 1980s when some of the western states slowed to below-average growth.

Personal Income Growth

	Total Personal Income (Percent Change)		Per Capita Personal Income (Percent Change)	
	1970-80	1980-83	1970-80	1980-83
U.S. Total	168.3%	26.8%	140.7%	22.8%
WICHE States	207.2%	27.5%	148.3%	20.4%
Alaska	273.1	57.3	176.5	31.6
Arizona	385.2	30.6	140.1	20.4
California	193.3	27.4	144.4	20.3
Colorado	244.8	36.1	160.9	25.9
Hawaii	182.2	26.4	116.7	19.6
Idaho	226.4	23.1	144.5	17.9
Montana	169.7	23.5	143.3	19.3
Nevada	298.8	26.8	131.3	14.8
New Mexico	226.6	30.2	158.5	21.4
North Dakota	193.2	40.5	168.7	35.0
Oregon	216.2	16.4	150.8	15.4
Utah	227.2	28.9	138.2	17.2
Washington	209.8	23.1	153.5	18.7
Wyoming	312.3	17.2	198.9	8.1

Source: U.S. Department of Commerce

In terms of per capita personal income, all but four WICHE states had above-average growth during the 1970s. Between 1980 and 1983, however, 11 of 14 WICHE states slipped to below-average growth.

Employment growth has slowed in the WICHE states since the 1970s. Job generation will depend in part on the industrial and commercial composition of state economies. Mining employment is comparatively high in several WICHE states, but manufacturing employment is below the national average in all 14 western states. Occupational growth prior to 1990 is expected to be highest among sales, clerical, and service workers.

Within manufacturing, the WICHE states have a relatively large concentration of high-technology firms and employment. High-technology industries have expanded significantly since the mid-1970s, but the importance of this sector varies substantially among the western states. High-technology jobs remain a relatively small proportion of total employment and expansion of this sector has slowed recently.

In responding to changing economic and labor market conditions, community colleges help to shape and encourage local and state growth. More specifically, community colleges help to meet the educational needs of a changing economy in the areas of occupational-vocational training, coordination of training with local industries or businesses, providing basic skills and skill enhancement to individuals from diverse backgrounds, and participating in local and state economic development strategies. As a result, both students and society benefit from enhanced economic opportunities.

Chapter IV. The Financial Environment of Community Colleges

Public community colleges derive support from state and local government tax revenues, tuition and fees charged to students, other service charges or auxiliary enterprises, grants and contracts, and federal government support for research and training. Of these, the dominant source is public funding from state or local government. Although there has been a general drift toward more reliance on state funds to finance community colleges, there is significant variation across states, and from year to year within individual states. Seven western states rely on state appropriations for more than 50 percent of community college support. In six states, little or no support is provided from local tax sources.

Sources of Support to Community Colleges
Fiscal Year 1985 (or 1983-85 Biennium)

	State Appropriations	Local Appropriations	Tuition Revenues	Other Sources
Alaska	70.6%	0%	11.3%	18.1%
Arizona	23.0	55.2	11.5	10.3
California	63.8	25.9*	6.7	3.6
Colorado	42.5	10.2	20.2	27.1
Hawaii	78.8	0	(not available)	21.2
Idaho	49.1	28.1	12.9	9.9
Montana	47.1	38.6	7.1	7.2
Nevada	75.0	0	23.4	1.6
New Mexico	47.9	24.2	10.7	17.2
Norch Dakota	57.9	0.6	22.5	19.0
Oregon	32.1	43.9	19.9	4.1
Utah	76.4	2.5	20.2	0.9
Washington	90.8	3.7	(16.4**)	5.5
Wyoming	(data not available)			

*Includes property tax revenues appropriated by state legislature.
**Washington tuition revenues are deposited in a state general fund not earmarked for community colleges.

Source: WICHE survey of state community college agencies, March 1985.

Community colleges operate under a wide range of funding patterns and support levels. Per capita appropriations by state and local sources to community colleges varied from $6 to $88 in the WICHE states in 1982. As a proportion of total appropriations to higher education, community college support varied from 11 percent to 53 percent, reflecting significant differences in the size and functions of community colleges in the region.

From 1979-82, per-student appropriations increased more rapidly for community colleges than for all public institutions; only four western states fell below the national average in per-student appropriations. Total costs per student are consistently lower in community colleges than in other institutional types.

Tuition and Fees (Chapter IV)

Community college tuition and fees have increased sharply in many states, often reflecting limits in other sources of institutional support. Tuition and fee rates increased 81 percent between 1978-82 in WICHE states compared with 37 percent in non-WICHE states. As a result, tuition revenues are becoming a more important source of support in the region. The proportion of support generated through student charges is lowest in California, and highest in Colorado, Nevada, North Dakota, and Utah, where more than 20 percent of community college revenues are derived from tuition.

Despite the sharp increases, revenues from tuition and fees remain significantly below the average of non-WICHE states--7.4 percent of total revenues in the West compared with 22 percent in other states in 1982.

Funding Allocation Systems (Chapter IV)

Three general approaches are used in the WICHE states to determine the level of support and to allocate resources among community colleges:

- incremental budgeting that builds on the current institutional resource base with adjustments for inflation, program changes, and other factors:

- enrollment-based formulas that link support to institutional enrollments; and

- multi-component formulas that use a number of factors to account for differences in program costs and institutional resources.

Each of these approaches has certain advantages and limitations. Incremental budgeting may make institutional support more susceptible to variations in state fiscal conditions. Enrollment-based formulas require institutions to adjust expenditures as a result of enrollment shifts that may be only temporary or cyclical. Multi-component formulas, despite the addition of more cost-related factors, may not accurately reflect actual costs and institutional differences.

Federal Support, Including Student Aid (Chapter IV)

The major purpose of federal support to community colleges is to expand access for individuals through student financial aid and to provide certain types of job training and vocational education. Pell Grants, the largest federal student grant program, increased less than 15 percent between 1978 and 1984 to the region's community college students, in contrast to a more than 75 percent increase for postsecondary students as a whole. The proportion of Pell Grants received by community college students decreased in eight western states.

Federal Pell Grants

	1977-78	1983-84	Percent Change
U.S. Total			
Dollars (in millions)	$1,497.2	$2,772.4	85.2%
To Community College Students			
Dollars (in millions)	$ 340.6	$ 511.6	50.2
Percent	22.7%	18.5%	
WICHE States			
Dollars (in millions)	$ 232.2	$ 409.3	76.2%
Percent of U.S. Total	15.5%	14.8%	
To Community College Students			
Dollars (in millions)	$ 86.8	$ 98.4	14.6%
Percent	37.0%	24.0%	

Source: U.S. Department of Education

In addition, federally guaranteed student loans frequently are more difficult for community college students to secure because of reluctance on the part of both lending institutions and students. Campus-based aid to community colleges is also far less than the proportion of enrollments in those institutions.

Grants and contracts from federal sources provided nearly 20 percent of total revenues at research universities in 1982, but less than 7 percent at community colleges. The outlook for increased or even stable federal funding for job training programs in community colleges is uncertain, making it difficult to plan programs that would qualify for support. As a result, total federal support for community college programs probably will continue to be very limited.

The Financial Outlook (Chapter IV)

The financial environment for community colleges has changed significantly in recent years. Taxing and spending limitations, as well as deep and widespread economic downturns, have restricted financial support for community colleges.

Current reexamination of state tax structures and higher education funding patterns in several states, however, provide an opportunity for community colleges to enhance support. To succeed, they must demonstrate the need for additional public funding and the benefits that will result.

Chapter V. Organization and Governance of Community Colleges

Three basic organizational and governing structures are used in the WICHE states:

- Consolidated postsecondary systems. Five WICHE states govern community colleges as part of a unified college and university system under a single board.

- Local-district board governance. Six states have locally elected governing boards with some limited taxing authority.

- Mixed state and local governance. The remaining three states have some form of mixed or shared governing authority, with either a combination of state-governed and local-governed colleges or nonelected local boards that share governing roles with state agencies.

States have a longstanding interest in two fundamental components of community college governance: their role and mission, and their accountability as institutions. In recent years, state interests have become more direct and encompassing, particularly in areas such as:

- responding to renewed public interest in educational quality and effectiveness;

- concern over equal education and employment opportunities;

- obligations to provide reasonable levels of remedial education;

- facilitation of student mobility and progression, especially the ability of students to transfer between institutions;

- using educational programs to assist state economic development strategies;

- maintaining reasonable levels of student charges and access to financial aid resources; and

- providing adequate funding and guidance for faculty and staff salaries and employee retirement plans.

Implementation and oversight of these state priorities may require greater educational and policy accountability on the part of the community colleges, as well as continued fiscal accountability. This, in turn, may affect institutional capabilities to remain flexible and responsive to local interests.

Chapter VI. Conclusions

Changing conditions in the demographic, economic, financial, and organizational environments of community colleges shape many of the challenges that these colleges face now and in the coming decade. The ability of community colleges to surmount these challenges will be particularly important in the areas of access, economic development, and responsiveness and accountability. Each of these areas suggests a number of questions and policy issues to be addressed at both the institutional and state levels.

Access

- How should community colleges adjust to demographic changes, including rapid growth among some population groups and contraction in others?

- What program and curricula changes will be required?

- What are the implications for community colleges of the increased diversity in student educational backgrounds and objectives, of higher student charges, and of changing state policies?

Economic Development

- What roles should community colleges play in local and state economic development strategies?

- How can occupational and technical curricula, worker retraining, and other job-related educational programs be more responsive to current and future employment opportunities and needs?

- What new forms of coordination or education-industry linkages would aid students, institutions, and local economies?

- Can community colleges make better use of new computer and communications technologies in both program content and delivery systems?

Responsiveness and Accountability

- What priority should community colleges give to serving local educational needs and providing community services as compared to state educational priorities?

- How can community college governance balance local responsiveness with state accountability?

- What are the implications of high school graduation requirements, college progression standards, and other aspects of renewed public attention on educational quality?

- What organizational changes or new cooperative efforts would make community colleges more effective?

Community colleges face a crossroads in responding to such challenges. It is a crossroads of diverse student and institutional needs, public concerns and priorities, and options for the future. Few generalizations about community colleges in the West can be made without noting their remarkable diversity and adaptability. This very diversity and adaptability, however, mean that the most important challenges of the crossroads involve identifying those paths that are most consistent with the educational needs and priorities of society, and then proceeding in those directions with adequate resources and resolve.

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Foreword

Community colleges play vital roles in meeting the educational needs and broader social objectives of the nation. In many western states in particular, community colleges offer access to general education for broad sectors of the population, provide both basic job skills and the technical training essential to economic well-being, and link state educational policies to the diverse needs of individuals and communities. The WICHE states support 240 such public institutions; in some states, community colleges enroll more than one-half of total postsecondary students.

Over the years communi colleges have adapted to changing local and state requirements. They will continue to evolve in response to social and economic conditions and in relation to state educational policies and budgetary decisions. The WICHE Commission seeks to focus attention on this changing environment, and on the challenges that are posed for states and institutions.

This publication provides extensive background materials focusing specifically on the demographic trends, economic changes, financing patterns, and governance decisions that affect community colleges in the western states. It serves as a valuable resource document, presenting information from diverse sources including a WICHE survey of state community college agencies. Its most immediate application is to provide background information for a WICHE-sponsored legislative workshop on community colleges in Eugene, Oregon on September 28, 1985. A companion publication based on the policy questions and issues addressed by the legislative workshop will follow.

The WICHE community college project has been a cooperative effort. Charles Lenth was responsible for compiling and writing this document, with help from Frank Abbott, Erica Gosman, Richard Jonsen, Mollie McGill, and Martha Romero, Project Director. State and institutional administrators cooperated in providing information and encouragement. An advisory committee of state legislators, community college administrators, and educators provided valuable comments and support.

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Boulder, Colorado
August 1985

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Chapter I

COMMUNITY COLLEGES IN THE WEST: THE CHALLENGES OF A CHANGING ENVIRONMENT

In the past 25 years community colleges in the West have greatly expanded and diversified their roles in response to the changing needs of individuals and society. These changes will continue in the foreseeable future, driven by significant trends in the demographic and economic environments of western states and shaped by the financial and organizational characteristics of community colleges.

This publication describes public community colleges in the West and provides background on the continuing changes with their environments. A second publication, planned as a followup to a legislative workshop on community colleges, will contribute more directly to examining specific areas of state and institutional policies. Together these publications outline the need for action and suggest a number of strategies as states and educational institutions face the challenges of the next decade.

Defining Community Colleges

Community colleges serve a great variety of student needs. The diverse functions of two-year colleges include (1) transfer or university-parallel programs that provide the first two years of courses in the sciences, humanities and liberal arts designed to lead to a baccalaureate degree; (2) vocational or technical programs that contribute directly to occupational skills and qualifications; (3) general education apart from that included in either transfer or technical-vocational studies, and including programs for personal development and cultural enrichment; and (4) remedial education, designed to assist students lacking basic skills. In addition, community colleges typically provide an array of local services, often including cultural programs, extension education, and other group- or community-centered activities.

These roles underscore the complexity of community colleges as individual institutions and the diversity of these colleges as a group. Despite this growing complexity and diversity, several characteristics combine to differentiate community colleges from other postsecondary educational institutions. Traditionally, community colleges have been defined by:

- Locality. Community colleges are institutions established to meet the needs of an area and its residents. Increasingly, this local orientation involves helping a specific geographical area to adapt to the broader economic and social environment of the state or nation and to meet the new educational needs this implies for the residents.

- Level. Community colleges are "two-year colleges" in the sense that the highest degree granted is at the associate, two-year level. However, the increasing number of students attending on a part-time basis, seeking specialized courses, and enrolling with very diverse

educational backgrounds and objectives has moved community colleges a considerable distance from a two-year mode toward more flexible, multi-level institutions.

- Admissions. Community colleges have historically been "open door" institutions whose resources are available to all high school graduates. Increasingly, this has meant opening the doors to all individuals over age 18, from those requiring basic language and job skills to those with college degrees returning for specialized training or career enhancement.

- Governance. Community colleges are public institutions, predominantly financed from local and/or state government sources, and controlled by a combination of local and state governing authorities.

As the result of modifications in both program areas and underlying characteristics, community colleges have become multi-constituency institutions, serving more diverse student populations and fulfilling broader social needs than in the past.

Defining the Environment

Simply defining community colleges implies many of the changes they have undergone in recent years. These changes can best be understood in terms of the environments to which they respond. By the environment, we mean the demographic, economic, fiscal, and organizational context that surrounds all educational institutions and affects the nature of their clientele, educational and service demands, sources of support, and governance.

The following chapters examine changes in the environment that affect the roles and operations of community colleges. Four aspects of the western community college environment are addressed:

- Demography. Rapid population growth in the western states--generally much greater than that experienced in the rest of the country--has a direct bearing on community college enrollments. In particular, community colleges are affected by the age structure of the population due to the increasing "adult education" function of the colleges, and minority representation due to the large numbers of minority students in community colleges and the concentration of the minority population in the younger age groups in many western states.

- Economy and Technology. Western state economies are diversifying, with some sectors growing and others declining. These economic changes affect community college enrollment, student educational choices, and the needs of industries. Technical training has become necessary for many jobs, and the availability of a technically trained work force has become increasingly important as a component of economic development. At the same time, basic skills and general education components are essential for the flexibility and adaptability required of students by continuing technological and economic changes. The interaction between education and the economy has a special force in the case of community colleges because of their local nature, their heavy dependence upon government funding, and the role that the colleges play relative to the manpower requirements in the local economy.

- Finance. Funding of community colleges varies considerably from state to state in the West. While most states have increased their share of support for the colleges, local support is still significant in a number of western states and has increased rapidly in the past few years. Tuition levels vary greatly and have also increased rapidly in recent years, affecting the meaning of open access--especially in terms of cost to the student. Changes in federal funding policies (especially student aid) also impact mmunity colleges.

- Governance. Because functions and financing are changing, governance patterns are a source of tension. The community colleges in the West are part of a diverse set of structural arrangements that involve complex and sometimes conflicting relationships among local, system-wide, and statewide patterns of decisionmaking, regulation, and coordination.

Defining the Issues

Changes in the environment suggest many of the challenges faced by community colleges. These challenges, in turn, suggest a need for examining the basic roles of community colleges and reassessing public policies that shape and support these roles. More specifically, three prominent community college characteristics serve as a focus for key policy issues. These are:

- Access. Because of their historic "open door" admissions policy and the increasing diversity and specialization of educational needs, enhancing access to postsecondary education for broad and varied segments of the population is a dominant role and contribution of community colleges. Access issues involve choices among programs designed for traditional clients (college-age students, including minority populations) as opposed to the "newer" clientele of the community college (adult learners). Access issues also involve determining the effects of tuition on educational opportunities, as well as the impact of changing high school graduation requirements and more stringent entrance and progression standards at four-year post-secondary institutions. How will these and other factors affect the access roles of community colleges? Who will set the priorities, and how will these be supported?

- Economic development. Based on their close identification with communities--and the social and economic welfare of those communities--contributing to economic development is a central role and contribution of community colleges. The economic development roles extend well beyond providing vocational training and raising the general level of educational attainment. Community colleges must address the more specialized educational needs of new students and new industries, establish working partnerships or industry councils to meet future job-market requirements, and contribute to strategies to enhance economic opportunities and growth. How can colleges be most effective in these roles? Who pays and who benefits from these community college actions?

- Responsiveness and Accountability. The local orientation and, in many cases, local governance of community colleges in combination with public financing mean that community colleges must be responsive and accountable to both local and state concerns. Responsiveness involves meeting local needs and providing local service functions on the one hand, and participating in state decisionmaking and in achieving state goals on the other. Accountability involves maintaining an appropriate balance between local and state orientation in order to retain the ability to be responsive to both. The demands of accountability suggest a number of questions affecting community college roles, program responsibilities, financing, and governance that need to be addressed from both local and state perspectives.

The following chapters provide considerable background on conditions and changes in the community college environment that will affect these issue areas. The concluding chapter develops a list of more specific questions and subissues related to access, economic development, and responsiveness and accountability. Together, the background materials and policy questions are intended to stimulate discussion and, more importantly, contribute to appropriate actions by institutions and states in the West.

Chapter II

THE DEMOGRAPHY OF COMMUNITY COLLEGES IN THE WEST

Location and Demographic Environment

There are 240 public community colleges in the WICHE states, counting each discrete campus. The number of institutions in each state ranges from two in Idaho and three in Montana to 108 in California, as indicated on the accompanying table.[1] College locations generally follow population concentrations, although the presence of public four-year colleges and universities and other factors have also influenced the location of two-year colleges. On the following map, the wide dispersal of community colleges in Idaho, Montana, Nevada, and North Dakota is evident, as is the clustering of colleges in major population centers in Arizona, California, Colorado, Oregon, and Washington. With over 50 percent of the land mass and 20 percent of the nation's population in the WICHE states, community colleges play key roles in meeting the educational needs of diverse populations within very different physical and social environments.

TABLE II-1

Public Two-Year Colleges

Alaska	11
Arizona	15
California	108
Colorado	17
Hawaii	7
Idaho	2
Montana	3
Nevada	4
New Mexico	14
North Dakota	5
Oregon	15
Utah	5
Washington	27
Wyoming	7
Total	240

The wide diversity in characteristics and conditions makes it difficult to generalize about the populations served by community colleges in the West. The region includes the least-populated state, Alaska, and the most-populated state, California. It includes highly rural states with no large metropolitan areas--Idaho, Montana, North Dakota, and Wyoming, and others with population concentrations that place them nationally among the most urban--California and Hawaii. It includes states having the smallest proportions of minorities--Idaho, Montana, and North Dakota--and others such as California and New Mexico, with large Hispanic populations, and Hawaii, where the majority is of Asian origin. Population factors alone suggest that any consideration of community college missions, activities, and operations must take into account the diversity of populations and needs being served.

Table II-2 shows population growth in the WICHE states since 1970 and projected growth through 1990. Significant points include:

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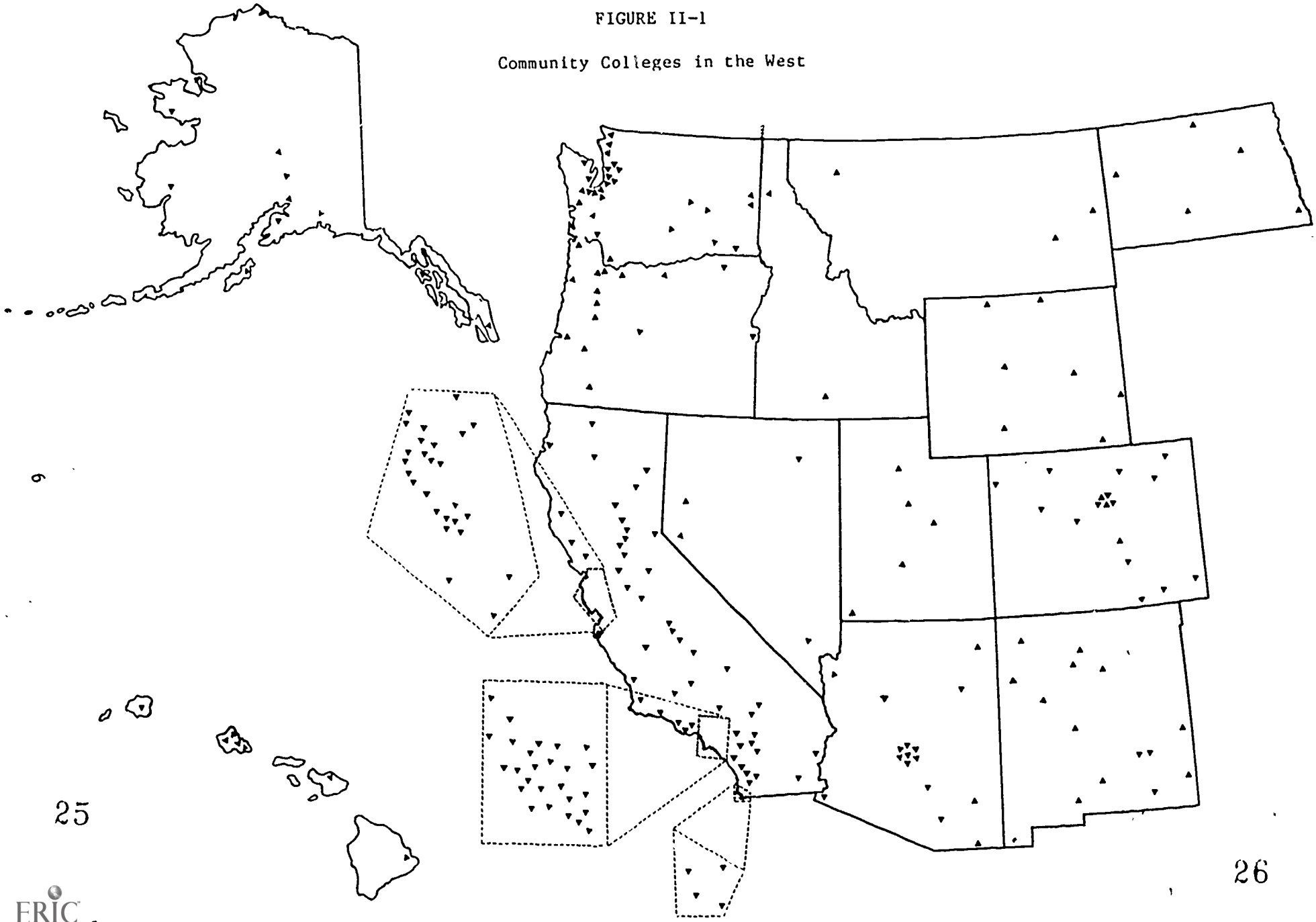
[1]This count is based upon the number of community colleges reported by each state. Some states use a district designation and some states use a campus or college designation.

FIGURE II-1

Community Colleges in the West



- Between 1970 and 1980, the rate of population growth in the WICHE states was more than double that of the nation at large. Except for North Dakota, every WICHE state exceeded the national growth rate; most exceeded it by a large amount.

- Growth substantially exceeding that of the nation is expected to continue in the current decade in all WICHE states except North Dakota and Montana.

Table II-3 shows minority populations, age characteristics, and educational attainment for the WICHE states. The composition of the region's population differs from the nation as a whole. More specifically:

- In six WICHE states the proportion of Spanish-origin population is larger (in four of these, very much larger) than in the nation as a whole. The proportion of blacks in all WICHE states, however, is less than one-half that of the nation as a whole. In all WICHE states except Hawaii the proportion of American Indians meets or exceeds the U.S. average; in Alaska, California, Hawaii and Washington, the proportion of Asians exceeds the national average.

- The population of the West is relatively young; only in Oregon and Nevada does the median age slightly exceed that of the nation. Nine WICHE states have a higher proportion of the population under the age of 18 than the national average.

- WICHE state populations are well educated in comparison to the nation as a whole. In the percentage of the population age 25 and over who graduated from high school, 11 of 12 top-ranking states are WICHE states and all but one of the 14 WICHE states exceeds the national average.

WICHE's recent demographic studies of southwestern states document large differences in educational attainment among major racial/ethnic groups. The West's high level of average educational attainment is not reflected equally among minorities. This is particularly true for persons of Spanish origin and American Indians. Table II-4 shows that in four southwest states, approximately 75 percent of whites and Asians completed high school, compared to less than one-half the Spanish-origin population. The percentage of high school graduates among American Indians in these four states ranges from 42.4 to 68.1 percent. Similarly, the percentage who earn a baccalaureate degree differs significantly; Asians have the highest proportion of college graduates, while persons of Spanish origin and Americans Indians have the lowest. These differences point to the vital tasks for education at all levels. Population projections for the West indicate that minority populations, especially those of Spanish origin, will increase more rapidly than the population as a whole.

Enrollment Patterns and Student Characteristics

More than one-half of total higher education enrollment in the West is in two-year colleges. While community colleges have had a strong regional role for several decades, this majority-enrollment status is more recent and is attributable primarily to the exceptionally large California community college system.

TABLE II-2

Population in the WICHE States, 1970-1990

	Population		Percent Growth	Projections, 1970-90	
	1970	1980	1970-80	Bureau of the Census	National Planning Association
Alaska	300,382	401,851	33.8%	30.4%	21.7%
Arizona	1,770,900	2,718,215	53.5	46.9	25.5
California	19,953,134	23,667,902	18.6	16.3	13.1
Colorado	2,207,259	2,889,964	30.9	30.0	18.9
Hawaii	768,561	964,691	25.5	17.9	14.1
Idaho	717,567	943,935	32.5	28.6	17.1
Montana	694,409	786,690	13.3	12.9	9.9
Nevada	488,738	800,493	63.8	59.6	22.5
New Mexico	1,016,000	1,302,894	28.2	18.2	17.7
North Dakota	617,761	652,717	5.7	3.9	5.8
Oregon	2,091,385	2,633,105	25.9	26.1	13.5
Utah	1,059,273	1,461,037	37.9	39.7	23.2
Washington	3,409,169	4,132,156	21.2	21.3	15.4
Wyoming	332,416	469,557	41.3	49.0	24.8
WICHE States	35,426,954 (17.4% of U.S.)	43,825,207 (19.3% of U.S.)	23.7%	22.3	15.3
WICHE w/o California	15,473,820	20,157,305	30.3%	29.3%	17.8%
U.S. Total	203,211,926	226,545,805	11.5%	10.0%	10.0%

Sources: U.S. Bureau of the Census, 1980 Census of the Population, General Population Characteristics (Washington D.C., 1982). Data from PC 80-1-B series for each state. Population projections for 1990 based on estimates by the U.S. Bureau of the Census and the National Planning Association in "The States in 1990," American Demographics (December 1983), pp. 22.

TABLE II-3

Selected Population Characteristics, WICHE States and U.S., 1980
(Numbers in parenthesis are ranks among 14 WICHE states)

	Minorities (% of total population)					Age		Educational Attainment	
	Total	Spanish Origin	Black	American Indian	Asian	Median (years)	Under 18 (percent)	% high school grads, pop. 25 yrs. old & over	% 4 years or more of college
Alaska	24.5% (5)	2.4%	3.4%	16.0%	2.0%	26.0 (13)	32.5 (2-3)	82.9% (1)	22.4% (2)
Arizona	25.5 (4)	16.2	2.8	5.6	0.8	29.2 (5)	29.1 (8)	72.4 (12)	16.8 (11)
California	33.4 (3)	19.2	7.7	0.9	5.3	29.9 (3)	27.0 (13-14)	73.6 (9)	19.8 (5)
Colorado	17.3 (6)	11.8	3.5	0.6	1.0	28.6 (7)	28.3 (10)	78.1 (3)	23.0 (1)
Hawaii	69.8 (1)	7.4	1.8	0.3	60.5	28.3 (8)	28.6 (9)	73.4 (10)	20.3 (3-4)
Idaho	6.1 (13)	3.9	0.3	1.1	0.6	27.5 (10)	32.5 (2-3)	72.8 (11)	16.1 (12)
Montana	6.6 (12)	1.3	0.2	4.7	0.3	29.0 (6)	29.5 (6)	75.3 (7)	17.3 (7-8)
Nevada	16.8 (7)	6.7	6.4	1.7	1.8	30.2 (1-2)	27.0 (13-14)	75.6 (6)	15.1 (14)
New Mexico	47.4 (2)	36.6	1.8	8.1	0.5	27.3 (11)	32.1 (4)	68.2 (13)	17.3 (7-8)
North Dakota	4.5 (14)	0.6	0.4	3.1	0.3	28.1 (9)	29.3 (7)	66.5 (14)	15.2 (13)
Oregon	6.7 (11)	2.5	1.4	1.0	1.3	30.2 (1-2)	27.5 (12)	74.7 (8)	17.2 (9-10)
Utah	7.6 (10)	4.1	0.6	1.3	1.0	24.2 (14)	37.0 (1)	80.3 (2)	20.3 (3-4)
Washington	9.8 (8)	2.9	2.6	1.5	2.5	29.8 (4)	27.6 (11)	77.0 (5)	18.8 (6)
Wyoming	8.0 (9)	5.2	0.7	1.5	0.4	27.0 (12)	31.0 (5)	77.8 (4)	17.2 (9-10)
WICHE States	25.8	14.3	5.2	1.7	4.8	29.3*	28.1*	74.1	19.2
WICHE w/o California	17.5	8.5	2.2	2.7	4.1	28.6*	29.4	74.8	18.6
U.S. Total	20.4	6.4	11.7	0.6	1.5	30.0	28.1	66.3	

* For West census region: does not include North Dakota

Sources: U.S. Bureau of the Census, 1980 Census of the Population. General Population Characteristics (Washington D.C., 1982). Data from PC 80-1-B series for each state. Data on educational attainment from "Special Research Section: 1980 Census Demographics for States and Large Metropolitan Areas," American Demographics (December 1982), pp. 28-47.

TABLE II-4

Educational Attainment of Persons over 25 Years Old in 1980,
By Race and Spanish Origin

	Percent of respective population groups				
	White	Spanish Origin	Black	American Indian	Asian
Completed High School					
Arizona	76.1%	43.9%	60.6%	42.4%	73.9%
California	76.6	43.6	68.6	65.6	76.3
Colorado	80.2	48.7	74.5	68.1	77.1
New Mexico	73.1	50.6	62.7	47.3	74.7
Completed Baccalaureate					
Arizona	18.9	5.6	10.8	4.3	28.5
California	20.8	6.4	11.3	9.8	31.1
Colorado	24.0	6.9	13.8	11.5	27.9
New Mexico	20.1	7.0	10.3	5.1	28.8

Source: N.S. Kaufman, The Changing Demographics of the Southwest: Data and Issues Relating to Minority Representation in Postsecondary Education in Seven Southwest States (Boulder, CO: Western Interstate Commission for Higher Education, 1983).

The creation and expansion of public community colleges in the past decades occurred in response to rapid increases in population and in the proportion of youth graduating from high school. The expanding community colleges responded to the interests of new students with a wider variety of occupational courses, including many sequences that required transfer to senior institutions for completion. In 1960, one-fourth of community college enrollment nationally was in occupational programs. By 1975, 35 percent of enrollments were in programs leading to immediate employment, and by 1980 more than 62 percent of associate degrees awarded were in occupational curricula. Opportunities for adult students were expanded as colleges added night and weekend sequences. Between 1970 and 1980, part-time enrollment burgeoned. In 1970, part-time students constituted essentially one-half of the total community college enrollment of 2,102,000; by 1980, however, nearly two out of three students were enrolled part time in a total enrollment more than twice as large as in 1970. As a reflection of these and other changes, by 1980 the average age of community college students was 29 years old.[2]

The following tables present enrollments, as well as information on racial/ethnic, gender, full-time/part-time, and socioeconomic characteristics of community college students in each of the WICHE states. A number of important characteristics of community colleges and significant differences in enrollments from state to state are notable.

As indicated in Table II-5, community colleges in California enroll more than 60 percent of that state's postsecondary students. This is far higher than for the nation as a whole, with slightly more than one-third (36 percent) of the nation's college enrollment in the two-year sector. Reflecting California's large population and postsecondary enrollment, the WICHE region as a whole exceeds by far the proportion of students in the two-year sector nationally. Even without California, the WICHE states enroll a higher proportion of students in two-year institutions than is true of the country as a whole. In addition:

- In Arizona and Washington, more than one-half of total postsecondary enrollment is in community colleges. Smaller proportions are in community colleges in those states where there are relatively few population centers or where there are well distributed four-year colleges--for example in Montana, New Mexico, North Dakota, and Utah.

- The percentage of minority students in total community college enrollment in the WICHE states is slightly higher than for the population at large in those states--26.8 compared to 25.8 percent. This is primarily attributable to minority enrollments in California community colleges.

- The high representation of minorities in community colleges, however, reflects the fact that within all of higher education, these colleges serve as the main point of access for minorities.

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[2]A number of these observations are taken from A.M. Cohen, "The Community College in the American Educational System," a background paper for the National Institute of Education Study Group, 1984, pp. 7-8.

TABLE II-5

Participation in Two-Year Colleges in the WICHE States, 1982

				Part-Time Enrollment		Percent Minority Enrollment		
	Total Postsecondary Enrollment	Total Two-Year Enrollment	Percent in Two-Year	Percent of Four-Year	Percent of Two-Year	Total Post-secondary	Two-Year Colleges	Percent Minority Population
Alaska	12,303	4,925	40.0%	26.9%	67.5%	11.9%	13.9%	24.2%
Arizona	195,995	112,280	57.3	15.8	74.3	16.2	20.3	25.5
California	1,528,979	921,659	60.3	21.8	70.4	28.5	31.6	33.4
Colorado	148,403	41,401	27.9	17.4	60.7	10.1	12.6	17.3
Hawaii	45,642	18,911	41.1	23.1	50.0	69.7	78.3	68.9
Idaho	39,989	10,473	26.2	22.2	20.5	4.1	2.8	6.1
Montana	33,334	3,378	10.1	14.1	56.2	6.4	26.7	6.6
Nevada	33,433	15,900	47.6	32.8	87.7	11.7	14.5	16.8
New Mexico	53,865	9,440	17.5	32.1	51.9	32.1	34.2	47.4
North Dakota	33,539	7,253	21.6	11.4	13.6	4.4	9.5	4.5
Oregon	122,701	53,263	43.4	12.7	46.9	7.1	7.4	6.7
Utah	96,561	17,658	18.3	28.6	43.4	4.7	6.1	7.6
Washington	210,826	109,336	51.9	8.6	45.5	9.2	8.9	9.8
Wyoming	17,961	8,577	47.8	6.9	42.1	4.7	6.5	8.0
WICHE States	2,573,491	1,334,454	51.9%	19.4%	66.0%	22.4%	26.8%	25.8%
WICHE w/o California	1,044,512	412,795	39.5%	17.5%	56.0%	13.4%	16.0%	17.5%
U.S. Total	10,892,306	3,917,242	36.0%	18.7%	58.6%	16.7%	21.3%	20.4%

* The numbers appear to include enrollments at tribally-controlled colleges.

Source. National Center for Education Statistics, Higher Education General Information Survey (magnetic tapes).

Table II-6 provides national data on the number of community colleges and enrollments by gender and full-time/part-time status. By the late 1970s, the proportion of women exceeded that of men, a pattern that is true for California and other WICHE states for which data are available. It is also generally true that relatively more women than men attend part-time and enroll in occupational programs or special interest courses.

As in the nation as a whole, in WICHE states the proportion of two-year college students attending on a part-time basis is very large--more than three times the proportion in the region's four-year schools. The proportion of part-timers in the two-year sector is almost nine out of ten in Nevada, nearly three out of four in Arizona and California, and more than three out of five in Alaska and Colorado. The enrollment patterns demonstrate that community colleges typically have a more diverse student body than other postsecondary institutions.

This diversity is evident in data on student characteristics, particularly financial resources, family background, and prior educational experience. Table II-7 compares parental income and parents' education of full-time, first-year students in public four-year and two-year institutions. Among public university students, 63.5 percent come from families with income greater than $30,000 per year, compared to 40.2 percent of two-year college freshmen. Lower-income students make up a higher proportion of community college enrollments. Among full-time, first-year public university students, 12.7 percent come from families with income below $15,000--less than one-half the 25.8 percent of two-year college students from this income category. Moreover, many community college students who are not enrolled full-time are not included in these data.

Among students who apply for and receive some form of financial aid, there are also significant differences between students in community colleges and other institutions. Table II-8 shows family income of dependent students receiving financial aid to attend different types of institutions. Among the aid recipients at community colleges, 29.8 percent are from families with income less than $7,500, compared to 16.5 percent at public universities, 23.4 percent at four-year public colleges, and 11.1 percent at private institutions. Again, these data probably understate the proportion of lower income students at community colleges since either half-time or full-time status is generally required to qualify for financial aid. Clearly, community colleges enroll students from much more diverse economic backgrounds and provide educational access for a much larger proportion of lower income individuals than do other types of institutions.

Greater diversity and student characteristics more similar to the average for the population as a whole are also typical of community college enrollments. Many community college students come from families that previously had not participated in postsecondary education. As indicated on Table II-7, the percentage of community college students whose mother or father has a college degree is less than half that of students in public universities. This means that community colleges are the first point of access to postsecondary education for many families as well as individuals.

Community college enrollments also have a more "average" profile in terms of educational preparation. Table II-9 shows average scores on the American College Testing (ACT) entrance examinations for students entering different

TABLE II-6

Public Two-Year Colleges and Enrollments
United States, 1950-1980

	Number of Institutions	Enrollment				
		Total	Men	Women	Full-Time	Part-Time
1950	527	168,043	(Data not available prior to 1970)			
1955	525	265,891				
1960	593	393,553				
1965	664	1,043,378				
1970	897	2,102,000	1,255,000	847,000	1,068,000	1,034,000
1975	1,141	3,836,000	2,097,000	1,740,000	1,663,000	2,174,000
1980	1,281*	4,329,000	1,964,000	2,365,000	1,596,000	2,733,000

* Number of institutions in Fall 1982.

Source: For number of institutions and enrollments for 1950-65, American Council on Education's 1984-85 Fact Book (New York, 1984); for enrollments for 1970-1980, National Center for Education Statistics, Projections of Education Statistics to 1990-91 (Washington D.C., 1982).

TABLE II-7

Parental Income and Education, First Time Full-time Freshmen at Public Institutions, Fall 1984

	Universities	Four-Year Colleges	Two-Year Colleges
Parental Income			
Under $15,000	12.7	20.9	25.8
$15,000 to $30,000	23.8	28.7	34.0
$30,000 or more	63.5	50.4	40.2
Parental Education			
Father has college degree	53.0	38.7	25.1
Mother has college degree	37.6	27.6	18.1

Source: Alexander Astin and others, The American Freshman, National Norms for Fall 1984 (Los Angeles: Cooperative Institution Research Program, 1984), pages 44, 50 and 51. (Note: the student group surveyed is limited to full-time students.)

TABLE II-8

Income Level of Families of Dependent Students Receiving Financial Aid by Type of Institution, Fall 1982

	Percent of families with income of:			
Institution	Less than $7,500	$7,500-14,999	$15,000-29,999	$30,000 or more
All institutions	18.1	21.8	37.8	22.3
Public institutions	22.4	24.9	37.2	15.5
Universities	16.5	20.4	40.3	22.8
Four-Year Colleges	23.4	26.2	36.6	13.8
Two-Year Colleges	29.8	29.6	33.3	7.3
Private institutions	11.1	16.8	38.9	33.2
Universities	10.0	14.3	35.6	40.1
Four-Year Colleges	11.2	17.2	39.2	32.4
Two-Year Colleges	13.1	18.6	44.4	23.9

Source: Charles J. Anderson, Financial Aid for Full-Time Undergraduates (Washington, D.C.: American Council on Education, 1984), p. 16.

types of institutions. Average community college test scores are consistently lower and closer to the level that would be the average for the population as a whole. High school grade point averages are also lower for community college students than for students in other institutions. The differences are not that large, however, in comparison to students in public four-year colleges.

As with other data, these ACT test scores and grade point averages provide an indication of general characteristics, but are not necessarily representative of all community college students. Many community college students do not take the entrance tests. A growing proportion of community college enrollments involve individuals from very diverse educational backgrounds. Many are older, non-traditional students with work experience or a high school equivalency diploma; relatively few enter college directly following high school graduation. Another group of non-traditional community college students--often called reverse transfer students--enroll for special technical training or to develop new employment credentials after having completed a baccalaureate or advanced degree in another institution. This diversity in student educational backgrounds means that community colleges are being called upon to provide an expanding array of educational programs.

Part of this expanding role involves providing remedial or compensatory instruction for individuals who are not fully prepared for postsecondary education. Table II-10 shows the percentage of first-year students taking remedial instruction in reading, writing, or mathematics. The proportions are consistently higher for students in public as compared to private institutions and in two-year institutions as compared to four-year institutions, although the differences are not large in all cases. Since 1978, 44 percent of all institutions have reported a 10 to 30 percent increase in remedial enrollments, and 19 percent of the institutions have reported more than a 30 percent increase in these enrollments. What these figures mean in terms of overall educational opportunity and quality is uncertain. What is clear is that community colleges enroll a large proportion of students who require special instruction to bring them up to the postsecondary levels, that this proportion has grown in recent years, and that without these programs many individuals would not be able to pursue postsecondary education.

Providing remedial programs is only one aspect of expanding community college roles to meet the educational needs and goals of a rapidly changing population. Reverse transfers of students with four-year degrees and short-term, non-sequential programs in technical fields, job-related skills, and he liberal arts also indicate the increasing diversity among students and programs.

A recent study of California community colleges identified three major student prototypes and seventeen subtypes among community college students.[3] Thirty-seven percent were identified as "transfer prototypes," although only 10.6 percent were full-time transfer students. Many of the transfer prototypes were enrolled in vocational or technical programs. The actual "voca-

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[3]Richard H. Simpson, The Neglected Branch: California Community Colleges (Sacramento, CA.: Senate Office of Research, 1984), p.27. Data and prototypes from the California Postsecondary Education Commission.

TABLE II-9

Average Student Preparation and Ability Measures,
Fall 1982 Entering Enrollments
(Based on Freshmen Taking ACT Test)

	English	Mathematics	Social Studies	Natural Sciences	Composite
Average ACT Scores					
Public Community Colleges	15.6	13.2	14.5	18.3	15.5
Public Four-year Colleges	15.9	14.5	15.0	18.9	16.2
Public Universities	18.8	18.6	18.7	22.0	19.6
Private Institutions	19.4	18.6	19.2	22.1	20.0
Average High School Grade Point Average					
Public Community Colleges	2.79	2.58	2.86	2.68	2.73
Public Four-Year Colleges	2.85	2.58	2.95	2.79	2.80
Public Universities	3.10	2.84	3.22	3.01	3.04
Private Institutions	3.18	2.90	3.25	3.06	3.10

Source: American College Testing Program (ACT), College Student Profiles: Norms for the ACT Assessment (Iowa City, Iowa: ACT, 1983), Tables 2.8, 2.9, 2.10, 2.11 and 2.12.

TABLE II-10

Remedial Instruction in Institutions of Higher Education
Percentage of Freshmen in Remedial Courses by Subject, 1983-84

	Reading	Writing	Math
Public Institutions	18%	22%	27%
Private Institutions	9	12	15
Two-Year Institutions	19	23	28
Four-Year Institutions	12	17	19
U. S. Total	16	21	25

Change in Remedial Course Enrollment from 1978 to 1984

			Increased Enrollment	
	Decrease	No Change	10-30%	More than 30%
Percentage of Institutions	4%	33%	44%	19%

Source: U.S. Department of Education, Indicators of Education Status and Trends (Washington, D. C., January 1985), page 14.

tional prototypes," 35.5 percent of the total, generally had more immediate educational objectives. Only 5.7 percent appeared to be "program completers" in the sense of completing an associate degree. Larger proportions were enrolled in vocational programs with the more immediate objective of finding a job or improving current job skills. "Special interest prototypes" were the other major category--27.5 percent of community college students.

While California is not necessarily representative of community college enrollments in all WICHE states, these typologies represent the diversity of students and student objectives found to varying degrees at community colleges throughout the West. In the absence of educational opportunities that are highly accessible, relatively affordable, and geared to a wide variety of educational backgrounds and goals, many community college students would be unlikely to pursue postsecondary education.

Faculty Characteristics

Demographic and social changes have affected not only community college enrollment patterns and student characteristics, but also faculty characteristics. At the same time that enrollment growth required faculty expansion, there was a change in the characteristics and roles of faculty due to greater diversity in student needs, academic program offerings, and institutional objectives. Community college faculty appear to have changed as much as the students.

Table II-11 shows the growth in the number of full-time and part-time faculty at community colleges since 1958. A number of trends are notable:

- The total number of faculty members has increased more than seven-fold since the mid-1950s, including more than a doubling after 1973 to a high of approximately 239,000 in 1980. In contrast, total headcount enrollment in community colleges has increased more than 15-fold during this period (see Table II-6).

- The largest growth has been in part-time faculty. Since 1973, the number of full-time community college faculty members increased slightly more than 10 percent, while part-time faculty more than doubled. In 1982, 58 percent of community college instructors worked part-time.

- Between 1980 and 1982, community college faculty declined in number. These decreases occurred entirely among full-time faculty members; part-time faculty continued to increase.

Scarce resources and budgetary decisions have contributed directly to this trend toward predominantly part-time community college faculties. Part-time and temporary appointment instructors contracted to teach specific courses are typically paid less per course or per semester than instructors with full-time appointments that include non-teaching responsibilities. Other factors are involved as well. Flexible class scheduling with more evening and weekend classes provide opportunities for part-time instructors who hold other jobs. More variety in course offerings, particularly in rapidly-changing technical fields, make it more appropriate to use instructors currently employed in the field. Conditions in the academic job market lead many new degree recipients to accept part-time employment. In other areas, such as

TABLE II-11

Numbers of Full-Time and Part-Time
Community College Instructors, 1958-82

	Total Instructors	Full-Time		Part-Time	
		Number	Percent	Number	Percent
1958	33,396	20,003	60	13,393	40
1968	97,443	63,864	66	33,579	34
1973	151,947	89,958	59	61,989	41
1978	213,712	95,461	45	118,251	55
1980	238,841	104,777	44	134,064	56
1982	236,761	99,701	42	137,060	58

Source: Arthur M. Cohen, "The Community College in the American Educational System," unpublished background paper prepared for National Institute of Education Study Group (1984), Table 7.

TABLE II-12

Highest Degree Held by Two-Year College Instructors
(By Percentage)

	Less than B.A.	Bachelor's	Master's	Doctorate
1930	7%	29%	59%	5%
1941	3	27	64	6
1957	7	17	65	10
1969		17	75*	7
1972	3	13	74	10
1979	3	8	74	15

* Includes other degrees.

Source: Arthur M. Cohen and Florence B. Brawer, The American Community College (San Francisco, CA: Jossey-Bass, 1982), Table 13, p. 77. The years cited are for different studies. Data may not be totally comparable. Additional information on sources and characteristics of the studies is provided by Cohen and Brawer.

accounting, rapid enrollment growth combined with higher-paying non-academic job opportunities have virtually forced the hiring of part-timers as the only available instructors.

The shift to more part-time faculty members does not appear to have affected the credentials of those teaching in community colleges. Periodic studies of faculty academic degrees show that an increasing proportion of community college instructors have masters or doctorate degrees, as indicated on Table II-12. The most recent study, done in 1979, found that 74 percent of community college faculty hold a master's degree and 15 percent a doctorate.[4]

Faculty salaries are directly related to employment status, but are difficult to examine because of the variety of contractual practices used for part-time faculty members. Table II-13 shows average salaries only for faculty with full-time appointments in public universities, four-year colleges, and community colleges in the WICHE states. It must be noted that the reliability of comparisons across states is affected by differences in the cost of living and employment conditions. Comparisons across sectors are similarly affected by differences in the proportions of full-time faculty, in teaching loads, and other faculty responsibilities. With these caveats, several observations are notable in the table:

- Nationally, full-time faculty salaries at community colleges are approximately $1,500 less than at four-year colleges and $3,700 less than at public universities.

- These differences are not consistent from state to state. In several WICHE states, full-time faculty salaries at community colleges are equal to or exceed those in four-year colleges.

- Only three WICHE states exceed the national average in community college salaries, fewer than the proportions for four-year college and university salaries.

Although the relationships are not apparent in the salary data, it must be noted that a higher proportion of faculty at community colleges work under negotiated group contracts than in other institutions.[5]

Summary

In summary, the changing social and demographic environment of community colleges is reflected in student characteristics, new instructional roles, faculty characteristics, and other factors. Together these components raise a number of questions about the missions and operations of community colleges in the coming decade. How will community colleges respond to further population growth and to changes in the composition of enrollments? What academic

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[4]Arthur M. Cohen and Florence B. Brawer, The American Community College (San Francisco, CA: Jossey-Bass, 1982), Table 13, pp. 77.

[5]Richard J. Ernst, "Collective Bargaining: The Conflict Model as Norm," in William L. Deegan and James F. Gollattscheck (eds.), Ensuring Effective Governance, New Directions for Community Colleges (March 1985), pp. 53-62.

TABLE II-13

Average Full-time Faculty Salaries in Public Universities, Four-Year Colleges, and Two-Year Colleges in the WICHE States, 1981-82
(Numbers indicate rank in U.S.)

Universities		Four-Year Colleges		Two-Year Colleges	
1. Alaska	$39,425	1. Alaska	$35,379	1. Alaska	$39,521
2. California	34,297	2. California	31,134	2. California	30,817
7. Arizona	30,240	4. Nevada	28,042	4. Arizona	25,994
10. Wyoming	29,280	7. Arizona	27,045	U.S. Average	24,238
11. Nevada	29,134	9. Washington	26,314	8. Washington	24,157
12. Washington	29,071	U.S. Average	25,659	10. Wyoming	23,738
15. Colorado	28,213	23. Oregon	24,179	13. Hawaii	23,477
U.S. Average	27,900	24. New Mexico	24,133	17. Oregon	22,345
18. Hawaii	27,884	25. Colorado	23,986	20. North Dakota	21,990
20. Utah	27,515	27. North Dakota	23,743	23. Nevada	21,649
30. New Mexico	26,618	28. Hawaii	23,679	26. Montana	20,774
34. Oregon	26,303	33. Utah	23,280	28. Utah	20,590
39. Idaho	25,398	35. Montana	22,788	30. New Mexico	20,159
42. North Dakota	24,799	40. Idaho	22,056	32. Idaho	19,965
46. Montana	24,457	(Wyoming not applicable)		33. Colorado	19,932

Note: Salaries reflect nine-month faculty contracts.

Source: National Education Association Research Memo, Rankings of the States, 1983 (Washington, D.C., 1984), pp. 26-27.

programs and services are required to meet the increasingly diverse needs and educational objectives of community college students? What are the social, educational, and economic implications of an open-door philosophy? What community college services will best serve both individuals and the public at large? Are the roles, responsibilities, and rewards for community college faculty consistent with student needs and public expectations? The responses to such questions and challenges will determine how well community colleges meet social and individual needs, and how fully they contribute to personal and economic well-being during the next decade.

Chapter III

THE ECONOMIC AND TECHNOLOGICAL ENVIRONMENT OF COMMUNITY COLLEGES IN THE WEST

Economic and technological changes affect postsecondary education in many ways. The condition of a state's economy affects the resources available to support education from public revenues and to pursue education from personal resources. Economic conditions influence enrollment patterns, since individuals take into account current and anticipated employment opportunities in making career and educational decisions. Economic and technological changes affect the scope and content of many postsecondary programs because of the need to make education and training relevant to a changing world. Finally, through the technological revolutions involving computers, telecommunications, and information systems, the methods of delivering education are being transformed.

These effects, however, do not flow in one direction only. Higher education itself is one of the primary social institutions helping to shape current and future economic conditions and to advance technological change. As a form of both public and private investment, education affects overall economic and social welfare, as well as individual economic opportunity. Postsecondary programs not only respond to changing labor market conditions but also help to shape those conditions. Students enhance their individual capabilities and society benefits through a more highly educated, effectively trained work force. Perhaps most importantly, postsecondary education not only adapts to technological change, but contributes directly to the development, application, and understanding of those changes.

More specifically, community colleges in the western states both reflect contemporary economic conditions and help to shape the economic futures of individuals, localities, and states. The interrelationships between community colleges and economic development involve at least five major types of influences:

1. To the extent that institutional budgets are dependent upon support from property taxes, sales taxes, and state income taxes, growth in the economy is a key element in providing adequate financial support for community colleges.

2. Students' propensities to pursue education or seek specialized training at community colleges are affected by local job market conditions, the creation of new employment opportunities that require more specialized skills, the introduction of new technological processes and communications systems, and other factors related to economic growth. The financial resources that students have and are willing to commit to additional education also are affected by employment opportunities and local economic conditions.

3. For local industries and businesses, community colleges provide educated and skilled employees in many traditional occupational areas and in those fields requiring newer, more specialized skills or worker retraining.

4. To individuals and communities alike, community colleges offer additional opportunities to invest in education through general education courses, transfer programs, and job-skills training that enhance personal and community growth.

5. As active participants in local and state economic development strategies, community colleges can play central roles in developing training programs for new or expanding industries, in helping industry to implement the products of research and development, and in expanding working relationships between business, government, and education. Particularly with respect to small businesses and new entrepreneurial ventures, community colleges are strategically located to stimulate and support local economic development activities.

This chapter provides a background for these complex relationships between community colleges and local economies. The first section examines variations in economic conditions within the WICHE states, since these conditions have a direct bearing on the current and future operations of community colleges. Community colleges rely heavily on public funding; therefore, the health of a state's economy is vitally important to the health of its community colleges.

The second section looks at recent and anticipated employment changes by industry and state. These reflect not only overall economic growth but also those areas with exceptional employment and educational opportunities. Particular attention is given to the role of high-technology industries and the diffusion of new technologies throughout the economy.

The third section of this chapter suggests some of the broader implications of economic and technological change for community colleges. The issues include such direct effects as the impact of employment rates on enrollment patterns and such underlying questions as the type of education that will be most appropriate for the changing economic and technological environment of the western states.

Economic Conditions in the WICHE States

The 14 WICHE states have experienced notable differences in economic growth since 1970. Among other factors, these differences reflect the underlying diversity of industries and resources, the recent development of energy or new manufacturing industries, and related variations in population growth in the West. Structural changes in the national and world economies from the dispersion of industries and the development of new products and technologies have also had a significant impact on the western states, although the effects are uneven among and within the states. In addition to these factors, business cycles create short-term fluctuations in economic conditions. Conditions also vary among the WICHE states due to periods of national recession and expansion, affecting specific industries and localities to different degrees.

Table III-1 shows total personal income growth in the WICHE states since 1970. The data, expressed in current dollar values, reflect monetary inflation as well as real growth resulting from business expansion and population increases. Notable economic trends indicated on this table include:

- For the WICHE region, the rate of growth in personal income during the 1970s was nearly one-third higher than in the remaining 36 states as a group--207.2 percent increase compared to 159.7 percent.

- This comparative regional advantage diminished in the early 1980s, a period that included a severe national recession that had a harsh impact on particular industries and states in the West. Personal income growth in the WICHE region was 27.5 percent between 1980 and 1983, compared to 26.6 percent for other states.

- Idaho, Montana, Oregon, Washington and Wyoming, which had grown rapidly during the 1970s, dropped to below average growth during the early 1980s.

- Growth in total personal income continued to be exceptionally high in Alaska, Colorado, and North Dakota, and exceeded the regional average in Arizona, New Mexico, and Utah.

Table III-2 shows changes in per capita personal income since 1970. Compared to the nation as a whole, population changes appear to account for a substantial portion of personal income growth in several of the WICHE states. The economic expansion that accompanied population growth in many of the WICHE states during the 1970s, however, appears to have reversed in the early 1980s, at least in some areas. Significant changes that are apparent on Table III-2 include:

- Increases in per capita personal income between 1970 and 1980 exceeded the national average for 10 of the 14 WICHE states.

- Between 1980 and 1983, this ratio reversed when 11 of the 14 states dropped below the national average in per capita income increases.

- Despite these recent downturns in economic expansion, per capita income remains relatively high in most of the WICHE states. In eight WICHE states per capita income exceeded the national average in 1983, led by the largest state, California, where per capita income was 113 percent of the national average.

Economic growth is also indicated by expansion in employment. Table III-3 shows growth in total nonagricultural employment for the WICHE states for three periods since 1970. Several patterns are observable:

- The average annual percent growth in employment between 1970 and 1980 was significantly higher for every WICHE state than for the nation as a whole. Six of the western states had employment growth of more than twice the national average.

TABLE III-1

Personal Income Growth in the WICHE States
1970-1983
(Current Dollars in Millions)

	1970	1980	1983	Percent Change 1970-1980	Percent Change 1980-1983
Alaska	$1,404	$5,238	$8,238	273.1%	57.3%
Arizona	6,507	24,179	31,575	385.2	30.6
California	89,312	261,964	333,741	193.3	27.4
Colorado	8,541	29,446	40,085	244.8	36.1
Hawaii	3,476	9,810	12,396	182.2	26.4
Idaho	2,352	7,678	9,450	226.4	23.1
Montana	2,438	6,576	8,124	169.7	23.5
Nevada	2,195	8,754	11,096	298.8	26.8
New Mexico	3,173	10,363	13,489	226.6	30.2
North Dakota	1,928	5,652	7,939	193.2	40.5
Oregon	7,765	24,553	28,585	216.2	16.4
Utah	3,451	11,292	14,555	227.2	28.9
Washington	13,730	42,541	52,368	209.8	23.1
Wyoming	1,268	5,228	6,126	312.3	17.2
WICHE States	$147,540	$453,274	$577,767	207.2%	27.5%
Non-WICHE States	$655,981	$1,703,436	$2,156,355	159.7%	26.6%
U.S. Average	$803,900	$2,156,710	$2,734,122	168.3%	26.8%

Sources: U.S. Department of Commerce, Bureau of Economic Analysis, Survey of Current Business, April 1974, p. 17, and August 1984, p. 42.

TABLE III-2

Per Capita Personal Income in the WICHE States, 1970-1983

	1970	1980	1983	Percent Change 1970-1980	Percent Change 1980-1983	Percent of National Average 1983	Rank Among All States 1983
Alaska	$4,726	$13,007	$17,194	176.5%	31.6%	147%	1
Arizona	3,688	8,854	10,656	140.1	20.4	91	32
California	4,510	11,021	13,257	144.4	20.3	113	5
Colorado	3,887	10,143	12,770	160.9	25.9	109	8
Hawaii	4,674	10,129	12,114	116.7	19.6	104	15
Idaho	3,315	8,105	9,555	144.5	17.9	82	42
Montana	3,428	8,342	9,949	143.3	19.3	85	37
Nevada	4,691	10,848	12,451	131.3	14.8	107	10
New Mexico	3,072	7,940	9,640	158.5	21.4	82	41
North Dakota	3,216	8,642	11,666	168.7	35.0	100	21
Oregon	3,711	9,309	10,740	150.8	15.4	92	39
Utah	3,220	7,671	8,993	138.2	17.2	77	48
Washington	4,046	10,256	12,177	153.5	18.7	104	13
Wyoming	3,686	11,018	11,911	198.9	8.1	102	18
WICHE States	$4,165	$10,343	$12,458	148.3%	20.4%	107%	--
U.S. Total	$3,945	$9,494	$11,658	140.7%	22.8%	--	--

Sources: U.S. Department of Commerce. Bureau of Economic Analysis, Survey of Current Business Vol. 64, No. 8 (August 1984), p. 42; and U.S. Bureau of the Census, Statistical Abstract of the United States: 1984, 14th edition, Washington, D.C., 1983.

Table III-3

Growth in Nonagricultural Employment in WICHE States
1970-1984

	1970-1980 Average Annual Percent Change	1979-1982 Average Annual Percent Change	1983-1984 Percent Change
Alaska	6.2%	6.1	5.6
Arizona	6.4	1.7	10.9
California	3.6	0.6	6.3
Colorado	5.2	2.5	4.7
Hawaii	3.3	0.6	2.3
Idaho	4.7	-2.6	2.7
Montana	3.5	-1.4	4.1
Nevada	4.9	.8	4.3
New Mexico	4.8	0.9	5.2
North Dakota	4.1	0.9	1.3
Oregon	3.9	-3.1	4.2
Utah	4.4	0.7	6.2
Washington	4.1	-0.3	3.9
Wyoming	6.9	2.7	-2.2
U.S. Total	2.4	-0.1	4.5

Sources: Richard J. Rosen, "Regional Variations in Employment and Unemployment During 1970-1982," Monthly Labor Review (February 1984), pp. 38-45; U.S. Department of Labor Statistics, Supplement to Employment Hours and Earnings, States and Areas (August 1984), Supplement to Employment and Earnings (July 1984), and unpublished Labstat Series Report, April 2, 1985.

- Employment growth slowed and became more uneven in the West between 1979 and 1982. Idaho, Montana, Oregon, and Washington experienced a decrease in nonagricultural employment during this period, and were below the national average.

- In the most recent period, 1983 through 1984, employment growth returned to all of the WICHE states except Wyoming, which experienced a 2.2 percent decrease primarily because of the effects of declines in the extractive industries. Employment growth in seven of the other WICHE states was above the national average.

- Arizona, and to a lesser extent California and Utah, exceeded the average national growth in employment by a substantial margin during the most recent period.

If data for the more recent years are indicative of trends through the 1980s, employment growth in most of the western states will be slower than in the 1970s, but still higher than growth in the U.S. as a whole.

Unemployment rates have fallen in all WICHE states as the nation has recovered from the recession of the early 1980s. The recession was severe in most of the western states; in many, the recovery has not been rapid. As indicated on Table III-4:

- During 1983, unemployment exceeded 10 percent in four WICHE states and was higher than the national average in seven of the 14 states.

- In 1984, unemployment in five WICHE states still exceeded the national average.

- The unemployment rate decreased in all WICHE states between 1983 and 1984, but in only four states was this decrease greater than the national average.

Unemployment (that is, the lack of employment opportunities) remains a serious problem in at least one-half of the WICHE states in the mid-1980s.

Both long-term trends and more immediate economic conditions are related to the industrial, commercial, and service components of a state's economy. Table III-5 shows the percentage of total nonagricultural employment in eight major industrial categories in each of the WICHE states during 1984. As indicated by these percentages, the structures of the western state economies vary significantly, particularly with respect to employment in mining and manufacturing.

Mining employment is high in Alaska, New Mexico, and Wyoming and well above the national average in four additional western states, reflecting the development of mineral and energy resources. Demand and price fluctuations for these natural resources can have a severe impact on employment and the general economy in these states. Rapid economic growth in Alaska and Wyoming during the 1970s, for example, was fueled by the higher prices and demand for energy resources. Downward pressure on demand and prices in recent years has lowered employment and state revenues.

TABLE III-4

Unemployment Rates in the WICHE States,
1983 and 1984

	1983	1984	Change
Alaska	10.3	10.0	-0.3
Arizona	9.1	5.0	-4.1
California	9.7	7.8	-1.9
Colorado	6.6	5.6	-1.0
Hawaii	6.5	5.6	-0.9
Idaho	9.8	7.2	-2.6
Montana	8.8	7.4	-1.4
Nevada	9.8	7.8	-2.0
New Mexico	10.1	7.5	-2.6
North Dakota	5.6	5.1	-0.5
Oregon	10.8	9.4	-1.4
Utah	9.2	6.5	-2.7
Washington	11.2	9.5	-1.7
Wyoming	8.4	6.3	-2.1
U.S. Average	9.6	7.5	-2.1

Source: U.S. Bureau of Labor Statistics data taken from Oregon Department of Human Resources, Oregon Labor Trends (Salem, OR., March 1985), p.6.

TABLE III-5

Percentage of Nonagricultural Employment in Major Industrial Categories in the WICHE States, 1984

	Mining	Construction	Manufacturing	Transportation, Communications, Utilities	Trade	Finance Insurance Real Estate	Services	Government
Alaska	3.9%	8.9%	5.0%	8.4%	19.8%	5.5%	19.2%	29.3%
Arizona	1.1	8.1	14.6	5.1	24.3	6.1	23.2	17.5
California	0.5	4.2	19.4	5.2	23.8	6.6	23.9	16.4
Colorado	2.6	6.4	13.9	6.2	24.6	6.7	22.0	17.6
Hawaii	0	3.9	5.3	7.7	26.8	7.7	26.3	22.2
Idaho	1.2	3.9	16.7	5.8	25.3	7.2	18.9	20.9
Montana	2.7	4.5	7.9	7.3	27.2	4.8	21.3	24.3
Nevada	1.5	5.2	4.9	5.8	20.1	4.7	43.9	13.8
New Mexico	4.2	7.2	7.3	5.9	23.4	4.9	21.3	25.8
North Dakota	2.9	5.6	6.1	6.5	26.8	4.8	22.8	24.5
Oregon	0.2	3.0	19.8	5.6	25.1	6.5	20.4	19.4
Utah	2.1	5.8	15.7	6.0	23.4	5.0	20.2	21.8
Washington	0.1	4.7	17.4	5.5	24.6	5.8	21.3	20.7
Wyoming	13.7	6.5	4.2	8.0	22.5	4.0	16.2	25.0
WICHE States	1.0%	4.8%	16.7%	5.6%	24.0%	6.3%	23.4%	18.1%
U.S. Total	1.1%	4.6%	20.8%	5.5%	23.1%	6.0%	21.9%	17.0%

Source: United States Department of Labor, Bureau of Labor Statistics, unpublished Labstat Series Report, April 2, 1985.

Employment in construction is heavily dependent upon growth in the general economy and on interest rates and other variables. Reflecting these factors, construction employment varied from a high of 8.9 percent of total employment in Alaska to 3.0 percent in Oregon during 1984. In nine WICHE states construction employment exceeded the national average of 4.6 percent.

Manufacturing employment showed large variations among the WICHE states and between the region and the nation. Employment in manufacturing is only about 5 to 6 percent of total nonagricultural employment in Alaska, Hawaii, Nevada, North Dakota, and Wyoming. Oregon (19.8 percent), California (19.4 percent), Washington (17.4 percent), and Idaho (16.7 percent) have the highest proportion of employment in manufacturing in the West. All are less than the national average of 20.8 percent. Clearly, the relative prosperity of the West as a region is not related historically to the proportion of total manufacturing employment.

The proportions of employment in the categories of transportation, communications and utilities; trade; and finance, insurance and real estate do not vary as significantly among the WICHE states or in comparison with the national average. Employment in the services sector does vary, generally in relation to such factors as the extent of the tourist industry (43.9 percent of nonagricultural employment in Nevada is in the service sector) and the degree of urbanization. Government employment, which includes teachers at public schools, colleges, and universities, also varies substantially in relation to the proportion of school-age population, the extent of federal facilities, and other factors. Overall, the variations in mining and manufacturing employment appear to indicate some of the most important characteristics of WICHE state economies.

Employment and Technological Changes

State and federal agencies periodically project changes in employment in major industrial categories based on the patterns of recent years and assumptions about national economic growth. Although subject to the uncertainties inherent in any estimating techniques, these projections indicate anticipated employment averaged over a number of years. Table III-6, based on data provided by state agencies, shows the average annual change in employment for the major industrial categories in the WICHE states. Several trends are particularly notable:

- Employment in manufacturing is expected to increase much more slowly in the WICHE states (1.9 percent per year) than in the nation as a whole (3.5 percent per year).

- In contrast, in the WICHE states employment in the sectors of transportation, communications, and utilities; trade; finance, insurance, and real estate; and government is expected to expand more rapidly than in the nation as a whole.

- Service employment is expected to expand rapidly, both regionally and nationally.

- Total employment is expected to expand by an average of 2.3 percent per year in WICHE states, compared to 1.4 percent nationally.

TABLE III-6

Projected Employment Change by Sector in the 1980s
(Average Annual Percent Change)

	Mining	Construction	Manufacturing	Transportation, Communications, Utilities	Trade	Finance Insurance Real Estate	Services	Government	Total Wage and Salary Employment
Alaska	2.8%	6.0%	-1.2%	2.0%	6.5%	4.6%	5.1%	2.6%	3.8%
Arizona	-3.1	2.9	3.4	3.6	4.0	4.0	5.3	2.0	3.6
California	-1.5	1.7	2.1	1.7	2.4	3.7	2.9	0.7	2.4
Colorado	2.1	2.7	1.8	2.8	3.0	3.8	4.1	0.7	2.7
Hawaii	0	2.0	0.6	2.1	3.6	3.3	3.0	0.9	2.4
Idaho	1.8	3.4	2.8	1.9	2.5	3.8	3.1	2.2	2.7
Montana	1.4	3.8	2.6	0.4	3.0	2.8	2.8	1.8	2.5
Nevada	6.5	8.1	6.3	4.1	5.8	5.3	5.7	3.4	5.6
New Mexico	0	3.0	4.7	2.4	3.4	3.3	3.2	0.9	2.6
North Dakota	1.8	1.6	0.9	1.1	1.2	1.8	2.0	1.7	1.6
Oregon	-2.6	-1.5	0.6	0.7	1.1	0.6	2.1	0.3	1.0
Utah	-2.0	4.5	3.3	3.5	2.5	3.2	2.9	1.7	2.3
Washington	-2.4	-2.1	-0.4	0.6	1.9	1.5	3.3	1.1	1.3
Wyoming	1.0	2.5	0.9	4.5	2.5	2.6	4.4*	10.5*	3.4
WICHE States	0.8%	1.7%	1.9%	1.8%	2.4%	3.2%	3.0%	1.0%	2.3%
U.S. Total	0.9%	1.5%	3.5%	1.0%	1.5%	2.3%	2.9%	0.4%	1.4%

* Reflects some modification in sector definitions since base year.

Notes: Projections and average annual change based on Bureau of Labor Statistics moderate growth projection, using a base year of 1980 and projection year of 1990 except where comparable data were not available. In these cases the base year varied from 1979 (U.S. total and Oregon) to 1983 (Nevada). For four states (Hawaii, Idaho, Montana, and Utah) 1982 was used as the base year. The projection year was 1990 in all cases except Alaska (1989) and Washington (1987). Data exclude agricultural wage and salary employment and self-employed.

Sources. State figures compiled from data and projections provided by state employment and labor agencies. U. S. totals from Department of Labor, Bureau of Labor Statistics, Monthly Labor Review (November 1983).

Projections for employment changes in specific occupational categories at the national level are presented in Table III-7. The 17.3 percent growth in total employment in these occupational categories (from 97.3 million in 1980 to 114.1 million in 1990) is based on increases in all categories except farm workers. The rate of increase in the other categories, however, varies significantly:

- The smallest increases are projected for the category of professional and technical workers, with only 0.7 percent growth (600,000 positions) between 1980 and 1990.

- The largest increases are projected for the categories of service workers (29.2 percent), clerical workers (24.3 percent), sales workers (21.0 percent), and equipment operatives (20.3 percent). By 1990, service workers and clerical workers combined are expected to increase to nearly 35 percent of total employment, with 8.2 million more jobs in these occupations than in 1980.

- Employment in the occupational categories of managers and administrators, craft and kindred workers, and non-farm laborers is expected to increase substantially, but will slightly diminish in importance in terms of the proportion of total employment by 1990.

These occupational projections do not indicate the types and extent of changes that are likely to occur within each of these categories during the 1980s. Many fields require a knowledge of new technologies or business processes. Employment in the financial industry with commercial banks, securities firms, and expanding financial service companies, for example, increasingly requires specialized training and experience in computer applications and communications. Citicorp, one of the largest such firms, estimates that technology-related employees comprise 10 percent of their work force, and this proportion is likely to continue growing.[1]

Technical advances in communications and industry reorganization related to the breakup of the Bell System and the competition from new companies are likely to create new jobs and new skill requirements in telecommunications. The rapidly expanding consumer electronics industry also will provide new job opportunities. Much of the $30-40 billion per year in retail sales in video cassette recorders, digital televisions, compact disk players, and other equipment is in foreign-made products. But employment is generated in marketing and sales, and increasingly for post-sales service technicians. Employment for such technicians is growing and becoming more established as a career. Community colleges and trade schools are expanding training programs for this field, and a number of states now require certificates and proficiency tests.

The use of office and home computers is continuing to expand, creating employment opportunities in installation, software design, sales and marketing, and post-sales services. Computer usage also affects the skills and job requirements of more traditional fields such as nursing and health care,

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[1] "High Technology Employment Outlook;" New York Times, March 24, 1985, Section 12, page 47.

TABLE III-7

U.S. Occupational Profile--1980 and 1990
(Number of Jobs in Millions and Percent of Total)

	1980	1990	Percent Change
Professional and Technical Workers	15.6 million 16.0%	16.3 14.3%	0.7%
Managers and Administrators	10.9 million 11.2%	12.5 11.0%	14.7%
Sales Workers	6.2 million 6.4%	7.5 6.6%	21.0%
Clerical Workers	18.1 million 18.6%	22.5 19.7%	24.3%
Craft and Kindred Workers	12.5 million 12.8%	14.5 12.7%	16.0%
Equipment Operatives (Including Transportation)	13.8 million 14.2%	16.6 14.5%	20.3%
Non-Farm Laborers	4.5 million 4.6%	5.0 4.4%	11.1%
Service Workers (Including Private Households)	13.0 million 13.4%	16.8 14.7%	29.2%
Farm Workers	2.7 million 2.8%	2.4 2.1%	-11.1%
Totals	97.3 million	114.1	17.3%

Source: National Commission on Employment Policy, Eighth Annual Report--The Work Revolution (Washington, D.C.: 1982), Chart 8. Based on Bureau of Labor Statistics data and projections.

general business, and office administration. Other, more specialized technologies are also expanding employment opportunities. For example, the demand for electro-optic laser technicians has increased by 44 percent since 1980 and is expected to grow another 25 percent by 1990.[2] While many of these positions require a specialized engineering background, more applied technicians are also needed to repair and maintain technological equipment.

Although new technologies will have a broad and profound impact on many industries and occupations, direct employment in high-technology manufacturing and service industries will play a limited role in the overall economy and may continue to be concentrated in certain locations. Industries comprising the high-technology sector tend to span several of the conventional product categories. Generally, high-technology industries are identified by certain shared characteristics, including:

- relatively high expenditures on research and development of products,
- relatively large shares of scientific and technical personnel in total employment,
- sophisticated production and product-delivery systems, and
- rapid production changes and high product turnover.

The number of industries included depends upon how stringently these criteria are defined. Broadly applied, a significant portion of durable goods manufacturing can be included. As normally defined, however, high-technology industry includes companies engaged primarily in the design and development of new products through the application of recent scientific and technical advances.

The Bureau of Labor Statistics has developed three definitions of high-technology industries based on the above criteria. The most stringent includes only 2.5 percent of all wage and salary employment nationwide. The least restrictive includes 13 to 14 percent of total employment. Under all three definitions the contributions of high-technology industries to total employment growth through 1990 appear to be relatively small, according to the bureau's projections. Industries included in the most restrictive definition were projected to generate only 4.7 of total employment growth through 1990; industries under the broadest high-tech definition were projected to contribute approximately 15 percent of employment growth during the decade.[3] Moreover, this high-technology growth was highly cyclical and geographically concentrated.

Table III-8 presents data on high-technology industries in the WICHE states, using an aggregation of industries similar to the Bureau of Labor Statistics' intermediate high-technology definition. As is apparent from these data, many of the western states are high-technology intensive compared

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[2]Statistics from the Center for Occupation Research and Development, cited in "High Technology Employment Outlook," p. 51.

[3]Richard W. Richie, Daniel E. Hecker, and John V. Burgan, "High Technology Today and Tomorrow: A Small Slice of the Employment Pie," Monthly Labor Review (November 1983), pp. 50-58.

TABLE III-8

High-Technology Industries in the WICHE States

	Number of High-Technology Establishments 1982	Percent of Total Business Establishments 1982	Employment in High-Technology Establishments 1982	Percent of Total Employment in the State, 1982	Percent Increase in High-Technology Employment 1975-1980	Percent Increase in High-Technology Employment 1980-1982
Alaska	34	0.33%	243	0.19%	19.5%	80.0%
Arizona	602	1.06	87,442	10.52	113.4	9.7
California	9,146	1.74	846,209	10.16	44.4	3.9
Colorado	853	1.15	76,137	6.87	73.9	15.6
Hawaii	91	0.42	1,293	0.42	67.8	9.9
Idaho	97	0.48	4,858	2.09	93.9	-0.2
Montana	77	0.37	915	0.46	49.8	19.3
Nevada	147	0.77	5,177	1.52	205.3	28.5
New Mexico	163	0.59	10,509	3.05	44.6	41.3
North Dakota	41	0.25	1,499	0.84	224.0	11.4
Oregon	546	0.91	39,940	5.23	76.1	6.1
Utah	322	1.12	29,160	6.72	84.4	9.0
Washington	825	0.91	96,359	7.77	49.1	-4.6
Wyoming	40	0.29	840	0.53	105.0	14.4
WICHE States	12,984	1.32%	1,200,581	8.23%	49.1%	4.8%
U. S. Total	47,019	1.01%	4,348,308	5.85%	29.9%	-0.5%

Note: High technology industries include establishments and employment with the following Standard Industrial Classification (SIC) codes: 283 Drugs; 348 Ordinance; 357 Office Machines; 36 Electric/Electrical Equipment; 372 Aircraft; 376 Missiles; 379 Miscellaneous Transportation; 38 Measuring, Controlling, and Analyzing Equipment; 737 Computer and Data Processing Services.

Sources: Staff compilation of data from U.S. Department of the Census, County Business Patterns 1975, 1980, and 1982 (Washington, D.C., 1978, 1982, and 1984).

to the nation as a whole and to other states in the West. While limited to the specific industries included in this definition, several characteristics of high-technology industry in the region are indicated in Table III-8:

- High-tech firms are a relatively small proportion of total business establishments--1.32 percent of businesses in the WICHE states and 1.01 percent in the nation as a whole in 1982. Small, start-up firms may have been undercounted, however, because of limitations in the data.

- Employment in these high-technology industries was 8.23 percent of total employment in WICHE states, significantly higher than for the nation as a whole in 1982.

- High-technology employment varies substantially among the WICHE states, from over 10 percent in Arizona and California, 5 to 8 percent in Colorado, Oregon, Utah, and Washington, to less than 1 percent in Alaska, Hawaii, Montana, North Dakota, and Wyoming.

- Employment in these high-technology industries increased rapidly between 1975 and 1980--49.1 percent for the WICHE states and 29.9 percent for the nation as a whole. Between 1980 and 1982 high-tech employment expanded only 4.8 percent in the WICHE region, and did not expand in the nation as a whole.

This and other analyses indicate that even with continued expansion high-technology industries will generate a relatively small share of total employment in the foreseeable future. Even with growth at higher rates than other sectors of the national economy, the overwhelming majority of new jobs will be created in other industrial sectors and in more traditional occupational categories than in high-technology areas.

While growth in the high-tech sector alone will not assure overall economic expansion, the consequences of high-technology development are broader than the direct employment opportunities. Much of the impact of high-tech development occurs through the adoption of new equipment or techniques within other industrial and business sectors. Compared to the small proportion of the labor force actually employed in high-technology industries, these downstream uses of high-technology products are likely to have a much more substantial impact on employment opportunities and skill requirements.

Moreover, high-technology industries tend to be a leading component in many local economies and in many strategies to encourage economic development. Such industries are often leaders in terms of using research and developing new products, employing a highly trained and specialized work force, and developing new methods of production. These characteristics tend to have a rippling effect throughout a local or regional economy from direct "multiplier" effects and through the emphasis on applying new knowledge and entrepreneurial business practices.

The promise of high technology as a component in economic expansion, however, must be tempered by an awareness of the risks involved. Rapid changes in products, market demand, or organization can suddenly reverse growth trends. Colorado, for example, has experienced a series of work force reductions in electronic equipment industries. Some 6,000 jobs were lost in

late 1984 and early 1985, with little prospect that comparable job openings will be available in the immediate future. Idaho has also experienced layoffs in the electronics industries, and more are likely as a result of IBM's recent decision to discontinue one line of home computers. Other states such as Arizona, Nevada, and Utah depend upon expansion in high technology and related sectors to generate employment opportunities for a rapidly expanding population. Oregon and Washington, where rapid growth during the 1970s included substantial high-technology development, now look to this sector to replace some of the employment lost in more traditional sectors of the economy.

Implications for Community Colleges

Economic change must be seen from the perspective of individuals, businesses, and localities, not just as aggregate measures of production and employment. Aggregate statistics often mask much of the change or the "churning" in the economy, as well as the diversity of conditions. Consider employment growth and unemployment: most areas of the United States lose about 8 percent of existing jobs per year. This rate varies in relation to business cycles, but job losses continue even during economic expansion as businesses modify operations, lay off employees, or go out of business. Because of this churning in the economy, most areas must replace approximately 50 percent of their job base every five years to remain level in employment.[4]

Job turnover tends to be relatively independent of regional growth patterns. High growth areas, in fact, often have some of the highest turnover rates. Silicon Valley in California and other high-technology centers in the West typically have high job turnover. It is not job losses that are unusual or correlated with economic decline. Rather, it is the ability to replace normal job losses with new employment opportunities that reflects whether or not an economy is expanding.

Viewed in this way, the role of education is central to the maintenance, as well as the expansion, of local economies. Education and training often determine whether an individual will qualify for a new or different position. An educated and suitably trained work force is an important factor in business decisions to expand operations or to locate in a particular area. Education is particularly important in the expansion of high-technology industry and to the expansion of high-technology products to other sectors of the economy.

The types of education and skills most suitable for future employment opportunities is a matter of much debate. Some observers point to the fact that employment opportunities in high-technology industries per se will be limited in number and skewed toward highly technical specialties. Outside of these positions they foresee the effect of new technologies to involve the downgrading of existing skills and job requirements because of the increased

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[4]David L. Birch, "Job Creation in the U.S. and Other Western Nations," in U.S. Congress, House of Representatives, Joint Hearings Before the Subcommittee on Science, Research and Technology of the Committee on Science and Technology and the Task Force on Education and Employment of the Committee on Budget. Technology and Employment 98th Congress, First Session, June 1983, p.87.

use of robots, computerized operations, and automation.[5] In this view, neither broad liberal arts education nor specialized vocational training may be essential.

In contrast, the Task Force on Education for Economic Growth of the Education Commission of the States concluded that:

> Technological change and global competition make it imperative to equip students . . . with skills that go beyond the "basics." For productive participation in a society that depends ever more heavily on technology, students will need more than minimum competence in reading, writing, mathematics, science, reasoning, the use of computers, and other areas.[6]

This position asserts that the spread of new technologies will continue to expand the demands upon education for both liberal arts and technical skills.

The effects of economic and technological changes will be felt among current employees as well as the unemployed and the young. This suggests the need to enhance through education the ability to adapt to continuing changes in the economic environment and in our personal lives. Continuing or intermittent educational opportunities need to be provided, and additional training or retraining may become necessary within many industries and occupations. Only through these means may individuals, localities, and society as a whole avoid what one observer has called the "growing mismatch of jobs and job seekers."[7]

In meeting these challenges, new technology itself can be used effectively by postsecondary education. Cable and broadcast television, video and audio cassettes, two-way interactive systems, and other types of telecommunications and audio-video technologies are being increasingly used to provide instruction in isolated locations, to larger audiences, and in ways that meet the needs of students and employers. Often these new educational delivery systems are more effective and less costly than traditional methods, and have a clear advantage in terms of student access and convenience. Computer-assisted instruction provides the means to individualize the learning process, to aid those with particular difficulties or deficiencies as well as those seeking highly specialized training. Computers have many other valuable applications in education as well, from on-line bibliographic systems, to

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[5]See, for example, Henry M. Levin and Russell W. Rumberger, The Educational Implications of High Technology (Stanford University, Institute for Research on Educational Finance and Governance, February 1983).

[6]Quoted in Russell W. Rumberger, The Potential Impact of Technology on the Skill Requirements of Future Jobs (Stanford University, Institute for Research on Educational Finance and Governance, November 1984).

[7]Peter F. Drucker, "A Growing Mismatch of Jobs and Job Seekers," The Wall Street Journal, March 26, 1985, p. 36.

sophisticated modeling simulation, to educational games. In these and other areas new technologies have the potential to make education more effective and efficient.

A recent WICHE survey of the western states shows that community colleges are at the forefront in using these new technologies. Particularly in the application of video and audio technologies, two-year institutions are ahead of four-year colleges and universities in providing new educational options to meet a variety of needs.[8] Community colleges also make extensive use of computers for educational purposes, although the high cost of equipment and software appears to be a significant limiting factor. These institutions, perhaps more than others, need to adapt these new technologies to improve educational access and effectiveness.

Summary

In recent years community colleges have increasingly expanded and focused activities to meet the educational needs of the rapidly changing economic environment. Often under the heading of economic development activities, institutions have combined traditional roles in providing vocational and occupational education with expanded efforts to develop linkages with local businesses and to meet new training needs in high-technology areas. These expanded economic development activities raise a number of issues about the mission and roles of community colleges, about how such expanded activities should be financed, about the relationships between students, institutions, and employers, and about the interaction between colleges, communities, and states. Specifically:

- What changes need to be made in traditional vocational-occupational programs and in the curricula of these programs to prepare individuals for changing job market conditions and skill requirements?

- What roles can community colleges play in conjunction with the research and development efforts of private industry and public universities?

- What linkages and organizational relationships are needed among local industries, government agencies, and educational institutions in order to use community college resources most effectively?

- In particular, what services can community colleges provide to small businesses that do not have their own training faculties or resources? How can community colleges stimulate local entrepreneurism and provide necessary support for new business ventures that will create local jobs and economic expansion?

In grappling with these and related questions, community colleges will become stronger and more flexible institutions that will contribute more effectively to the economic futures of individuals, communities, and states.

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[8]Raymond J. Lewis and Richard Markwood, Instructional Applications of Information Technologies: A Survey of Higher Education in the West (Boulder, CO: Western Interstate Commission for Higher Education, 1985).

Chapter IV

THE FINANCIAL ENVIRONMENT OF COMMUNITY COLLEGES

Public community colleges operate within a financial environment shaped by the economic, political, and educational characteristics of each state. Some components of this environment are common to all the WICHE states, although contrasts in state conditions and the resulting differences in funding patterns are often instructive. This chapter examines both general patterns and specific characteristics of community college financing in five areas:

- major sources of funding, particularly state and local government appropriations;
- comparative support and expenditure levels;
- tuition and fee rates and revenues;
- other sources of support, particularly federal programs; and
- current state budgetary constraints and fiscal conditions.

Several general observations emerge from the analysis of financial data, trends, and current conditions in each of these areas:

1. Although there has been a general drift towards more reliance on state funds to finance community colleges, there is significant variation across states and from year to year within individual states. Severe constraints and fluctuations in major sources of support make it difficult for institutions to initiate necessary changes and plan for the future. Increased dependence on limited and highly-variable state revenues could further hinder institutional initiative and flexibility.

2. Support levels and expenditure patterns in community colleges vary substantially from state to state. The variations reflect different educational roles and institutional characteristics. The cost variations raise the question, however, of how to ensure that community colleges are as cost-effective and as educationally effective as possible.

3. Community college tuition and fees have increased sharply in many states, often reflecting limitations in other sources of institutional support. This renews debate over the appropriate level of community college charges in comparison to student charges in four-year institutions, and in relation to the public as well as private benefits gained from community college education.

4. Federal and other sources of support to community colleges have become increasingly limited in recent years. This, in turn, limits the ability of community colleges to provide employment training and vocational education, and to expand educational access to lower income families and individuals.

5. The financial outlook for community colleges is directly linked to state budgetary conditions and political climates. In this environment, colleges must document the financial needs and educational effectiveness of their programs in order to build support.

In this chapter, financial data for fiscal years 1978 through 1982 are from the Higher Education General Information Survey (HEGIS), Financial Statistics of Institutions of Higher Education. For the more recent years, basic financial data and characteristics of state funding systems are based on a WICHE survey of community college coordinating or governing agencies distributed in March 1985.

Major Sources of Funding

Public community colleges derive support from numerous sources including state and local government tax revenues, tuition and fee charges to students, other service charges or auxiliary enterprise income, grants and contracts, and federal government support for research and training. Of these, the dominant source of support is public funding from state or local government. Two-year institutions are heavily dependent upon these appropriations because of the low level of direct research support, relatively low tuition charges, and other limitations in the financial support available to four-year institutions and universities.

Support for community colleges from state and local appropriations varies significantly with respect to both the level and the share of state and local support. Table IV-1 shows state and local appropriations to community colleges per full-time-equivalent (FTE) student for fiscal years 1978, 1980 and 1982. The WICHE states exhibit a number of distinct patterns:

- Five states (Alaska, Hawaii, Nevada, Utah, and Washington) rely almost entirely on state appropriations to community colleges, with little or no support from local government sources.

- Conversely, Arizona and Oregon rely more heavily on local than state appropriations, while Montana, New Mexico, and Wyoming rely on local appropriations for more than one-third of the combined appropriations.

- Between 1978 and 1982, local appropriations increased more rapidly than state appropriations in Arizona, Idaho, Montana, New Mexico, North Dakota, and Oregon. The opposite trend is evident in California, where state appropriations increased by 86.5 percent while local appropriations decreased by 47.7 percent as a direct result of Proposition 13 local tax limitations.

- In 1982, combined state and local appropriations varied from a high of $6,685 per FTE student in Alaska to $1,845 in Nevada. Ten of the 14 WICHE states were above the average $2,086 of government appropriations per FTE student in the non-WICHE states.

TABLE IV-1

State and Local Government Appropriations to Public Community Colleges per Full-Time-Equivalent Student

	FY 1978	FY 1980	FY 1982	Percent Change FY 1978 - FY 1982
Alaska				
State	$3,626	$7,480	$6,646	83.3%
Local	0	9	39	--
Combined	3,626	7,489	6,685	84.4
Arizona				
State	528	540	593	12.3
Local	824	1,103	1,314	59.5
Combined	1,352	1,643	1,907	41.1
California				
State	942	1,738	1,757	86.5
Local	1,147	527	603	-47.7
Combined	2,089	2,265	2,360	13.0
Colorado				
State	1,218	1,313	1,730	42.0
Local	185	257	241	30.3
Combined	1,403	1,570	1,971	40.5
Hawaii				
State	1,493	1,818	2,250	50.7
Local	0	0	0	--
Combined	1,493	1,818	2,250	50.7
Idaho				
State	1,727	1,892	2,086	20.8
Local	501	608	851	69.9
Combined	2,228	2,500	2,937	31.8
Montana				
State	1,156	1,515	1,410	22.0
Local	605	949	1,093	80.7
Combined	1,761	2,464	2,503	42.1
Nevada				
State	1,088	1,371	1,845	69.6
Local	0	0	0	--
Combined	1,088	1,371	1,845	69.6
New Mexico				
State	1,241	1,468	1,821	46.7
Local	542	922	1,268	133.9
Combined	1,783	2,390	3,089	73.2

TABLE IV-1 (continued)

	FY 1978	FY 1980	FY 1982	Percent Change FY 1978 - FY 1982
North Dakota				
State	1,157	1,626	2,049	77.1%
Local	72	101	153	112.5
Combined	1,229	1,727	2,202	79.2
Oregon				
State	1,022	1,173	1,200	17.4
Local	906	1,135	1,464	61.6
Combined	1,928	2,308	2,664	38.2
Utah				
State	1,822	2,151	2,367	29.9
Local	0	0	0	--
Combined	1,822	2,151	2,367	29.9
Washington				
State	1,459	1,743	2,003	37.3
Local	7	14	1	--
Combined	1,466	1,757	2,004	36.7
Wyoming				
State	1,887	2,524	3,260	72.8
Local	973	1,269	1,696	74.3
Combined	2,860	3,793	4,956	73.3
WICHE States				
State	$1,031	$1,657	$1,747	69.4%
Local	$ 908	$ 512	$ 605	-33.4%
Combined	$1,939	$2,169	$2,352	21.3%
Non-WICHE States				
State	$1,159	$1,391	$1,540	32.9%
Local	$ 401	$ 479	$ 546	36.2%
Combined	$1,560	$1,870	$2,086	33.7%

Source: Higher Education General Information Survey (HEGIS), Financial Statistics of Institutions of Higher Education, compiled from NCES user tapes for years specified.

- Growth in combined appropriations between 1978 and 1982 was lower for the WICHE states than the non-WICHE states--21.3 percent compared to 33.7 percent.

In those states where community colleges rely on both state and local appropriations, similarly divergent patterns often exist among individual community college districts. For example, data from a recent study of California community colleges indicate that the proportion of state support among community college districts varied from a low of 40 percent to a high of over 80 percent of total revenues in 1981-82. Conversely, local appropriations varied from a low of 13 percent to a high of over 60 percent, reflecting large disparities in local tax capacity and rates. Federal sources of support, generally less than 5 percent of total revenues, exceeded 20 percent in certain districts. Because of these variations in sources of support, the amount of public funding ranged from approximately $1,700 to more than $3,100 per student in different districts.[1]

The same California study also showed that between 1979-80 and 1982-83 the change in revenues among districts varied from a four percent decrease to a more than 25 percent increase. Both revenue-generating capacity and allocative practices may increase the disparities in the level of support per student. These disparities, in turn, affect course offerings, program content, quality, faculty salaries, plant upkeep and other characteristics of community college districts. The question of adequate levels of funding for community colleges applies within states and among districts in the same way that it applies among states and between sectors of postsecondary education.

The WICHE states also differ significantly in the proportion of community college support generated from tuition and fee revenues. Table IV-2 shows tuition and fee revenues in relation to state and local appropriations and total revenues. The percentage is lowest for California, where formal tuition is not charged community college students and a general fee was not established until fall 1984. Colorado and North Dakota, in contrast, derive more than 20 percent of community college revenues from student charges.

Tuition and fee revenues for the West as a whole are significantly below the average for other states--7.4 percent of total revenues in WICHE states compared to 22 percent in other states in 1982. All WICHE states except Colorado are below the non-WICHE state average. In recent years, however, tuition and fee revenues have increased more steeply in the West--80.8 percent between 1978 and 1982 compared to 37.7 percent in non-WICHE states. Tuition and fees are becoming a more important source of revenue in the region.

Since 1982, increases in support for community colleges from state sources, local appropriations, and tuition revenues have been uneven in all WICHE states. As indicated on Table IV-3, changes in the level of state support have varied from a 7 percent decrease in one state (North Dakota) to a more than 30 percent increase in other states during the past three years (four years for states on biennial budgets). Local appropriations increased in the range of 10 percent to 40 percent, with a few states (Alaska, Hawaii,

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[1]Richard H. Simpson, The Neglected Branch: California Community Colleges (Sacramento, CA: Senate Office of Research, 1984).

TABLE IV-2

Major Revenue Sources for Public Community Colleges, Fiscal Years 1978-1982

	FY 1978	FY 1980	FY 1982	Percent Change in Revenues per FTE** FY 1978 - FY 1982
Alaska				
Total Revenues (Education & General) per FTE*	$4,807	$10,071	$9,046	88.1%
State and Local Appropriations	75.4%	74.4%	73.9%	84.4
Tuition and Fee Revenues	9.7%	7.6%	7.6%	46.8
Arizona				
Total Revenues (Education & General) per FTE	$1,922	$2,474	$3,061	59.3
State and Local Appropriations	70.3%	66.4%	63.0%	42.5
Tuition and Fee Revenues	12.3%	12.1%	17.3%	123.6
California				
Total Revenues (Education & General) per FTE	$2,353	$2,667	$2,816	19.7
State and Local Appropriations	88.1%	85.5%	84.2%	14.4
Tuition and Fee Revenues		(not applicable)		
Colorado				
Total Revenues (Education & General) per FTE	$2,358	$3,000	$3,619	53.5
State and Local Appropriations	58.9%	51.5%	56.9%	48.5
Tuition and Fee Revenues	18.9%	21.9%	23.4%	90.6
Hawaii				
Total Revenues (Education & General) per FTE	$1,840	$2,189	$2,689	46.1
State and Local Appropriations	81.1%	83.1%	83.7%	50.7
Tuition and Fee Revenues	5.8%	5.1%	5.1%	29.0
Idaho				
Total Revenues (Education & General) per FTE	$3,253	$3,768	$4,586	41.0
State and Local Appropriations	68.5%	66.3%	64.1%	31.9
Tuition and Fee Revenues	10.9%	12.5%	12.3%	58.8
Montana				
Total Revenues (Education & General) per FTE	$2,663	$3,328	$3,308	24.2
State and Local Appropriations	66.1%	74.1%	75.7%	42.2
Tuition and Fee Revenues	11.0%	9.8%	10.5%	18.4
Nevada				
Total Revenues (Education & General) per FTE	$1,702	$2,257	$2,580	51.6
State and Local Appropriations	63.3%	60.8%	65.4%	55.1
Tuition and Fee Revenues	17.6%	14.0%	17.0%	45.7

TABLE IV-2 (continued)

	FY 1978	FY 1980	FY 1982	Percent Change in Revenues per FTE** FY 1978 - FY 1982
New Mexico				
Total Revenues (Education & General) per FTE	$3,212	$4,735	$5,339	66.2
State and Local Appropriations	55.5%	46.1%	56.8%	70.1
Tuition and Fee Revenues	17.1%	12.3%	10.6%	3.1
North Dakota				
Total Revenues (Education & General) per FTE	$2,230	$2,971	$3,401	52.5
State and Local Appropriations	55.1%	58.1%	64.7%	79.3
Tuition and Fee Revenues	22.2%	21.5%	21.6%	48.1
Oregon				
Total Revenues (Education & General) per FTE	$2,942	$3,541	$4,088	39.0
State and Local Appropriations	66.1%	65.2%	65.2%	37.0
Tuition and Fee Revenues	15.5%	15.1%	16.7%	50.3
Utah				
Total Revenues (Education & General) per FTE	$3,021	$3,531	$3,824	26.6
State and Local Appropriations	60.3%	60.9%	61.9%	29.9
Tuition and Fee Revenues	13.5%	13.9%	16.8%	57.0
Washington				
Total Revenues (Education & General) per FTE	$2,021	$2,423	$2,822	39.6
State and Local Appropriations	72.5%	72.5%	71.0%	36.7
Tuition and Fee Revenues	12.3%	12.0%	14.7%	67.7
Wyoming				
Total Revenues (Education & General) per FTE	$3,528	$4,713	$5,957	68.8
State and Local Appropriations	81.1%	80.1%	83.2%	73.3
Tuition and Fee Revenues	9.7%	8.3%	7.6%	33.7
WICHE States				
Total Revenues (Education & General) per FTE	$2,267	$2,777	$3,037	34.0%
State and Local Appropriations	82.1%	79.0%	78.1%	27.3%
Tuition and Fee Revenues	5.5%	6.0%	7.4%	80.8%
Non-WICHE States				
Total Revenues (Education & General) per FTE	$2,398	$2,854	$3,220	34.3%
State and Local Appropriations	65.1%	65.5%	64.8%	33.7%
Tuition and Fee Revenues	21.5%	20.5%	22.0%	37.7%

* Full-time-equivalent enrollment as defined in HEGIS.

** Percent change in dollar amounts.

Note: Revenues from sources other than state and local appropriations and tuition and fees are not separately identified.

Source: Higher Education General Information Survey (HEGIS), Financial Statistics of Institutions of Higher Education, compiled from NCES tapes for specified years.

TABLE IV-3

Sources of Support for Public Community Colleges, 1983-1985
(Dollars in Millions)

Annual Revenues	1982-83	1983-84	1984-85	Percent Change 1982-83 to 1984-85
Alaska				
State Appropriations	$34.7	$35.5	$39.3	13.2%
Local Appropriations	0	0	0	0
Tuition Revenues	4.6	5.7	6.3	35.3
All Sources*	48.3	50.7	55.7	15.3
Arizona				
State Appropriations	40.0	40.8	48.8	22.0
Local Appropriations	83.5	90.1	116.9	40.0
Tuition Revenues	15.1	19.1	24.3	60.9
All Sources	178.6	180.5	211.9	18.6
California				
State Appropriations	1,108.8	1,097.3	1,145.3	3.3
Local Appropriations	416.5	446.7	464.9	11.6
Tuition Revenues	(not applicable)		120.5	--
All Sources	1,691.2	1,720.4	1,794.4	6.1
Colorado				
State Appropriations	47.5	49.9	52.5	10.5
Local Appropriations	11.1	12.2	12.6	13.5
Tuition Revenues	21.8	23.2	24.9	14.0
All Sources	111.0	117.1	123.5	11.3
Hawaii				
State Appropriations	30.1	32.7	33.4	10.9
Local Appropriations	0	0	0	0
Tuition Revenues		(not available)		
All Sources	40.8	44.0	42.4 (est.)	3.8
Idaho				
State Appropriations	7.7	8.1	8.4	9.2
Local Appropriations	3.6	3.9	4.8	33.7
Tuition Revenues	2.0	1.9	2.2	11.0
All Sources	14.6	15.5	17.1	17.1
Montana				
State Appropriations	2.6	3.1	3.3	25.8
Local Appropriations	2.1	2.3	2.7	28.8
Tuition Revenues	0.5	0.5	0.5	13.7
All Sources	5.7	6.8	7.0	12.2

TABLE IV-3 (continued)

Annual Revenues	1982-83	1983-84	1984-85	Percent Change 1982-83 to 1984-85
Nevada				
State Appropriations	12.4	13.1	13.8	11.2%
Local Appropriations	0	0	0	0
Tuition Revenues	2.9	4.0	4.3	47.4
All Sources	15.4	17.4	18.4	19.8
New Mexico				
State Appropriations	16.2	17.7	21.4	32.2
Local Appropriations	9.8	11.4	10.8	9.8
Tuition Revenues	4.5	4.8	4.8	8.7
All Sources	38.0	42.1	44.7	17.5
Oregon				
State Appropriations	46.3	49.8	53.3	15.1
Local Appropriations	64.0	71.3	72.9	13.9
Tuition Revenues	30.7	30.5	33.1	7.5
All Sources	148.9	159.9	166.0 (budgeted)	11.5
Utah				
State Appropriations	27.3	28.6	36.3	32.9
Local Appropriations	1.0	1.1	1.2	15.8
Tuition Revenues	8.0	9.3	9.6	19.5
All Sources	36.8	40.5	47.5 (est.)	29.3

Biennial Revenues	1981-83	1983-85	Percent Change
North Dakota			
State Appropriations	30.1	28.0	-7.0%
Local Appropriations	2.2	2.7	22.7
Tuition Revenues	9.0	10.9	21.1
All Sources	46.6	48.4	3.9
Washington			
State Appropriations	381.6	447.3	17.2
Local Appropriations	15.9	18.1	13.7
Tuition Revenues	70.2**	80.8**	15.1
All Sources	422.9	492.6	16.5
Wyoming			
State Appropriations	41.8	57.1	36.8
Local Appropriations	(not available)		-
Tuition Revenue	(not available)		-
All Sources	(not available)		-

* The "All Sources" category includes federal funds and minor sources that are not enumerated.

** Washington tuition revenues are deposited in state general fund and are not a dedicated part of higher education support.

Source: All data collected through a survey of state community college agencies conducted by the Western Interstate Commission for Higher Education (WICHE). March 1985.

and Nevada) indicating no increase at all. Tuition revenues increased faster than the other two major sources in four of eleven states, including increases of over 35 percent in three states.

The diverse sources of community college revenues make it difficult to generalize about trends. A distinction must first be made between those states that rely on state funding and those that use a combination of state and local government funds to support public community colleges. In the first group, which includes Alaska, Hawaii, Nevada, North Dakota, Utah, and Wasnington, only two states had average, or higher than average, increases in total support. Among the states that use a combination of state and local support for community colleges, six out of eight experienced above average increases in community college revenues. This pattern appears to be true for the recent years as well as the 1978 to 1982 period. Revenues from tuition and fees have generally increased as a proportion of total community college support for both groups since the late 1970s. From these observations it appears that, except for the case of California during the post-Proposition 13 period, there is no uniform trend toward an increasing proportion of state support for community colleges among the WICHE states. Local sources have in some instances increased more rapidly than state sources. States in which community colleges are funded through more diverse revenue sources, including tuition and fee revenues, appear to have had more stable funding for community colleges in recent years.

Comparative Support Levels

Differences in support levels and funding patterns indicate the wide range of financial conditions under which community colleges operate. Table IV-4 provides a number of comparative measures of financial support for higher education in general and community colleges in particular in the WICHE states. The measures tend to reflect differences in postsecondary environments and missions. For example:

- Total state and local appropriations per capita to all higher education programs varied from $78 to $165 (excluding the unusual case of Alaska, with $367) in 1982.

- Ten of the WICHE states were above the national average of $108 in per capita support for higher education, including the top five ranked states in the nation--Alaska, Arizona, Hawaii, North Dakota, and California. These are also states in which community colleges play a prominent role in postsecondary education.

- Per capita state and local appropriations to community colleges varied from $6 to $88 in the WICHE states.

- As a proportion of total appropriations to higher education, community college support varied from 5.9 percent to 53.5 percent. These variations reflect significant differences in the size, functions, and basic support levels of community colleges in the WICHE states.

Table IV-5 indicates how support for community colleges changed as a proportion of support for all public higher education institutions between 1979 and 1982. In the nation as a whole, state and local appropriations per student in public four-year colleges and universities increased significantly more rapidly than per-student support in community colleges. In contrast:

TABLE IV-4

Comparative Public Financial Support for Community Colleges
in the WICHE States, Fiscal Year 1982

	Total State and Local Government Appropriations Per Capita	State and Local Support to Higher Education Per Capita	Rank Among States*	Expenditures Allocated to Higher Education	Rank Among States*	State and Local Appropriations to Community Colleges: Per Capita	As Percent of Total State and Local Appropriations	As Percent of Appropriations to Higher Education
Alaska	$6,149	$367	1	6.0%	48	$88	1.4%	24.1
Arizona	967	165	2	17.1	1	42	4.4	25.5
California	1,190	151	5	12.7	15	58	4.9	38.4
Colorado	970	101	28	10.4	33	15	1.5	14.7
Hawaii	1,353	163	3	12.1	19	32	2.4	19.6
Idaho	775	99	31	12.7	14	11	1.4	11.1
Montana	1,080	94	34	8.7	36	6	0.5	5.9
Nevada	939	78	41	8.3	38	11	1.1	13.6
New Mexico	1,042	118	15	11.3	25	13	1.3	11.4
North Dakota	941	154	4	16.3	2	22	2.4	14.4
Oregon	1,032	116	18	11.3	26	42	4.1	36.2
Utah	864	117	17	13.5	10	17	2.0	14.7
Washington	940	115	20	12.3	17	41	4.3	35.3
Wyoming	1,615	127	11	7.9	41	68	4.2	53.5
U.S. Average	$1,030	$108	--	10.5%	--	$24	2.3%	21.9%

* State ranking among 50 states and the District of Columbia.

Sources: Marilyn McCoy and D. Kent Halstead, Higher Education Financing in the Fifty States: Interstate Comparisons for Fiscal Year 1982 (Boulder, CO: National Center for Higher Education Management Systems 1984), State Rankings Table. Complete sources listed in the publication. Community college data based on separate computer runs using the same data sources.

TABLE IV-5

State and Local Appropriations to Community Colleges
in Relation to Support for All Public Higher Education Institutions
Fiscal Years 1979 and 1982

	FY 1979	FY 1982	Percent Change 1979-1982
Alaska			
Support to Community Colleges Per FTE*	$1,962	$6,685	240.7%
Support to All Public Higher Education Institutions Per FTE	$4,230	$10,719	153.4
Community College Support as Percent of Total	46.3%	62.4%	
Arizona			
Support to Community Colleges Per FTE	$1,636	$1,907	16.6
Support to All Public Higher Education Institutions Per FTE	$2,448	$3,129	27.8
Community College Support as Percent of Total	66.8%	60.9%	
California			
Support to Community Colleges Per FTE	$2,128	$2,360	10.9
Support to All Public Higher Education Institutions Per FTE	$2,923	$3,537	21.0
Community College Support as Percent of Total	72.8%	66.7%	
Colorado			
Support to Community Colleges Per FTE	$1,482	$1,971	33.0
Support to All Public Higher Education Institutions Per FTE	$1,976	$2,509	27.0
Community College Support as Percent of Total	75.0%	78.6%	
Hawaii			
Support to Community Colleges Per FTE	$1,654	$2,250	36.0
Support to All Public Higher Education Institutions Per FTE	$3,139	$4,349	38.5
Community College Support as Percent of Total	52.7%	51.7%	
Idaho			
Support to Community Colleges Per FTE	$2,508	$2,937	17.0
Support to All Public Higher Education Institutions Per FTE	$3,564	$3,547	-0.5
Community College Support as Percent of Total	70.4%	82.8%	
Montana			
Support to Community Colleges Per FTE	$2,093	$2,503	19.6
Support to All Public Higher Education Institutions Per FTE	$2,220	$2,756	24.1
Community College Support as Percent of Total	94.3%	90.8%	
Nevada			
Support to Community Colleges Per FTE	$1,026	$1,845	79.8
Support to All Public Higher Education Institutions Per FTE	$2,570	$2,966	15.4
Community College Support as Percent of Total	39.9%	62.2%	

TABLE IV-5 (cont.)

	FY 1979	FY 1982	Percent Change 1979-1982
New Mexico			
Support to Community Colleges Per FTE	$1,702	$3,089	81.5
Support to All Public Higher Education Institutions Per FTE	$2,570	$3,674	43.0
Community College Support as Percent of Total	66.2%	84.1%	
North Dakota			
Support to Community Colleges Per FTE	$1,581	$2,202	39.3
Support to All Public Higher Education Institutions Per FTE	$2,555	$3,412	33.5
Community College Support as Percent of Total	61.9%	64.5%	
Oregon			
Support to Community Colleges Per FTE	$2,118	$2,664	25.8
Support to All Public Higher Education Institutions Per FTE	$2,555	$3,140	22.9
Community College Support as Percent of Total	82.9%	84.8%	
Utah			
Support to Community Colleges Per FTE	$2,140	$2,367	10.6
Support to All Public Higher Education Institutions Per FTE	$3,034	$3,716	22.5
Community College Support as Percent of Total	70.5%	63.7%	
Washington			
Support to Community Colleges Per FTE	$1,639	$2,004	22.3
Support to All Public Higher Education Institutions Per FTE	$2,588	$2,880	11.3
Community College Support as Percent of Total	63.3%	69.6%	
Wyoming			
Support to Community Colleges Per FTE	$3,314	$4,956	49.5
Support to All Public Higher Education Institutions Per FTE	$3,835	$4,021	4.9
Community College Support as Percent of Total	86.4%	123.3%	
U.S. Average			
Support to Community Colleges Per FTE	$1,847	$2,178	17.9%
Support to All Public Higher Education Institutions Per FTE	$2,694	$3,327	23.5%
Community College Support as Percent of Total	68.6%	65.5%	

* Full-time-equivalent enrollment as defined in HEGIS.

Sources: Marilyn McCoy and D. Kent Halstead, Higher Education Financing in the Fifty States: Interstate Comparisons for Fiscal Year 1982 (Boulder, CO: National Center for Higher Education Management Systems, 1984), State Rankings Table. Complete sources listed in publication. Community college data based on separate computer runs using the same data sources.

- In nine of the WICHE states, per-student appropriations increased more rapidly for community colleges than for all public institutions combined.

- Among the WICHE states, only Arizona, Colorado, Nevada, and Washington provide state and local appropriations to community colleges that are below the per-student national average.

Table IV-6 shows average expenditures per FTE student in community colleges compared to other types of public postsecondary institutions during fiscal year 1982. In comparing expenditure levels it must be noted that different types of institutions provide services that are clearly not comparable. Research support is a major expenditure category at public universities, but not in community colleges. Medical education and specialized scientific and technological programs significantly increase the average expenditures at certain institutions. Bearing in mind these differences in educational missions, the comparisons are notable in several ways:

- The total costs per student are consistently lower in community colleges than in other institutional types, except for the two cases in Colorado and Idaho where average per student community college expenditures are slightly more than expenditures in general baccalaureate institutions.

- Among the WICHE states, instructional support costs in community colleges varied in 1982 from over $4,500 per student in Alaska to less than $1,300 in Nevada. Instructional expenditures were less than the national average of $1,562 in community colleges in six WICHE states.

- Separately budgeted public service expenditures are low in community colleges, and in many states are insignificant compared to expenditures in other sectors.

Community colleges generally receive the lowest appropriations and expend the fewest dollars among public institutions. This raises the question of whether they are adequately supported and the related question of how educational content, quality, and outcomes differ in relation to costs.

Tuition and Fee Charges

The direct costs to students in community colleges in the West vary widely. Table IV-7 shows average full-time community college tuition (or general state fee) rates in the WICHE states for selected years. Several measures indicate that student charges have increased rapidly in recent years:

- Between 1979-80 and 1983-84 the number of WICHE states where community college student charges exceeded the national average increased from three to six.

- The rate of increase in tuition between 1979-80 and 1983-84 exceeded the national average of 48.1 percent in eight WICHE states, including California, where general fees were instituted in 1984.

TABLE IV-6

Expenditures per Full-Time-Equivalent Student by State and Type of Institution
Fiscal Year 1982

	Institutional Type	Instructional Support	Academic Support	Public Service	Total Expenditures
Alaska	Four-Year Comprehensive	$5,246	$1,668	$281	$22,701
	General Baccalaureate	9,540	1,473	185	17,528
	Community Colleges	4,541	1,115	64	8,986
Arizona	Research University with Medical	3,486	1,087	402	9,482
	University without Medical	2,530	701	219	5,428
	Four-Year Comprehensive	2,338	388	289	5,120
	Community Colleges	1,553	206	18	2,886
California	Research University with Medical	5,638	1,827	644	16,064
	University without Medical	3,459	918	327	9,261
	Four-Year Comprehensive	2,676	493	77	4,853
	Community Colleges	1,387	235	85	2,788
Colorado	Research University with Medical	2,799	481	962	8,140
	Four-Year Comprehensive	1,819	480	63	3,877
	General Baccalaureate	1,512	225	76	3,027
	Community Colleges	1,748	251	115	3,448
Hawaii	Research University with Medical	3,665	889	665	9,820
	General Baccalaureate	2,293	578	159	4,408
	Community Colleges	1,426	263	94	2,662
Idaho	University without Medical	2,913	800	717	7,651
	Four-Year Comprehensive	1,939	330	351	3,664
	Community Colleges	2,096	260	227	4,669
Montana	University without Medical	2,112	441	107	4,335
	General Baccalaureate	1,779	477	196	3,977
	Community Colleges	1,465	258	96	3,191
Nevada	University with Medical	2,873	795	1,589	8,858
	Four-Year Comprehensive	1,828	692	141	5,374
	Community Colleges	1,272	283	25	2,616
New Mexico	University with Medical	2,241	526	774	6,557
	Four-Year Comprehensive	2,426	484	284	6,555
	Community Colleges	2,060	354	557	4,939
North Dakota	University with Medical	3,958	698	73	7,548
	Four-Year Comprehensive	1,978	463	923	6,952
	Community Colleges	1,928	227	13	3,396
Oregon	Research University without Medical	2,569	643	1,068	8,867
	University without Medical	2,435	582	307	5,048
	Four-Year Comprehensive	2,208	428	70	4,173
	Community Colleges	2,057	304	38	3,758
Utah	Research University with Medical	3,197	656	1,929	9,511
	General Baccalaureate	2,453	546	154	4,754
	Community Colleges	1,896	282	77	3,757
Washington	Research University with Medical	4,609	1,088	457	11,323
	Four-Year Comprehensive	2,178	512	100	4,339
	General Baccalaureate	2,433	1,061	142	6,406
	Community Colleges	1,399	217	8	2,680
Wyoming	University without Medical	4,293	1,204	672	10,259
	Community Colleges	2,801	558	16	5,803
U.S. Total	Research University with Medical	$3,807	$891	$928	$10,364
	Research University without Medical	2,826	613	699	8,320
	University with Medical	3,229	751	389	7,149
	University without Medical	2,545	554	226	5,594
	Four-Year Comprehensive	2,235	438	125	4,608
	General Baccalaureate	1,888	380	87	4,260
	Community Colleges	1,562	248	58	3,069

See definitions on following page.

Sources National Center for Education Statistics, Higher Education General Information Survey, Financial Statistics of Institutions of Higher Education for Fiscal Year 1982 (Washington, D.C.:NCES, 1984) magnetic tape.

Definitions for Table IV-6

Instructional support includes expenditures in the following areas: general academic, occupational and vocational, special session, community education, adult basic, and remedial and tutorial (credit and noncredit) instruction. Academic support includes expenditures for libraries, museums, galleries, audio-visual and computing services, academic administration, and curricular and personal development that are an integral part of the institution's primary missions of instruction, research, or public service. Public service includes expenditures budgeted separately for noninstructional services provided to groups external to the institution. Total expenditures (education and general) include all current fund expenditures for the above categories, plus separately budgeted research, operation and maintenance of facilities, student services, institutional support activities, and scholarships and fellowships, but exclude expenditures relating to auxiliary enterprises and independent operations. Full-time equivalent students are calculated as the sum of full-time enrollments plus full-time equivalent of part-time students from applicable HEGIS Fall Enrollment Survey. For definitions of the institutional types and a listing of the institutions included see Marilyn McCoy and D. Kent Halstead, Higher Education Financing in the Fifty States: Interstate Comparisons, Fiscal Year 1982 (Boulder, CO: National Center for Higher Education Management Systems, 1984). The community college category combines the public two-year academic and comprehensive and the public two-year occupational types. Some institutional categories have been omitted from the table.

TABLE IV-7

Tuition and Fees in Public Community Colleges -- State Averages*

	1979-80	1983-84	1984-85	Percent Change 1979-80 to 1983-84	Percent Change 1983-84 to 1984-85
Alaska	$355	$600	$600	69.0%	0.0%
Arizona	134	384	393	186.6	2.3
California	0	0	100	—	--
Colorado	400	658	681	64.5	3.5
Hawaii	90	172	243	91.1	41.3
Idaho	397	605	682	56.3	12.7
Montana	303	405	408	33.7	0.7
Nevada	390	619	619	58.7	0.0
New Mexico	303	291	293	-4.0	0.7
North Dakota	581	858	896	47.7	4.4
Oregon	418	591	600	41.4	1.6
Utah	490	697	740	42.2	6.2
Washington	308	575	577	86.7	0.5
Wyoming	300	365	409	21.7	12.2
U.S. Average (48 States)	$403	$597	$637	48.1%	6.7%

* State averages for full-time state (and district) residents. Includes general state fees (as in California), but not discretionary or student services fees charged by individual institutions.

Sources: Geoffrey Dolman, Jr., Tuition and Fees in Public Higher Education in the West, 1984-85 (Boulder, CO: Western Interstate Commission for Higher Education, 1985). Data for U.S. Average from Washington State Council for Postsecondary Education, Tuition and Fee Rates - A National Comparison (Olympia, WA: October, 1984), Table IX. Data for California state fees provided by California Postsecondary Education Commission.

- More recently these increases appear to have slowed. The increase in 1984-85 exceeded the national average of 6.7 percent in only four WICHE states, including the still relatively low-cost states of California and Hawaii.

These figures and trends indicate the diversity of tuition and fee rates and tuition policies in the western states. Some WICHE states have maintained low-tuition policies. The majority of the WICHE states, however, increasingly reflect a philosophy of cost-sharing between public support and student charges.

Funding Allocation Systems

Different mechanisms and processes are used to determine the level of support provided to community colleges and to allocate resources among institutions. Three general methods are used in the WICHE states. These methods are related to whether community colleges are dependent upon state funding or rely on a combination of state and local funding, as illustrated by Figure IV-1.

Hawaii, Idaho, Utah, and Wyoming use an approach to both budgeting and resource allocation that builds from the current institutional budget or resource base. Incremental adjustments--normally increases--are made to the current base in order to offset inflation or cost increases and to provide support for program expansion or initiatives. The Utah budget review process, for example, takes into account inflation and enrollment changes, as well as specific allocations addressing needs such as upkeep of new physical facilities, salary equity, and program improvements. Of the states using this approach, Hawaii and Utah use only state funds to support community colleges, while Idaho relies on approximately 40 percent local funding.

Seven WICHE states use some form of a primarily enrollment-based formula to determine support for community colleges. In four of the states using this approach, funding is provided mainly by the state. In California, local taxing authority has been curtailed and local revenues must be appropriated by the state legislature. Through components in the formulas, funding levels in these states are linked to institutional enrollments and are adjusted to reflect estimated enrollments for the current year or actual enrollments for a previous year or years.

States use a variety of means to define the enrollments and other components included in the formulas. In Colorado, the funding rate is based on the number of Colorado resident students. For the state-controlled community colleges in Colorado, additional adjustments to the allocations are made by a committee of community college business officers. In Montana, projected enrollments are multiplied by a unit cost factor to determine an institution's unrestricted budget. The state then funds 53 percent of community college unrestricted budgets, with the remainder derived from mandatory local contributions and tuition revenues. North Dakota uses enrollments and other components related to enrollments including faculty/student ratios and faculty-use ratios. In Washington, legislative appropriations reflect more of a negotiated budget approach while complex formulas are used for the inter-institutional allocation of these appropriations.

FIGURE IV-1

Methods for Determining Support Levels and
Allocating State Funds to Community Colleges

	Degree of State Funding	
	Primarily State Funded	State and Local Funded
Incremental Budgeting	Hawaii Utah	Idaho Wyoming
Formula Budgeting Based Primarily on Enrollment	Alaska California* Colorado** (State Controlled) North Dakota Washington	Colorado** (Local Controlled) Oregon Montana
Multi-component Formulas	Nevada	Arizona New Mexico

* Local tax revenues must be appropriated to community colleges by the California legislature.

** Colorado has 11 state community colleges and six local district colleges.

Multi-component formulas typically incorporate a number of independent factors or attempt to take into account differences in actual program costs and institutional resources in addition to enrollment levels. Arizona bases state aid on rates that are inversely related to the size of the enrollment, along with state equalization grants to one district. The Nevada formula specifies faculty/student ratios, inflation adjustments, salary increases, administrative positions, and other cost-related factors as well as enrollments. New Mexico uses a differential funding formula based on funding rates related to the costs of discipline clusters. State support is provided as a percentage of instructional expenditures, plant maintenance costs, and other factors.

California has made numerous adjustments to its formula for community colleges in recent years. Proposition 13 limited property taxes to one percent of market value and made the state legislature responsible for distributing these revenues. As a result, community colleges faced a reduction in local revenues and state funding formulas were modified to address inter-district equity and other state concerns.

The effects of different state budgetary and allocative mechanisms on the level of support provided to community colleges are not clear, in part because the effects change in relation to other factors. A number of issues are raised, however, by the interrelationships between these procedures and the trends in community college support in different states. For example, does the incremental budgeting approach leave community colleges particularly subject to the year-to-year variations in overall state fiscal conditions?

What effects do these have on institutional stability and program quality? Do enrollment-based formulas make institutions financially vulnerable to unexpected and often temporary or cyclical enrollment shifts? Are enrollment cycles or patterns consistent with funding changes, or out of phase? Do multi-component formulas accurately reflect actual costs and needs? Such questions reflect potential weaknesses in the current systems for financing community colleges. Many of these questions cannot be readily answered at the state or regional level, but must be examined in light of individual institutional conditions and resources.

Federal Sources of Support

Federal support plays a more limited role in community colleges than in public universities and four-year institutions. In 1982, nationwide grants and contracts (primarily from the federal government) provided nearly 20 percent of total revenues at research universities, but less than seven percent at community colleges. Federal support to postsecondary education is focused on meeting specific needs. For community colleges the major purposes served by federal support are expanding access to individuals through student financial aid and providing certain types of job-training and vocational education. Federal support in both areas is divided among many agencies and institutions. Relatively small proportions are available for community college programs and students.

Table IV-8 shows the distribution of Pell Grants, the largest federal student grant program, to community college students in the WICHE states since the late 1970s. Funding for this and other federal student aid programs increased rapidly during the late 1970s, then was at stable or reduced levels for several years until appropriations were increased for 1983-84. Changes in the distribution of Pell Grants have occurred as a result of both funding levels and non-program factors, such as enrollment shifts and changing student characteristics. Significant distributive shifts have affected the proportion of Pell Grants received by community college students in many WICHE states, as is evident in the table:

- In the nation as a whole the increase in Pell Grants received by community college students was 50.2 percent since 1977-78, compared to 85.2 percent for students in all sectors.

- In the WICHE states this disparity in growth rates is even larger--a 14.6 percent increase in community college Pell Grants compared to 76.2 percent overall growth.

- In eight WICHE states the proportion of Pell Grants received by community college students decreased significantly since 1977-78. In California, Pell Grants to community college students dropped from 43.2 percent to 22.9 percent of the total, reflecting more than a 16 percent decrease in the dollars available during this period.

- Primarily as a result of this relative decline in community college grant recipients, the share of total Pell Grant funding to students in the WICHE states fell from 15.5 percent to 14.8 percent of the total. This occurred despite the fact that postsecondary enrollments in the West have grown rapidly and comprise nearly 25 percent of total national enrollments.

TABLE IV-8

Pell Grant Disbursements to Community College Students
in WICHE States, 1977-1978 to 1983-84
(Dollars in Thousands)

	1977-78	1980-81	1983-84	Percent Change 1977-78 to 1983-84
Alaska				
Total Pell Grants	$575.1	$1,308.1	$1,243.4	116.2%
To Community College Students				
Amount	0	$ 362.9	$ 361.6	--
Percent	0	27.9%	29.1%	
Arizona				
Total Pell Grants	$18,239.0	$27,152.9	$38,009.5	108.4
To Community College Students				
Amount	$ 6,919.6	$ 7,945.3	$10,821.5	56.4
Percent	37.9%	29.3%	28.5%	
California				
Total Pell Grants	$123,939.4	$160,623.6	$195,373.3	57.6
To Community College Students				
Amount	$ 53,548.5	$ 51,374.0	$ 44,802.3	-16.3
Percent	43.2%	32.0%	22.9%	
Colorado				
Total Pell Grants	$16,054.5	$25,740.0	$28,747.2	79.1
To Community College Students				
Amount	$ 3,424.1	$ 5,192.6	$ 5,363.0	56.6
Percent	21.3%	20.2%	18.7%	
Hawaii				
Total Pell Grants	$ 3,023.9	$ 4,140.1	$ 4,689.8	55.1
To Community College Students				
Amount	$ 1,316.0	$ 768.7	$ 868.0	-34.0
Percent	43.5%	18.6%	18.5%	
Idaho				
Total Pell Grants	$ 3,769.2	$ 6,565.4	$ 8,334.5	121.1
To Community College Students				
Amount	$ 627.4	$ 1,063.2	$ 1,460.6	132.8
Percent	16.6%	16.2%	17.5%	
Montana				
Total Pell Grants	$ 4,[illegible]1.4	$ 8,127.6	$10,315.7	120.4
To Community College Students				
Amount	$ 545.3	$ 933.8	$1,375.1	152.2
Percent	11.7%	11.5%	13.3%	
Nevada				
Total Pell Grants	$ 1,996.1	$ 3,022.7	$ 4,081.8	104.5
To Community College Students				
Amount	$ 445.9	$ 562.4	$ 806.8	80.9
Percent	22.3%	18.6%	19.8%	

Table IV-8 (cont.)

	1977-78	1980-81	1983-84	Percent Change 1977-78 to 1983-84
New Mexico				
Total Pell Grants	$11,942.6	$15,900.7	$15,097.5	26.4%
To Community College Students				
Amount	$ 1,255.1	$ 1,901.4	$ 2,024.3	61.3
Percent	10.5%	12.0%	13.4%	
North Dakota				
Total Pell Grants	$ 5,385.0	$ 9,318.6	$13,164.1	144.5
To Community College Students				
Amount	$ 1,377.0	$ 1,771.4	$ 2,520.7	83.1
Percent	25.6%	19.0%	19.2%	
Oregon				
Total Pell Grants	$16,247.5	$26,128.6	$34,093.7	109.8
To Community College Students				
Amount	$ 6,587.7	$ 8,738.1	$10,641.2	61.5
Percent	40.1%	33.4%	31.2%	
Utah				
Total Pell Grants	$ 5,755.3	$ 9,865.4	$14,106.2	145.1
To Community College Students				
Amount	$ 1,329.4	$ 2,112.1	$ 3,577.1	169.1
Percent	23.1%	21.4%	25.4%	
Washington				
Total Pell Grants	$19,058.2	$30,486.9	$38,489.7	58.3
To Community College Students				
Amount	$ 7,825.3	$10,451.9	$12,384.9	63.4
Percent	41.1%	34.3%	32.2%	
Wyoming				
Total Pell Grants	$ 1,582.4	$ 2,492.3	$3,349.6	111.7
To Community College Students				
Amount	$ 626.3	$ 899.3	$ 1,363.6	117.7
Percent	39.6%	36.1%	40.7%	
U.S. Total				
Total Pell Grants	$1,497,238.2	$2,358,883.0	$2,772,421.7	85.2
To Community College Students				
Amount	$ 340,605.0	$ 437,796.1	$ 511,632.8	50.2
Percent	22.7%	18.6%	18.5%	
WICHE States				
Total Pell Grants	$ 232,249.6	$ 330,866.6	$ 409,296.1	76.2
Percent U.S. Total	15.5	14.0	14.8	
To Community College Students:				
Amount	$ 85,827.6	$ 94,077.1	$ 98,170.7	14.6
Percent	37.0%	28.4%	24.0%	

Source: Compiled from unpublished Pell grant Disbursement Reports provided by the U.S. Department of Education. Regular Disbursement System (RDS) only; Alternate Disbursement System (ADS) totals are not included.

Such major shifts in resources both reflect and help to shape individual enrollment decisions and overall enrollment patterns.

Community college students are also at a considerable disadvantage in securing other types of student financial aid. At the national level, community colleges receive and distribute approximately 20 percent of the federal support provided through the three campus-based aid programs, far less than their proportion of enrollments.[2] Federally guaranteed student loans are frequently more difficult for community college students to secure because of reluctance on the part of both lending institutions and students. As a result of these and other factors, community college students tend to make less use of financial aid programs than students in other sectors.

The Job Training Partnership Act (JTPA) of 1982 succeeded the Comprehensive Employment and Training Act (CETA) as the major federal program providing job-related training and education for disadvantaged individuals. The focus of this support on specific employment skills and opportunities for particular categories of individuals (e.g., high school dropouts, low-income groups, dislocated workers, youth) clearly separates these programs from support for general education programs. In most states, however, a portion of education and training services is done under contract by community colleges. Under CETA, the U.S. Department of Labor played a leading role in programs coordinated at the state level. Under the provisions of the JTPA, more agencies and actors share responsibilities for both the design of programs and the provision of services.

What roles community colleges will play in the Private Industry Councils, state coordination, and training services under the JTPA is still unclear. A recent U.S. General Accounting Office report on the first year of the new program found that community colleges nationally provided 11 percent of the contractual education and training services.[3] Private nonprofit and for-profit organizations and local government agencies provided significantly higher proportions.

Several WICHE states have reported using federal JTPA funds to support employment related training programs in community colleges. The funds are very limited, however, both in amount and in the uses to which they may be applied. The outlook for increased or even stable federal appropriations for this program is uncertain, making it difficult for institutions to plan programs that qualify for funding. The programs must also be targeted at specific individuals and groups who need employment training. Not all of these groups and types of training fall within the normal clientele and program areas of postsecondary education. The combination of uncertain federal funding, unresolved federal guidelines and regulations, and the limited roles for postsecondary education mean that federal JTPA support for job training in community colleges will likely continue to be very limited.

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[2]The Washington Office of the College Board, Trends in Student Aid: 1980 to 1984 (New York: The College Board, 1984), Table 8.

[3]U.S. General Accounting Office, Job Training Partnership Act Initial Implementation of Program for Disadvantaged Youth and Adults (Washington D.C., March 1985).

The Financial Outlook for Community Colleges

The outlook for financing community colleges in the coming years is inextricably linked to economic conditions and political actions at the state level. This is obvious in the sense that overall state revenue and budgetary conditions directly affect the state resources provided to community colleges. Slower or cyclical economic growth and increasing demands on state funding to support a variety of agencies, programs, and social needs mean that community colleges face stiff competition for financial support. Perhaps less obvious is the fact that states have played increasingly important roles in community college financing because of a variety of other developments that have both economic and political origins.

States have always both sanctioned and restricted local government taxing authority. Since the late 1970s, however, several western states have adopted legislation or constitutional amendments substantially restructuring local taxing capabilities. In those states where community colleges are partially funded from local tax revenues, these measures have often affected the financial support available and increased the need for support from the state level. At the same time, however, nearly all states have faced a period in which state revenues were severely restricted and political sentiment strongly favored lower, rather than higher, tax rates. In many cases the political climate favored not just limits on local taxation, but more restraint in overall public spending. Economic conditions also played a restraining role when unexpectedly slow business activity and continuing high unemployment created budgetary shortfalls.

Community colleges in the WICHE states have been subject to a variety of these conditions in recent years. Proposition 13 in California and related measures in several other states forced a reexamination and restructuring of community college financing. The issues involve not only the division of public support among state and local sources, but the proportion of costs borne by students through tuition and fees and the very nature and roles of community college education. In Idaho and more recently in Washington, unexpected state revenue shortfalls led to the imposition of budget cuts and spending restrictions for postsecondary institutions. In Alaska, community colleges and other higher education institutions have also forced unexpected budgetary constraints because of slower growth in state petroleum tax revenues.

Changes in the economic and political environment can also create substantial opportunities for enhancing support for community colleges and higher education in general. For example, the various tax restructuring and sales tax proposals considered in Oregon contain a variety of measures to increase public funding for higher education in the state. Community colleges must be able to compete effectively for public support and resources during periods of budgetary restrictions or tax reform.

To accomplish this, extra efforts are needed to ensure that the educational roles of community colleges are well understood, that educational programs are aimed at meeting the most pressing needs of the localities and the state, and that institutions are functioning as efficiently and effectively as possible. Through these and related efforts, community college leaders and supporters can help to shape the financial environment in which these institutions operate.

Chapter V

ORGANIZATION AND GOVERNANCE OF COMMUNITY COLLEGES

The previous chapters identify many of the key roles played by community colleges in the WICHE states--roles that differ in relation to the types of students served, kinds of programs offered, state mandates, and other factors. This chapter focuses on the governance of community colleges in each of the WICHE states and the place of these institutions in the overall organization of postsecondary education.

The first section focuses on state roles in community college operations and governance. These roles appear to have expanded in recent years in conjunction with levels of state support, issues of social policy, and public concern for accountability and educational quality. The second section outlines the current governance structures and organizational environments of community colleges in the WICHE states. The third section examines major issues affecting the role and mission of community colleges in the WICHE states and relates these to questions of organization and governance.

Broadly defined, institutional governance encompasses all aspects of the control and direction of community colleges. Under this definition governance involves the roles defined by state constitutions, policies and procedures established by statute, the oversight exercised by legislatures and governors, planning and monitoring by state coordinating agencies, and the legal governance by a local or state board. Because of the overlap between policy and administration, institutional governance also involves the actions of executives and administrators charged with carrying out assigned functions, implementing state or board policies, and tending to the multitude of other responsibilities involved in the operation of community colleges. The complexity of governance requires identification of the roles played by various actors or agencies, the formal structures in which these roles are exercised, and the methods used to assign specific functions.

Often of equal importance to the formal governing structures are the less than formal organizational environments of community colleges. Systems that appear to be relatively centralized at the state level on paper may in practice take great pains to be responsive to local communities and to respect institutional autonomy. The reverse may also be true: a system of local district governance may be constrained by state mandates and state-dominated budgetary decisions. This makes formal comparisons risky, and emphasizes the need to view governance structures within the overall context of community college operations and environments.

State Roles

States have a longstanding interest in two fundamental components of community college governance:

1. Role and mission. What populations and educational needs will be served by these institutions, particularly in relation to other components of the educational system and in light of demands on the state for financing facilities and operations?

2. Public accountability. Are community colleges governed and administered to ensure financial accountability, particularly in the use of public funds, and are they effective in achieving specific educational objectives?

Historically, the states' interests in community college governance have been affected by legal requirements that taxing and operating powers of local jurisdictions could only be granted by state law, by the financial dependency caused by the reliance on public funding, and by the practical necessity that states play leading roles in the overall design of educational systems.

In recent years, state roles and interests appear to have become more direct and encompassing. This has occurred, at least in many states, in conjunction with the increasing dependency of community colleges on state tax revenues as the dominant source of support, as indicated in Chapter IV. Even in those states where the proportion of state funding has remained relatively constant, growth in the size and costs of community college budgets has increased the competition with other institutions, agencies, and programs for a share of limited state financial resources. Financial dependency and budgetary competition appear to affect both state roles and institutional responsiveness.

New areas of state involvement have also been added in recent years in response to state or federal policy initiatives in various areas of social and educational policy. These include:

- concern for the social and regulatory aspects of equal education and employment opportunities;

- responsibility for remedial education; in particular the financing of this expanding community college function;

- student mobility and progression, particularly the ability of students to transfer between institutions;

- community college roles in state economic development initiatives; and

- the setting of public institution tuition levels and the provision of student financial aid.

In addition, financial constraints, faculty unionization, and other factors have increased state interest in faculty and staff salary levels, retirement funding, and other aspects of institutional governance. In all of these areas, states have become more inclined to intervene in community college operations, while institutions have had to respond to a variety of new internal and external pressures.

More recently, the states and the federal government have reflected renewed public interest in issues of educational quality and effectiveness. This concern will continue to affect community college operations in areas

such as high school graduation requirements and postsecondary entrance standards, program content and quality, the funding and academic status of remedial courses, and student assessment and testing procedures. State actions in these and other areas could have far-reaching consequences for the operation and governance of public community colleges.

Within this context of multiple state concerns, conventional structures of accountability and institutional autonomy are being questioned and modified. Accountability, which in prior periods referred mainly to holding institutions and governing boards financially accountable for the use of public funds, has been extended to include accountability for achieving certain educational and social policy objectives. Are institutions accountable to students and the public for the content and quality of education provided? Are institutions accountable to the state for achieving equal access and employment goals? In the past, community colleges were not often faced with such questions.

This emphasis on accountability gives new meaning and importance to institutional autonomy. How must institutions operate in the face of expanding state demands to achieve specific objectives and results, some of which lie outside the traditional realms of institutional operations? What is the appropriate degree of institutional autonomy in order to preserve flexibility, protect the independence of higher education, and promote institutional responsibility and initiative? Can community colleges really be autonomous, given the extent of their public financial and educational responsibilities?

Governance Structures

The WICHE states have responded to the complex issues surrounding accountability and autonomy by using different governing mechanisms. These governance structures reflect historical patterns as well as more contemporary public policy concerns. Three basic organizational and governance structures for community colleges are currently used within the WICHE states:

- consolidated postsecondary systems in which community colleges are part of a unified public university or postsecondary system or set of systems;
- local district boards with community colleges governed relatively autonomously; and
- some form of mixed system involving both local and state boards, or both local and state governed institutions.

Table V-1 shows the type of community college governance in each WICHE state and the primary agencies involved in governance. Either in addition to or in place of local governing boards, many states and institutions provide roles for local advisory councils, some of which are limited to advising on programs and curricula in vocational areas. At the state level, a variety of governing boards and state agencies become involved. The types of governance and characteristics of each state system are discussed in more detail in the following sections.

TABLE V-1

Governance of Community Colleges in the WICHE States

	Type of Governance	Local Boards Elected	Taxing Authority	Primary State Agency	Coordinating Agency
Alaska	consolidated system	(no local boards)	no	University of Alaska Board of Trustees	Alaska Commission on Postsecondary Education
Arizona	local district	yes	yes	State Board of Directors for Community Colleges	Board of Regents
California	local district	yes	curtailed by Proposition 13	Board of Governors California Community Colleges	California Postsecondary Education Commission
Colorado	mixed state/local	yes-6 no-11	yes-6 no-11	State Board for Community Colleges and Occupational Education	Colorado Commission on on Higher Education
Hawaii	consolidated system	(no local boards)	no	University of Hawaii Board of Regents	same
Idaho	local district	yes	yes	State Board of Education	same
Montana	local district	yes	yes	Board of Regents of Higher Education	same
Nevada	consolidated system	(no local boards)		University of Nevada Board of Regents	same
New Mexico	mixed state/local	yes	yes	Board of Educational Finance (coordinating agency)	same
North Dakota	consolidated system	(no local boards)	no	North Dakota State Board of Higher Education	same
Oregon	local districts	yes	yes	Oregon Department of Education, Office of Community College Institutional Services	Oregon Educational Coordinating Commission
Utah	consolidated system	(no local boards)		Utah State Board of Regents	same
Washington	mixed local/state	no (appointed boards)		State Board for Community College Education	Council for Post-secondary Education
Wyoming	local district	yes	yes	Wyoming Community College Commission	same

Consolidated Postsecondary Systems

In five WICHE states (Alaska, Hawaii, Nevada, North Dakota, and Utah) governing authority for community colleges is centralized in a single unified higher education governance board for all public two- and four-year institutions. All five of these centralized state systems have some form of local community college advisory boards or institutional councils to provide local input on operational and curricular matters, particularly with respect to occupational programs. There are, however, a number of differences among these states with centrally governed community colleges.

Alaska. The eleven community colleges in the University of Alaska system are relatively small and widely dispersed institutions, reflecting the population and geography of Alaska. Headcount enrollments vary from under 200 in the less populated areas to approximately 10,000 at Anchorage Community College. Part-time students are a notably high proportion of community college enrollments (80 to 95 percent at several institutions). Ten Alaskan community colleges take part in the state's extensive rural education and extension program, which makes use of non-campus facilities at 14 additional locations.

Together, the community colleges and the rural education program are intended to provide relatively comprehensive educational opportunities to all areas of the state. Geographic dispersion and diverse student needs contribute to an organizational structure that is administratively centralized but operationally very decentralized.

Hawaii. The seven community colleges in the University of Hawaii system are also state governed. Six of these colleges are governed by a single chancellor directly under the University Board of Regents; one college is governed as part of a four-year campus. Each campus is administered by a provost, with consultation by local advisory boards. All campuses offer liberal arts and transfer courses as well as degree and certificate programs in vocational and technical areas. Together, the community colleges enroll over 60 percent of the total lower division (freshman and sophomore) students in arts, sciences, and general preprofessional programs in the entire state postsecondary system.

The Hawaii community college system also includes a separate Employment Training Office to respond to immediate work force needs. This program uses state support, federal Job Training Partnership Act funds, and other sources to provide concentrated "hands-on" courses and programs to more than 7,000 students each year.

Nevada. The four community colleges in Nevada are part of the University of Nevada system governed by a single Board of Regents. Each institution is administered by a president. As of 1985 each community college may establish an advisory board, with members from the local service area recommended by the institutional president and appointed by the Board of Regents. These new local advisory boards may review the annual budget and budget requests, advise the president on operational and curricular matters, and serve as a liaison to both the community and the Board of Regents.

The University of Nevada system also has a separate articulation board as a community college-university coordinating mechanism. This board advises the chancellor and the regents on inter-sector articulation policies and oversees

cooperative activities in areas such as admission and transfer requirements, student record keeping, calendars, grading systems, and curriculum coordination.

North Dakota. In North Dakota, state governing authority over the five community colleges expanded recently. In July 1984, the State Board of Higher Education assumed governing authority for the three community colleges that previously were locally governed. Curriculum advisory groups assist in the design and evaluation of specific programs. There are also four tribal community colleges not under state control.

Utah. The five community colleges in Utah are governed directly by the State Board of Regents. Each institution is administered by a president in conjunction with an institutional council with oversight responsibilities delegated by the regents. Three of the community colleges offer comprehensive associate degree programs; two institutions offer only associate of science degree programs in vocational-technical fields. Utah also supports five area vocational centers. Created to consolidate the vocational offerings of cooperating secondary school districts in rural areas, these centers now serve approximately 70 percent adult students. The centers are not a part of the postsecondary system, and are governed by local boards and the State Board of Education.

Local District Boards

Arizona, California, Idaho, Montana, Oregon and Wyoming have community colleges that are governed by elected, local district boards that historically have exercised local taxing authority. Contemporary conditions differ significantly among these states with respect to both taxing power and the associated governing roles shared with state agencies.

Arizona. The nine Arizona community college districts have elected boards (with taxing authority) within a shared state and local governance system. Fifteen separate colleges (with three skill centers and twenty-seven campuses) currently comprise the "state" system. Two other community colleges are located in Arizona but are not part of the "state" system: one (Navajo Community College) is operated by the Navajo Nation and the other (The College of Ganado) is governed by an independent board of regents.

The State Board of Directors for Community Colleges has primary responsibility for faculty certification, curriculum approval, vocational education, approval of tuitions and fees, holding title to and administering real property including campus buildings and grounds, and engaging in system-wide planning and coordination. The local boards carry out the balance of the governance responsibilities within each district including determining salaries, selecting personnel, budgeting, and overseeing day-to-day college operations.

California. California's large community college system, historically locally governed with substantial local funding, has moved in recent years toward more prominent state roles in both governance and funding. Each community college district is governed by an elected local board, but Proposition 13 curtailed local taxing authority and local tax revenues must now be appropriated to the colleges by the state legislature.

At the state level, the Board of Governors of California Community Colleges has specific statutory responsibilities to implement state laws affecting community colleges, submit consolidated community college budget requests, administer specially funded state programs, and to provide various support and planning functions. The board does not, however, exercise administrative authority over community college programs, services, or operations outside of the state policy areas.

Review of community college missions and coordination with other postsecondary segments in California is accomplished through the California Postsecondary Education Commission and special legislative commissions. Under legislative action in 1984 establishing the Commission to Review the Higher Education Master Plan, an examination of the roles and operation of California community colleges is underway and an initial report on community college roles and operations due in December 1985. This report and legislation requiring consideration of new funding mechanisms are likely to result in modifications to both the governance and financing of community colleges in California.

Idaho. Idaho has two locally-governed community colleges that provide comprehensive liberal arts and occupational programs. Each institution has an elected board with taxing authority. The State Board of Education acts as a facilitator, but has neither program approval nor budgetary authority over these institutions. Eastern Idaho Vocational-Technical School also provides certificate and associate degree programs in vocational-technical fields, but is not included in the tally of comunity colleges. This institution is part of the Idaho postsecondary vocational-technical system and does not have a local governing board nor local taxing authority.

Three four-year public institutions (Boise State University, Idaho State University, and Lewis-Clark State College) also provide associate degree and certificate programs in vocational-technical fields. These programs take the place of community colleges in their localities.

Montana. Montana's three community colleges have elected local boards within a shared governance system. Local boards receive direction from the state through the Board of Regents of Higher Education. State roles include making recommendations to the legislature on funding, budgets, student charges, program approval, and physical facilities built with state funds. These responsibilities apply to all sectors of public higher education in Montana. There are five tribally-governed community colleges in Montana over which the state has no supervisory role. In addition, five vocational-technical centers, governed by the State Office of Public Instruction and supported by state appropriations, provide a range of occupational programs in population centers without community colleges.

Oregon. Oregon's 15 community colleges have strong local roots and historically have had significant autonomy. All have locally elected governing boards with taxing authority and use local advisory boards for vocational-technical curricula and related matters. State oversight is exercised by the Office of Community College Instructional Services in the State Department of Education. Funding recommendations and state support allocations are made in conjunction with the Community College Presidents' Council.

New program approval for community colleges is by the State Board of Education, with review by the Oregon Educational Coordinating Commission. Coordination in such areas as articulation and student transfer opportunities is achieved through state policies, contractual agreements among institutions, and other mechanisms.

Wyoming. Wyoming's seven community colleges are all governed by local district boards. Each also uses advisory boards in curricular areas such as business or agriculture. Local and state roles in Wyoming community colleges are changing, however, as the result of legislation restructuring the Wyoming Community College Commission and broadening its powers and responsibilities.

Under the 1985 legislation, a new seven-member commission will coordinate the operation of the colleges, review and approve or disapprove all academic and vocational-technical programs, advise on budgets and fiscal policies, allocate state support, and establish a management information system. Given the breadth of these responsibilities, the governance structure in Wyoming appears to be shifting to one of shared state and local responsibilities.

Mixed State and Local Governance

Two WICHE states, Colorado and New Mexico, have a mixed system of both state and locally governed community colleges. Washington has a unique system of appointed local boards with no taxing authority and a relatively strong state community college board, sharing some characteristics of both local district and consolidated state systems.

Colorado. Colorado exemplifies a mixed system of some local and some state-governed community colleges. Eleven community colleges are state institutions governed by the State Board of Community Colleges and Occupational Education. These institutions have no local boards and no authority to levy local property taxes; they do have five-member "college councils" to review, recommend, and advise the college presidents and the state board. Many of these institutions also have advisory councils for vocational/occupational programs and business-industry advisory councils to coordinate local employment training efforts. Changes are under way to restructure governance of the community colleges of Denver to give each of the three institutions greater administrative autonomy.

The six local community colleges in Colorado have separate governing boards. Local tax levies provide 40 to 50 percent of operating revenues, while the state contributes 30 to 40 percent. The local colleges also make use of a variety of advisory councils on vocational programs and local policy matters. Both local and state community colleges are subject to the coordinating responsibilities of the Colorado Commission on Higher Education. The commission's authority with respect to financial support, admissions and enrollments, and overall planning and coordination of higher education was considerably broadened by legislation adopted in 1985. This is likely to affect the roles and operations of both state and local community colleges.

The Colorado system is mixed in other respects as well. Several of the public four-year institutions offer associate degree programs in various fields. These programs take the place of community colleges within certain geographical regions. In addition, Colorado supports seven area vocational

schools that provide both secondary and postsecondary occupational programs. Although these institutions may substitute for community college programs in some areas, they are considered separate from the postsecondary system.

New Mexico. New Mexico has a mixed system of state and local community colleges but with several different characteristics. Of the 12 state-controlled community colleges, nine are branch campuses of the three state university systems. These institutions are administrative units governed by the boards of trustees of these systems. The three other state community colleges have separate governing boards, as do the two local-district community colleges. In addition there are three tribal or Native American community colleges in New Mexico, including the Institute of American Indian Arts. These receive various types of federal and state support, but are not subject to state governing authority.

All four-year public institutions in New Mexico also award associate degrees. These programs are intended to replace community colleges in six locations. Three postsecondary vocational-technical institutes offer programs that may be up to two years in length, including courses in the arts and sciences, although these institutions do not have degree-granting authority. One of these institutes recently petitioned to expand programs to the degree level. Responsibility for program coordination and budgetary recommendations for all components of postsecondary education in New Mexico lies with the Board of Educational Finance.

Washington. Governance of the 27 community colleges in Washington is shared between local district boards that are appointed by the governor and the State Board for Community College Education. Public financial support for community colleges in Washington is from state sources, and the institutions have a state orientation in terms of admissions policies and other practices. Both the appointed local boards and the state board, however, support a high degree of local orientation and responsiveness by the colleges. The supervisory and coordinating responsibilities of the State Board for Community College Education include reviewing all community college operating budgets and preparing recommendations for overall state support, establishing guidelines for the disbursement of state funds, ensuring the quality of educational programs and community services, and maintaining the state's commitment to open-door admissions to community colleges.

Overall coordinating roles for higher education in Washington have been exercised by the Council for Postsecondary Education. Legislation adopted in April 1985 will broaden these responsibilities under a new Higher Education Coordinating Board. New or expanded responsibilities of this board include new program approval, stronger budgetary evaluation responsibility, admission standards, dispute arbitration, and overall planning. Exercise of these expanded state roles may affect community college operation and governance in the coming years.

Organization, Governance, and Mission

Demographic changes, clientele, program diversity, economic development roles, and financing all reflect how community colleges respond, in varying ways, to their external environments. Organization and governance, in contrast, reflect more of the internal environment of community colleges--how they fit into postsecondary systems and what constituencies and needs are

recognized in governance decisions. This internal environment is often as important as the external environment in shaping the roles and missions of community colleges.

As is apparent in the different organizational structures, one of the overriding issues with respect to the place of community colleges in the WICHE states is their role in providing vocational, technical, and occupational training. In some states and institutions such training is viewed as a specialized institutional role; in others, vocational training programs are part of the mission of comprehensive community colleges. In several WICHE states, community colleges provide occupational training in conjunction with separate postsecondary vocational-technical institutes. In other states or localities within states, these programs are provided by secondary school districts or as a segment of four-year postsecondary programs.

Such differences suggest a number of questions and options relative to the roles of community colleges and the content of community college education. For instance:

- Are community colleges the most appropriate institutional setting for providing vocational and job-related technical training? How do the content and delivery of these programs vary when provided by community colleges rather than technical institutes or four-year institutions? How do occupational and technical programs affect the other functions of community colleges, such as baccalaureate transfer programs and community service?

- What are the content and quality of vocational-technical programs in community colleges? What emphasis is given to liberal arts and general education courses within occupational curricula?

- Are community colleges sufficiently flexible and adequately supported to provide state-of-the-art occupational and technical training? Is this true for new, high-technology fields as well as more traditional occupational areas?

Such questions indicate some of the concerns and uncertainties that surround the evolving roles of community colleges. In many cases, these concerns reflect external demands and internal challenges much different from those of the 1960s and 1970s, when the emphasis was on community college growth and a common purpose was found in opening the doors of higher education to previously underserved segments of the population. Current questions and future challenges have much more to do with adaptation and consolidation than with expansion. Policy debates tend to focus on questions of implementation rather than on principles.

These changes pose new questions concerning the role and mission of community colleges, and require many old questions to be confronted in more specific terms. Among those central to the organizational and governing context of community college are the following:

- What are the roles for community colleges in enhancing access to education at all levels through transfer programs? What are the

necessary state and institutional roles in assuring transfer opportunities and, through a well-articulated postsecondary system, enhancing individual educational opportunities without unnecessary institutional duplication?

- What are the appropriate state and institutional roles in setting admission or collegiate-level course standards? What institutions and financing are appropriate for remedial courses and other programs not meeting collegiate or postsecondary standards?

- What are the appropriate roles for states and institutions in setting graduation and progression standards? What measures of student outcomes would aid students, institutions, and states in identifying the anticipated results of community college education?

- What governing structures and practices will help community colleges serve local needs, while contributing to state education objectives? How effectively are both local and state perspectives articulated in the governing process?

- As enrollments change, and perhaps decline, how will the roles and financing of community colleges be affected? Will institutions and states be in positions to respond appropriately to these conditions?

Community colleges and states have responded to these and similar challenges in the past. During periods of enrollment and revenue growth, responses and adjustments were easier. Many community colleges and states in effect embraced comprehensiveness as the appropriate organizational response to expanding social demands, new clientele, and competing state and local needs. The primary question facing community college governance today is the appropriateness of that response in today's conditions, and in the conditions that will exist in the foreseeable future.

Chapter VI

CONCLUSIONS: APPROACHING THE CROSSROADS

The previous chapters outline many of the conditions affecting community colleges in the West. These conditions suggest continuing changes and challenges in four major components of the overall educational environment of the WICHE states. In summary:

- Demographic and social changes based on continuing population growth in most western states, the aging of major population groups, and rapid expansion in school-age minority populations have affected community college enrollments. If current trends continue, the enrollment effects will be even more significant in the future. Migration within states and changes in local population characteristics will also affect individual community college districts, perhaps requiring adjustments in the existing placement of facilities and allocation of financial resources.

  In addition to adjusting to growth patterns, community colleges will need to serve significantly different student populations in the future. Perhaps even more than today, future community college students will have widely varying educational backgrounds--ranging from those without high school diplomas or basic language skills to those with college degrees. Future students will also be pursuing much different educational objectives--ranging from adult literacy to computer mastery.

  What are the implications of dealing with these changing populations? What modifications will be required in community college roles, missions, programs, and curricula? Who will make these decisions and set priorities? What financial support will be required?

- Economic changes and technological advances will also have profound consequences for community colleges. The western state economies reflect a restructuring of traditional industries, new patterns of international trade, and competition for and between many new industries. Future employment opportunities and new job skill requirements will affect students' decisions to attend community colleges and the types of programs chosen. These factors and others, such as the expanded use of computers and communications technologies, will require changes in program content and educational methods.

  How can community colleges respond effectively to these changing economic conditions? What more active roles can institutions play in stimulating and supporting economic growth? What priority should be given such activities, and how can the necessary resources be generated?

- Trends in financing postsecondary education indicate other challenges and constraints facing community colleges. States have become increasingly important in funding community colleges, but state budgets face competing demands and the level of available support varies signifi-

cantly from year to year. Local tax sources also vary significantly, and increasingly have faced tax-rate limitations and a lack of public support. Student tuition and fees have been sharply increased in many states, to the point where they are likely to have a significant impact on enrollment decisions. Other sources of support to community colleges--particularly federal sources--are also limited and uncertain.

Where will community colleges get the resources to continue current service levels and to make necessary program changes? What sources of support can and should be used for particular initiatives or programs, such as industry-specific job training? What priorities need to be set in terms of the commitment of the available resources? Is the distribution of resources among postsecondary institutions and among community colleges consistent with financial needs and state educational priorities?

- Organization and governance reflect many of the challenges posed by demographic changes, economic conditions, and financing. In addition, the position of community colleges requires a high degree of responsiveness to both local and state concerns. This need for responsiveness creates additional tensions and challenges for the governance of community colleges, particularly when state and public pressures mount for greater accountability.

  What governance structures are most appropriate for community colleges, and for coordinating community college programs with other sectors of postsecondary education? Are other factors such as leadership, orientation, and organizational characteristics as important as formal structures in achieving responsiveness and maintaining accountability? How do governance and organization affect the role and mission of community colleges, and what changes may be necessary in the future?

In addressing the challenges posed by changing conditions in these components of the community college environment, particular attention needs to be given to the policy issues and implications in three areas: access, economic development, and accountability. Access issues involve the opportunity functions of community colleges--from admissions practices, to diversity of program offerings and schedules, to student costs. Economic development encompasses many of the applications of both traditional and evolving community college roles, including vocational and technical training, cooperative relationships with business and industry to meet local employment needs, and participation in planning and strategies to meet economic development objectives. Accountability includes governance, responsiveness to local and state concerns, and the clear definition of roles and objectives. In each of these issue areas the challenges of a changing educational environment suggest a number of more specific issues and options.

Issues Related to Access

Population trends in many of the western states indicate that minority youth will increase more rapidly than other population groups. At the same time, older individuals from a cross-section of socioeconomic and educational backgrounds are turning to community colleges in increasing numbers. This apparent duality in trends raises a number of issues for community colleges:

- What roles should community colleges play in providing access for the rapidly expanding youth populations, while enhancing and diversifying options for adult education?

- Do current funding mechanisms need to be changed in response to shifts in community college enrollments and missions?

- How can more specialized education and training be provided to particular community college students without deemphasizing the importance of general education, liberal arts curricula, or baccalaureate transfer programs? Do state policies and governance systems provide adequate guidance to deal with these issues?

After years of rapid urban and suburban expansion, rural and "exurban" areas have seen substantial increases in population and economic growth. This diffusion of population and industrial centers raises a number of questions about geographical access and program availability:

- Are rural populations adequately served by community colleges, particularly if population and economic expansion continue in these areas?

- What changes will be required in programs and facilities to meet the needs of particular areas and populations?

A variety of challenges to the open door philosophy of community colleges have been posed by financial constraints and renewed emphasis on educational quality. Access to education could be affected in a number of ways:

- Will higher community college tuition inhibit attendance? What is the appropriate relationship between tuition levels in community colleges and public universities?

- Is financial aid adequately available to the growing proportions of part-time and adult students in community colleges?

- Do high school graduation requirements pose non-financial barriers to open access in community colleges? How can state and institutional policies encourage student performance without limiting educational opportunity?

- What effects will more stringent requirements for admission to public four-year institutions have on access and enrollments in community colleges?

Issues Related to Economic Development

Rapid economic changes require individuals and institutions to anticipate future developments and to adapt continuously. Community colleges respond to changing employment needs and requirements, while helping to shape future job opportunities and the skills expected from employees. The central roles of community colleges in the western state economies raise a number of questions:

- How should community colleges adapt to changing local, state, national, and international economies? What modifications are necessary in terms of program content, delivery, organization, and financing? In what ways can community colleges play even stronger roles in local and state economic development strategies?

- How are community college training programs coordinated with research and development activities at public universities? Are community college transfer programs adequately linked to the more advanced technical education available at universities?

- What are the appropriate roles of community colleges in retraining workers displaced from declining local industries? Who should support such retraining? What actions should institutions and state agencies take to identify needs and coordinate such programs?

Business and industry have growing needs for specialized employee training in order to make use of new technologies, adapt to a changing marketplace, and compete effectively in national and international economies. Community college contributions to meeting these needs suggest several questions:

- What roles should community colleges play in providing specialized employee training? What coordination and sharing of facilities and equipment are necessary to support these roles?

- Who should pay for employee training by community colleges--the states, the localities, or the businesses who benefit directly from the training?

- How can working relationships among community colleges, industries, and state economic development agencies be strengthened?

Technological changes, particularly the use of computers, advanced telecommunications, and information technologies, are rapidly altering our educational, personal and work environments. Community colleges must respond to these changes in a number of ways:

- What roles should community colleges play in training for high technology industries and providing the skills required to live and work in an increasingly technological environment?

- Are community colleges making adequate use of audio-visual and computerized instructional systems in the design and delivery of educational services? Can new teaching and delivery systems be used more effectively to reach part-time and adult students, rural populations, and those with special educational needs?

- What resources and faculty incentives are needed to encourage greater use of these technologies to improve the quality and efficiency of community college programs?

- Does rapid technological change also require a renewed emphasis on basic educational competencies (e.g., mathematics, effective communications, and computer literacy) to provide individuals with the ability to meet the changing needs of employment and personal life?

Issues Related to Responsiveness and Accountability

Community colleges exercise multiple roles as both local institutions and integral components of state postsecondary systems. Combining responsiveness with accountability raises a number of issues:

- What special roles should community colleges play in meeting other educational needs within their districts or localities--for example, providing personal growth or avocational programs, extension services, and educational outreach activities? Who should make these program decisions and what support should be provided for such activities?

- What types of community service activities should community colleges engage in? What role does a two-year collge play in a community--not just as a center of formal learning and training, but as a focus for community activities, cultural events, and other types of social involvement?

- What is the proper balance between institutional autonomy and state accountability? Between serving local needs and being responsive to state policies and coordination? How can governing structures encourage cooperation and congruence between these perspectives?

Increased public attention to financial accountability and educational quality in public higher education raises a number of issues relating to program content and student outcomes in community colleges:

- What roles should community colleges play in providing remedial and compensatory programs? How do these roles relate to secondary education and access to postsecondary degree programs?

- Who should pay for remediation--states, localities, or students?

- In order to maintain accountability and educational quality, what data are needed on student progression, achievement, job placement, and other measures of educational outcomes? Who should collect and report such data?

Rapid social and economic changes and more varied student enrollment patterns require diverse and specialized educational opportunities. At the same time, flexibility and student transfer opportunities should not be inhibited, and unnecessary program duplication needs to be avoided. These conditions suggest a number of questions concerning program coordination, articulation, and flexibility.

- Would both access and effectiveness benefit from greater cooperation and coordination between community colleges, four-year institutions, and the variety of occupational and specialized training programs provided by proprietary institutions and corporations? How can states enhance this coordination?

- Are transfer opportunities and articulation policies adequate to assure student access to programs that will encourage them to fulfill their educational objectives?

- Can interstate reciprocity or other types of cooperative agreements through organizations such as WICHE play stronger roles in improving access and program coordination? How and in what areas or fields?

In responding to these and other challenges, community colleges are approaching a crossroads. It is an intersection of diverse student and institutional needs, local and state concerns and priorities, and many paths that will affect the future of the nation as well as of individuals. As in all such intersections, this crossroads requires making decisions, adjusting priorities, and dealing with the consequences.

It is not a crossroads with only one correct path, one choice that will determine both direction and destination, or one map for all to follow. It is a crossroads that will require a series of decisions and actions in order to progress along the chosen paths. The one observation that emerges most forcefully from this examination of community colleges in the West is the remarkable diversity and adaptability in institutions, in roles, in students, and in state postsecondary systems. Clearly, community colleges have followed many paths in recent decades. Just as clearly, there are many paths to excellence in the future, many options in terms of roles and priorities, and many maps showing how community colleges can approach the next decade. The real challenge may be in choosing the most appropriate paths, in being clear on priorities, and in proceeding with adequate resources and resolve. This is the challenge of the crossroads.