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ABSTRACT

In order to develop a long-range plan for Fraser Valley College, this report reviews the national, provincial, and local setting for community colleges; presents a projection of future enrollments and programs; reviews service facility requirements; and determines the future campus requirements and their costs. Projected enrollments for the total College District are: 4,965 in 1975; 14,873 in 1980; 20,016 in 1985; and 32,517 in 1995. However, there are many factors which may significantly revise these projections. Thus, enrollment figures must be constantly reevaluated and their effect on long-range planning taken into account. In order that the College may fully meet the educational needs of the community, a projected balance of transfer, career, and community educational programs should be presented. Career programs should be grouped in clusters to facilitate the use of common courses and to allow students to build one career on another. Campus core facility requirements are projected for 1978, 1982, 1986, and 1990. These are based on projected enrollment, and instructional program requirements, and include projections of square footage required and corresponding costs. Data are organized into tables throughout the document, and enrollment and population projections are presented in graphs.

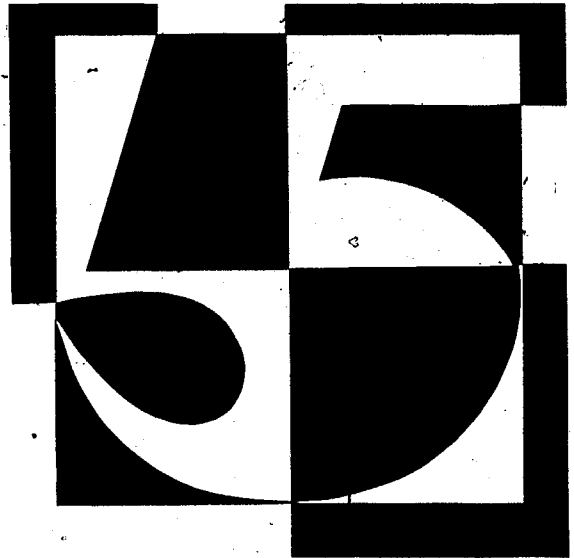
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A  
LONG-RANGE  
PLAN FOR  
FRASER VALLEY  
COLLEGE

**RC** MARCH 1975

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LONG RANGE PLANNING  
FOR  
FRASER VALLEY COLLEGE

MARCH 1975

COLLEGE COUNCIL  
FRASER VALLEY COLLEGE

## PREFACE

This report has been prepared by Fraser Valley College in order to provide a basis for future development of the College. It is recognized that in a dynamic situation such as the College finds itself, all long-range planning must be flexible in order to meet future conditions. This report, therefore, represents the best information presently available and is so constructed to allow modification to take place easily.

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## I. BACKGROUND OF THE STUDY

As the College Council of Fraser Valley College focuses its attention on the future development of a community college program, faculty, and facilities to serve the educational and cultural needs of the citizens of the Upper Fraser Valley, community colleges, throughout Canada and the North American continent are growing rapidly and are expanding their services on behalf of the communities they serve.

Considerable experience has been accumulated and excellent practices have evolved that should provide guidelines for planning the future of Fraser Valley College. This is not to say that what is done in Alberta, Ontario, Quebec or the United States should be repeated in the Fraser Valley, yet these experiences and patterns of development may perhaps suggest good practices to follow and mistakes to avoid as future plans are laid.

The purpose of this chapter is to review national and regional trends and to focus on the current situation as FVC plans its future.

### The Community College in History

The forerunner of the community college in the United States was the junior college, which was established

to bring the first two years of college close to home for students.

In 1900, there were eight junior colleges with a total enrollment of 100 students. All were privately supported and controlled. Today there are over 1200 junior and community colleges of which approximately 70% are public institutions.

In the past decade alone, 500 new community colleges have begun. These community colleges enroll over two and one-half million students.

Ten years ago, one out of five students in that nation began his work in a community college. Now the number is more than one out of every three; soon it will be one out of two.

The development of these institutions, their organizational designs, support patterns and buildings vary somewhat throughout the United States, however, they have a common purpose - to provide more and broader educational opportunities so that youth and adults can more nearly realize their potential.

In Canada, the forerunners of the modern community colleges were the classical colleges, normal schools, tech-



nical institutes, and vocational schools.

In addition to their much more recent origins, two-year institutions in Canada are more diversified than those in the adjoining United States. Of the over 120 two-year institutions in Canada, less than half were in existence in 1960.

Although these institutions vary widely in their structures and types of programs, their evolution is toward the comprehensive, multi-purpose, community college form. This evolution is most rapid in British Columbia and less so in other provinces.

The differences in the systems can be based partly upon the uniquenesses of each province; the early decision in Canada to make education a provincial, rather than a federal, responsibility; and the patterns through which other forms of higher education evolved prior to the establishment of the two-year institutions.

In Alberta, the mix includes private junior colleges, institutes of technology, agricultural and vocational colleges, and six public junior colleges for a total of fourteen institutions.

Saskatchewan established four community-based colleges in 1972 which, along with private junior colleges,

brings the number of two-year institutions to nine.

In 1969, Manitoba converted its three public technical schools into community colleges although their function has not substantially changed since that date.

The most drastic conversion of post-secondary education occurred in Ontario when, in 1965, legislation was introduced to provide for the immediate development of a system of Colleges of Applied Arts and Technology (CAAT). Twenty such colleges were immediately established as an alternative to academic education, bringing the total number of two-year institutions to twenty-seven.

Quebec has also seen a very recent modification of its form of post-secondary education with the conversion of existing institutions in 1967 into Colleges d'Enseignement General et Professionel (CEGEP). The existing thirty-eight CEGEP's, along with thirty private two-year colleges and eight other institutions, bring to a total of seventy-six such institutions in Quebec.

In the Atlantic provinces, single purpose institutions still are the rule. Presently, there are three two-year institutions in Newfoundland, one in Prince Edward Island, eight in New Brunswick and six in Nova Scotia.

## British Columbia

The establishment of community colleges in British Columbia is very recent with only two or three private institutions pre-dating 1966.

Currently, ten community colleges serve a large majority of the public school districts in British Columbia (more than forty-eight of approximately seventy-eight school districts are involved in the operation of colleges). The establishment of these colleges were as follows: Vancouver City College, 1965; Selkirk College, 1966; Capilano College and Okanagan College, 1968; College of New Caledonia and Malaspina College, 1969; Cariboo College and Douglas College, 1970; Camosun College, 1971 and Fraser Valley College, 1974. Thus there are four community colleges in the lower mainland, two on Vancouver Island, and four in the interior.

Four additional community colleges are recommended in a recent task force report, "Towards the Learning Community". These are recommended for the northeastern region, northwestern region, east Kootenays, and northern Vancouver Island region.

A unique institution playing a vital part in the community college development in British Columbia is the British Columbia Institute of Technology. This institute, which offers two-year programs in areas of health, business

and engineering technologies, enjoys an excellent reputation as to the quality of its programs and the employability of its graduates.

Most community colleges have programs which either parallel or feed programs at BCIT as well as vocational programs which came as a result of the merger of vocational schools or the development of programs by the community colleges.

The aforementioned task force report, "Towards the Learning Community", issued by the Task Force on the Community College in British Columbia in August, 1974, is expected to have a considerable impact upon the future development of these colleges in the province. Its highlights are:

Priority - College development for every region of the Province. Offer services through the wider community.

New Roles - Colleges develop regional service capacity in media-communications/community educational development, educational advice and information, and continuing education; colleges assume either total or joint adult education responsibility dependent on school board decision.

New College Thrusts - Major commitment to community educational development; continuing education to gain full Provincial support.

Regions - Establish as many as 15 college areas; priority to unserved rural regions. Initial community involvement in development of new college regions. Develop lower mainland college plan.

Governance - Board representative of a region, appointed from the community - student, instructor, and support staff membership.

Finance - One hundred percent provincial financing of operating costs; nominal student fees but no local contribution. Establish a grant formula for Regional Continuing Education Councils.

Student Assistance - Tuition-free education up to and including Grade XII at any time of life. Worker educational leave. Provincial student aid for full and part-time students on basis of need. Child-care centre development. Mixed student/community housing policy.

College/Department of Education Relations - Direct relations with an expanded Department of Education.

College/University Relations - Creation of Department Liaison and Advisory Committees to promote such matters as student transfer, coordination of continuing education, and correspondence education."

### The Setting in the Upper Fraser Valley

From the beginning of the community college movement in British Columbia, there has been considerable interest

in the establishment of a college in the Upper Fraser Valley.

Although this interest has come from all aspects of the various communities which make-up the Upper Fraser Valley, it has been centralized in the efforts of the Fraser Valley Branch of the B.C. School Trustees Association.

These efforts culminated in three formal attempts through the development of briefs to the Provincial Government which were made in the years 1966, 1969, 1973. Following the request in 1973, a plebiscite was authorized for March, 1974, resulting in the successful establishment of Fraser Valley College.

During the interim of 1969 to 1973, a study was made for the possible establishment of a vocational school in the area which resulted in a provincial decision to proceed and allow for site preparation.

In the summer of 1972, with the change in government, work was suspended on the proposed vocational school and subsequently discontinued. For further information concerning these studies, reference is made to the "College Feasibility Study," dated November 1973 which resulted in the plebiscite, and the report entitled, "Recommendations for B.C. Vocational School-Eastern Fraser Valley," dated December 17, 1970.

The Fraser Valley College district, as established, consists of the five existing school districts: District 34, Abbotsford; District 75, Mission; District 76, Agassiz; District 33, Chilliwack; and District 32, Fraser Valley Canyon. This area encompasses approximately 4700 square miles with a population of over 100,000, the majority of whom live in the western quarter of the College district.

The population of the entire district is growing at a rapid rate of nearly 4% per year with the westerly area growing at rates approaching 8% per year because of the influence of commuter populations for Vancouver employment.

Farming has traditionally provided the greatest economic base of the college district, dating back to the 1860's when the first farmers provided produce for goldrush miners.

In recent years, valley farming has been undergoing many changes, the biggest of which has seen dairying and poultry operations become larger and concentrated in fewer hands.

Other farm operations include small berry production, hops, grains, hay, and various vegetable produce.

Another large industry in the college district is that dependent upon forest products.

Mountains in the region abound in fir, hemlock, cedar, spruce, and birch, with cottonwood, poplar, and willow at lower levels. These stands supply lumber mills in and out of the area as well as the pulp mills out of the area.

There are extensive logging operations in the Mission, Harrison, and Canyon areas with medium sized saw mills at Boston Bar, Chilliwack and Mission.

A third, and rapidly growing, economic activity is in the services area. These include those services related to normal commercial and professional activities, as well as those related to the rapidly expanding tourist trade in the area (second largest industry) and those related to specialized activities.

Among the specialized activities are the Canadian Forces Base Chilliwack with a staff exceeding 1500 and indications of considerable expansion over the next few years, and prison installations throughout the college district which contain approximately one thousand inmates and employ over that number as well.

Another significant characteristic of the area is the sizable native Indian population. Twenty-four valley bands with a population of over 1600 are within the college district, most of them residing in the Chilliwack area.



## The Trend in Community Colleges

The trend in community colleges in the North American continent is toward the development of a totally community-based educational program, resulting in a comprehensive, multi-purpose institution committed to the democratization of post-secondary education with programs to meet the needs of all the youth and adults in the college district.

The modern community college is designed to provide its part of the climate in which each individual is stimulated to grow to the fullest - economically, intellectually, physically, artistically, socially, and spiritually. It gives attention to stimulating interest in cultural heritage, to encouraging and understanding other nations and their cultures, and to helping students to be full participating members of human society.

With the acceptance of these purposes, the community college has an opportunity to break down the many barriers which have for so long kept so many people continuing their education.

More specifically, in attempting to meet these egalitarian goals, the modern community college accepts five primary commitments. These are:

1. ~~Commitment~~ to service to non-traditional clientele, as well as traditional clientele,

in order to provide potential programs for all youth and adults of the district. Non-traditional clientele may include chronic unemployed, secondary school dropouts, senior citizens, welfare recipients, mentally handicapped adults, etc.

2. Commitment to development of non-traditional programs to serve this population. These would include varying lengths of programs, training objectives, location of training, levels of skill, etc.
3. Commitment to use of non-traditional educational delivery systems designed to effectively and efficiently meet needs of clientele, including time, location, motivation and learning style. These might include cable television, home study, library based programs, newspaper and radio.
4. Commitment to lifetime learning, recognizing that learning, including vocational, avocational, personal and citizenship development, are needed throughout lifetime.
5. Commitment to community, including cooperative arrangements with other community agencies and institutions for the satisfaction of total education, cultural, social, and

recreational needs of the citizens.

In the establishment of its Philosophy and Goals Statement, Fraser Valley College accepts fully these commitments in the development of its future program for the Upper Fraser Valley. The Philosophy and Goals Statement of FVC is as follows:

### Philosophy and Goals

Fraser Valley College is a comprehensive institution sensitive to the ever-changing and varying needs of the community and accepts as its objective the provision of educational, cultural, social and recreational services to its community. This carries a commitment to offer a variety of educational programs for youth and adults of varying abilities, interest, and occupational objectives. It has an open-door approach to meeting these objectives.

Fraser Valley College is dedicated to the concept that its entire district is its "campus". Consistent with this broad definition of campus is the intention to serve the district at multiple locations and with alternative educational systems.

SPECIFICALLY, THE COLLEGE GOALS ARE:

1. To provide an opportunity for youth and adults to complete courses and career programs in a variety

of vocational and technical fields;

2. To provide an opportunity for students to complete the first two years of college and to transfer to four-year institutions to complete liberal arts, business, or professional programs;
3. To provide an opportunity for adults to continue their education in vocational, avocational and cultural areas;
4. To provide an opportunity for students to strengthen their educational preparation through basic and developmental programs, and through advanced placement courses for qualified high school students;
5. To participate in developing the educational, social cultural, and recreational activities of all institutions and citizens of the college district;
6. To serve some of the employment needs of business and industry in the College District and the Province.

Fraser Valley College seeks to assist each individual to function effectively as a member of a family, a community, a nation, and a world.

Through individual counselling, discussions with faculty advisors, and through class contacts, the staff members seek to make students individually aware of their

potentialities, needs, and basic interest.

Students are encouraged to choose curricular and extra-curricular activities in fields of study and participation which will prepare them for a life work and full participation in human society.

### The Purpose of the Report

The purpose this report is to provide the College Council of Fraser Valley College, its advisory committees, planning staff, architects, and the faculty of the College, with a comprehensive overall plan for the physical development of the College.

This report has been prepared with the following basic concepts in mind:

- (a) The long-range plan reported herein is based on sound educational principles, is consistent with the role and scope of community colleges in the province and in the nation, and is specific in relating to factors and situations found in the Upper Fraser Valley.
- (b) The plan is projected as a series of related sections dealing with various aspects of the facilities and functions of the College. Its central theme throughout is that all parts give emphasis to service for youths and adults of the community.

- (c) A long-range plan and the facilities based on this planning must be highly flexible and adaptable due to the rapid rate of change of educational technology, so that the college program and facilities do not become obsolete.
- (d) The community college is totally an integral part of the community in which it is found and all long-range planning must reflect this constant inter-relationship.
- (e) The plan develops both priorities and sequence so that any short-range plan can be related to it and not be developed in terms of emergency conditions.

This long-range plan includes the following:

- (a) A review of the projections of student enrolment potential with comments and recommendations.
- (b) A review of programs of instruction proposed with priorities assigned.
- (c) A review of service requirements (other than instructional including allied college services and services to the community.
- (d) Recommendations as to types of educational services and facilities needed and an estimate of capital outlay costs for each component of the total program.
- (e) Summary, conclusions, and recommendations.

## II. ENROLLMENT PROJECTIONS

The projected future enrollments of Fraser Valley College - as well as the facility and site requirements which are dependent thereon - are based on a large number of complex and inter-related facts, attitudes, and future programming.

A number of these variables can be interpreted based upon the experience of other colleges similar to that which Fraser Valley College proposes to be as well as trends toward such things as increasing part-time enrollments, rising average age of students, greater enrollments in career programs as opposed to academic programs, etc.

Probably the greatest independent variable is that of area population. The best available population data and population projections have been used in this report as well as the subjective judgment of the experts in the field. Based upon this population data as well as experiences of other colleges, a projected enrollment has been developed which is then used for an analysis of facility and site requirements.

### Population Projections

In analysing all of the population projections available for the college district, only three sources were found to

project population more than five years into the future. These are the Lower Mainland Regional Planning Board estimates developed shortly after the 1971 census data was available (see Table I), the projection of the British Columbia Telephone Company, also developed within the last several years (see Table II); and the recent forecast for the Mission School District by Dewdney-Alouette Regional Planning Board.

Table No. I shows the population statistics for the last fifty years as well as projections to 1986 by the Lower Mainland Regional Planning Board. The population projections for 1981 and 1986 are considered extremely conservative inasmuch as there was a growth from 1966 to 1971 of approximately 3.85% per year whereas the Planning Board estimates are projected into the future at the rate of about 1% per year.

The projections by the Dewdney-Alouette Regional Planning District for the Mission District closely approximate those developed by the British Columbia Telephone Company. They are as follows: 10,210 in 1971; 12,121 in 1976; 14,210 in 1981; 16,455 in 1991; 21,080 in 1996; and 23,420 in 2001.

In discussing population growth with various experts in the field, such as regional planners, municipal planners, real estate personnel, and others, estimates of average



annual increases range from 3% to 5%. In analysing current growth, one individual estimated that growth in the Abbotsford area from 1973 to 1974 was as high as 8%.

The population forecasts of the Lower Mainland Regional Planning Board and British Columbia Telephone Company have been illustrated in Figure I, along with an estimated population increase of 4% per year.

Inasmuch as the influence of large numbers of Vancouver commuters is only beginning to be felt in the western end of the college district, it is estimated that in terms of the typical sigmoid population growth curve (which shows an initial geometrical increase of population expansion in the early period of an area with a gradual reduction in that rate as the population saturation starts to occur), the college district population is only in the initial stages with saturation to occur in the next century.

It is felt that a 4% per year population growth is conservative.

### Enrollment Projections

Population forecasts are but one of the variables which ought to be considered in terms of projecting enrollments for a community-based college such as Fraser Valley College. Other variables which are generally taken

into account are secondary graduates, in-district, as well as out-of-district; mature students; and the number of first year students who continue for a second year. In Table III, PROJECTED ENROLLMENTS, experiences at other community colleges have been used as a basis for these estimates.

In order to arrive at a number of total full-time students to be expected, the number of district secondary graduates has been obtained by applying the 4% per year of growth factor and then estimating the number of secondary graduates who will continue immediately to Fraser Valley College (from 35% in 1975 to 60% in 1995 on a gradually decreasing percentage).

Out-of-district students will be those, generally, who are attending unique programs offered at Fraser Valley College that are not offered elsewhere. Since these programs will gradually increase in numbers, it is estimated that the number of out-of-district students will rise from an initial 10% of the local students to 20% in 1995.

Finally, mature students (those who have been out of school for any number of years) are expected to increase quite rapidly as lifetime education becomes a part of everyone's life, particularly retraining and upgrading programs. (These percentages are estimated to range from 40% of recent graduates in 1975 to 56% in 1995. In estimating

numbers of first year students continuing on to second year, a static 50% has been used. This formula results in total full-time student estimates of 805 in 1975; 1,294 in 1976; rising to 5,169 in 1995.

In analysing the area of concentration of studies of full-time students, it is estimated that 50% will continue to be in academic studies and 50% in the total realm of career education which includes all programs two years in length or less leading directly to employment.

In analysing part-time enrollments, it is estimated that the current 3½% of the total population will rise gradually to 12% by 1995, again as a life-time learning becomes a fact of life.

The resulting total number of students to be expected at Fraser Valley College is 4,965 in 1975 rising to 32,517 in 1995.

In order to validate these enrollment projections, the enrollments of several mature community colleges were analyzed and the results indicate that the projected enrollments for Fraser Valley College are somewhat conservative.

For example, Malaspina College, with a population base of 485,000, had an enrollment for fall, 1974; of 1,534 full-time students and 5,225 part-time students. Since the

population of the Fraser Valley College District is 25% greater than Malaspina, the equivalent full-time enrollment of 1,841 is not estimated to be reached at Fraser Valley College until 1979.

The resultant projected enrollment for Fraser Valley College is shown in Figure 2.

TABLE I

## POPULATION PROJECTIONS FOR FRASER VALLEY COLLEGE DISTRICT

	1921	1931	1941	1951	1956	1961	1966	1971	1981	1986
Mission District	3,025	3,593	4,675	7,135	7,721	8,575	8,763	10,220	12,700	14,500
Unorganized	1,200	1,422	1,563	2,199	1,976	2,206	2,347	2,474	2,600	2,700
Indian Reserves	262	262	275	451	531	649	547	155	600	600
Matsqui	3,763	3,835	5,601	10,308	11,521	14,293	16,161	23,554	27,000	30,000
Abbotsford	2,299	2,322	3,055	4,800	5,335	6,033	6,237	7,479	8,300	9,000
Unorganized				166	164	157	202	271		
Indian Reserves	138	138	146	239	281	343	289	161		
Chilliwack City	1,767	2,461	3,675	5,663	7,297	8,259	8,181	9,135	12,000	13,000
Chilliwack Township	3,161	5,802	7,787	13,677	11,350	18,296	20,070	23,739	27,400	29,700
Harrison				477	613	475	486	598	600	600
Kent	1,054	1,207	1,287	1,725	1,989	2,194	2,642	2,966	3,600	4,000
Hope		374	515	1,668	2,226	2,751	2,948	3,153	4,100	4,100
Subdivisions	720	983	1,120	1,700	2,258	2,677	2,815	5,092	3,100	3,200
Indian Reserves	400	400	421	690	812	992	838	1,414	900	900
TOTAL	17,789	22,800	30,100	50,898	54,074	67,900	72,526	90,411	102,900	112,300

TABLE II

B.C. TELEPHONE COMPANY PROJECTIONS

<u>EXCHANGE</u>	<u>1970</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>
Mission	3,650	4,200	4,850	5,600	6,400
Agassiz	1,100	1,250	1,410	1,610	1,830
Abbotsford	6,450	8,600	12,300	15,600	19,500
Yarrow	1,120	1,260	1,390	1,520	1,700
Sardis	2,270	2,490	2,800	3,220	3,610
Chilliwack	5,700	6,700	7,850	9,250	10,700
Rosedale	670	720	775	830	900
Hope	<u>1,430</u>	<u>1,750</u>	<u>2,110</u>	<u>2,550</u>	<u>3,100</u>
TOTAL	22,390	26,970	33,485	40,180	47,740

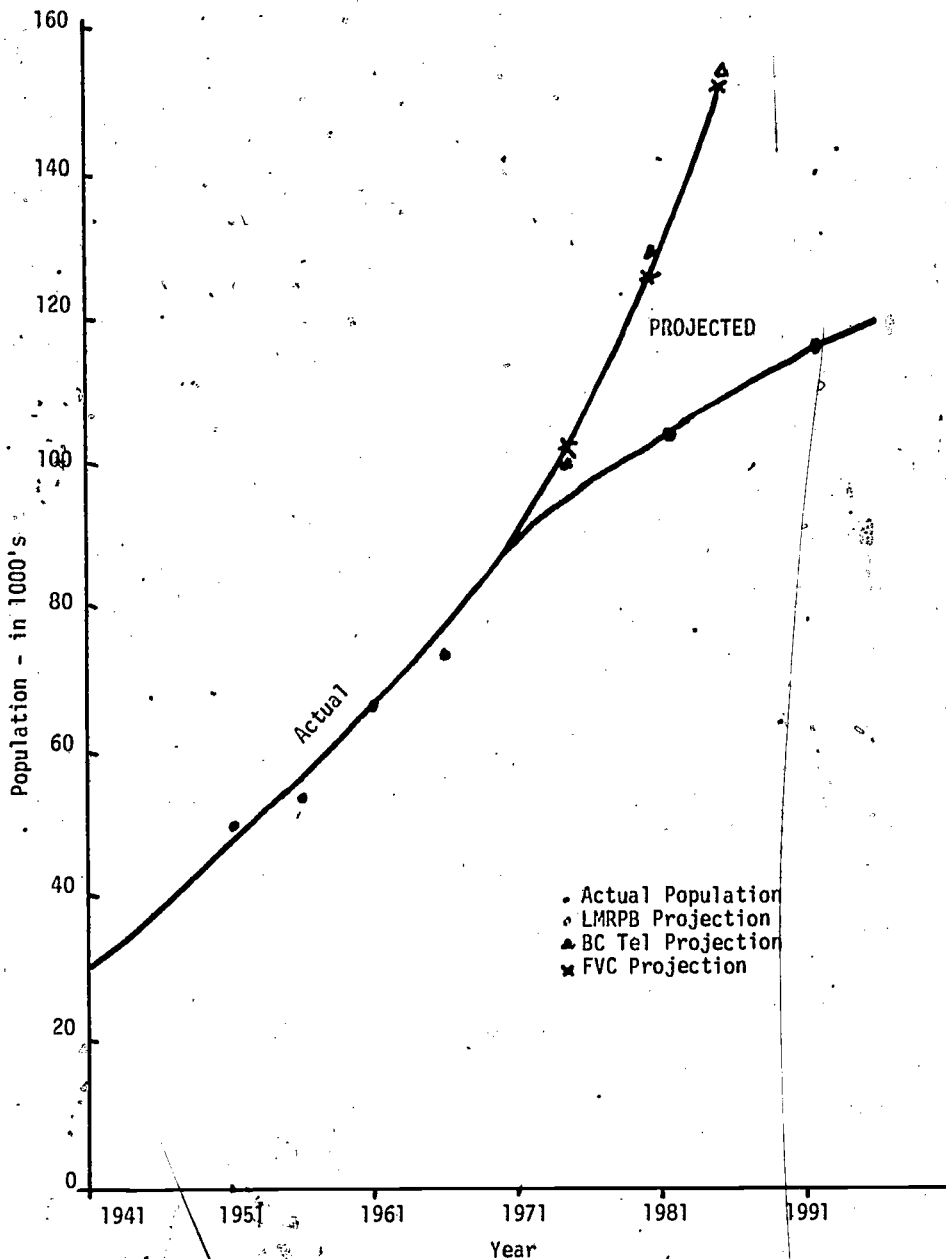


FIGURE 1. POPULATION PROJECTIONS

TABLE III PROJECTED ENROLLMENT Fraser Valley College 1975-1995

	1975	1976	1977	1978	1980	1985	1995
District Secondary Graduates	1,401	1,457	1,515	1,576	1,704	2,073	3,069
District Population	104,000	103,200	116,500	117,000	126,500	153,900	227,900
Basis for Enrollment Projection							
Graduates to First Year	350	393	458	503	550	550	600
Out-of District (% of Local)	100	120	140	150	160	100	200
Mature Students (% of Above)	400	440	470	490	500	500	560
First Year to Second-Year	(a)	500	500	500	500	500	500
First Year from District	490	560	650	725	852	1,140	1,841
First Year out-of District	49	60	91	109	136	205	360
First Year Mature Students	216	280	349	409	494	713	1,237
Total First Year Students	755	916	1,091	1,243	1,482	2,050	3,446
Total Second Year Students	50	370	450	546	741	1,029	1,723
TOTAL FULL-TIME	805	1,294	1,549	1,789	2,223	3,077	5,169
ANALYSIS OF FULL-TIME (b)							
Career (c)	403	647	775	895	1,112	1,544	2,385
Academic	402	647	774	894	1,111	1,543	2,504
PART-TIME ENROLLMENT							
Basis, % of Population	40	5.50	78	80	100	110	120
Total	4,160	5,591	8,155	9,360	12,650	16,929	27,340
Full-Time Equivalent of							
Part-Time Enrollment (d)	832	1,190	1,631	1,868	2,530	3,306	5,470
TOTAL STUDENTS	4,965	7,245	9,704	11,149	14,873	20,016	32,517
FULL-TIME EQUIVALENTS	1,637	2,484	3,180	3,657	4,783	6,473	10,639

(a) Assume 50 Second-year students for 1974-75.

(b) Assume 50% career and academic.

(c) Career includes all programs two-years in length or less leading to employment.

(d) Assume part-time equals one-fifth full-time.



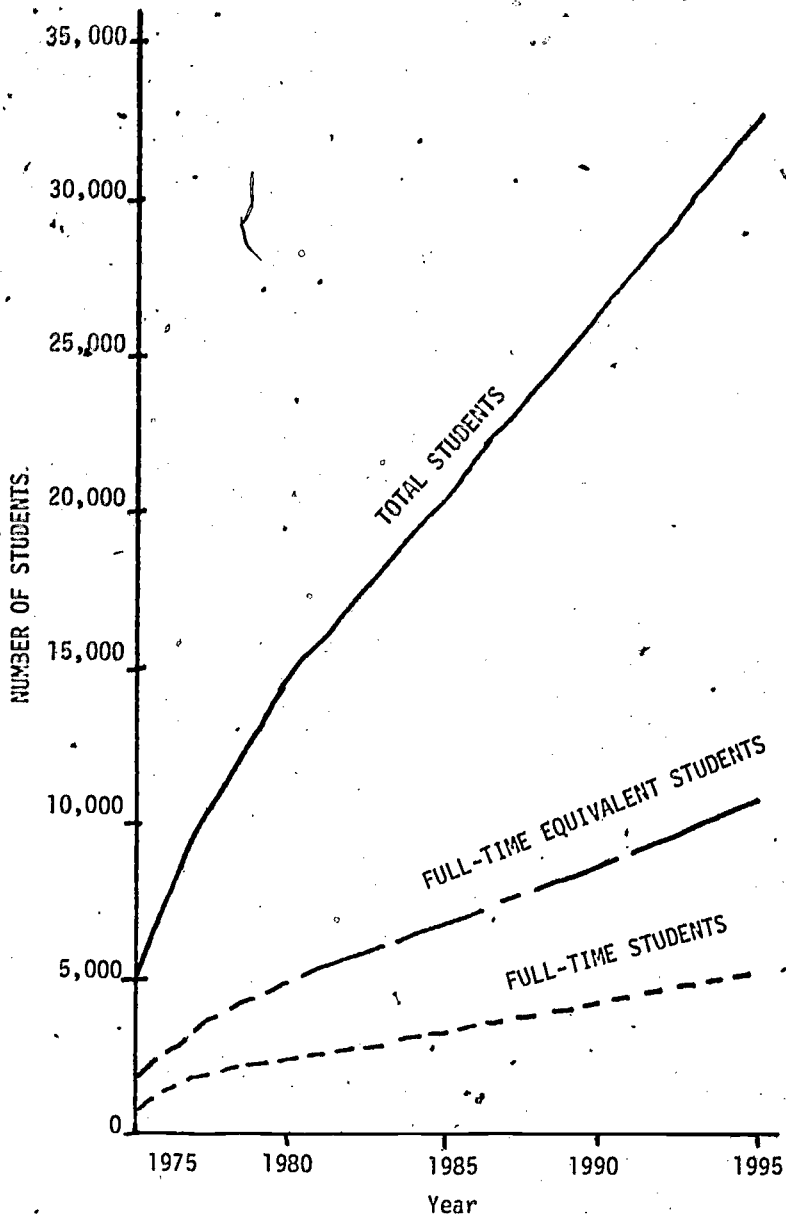


FIGURE 2. PROJECTED ENROLLMENTS

### III. INSTRUCTIONAL PROGRAM REQUIREMENTS

In order to plan the instructional program based upon current and future actual needs, the program of Fraser Valley College has been divided into three areas, namely: university transfer education, career education, and community service, or continuing education. The term career education is used to indicate all programs of two years or less in length, leading directly to employment. In British Columbia, these programs are entitled vocational, technical, and career.

Prior to the establishment of Fraser Valley College, considerable planning had been accomplished concerning instructional programs. For further information concerning these studies, reference is made to the "College Feasibility Study", dated November 1973 and the report entitled, "Recommendations for B.C. Vocational School - Eastern Fraser Valley", dated December 17, 1970.

Prior to developing actual program requirements, a series of needs-analysis surveys were conducted in the college district from November 1974, to January 1975.

These included secondary student vocational interest surveys; data from Canada Manpower, Department of Labour, and Department of Education; as well as specialized employment surveys of twenty-five industrial groups involving nearly 500 employers.

The result of these surveys combined with the previous surveys, form the basis for the development of the program requirements contained herein. The results are shown in the appendices.

### University Transfer Education

In British Columbia, as in the rest of the continent, the university transfer program requires the least explanation of any program in the community college. Transfer education is the reason junior colleges began: to quote a typical philosophy, "to provide, near to home, the first two years of college education".

Characteristics of transfer programs are that they are quite similar to the lower division programs at various universities, although there continues to be an increasingly unique community college flavour as additional interdisciplinary studies are undertaken.

Centrally, this program is not identical with any one program at any university, although it may most nearly resemble a program at the university where most of the students transfer.

Acceptability by the University of British Columbia, Simon Fraser University, and the University of Victoria, therefore, serves as a major guideline in course development.

The community college must require at least as high a standard for the transfer education courses as does the university, for it is essential that the community college students do at least as well as students of comparable ability who enter the university directly from secondary school.

To maintain these high standards in an "open-door college", it is necessary that much attention be given to guidance and the quality of the instructional program.

A transfer course should not be limited to any part of the day or year. A comparable course in July or September and at 8 a.m. or 10 p.m. should receive the same credit.

In determining the desirability of adding a transfer course, the goals of the student should be the major criteria.

A major goal for the student in the transfer program

is ease of transfer and acceptability of total credits at a four-year institution and, therefore, transferability is a primary objective. Although much can be done in coordinating curriculum development with in-province universities toward acceptance of unique courses at the College, this standard must be maintained.

In predicting the balance of the various segments of transfer education to be anticipated in the future years of the College, continental and regional community college norms have been used to anticipate facility needs. These percentages are used in the development of Table IV.

### Career Education

Career education falls into two major phases, each having special implications for facility planning. The first of these is the program of career preparatory curricula, which may also be used for retraining. The second is the program of part-time career courses, which are generally of an upgrading, retraining, refreshing, or supplementary nature and are generally taught in the evening.

### Career Preparatory Program

The curricula in this program have the central purpose of preparing students for employment and continuing careers at levels requiring instruction which can be provided

by the community college prior to employment. Professions and other occupations which require four or more years of higher education are excluded.

The careers included in this phase are at the semi-professional, technical, skilled, and semi-skilled levels. Potentially, they represent the probable needs for new workers in such areas of employment as business, engineering, forestry, health, agriculture, productive and constructive industry, repair and maintenance, public service, personal service, finance, transportation, homemaking, and communications.

Most of these students will pursue these curricula on a full-time basis though some might attend on a reduced-time schedule.

The majority of these curricula require specialized shop or laboratory facilities with appropriately qualified faculty.

Some curricula are offered on a part-time cooperative basis with on-the-job learning experiences interspersed with, or parallel to, campus classroom instruction, while others prepare for entry into advanced levels of apprenticeship.

TABLE IV  
UNIVERSITY TRANSFER  
PROGRAM DISTRIBUTION

	<u>U.S.</u>	<u>Douglas</u>	<u>Camosun</u>	<u>VCC</u>
Fine Arts	8.0%	18.6	-	1.5
English	16.1	6.5	21.2	19.4
Foreign Languages	5.5	4.2	6.0	6.0
Social Science	25.1	36.3	51.4	40.3
Natural Science	21.3	14.4	14.7	15.4
Mathematics	9.5	7.9	6.7	12.8
Business	4.5	6.8	-	4.6
Physical Education	10.0	5.3	-	-

## Part-Time Career Courses

This phase of career education primarily serves persons employed full-time in the work force. Their attendance is usually part-time during non-working hours.

These courses are for the upgrading and updating of persons employed at the semi-professional, technical and skilled levels. They also include related instruction for apprentices and the retraining of workers for new tasks related to their past employment experience and training.

This phase of the program commonly requires little or no specialized shop or laboratory facilities. Most frequently it can be provided in standard classrooms.

Where specialized facilities are required (as for office occupations, some apprenticeship programs and some supplementary training) the facilities for full-time preparatory curricula and other school and non-school facilities can be used at hours when they are not needed for their primary purpose.

### Program Planning in Career Education

Program planning in career education is, probably, the most difficult to undertake, since it is based on many unknown factors, many of which are difficult to measure.



Basic considerations in the process include: student interest and expectations; occupational placement needs at the local, regional, and national level; the feasibility of and need for instruction which can be provided by the community college, as opposed to on-the-job and other employer-provided training; the supply of new workers from sources other than Fraser Valley College; the projected potential total enrollment of students in this part of the college program; technological changes; and emergence of new occupations or new industries.

As stated earlier, the analysis of present and future career educational needs has involved student interest surveys; local, regional, and national employment needs and trends as supplied by various agencies; advisory committee recommendations; business and industry surveys in the college district; and the advice and coordination of the British Columbia Department of Education.

### Career Clusters

In order to allow maximum flexibility of program planning and to allow students to build one career upon the other (career ladders), to facilitate the use of common courses to coordinate planning in various related areas, and to provide expert supervision and administration, Fraser Valley College has grouped its present and future programs in career clusters.

In most clusters, the careers are on more than one level: semi-professional, technical, skilled, or semi-skilled. Because of the similarities and the nature of the instruction required for these occupations, benefit can be achieved by the clustering.

For example, some of the same specialized facilities might be used for instruction in two or more curricula. Likewise, some of the faculty might teach students enrolled in different curricula within a cluster, either in a group or in separate courses. Hence clustering permits more efficient use of faculty and specialized facilities.

#### Proposed Career Education Programs

In establishing the proposed implementation of career education listed below, the College recognizes that it must be continually responsive to needs in this area. Therefore, some programs listed may never be implemented and others begun due to future circumstances, unknown at the present time.

Also, since requirements change, the College must also be ready to discontinue unnecessary programs which have already begun.

Listed in Table V are proposed clusters of career programs with sub-clusters in each. The length of program

has been indicated, as has the starting year, in the case of those not already in existence at the College.

The justification for the establishment of the individual programs is contained in "requests for additional course" forms on file at the College.

### Community Service

Community service, often called adult or continuing education, is one of the most important functions of any community college and must be given a significant place in planning.

In a fast-changing world where it is likely that every person will change occupations several times in his life, where human relationships get more complex as the world gets smaller, and where there are vast career opportunities on the one hand and greatly increased specialization on the other, survival requires continued education.

The community college, with its ability to provide education close at home, is the logical educational agency to provide this service.

The differences between community service education and transfer or vocational education may not be so much related to the respective ages of the participants or

the level of the courses, as they are to the purposes for which the courses are taken. Another difference is that the student in the community service education is not usually engaged in a formal full-time educational program.

Among the bases for community service education are the following:

- (a) Education is a never-ending process and, therefore, it is the responsibility of the educational system to provide the opportunities for continuing education.
- (b) Education should offer all citizens, regardless of age or previous experience, the opportunity to grow in knowledge and understanding; to acquire and to improve academic, vocational, technical, semi-professional and professional skills; to experience new dimensions in human relations, social adjustments; and to develop leadership potential.
- (c) As citizens in a democracy, we must provide the educational opportunities necessary to maintain the democracy.

Based upon this philosophy, Fraser Valley College offers, and will continue to offer, any course or program for which there is sufficient demand and for which a qualified instructor is available.

Usually, no special facilities are planned for community service programs but community public school facilities are used wherever available. Fraser Valley College will use its own facilities and those of other school systems in order to bring community service education to as many citizens as possible.

A major implication for facilities, however, is caused by other non-instructional facets of the community service program of the College.

It is the philosophy of Fraser Valley College that it complement the various other community services available in the Upper Fraser Valley, and provide those community services which are not presently available.

Thus, the College will attempt to meet the unmet needs of its area, not only educational, but cultural, social, and recreational as well. Generally, most of these needs can be met within facilities designed for the major programs of the College; however, special consideration should be given to the design of physical education facilities, libraries, auditoria and community centres (or student centres).

#### Learning Resources Centre

In view of the rapidly changing technology in the knowledge industry, special consideration should be given

TABLE V

CAREER PROGRAM IMPLEMENTATION SCHEDULE

FULL-TIME PROGRAMS

<u>1975</u>	<u>1976</u>	<u>1977 or later</u>
<u>Agricultural &amp; Related</u>		
Farrier Training, 3 mos.	Basic Agr, 1 yr	Agribusiness, 1 yr
Milker Training, 4 mos.		Food Processing(BCIT)
		Food Production(BCIT)
		Veterinary Asst, 2 yrs
<u>Business &amp; Related</u>		
Accounting(BCIT)		Computer Programming(BCIT)
Business Management(BCIT)		
Financial Management(BCIT)		
Marketing Management(BCIT)		
<u>Engineering &amp; Related</u>		
	Civil Tech(BCIT)	Drafting, 1 yr
	Surveying(BCIT)	Electronics(BCIT)
		Forest Tech(BCIT)
		Radio & TV Repair, 1 yr
<u>Food Service &amp; Related</u>		
Dinner Cook, 6 mos.		Baker, 1 yr
Short Order Cook, 3 mos.		
<u>Health &amp; Related</u>		
Dental Assistant, 10 mos.		Practical Nurse, 10 mos.
<u>Office &amp; Related</u>		
Bookkeeper, varies	Legal Secretary, varies	Keypunch Operator, varies
Clerk/Typist, varies	Medical Records, varies	
Receptionist, varies	Medical Secretary, varies	
Secretary/Stenographer, varies		
<u>Trades</u>		
Welding, 5 mos.	Plumber, 5 mos.	Auto Body, 5 mos.
	Sheet Metal Worker, 5 mos.	Auto Mechanic, 5 mos.
		Carpentry, 5 mos.
<u>Miscellaneous</u>		
BTSD, varies	Welfare Aid	Aircraft Maintenance, 1 yr
Photography, 10 mos.	Mental Health Aid	Jewelry, 10 mos.
Journalism, 2 yrs		
Day Care Worker, 10 mos.		
Corrections Officer, 3 wks.		

- Note: 1) BCIT designated courses are generally the first year of a two-year program.  
 2) Survey data forming the basis for decisions are in Appendices.

to the future role of the "learning resources centre" or library.

The college library has always been an integral part of education, providing necessary resources for education in the form of books and periodicals.

More recently, records, tapes, slides, films, film strips, and pictures have also been added to vastly increase the instructional resources of educational institutions.

Now, with the major use of computers and television in assisting instruction, with computer programmed instruction, videotape and closed circuit television, either a new facility must be developed or the role of the library greatly expanded.

Fraser Valley College has chosen to continue to place learning and instructional resources in the library, now known as "the learning resources centre".

In facilities planning, this new role of the library, as well as its unpredictable future, must be taken into consideration.

## IV. NON-INSTRUCTIONAL REQUIREMENTS

Although instructional services are central to the mission of Fraser Valley College, there are many allied functions, some of which are nearly equal in importance, which must be taken into account when planning facilities and long-range budget requirements.

These non-instructional services include: administrative services, business services, student personnel services, food services, and community services. The following examines the characteristics of the services to be provided and suggests guidelines for present and future planning.

### Administrative Services

The administrative structure and functions of Fraser Valley College are dictated by the democratic philosophy of the structure and operation of the institution. Elements of that philosophy which particularly influence administrative services are:

- (a) The College is a meeting ground of three groups of individuals: faculty, students, and the community.
- (b) Of vital necessity to the direction of the College and the functioning of its operation, is constant and free communication among all concerned.
- (c) The direction of the College, as determined by its



policies, is set by the College Council, after full consultation with all concerned, recognizing that no individual nor group of individuals should determine the future of the College but, rather, the collective and democratic recommendations of all should prevail.

- (d) The administration should provide the professional leadership, coordination and consultative management to assure that the goals of the College, once set, are being met; and should ensure that continual communication among all aspects of the College continues, and that its goals thereby remain dynamic and not static.
- (e) A major function of administration is to minimize or eliminate the mechanical nuisances which stand in the way of instruction and other aspects of the College, assuring that instructors and other personnel can spend, as nearly as possible, one hundred percent of their time at their assigned tasks.

Based upon these ideals, the administrative structure of the College should be large enough to assure its proper functioning, yet not too unwieldy or complex as to hinder communications and flexibility. Implications for facilities planning include: accessibility, centrality, and sufficient space.

## Business Services

Business services usually include such items as financial reporting, budget preparation and control, receipts, administration and custody of funds, purchasing, internal auditing, contracts, payroll, investment of funds, business management of auxiliary enterprises, the construction, maintenance, and operation of physical facilities and the administration of non-academic personnel.

As a college enlarges, these functions are frequently grouped under various administrative heads including building and grounds, comptroller, bookstore manager, director of food services, purchasing, etc.

In a community college, as in any other institution of higher education, the ultimate authority lies with the College Council.

As is the case with administrative services, one of the principal obligations of the business services area is to provide all the necessary services so that instructors and other personnel are able to function at maximum efficiency. In coordinating the business services of the college, it is necessary that sufficient statistical data and periodic reports are provided. Computer facilities, or access to such facilities, are essential to provide these services.

Ideally, the business services should develop as a smoothly-operating, inconspicuous area of the college function.

It is in reaching for the goal of super-efficient business operations that procedures initiated to attain this goal can become counterproductive to the main purpose of the institution, that of enhancing the learning environment of the student.

A delicate balance must be maintained to provide for the most efficient business operation consistent with that of serving the needs of the students' educational requirements.

### Student Services

The student services program in a community college provides some of the most important services to the student, other than those directly involved in instructional activities or courses. Listed below are major services, which are directly associated with students.

- (a) guidance and counselling
- (b) admission
- (c) registration and records
- (d) student activities
- (e) financial aids
- (f) high school and university relations

- (g) placement and follow-up
- (h) intramurals and athletics
- (i) testing
- (j) housing
- (k) institutional research

Several observations regarding these services are appropriate for consideration:

- (a) The demand for counselling services in the community college is likely to increase rapidly during the next few years. Every effort should be made to provide a full-time equivalent person for every 200 to 250 students, with appropriate consideration for the responsibilities for students who are enrolled in the community services program of the college. The work of these persons should be supplemented by faculty advisors.
- (b) The student personnel services should be located in places on campus which provide easy and inviting access and which are fairly centrally located in relationship to circulation.
- (c) The student personnel services must be viewed as central to the program of the college, rather than supportive.
- (d) Adequate privacy for advising, counselling, testing, and related activities must be provided.
- (e) In order for student services to be effective, it is

essential that there be a continuing program of research. Especially significant for student services are research studies dealing with student characteristics, career opportunities, follow-up of students, and program development. In this regard, research activities need ready access to computer installations.

### Food Services

It is generally agreed that the principle function of the college institutional food service is to provide, as economically as practicable, food of a quality and standard which will contribute to the healthful living of students and staff. However, for a commuting student body, there are many other functions that must also be considered in planning the organization, staff, and facilities needed for food services. A few of these are:

- (a) A cafeteria serves as an extension of the classroom. It is, therefore, essential to provide an attractive, relatively quiet atmosphere in which discussions can take place. Learning can be reinforced over a cup of coffee.
- (b) The food services provided for business, cultural, and service agencies can make the public realize the extent to which the college really serves the community.
- (c) In community colleges which have career training in food services, another dimension is added. This requires

attention of instructional staff especially in the fields of dietetics, home economics, and institutional management. Inasmuch as tourism is the second largest industry of the Upper Fraser, this is certain to be true of Fraser Valley College.

- (d) The cafeteria, dining halls, grills, snack bars, and soda fountains, as parts of a student centre building, provide a home away from home for many students who commute to the college. Provisions must be made for conversations, studying, waiting for class, as well as eating and drinking.

#### Community Services

In a community college which is totally responsive to its community, considerable attention must be given to possible services to the community through all college facilities. It has been previously mentioned that athletic facilities, other instructional facilities, and food services, should take into account this new dimension.

In planning what has formerly been known as the student union building, or student centre, greater clarity as to its future functioning can be gained, by considering it a Community Centre and analyzing all the possible benefits, which might accrue to the service area of the college.

Consideration should be given for spaces for work-

shops, conferences, retreats, meetings, social gatherings, cultural activities, and other related activities which might be provided by the College for its community.

## V. LOCATION OF CORE FACILITIES

In the determination of the number, location, and nature of physical facilities located throughout the college district, a large number of variables were taken into account in order to determine the most effective and efficient method of delivering educational services to the Upper Fraser Valley.

A major influence on these decisions was the early commitment of the College Council to a community-based system rather than a campus-based system. This decision was based partly upon the recommendations put forth in the task force report.

Among the variables considered were: population density, distribution, and future growth patterns; transportation systems and weather conditions; other post-secondary educational institutions and their programs, the nature of the communications media; and proposed elements of the educational delivery systems.

### Population Density, Distribution, and Future Growth Patterns

The population distribution of the college district is typical of that of a major river valley traversing rugged mountain systems. Almost all of the population lives on the plain and low terrain next to the river, this population belt being approximately twelve to fifteen miles



wide at the western end and only a few miles wide at the upper end.

Although the college district stretches along the Fraser River for nearly one hundred miles, ninety percent of the population is found in the western thirty-five miles.

Within this population belt there are two major centres of population, one concentrated in the Abbotsford, Matsqui, Mission area and the other in the Chilliwack, Agassiz-Harrison area.

In the latest census (see Chapter I), the population of the Western College District and Eastern College District were nearly equal, at just under fifty thousand in each area.

The eastern and northern end of the college district consist of very small population centres with limited future growth.

As indicated in Chapter I, the best estimate for future population growth is that the college district will grow at an average annual percentage of four percent per year, with the western district averaging slightly over that figure and the eastern district slightly under.

## Other Post-Secondary Educational Institutions

Although several major post-secondary educational institutions are found in the Vancouver area, some forty-five miles away from the closest portion of the Upper Fraser Valley, only two other institutions are found within the college district. Both located in Abbotsford, these are the Columbia Bible Institute and the Western Pentecostal Bible College. Both institutions are, for the most part, residential institutions with limited enrollment from the college district.

The Columbia Bible Institute is sponsored by the Mennonite Church and the Western Pentecostal Bible College by the Pentecostal Assesblies of Canada. CBI has an enrollment of approximately two hundred and fifty students and offers only two-year programs, although plans are to expand to a four-year program in the very near future. Enrollment at the WPBC is one hundred and fifty students.

## Transportation and Weather

The College district, following the Fraser River, is traversed by the Trans-Canada Highway which provides for excellent automobile transportation from one end of the college district to the other.

The district is also served by the Canadian National

Railway and Canadian Pacific Railway, although passenger service is very limited:

Bus service is also provided on the Trans-Canada Highway.

There are no adequate municipal bus systems in any of the communities of the college district. Also, feeder roads are, for the most part, not designed to carry current traffic loads, let alone any future increases. This is due to the rather rapid population growth of the college district without concurrent development of traffic systems. This lack of a good feeder road system will cause some transportation problems for citizens utilizing college services.

The weather of the Upper Fraser Valley is, along with the balance of the lower mainland, considered the mildest in Canada. July temperature averages 62.4 degrees and January averages 34.3 degrees. There are 76 days per year when the temperature drops below freezing and no days when it drops below zero.

The major factor influencing traffic is precipitation. The district receives approximately 56 inches of rain per year and over 31 inches of snow. The snow, occasionally combined with high winds, creates severe traffic hazards and closes the Trans-Canada Highway between Chilliwack

and Abbotsford.

### Communications Media

As educational institutions look to community-based systems, an important element in that consideration is the network of communications media. /

Because of the strong influence of the metropolitan Vancouver area, the communications system of the Upper Fraser Valley is not typical of that of a similar sized population located at a distance from a metropolitan area. There are no daily papers printed within the college district but, rather, weekly papers based in the five major centres of the district, namely: Abbotsford, Mission, Chilliwack, Agassiz, and Hope.

Radio provides a major source of daily news and information. Stations are located in Abbotsford, Chilliwack and Hope. No television broadcast is originated within the district but rather, a system of cable television has grown within the communities of Mission, Abbotsford, and Chilliwack providing cable television to approximately fifty percent of the homes of the college district.

### Proposed Delivery Systems

At this stage in the planning and development of Fraser Valley College, it is not possible to describe in

detail the various elements of the educational delivery systems of the college. Rather, it is important to describe in general terms the type of processes used.

In committing the College to a community-based educational delivery system, the College Council decided that traditional campus facilities would be developed as "core facilities" which would provide necessary space for educational processes at the campus as well as support service for off-campus educational systems.

Among the possible types of educational delivery systems are: newspaper-based courses; cable television courses and programs, library-based courses; home-study courses; courses and programs offered in public school buildings, municipal buildings, churches, offices, in industrial plants and in the field.

It is expected that, as coverage of cable television increases, programs delivered through this medium will become a major factor of the college program. Discussions are being held at the present time with the governmental regulatory agencies as to how to more effectively utilize this medium.

It is also expected that home study programs augmented and supplemented by tutorial sessions in the various communities of the college district will also be an integral

part of the program.

### Proposed Locations

The analyses undertaken in order to develop this long-range plan have substantiated the recommendations of the task force and other planning documents in the need for two "core facilities" to be located in the Western College District and the Eastern College District.

These facilities would house the necessary support facilities for the total educational program of that portion of the college district, as well as provide facilities for a normal campus-based educational system which will need to be provided for some time into the future.

It is also proposed that extension facilities of a very limited nature be provided in the communities of Mission, Agassiz, and Hope. These facilities would house the necessary offices and support facilities, as well as provide tutorial space for travelling tutors and one or two classrooms for local programs.

The nature and extent of the core facilities, although described in some detail in this report, will be refined and finalized in the development of educational specifications, and will be developed with the assistance of experts versed in the latest techniques of community-based education.

## VI. ESTIMATE OF LONG-RANGE FACILITY NEEDS

Based upon previously developed estimates and instructional program requirements, an estimate of long-range facility needs for Fraser Valley College is developed within this chapter. Estimates of the costs of facilities and equipment are also included. These estimates are only intended as guides for making cost estimates for general site planning.

Space layouts prepared from educational specifications should be the final basis for determining the amount of space actually required for the various services and the instructional program of the College.

### Estimate of Space Needs

The estimate of space needs as illustrated in Table VI has been developed using two different approaches, which show surprisingly similar results.

The first estimate is based upon a widely-used factor of 150 sq. ft. per full-time student. This factor, generally used for initial rough estimates similar to that in this report, has been substantiated in a survey of a large number of recent campus constructions. It assumes that physical facilities should be designed for maximum day-time use and that any overflow use in the

evening would be directed toward other community facilities.

The second approach, that of using 92 sq. ft. per full-time-equivalent (FTE) student is a combination of unofficial British Columbia space guidelines and actual percentages of space devoted to various areas of the College.

In an analysis of three recently constructed community college facilities in the neighbouring state of Washington, 39% of the total space was devoted to classrooms and laboratories; 29% of the space to other assigned functions such as administration, student services, counselling, faculty offices, library student centre, bookstore, etc.; and 32% to non-assigned space such as structural walls, hallways, stairwells, etc.

It was also noted that the ratio of classrooms to laboratories in these facilities, as well as actual use in British Columbia, is on a ratio of 4 to 3. Taking the unofficial B.C. guidelines of 25 sq. ft. per student station for classroom use, 50 sq. ft. for laboratories, and the 4 to 3 ratio, results in an average space requirement of 36 sq. ft. per student station for classrooms and laboratories. Then utilizing the percentage of space devoted to classrooms and laboratories in the three facilities evaluated that of 39%, results in a total space need of 92 sq. ft. per FTE.



In determining the percentage of the part-time enrollment which contributes to space requirements for future campus construction, an estimate of 60% is used. The results of both projections are shown in Table VI.

TABLE VI  
PROJECTED SPACE REQUIREMENTS  
Fraser Valley College  
1975 - 1995

	<u>1975</u>	<u>1978</u>	<u>1980</u>	<u>1985</u>	<u>1995</u>
Enrollment					
Full-Time FTE*	805	1,789	2,223	3,087	5,169
Part-Time FTE*	832	1,868	2,530	3,386	5,470
FT + 60% PT	1,304	2,910	3,741	5,119	8,451
Space Required					
@ 150 sq.ft./FT	120,750	268,350	333,450	463,050	775,350
@ 92 sq.ft./					
FTE (adj)	119,968	267,720	344,172	470,948	777,492

\* From Table III

\*\*See narrative for factors

Estimated Construction Costs

In the current era of rapid inflation, with double-digit, or near double-digit, annual cost increases, with continued and erratic wage and material costs spiraling, an attempt to arrive at a cost factor for construction is a



nearly impossible task, However, in order to obtain a sense of the amount required for future campus construction, estimates must be made regardless of the range of error inherent in their application.

At the present time, past history is of little help in determining future costs. Of more value are the estimates of experts in the field. In this regard, a number of individuals were contacted for future estimates.

The consensus placed the 1975 costs of construction of typical college facilities at \$36 per sq. ft. with a minimum annual increase of 10% per year for the immediate future.

In addition to basic construction costs, estimates are made for landscaping and parking, equipment costs, architectural and engineering services, and contingency.

Recent costs of community college landscaping and the parking have averaged 8% of construction costs.

In equipment costs, the normal factors are 20% for classroom and other facilities, 50% for science and vocational laboratories. Since one-third of the space is estimated for laboratories and two-thirds for other space, an overall factor of 30% of basic construction costs is

used for equipment costs.

A total of 8% for architectural and engineering services is used inasmuch as architectural fees will amount to 6% while fees for structural engineering, heating and ventilating design, etc., will amount to another 2%.

Although most experts advise a contingency factor of considerably more than 5% in view of the current lack of reliability in costs, that percentage has been used in this report.

The application of these factors result in the estimated construction costs as shown in Table VII. For estimating purposes a choice of phased, or organic, construction offers the advantage of lower construction costs in a period of escalating costs.

For preliminary estimates, it is indicated that the initial core facility construction would be in 1978 with subsequent phases in 1982, 1986, 1990.

No attempt has been made to separate these costs and relate them to the East or West campus core facilities. Although the portion distributed to each campus will likely be nearly 50%, future enrollment patterns and development of programs will refine this figure somewhat.

Finally, it should be reiterated that these are estimates only. Actual space requirements will be obtained and refined through the process of the careful development of educational specifications based on program requirements while cost estimates can be more closely approximated closer to the actual date of construction.

TABLE VII  
PROJECTED FACILITY COSTS  
Fraser Valley College  
1978 - 1990

	<u>1978</u>	<u>1982</u>	<u>1986</u>	<u>1990</u>
Total space required	268,000	395,000	501,000	624,000
Additional space required	268,000	127,000	106,000	123,000
Estimated cost/ sq. ft. \$	46.80 \$	61.20 \$	75.60 \$	90.00
Construction cost	12,542,000	7,772,000	8,014,000	11,070,000
Landscaping & Parking	1,003,000	622,000	641,000	886,000
Equipment costs	3,763,000	2,332,000	2,404,000	3,321,000
Architectural & Engineering Services	1,003,000	622,000	641,000	886,000
	<u>\$18,311,000</u>	<u>\$11,348,000</u>	<u>\$11,700,000</u>	<u>\$16,163,000</u>
Contingency, 5%	916,000	567,000	585,000	808,000
<b>TOTAL</b>	<b>\$19,227,000</b>	<b>\$11,915,000</b>	<b>\$12,285,000</b>	<b>\$16,971,000</b>

## Proposed Construction Schedule

The following schedule has been developed to allow an orderly process of planning, designing, and constructing core facilities in phase construction. The time-line consists only of major steps in the process.

Currently the College is housed in a variety of public school buildings, municipal buildings and other facilities for its East Campus and West Campus, facilities which will revert to other uses when Fraser Valley College occupies its permanent core facilities. The proposed schedule is as follows:

Selection of sites	July 1975
Selection of Architects	August 1975
Completion of Educational specifications	December 1975
Completion of Architectural specifications	September 1976
Begin construction, first phase	January 1977
Occupy first phase	July 1978
Architectural specifications, second phase	September 1980
Begin construction, second phase	January 1981
Occupy second phase	July 1982

Third and fourth phases will follow similar schedules with occupancy in 1986 and 1990 respectively.

## VII. SUMMARY, CONCLUSIONS, & RECOMMENDATIONS

In the development of the long-range plan for Fraser Valley College, this report has reviewed the national, provincial and local setting for community colleges; presented a projection of future enrollments and programs; reviewed service facility requirements; and determined the future campus requirements and their costs.

Projected future enrollments for the total College District are: 4,965 in 1975; 14,873 in 1980; 20,016 in 1985; and 32,517 in 1995.

As indicated in this report, there are many different factors which may significantly increase these projections and very few, if any, which will minimize them. Thus, enrollment figures must be constantly re-evaluated and their effects on long-range planning taken into account.

A projected balanced program of transfer, career and community educational programs presented, in order that the College may fully meet the educational needs of its community.

The career programs are recommended to be grouped in clusters so as to reduce needs.

Based upon the projected enrollments and instructional program requirements, campus core facility requirements are projected for 1978, 1982, 1986 and 1990. The sizes of the total required facilities, in square feet, are 268,000; 395,000; 501,000; and 624,000; respectively. The total costs of these four phases are \$19,227,000; \$11,915,000; \$12,285,000; and \$16,971,000; respectively.

The overwhelming theme of this report is that long-range planning for community colleges in general, and Fraser Valley College is particular, must be quite dynamic and subject to constant renewal as external influences change.

Among these influences are increased awareness of the needs for universal post-secondary education and life-time learning, industrialization of the Upper Fraser Valley, and statutory changes.

Currently, legislation is being contemplated by the provincial government, based upon a recent task force report, which could make community colleges a major vehicle for all forms of post-secondary education in British Columbia.

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