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ABSTRACT

This 4-section report documents the findings of a study for the Illinois Advisory Council to identify the merits as well as the deficiencies in the use of facilities and resources in the State's vocational education programs. Data were obtained through on-site visits to schools and vocational centers in the State, interviews with state and local vocational personnel, school personnel, and students enrolled in programs, and reports submitted by local districts and the State vocational agency. Presented by section are: (1) a summary of the study arranged in question and answer form, (2) an account of the current status of the statewide program with detailed findings produced from on-site visits, (3) a detailed explanation of the findings from analysis of economic and manpower resources and demands in Illinois, and (4) a suggested statewide plan for organizational ad systematic operation of area vocational centers and regional administrative units. (Author/SN)

EXAMINATION OF PATTERNS OF CAREER TRAINING BY LEVELS FOR PROGRAM AND POPULATION DUPLICATION IN ILLINOIS

DECEMBER 1972

PREPARED FOR

ILLINOIS STATE ADVISORY COUNCIL ON VOCATIONAL EDUCATION
SUITE 575, LINCOLN TOWER PLAZA
524 SOUTH SECOND STREET
SPRINGFIELD, ILLINOIS

by

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FOREWORD

The report of the examination of patterns of career training by levels for program and population duplication in Illinois is herewith presented to the Illinois State Advisory Council for Vocational Education. The report consists of four sections, the first of which is a summary of the report including the conclusions and recommendations. The summary was prepared in the form of responses to the questions raised originally in the request for proposal. It contains information gathered from the various analyses of state and local data and information and results of the four on-site visits. It also represents a synthesis of observations made during interviews with state and local personnel, local vocational directors, school district superintendents, instructors and students.

Effort was made to identify commendable aspects of the existing programs as well as deficiencies in the utilization of facilities and resources in behalf of increasing the general efficiency and effectiveness of occupational training programs in the state of Illinois.

Section II was devoted to an account of the current status of the state-wide program and the on-site visits. An economic and manpower analysis was discussed in detail in Section III. Section IV was devoted to a suggested tentative state-wide plan of regional administrative units and area vocational centers.

Walter M. Arnold Associates, Inc., expresses its sincere appreciation to Mr. Sherwood Dees, State Director, Division of Vocational and Technical Education and members of his vocational education staff, Messrs. William E. Nagel, Executive Director, and Robert Gray, Research Director, Illinois State Advisory Council for Vocational Education, and all local personnel for their contributions and assistance in the conduct of this study.

Walter M. Arnold
Project Director

SECTION I

SUMMARY

CONCLUSIONS AND RECOMMENDATIONS

As a result of thorough analyses of various Illinois records and reports and the observations made during the four on-site visits, certain conclusions and recommendations appeared to be evident. It was thought it would be most understandable to present the conclusions and recommendations in the light of the amended questions raised in the original request for the proposal. The specific recommendations are underlined throughout this summary.

A. Competition and cooperation between high schools, and area vocational centers, and between both of these and junior colleges.

There was a paradoxical mix of competition and cooperation found between the vocational programs of the high schools and the area vocational centers (AVC). On the one hand, generally, there was excellent cooperation between these two types of schools and good articulation of programs between the participating high schools and the AVC's. Yet, basically, on the other hand there was a kind of inadvertent competition between these two types of secondary schools in that it was not clear what determined whether a new offering would be initiated and aided b the state in a high school or in an area center.

In some instances, as detailed in the account of the on-site visits, it appeared that a participating high school was looked to for expansion of program. In other cases, the area center seemed to have been encouraged and aided moreso. It also appeared that where a "host" school established and operated an AVC, it had a distinct competitive advantage over the participating high schools in having readily available occupational offerings for its own students and limited opportunities for students of other high schools in the area.

There were instances where shop facilities of the community college and an area center

appeared to be duplicated. Few such instances were found, and where they existed, the program objectives were clearly different. In some instances, local school administrators were to be highly commended for having worked out agreements among themselves that safeguarded students from repeating course content when moving from a participating school program to an area center or on to a community college course. Progression rather than repetition seemed assured because of the awareness of school administrators to the possible pitfalls of duplication of effort on the students part.

<u>The need exists nevertheless for the state department of education to establish guidelines that will ensure that duplication of facilities will be kept to a minimum and that students going from one program to another will be tested, screened and permitted to advance according to their own ability to make progress.</u>

(1) What are the populations served by both types of institutions? What populations should be served?

In general both types of secondary schools served the same population, roughly the 14 to 18 year age group usually enrolled in grades 9, 10,11, and 12. More specifically, the area vocational centers almost without exception concentrated their services for the 16 to 18 year age group, grades 11 and 12.

The population served by these two types of secondary schools was probably pared down somewhat by the fact that approximately 59 percent (76,000) of the total Illinois high school graduates (128,843 in 1970) went on to some kind of public or private postsecondary education program. There was no breakdown data available as to how many of these graduates went on to four year higher education institutions and to two year junior college transfer programs. Whatever that proportion was, it could be assumed that the remainder were students who could have profited greatly from some kind of secondary and postsecondary

vocational-technical education program. Of course, the other 41 percent (52,836) of 1970 graduates who did not go on to further education at all after graduation were all prospective students for vocational-technical education, if one subscribes to the philosophy that all such graduates should have some kind of salable skill when they graduate.

In addition to the graduates, the drop-outs from high school, 41,122 (6.5 percent) in 1970 surely were in need of some kind of occupational training in order to assure their successful entrance in the labor force when they left school.

It is recommended that the State Board for Vocational Education give serious consideration to the establishment of 10, 11, and 12th grade vocational courses in the AVC's, rather than for the 11th and 12th grades only. In many cases students have already dropped out of high school before having an opportunity to enter a truly vocational course. Also there is serious question as to the present quality and the value of the 9th and 10th grade orientation or exploratory courses. These courses could be improved and given in the 7th, 8th and 9th grades rather readily and with good results.

It should not be overlooked that approximately 50 percent of those who enter baccalaureate degree programs in a four year college or university do not complete the requirements for that degree. Unfortunately, there is no information available as to what happens to these individuals with respect to their ultimate employment. One cannot help suspect that many of these students do not have a salable skill and therefore are likely to be unemployed or underemployed for a considerable period of time. Many of them no doubt are prospects for specialized occupational training in private schools.

It has also been observed by responsible junior college officials that the annual attrition rate in the junior colleges is rather high, even among those enrolled in occupational education programs. However, there was evidence that many of these drop-outs acquired sufficient skill while in school to qualify them for entry-level work in the occupation they were trained for.

It should be noted that a higher proportion of females are enrolled in vocational education than their representation in the labor force. This is desirable in view of the growing participation of women in the world of work. However, efforts should be made to enroll females in other than the usual preponderance of health, business, sales and home economics courses. Representation in trade and industrial and technician occupations would be desirable in greater numbers.

(2) How much overlap exists in programs offered?

Very little undesirable program overlap was found in the high schools and the area vocational centers. What appeared on the surface to be duplicating or overlapping programs were, in fact, elementary occupational orientation training in grades 9and 10 in the home high schools and more advanced training in the same field in the AVC. There appeared to be good articulation between these programs in that the AVC attempted to determine the proficiency level of the 11th grade student coming from the participating high school program and gave him appropriate credit for his previous work.

Area vocational centers located in existing high school buildings within a city, accepted and perpetuated some practices that tended to force participating schools to duplicate facilities and programs of the host school.

Some of these practices were:

a. Limiting the number of students a participating school may send to the center through setting up quotas.

b. Providing vocational services for students of the host school district before setting quotas for participating schools.

c. Using vocational education facilities for industrial arts courses of the host school and giving these students priority over vocational education students from participating schools.

As regards duplication/overlapping with labor market demand, there appears to be a serious lack of alignment in the business education output. Although an annual unmet need of 39,200 exists, overtraining of bookkeepers, stenographers and typists exist as against a shortage of other types of clerical workers.

(3) Where both serve the same area, what are the problems in coordination?

There was little or no evidence of clearcut agreements, legislatively authorized, or otherwise, to bring the administrators of the participating high schools together with the administrator of the AVC. Some states call such arrangements "articles of agreement" which are provided for by law and are

required to be drawn up before an area school plan, facility and program, is approved and aided by the state. This is dealt with in more detail in Section IV. Where there was good coordination, it was brought about by the personal desire of an administrator of an AVC on his own initiative. Such cases were commendable examples of good cooperation and meaningful participation in the administration and operation of an AVC by all concerned.

Generally, the present practices in the state limit the inputs of participating school superintendents and principals to endorsement of administrative actions already crystallized rather than to seek their assistance in planning, developing, and operating programs on an area-wide basis.

There appeared to be an inordinate effort in Illinois to make area centers resemble traditional high school structures. In fact, the use of old high school structures for centers appeared to be in vogue. Many shop and laboratory facilities do not lend themselves to being placed in traditional classrooms. Some shops can best be housed in industrial type buildings that meet quality standards. Examples of such shops are welding, machine shop, auto body and fender repair, building construction and several others. While excellent buildings and facilities are needed to attract students, the state department should not lose sight of the fact that the training situation and setting should replicate or simulate well the employment setting into which the student will go, once he is trained. Area centers in need of expansion should be given some latitude in providing suitable industrial type facilities for meeting immediate training needs.

The concept of a regional program plan projection should be explored by the State Department of Education. There should be a joint planning effort sponsored by a regional unit administration (and supported by the Division of Vocational and Technical Education which would bring participating school administrators together to prepare inputs into the state plan. The efforts of all these administrators should focus on strengthening the plan projections for area centers and at the same time make the plan of the participating school an integrated segment of the total plan for the region. The process should greatly simplify for each participating school the process of preparing annually a plan for one or more years. This would strengthen the State Plan and at the same time simplify the process of preparing it.

Some program expansion should be undertaken by most area centers. Several participating high schools wanted to broaden their vocational offerings. Costs of new program development are high, and it tends to take three years to build enrollments sufficiently large to bring costs into line. Expansion, it appeared, should be promoted at the area center level, and the state should commit itself to support over at least a three year span to ensure the success of any newly opened programs. The usual surveys, advisory committee activities, and similar steps associated with launching a new program are implied in these recommendations for high-level three year minimum funding for new vocational programs.

Competition for employer training stations in cooperative education programs was very keen in some situations. This condition seemed particularly acute where the junior colleges had cooperative education programs and competed with the area center or their participating high schools for the same training stations. The schools seemed to be on a collision course here. It would

seem logical that a plan should be developed and tried out that would provide guidelines for local administrators to reduce the competition for training stations, and minimize the duplication of effort on the coordinators part in dealing with employers.

The start Illinois has made in its State Plan for including all high schools in an area center setting should be pursued with vigor. The organizational structure of the areas should be perfected by the State Division of Vocational Education to ensure effective working relationships between the participating high schools and the community colleges throughout the state. This, it appeared, should have a high priority in state planning.

B. Competition and cooperation between vocational and technical education programs in junior and community colleges and four year colleges.

There was little or no competition found to be existing between the community colleges and four year colleges in regard to non-professional or para-professional occupational education. Only two of the four year colleges have any substantial postsecondary occupational education programs. One of these in aviation is licensed by the Federal Aviation Agency and is almost exclusive in the state. It serves a statewide purpose.

The second program at Southern Illinois University (SIU) is much broader and more extensive. The administration of the Institute is very cooperative with the junior colleges and has in fact, relinquished several vocational programs to other schools in the southern part of the State.

There was evidence of good communication on the part of the two, four year occupational education programs and the junior colleges, particularly,

with feeder high schools.

The program approval process applied to new or additional occupational education programs in the junior colleges, and the four year colleges should prevent any serious program duplication or overlapping.

In general, there appeared to be a [illegible] climate for close cooperation and [illegible] between all postsecondary institutions that provide occupational education programs. Further needs for cooperation and coordination will be found in B (3).

(1) What are the populations served by both types of institutions? What populations should be served?

There is a large potential population served by both types of schools. In terms of the total population of the 18 to 24 year age group in 1970 (1,229,313), and the still larger population group, 25 to 54 (3,949,350), the grand total postsecondary enrollment of 62,186, (about 5.1 percent of the 18 to 24 year age group), and the output of 1,261 graduates in the light of an annual labor market demand of 191,800 non-professional or laborers jobs is far from adequate to meet the replacement needs alone, even when all other sources of supply are considered.

Viewed from another perspective, it is estimated that a total of 1,855,700 youths between the ages of 14 and 24 will enter the labor market in the 1970's. Based on current output figures, 502,000 will have college degrees and 725,000 will be secondary and post-secondary vocational education graduates currently or eventually available for placement.

When these two groups are subtracted from the total 14 to 24 year age group, a residual of 628,700 youths, predominantly between 16 and 24 years of age will remain. This target group which averages at almost 33 percent of the total non-professional annual labor market entrants would be in need of and could benefit greatly from post-secondary vocational-technical education. Deducting the annual output of graduates of postsecondary public programs (the private school output is unknown) from the total non-college, non-trained group, it would indicate that the postsecondary program could expand to reach an annual output 6.8 times larger than the current levels.

When making this kind of analysis, one needs to remember that most blue collar workers in the United States still do not acquire their skills through organized training an any kind of formal vocational-technical education program, but rather do so largely through the "pick-up" process or informal on-the-job training.

(2) How much overlap exists in the programs offered?

There was no overlapping of programs evidenced from the state records, or the on-site visits between the four year colleges and the junior colleges. As stated previously, the occupational education programs in the four year colleges are comparatively limited. Where they do exist they appear to be well coordinated with the junior college programs.

(3) What are the problems in coordinating programs, especially those that extend or should extend across grades 12 and 13 and 14 and 15?

There is an obvious need for a statewide master plan to be developed by the State Director of Vocational Education that carefully delineates for school administrators the role, relationships, and the commitment of community colleges in the Illinois vocational education structure. The plan should show the area vocational centers and the participating high schools' locations and how the programs of each relates to the other. Included as well should be definite statements concerning where the state will place financial emphasis in the immediate future. All such coordinated planning should be done in the light of current and projected labor market needs by occupations in Illinois.

In general, it is believed that there is much more specialized postsecondary occupational training operating in Illinois than is evidenced in this study. Apparently, there is very little known about the kind, extent and value of private school programs. In a state very similar to Illinois, the annual graduate output of the private business trade and technical schools is between 15 percent and 20 percent of total output of all institutions engaged in occupational education. All of this makes it important and urgent that there should be developed some centralized unified planning procedure in which all agencies, schools and programs could participate with benefit to all and to the improved economy of the state.

One state has legislated the creation of a coordinating council in each county with the responsibility to review existing and proposed vocational education programs in order to avoid unnecessary duplication, and to establish coordination and articulation between secondary and postsecondary level occupational programs in the area. A copy of the regulations related to this legislation is attached. (See Appendix "B" attached)

C. What parts of the State are not served adequately by programs offered by one or more of the above type schools?

In general, vocational-technical education offerings were spread over the whole state with some kind of program operating in practically every one of the 102 counties. In fact, considerable difficulty was encountered in identifying the parts of the state not served adequately because of the great proliferation of secondary vocational programs among the 730 high schools. Incidentally, it was likewise observed that the reimbursement funds seem to be greatly proliferated also.

By superimposing a junior college service areas map of the state over a map of those parts of the state served by area centers, the consultants could determine certain geographical areas not served by one or the other of those two types of schools: for example; the consultants found a group of eleven counties in the central west part of the state, eight counties in the central part of the state, and three counties in the central eastern part of the state that did not appear to have coverage by one or the other. In addition, there are instances of individual counties in at least five different parts of the state that presumably are not served by a junior college. There are approximately 56 of the 102 counties that apparently are not served by an area vocational center. Additionally, there are nine counties, primarily in the central and western parts of the state not served by either type of school.

<u>The analysis and the findings of this aspect of the study leaves no doubt that there is urgent need of a much more comprehensive in-depth study of the need for both secondary and postsecondary vocational-technical education programs on a regional service basis which would result in an acceptable long term statewide plan of action.</u> Such a plan should then, in fact, result in making appropriate training programs readily accessible to persons of all ages in all communities of the state.

It was for this reason that Arnold Associates attempted to draft a tentative statewide secondary plan of 30 regions with 80 (less 30 for Cook County) area vocational centers to provide the necessary secondary level offerings. The general procedure used in drafting this area center plan was thought to be of some value to Illinois state planners.

(1) What programs are not available in what geographic areas?

If it is assumed that job opportunities are a matter of statewide interest and concern to both school planners and the people to be served, this question could justifiably be broadened to include the whole state. Admittedly, it is important that the needs of local employers and people should be served by occupational education programs but it is a socio-economic fact that people will migrate to where the job opportunities are to be found. Therefore, it seems the most important consideration is that all those persons who plan and need to enter gainful employment that requires skill and technical knowledge should have the opportunity to acquire those at or near his place of residence.

In general, it was found that there was a limited range of occupational offerings in all of the eight broad vocational categories, as shown in Section III. More specifically there was found a dearth of programs in the health, personal and public service occupations, the construction trades, and business and office education. In view of the evidenced need for construction craftsmen averaging about 49,000 each year in the state, it is suggested that vigorous efforts be made to bring about increased cooperation with the various construction trades unions and to gain their support for construction trades programs in the vocational centers.

Section III of the report was devoted to a detailed study and analysis of the Illinois labor market which should lead to more comprehensive realistic program planning.

(2) What are the sampled preferences of people in areas which have markedly less vocational and technical education?

It was not feasible nor practicable in this study to conduct an extensive field study to gather information about the occupational or program preferences of people of various locations, ages and circumstances. The results of many previous studies designed to obtain this kind of information were found to be somewhat unreliable because of the lack of meaningful career information furnished to the respondents. Obviously, it would be extremely difficult for a person to express his preferences or interests if he is not fully aware of the working conditions, etc. and the training opportunities in a wide range of occupations. In fact, this is what career education and development in the public schools is all about: career awareness in grades K thru 5; guidance, counseling and elementary hands-on experiences in grades, 6 and 7; orientation and exploration in grades 8 and 9; and occupational training in grades 10, 11, and 12.

In further regard to this question, some assumptions can be made based on actual experience in many places throughout the country. For example, it is almost axiomatic that young people and adults in considerable numbers will take full advantage of high quality training opportunities, public or private, regardless of the type of school or level of training that are based on available realistic job opportunites in the local community or elsewhere in the state.

Other references to this question can be found in the account of the on-site visits in Section II.

(3) What other alternatives for vocational education have practicality for those areas not served adequately?

As indicated in Section IV of the report, the consultants are of the belief that the state should utilize all of its available educational facilities and resources to provide a total balanced program of vocational-technical education, especially in view of the extensive unmet demands for trained people in Illinois. Of course, the important urgent question is how and to what degree should those facilities and resources be used in the most effective economic manner for the benefit of the people.

The consultants express the strong conviction that further proliferation of the comprehensive high school vocational programs, except in some special instances of large communities and large high schools, would be unwise and uneconomical. Illinois does have the beginning basis of a statewide delivery system of secondary and postsecondary occupational education programs.

The problem is that the Illinois system continues to grow without a long term systematic design or plan. In addition, the concept and implementation of the true secondary area vocational center is not clear and therefore a number of the present area centers are not serving in the most effective way possible.

There are other program devices and techniques that can and should be utilized in the state particularly in the sparsely populated areas, such as itinerant instructors, mobile shops, home study courses, educational tele-

vision programs, and other innovative instructional techniques that have been developed through advanced educational technology. But, in conclusion, there is the urgent need for much more clear-cut policy to be developed, adopted and publicized by the Illinois Division of Vocational and Technical Education to bring together in an efficient way, all of the facilities and resources of the state in behalf of high quality vocational and technical education. Such policy and implementation could best be derived through a more thorough in-depth study of area service training needs throughout the state and subsequent in-service staff conferences and discussions. It is in this regard and process that the Illinois State Advisory Council and other representative advisory groups and individuals could make very valuable contributions to the expansion and improvement of vocational and technical education throughout the state.

RECOMMENDATIONS

The following is a summary list of the recommendations developed in this section:

1. THE STATE SHOULD UTILIZE ALL OF ITS AVAILABLE EDUCATIONAL FACILITIES AND RESOURCES TO PROVIDE A TOTAL BALANCED PROGRAM OF VOCATIONAL-TECHNICAL EDUCATION, ESPECIALLY IN VIEW OF THE EXTENSIVE UNMET DEMANDS FOR TRAINED PEOPLE IN ILLINOIS. OF COURSE, THE IMPORTANT URGENT QUESTION IS HOW AND TO WHAT DEGREE SHOULD THOSE FACILITIES AND RESOURCES BE USED IN THE MOST EFFECTIVE ECONOMIC MANNER FOR THE BENEFIT OF THE PEOPLE.

2. THERE IS THE URGENT NEED FOR MUCH MORE CLEAR-CUT POLICY TO BE DEVELOPED, ADOPTED AND PUBLICIZED BY THE ILLINOIS DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION TO BRING TOGETHER IN AN EFFICIENT WAY ALL OF THE FACILITIES AND RESOURCES OF THE STATE IN BEHALF OF HIGH QUALITY VOCATIONAL AND TECHNICAL EDUCATION. SUCH POLICY AND IMPLEMENTATION COULD BEST BE DERIVED THROUGH A MORE THOROUGH IN-DEPTH STUDY OF AREA SERVICE TRAINING NEEDS THROUGHOUT THE STATE AND SUBSEQUENT IN-SERVICE STAFF CONFERENCES AND DISCUSSIONS.

3. THERE IS AN OBVIOUS NEED FOR A STATEWIDE MASTER PLAN TO BE DEVELOPED BY THE STATE DIRECTOR VOCATIONAL EDUCATION THAT CAREFULLY DELINEATES FOR SCHOOL ADMINISTRATORS THE ROLE, RELATIONSHIPS, AND THE COMMITMENT OF COMMUNITY COLLEGES IN THE ILLINOIS VOCATIONAL EDUCATION STRUCTURE. THE PLAN SHOULD SHOW THE AREA VOCATIONAL CENTERS AND THE PARTICIPATING HIGH SCHOOLS' LOCATIONS AND HOW THE PROGRAMS OF EACH RELATES TO THE OTHER. INCLUDED AS WELL SHOULD BE DEFINITE STATEMENTS CONCERNING WHERE THE STATE WILL PLACE FINANCIAL EMPHASIS IN THE IMMEDIATE FUTURE. ALL SUCH COORDINATED PLANNING SHOULD BE DONE IN THE LIGHT OF CURRENT AND PROJECTED LABOR MARKET NEEDS BY OCCUPATIONS IN ILLINOIS. IT IS IMPORTANT AND URGENT THAT THERE BE DEVELOPED SOME CENTRALIZED UNIFIED PLANNING PROCEDURE IN WHICH ALL AGENCIES, SCHOOLS AND PROGRAMS COULD PARTICIPATE WITH BENEFIT TO ALL AND TO THE IMPROVED ECONOMY OF THE STATE.

4. THE CONCEPT OF A REGIONAL PROGRAM PLAN PROJECTION SHOULD BE EXPLORED BY THE STATE DEPARTMENT OF EDUCATION. THERE SHOULD BE A JOINT PLANNING EFFORT SPONSORED BY THE AREA CENTER ADMINISTRATION AND SUPPORTED BY THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION, WHICH WOULD BRING PARTICIPATING SCHOOL ADMINISTRATORS TOGETHER TO PREPARE INPUTS INTO THE STATE PLAN. THE EFFORTS OF ALL THESE ADMINISTRATORS SHOULD FOCUS ON STRENGTHENING THE PLAN PROJECTIONS FOR THE AREA CENTER, AND AT THE SAME TIME MAKE THE PLAN OF THE PARTICIPATING SCHOOL AN INTEGRATED SEGMENT OF THE TOTAL PLAN OF THE AREA.

5. IT IS RECOMMENDED THAT SHARED-TIME AREA VOCATIONAL CENTERS BE ESTABLISHED IN ORDER TO MEET A PROJECTED ENROLLMENT GOAL OF AT LEAST 40 PERCENT OF THE TOTAL 11TH AND 12TH GRADE ENROLLMENT. IT IS FURTHER RECOMMENDED THAT THE OCCUPATIONAL OFFERINGS BE CENTERED MOSTLY IN THE FIELDS OF TRADE AND INDUSTRIAL, TECHNICAL, BUSINESS AND OFFICE EDUCATION.

6. IT IS PROPOSED THAT EIGHTY AREA CENTERS BE ESTABLISHED WITH ENROLLMENTS AS INDICATED IN TABLE 17. THIS FIGURE INCLUDES AN ESTIMATED 30 AREA CENTERS TO SERVE THE NEEDS IN COOK COUNTY ALONE. THE SHARED-TIME AREA SCHOOL CONCEPT MAY NOT BE PARTICULARLY APPLICABLE TO ALL OF THE PROBLEMS OF A DELIVERY SYSTEM IN THE LARGE METROPOLITAN AREA OF CHICAGO AND THEREFORE THE PLAN SHOULD BE MODIFIED TO THE EXTENT NECESSARY.

7. THE ANALYSIS AND THE FINDINGS OF THIS STUDY LEAVES NO DOUBT THAT THERE IS URGENT NEED OF A MUCH MORE COMPREHENSIVE IN-DEPTH STUDY OF THE NEED FOR BOTH SECONDARY AND POSTSECONDARY VOCATIONAL-TECHNICAL EDUCATION PROGRAMS ON A GEOGRAPHICAL ADMINISTRATIVE REGION BASIS WHICH WOULD RESULT IN AN ACCEPTABLE LONG TERM STATEWIDE PLAN OF ACTION.

8. IT SEEMS LOGICAL THAT A PLAN SHOULD BE DEVELOPED AND TRIED OUT THAT WOULD PROVIDE GUIDELINES FOR LOCAL ADMINISTRATORS TO REDUCE THE COMPETITION FOR TRAINING STATIONS, AND MINIMIZE THE DUPLICATION OF EFFORT ON THE COORDINATORS PART IN DEALING WITH EMPLOYERS IN COOPERATIVE PROGRAMS.

9. THE START ILLINOIS HAS MADE IN ITS STATE PLAN FOR INCLUDING ALL HIGH SCHOOLS IN AN AREA CENTER SETTING SHOULD BE PURSUED WITH VIGOR. THE ORGANIZATIONAL STRUCTURE OF THE AREAS SHOULD BE PERFECTED BY THE STATE DIRECTOR OF VOCATIONAL EDUCATION TO ENSURE EFFECTIVE WORKING RELATIONSHIPS BETWEEN THE PARTICIPATING HIGH SCHOOLS AND THE COMMUNITY COLLEGES THROUGHOUT THE STATE. THIS, IT APPEARED, SHOULD HAVE A HIGH PRIORITY IN STATE PLANNING.

10. THE NEED EXISTS FOR THE STATE DEPARTMENT OF EDUCATION TO ESTABLISH GUIDELINES THAT WILL ENSURE THAT DUPLICATION OF FACILITIES WILL BE KEPT TO A MINIMUM AND THAT STUDENTS GOING FROM ONE PROGRAM TO ANOTHER WILL BE TESTED, SCREENED AND PERMITTED TO ADVANCE ACCORDING TO THEIR OWN ABILITY TO MAKE PROGRESS.

11. SOME PROGRAM EXPANSION SHOULD BE UNDERTAKEN BY MOST AREA CENTERS. AREA CENTERS IN NEED OF EXPANSION SHOULD BE GIVEN SOME LATITUDE IN PROVIDING SUITABLE INDUSTRIAL TYPE FACILITIES FOR MEETING IMMEDIATE TRAINING NEEDS.

12. IT IS RECOMMENDED THAT THE STATE BOARD FOR VOCATIONAL EDUCATION GIVE SERIOUS CONSIDERATION TO THE ESTABLISHMENT OF 10TH, 11TH, AND 12TH GRADE VOCATIONAL COURSES IN THE AREA VOCATIONAL CENTERS, RATHER THAN FOR THE 11TH AND 12TH GRADES ONLY.

13. EFFORTS SHOULD BE MADE TO ENROLL FEMALES IN OTHER THAN THE USUAL PREPONDERANCE OF HEALTH, BUSINESS, SALES AND HOME ECONOMICS COURSES. REPRESENTATION IN TRADE AND INDUSTRIAL AND TECHNICIAN OCCUPATIONS WOULD BE DESIRABLE IN GREATER NUMBERS.

14. THERE IS SERIOUS QUESTION AS TO THE PRESENT QUALITY AND THE VALUE OF THE 9TH AND 10TH GRADE ORIENTATION OR EXPLORATORY COURSES. THESE COURSES COULD BE IMPROVED AND GIVEN IN THE 7TH, 8TH, AND 9TH GRADES RATHER READILY AND WITH GOOD RESULTS.

15. THE POSTSECONDARY PROGRAM SHOULD BE EXPANDED TO REACH AN ANNUAL OUTPUT 6.8 TIMES LARGER THAN THE CURRENT LEVELS.

16. THERE IS AN OBVIOUS NEED FOR A COORDINATING COUNCIL COMPOSED OF REPRESENTATIVES OF THE JUNIOR COLLEGE AND THE SECONDARY SCHOOL OR THE AREA CENTER TO BE ESTABLISHED TO COORDINATE THE TWO PROGRAM LEVELS AND TO DETERMINE THE CONTENT OF COURSE OFFERINGS. THIS IS PARTICULARLY SIGNIFICANT IF NEW AREA VOCATIONAL CENTERS WOULD BE DEVELOPED ON THE SECONDARY LEVEL.

SECTION II

INTRODUCTION

Vocational education in the State of Illinois is a very important part of the total educational program. Since vocational education is the process through which individuals are prepared for entrance into non-professional occupations, the progress made toward attaining the state's goals and objectives in making training opportunities readily accessible to all students is commendable.

The favorable mix of agriculture and industry in the economy of the state along with the concentration of business and service in the metropolitan areas has pointed up the essential needs for vocational education in those fields.

Increased growth in the establishment of area vocational centers at the secondary level, along with the vocational offerings in the participating high schools in the surrounding geographical areas has greatly changed the outlook of vocational education in recent years. The establishment of junior colleges has provided additional occupational training offerings at the post-secondary education level.

As all of these programs continue to grow and expenditures increase accordingly, it is timely to analyze the programs in an effort to determine any unnecessary duplication and overlapping and assess any competition, cooperation, and coordination that exists. First, it would be useful to examine the overall status of the current program in Illinois.

CURRENT STATUS OF PROGRAMS

PROGRAMS AND COURSE OFFERINGS

During 1970-71, 128 different occupational offerings were available to students in the eight broad vocational categories. A breakdown of these offerings indicates there were 7 in Agriculture; 19 in Distribution; 6 in Health; 7 in Consumer and Homemaking; 5 in Gainful Home Economics; 9 in Office Occupations; 21 in Technical Education; and, 44 in Trade and Industrial Education.

The frequency of these occupational offerings, classified in the 8 vocational categories, during the school

year 1971-72 is indicated below. A total of more than 10,000 courses throughout the state were available to vocational students, including 125 courses under special contract, special education courses and cooperative work study.

Agriculture	1074
Distribution	699
Health Occupations	393
Consumer Homemaking	170
Gainful Home Economics	805
Office Occupations	2905
Technical Education	261
Trade & Industrial	4184
	10616

A total of 14,353 teachers (full-time, part-time and teacher aides) were employed in vocational education during the year of which 8233 were in secondary level vocational education; 2658 at the postsecondary level and 1968 were involved in adult vocational education.

ENROLLMENTS

During the 1970-71 school year there were 432,197 (80%) secondary vocational students enrolled in Illinois, 62,186 (11%) at the postsecondary level, and 46,775 (9%) adults. Cooperative education, and disadvantaged and handicapped students, (18,162; 105,730 and 8741 respectively) were included in these enrollment totals. In all, 541,158 persons were served in vocational education programs with an employment objective. Table 2 shows a breakdown of these figures by occupational field and educational level. It should be noted that of the total 541,158 enrollments in 1970-71, 114,471 or about 21percent were disadvantaged and handicapped students.

ENROLLMENT STATUS OF MINORITIES

Analysis of available enrollment figures for the secondary, postsecondary and adult programs, both for the City of Chicago and the rest of the State, reveals a far greater enrollment of blacks, predominantly, and other minority groups such as

orientals, Spanish and American Indians than their representation in the population by relevant age groups. This is particularly evident outside of Chicago. However, it would appear that, at least for the postsecondary and adult programs, minority groups enrolled in vocational programs to a much greater extent than whites throughout Illinois.

The relative representation at all program levels of blacks and other minority races is shown in Table 1. It should be noted, however, that the data on secondary enrollments include those in vocationally oriented programs below the 9th grade as well as all those in grades 9-12 without any differentiation. Therefore, these figures are not really representative of the secondary program as regards the enrollments in bona-fide occupational training programs.

TABLE 1

PROPORTION OF MINORITY RACES
TO TOTAL POPULATION IN ILLINOIS COMPARED TO
THEIR PROPORTION IN VOCATIONAL EDUCATION ENROLLMENTS
(1970-1971)

Programs	Age Group	Percent Black and Other Races to total Population		Percent Black and Other Races to total Vocation Education enrollments	
		Chicago City	Rest of State	Chicago City	Rest of State
Secondary and below	5-17	45.3	5.4	64.9	32.7
Postsec-ondary	18-24	14.2	5.3	69.7	37.8
Adult	25-64	30.9	3.9	60.4	45.7
TOTAL	5-64	35.6	4.6	65.0	33.7

Although data on minority enrollments in grade 11-12 and program completers would give a more clear-cut picture of their program status, such information is not readily available from the state office. In view of the apparently large representation in all programs of blacks and other ethnic groups such information would be invaluable to determine how well the program serves all segments of the State's population.

TABLE 2

ENROLLMENTS IN VOCATIONAL EDUCATION
SCHOOL YEAR 1970-71
STATE OF ILLINOIS

PROGRAM AREA	SECONDARY	POST SECONDARY	ADULT	COOPERATIVE	DISADVANTAGED	HANDI-CAPPED	TOTALS
AGRICULTURE	19654 (56)	2038 (230)	2580	[845]	[2524] (165)	[555] (1)	24272
DISTRIBUTION	17508 (5402)	4312 (1539)	1636 (141)	[4170] (^144)	[5008] (3717)	[454]	23456
HEALTH OCC.	2326 (720)	7204 (1711)	1908 (472)	[1101] (633)	[3093] (2028)	[296] (190)	11438
CONSUMER & HOMEMAKING	30654 (16019)	- - - (251)	1080 (27)	[478] - -	[10428] (8185)	[344] (8)	31734
OCCUPATIONAL HOME ECONOMICS	19493 (1138)	2126 (1512)	960 (53)	[646] (280)	[4547] (1733)	[649] (15)	22579
OFFICE OCC.	194733 (50185)	24420 (10169)	17786 (5088)	[6206] (3066)	[40191] (26480)	[3130] (532)	236299
TECHNICAL	- - - - - -	12523 (2734)	930 - - -	[34] (20)	[1973] (1414)	[92] (1)	13453
TRADE & IND.	147829 (41783)	9563 (3878)	19895 (6925)	[4682] (741)	[37966] (23415)	[3221] (20)	177287
TOTALS	432197	62186	46775	[18162]	[105730]	[8741]	541158

Source: Annual USOE Report of Enrollments - State of Illinois January 15, 1972

Legend: [ ] - Duplicated figures included in Secondary, Post-Secondary or adults.
( ) - Metropolitan Chicago figures duplicated in other totals

However, before any conclusions are drawn about the status of minority enrollments in the State program it should be noted that the figures seem to be seriously inflated. A comparison between the number of black youths reported in 1971 as enrolled in the vocational education secondary and below 9th grade programs throughout the state and the U. S. Census for 1970 revealed that more youths existed in the program than the total number of blacks between the ages of 6 and 17 living in the State. If this over-reporting occurred in the secondary figures it is possible that similar errors may have been made also for both postsecondary and adult program enrollments.

EXPENDITURES

During fiscal year 1970-71 expenditures for vocational education in the state totalled $182,987,078 of which $16,938,697 were federal funds and $166,048,381 were state and local funds. Table 3 reveals the expenditures utilized for specific purposes. It will be noted that $104,043,861 of the total of $182,987,078, or 57 percent of the expenditures were for secondary education programs. The postsecondary education expenditures of $35,802,608 accounted for 20% of the total. Expenditures of $4,249,650 reported for adult education were only 2 percent of the total as compared with the national figure of 5.1 percent in 1970-71.

TABLE 3

EXPENDITURES FOR VOCATIONAL EDUCATION
FY 1970-71 STATE OF ILLINOIS

PROGRAM	TOTAL	FEDERAL	STATE & LOCAL
Total All Parts	182,987,078	16,938,697	166,048,381
State Programs			
Part B	163,755,550	13,360,897	150,394,653
Secondary	104,043,861	2,697,282	101,346,579
Post-Secondary	35,802,608	1,681,064	34,121,544
Adult	4,249,650	390,707	3,858,943
Disadvantaged	9,655,757	4,230,401	5,425,356
Handicapped	3,880,462	1,361,443	2,519,019
Construction	6,123,212	3,000,000	3,123,212
Guidance & Counselling	(81,000)	(81,000)	(00)
Contracted Instruction	(25,850)	(00)	(25,850)
Ancillary Svcs	(899,600)	(899,600)	(00)
Section 102b (D)	7,885,289	830,164	7,055,125
Research and Training	1,211,529	742,272	469,257
Exemplary Pgms.	843,959	239,023	604,936
Consumer and Homemaking	6,439,183	882,100	5,557,083
Cooperative Education	2,197,504	604,788	1,592,716
Work-Study	654,064	279,453	374,611

Source - USOE Form 3131 dated January 15, 1972

ANALYSIS OF PROGRAM DUPLICATION

In order to determine program availability and possible duplication at the secondary and postsecondary, and adult levels of instruction, an in-depth review was made of courses offered by secondary area vocational centers, participating secondary high schools, and specific community colleges serving the school districts involved.

A thorough review was made of information furnished in the 1971 report issued by the Research and Development Unit of the State of Illinois, Board of Vocational Education and Rehabilitation, Division of Vocational Education entitled "An Analysis of Secondary Area Vocational Centers in Illinois" under Project #RDB-AI-037. This report covered the courses available at the then existing 17 area vocational centers and their 135 participating high schools. In addition, courses offered at the community college level were extracted from Bulletin No. 26-971, the 1971-72 directory entitled, "Career Education in Illinois Public Community Colleges and Technical Institutes", issed by the State of Illinois, Board of Vocational Education and Rehabilitation, Division of Vocational and Technical Education.

Each course shown in the 1971 report, as of 1970, was recorded for the participating secondary high schools and the area vocational centers, by occupational title, as well as each community college. These recordings of information were placed in a matrix that provided a visual display and a numerical count of all course offerings. A visual check of the matrix revealed that 5 of the 17 area vocational centers had so few offerings that further review was not essential. The offerings of the other 12 area vocational centers, participating high schools and community colleges serving the districts were then recorded on a separate form to reveal any pronounced duplications of courses.

It was determined readily from the matrix that duplication was evident only in relatively low-cost programs such as business education. It was also comparatively simple to identify the frequency of occupational fields throughout the state.

This analysis disclosed that area vocational center offerings were concentrated in business education and trade and industrial occupations, although somewhat limited in range in each field. Limited offerings were found in agriculture, distributive education, and health occupations, with a scattering of technical education courses throughout the state. In the participating high schools, there appeared to be a fairly wide range of offerings in some occupational fields, particularly in trade and industrial and business education. Offerings in distributive education and health occupations were noticeably lacking.

Initial examination of the courses revealed little duplication per se in the sense that a course at the secondary level of instruction had the same course content as a course offered at either the postsecondary or adult level of instruction.

ON-SITE VISITS AND FINDINGS

Four locations in the state were selected to make on-site visits to obtain first-hand information about offerings in various types of institutions conducting vocational education programs.

A visitation plan was developed and approved by representatives of the Illinois Vocational Education Advisory Council and the State Director of Vocational Education. The selected sites were the Quad cities area of East Moline, Moline, Rock Island and Davenport; the LaSalle-Peru area; the Mount Vernon area; and the Kaneland area. These four geographic areas gave a spread to the program of visitation and provided the team with the opportunity to interview a number of people, particularly those who were administering different kinds of schools offering courses which appeared to be duplicated at least in name.

An interview guide was developed to be used in a center which was the focal point of the geographic area being studied. Discussion and exchange of information and opinions was a part of the communication pattern when meeting with the principal of a participating high school, and the individual in charge of the vocational-technical program of the community, junior college, or technical institute serving the area.

The interviews were focused on competition and cooperation between high schools and area vocational centers. Competition and cooperation between programs of area vocational centers and those of junior colleges and four year institutions were also explored. Another aspect examined at the local level

was "program voids" in the geographic area. The team was also searching for evidence of cooperation and coordination between schools and articulation between course levels as well as instances of duplication, overlapping and/or deficiency in course offerings.

One member of the team conferred with representatives of the Illinois Employment Service and the Chamber of Commerce whenever possible. Pertinent information gained from these meetings and an analysis of labor market and census data will be found elsewhere in the report. This information identifies occupational fields into which programs should expand to overcome voids presently experienced by students planning for future employment. The labor market information contributes substantially to efficient program planning and development.

The team through its many on-site interviews and discussions arrived at some generalizations which are discussed in more detail later. For example, duplication as it relates to overlapping of programs, is virtually non-existent, particularly in the light of proficiency testing at the postsecondary level for students entering the community college programs.

Many of the participating high schools have identical course offerings in fields such as office occupations, agriculture and home economics. From an economic viewpoint these programs are offered to the students at the home high schools, because it is less expensive to do so than to transport them to an area vocational center for the purpose. Few participating schools have trade and industrial courses that come close to matching, much less duplicating, the offerings of the area vocational centers. Since the courses at the AVC were advanced level courses, students attended them for the specific purpose of attaining a higher level of proficiency and skill. This articulation between levels of instructional skill reduced the possibility of actual course duplication.

A more detailed account of the findings during the on-site visits might be helpful in understanding the Illinois programs.

AN ACCOUNT OF THE ON-SITE VISITS

UNITED TOWNSHIP VOCATIONAL CENTER
EAST MOLINE, ILLINOIS

ORION COMMUNITY UNIT AND
BLACK HAWK COLLEGE

The visiting team met with representatives of the United Township Vocational Center, the Orion Community Unit, (a participating high school) and Black Hawk College during the initial phase of the first on-site visitation.

Participation in the operation of the United Township Area Vocational Center began in the spring semester of the 1966-67 school year with fairly limited enrollments. By the end of the 1970 school year this AVC was serving approximately 650 students. At the time of visitation, the capacity was between eight and nine hundred students and the 1970-71 enrollments had totalled 805. The capacity of the system was based on three-two hour courses during each school day. United Township AVC began operating with only five participating high schools in the area but through the efforts of the administrator now has eleven high schools sending vocational students for training.

Team members noticed obvious space limitations in the program areas of health occupations and distributive education. The construction trades course was of such generalized nature that no specialization could be attained by a vocational student. Advisory committees were utilized effectively in curriculum development but apparently not in matters relating to public relations within the various communities.

The vocational director's effectiveness was limited greatly by the administrative control exercised by the parent high school board (United Township-East Moline) which sets all policies for the operation of the area vocational center. As the parent high school, and the largest in the area vocational center's district, it utilized the majority of work stations available at the AVC so that quotas have had to be set for the participating high schools. It appeared at this time the quotas were sufficiently large to satisfy the needs of the participants. However, as emphasis on vocational training increases, additional space for the area vocational center activities will have to be provided.

It is unfortunate that state officials have not aided the district financially in the expansion of the area vocational center, nor have they assisted in the details of long range planning. The area center has had difficulty finding sufficient work stations for its cooperative students because the participating high schools have their own cooperative programs.

Programs for girls at United Township Area Vocational Center were quite limited. Cosmetology was available through contractual arrangements with a private beauty school, and child care was due to get under way as a training program in the fall of 1972.

Food service and health programs were voids felt by participating high schools. While present quotas of the center met the participating schools needs, if health and foods trades programs were available, more students would take advantage of the program.

The center's programs were heavily oriented toward male students. There was a need to change this to give girls more occupational training opportunities. It was apparent that the participating schools could not very well get along without the area center.

The team visited the new location of the Orion Community Unit (high school), one of the participating high schools within the United Township Area Vocational Center jurisdiction. During the last school year, Orion was represented at the AVC by 35 of its student population of 400. The most popular course offering to these students was auto mechanics.

Team members observed that better communication between the participating schools and the AVC was needed. Some dissatisfaction was voiced by the Orion Community Unit's administrator in the lack of health and service occupational offerings at the area vocational center. The need for expansion of the center was emphasized.

The team was unable to learn what vocational programs will be offered this fall at Orion as the transfer of equipment to the new school site was being accomplished while the visitation was taking place. No administrative information was available at the new site. In keeping with current concepts of vocational training, the administrator noted that their vocational offerings will henceforth be known as "Career Education," and their efforts will be expanded in this direction in the earlier years of the secondary level. Approximately 70 students of the 400 student body were enrolled in

vocational subjects in the Orion Community school. Vocational offerings in this high school were principally in the personal and public service, office occupations and agriculture fields. A newly created position as vocational coordinator has now been filled, and the individual assigned will be responsible for keeping informed about the job market, vocational counselling, and utilizing the vocational advisory committees.

Team members also met with the Dean of Career Programs at Black Hawk College which now has approximately 1700 vocational students in postsecondary and adult level programs leading to certificates of completion and associate degrees. This college, serving as the postsecondary level institution for Rock Island and Henry Counties, has grown from 1400 students in all types of courses in 1963 to about 5600 students in the 1970-71 school year at the main campus.

The only indication of duplication was that of the United Township Area Vocational Center in drafting. However, as in other instances noted by the team, course articulation took place through proficiency testing, and those passing proficiency tests were awarded credits without the necessity of pursuing courses in which proficiency has been displayed. An articulation committee consisting of three vocational directors from Rock Island, Moline, and the East Moline Area Vocational Center, plus the Dean of Career Programs at Black Hawk College, continued to maintain liaison so that problems of course articulation were solved satisfactorily.

It was evident from the team interviews that cooperation with the secondary level institutions existed. United Township High School utilized the data processing equipment available at Black Hawk College for its hands-on experience in the data processing course, and Moline High School used the Black Hawk welding laboratory for a vocational welding program in the high school. The Dean of Career Programs at Black Hawk also served on various Advisory Councils and committees. While follow-up procedures were lacking at Black Hawk, new efforts in flexible entrance arrangements were commendable. The administration was diligent in following job demands with the State Employment Service and installed new programs to meet the needs when possible. Procedures for opening a new program required 1-1/2 to 2 years of continuous effort to substantiate the need, develop the curriculum content, and initiate the program. The appropriate craft advisory committee was utilized effectively during the entire developmental period.

Programs that could be contracted to private schools more economically by the college were held on the premises of

private schools. Typical of this was the cosmetology program. Black Hawk contracted with three separate private beauty culture schools to train cosmetology students.

Little competition existed between programs at the college and those of the center or participating high schools. One indication of the absence of competition was gained from the fact that high schools in some instances gave credit toward high school graduation for courses completed at the college level where upon evaluation they fitted the high school curriculum.

LASALLE AREA VOCATIONAL CENTER
LASALLE, ILLINOIS

MENDOTA TOWNSHIP HIGH SCHOOL
MENDOTA

ILLINOIS VALLEY COMMUNITY COLLEGE
OGLESBY

The second visit was to the LaSalle Area Vocational Center which provided vocational training for nineteen school districts (including two parochial schools) in LaSalle, Putnam and Bureau Counties. The center offered 17 vocational programs in personal and public service occupations, agriculture, health occupations, business, and trade and industrial education. The preponderance of offerings was in trade and industrial subjects.

The vocational needs of the local high school district maintained first priority in filling the available training stations. A quota system was then worked out for filling the remaining unoccupied stations. To say the least, the quota system was not popular with participating schools. Additionally, the involvement of the administrators of the participating schools was at a minimum in this area center.

The combined secondary enrollment of all the participating schools was approximately 11,000 students. Many of the schools were small. One such school had a total enrollment of 60 students.

Student quotas in the LaSalle-Peru Area Vocational Center were set in auto mechanics, beauty culture, commercial art and agribusiness-mechanics courses.

During the school year 1970-71, 557 vocational students were enrolled, and 331 completed their vocational courses. The LaSalle Area Vocational Center had a student capacity of approximately 950 with some courses offered three times daily and others twice each day. The area center has been operating for four years. The administration noted some specific handicaps which in the opinion of the visiting team were similar in other locations in the state, particularly where the "parent" high school was the largest in the AVC district, namely:

a. The vocational director had little or no autonomy; the "parent" school superintendent is the administrative head of the institution.

b. The superintendents of the participating school districts and the AVC Vocational Director had no real participation in the setting of policies involved in the operation of the area vocational center.

c. The area vocational center develops to the extent determined by the "parent" school superintendent.

d. Student preference in certain occupational offerings appear to be the predominant criterion in determining program offerings rather than the job opportunities in the labor market in a given area.

The active participation of craft advisory committees in the LaSalle Area Vocational Center was commendable. The graduate placement activities of the vocational coordinator were praiseworthy. A very satisfactory cooperative relationship existed with the Illinois Valley Community College. There was also active participation by the vocational director and the principal of the AVC in several associations having valuable input for the successful operation of the area vocational center.

The vocational director recognized the expansion needs in the health occupations and was taking steps to provide additional space in a separately located, rented building which will be renovated for that purpose.

Recognized also was the need for expansion of programs in body and fender repair, industrial maintenance, the building trades, and in child care. The latter subject area resulted from a survey of student interest.

The need for separation of the physical plant of an area vocational center, from that of the "parent" school, was expressed quite emphatically by administrators. When a "parent" school needs additional space, the vocational center may lose some of its space under the current administrative arrangement. It appeared that the approval of a food service program in a participating high school by the state office would adversely affect the food service program of the area center. This could prove to be an inadvertent duplication of program between a high school and an area vocational center.

The team also visited Mendota Township High School, a fairly large participating high school with an average daily attendance of 800 students. Mendota High School was one of 19 participating schools in the LaSalle-Peru Area Vocational Center. It was a four year high school with a population of 850 students. The superintendent of schools was a strong supporter of the area center. Mendota was represented at the AVC during the 1971-72 school year by 59 students and could have sent more had it not been for the quota system in effect. Some students had to be turned down due to the limitation of their quota.

Mendota had 10 vocational programs, (the only duplication was in business education as was the case in most of the high schools, a low cost type program) on its own premises plus one generalized cooperative education group with students involved in trade and industrial, agriculture, and business education. This co-op group, in existence for almost 25 years, served 33 students during the 1970-71 school year. While no local advisory committee had previously functioned, one was started this fall because the superintendent recognized the need for its guidance in the development of additional offerings. Steps were underway to begin some vocational training for handicapped individuals.

Mendota Township is a more affluent area than many others in Illinois. Although about 50 percent of that high school's student body were college bound, there was definite indication that vocational education at the area vocational center was necessary and widely accepted by the community and the administration.

ILLINOIS VALLEY COMMUNITY COLLEGE

Conferences with the administrator of the LaSalle-Peru

Center indicated that good working relationships existed between the center and the community college. The high school guidance departments maintained on-going communication with the Illinois Valley Community College. New programs at the college level relied heavily on student interest surveys made by the college, the most recent having been accomplished about a year ago. Illinois Valley Community College gave proficiency tests to vocational graduates from the participating high schools and the area vocational center in the same manner as other community colleges, so that students were credited with course completions and were not required to duplicate courses or programs in which they demonstrated proficiency.

MOUNT VERNON AREA VOCATIONAL CENTER
MOUNT VERNON, ILLINOIS

REND LAKE COLLEGE

The Mount Vernon Area Vocational Center district covers most of Jefferson County and the northern part of Franklin County. At the present time, there are eight (8) participating high schools. The center has a capacity of about 325 students at any one time. The Mount Vernon Area Vocational Center represents a different kind of vocational setting - that of a "host" school located on a city high school campus serving small participating high schools. There are no quotas set, so that the participating schools have freedom to send whatever numbers manifest an interest in the available vocational offerings.

As most of the student population is in the AVC during the morning hours for ease in participating school scheduling, the center could actually handle 125 to 150 more students each day without the necessity of additional space. The 1970-71 school year enrollments in the 11th and 12th grades totalled 346 students of which 154 successfully completed their progtams at the end of the school year.

Each occupational offering at the area vocational center had its own advisory committee, and this fall a steering committee with one member of the parent school board and the administrator of each participating high school will be formed. This new committee will be responsible for long range planning of occupational programs that might be required in the future.

Within the geographical limits of the area served by the AVC, there were additional high schools that could send participating students to the area vocational center. It was the team's impression that these high schools did not wish to participate in the AVC program unless the state provided them or the AVC with sufficient funds to expand the offerings as needed. These schools indicated they were not financially capable of providing additional needed offerings in their respective locations.

Under existing special education programs in the school district, handicapped students can enter regular vocational programs (eight were entered in the 1970-71 school year), Additional students will continue to enter in increasing numbers.

The attitude of the vocational center administration in making the physical plant facilities available for industry programs was commendable. It appeared that local businesses utilized the facilities for in-service training programs fairly frequently. Representatives of the building trades have been very helpful to the area vocational center in upgrading their building trades course materials.

The "parent" school superintendent, in support of the AVC vocational director, indicated the need for expansion of the health education programs, the possible addition of ornamental horticulture, auto body mechanics, and perhaps graphic arts to provide a wider selection of occupational offerings for the students.

Somewhere along the line there appeared to have been a change from the support of area centers by the state to the promotion of the comprehensive high school programs. The expansion of shops and laboratories at the participating high school level has produced a kind of competition that adversely affects the development of area centers.

Cooperation, communication and course articulation with Rend Lake College was until very recently only minimal. The administrators at Mount Vernon and Rend Lake were alert to the possibilities of duplication as well as to the continuous need for change. This was demonstrated by the fact that an agriculture program was closed at the area vocational center because it was a duplication of a program at Rend Lake College and at several of the participating high schools in the AVC district.

REND LAKE COLLEGE

The Rend Lake College district jurisdiction, as a designated postsecondary area vocational center, covers a territory including parts of about eight (8) counties with 14 high schools located within this geographical area. Eight of the 14 high schools are within the district of the Mount Vernon Area Vocational Center. Enrollments of postsecondary students in 63 separate courses totalled 985 during school year 1970-71. In addition, 58 adults were registered in six more courses ranging from nursing and medical terminology to commercial flight operations.

Rend Lake College was preparing to add architectural drafting to its curriculum as there were no private trade or technical schools in the area where this type of instruction could be obtained. The only private school facilities in the geographical area were beauty culture schools.

Cooperative programs, particularly in the Rend Lake College secretarial science program, indicated some competition with the secretarial programs of the area vocational centers, and of some participating high schools. The major problem encountered was that students filled the work slots during attendance at the area vocational center, then had a great tendency to continue in the same work opening while attending the program at the postsecondary level for two more years. This situation all but closed the door to new entrants at the secondary level unless additional work openings could be located.

FUTURE DEVELOPMENTS

The administrators of all the institutions were well aware of the possibility of the establishment of a large tire manufacturing plant, and the building of a new 500 bed hospital in Mount Vernon in the near future. These potential developments required that they maintain continuous awareness of new and additional job opportunities, and the need for new programs to meet these labor market demands.

MID-VALLEY VOCATIONAL CENTER
MAPLE PARK, ILLINOIS

WAUBONSEE COMMUNITY COLLEGE
SUGAR GROVE, ILLINOIS

The on-site visit to Mid-Valley Vocational Center provided a unique experience compared to the other three visits. Unique because of the opportunity to meet and confer at length with the administrator of the vocational center, his vocational guidance coordinator, the superintendent of the "parent" high school, and the superintendents of three of the four remaining participating high schools, all at one time. There was pronounced enthusiasm displayed by the superintendents of the participating high schools in the efforts of the vocational center to provide vocational-technical education for youth in the school districts involved.

COOPERATION EVIDENCED AS WELL AS COORDINATION

Mid-Valley Vocational Center was the only location visited where the "parent" school was not the largest school within the geographical service area. However, it stood out over the other centers visited because of a number of outstanding qualities:

1. The facility is new, modern, well equipped and effectively administered;

2. The administration has excellent working relationships with business and industry in the surrounding area;

3. The program continues to expand rather than to remain static and under-financed;

4. Student placements were high and young people could see the desirable results of completing a training program;

5. Advisory groups met regularly with a prepared agenda, received minutes of previous meetings, and contributed to the success of the center operation;

6. The superintendent was committed to vocational education and saw to it that the program received its share of his attention and budget;

7. Participating superintendents met regularly in the area center. They were fully informed as to the facilities available, course content offered, numbers of students enrolled, and other facts and figures that tended to keep competition, duplication, and overlapping to a bare minimum.

Dropouts from the vocational programs were literally non-existent because the philosophy of the several superintendents is "Youth in school - Not out", and the administration demonstrated this philosophy by providing the youth of the area with programs based on labor market needs as well as student interest. Perhaps more important was the encouragement students received in learning a marketable skill through individualized instruction and attention. Each student was recognized for his interests, attitudes, aptitudes, educational needs and personal traits. His training was based on these characteristics.

The enthusiasm evidenced at the vocational center carries over to the home schools. In one of the participating school districts where 70 percent of the student body was college bound, 25 percent of the students attended the area vocational center during 1971-72. The superintendent expected this to increase to 30 percent in the 1972-73 school year.

The lack of quotas imposed on participating school administrators, plus the vocational education awareness on the part of all teachers in the home high schools, had impact on the youth fairly early in the career decision making process. Administrative decisions to inaugurate career education and the "world of work", which now begins at 6th grade, in the early elementary grades, K thru 5, will provide an effective longer range selection process for all youth in this AVC district.

The participating high school superintendents, operating as a team, met regularly with the AVC vocational director and his coordinator. They voiced the unanimous opinion that continuing priority should be in favor of enlarging the area vocational center rather than increasing vocational offerings in their respective comprehensive high schools. It was their considered opinion that vocational courses could be offered more favorably and effectively in a vocationally oriented surrounding at less cost than individual schools could hope

to offer them. In most instances, the individual high school districts would be unable to offer most of the vocational programs now available at the center.

One of the principal reasons for the enthusiastic acceptance of the AVC operation was the fact that the participating school districts represented by their superintendents, worked together in a team planning effort for about five years prior to the opening of the area center. Further, and perhaps equally as important, the vocational center was financed jointly by all the school districts. The superintendents' team approach to the operation of the center was particularly noted by the "parent" school superintendent when he stated that no administrative decision, other than routine, was made without discussion and agreement of the participating high school superintendents.

The superintendents, as a group, expressed concern about the apparent change taking place at the state level regarding support of the area vocational center concept. Encouragement by state officials of the addition of vocational offerings in comprehensive high schools appeared to be minimizing the vocational centers and increasing the cost of vocational education at the home high schools. The group also suggested that the state requirement for each participating high school to submit a one year and a five year plan annually, in addition to similar plans for the AVC, required administrative detail which is difficult to cope with. The group was currently discussing ways in which these plans could be accomplished with a minimum of duplicated effort.

Coordination of the vocational activities was effectively administered by one individual on the staff of the vocational center. He was responsible for guidance, the occupational information program for participating high schools which he developed, an informal placement service, and follow-up studies of all graduates. The most recent comprehensive follow-up study of the first two-years' graduates was a good indication of his dedication to effective vocational education.

It was ironic that one of the few programs in business machine repair which existed in the State of Illinois, and which took two years to initiate, and for whose completers there were openings all over the state, must this year be discontinued due to the lack of sufficient funding to provide employment of a full-time rather than a part-time instructor. No part-time instructor was available within the area.

The visiting team found no real overlapping of courses in the AVC and the participating high schools. Those which appeared to be duplications, actually were high school

industrial orientation courses for beginning students, while advanced training took place in that occupational field at the area vocational center. Proficiency testing and other educational accomplishments by the student were the deciding factors as to where the student would begin his occupational training in the AVC. However, serious question could be raised as to whether all of this effort could not be accomplished as effectively and more economically in the AVC by admitting students to the center at the 10th grade level.

The team made its final visit to the Waubonsee Community College in Sugar Grove. Vocational programs were concentrated in an engineering technology building designed especially for the courses to be offered there. Individualized instruction was being implemented wherever possible. This instructional concept was particularly essential to permit flexible entrance scheduling when it was recognized that most of the students entering Waubonsee for vocational training do so for "specific subject purposes," as was indicated by the Assistant Dean of Instruction for Occupational Programs. Few students enroll for the expressed purpose of attaining certificates or associate degrees, although some of the students do actually fulfill the requirements and attain the certificate or degree.

The team did not find duplication of programs in the community college and the AVC. The community college courses were of an advanced skill level with specialization content not found in the vocational center level courses.

Based on the general policy that short term courses to satisfy business and community needs should be offered by the college, Waubonsee facilities were frequently utilized by business and industry. One example of this was found in welding. By arrangement, one company sends its welding trainees to the college as a group to get a short course designed for a special purpose, with the college welding instructor responsible for the instruction.

As the college grows, so will the number of vocational-technical education programs. The vocational administrator indicated there will be emphasis placed on training in the service occupations, diesel mechanics, air conditioning and heating, television servicing and of health services programs, the latter principally for adults.

While little or no cooperation existed with the four-year college in the area, this did not appear to be of consequence at this time since so few students were interested in baccalaureate degree programs. The placement director's office

was not only a busy one, but effective as well, with extremely good working relationships existing with local business and industry.

ARTICULATION

School administrators, employment service personnel, chamber of commerce workers, and others, pointed to the articulation that exists between the participating high schools, the area vocational center and the community college.

Waubonsee offers credits either on proficiency test results or upon recommendation of the counselor or instructor, according to the individual accomplishments of each student, including study and work experience.

PROGRAMS IN FOUR YEAR AND JUNIOR COLLEGES

The principal occupational education programs in Illinois four year colleges were found in the Vocational-Technical Institute of Southern Illinois University (SIU), and in the Aviation Institute of the University of Illinois at Champaign.

There was no apparent evidence of duplication or overlapping at all in the University of Illinois Aircraft and Power Plant (A&P) Program at Champaign licensed by Federal Aviation Administration (FAA). This program has a long history of successful performance and would be very difficult to duplicate under FAA standards and requirements.

The SIU Vocational-Technical Institute, with a varied and comprehensive program of occupational offerings, also has a long record of successful performance. Because of its location in the southern part of the state, there was little or no duplication of programs at the postsecondary level and none to speak of at the secondary level. The present administration at the Institute is cooperating very closely with the junior colleges in coordinating their programs. More recently, the Institute has relinquished its cosmetology and practical nurse program to Logan College in Jackson County in an effort to concentrate on technical education programs which are basic to contemplated three year postsecondary technical offerings.

Tentative plans to bring the whole SIU Vocational-Technical Institute program onto the main campus at Carbondale should strengthen the administration of the Institute, and set the stage for residential facilities which would help the program function truly as a state-wide postsecondary institute. This change should tie in effectively with the legislation which requires that all high school districts shall become a part of a Junior College service area by 1974 or 1975. This action alone should tend to reduce potential duplication and overlapping, and also provide clear opportunities for greater articulation of secondary and postsecondary programs in the future.

There was evidence of improved state-wide recruitment of postsecondary students by making programs known to guidance counselors in the feeder high schools. There has been rapid occupational education program development in the junior colleges, rising to 1000 course offerings in the total system in 1971-1972. At the same time, the raised minimum requirements of population and assessed valuation by the Junior College Board and the Board of Higher Education for initiating a junior college should prevent future proliferation of small and economically inefficient schools.

What appears to be most needed now in the postsecondary occupational education programs is a continuous examination of the quality of instruction and the availablility and accessibility of needed programs to all young people in the State. It appears that the junior colleges are promoting expansion of adult education opportunities. In this regard, there should be continuous overview of possible overlapping of junior college adult programs with those of the area vocational centers or vice versa.

The fact that new occupational educational offerings in the junior colleges must have the approval of the Junior College Board and the Board of Education should assist materially in reducing duplication. Funding a new offering with vocational education money is still subject to the review and approval of the Division of Vocational and Technical Education.

In general, there appeared to be a very favorable climate for close cooperation and coordination between all postsecondary institutions that provide occupational education programs.

SECTION III

MATCHING OCCUPATIONAL NEEDS IN THE ILLINOIS LABOR MARKET WITH THE OCCUPATIONAL OUTPUT OF PUBLIC VOCATIONAL EDUCATION IN ILLINOIS

The Changing Labor Force in Illinois

Because of its relatively large population, its produced wealth and large concentrations of services and facilities, Illinois is transforming itself from a goods producing to a service producing economy. Current census data emphasizes the probabilities that employment increases in goods producing industries will be marginal while other sectors of the economy will absorb a larger share of the available and employable labor force. As a concommitant to this, employment of females will continue to grow in most of the occupations and industries in the state. As may be noted in the attached Tables 4 and 5 , females between 1960 and 1970 accounted for three-fourths of the net employment increases reported by the U.S. Census and this occurred in many areas which have been traditionally male dominated.

As may be noted in the industry employment figures, Table 4 service producing industries (all industries other than manufacturing, construction, mining and agriculture) accounted for 55.9 percent of the total 1960 reported employment. Between 1960 and 1970, they, however, accounted for 94 percent of all new employment gains and only 25 percent of the employment losses. Among these service industries more than 70 percent of the increase was found in wholesale and retail trade and professional and related services which includes: hospitals, health services, educational institutions, cultural institutions, welfare, religious and nonprofit organizations, legal, engineering and miscellaneous professional services.

Relatively large losses were found in agriculture and personal services which includes: private household workers, hotels, cleaning and tailoring establishments, beauty parlors, barber shops, dressmaking and shoe repair shops. Within these categories, the largest losses were among female employees in private households and in the small individually owned service shops which are being replaced by automated services or are becoming too costly to operate.

TABLE 4

ILLINOIS CHANGES IN INDUSTRY EMPLOYMENT
BY BROAD INDUSTRY CLASSIFICATION *
(1960-1970)
(000's)

Industries with Employment Gains	1960 Civilian Labor Force Employment	Percent Distribution 1960 Employment	Absolute Change 1960-70	Percent Distribution of Change	Female Share of 1960-70 Change	Percent Change in Total Employment 1960-1970
Professional and R&D Svcs.	433.1	11.7	+252.9	44.8	68.4	+58.4
Wholesale and Retail Trade	701.7	19.0	+141.9	25.2	60.1	+20.2
Finance, Ins. & Real Est.	173.5	4.7	+ 46.8	8.3	67.1	+27.0
Public Admin.	147.3	4.0	+ 39.5	7.0	53.8	+26.8
Business & Repair Svcs.	98.4	2.7	+ 35.6	6.3	41.6	+36.2
Durable Goods Manufacturing	786.8	21.4	+ 31.8	5.6	93.7	+ 4.0
Construction	189.3	5.1	+ 14.4	2.6	29.2	+ 7.6
Entertainment & Recreation	26.5	0.7	+ 1.0	0.2	130.0	+ 2.6
TOTALS	2,557.1	69.3	+563.9	100.0	64.0	+22.1
Industries with Employment Losses						
Transportation, Communications, & Public Util. 1/	310.1	8.4	- 1.8	1.7	- -	- 0.6
Mining 1/	22.0	0.6	- 1.9	1.8	- -	- 8.6
Non-Durable Goods Mfg. 1/	454.2	12.3	- 17.0	15.7	- -	- 3.7

TABLE 4 cont'd

ILLINOIS CHANGES IN INDUSTRY EMPLOYMENT
BY BROAD INDUSTRY CLASSIFICATION *
(1960-1970)
(000's)

Industries with Employment Losses Cont'd	1960 Civilian Labor Force Employment	Percent Distribution 1960 Employment	Absolute Change 1960-70	Percent Distribution of Change	Female Share of 1960-70 Change	Percent Change in Total Employment 1960-1970
Personal Svcs.	174.5	4.7	- 25.7	23.8	64.6	-14.7
Agriculture	173.1	4.7	- 61.6	57.0	4.4	-35.6
TOTALS	1,133.9	30.7	-108.0	100.0	17.9	- 9.5
GRAND TOTALS *	3,899.4	100.0	+566.1		78.2	+12.4

* Subtotals do not equal grand total, because of Census nonrespondents

1/ Industries which lost overall employment but gained female workers

SOURCE: U.S. Census of Population, 1970 -
General Social and Economic Characteristics for Illinois

TABLE 5

ILLINOIS CHANGES IN EMPLOYMENT BY BROAD OCCUPATIONAL CATEGORY
(1960-1970)
(000's)

Occupations Which Gained Workers	1960 Civilian Labor Force Employment	Percent	Absolute Change 1960-70	Percent of Total Gains	Percent Female Share of 1960-70 Changes	Percent Change in Total Employment 1960-70
Clerical	643.4	17.7	+196.1	33.3	94.7	+30.5
Professional & Technical	401.8	11.0	+193.0	32.8	44.5	+48.0
Service, exc. Private Household	348.0	9.5	+106.4	18.1	63.8	+30.6
Operatives, Exc. Transp.	556.8	15.2	+ 29.3	5.0	54.6	+ 5.3
Sales	276.5	7.6	+ 28.6	4.9	67.1	+10.3
Craftsmen	558.3	15.3	+ 16.3	2.8	58.9	+ 2.9
Transportation Workers	146.8	4.0	+ 15.5	2.6	27.7	+10.6
Managerial, Exc. Farming	314.8	8.6	+ 3.6	0.5	130.5	+ 1.1
TOTALS	3,246.4	88.9	+588.8	100.0	66.8	+18.1
Occupations Which Lost Workers				Percent of Total Losses		
Laborers, Exc. Farming	183.6	5.0	- 7.1	7.4	**	- 3.9
Farm Laborers	42.3	1.2	- 17.5	18.2	14.9	-41.4

TABLE 5 Cont'd

ILLINOIS CHANGES IN EMPLOYMENT BY BROAD OCCUPATIONAL CATEGORY
(1960-1970)
(000's)

Occupations Which Lost Workders Cont'd	1960 Civilian Labor Force Employment	Percent	Absolute Change 1960-70	Percent of Total Losses	Percent Female Share of 1960-70 Changes	Percent Change in Total Employment 1960-70
Private Household Workers	58.7	1.6	- 23.5	24.5	96.6	-40.0
Farmers, and Farm Managers	122.1	3.3	- 47.8	49.9	2.3	-39.1
TOTALS	406.7	11.1	- 95.9	100.0	27.5	-23.6
GRAND TOTALS *	3,899.4	100.0	+566.1		75.8	+13.5

* Sub-totals do not equal grand total because of Census non-respondents

** Female employment gained by 6,400 as against total drop of 13,500.

SOURCE: U.S. Census of Population, 1970 -
General Social and Economic Characteristics for Illinois

Changes in the occupational pattern, Table 5 , also correlate with these developments. In 1960 white collar workers, clerical, professional, technical, managerial (non-farm) and sales represented 45 percent of the reported employed labor force, but accounted for 72 percent of the gains up to 1970. In all categories where employment increased, females accounted for two out of three of the new workers. As indicated, the major decline in the occupational pattern for females was in the private household worker category. In other categories, except professional and technical and transport workers, they represented the majority of net new employment.

General Assumptions and Limitations of the Study

In order to provide a basic description of the relationship between the Illinois vocational education program and the distribution and characteristics of employment by occupation in the state, the following assumptions and limitations about and on the use of the available data and observations are detailed below:

1. Assumptions:

    a. Under idealized conditions of program planning and student counseling and guidance, the distribution of students in public vocational education programs should tend to approximate the distribution of non-professional workers in the labor force by occupational category.

    b. Under the same assumptions, the distribution of trained output of public vocational education should approximate the distribution of occupational demand for trained workers in the non-professional category.

    c. Complete convergence between the enrollment, output and occupational distributions in any given area--state, local or regional--is probably neither desirable or practical given the range of student aspirations and school resources as against the wide range of occupational choices possible. Nevertheless, the degree of convergence, given an adequately

selected comparison base, provides basic information as to gaps, omissions, and duplication of the program in terms of labor market needs.

d. With a careful judgmental approach, the planner can utilize the comparisons, and with evaluation of the economic factors described, can develop realistic priorities as to program alignment.

2. Limitations:

a. Significant differences in occupational classification as between the U.S. Office of Education, the U.S. Census and the U.S. Department of Labor and the Dictionary of Occupational Titles. Use of the data in occupational categories from each of the above sources requires much judgmental analysis in deciding which occupational categories correspond to each other when comparing the different data bases. Differences in the amount of classification detail involved in current available data is another factor requiring analytical judgment.

b. Differences in geographical bases complicate analysis when comparing school data with labor market information on a local or regional level. Data collection methods on the part of state agencies rarely permit the necessary aggregations or disaggregations of enrollment and output data from local schools to match the geographic boundaries of labor market areas without an intensive search in the original source. In Illinois this would mean reanalysis of the reports from over 1,000 school districts.

c. Labor market data, particularly in regard to employment by industry, varies in the amount of detail collected. Thus, there is much data available on employment in the Chicago SMSA, but none readily available for the City of Chicago itself.

d. Use of census data, as currently available, presents analytical difficulties since occupational data is presented by residence of worker (residential labor force) rather than place of work (work force). Thus, if an analysis were to be made of Chicago City, there is no readily usable method of determining its job structure since many workers commute in or out of the city. Thus, a plumber living in Elgin and working in Chicago would be enumerated in the Elgin labor force and not in the Chicago labor force.

e. The problem of determining the comparison bases between vocational education, occupational and labor market data present difficulties. Obviously, the range of vocational education offerings does not correspond to the range of jobs in the work force. Vocational education does not train, on one hand, for professional or managerial jobs requiring four year college degrees and, on the other hand, for jobs of low-skill or short-term preparation typical of many operative, laborer or service types of employment; except for special training-for-industry programs and to a limited extent, short-term manpower programs. It is estimated that the job universe to which vocational education training mainly relates in Illinois comprises only 56 percent of the total 1970 labor force when jobs in the upper and lower classifications are eliminated from the labor market comparison base.

f. Considerable shortcomings exist in the available school data from Illinois. This is particularly true in the format of the O.E. reports, Forms 3131-5/71 and 3139-5/71, Enrollments and Placement of Program Completions in Vocational Education Programs, respectively. They are:

(1) The lumping together of all metalworking trades so that no distinction can be made of training of welders, as against tool and die makers, machinists, sheet metal workers, etc.

(2) Failure to distinguish between occupational orientation courses (grades 9-10) and actual vocational education (grades 11-12). This

particularly in Illinois has inflated the actual size of the program in a number of categories, including typists and draftsmen.

(3) No valid figures are available on participation and placements of minority and disadvantaged in occupational programs at the secondary, postsecondary and adult levels. The same can be said for females, even though these groups are of growing importance in the job market. In addition, no practical method seems to exist for retrieving this information.

g. The state lacks any information on the output of private trade, technical and business schools. Without this data, approximations of the occupational needs in the labor force cannot be made with the degree of preciseness were this data available. For any calculation of public versus private output, a 15 percent factor of private output above the public output is suggested.

Labor Market Demand in Illinois, 1970-1980

Between 1970 and 1980 it is expected, according to the projections utilized in this study (Table 6), that the employed labor force in the state will be increased by a net of 1,514,600 persons. In the same period, it is estimated that an additional 1,580,100 jobs will be available because of withdrawals from the labor force. Therefore, a combined total of 3.095.460 jobs will be available in the ten-year period. By broad occupational category the ranking of demand for workers is expected to emphasize the following order: (Table 7)

TABLE 6
LABOR MARKET DEMAND IN ILLINOIS 1970-1980

TOTAL	Resident Labor Force 1970 1/	Resident Labor Force 1980 2/	Net Change	Annual With-Drawals	Annual New Demand	Total Annual Demand
Professional, Technical and kindred workers	629,453	906,374	276,921	21,401	27,692	49,093
Engineers	67,286	114,608	47,322	2,288	4,732	7,020
Physicians, dentists, and related practitioners	29,655	46,504	16,849	1,008	1,685	2,693
Health workers, except practitioners	64,782	101,721	36,939	2,203	3,694	5,897
Teachers, elementary and secondary schools	135,990	135,935	(55)	4,624	(2)	4,622
Technicians, except health	46,518	84,437	37,919	1,582	3,792	5,374
Other professional workers	285,222	423,169	137,947	9,697	13,794	23,491
Managers and Administrators, except farm	331,919	487,545	155,626	10,289	15,563	25,852
Salaried: Manufacturing						
Retail Trade						
Other industries						
Self-employed: Retail Trade						
Other industries						
Sales workers	317,388	415,966	98,578	11,109	9,858	20,967
Manufacturing and wholesale trade						
Retail trade						
Other industries						
Clerical and Kindred workers	891,679	1,217,489	325,810	42,801	32,581	75,382
Bookkeepers	92,218	100,805	8,587	4,426	859	5,285
Secretaries, stenographers, and typists	252,394	294,958	42,564	12,115	4,256	16,371
Other Clerical workers	547,067	821,726	274,659	26,259	27,466	53,725

Craftsmen, foremen, and kindred workers	667,814	867,659	199,845	14,692	19,985	34,677
Automobile mechanics, incl. body repairmen	44,821	57,758	12,937	986	1,294	2,280
Mechanics and repairmen, exc. auto	82,525	175,634	93,109	1,816	9,311	11,127
Machinists	132,131	163,152	31,021	2,907	3,102	6,009
Metal craftsmen, exc. mechanics and machinists						
Carpenters	39,194	38,945	(249)	862	(25)	837
Construction craftsmen, except carpenters	102,158	114,852	12,694	2,247	1,269	3,516
Other craftsmen	266,985	317,318	50,333	5,874	5,033	10,907
Operatives, exc. transport	585,939	786,432	200,493	16,992	20,049	37,041
Durable goods mfg.						
Nondurable goods mfg.						
Nonmanufacturing ind's.						
Transport equipment operatives	176,094	206,570	30,476	3,170	3,048	6,218
Truck drivers						
Other transport equip. operatives						
Laborers, exc. farm	190,896	169,333	(21,563)	3,436	(2,156)	1,280
Construction laborers						
Freight, stock, and material handlers						
Other laborers, exc. farm						
Farmers and farm managers	79,268	107,222	2,422	2,620	242	2,862
Farm laborers and farm foremen	25,532					
Service workers, exc. private household	487,109	739,959	252,850	22,407	25,285	47,692
Cleaning service workers	110,390	99,899	(10,491)	5,078	(1,049	1,029

TABLE 6 cont'd

TABLE 6 cont'd

LABOR MARKET DEMAND IN ILLINOIS 1970-1980

TOTAL	Resident Labor Force 1970 1>	Resident Labor Force 1980 2>	Net Change	Annual With-Drawals	Annual New Demand	Total Annual Demand
Service workers Cont'd						
Food service workers	153,329	197,191	43,862	7,053	4,386	11,439
Health service workers	60,362	114,171	53,809	2,777	5,381	8,158
Personal service workers & others N.E.C.	106,668	259,873	153,205	4,907	15,320	20,227
Protective service workers	56,360	68,825	12,465	2,593	1,247	3,840
Private household workers	36,824	96,315	59,491	2,541	5,941	8,482
TOTAL	4,419,915	6,000,864	1,580,949	151,458	158,088	309,546

SOURCE:

1> U.S. Census, General Social and Economic Characteristics, Illinois

2> Center for Advanced Computation, University of Illinois, Prepared by Roger H. Bezdek

Table 7

Ranking of Occupational Demand
in Illinois, 1970-1980

Category	1970-1980 Demand	Percent	Share of Category in 1970 Labor Force
Clerical	753,820	24.4	20.2
Professional & Technical	490,930	15.8	14.2
Service, exc. Household	476,920	15.4	11.0
Operatives, exc. Transport	370,410	12.0	13.3
Crafstmen	346,770	11.2	15.1
Managers & Administrators	258,520	8.4	7.5
Sales Workers	209,670	6.8	7.2
Private Household Workers	84,820	2.7	0.8
Transport Workers	62,180	2.0	4.0
Farm Workers	28,620	0.9	2.4
Non-Farm Laborers	12,800	0.4	4.3
TOTAL	3,095,460	100.0	100.0

As may be noted, over 55 percent of the total demand will be in the white collar professional, technical, clerical, sales and managerial occupations, and the remainder in the so-called blue collar categories. The anticipated numbers of additional white collar workers needed for the 1980 labor force supports current observations of the continued occupational shift in this direction, inasmuch as only 49 percent of the 1970 labor force in Illinois has been classified as white collar in the 1970 census.

In relation to total occupational demand, the blue collar labor force is not expected to maintain its current share of the labor force. Retail sales workers will also lose out proportionately because of the continued growth of self-service operations. By and large the shift towards technical, service and office oriented skills will continue in the state throughout the seventies.

Analysis of the trend in those occupational categories which are currently served by vocational education reveals the following demand relationships in Table 8 :

Table 8

Labor Demand in Illinois by Vocational Education Related Occupational Categories, 1970-1980

Category	1970-1980 Demand	Percent	Share of Category in 1970 Labor Force
Health Workers, exc. Practitioners	58,970	3.1	2.6
Technicians, exc. Health	53,740	2.8	1.9
Sales Workers	209,670	10.9	12.8
Clerical	753,820	39.3	36.1
Craftsmen	346,770	18.1	27.0
Farm Workers	28,620	1.5	4.3
Service Workers, exc. Cleaning & Household	466,630	24.3	15.3
TOTAL	1,918,220	100.0	100.0

As may be noted above, the level of demand in the vocational education related occupational categories represents 43.4 percent of the total demand expected to be generated in the state. In these categories, clerical, crafts and service workers represent the major group. However, in relation to their share of the 1970 labor force, it is the clerical, service, health and other technicians which are expected to grow beyond their current representation.

As related to the current vocational education program in Illinois, the dimensions of the training effort required to supply the state's labor force with skilled workers can be measured by the possibility that a labor force equivalent to 77 percent of the 2,500,000 persons now in vocational education related jobs will have to be trained in the current decade for either new or replacement jobs. The extent to which the public component of the vocational education system is accomplishing this is discussed in the following sections.

The Output of the Illinois Vocational Education Program

As related to the need for trained workers in Illinois, public vocational education produced approximately 75,000 persons in 1971 who were categorized as program completers or possessing marketable skills. The major program sources for this new manpower, secondary, postsecondary and adult levels of the system, contributed the following shares:

Table 9

Output of Illinois Public Vocational Education by Level of Program, 1971

	Completers	%	Available for Placement	%	Placed in Field of Trng.	%	Known un-employed	%
Secondary	63,239 100.0	84.4	29,085 46.0	78.6	18,055 28.6	82.6	3,285 5.3	94.2
Postsecondary	9,261 100.0	12.4	6,721 72.6	18.2	6,245 67.6	15.3	156 1.7	4.5
Adult	2,452 100.0	3.2	1,182 48.2	3.2	983 40.1	2.1	46 1.9	1.3
TOTAL	74,952 100.0	100.0	36,988 49.4	100.0	25,283 33.7	100.0	3,487 4.7	100.0

Source: HEW/OE Placements in Vocational Education, 1971

As may be noted in Table 9 , the bulk of program output came, of course, from the secondary program (84.4 percent) with the remainder from postsecondary and adult. Proportionately, however, of those students available for placement to total output, postsecondary programs registered a significantly higher proportion than did the secondary and adult programs. Of the 54 percent of the secondary output, approximately 32 percent were reported to have continued their education at a higher level while 22 percent were not classified as to disposition. (See Table 10A) Only 46 percent of the secondary output was available for placement and 28.6 percent were actually placed in their field of training. In respect to these

TABLE 10A

COMPARISON OF ILLINOIS PUBLIC VOCATIONAL
EDUCATION OUTPUT TO ENROLLMENTS
BY
PLACEMENTS AND SELECTED OUTCOMES BY
LEVEL OF PROGRAM (1971)

Secondary Level

Program	Number Enrolled 1971	Percent Marketable Output to Enrolled	Percent Continuing Education to Output	Percent Placement Available to Output	Percent Placed in Field to Placement Available	Percent Placed in Non-Related Field to Placement Available	Percent Unemployed to Placement Available
AGRICULTURE	19,674	22.5	34.6	46.1	70.1	20.2	8.9
DISTRIBUTIVE EDUCATION	17,508	21.3	24.7	55.0	62.4	29.0	8.6
HEALTH ED.	2,326	42.8	31.5	41.8	74.3	18.0	7.7
OCCUPATIONAL HOME ECON.	19,493	20.7	27.8	42.8	40.5	42.6	16.9
BUSINESS and OFFICE ED.	194,733	16.3	35.8	44.6	64.5	23.4	12.1
TECHNICAL ED.	- - - -	- -	- -	- -	- -	- -	- -
TRADE & INDUSTRIAL	147,829	12.6	28.2	47.5	59.9	29.9	10.2
TOTALS	401,563	15.7	32.2	46.0	62.1	26.6	11.3

SOURCE: OE Annual Report - Placements of Program Completers in Vocational Education Programs,1971
Enrollments in Vocational Education Programs, 1971

TABLE 10B

COMPARISON OF ILLINOIS PUBLIC VOCATIONAL
EDUCATION OUTPUT TO ENROLLMENTS
BY
PLACEMENTS AND SELECTED OUTCOMES BY
LEVEL OF PROGRAM (1971)

Post-Secondary Level

Program	Number Enrolled	Percent Marketable Output to Enrolled	Percent Continuing Education to Output	Percent Placement Available to Output	Percent Placed in Field to Placement Available	Percent Placed in Non-Related Field to Placement Available	Percent Unemployed to Placement Available
AGRICULTURE	2,038	21.0	9.3	66.1	92.2	5.7	2.1
DISTRIBUTIVE EDUCATION	4,312	4.7	12.9	33.2	88.2	10.5	1.3
HEALTH ED.	7,204	27.9	4.4	78.8	95.4	2.7	1.9
OCCUPATIONAL HOME ECON.	2,126	20.1	7.7	81.3	91.7	4.0	4.3
BUSINESS and OFFICE ED.	24,420	15.2	12.5	68.0	90.9	6.6	2.5
TECHNICAL ED.	12,523	13.4	7.2	80.5	95.6	3.6	0.8
TRADE & INDUSTRIAL	9,563	8.4	10.3	69.0	90.3	4.3	5.4
TOTALS	62,186	14.9	9.2	66.1	92.9	4.8	2.3

TABLE 10C

COMPARISON OF ILLINOIS PUBLIC VOCATIONAL EDUCATION OUTPUT TO ENROLLMENTS BY PLACEMENTS AND SELECTED OUTCOMES BY LEVEL OF PROGRAM (1971)

Adult Level

Program	Number Enrolled	Percent Marketable Output to Enrolled	Percent Continuing Education to Output	Percent Placement Available to Output	Percent Placed in Field to Placement Available	Percent Placed in Non-Related Field to Placement Available	Percent Unemployed to Placement Available
AGRICULTURE	2,580	7.0	1.7	60.2	96.3	2.8	0.9
DISTRIBUTIVE EDUCATION	1,632	- -	- -	- -	- -	- -	- -
HEALTH ED.	1,908	7.7	- -	69.9	100.0	- -	- -
OCCUPATIONAL HOME ECON.	960	2.6	- -	100.0	100.0	- -	- -
BUSINESS and OFFICE ED.	17,786	4.5	0.1	49.1	65.4	29.8	4.8
TECHNICAL ED.	930	4.2	- -	38.5	80.0	- -	20.0
TRADE & INDUSTRIAL	19,895	6.3	2.1	42.7	89.6	6.1	4.3
TOTALS	45,691	5.2	1.2	48.2	83.2	12.9	3.9

proportions, it can be inferred that a large proportion of the secondary completers went on to the community colleges to further their vocational training at a higher level.

By program, the relationship of output to placement in field of training varied considerably. As may be noted in Table 10A, health education, agriculture and business and office education seem to be most successful in placing their students in related fields. Occupational home economics is relatively low in this regard. At the postsecondary level, technical education, agriculture, and health education again seem to emjoy a better training related placement record., (See Table 10B). As between the adult programs (Table 10C), it would also appear that the greatest direct demand is for agriculture and health education students.

Overall, it would seem that postsecondary programs are most successful in placing their people. The effect is undoubtedly due to the higher levels of training and the relative maturity of the student. At the secondary level, relatively high unemployment rates and placements in non-related fields indicate, in addition to factors of age, maturity, military service level of training, that some of the programs do not adequately prepare their students for the labor market either through lack of program relevance or adequate training.

Program Output and Labor Supply

Although only 14.7 percent of the 1971 public vocational education enrollments could be considered as output--program completers and leavers with marketable skills--this group amounted to a considerable portion of the estimated annual labor market demand. The 75,000 persons in the output category represent 39 percent of the demand in the occupational areas served by vocational education and, as such, can be considered a significant factor in the Illinois job market. However, in terms of the labor market objectives of the vocational education system, output varied considerably in relation to the state's need for trained workers.

In order to ascertain the extent of the differences, the percentage distribution of the occupational demand categories in the labor force was compared to the percentage distribution of the output. The results by occupational category and program share are shown in Table 11.

Table 11

Distribution of Output by Occupational Category Compared to Anticipated Labor Market Demand Distribution

Over-Represented Categories	Distribution Output	Demand
Bookkeepers	11.5	2.8
Secretaries, Stenos, Typists	22.9	8.7
Auto Mechanics, Body and Fender Repairmen	4.1	1.2
Metal Workers	4.2	3.2
Carpenters	1.5	0.4
Other Craftsmen	13.4	5.8
Farm Workers	4.8	1.5
TOTAL	62.4	23.6

As compared to the over-represented portion of the program, those categories which fall below their anticipated proportion in the demand frequency are as follows:

Under-Represented Categories	Distribution Output	Demand
Health Workers, except Practitioners	2.3	3.1
Technical, except Health	2.3	2.8
Sales	5.2	11.1
Other Clerical	13.9	28.4
Other Mechanics	3.8	5.9
Other Construction Workers	0.6	1.9
Protective Service Workers	0.2	2.0
Food Service Workers	2.0	6.1
Health Service Workers	1.9	4.3
Personal and Other Service Workers	5.4	10.8
TOTAL	37.6	76.4

Occupational Output and Coverage of the Annual Labor Market Demand

The previous section detailed the differences in proportion between vocational education output and labor market demand as it existed in 1971. However, in view of the expansion needs of vocational education in Illinois, it is also necessary to detail the anticipated directions and limits to which the program could expand on a state-wide basis were it to fully satisfy the demand for trained labor projected in this study. In Table 12, the outputs of all offerings by level of program are compared with the annual demand figures for each occupational category, and the extent of unmet needs is derived from the difference between output and demand.

As may be noted, the annual demand in the comparable occupational categories totals 188,823 jobs. As against this, the output of 75,086 persons equals 39.8 percent of the total demand. However, the absolute coverage varies by occupational category, with output more than sufficient in the bookkeeping, typing and auto mechanics categories and extremely low in other cleri. l, sales and service worker groups. The relative extent of the coverage by category follows in Table 13.

As may be seen in the following tables, the oversupply ranges from between 63.6 percent in the bookkeeping category to 4.6 percent in the secretary, steno, typist category. The undersupply group ranges from a low of 4.3 percent for protective service workers to a high of 92.5 percent for other craftsmen. In relation to the employment changes noted in Illinois industry, expansion of this group would most directly serve the anticipated needs of those industries which are growing in the state.

TABLE 12

VOCATIONAL EDUCATION OUTPUT, LABOR MARKET DEMAND AND UNFILLED NEEDS IN ILLINOIS

	1971 Output by Program				1970-80 Annual Demand	Annual Need
	Secondary	Post Secondary	Adult	Total Output		
Professional, Technical and kindred workers						
Engineers						
Physicians, dentists, and related practitioners						
Health workers, except practitioners	302	1,407	11	1,720	5,897	+ 4,177
Teachers, elementary and secondary schools						
Technicians, except health		1,674	39	1,713	5,374	+ 3,661
Other professional workers						
Managers and Administrators, except farm						
Salaried: Manufacturing						
Retail Trade						
Other industries						
Self-employed: Retail Trade						
Other industries						
Sales workers	3,726	202	--	3,928	20,967	+17,039
Manufacturing and wholesale trade						
Retail trade						
Other industries						
Clerical and Kindred workers	31,668	3,718	810	36,187	75,382	+39,195
Bookkeepers	8,356	234	56	8,646	5,285	(3,361)
Secretaries, stenographers, and typists	15,795	692	640	17,127	16,371	(756)
Other Clerical workers	7,517	2,792	105	10,414	53,726	+43,312

Craftsmen, foremen, and kindred workers	18,893	625	1,287	20,805	34,677	13,872
Automobile mechanics, incl. body repairmen	2,899	140	46	3,085	2,280	(805)
Mechanics and repairmen, exc. auto	2,555	197	131	2,883	11,127	8,244
Machinists						
Metal craftsmen, exc. mechanics and machinists	2,895	72	201	3,168	6,009	2,841
Carpenters	1,046	24	41	1,111	837	(274)
Construction craftsmen, except carpenters	283	18	169	470	3,516	3,046
Other craftsmen	9,215	174	699	10,088	10,908	820
Operatives, exc. transport						
Durable goods mfg.						
Nondurable goods mfg.						
Nonmanufacturing ind's.						
Transport equipment operatives						
Truck drivers						
Other transport equip. operatives						
Laborers, exc. farm						
Construction laborers						
Freight, stock, and material handlers						
Other laborers, exc. farm						
Farmers and farm managers	3,158	310	145	3,613	2,862	(751)
Farm laborers and farm foremen						
Service workers, exc. private household						
Cleaning service workers						

TABLE 12 cont'd

TABLE 12 cont'd

VOCATIONAL EDUCATION OUTPUT, LABOR MARKET DEMAND AND UNFILLED NEEDS IN ILLINOIS

	1971 Output by Program				1970-80	
	Secondary	Post Secondary	Adult	Total Output	Annual Demand	Annual Need
Service workers Cont'd						
Food service workers	1,458	26	-	1,484	11,439	9,955
Health service workers	690	601	135	1,426	8,158	6,732
Personal service workers	3,472	539	34	4,045	20,227	16,282
Protective service workers	22	143	-	165	3,840	3,675
Private household workers						
TOTAL	63,389	9,245	2,452	75,086	188,823	113,737

SCOURCE: OE Report 5/71, Placement in Vocational Education

Table 13

1971 Illinois Occupational Output Coverage in Relation to Estimated Annual Labor Market Demand

Category	Percent of Market Demand Coverage
Accounting and Bookkeeping Occupations	163.6
Secretaries, Stenos, and Typists	104.6
Auto Repair Mechanics	135.3
Carpenters	132.7
Farmers and Farm Workers	126.2
TOTAL	121.5

The output of 33,582 persons (Table 12) for this group represented 44.7 percent of vocational education completers and marketable skills leavers in 1971. As against this, a total annual demand of 27,635 openings for this group was estimated to exist. These openings represented only 14.7 percent of the vocational education related job market.

As related to anticipated demand, the degree of under-coverage is as follows:

Category	Percent of Market Demand Coverage
Health Technicians, except Practitioners	29.7
Technicians, except Health	31.9
Sales Workers	18.7
Other Clerical Workers	19.4
Mechanics, except Automobile	25.9
Metalworkers	52.7
Construction Craftsmen, exc. Carpenters	13.4
Other Craftsmen	92.5
Food Service Workers	13.0
Health Service Workers	17.5
Protective Service Workers	4.3
Personal and Other Service Workers	19.9
TOTAL	25.7

The Need for Increased Vocational Education Output

The degree to which the Illinois program is satisfying the estimated labor market demand has been detailed in Tables 12 and 13. From the data presented it is evident that the output at all program levels, secondary, postsecondary, and adult, could be well expanded to satisfy a larger portion of the gap between the 1971 output of 75,000 program completers and leavers with marketable skills and the 188,800 estimated occupational demand for persons with vocational education training. As can be noted, the total program could be expanded in almost all occupational categories except for bookkeeping, steno, typewriting, auto repair, carpentry and farm worker categories.

In view of the overall and specific gaps between supply and demand in occupational categories the program should be examined for methods to accelerate output in addition to an obvious need for increasing enrollments in low supply categories.

The necessity for doing so is fundamental to the maintenance of a well trained labor force to support the growth of its economy. Evidence from the 1970 census reveals that almost 55 percent of the state's current labor force working in occupations for which vocational education trains have never received any formal instruction outside of their jobs. Concurrently, as indicated in the previous section, only 40 percent of the current demand is being supplied by trained vocational education graduates. Consequently it is apparent that unless this gap is closed the pool of trained non-professional workers will tend to diminish. This will place a greater obligation on the state's industries to either assume a greater training role, import trained workers from other areas, or move to locations where labor is more productive. In addition, new firms seeking to establish in Illinois may well be discouraged by a growing proportion of untrained labor as related to their needs.

As mentioned above the need for expanded enrollments exists in many of the training areas offered by the vocational education system in the state. However, at this point, no definite recommendation can be made of the scope and direction of enrollment expansion inasmuch as data is not available in a form which lends itself to a more concrete and definitive analysis of the mix between specific

public occupational training, industrial arts type programs, occupational orientation programs, and the output of private trade, technical and business schools. As a first requisite for planning to meet labor market demand it is necessary to develop and provide more meaningful program statistics.

Effective Supply vs. Demand in Illinois in Illinois

From available data and the estimates derived therefrom, the overall demand for workers to replace withdrawals and support anticipated growth in new employment should average 309,500 annually. Of this total, 188,800 is anticipated as the requirement for those jobs served by vocational education; that is, jobs not requiring a four year degree but nevertheless requiring skills and information supplied by an organized curricula and course of training which qualifies for federal funding. To supply this need the following sources of new workers have been identified and classified by occupational level. (Table 14)

TABLE 14

Annual Output of Identifiable Manpower Source in Illinois, 1971

Source	Number	Occupational Level
College Graduates (4 yr.)	50,282	Professional & Managerial
Secondary Voc. Ed. Completers, terminal	42,850	Voc.Ed. Related Occupations
Postsecondary Completers, terminal	8,409	Voc.Ed. Related Occupations
Adult Voc. Ed. Completers, terminal	1,959	Voc.Ed. Related Occupations
High School Graduates, Non-Voc. Ed., terminal	19,547	Non-Voc.Ed. Related, Non-Prof.
Manpower Program Placements	14,509	Voc.Ed. Related Occupations
Dropouts, secondary	48,597	Non-Voc.Ed. Related, Non-Prof.
postsecondary, adult	1,977	Non-Voc.Ed. Related, Non-Prof.
college	39,508	Non-Voc.Ed. Related, Non-Prof.
TOTAL	227,638	

Distributing the output figures plus a 4 percent annual unemployment estimate of 250,000 against the estimated demand on a ten year extrapolated basis, the relative mismatch between the occupational demand against supply was determined as shown below:

Table 15

Estimated Ten Year Demand for Workers by Broad Type of Training Compared to Estimated Availability of Workers in Each Category (1970-1980)

Category	Demand	Ascertainable Supply 1	Annual Aver. Unempl.2	10 Year Need
Professional	378,260	502,820	18,750	- 143,310
Voc. Ed., incl. Technical	1,888,230	677,270	114,500	+1,096,460
Non-Professional, non-voc. ed.	828,070	1,096,290	116,750	- 384,970
TOTAL	3,094,560	2,276,380	250,000	+ 568,180

[1]Estimated output of college graduates, vocational education programs, dropouts and re-entries into labor force.

[2]Estimated from 1970 census and Illinois employment average for 1972.

From the above estimates, it can be seen that employment possibilities (with unemployment at 4 percent of the 1970 labor force) are most favorable for those whose occupational preparation has been in the range of jobs for which vocational education trains. As contrasted to this, a surplus of professional workers can be expected, most likely in terms of current output, in the engineering and teaching categories. At the other end of the scale, it can be seen that non-trained individuals, who would gravitate to lower skilled or non-skilled jobs, will also face strong competition for available jobs in the less skilled area. Nevertheless, the need for trained non-professional

workers could act as an upgrading influence if an expansion of current public, private and industrial training programs occurs. In effect, proper distribution of the labor force could reduce the annual level of unemployment by 2 percent by redirecting 56,800 entry or experienced workers each year into the areas of greatest need for labor.

For the vocational education program in Illinois, any increase of the program in terms of labor market needs would act as a powerful factor in reducing unemployment and providing the opportunity for those who are not participating for other than reasons of age, illness or family responsibilities to reenter into useful and needed employment.

SECTION IV

A SUGGESTED PLAN FOR THE EXPANSION AND IMPROVEMENT OF VOCATIONAL EDUCATION IN ILLINOIS

This section is intended to be a comprehensive recommendation for expanding vocational education to meet the overall or ultimate goal of vocational education in Illinois to make occupational training facilities and programs readily accessible to all persons of all ages in all communities of the state. Obviously, this is a tremendous undertaking to attain in any state with diverse population and employment opportunities.

Such a goal would be impossible to attain unless all the educational facilities and resources were to be utilized to the maximum. This is particularly true in light of the fact that the present annual output of occupationally trained graduates in the state scarcely meets half the demand in the state for trained manpower. In more specific terms then, the state has the need and the obligation to utilize its high schools, its area vocational centers, its technical institutes, public and private, its junior or community colleges and, in fact, its four year colleges and universities to the maximum to produce the trained non-professional personnel required by Illinois employers.

All of this discussion assumes, of course, that the present and future programs will be of high quality, coordinated and articulated in such a way as to assure that all those who participate in the programs will benefit from the training.

With these concepts in mind the consulting staff of Arnold Associates believe that Illinois should expand its vocational education facilities to the extent that at least 50 percent of secondary youth would be enrolled in some type of occupational training, with an employment objective at the completion of the training, within the next five years. This is realistic in terms of students' career plans and expectations as revealed by various national and state population and labor market projections.

It seems obvious that this enrollment percentage cannot be met effectively and efficiently through vocational departments of the 730 high schools in Illinois. In general, the high schools cannot economically furnish the number and diversity of occupational offerings required to meet the varied career interests of students and the diverse job

opportunities in the state. On the other hand, the area vocational center pools resources and students to provide the number and breadth of offerings which are so necessary today in contemplation of the current career education emphasis in the public schools. It should not be necessary to expound on the advantages of the area vocational center in this report, since the concept has been accepted in many of the states in the nation and to some extent and form in the state of Illinois.

In order to expedite such utilization and expansion, it is suggested that the state be divided into thirty administrative regions for area vocational centers. In the identification of these regions, consideration has been given to:

1. The total number of secondary age youth enrolled in secondary schools
2. Transportation feasibility
3. Topography insofar as could be determined
4. Labor market needs
5. Relatedness of counties and travel distance

In the light of available data and information, this report contemplates the utilization of all types of facilities in Illinois which provide occupational training that is planned to meet identified labor market demands. The suggestions and recommendations herein emphasize particularly shared time area vocational centers for secondary level students. Specifically it is recommended that shared time area vocational-technical centers be established in order to meet a projected enrollment goal of at least 40 percent of the total 11th and 12th grade enrollment. It is further recommended that the occupational offerings be centered mostly in the fields of trade and industrial, technical, business and office education. In such a plan, it would be expected that some vocational education courses would be retained in the home high schools such as agribusiness, homemaking education and approximately one-half of the business and office occupations enrollments. In these programs it is estimated that the high schools would accommodate approximately 10% of the total 11th and 12th grade enrollments. Hence the vocational education programs in the area vocational centers and the high schools would have enrolled 50% of the total 11th and 12th grade secondary school enrollment. Such a goal and arrangement appears to be realistic in terms of ultimate economic operation and in the best

interests of career objectives, skill attainment and desirable employment.

On the basis of these premises the state was analyzed from the standpoint of the state geography and student population in the high schools in order to determine the number and extent of offerings in area vocational-technical centers as shown in Table 16 . Suggested administrative regions were indicated and the number of high schools in the area were identified which presumably would participate in the programs of an area vocational center. Total enrollments, grades 9 through 12, were listed for each secondary school and for the total of all secondary schools in each designated area. It was estimated then that approximately 40% of the total enrollment would be in grades 11 and twelve. Using a goal of 40% of the enrollment in grades 11 and 12, the prospective number of vocational students is indicated.

The approximate square mile area of each administrative region as listed would need to be considered with regard to the feasibility of transportation of students. Although some of these regions are quite extensive in square miles, the travel distances are not necessarily prohibitive depending upon the strategic location of the area vocational centers and the population distribution of the area. Such problems would require intensive study which should be done in the near future. Table 16 on the following pages reflects the analysis made.

For purposes of this study the following definitions of terms were used:

> An Administrative Region for vocational education is a geographical area of the state deemed to be feasible in size for the transportation of secondary school age students to one or more vocational centers in the region. It may include one or more counties in which one or more area vocational centers may be established to meet the needs of secondary school youth and adults of that region. The principal bases for the determination of a region are the total secondary education population and travel feasibility. Its primary value is to bring local school districts together in the planning and operation of effective and efficient vocational education programs.

An Area Vocational Center is a school or program involving a large geographical territory usually including more than one local basic administrative unit. It offers specialized training to high school students who are preparing to enter the labor market. It also provides vocational or technical education to persons who have completed or left high school and are available for full-time study. These schools may be sponsored and operated by local communities, jointures of local boards or by the state.

TABLE 16

PROJECTED VOCATIONAL ENROLLMENTS

AND SQUARE MILEAGE OF PROPOSED ADMINISTRATIVE REGIONS

(1)	(2)	(3)	(4)	(5)	(6)
COUNTIES SERVED BY REGION	NUMBER OF HIGH SCHOOLS	TOTAL ENROLL-MENT 9-12	ENROLL-MENT 11-12 40% of Column 3	VOCA-TIONAL ENROLL-MENT 40% of Column 4	SQUARE MILES OF REGION
REGION 1					2106
Joe Davies	6	1608	643	257	
Stephenson	5	3202	1281	512	
Carroll	7	1440	576	230	
Ogle	8	3279	1312	525	
TOTALS	26	9529	3812	1524	
REGION 2					288
Winnebago	11	15209	6084	2434	
Boone	2	1781	712	285	
TOTALS	13	16990	6796	2719	
REGION 3					864
Rock Island	6	10513	4205	1682	
Mercer	4	1392	557	223	
TOTALS	10	11905	4762	1905	
REGION 4					720
Madison	12	18260	7304	2922	
TOTALS	12	18260	7304	2922	
REGION 5					1908
Gallatin	3	456	182	73	
Hardin	2	348	139	56	
Massac	3	968	387	155	
Pope	1	217	87	35	
Saline	4	1486	594	238	
Williamson	5	2984	1194	478	
TOTALS	18	6459	2583	1035	

TABLE 16

PROJECTED VOCATIONAL ENROLLMENTS

AND SQUARE MILEAGE OF PROPOSED ADMINISTRATIVE REGIONS

(1)	(2)	(3)	(4)	(5)	(6)
COUNTIES SERVED BY REGION	NUMBER OF HIGH SCHOOLS	TOTAL ENROLL-MENT 9-12	ENROLL-MENT 11-12 40% of Column 3	VOCA-TIONAL ENROLL-MENT 40% of Column 4	SQUARE MILES OF REGION
REGION 6					2269
Kankakee	9	5930	2372	949	
Iroquois	11	2504	1002	401	
Ford	4	1332	533	213	
TOTALS	24	9766	3907	1563	
REGION 7					1656
Logan	6	1797	719	288	
DeWitt	3	1032	413	165	
Macon	12	8682	3473	1389	
TOTALS	21	11511	4605	1842	
REGION 8					3202
Adams	5	3936	1574	630	
Brown	1	370	148	59	
Schuyler	1	505	202	81	
Cass	4	927	371	148	
Morgan	5	2077	831	332	
Scott	1	440	176	70	
Pike	7	1359	544	218	
TOTALS	24	9614	3846	1538	
REGION 9					1728
Edgar	5	1891	756	302	
Vermillion	15	6261	2504	1002	
TOTALS	20	8152	3260	1304	
REGION 10					900
St. Clair	14	15925	6370	2548	
Monroe	3	1210	484	194	
TOTALS	17	17135	6854	2742	

TABLE 16

PROJECTED VOCATIONAL ENROLLMENTS

AND SQUARE MILEAGE OF PROPOSED ADMINISTRATIVE REGIONS

(1)	(2)	(3)	(4)	(5)	(6)
COUNTIES SERVED BY REGION	NUMBER OF HIGH SCHOOLS	TOTAL ENROLL-MENT 9-12	ENROLL-MENT 11-12 40% of Column 3	VOCA-TIONAL ENROLL-MENT 40% of Column 4	SQUARE MILES OF REGION
REGION 11					2007
Clinton	4	1244	498	199	
Washington	3	758	303	121	
Randolph	5	2043	817	327	
Perry	3	1255	502	201	
TOTALS	15	5300	2120	848	
REGION 12					2828
Montgomery	5	2185	874	350	
Bond	2	884	354	142	
Fayette	5	1357	543	217	
Effingham	4	1815	726	290	
Marion	6	2986	1194	478	
TOTALS	22	9227	3691	1477	
REGION 13					2304
Mason	8	1121	448	179	
Menard	3	729	292	117	
Christian	8	2614	1046	418	
Sangamon	17	9204	3682	1473	
TOTALS	36	13668	5468	2187	
REGION 14					4230
Livingston	11	3146	1258	503	
McClean	17	6234	2494	998	
Champaign	11	8294	3318	1327	
Douglas	5	1500	600	240	
Piatt	6	1575	629	252	
TOTALS	50	20749	8299	3320	
REGION 15					486
Kane	12	18000	7200	2880	
TOTALS	12	18000	7200	2880	

TABLE 16

PROJECTED VOCATIONAL ENROLLMENTS

AND SQUARE MILEAGE OF PROPOSED ADMINISTRATIVE REGIONS

(1)	(2)	(3)	(4)	(5)	(6)
COUNTIES SERVED BY REGION	NUMBER OF HIGH SCHOOLS	TOTAL ENROLL-MENT 9-12	ENROLL-MENT 11-12 40% of Column 3	VOCA-TIONAL ENROLL-MENT 40% of Column 4	SQUARE MILES OF REGION
REGION 16					3430
Crawford	4	1418	567	227	
Jasper	1	796	318	127	
Clay	3	1120	448	179	
Richland	2	1246	498	199	
Lawrence	4	1224	490	196	
Wabash	2	958	383	153	
Edwards	1	455	182	73	
Wayne	5	1044	418	167	
TOTALS	22	8261	3304	1321	
REGION 17					1953
Marshall	6	1074	430	172	
Woodford	6	2239	896	358	
Tarewell	9	8192	3277	1311	
TOTALS	21	11505	4603	1841	
REGION 18					882
Stark	3	703	281	112	
Peoria	11	10825	4330	1732	
TOTALS	14	11528	4611	1844	
REGION 19					2880
Bureau	13	2634	1054	422	
Henry	9	3605	1442	577	
Whiteside	7	4678	1871	748	
Lee	5	2332	933	373	
TOTALS	34	13249	5300	2120	
REGION 20					1296
DeKalb	11	4161	1664	6666	
McHenry	10	7577	3031	1212	
	21	11738	4695	1878	

TABLE 16

PROJECTED VOCATIONAL ENROLLMENTS

AND SQUARE MILEAGE OF PROPOSED ADMINISTRATIVE REGIONS

(1)	(2)	(3)	(4)	(5)	(6)
COUNTIES SERVED BY REGION	NUMBER OF HIGH SCHOOLS	TOTAL ENROLL-MENT 9-12	ENROLL-MENT 11-12 40% of Column 3	VOCA-TIONAL ENROLL-MENT 40% of Column 4	SQUARE MILES OF REGION
REGION 21					3534
Knox	5	3859	1544	618	
Fulton	8	3200	1280	512	
Hancock	7	1872	749	300	
Henderson	2	490	196	78	
McDonough	6	1754	702	281	
Warren	4	1446	578	231	
TOTALS	32	12621	5049	2020	
REGION 22					432
Lake	19	26541	10616	4246	
TOTALS	19	26541	10616	4246	
REGION 23					1296
Will	13	14899	5960	2384	
TOTALS	13	14899	5960	2384	
REGION 24					1944
Hamilton	2	523	209	84	
Franklin	6	2297	919	368	
Jefferson	4	1985	794	318	
White	6	1379	552	221	
TOTALS	18	6184	2474	991	
REGION 25					720
DuPage	18	35115	14046	5618	
TOTALS	18	35115	14046	5618	
REGION 26					2592
Coles	4	2914	1166	466	
Clark	5	1199	480	192	
Cumberland	2	674	270	108	
Moultrie	3	752	300	120	
Shelby	8	1565	626	250	
TOTALS	22	7104	2843	1136	

TABLE 16

PROJECTED VOCATIONAL ENROLLMENTS

AND SQUARE MILEAGE OF PROPOSED ADMINISTRATIVE REGIONS

(1)	(2)	(3)	(4)	(5)	(6)
COUNTIES SERVED BY REGION	NUMBER OF HIGH SCHOOLS	TOTAL ENROLL-MENT 9-12	ENROLL-MENT 11-12 40% of Column 3	VOCA-TIONAL ENROLL-MENT 40% of Column 4	SQUARE MILES OF REGION
REGION 27					2016
Alexander	2	695	278	111	
Jackson	8	2832	1133	453	
Johnson	2	496	198	79	
Pulaski	2	715	286	114	
Union	5	1097	439	176	
TOTALS	19	5835	2334	933	
REGION 28					2592
LaSalle	11	7611	3044	1218	
Grundy	5	2131	852	341	
Kendall	4	1942	777	311	
Putnam	1	342	137	55	
TOTALS	21	12026	4810	1925	
REGION 29					2106
Greene	4	1130	452	181	
Macoupin	10	3480	1392	557	
Jersey	1	1232	493	197	
Calhoun	2	346	138	55	
TOTALS	17	6188	2475	990	
REGION 30					630
Cook	119	266913	106765	42706	
TOTALS	119	266913	106765	42706	

The basic information in Table 17 was used to determine the number of occupational offerings and the proposed number of area vocational centers needed to accommodate the proposed enrollment in the area centers. It was assumed that all area vocational centers would operate as shared-time centers in which case students would attend the area center half time and their home high school of residence half time. Table 17 reflects this in that facilities and training stations would need to be provided to serve only half of the total projected vocational area enrollment at one time.

It is proposed therefore that eighty area centers be established with enrollments as indicated in Table 17. This figure includes an estimated 30 area centers to serve the needs in Cook County alone. The shared-time area center concept may not be particularly applicable to all of the problems of a delivery system in the large metropolitan area of Chicago and therefore the plan should be modified to the extent necessary. As stated in the foreword Cook County was not included in this particular study. Eliminating the recommendation of 30 centers for Cook County, the proposal suggests 50 area vocational centers to serve t remainder of the state.

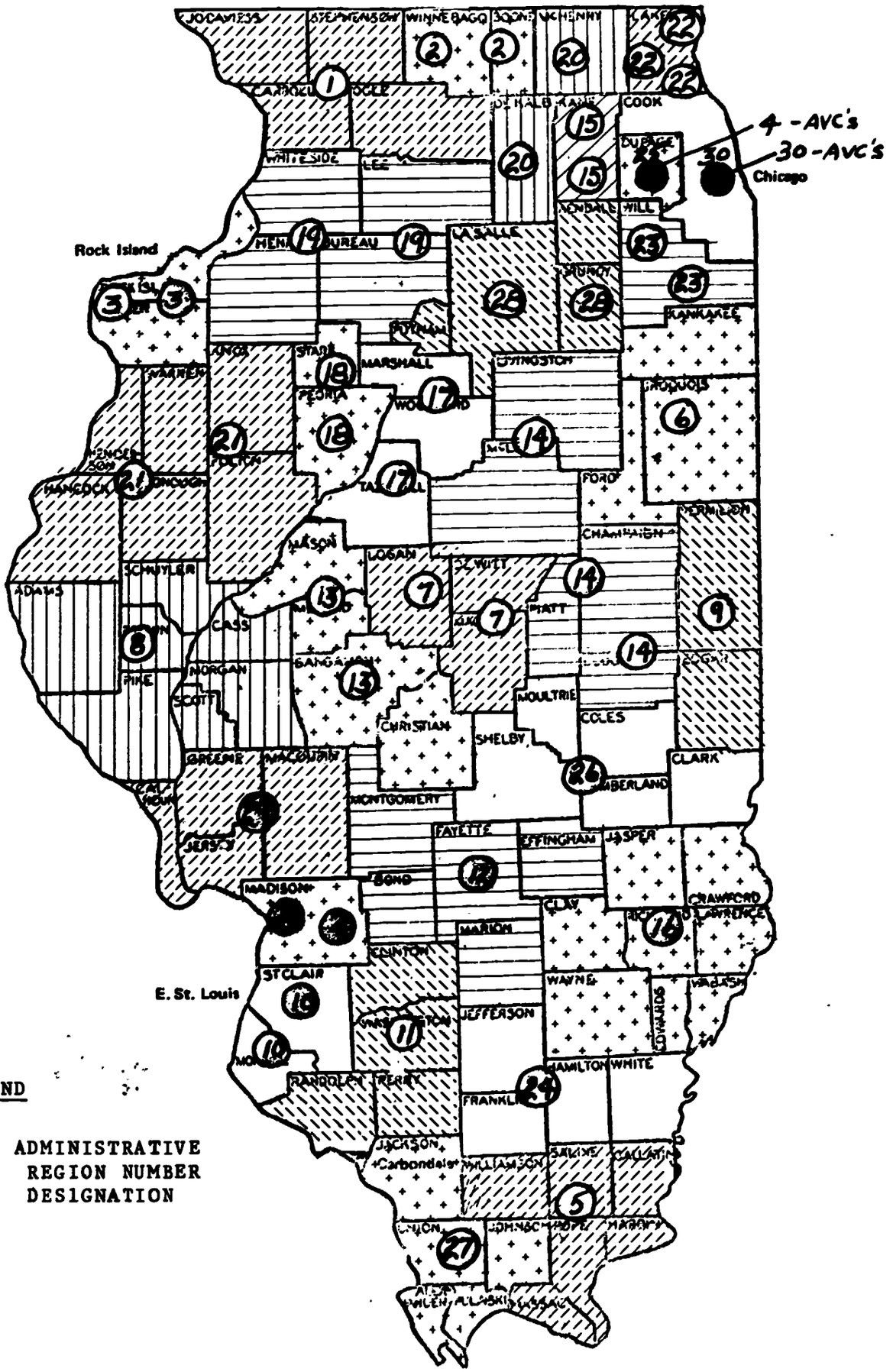
The suggested distribution of the proposed area vocational-technical centers is shown on the attached map. Revision of this distribution and possibly the total number of area centers would need to be made as deemed feasible through more intensive local study and decision. For example, in Area One the number of occupational offerings to meet the demand of 40% of student enrollment is thirty-eight. This would be a large facility so it might be determined that two centers of 19 occupational offerings each, to be located in strategic locations of the area, would be more feasible. In that case, care would need to be taken to avoid unnecessary duplication of instructional facilities. The map displaying this distribution follows after Table 17.

TABLE 17

PROJECTED NUMBER OF AREA VOCATIONAL CENTERS
BY PROPOSED ADMINISTRATIVE REGIONS

(1)	(2)	(3)	(4)	(5)
ADMINISTRATIVE REGIONS	TOTAL VOCATIONAL ENROLLMENT	SHARED TIME ENROLLMENT Col. 2÷20	OCCUPATIONAL OFFERINGS Col. 3÷20	NUMBER of A.V. CENTERS
1	1524	762	38	1
2	2719	1360	68	2
3	1905	952	48	2
4	2922	1461	73	2
5	1035	518	26	1
6	1563	781	39	1
7	1842	921	46	2
8	1538	769	38	1
9	1304	652	33	1
10	2742	1371	69	2
11	848	424	21	1
12	1477	738	37	1
13	2187	1094	55	2
14	3320	1660	83	3
15	2880	1440	72	2
16	1321	660	33	1
17	1841	920	46	2
18	1844	922	46	2
19	2120	1060	53	2
20	1878	939	47	2
21	2020	1010	51	2
22	4246	2123	106	3
23	2384	1192	60	2
24	991	495	25	1
25	5618	2809	140	4
26	1136	568	28	1
27	933	466	23	1
28	1925	963	48	2
29	990	495	25	1
30	42706	21353	1068	30
TOTALS	101759	50878	2545	80

PROPOSED ADMINISTRATIVE REGIONS IN ILLINOIS



THE COMMUNITY OR JUNIOR COLLEGES

It is recognized that the community or junior colleges have quite extensive opportunities in occupational training. A summary of these offerings is shown in Table 18. Throughout the state there are 828 occupational courses offered in programs in the seven broad vocational categories. Generally, there should be little duplication of the types of programs offered at the secondary level. However, consideration of the occupational offerings in the junior colleges should be concerned with the experience background of each student. For example, a student who has had vocational or technical training in a specific occupation at the secondary level should have opportunity to extend his training and education through an advanced program in his field at the postsecondary level. However, a basic course in the specific field should be available in the junior colleges for students who have not had the benefit of training in the vocational or technical field on the secondary level.

Table 18 reveals that there are more trade and industrial courses being offered in the junior and community colleges than in any other vocational category. Assuming the area vocational center would be available to all youth of the state it would appear to be logical that technical education should be emphasized at the junior college level. There is an obvious need for a coordinating council composed of representatives of the junior college and the secondary or the area center to be established to coordinate the two program levels and to determine the content of course offerings. This is particularly significant if new area vocational centers would be developed on the secondary level.

TABLE 18

NUMBER OF COURSE OFFERINGS
BY
OCCUPATIONAL CATEGORY AND JUNIOR COLLEGE

COLLEGE → / FIELD OF INSTRUCTION ↓	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	TOTAL
AGRICULTURE	3	4	4	3	3	2	3	7	0	0	4	2	12	5	8	3	1	1	1	4	0	0	7	3	7	0	1	1	8	3	5	105
DISTRIBUTION	3	2	4	1	1	0	0	2	0	2	0	3	3	0	0	2	3	5	3	2	3	0	4	1	4	1	3	1	0	0	2	55
HEALTH	2	2	2	4	2	0	1	1	0	1	1	5	4	3	1	5	4	3	4	1	2	0	8	4	2	4	4	3	1	7	6	87
HOME EC.	1	0	0	0	0	0	1	0	1	0	0	0	1	0	2	0	1	0	0	0	2	0	1	1	1	0	2	0	0	0	0	14
BUSINESS & OFFICE ED.	4	3	5	3	8	5	7	4	6	6	5	10	9	1	6	4	7	5	7	11	6	6	10	6	9	5	8	2	7	6	9	190
TECHNICAL	4	3	4	3	5	3	0	1	1	3	1	10	7	1	2	4	6	9	4	2	1	1	9	4	4	0	1	0	3	3	3	102
TRADE & IND.	7	2	7	18	16	5	12	11	15	11	9	10	5	3	6	10	5	8	10	7	12	8	11	1	12	10	14	7	5	8	10	275
TOTALS	24		26		35		24		23		20		41		25		27		29		26		50		39		33		24		35	
		16		32		15		26		23		40		13		28		31		27		15		20		20		14		27		828

COLLEGE LISTING BY NUMERICAL DESIGNATION

1. Lake Land College
2. Kishwaukee College
3. Joliet Junior College
4. Kankakee Comm. Coll.
5. Black Hawk College
6. Illinois Valley Comm. Coll.
7. Olney Central Coll.
8. Wabash Valley Coll.
9. Lincoln Trail Coll.
10. Waubonsee Comm. Coll.
11. Shawnee Comm. Coll.
12. Rock Valley College
13. Lincoln Land Comm. Coll.
14. Rend Lake College
15. Southeastern Ill. Coll.
16. Carl Sandburg College
17. College of Lake County
18. College of DuPage
19. Lewis & Clark Comm. Coll.
20. Highland Comm. College
21. Elgin Comm. College
22. State Comm. Coll. of East St. Louis
23. Illinois Central College
24. Sauk Valley College
25. Danville Junior College
26. Southern Illinois Univ.
27. John A. Logan College
28. Kaskaskia College
29. Spoon River College
30. Belleville Area College
31. Parkland College

AREA VOCATIONAL CENTERS - OBSERVATIONS AND COMMENTS

It was observed during the on-site visitations that a number of area vocational centers in Illinois were comparatively small units with somewhat limited occupational offerings and further that some comprehensive high schools were designated as area centers. Such an arrangement imposes restrictions on students from participating high schools since the parent high school tends to provide vocational education for resident students on a priority basis and other students in the area attend on a tuition basis if there are vacancies in the occupation of their choice.

This is not the accepted concept of a true area vocational center as contrasted with the arrangement where several school districts in a given administrative region pool their resources and students to establish one or more centers which have a broad range of occupational offerings and serves all students in the administrative region who need and can profit from the instruction. The latter concept of an area vocational center creates a joint ownership and cooperative operation of the center. It requires a contractual arrangement between school districts or counties as the case may be. The following are representative of conditions of a contractual arrangement which point up and emphasize some of the advantages of this type operation. Of particular significance is that costs are shared on a proportionate basis, and the area center provides a wide range of offerings to meet student needs which usually are not available in the comprehensive high school. The following pages include typical articles of agreement and elements for consideration in an arrangement of this type. (See Appendix "A")

APPENDIX "A"

ARTICLES OF AGREEMENT AND ELEMENTS FOR CONSIDERATION

THE CONTRACTUAL OBLIGATION AMONG PARTICIPATING SCHOOL DISTRICTS

In the establishment and operation of an area vocational-technical school all responsibilities should be shared among all districts that send students to the school. Therefore, these districts should establish an agreement which would contain certain elements such as sharing costs of construction and instructional equipment (capital costs) and various aspects of operation. The following is presented as a guide only. Variations can be made to adjust to local conditions.

ELEMENTS OF THE AGREEMENT

Composition of the School Board - In some instances where the vocational-technical school is to be operated by the county to serve all students within that county, the operating board would be the county school board. No agreement is essential.

When a vocational-technical school is to serve more than one county, the respective county school boards establish and operate the area school in accordance with stipulated conditions as agreed upon.

School districts within a specified area of a county may agree to establish and operate an area vocational-technical school in which instance the board of education should be composed of all the school board members of each component school district. This could represent an unwieldy situation, therefore, a representative operating committee of the board should be appointed to carry out most of the duties of the entire board.

In instances where an agreement is essential, as in a multiple district or a county operation, and the school board is designated for the construction and operation of an area vocational-technical school, there are elements which must be agreed upon:

Meetings of the Total Area Vocational-Technical School Board.

The number of meetings per year and the specific dates, times and place of these meetings should be specified. In some instances state school legislation dictates this.

Special meetings - The agreement should indicate under what conditions special meetings may be called.

Duties of the School Board For Vocational-Technical Education.

Since the total board may wish to delegate its monthly functions to a proportionate operating committee, the duties of the total school board could be limited to:

Purchase of sites
Adoption of budget
Election of officers
Authorization of capital expenditures for construction of buildings, alterations, and additions thereto.
Preparation of By-Laws

The Joint Operating Committee - The agreement shall establish this board committee in instances where it is inadvisable to have all members of all boards meet monthly as the operating board of school directors for vocational-technical education. This committee is composed of representatives from each participating district board or county boards where counties may operate the area school. The agreement should stipulate the following relative to the operating board committee:

A. Total membership of committee.
B. Proportionate representation on the committee.
C. Quorum requirements
D. Meetings - Designation of dates, times, and places of meetings.
E. Designation of officers - Usually the officers of the total board for vocational-technical education are the officers of the operating committee.
F. Duties of the joint operating committee

Officers - The agreement indicates the officers of the total board who also serve in the same capacity in the operating committee:

President
Vice-President
Secretary
Treasurer

Duties of these officers are indicated as well as their terms of office.

EDUCATIONAL ADMINISTRATION

Educational Council - The composition of this council is made up of all district superintendents and the director of the area vocational-technical school.

One superintendent is elected by the total school board to serve as superintendent of the area school and chairman of the professional council. The agreement stipulates his term of

office, usually a one year term with succession limited to one year. It is desirable to rotate this position among all superintendents in the administrative region.

The director or principal of the school is designated as an elected individual with specific qulaifications. The agreement may include a brief description of his duties and position.

FINANCE

Capital Investment - Where there is multiple district or county operation of an area school, it must be agreed how the capital expenditures are to be shared and on what basic data. Usually this determination is based on a school district's market value of property in proportion to the total market value of all participating districts. In some instances this may not be justifiable and some other basis can be agreed upon, such as the total number of secondary school students of a participating school district and their ratio to total secondary school enrollment of all participating districts. However, this condition is subject to agreement and must be indicated.

Operational Costs - The agreement must indicate the basis for sharing these costs. This is customarily done on an average daily membership basis. Whatever the basis is it must be indicated in the agreement.

Student Quotas - The Articles of Agreement may or may not specify student quotas for each district and conditions upon which these quotas may be exceeded; for example, one participating district may not reach the quota as allotted to them. The balance of their quota may be absorbed by another district upon mutual agreement.

The basis for quota as established by many jointure boards has been on a ratio of the total number of students in a participating school district to the total enrollment of all the participating school districts. Whatever the basis agreed upon for quotas, it must be so stated in the agreement.

Real Estate - The agreement shall indicate in whose title the property shall be vested.

Transportation - Attendanc at an area vocational-technical school usually involves bus or public transportation. The agreement should indicate how these costs are to be shared. However, in practice each participating school district usually provides transportation for its own resident students.

Effective Date of the Agreement - A statement is made that the effective date of the agreement shall be when the president and secretary of each participating school board shall have

signed the agreement after it has been approved by the member school boards.

Length of Agreement - The length of the agreement basically is for the term of the indenture for capital construction, plus any extension necessary due to additional capital costs involved in expansion.

Amendments to the Agreement - Conditions upon which the agreement can be amended are indicated.

APPENDIX "B"

FLORIDA STATE BOARD OF EDUCATION REGULATIONS

Effective August 19, 1971

6A-6.67 - Coordinating Council for Vocational Education.

A coordinating council for vocational education shall be established in each community college district. The membership of this council shall include the superintendent and director of vocational education of each school district in the community college area and the president and dean or director of vocational or technical education of the community college. The superintendent of the county of location of the community college shall be responsible for calling the first meeting of the council. The council shall elect a chairman at its first meeting, provide for maintaining minutes of its meetings as soon as practicable and adopt rules for the conduct of council business.

The council shall develop recommendations to the respective school boards and to the community college borad of trustees, And where appropriate may make recommendations to the commissioner of education and to the appropriate division directors of the department of education.

The responsibilities of the council shall be to review the total vocational program being offered in the district, to make such recommendations as are necessary, to encourage the development of needed offerings or changes in existing offerings and to avoid unwarranted duplications. To accomplish this, the council should perform the following:

(1) Review and recommend adjustments of existing vocational education programs, activities, and service-including counseling that will better meet the assigned responsibilities of each district.

(2) Review and recommend agreements between boards, to provide coordinative and articulated vocational education programs to meet the educational needs of all residents in all communities in the district.

(3) Review and make recommendations concerning longe-range (6 years) objectives for the school district and the community college district and make such recommendations as needed so that each plan provides for coordinated and articulated programs without unnecessary duplication.

(4) Review data and support of proposed programs, recommend to the appropriate board approval or disapproval of the program, and, if necessary, recommend the assignment of responsibility to the appropriate district in accordance with specific local cooperative agreements and policies of the state board.

(5) Review such other aspects of the vocational program and make such recommendations as are necessary to provide an efficient, well-coordinated and comprehensive vocational education program.

Individual boards shall consider recommendations of this council in taking action on matters included in numbers 2, 3, and 4 above.

Also adopted as Community College 6A-8.57