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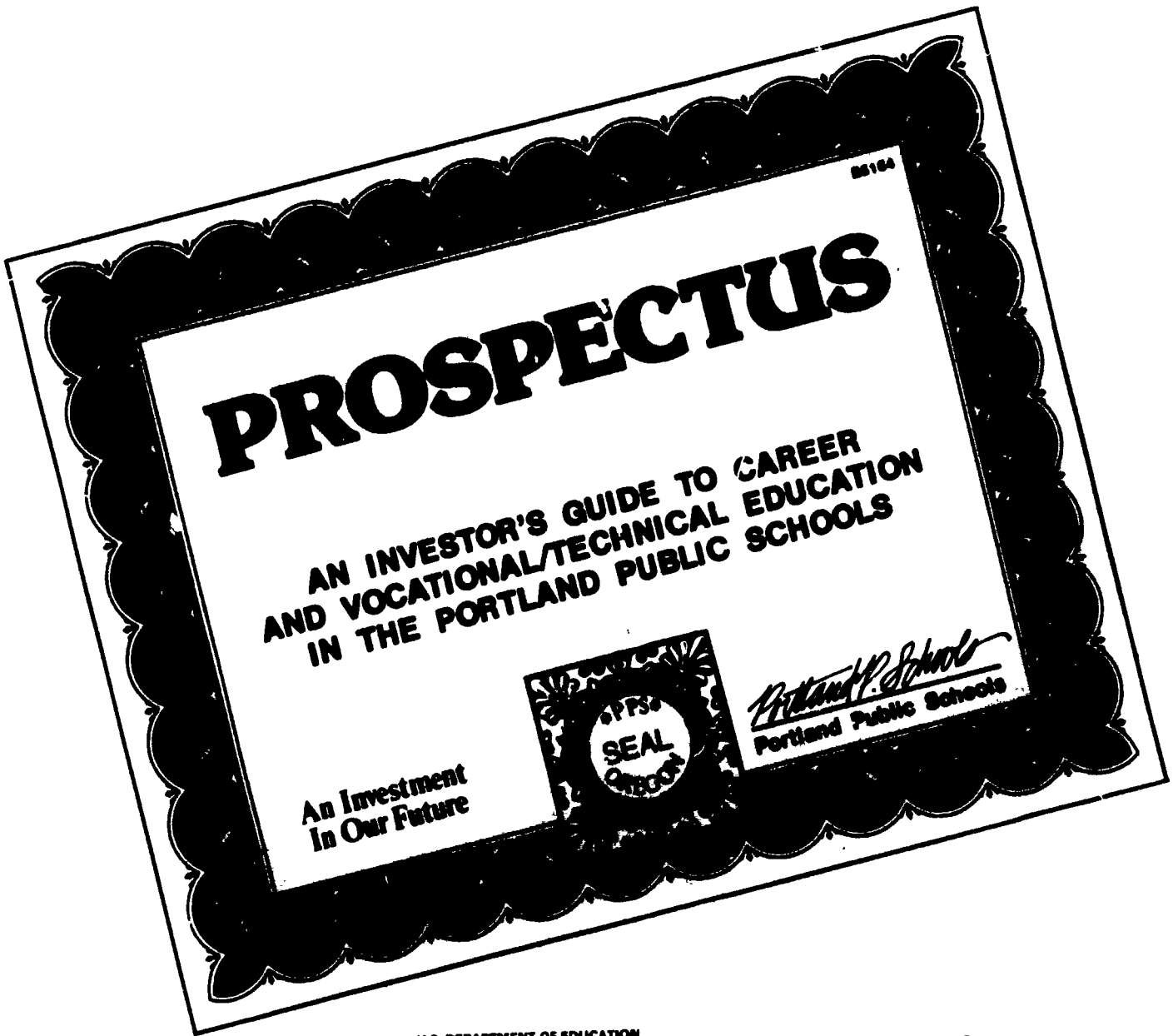
ABSTRACT

This report describes current program offerings and activities in the areas of career, vocational, and technical education in the Portland Public Schools in Portland, Oregon, and assesses optional futures for program continuation and development. The information in the report is based on: student and faculty data, labor market trends, district organizational information, profiles of students and faculty within the district, and relationships with community colleges and neighboring school districts; summaries of more than 80 interviews with district and nondistrict staff covering the purposes, goals, and practices of vocational education; results of a detailed self-assessment process conducted by vocational instructors and advisory council members of cluster programs in the district; and profiles of both individual high school vocational programs and individual cluster programs throughout the district. The report's seven sections consist of an introduction, a descriptive report, interview findings, self-assessments, high school profiles, cluster profiles, and future directions. Appendixes to this guide include a list of persons interviewed, current program descriptions, composite list of vocational education interview questions, list of career interest areas, vocational faculty survey, evaluation survey of the self-assessment process, labor market information, Portland Community College vocational program offerings, references, ratings of alternative directions for vocational education, sounding board findings, list of members of the study steering committee, and student enrollment data for vocational education programs in 1986. (MN)



PORTLAND PUBLIC SCHOOLS
501 North Dixon Street
Portland, Oregon 97227

March 1986

February 27, 1986

TO: Members of the Board of Education
FROM: Matthew Prophet

The PROSPECTUS: AN INVESTOR'S GUIDE TO CAREER AND VOCATIONAL/TECHNICAL EDUCATION IN THE PORTLAND PUBLIC SCHOOLS is the result of months of research by the Northwest Regional Education Laboratory, combined with the expertise of our staff and the input of hundreds of teachers and community representatives.

As you know, one of my top priorities for the District is the improvement of our Career and Vocational/Technical programs. This report includes a description of the current status of our vocational programs as well as a discussion of guiding principles and options for program delivery that may form a basis for decisions that will guide our future actions.

The PROSPECTUS includes an Executive Summary, followed by the complete report. As you read the report, you will find a description of the procedures followed in gathering data, the results of these activities, a description of current vocational cluster programs, and a discussion of optional futures for program continuation and development.

It is my personal belief that the improvement of Career and Vocational/Technical Education must be a continuing thrust for our District. As stated in the Preliminary Planning Message, December, 1985, the students of Portland must be provided "development of employability skills which enable an individual to assess employment options, secure a job and succeed as a productive worker."

Prospectus

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Prepared by
Northwest Regional Educational Laboratory
Portland, Oregon

for
Portland Public Schools
501 North Dixon Avenue
Portland, Oregon 97227

March, 1986

ACKNOWLEDGMENTS

The preparation of this status report in a three-month period required close teamwork and effort by many people. We appreciate the guidance and support of the Steering Committee (members are listed in Appendix B) and Warren Rathbun, Darrell Tucker and other staff of the PPS Career and Vocational/Technical Education Department throughout the process. Input from the teachers and Advisory Committee members in the vocational program self-assessment process became an essential part of this study as did the ideas obtained by staff of the Northwest Regional Educational Laboratory (NWREL) in interviewing over 80 key people both within and outside of the District. Their names are mentioned in Appendix A.

We also wish to thank Porter Sexton and members of the Management Information Service for providing us with printouts regarding vocational teacher statistics; staff at Portland, Mt. Hood and Clackamas Community Colleges for generating printouts on enrollments of PPS graduates; Allen Schultz of the Oregon Department of Education for cooperation in supplying statistical data on PPS vocational students; Syd Thompson of the Oregon Department of Education for helping orient and coordinate the vocational program self-assessment process; and Nancy Hargis and David Allen of the Oregon Employment Division for supplying useful labor market data.

At NWREL, a team of Andrea Baker, Julie Rogers, Phil Griswold, and Lynde Paul conducted project interviews and served as group facilitators at several public forums to discuss the findings. Marge Wolfe assisted with graphics while Bethnee Harmon, Barbara Blincoe, Adelle Lund, Donn Medlin, and Debbie Passwaters provided word processing support. Patti MacRae, a consultant to NWREL, assisted in the interview summaries and writing sections of the report.

The overall planning, coordination and writing of this report was provided by Larry McClure and Tom Owens of NWREL's Education and Work Program.

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EXECUTIVE SUMMARY

1. Purposes of the Prospectus

In the corporate or investment world today, a prospectus often serves as the potential investor's first overview of the company, its operations and its vision of the future. Secondary vocational education today is not inexpensive, but the personal and societal costs of not offering young people the minimum transition skills for the world of work may be even greater. Thus, this prospectus is addressed to the needs of three specific investors in public education: 1) school board members who are responsible for investing the taxpayers' money wisely; 2) advisory council members who invest their time, talent, and energy in improving vocational offerings in the District; and 3) teachers and administrators who invest their professional identity and work lives in attempting to provide students a sound foundation for lifelong learning and success as workers and citizens.

Vocational education is at an important crossroads both in Portland and across America. The national rush to achieve excellence in education has focused primarily on academic expectations, while vocational and career development has received only limited attention. At the same time, the nation's requirement for a well-trained and technologically-literate work force is ever-increasing.

It is time to reassess the way in which our society prepares youth for the challenges which this increasingly complex world of work presents. Educators must examine not only the processes used to educate young people, but the purposes and desired outcomes of that education. They must set new directions in both academic and vocational education which will provide youth with the skills and abilities needed to assume productive roles in the occupational marketplace.

This prospectus has two main purposes:

1. To provide a comprehensive status report on vocational education as it exists within the District based on:

    a. student and faculty data, labor market trends, district organizational information, profiles of students and faculty within the District, and relationships with community colleges and neighboring school districts;

    b. summaries of over 80 interviews with district and non-district staff, covering a broad range of topics related to the purposes, goals, and practices of vocational education;

    c. results of a detailed self-assessment process conducted by vocational instructors and advisory council members of cluster programs in the District;

a. profiles of both individual high school vocational programs and of each cluster program throughout the District, drawing from self-assessment activities and current district data.

2. To describe alternative futures for vocational education in the District based on both national perspectives and on information derived from the interview and self-assessment processes. Options for future delivery of vocational education are presented.

To assist in examining the appropriate roles and functions of vocational education, five key questions are critical:

1. What should vocational education be? What are the desired outcomes, considering our society's changing world of work and the needs of students?

2. Who is vocational education serving? Is vocational education an option which students can choose, a program primarily intended to meet the needs of special groups of students, or a requirement for all students as part of their comprehensive education? How well is it addressing equity and accessibility?

3. How is vocational education to be organized? Whose responsibility is the funding and operation of vocational programs, and what structures work effectively to deliver services equitably, based on program goals?

4. How effective is vocational education in the District? What are its strengths and weaknesses? How can it be improved?

5. What new directions for secondary vocational education should the District consider? What are the strengths and limitations of each option?

These questions provided the framework for addressing major issues throughout the study, formed the basis for interviews with district and non-district personnel, and were considered when developing options for the future.

II. Building on the 1983 Blue Chip Plan and 1986 Secondary Mission Revision

The Blue Chip Plan of 1983 was prepared in an effort to introduce these key themes into the planning process of the Portland Public Schools (PPS) and to begin to seek ways to meet these new challenges. The report identified important issues related to career and vocational/technical education, developed key planning concepts, and presented recommendations to the Board.

Many of the concepts of the Blue Chip Plan are now in place or are in planning stages. Activities supporting these concepts include:

1. Career development at the middle school level (the Career Horizons program); a prevocational model (Introduction to Technology); strengthening of cooperative work experience in the District high schools; and special projects to integrate academic and vocational education, eliminate sex stereotypes, provide broad career information, and improve vocational education services to special education students;

2. Improvements in technical education and curriculum revision under way in many programs and at Benson High School;

3. Improved relationships with community colleges and private sector leaders which resulted in articulation agreements in four areas between high school and college programs. Special projects in cooperation with the business community, Portland State University, the City of Portland and other organizations like the Urban League have begun.

The Blue Chip Plan has received wide visibility throughout the District, has generated ongoing discussions among district staff, administrators and board members as to the future of vocational education in Portland, and continues to provide a framework for planning. This prospectus builds upon the information established in the Blue Chip Plan and carries on the work it began to develop a comprehensive vocational education plan for the District.

At the same time this status report on vocational education was being prepared, the District embarked on a comprehensive review of the mission of secondary education in Portland Public Schools. That process began with a cross section of district administrators and teachers compiling a list of some 51 elements that a comprehensive secondary program should address. Through a districtwide review process, that list was consolidated with an existing secondary school standards document which resulted in 11 goals. While the completion of that developmental process has not yet occurred, it is clear that vocational education and related employability skills should remain a strong emphasis in the District. Career development themes are woven throughout the 11 statements; one outcome in particular calls for students to have:

> "The skills, knowledge and activities which are necessary to perform socially useful and personally gratifying work, including pursuit of further study or related work experience."
>
> The same outcome directs that "students will develop employability skills which enable them to assess employment options, secure a job, succeed as a productive worker or perhaps eventually own their own business. Setting short- and long-range goals will be emphasized. Vocational skills of sufficient depth, flexibility and adaptability to obtain entry-level positions and continue further skill development in postsecondary institutions and on the job will be provided."

III. Status of Vocational Education in the District

In order to effectively analyze vocational education in the Portland Public School District and to make recommendations for improvements or changes, a synthesis of information was prepared that describes current vocational cluster program offerings, students and faculty.

In addition to current data collected on these subjects, the status report includes the results of detailed interviews with district and non-district staff, and results of a program self-assessment activity which asked staff members and advisory council members to critique their programs.

These data reveal important trends, highlights of which are summarized below.

Availability of Vocational Cluster Programs

Cluster programs are offered at 10 of the 11 Portland high schools. In addition, Green Thumb and the Home Repair Training Program provide vocational education on a Districtwide basis. A total of 14 occupational cluster areas are offered. These clusters, in descending order of student enrollment, are: clerical, secretarial, metals, industrial mechanics, accounting, electronics, construction, child care, marketing, horticulture, food service, graphic arts, health occupations and service occupations.

Articulation with Portland Community College

The District currently has an articulation agreement with Portland Community College in three areas: graphics, drafting and business and office occupations. Agreements are being discussed regarding electronics and child care.

Student Data

Between 1976-77 and 1984-85, vocational enrollments dropped by 57 percent. During the same time period, the total district 9-12 grade enrollment dropped 22 percent. Thus, vocational enrollments have suffered a net loss of 35 percent over the past nine years.

Enrollments by cluster fluctuate annually. Only two cluster areas have shown an increase in enrollments of more than five percent over the past five years: food services and accounting. The sharpest drops (50 percent or more) have occurred in secretarial/clerical, horticultural and health occupations.

Areas where the projected job openings rate far exceeds the percentage of PPS students receiving vocational training are marketing, food service and health occupations.

Demographic information on students participating in state-approved vocational programs generally shows that ethnic groups are being served in similar proportion to their representation in the total student population in Portland. Black and Asian students are, however, slightly underrepresented while white students are slightly overrepresented. State-approved vocational education has an underrepresentation of disadvantaged, limited-English-proficient and handicapped students. Specially funded projects have increased the numbers of students with unusual barriers participating in vocationally related activities, however.

Approximately 10 percent of all PPS students enrolled in vocational programs are participating in vocational student organizations. These organizations are: Distributive Education Clubs of America (DECA), Vocational Industrial Clubs of America (VICA), Future Farmers of America (FFA), Future Business Leaders of America (FBLA), and Health Occupations Students of America (HOSA).

Although cooperative work experience is offered in the District, especially in business and trade and industry areas, only about 400 students, or 13 percent, of the vocational students participate each year.

Vocational Faculty Overview

There are currently 122 vocational instructors in the Portland Public Schools, some of whom are also teaching in other subject areas. Twenty-nine percent teach in the clerical cluster and 22 percent teach at Benson High School.

A survey of instructor qualifications and experience showed that 64 percent hold masters degrees, 79 percent have had four or more years of industry-related experience, and 81 percent have had over 10 years of vocational teaching experience.

Role of the Career and Vocational/Technical Education Department

The department provides support activities, distributes and manages special funds for projects, and is responsible for overall long-range planning for career and vocational education. Districtwide programs such as the cooperative work experience program, and curriculum development for such initiatives as Career Horizons in the middle schools are supervised through this department. The director reports directly to the superintendent's office.

Staff see the role of their department primarily as support to school programs. Other roles cited included interagency coordination, development of relations with business advisory committees and other community groups, and the promotion of career and vocational education.

The Vocational Education Department staff offered a number of suggestions for improvements in delivery of support services to schools. Increased contact with students and building personnel, development of short-term training activities, upgrading of teacher skills and promoting improved relations between schools and the department were often mentioned. Other recommendations included improved placement, career guidance, competency-based curriculum, standardization of curriculum, and the need for student assessment and follow-up.

Long range directions included a need to improve the image of vocational education among district personnel; improve articulation between middle school, high school, and community college programs; improve industry/school collaboration and offer vocational education earlier in students' lives

IV. The Interview Process

In order to develop a more comprehensive picture of vocational education in the District, and to gather ideas and insights from a variety of perspectives, an extensive interview process was conducted. Over 80 vocational teachers, counselors, administrators, career and vocational department staff, central office staff, advisory committee members, and staff of local community colleges and neighboring school districts were interviewed.

Interview questions were designed to elicit responses about both the current condition of vocational programs and perceived needs and future directions for vocational education.

While these interviews covered a wide variety of issues, and those interviewed sometimes presented strongly differing points of view, some interesting themes emerged:

1. There is a general consensus that vocational and career education should provide all students with basic career exposure and knowledge of the job world. Staff interviewed felt that college-bound youth do not currently receive sufficient opportunities to explore vocations and that increased academic graduation requirements are increasingly restricting students from taking full advantage of vocational education and other elective courses.

2. Vocational education must be more closely linked with the mastery and application of basic academic skills, as well as with preparing students in general employability skills. This issue was considered more important by many respondents than teaching specific technical skills required for jobs.

3. There is some agreement that the District must set a clear direction as to whether vocational education programs should focus primarily on industry-specific training sufficient to enter the work force upon graduation. If this is to be a major goal, changes need to be made in the way in which such training is provided. Options such as centralized training facilities, increased "magnet" programs, and cooperation with business and local community colleges were cited in connection with this issue.

4. Respondents were clear in their desire for comprehensive high schools to retain some level of vocational training to assure that all students receive general vocational exposure and career information.

   A major weakness was perceived to be a lack of a coordinated approach to academic and vocational education, resulting in lack of mutual support for programs and inadequate communication. Other weaknesses include inadequate facilities and equipment, inadequate vocational counseling, lack of funding for special programs, and the restrictions placed on student schedules by required courses and credits.

   The continued decline in vocational program enrollments was also seen as a significant problem.

5. Although communication between academic and vocational teachers is a common problem, some schools and special projects are working toward alleviating it through advisory teams, regular meetings, special inservice workshops, and other methods.

6. Vocational guidance is not standardized across the District but varies greatly between schools depending on the structure of the counseling department and the individual interests of counseling staff.

Respondents were asked to cite current strengths and weaknesses of vocational programs in the District.

The major strength was seen as the ability of vocational programs to work effectively with students who are not academically motivated, giving them an alternative learning environment in which to master academic skills and encouraging them to stay in school. Other strengths mentioned were the quality of the instructors and the practical skills students gain.

Presidents and deans of instruction at local community colleges were interviewed in an effort to gain another perspective on high school vocational programs and to discuss areas of common concern.

1. The important issue of articulation between high school and community college programs was discussed at length by those interviewed. There is general agreement that increased cooperation and coordination of programs and the development of credit agreements would be beneficial to all concerned. However, serious problems involving funding and responsibility for students are seen as major stumbling blocks to adopting these measures. The funding issue, regarding the link between state funds and full-time student status, may need to be addressed by the Oregon legislature before significant changes can be made.

2. College administrators interviewed discussed the role of high schools versus the role of community colleges in vocational education. It was agreed that both institutions must be involved in vocational education. The role of the high school was seen primarily as providing introductory and exploratory experiences while providing students with basic academic, social, and employability skills. The community colleges see their role as providing specialized, in-depth training to build upon these basic skills.

V. Self-Assessment of Programs

Another important part of the status report was the self-assessment of programs which was completed by vocational teachers and advisory council members across the district.

The process consisted of three major phases:

1. All vocational instructors completed a written activity at their school which asked them to assess their program against state models and goals.

2. A representative from each cluster and school met for an evening work session, at which three activities were completed based on initial work done by the instructors: assessment of cluster subject matter and ways to strengthen their programs, assessment of 17 key functional components common to all programs (such as equipment), and preparation of activity summaries and overall program recommendations.

3. An activity designed to gather information about projected costs of developed recommendations was distributed to participants at the work session to be completed at a later date. The results of this process, combined with statistical information on each cluster and school, provide a current picture of vocational programs in the district.

The full report presents vocational assessment results in detail, organized by district, cluster and individual school. Some highlights of the results are summarized below:

1. Assessments of cluster programs

   The assessment of vocational clusters by vocational teachers within a building was subjective even though a standard process was used. Since teachers rated only their own program, cross-cluster and cross-building comparisons may be interesting but their limitations need to be kept in mind.

A wide variety of program needs and specific areas of concern were described by participants. These needs can be grouped into three broad categories which were generally felt to require improvement:

Curriculum development. Ten of the 12 vocational clusters cited either specific curricula which should be improved or general areas of curriculum development for revision, expansion or reorganization. Participants were concerned both about technical curricula and about curricula in such areas as basic skills applications, personal growth, career awareness, and theoretical knowledge in the subject areas. The need for curriculum development was spread equally across school sites.

Improvements in facilities, equipment and supplies. Nine of the 12 clusters reported that improvements or additions are needed in facilities, equipment or supplies. Additions to computer hardware and software, updating of technical machinery, and facilities expansion or reorganization were most often mentioned. These needs were reported at six of the 11 school sites.

Improvement of student and staff support systems. This general category includes increased support between departments to provide comprehensive education services, expansion of student vocational organizations, improved vocational guidance services, improved work experience and career exploration options, development of better followup systems, and strengthening of advisory committees. Eleven of the 12 clusters cited one or more of these areas as needing improvement, and such improvements were cited within each school site as well.

4. Ratings of key functional components

Ratings of 17 functional components common to all vocational clusters were completed by participants in the self-assessment work session. These ratings were then tabulated by cluster and by school, and also were summarized districtwide.

Overall, clusters were rated highest in the areas of providing equal opportunities to all students, instructor competencies and instruction being based closely on skills required for the job. Placement/followup received a relatively low rating among all clusters followed by student vocational organizations.

Three clusters--Clerical, Electricity, and Industrial Mechanics--had no low ratings in any functional components, and had six or more high ratings. The three highest-rated components within these three clusters were instructor competencies, non-biased curriculum, and unpaid work experience.

Food Service, Graphics, Metals and Marketing had more low ratings than any of the other clusters (four or more). Low ratings within these clusters were in placement/followup activities for students, evaluation of placement activities, use of advisory committees and cooperative work experience.

These results show clearly that while curricula, teaching skills, and provision for equal opportunities are generally strong components of vocational programs district wide, student placement, evaluation, and followup activities need special attention and improvement.

3. Program improvements and cost estimates

After completing the self-assessment activities, participants were asked to identify program improvements and estimated costs for those improvements for each cluster and within each school. The two largest requests for expenditures were for facility renovation and for equipment. These requests correspond with the self-assessment evaluations which mentioned facility and equipment improvement as a major need for strengthening programs.

VI. Visions of the Future

This section contains 12 guiding principles for strengthening career development and employability followed by a set of options for delivering vocational skills training. The rationale and further description of each principle is contained in the full report. The guiding principles are reflected in the options. Although six options are presented they should not be viewed as mutually exclusive. Combinations are probably desirable.

Guiding Principles for Career Development and Employability

The following recommendations should be considered for general program improvement as a prerequisite for any major changes in delivery systems:

1. Every high school teacher, vocational and academic alike, should reinforce the lifelong dimension of learning and help students recognize the resources that are available for keeping skills up to date. Reading, writing, listening, speaking and computing skills appropriate to a particular career field must be mastered if young people are to succeed in tomorrow's workplace.

2. Teaching flexibility and transferability of skills can be accomplished both in counseling offices and classrooms. Curriculum revision efforts in secondary school programs should emphasize generic skills that can be applied in a number of occupational fields. The integration of academic and vocational instruction should also be supported where appropriate, even to the extent of offering equivalent credit after careful planning.

3. Encourage high schools to plan and implement short-term training opportunities in creative new ways. Such courses may or may not carry elective credit, but could be viewed as a student service and community economic development activity.

4. Encourage every secondary education site (including alternative programs) to establish and maintain an active Career Planning and Placement Center that would include a resource file of part-time work opportunities.

5. Information and communication about the opportunities and realities of vocational education programs in the Portland schools must flow freely throughout the system. Particular audiences must be middle school students, parents and administrators since it is at this level where critical planning decisions are made.

6. Encourage the private sector to provide short-term, paid or nonpaid internship opportunities for teachers during the school year or summer. Consider creating a Skill Enrichment Fund for vocational faculty members with the expectation that every vocational teacher should be encouraged to apply for District reimbursement for at least one state-of-the-art training event every other year.

7. Give priority attention to planning efforts with community colleges and middle schools to lay the foundation for a coordinated approach to vocational education through postsecondary levels.

8. Use private sector resources both to establish a policy base for program improvement and expansion and to provide direct resources for curriculum development and instruction.

9. After exposing students to the possibilities offered through vocational student organizations, encourage vocational education students to participate in leadership opportunities related to their vocational cluster.

10. After the Board has acted upon this report and established a direction regarding vocational education, a more in-depth assessment of vocational programs should occur that closely involves advisory committees and draws implications from labor market data. Followup data on program completers must be captured more effectively to aid program planning.

11. Identify what existing or new vocational options would be appropriate for special needs students. Make a concerted effort to inform these youth and their parents about the opportunities available through vocational education.

12. Extend the "Introduction to Occupations" approach to each neighborhood high school to help students decide on an appropriate vocational program to select. The District should expand the assessment center concept so that it is available to all students who want to learn more about their aptitudes and abilities.

Options for Delivering Vocational Education

In addition to the guiding principles for improving employability development of youth, described earlier, the following specific delivery system options are offered for consideration by the staff and Board of Portland Public Schools specifically for the improvement of vocational education offerings at the secondary level. The Board may choose to utilize a combination of these approaches that best implements the guiding principles.

1. Options which keep students in their neighborhood high school or in a single learning center

This first set of options for strengthening delivery of vocational/technical education concentrates resources for improvement in the existing high school structure, encouraging students to remain in their neighborhood for a comprehensive secondary school program or to attend a districtwide school or learning center on a full-day basis.

Option 1: Require a minimum number of vocational clusters at each high school.

How this option might be approached:

a. Every school would likely offer one or more clusters in the business education area: secretarial/clerical, accounting, and/or marketing, reflecting student interest as well as labor market demand.

b. Support efforts to modernize the curriculum and update equipment for each cluster so that it meets advisory committee standards. Some existing programs might be changed to take on a different focus or direction.

c. Additional clusters would be offered based on student interest, staff availability and labor market demand. The superintendent should take a direct role in determining placement of clusters to avoid expensive duplication. The use of itinerant teachers should be considered.

d. Development of new vocational programs should be encouraged if local staff can demonstrate to the superintendent that the curriculum reflects future trends, has community support and can be offered using existing facilities and reasonable outlays for equipment. It may be wise to build on existing programs at a particular school to make them "vocational" in nature and meet the minimum cluster requirements. For example, with some additional development, the performing arts program at Jefferson High School would be considered a vocational program in some states. The international studies "magnet" at Lincoln High School might be adapted to include an international marketing career emphasis, drawing heavily on downtown business interests and internship resources.

Option 2: Create "lighthouse" programs in all buildings in order to achieve desired standards of excellence

How this option might be approached:

a. Provide additional resources to high schools willing to redesign one cluster area in radically new ways.

- o Rearrange related science, math, English or other offerings so that interdisciplinary instruction occurs.
- o Allow students to earn graduation credit using integrated approaches (blending of theory and practice) so that a three-unit electronic sequence might earn a student one credit in math and two vocational credits.
- o Draw heavily on volunteers from business and industry to demonstrate today's technology and tomorrow's work requirements.
- o Arrange paid or nonpaid work experience for each student in small and large business environments.

b. The superintendent should allocate additional resources for a "lighthouse" program only if conditions such as the following are met:

- o The demand for persons with this kind of general preparation is evident using labor market projections.
- o There is active and continuous involvement of the advisory committee for that cluster, supplemented by additional employers and local community college representatives as needed.
- o The building has potentially adequate facilities and equipment as a starting point for future development.
- o There are articulation agreements under way with two-or four-year institutions so that students can continue their education and training along the same "track."
- o Every high school should have a lighthouse program so that student distribution might be equitable.

Option 3: Strengthen and expand specialized high schools

How this option might be approached:

a. Encourage efforts at Benson High School to realign the curriculum to reflect ongoing changes in the workplace. Integration of academic and vocational instruction makes sense at Benson, where there is a long tradition of offering a truly comprehensive program using polytechnic skills as the central thrust. Waiting lists and the establishment of an enrollment "lid" at Benson seem to indicate that students in Portland schools want vocational education and are willing to make the sacrifice to acquire it (e.g., traveling from another neighborhood).

b. Provide improved facilities for the existing Vocational Village High School (VVHS). It now operates at capacity and should not be expanded greatly at the risk of sacrificing individual treatment which students receive. Leased facilities now housing the school are inadequate. Programs such as physical education are not up to standard if the school is to continue offering a regular diploma.

c. Create a second VVHS-type school in the northerly sector of the city. Demand is high in the north half of the district for a school serving dropout youth. The majority of students presently attending VVHS are drawn from southern attendance areas.

d. Provide planning funds for any school willing to become "specialized" in format and program. For example, some large city districts have designated entire schools to have an organizing "theme" much like Benson High School or when Cleveland High School was known as Portland's "school of commerce." A 1990s example might be a High School of Science and Technology (emphasizing biotechnology, environmental occupations, electronic communication technologies, etc.) or a High School for Human Services (emphasizing careers in health sciences, social sciences, personal services--e.g., leisure and hospitality careers). Again, the expectation would be that academic and vocational offerings would be blended with teachers approaching their instruction in new ways.

2. Options which concentrate resources in distinctive settings, allowing students to attend on a shared-time arrangement

The following set of options builds on an existing phenomenon which occurs daily in the District's high school program: some 25-30 percent of all secondary students are attending a school outside their neighborhood on a full-time basis. A PPS "Freshmen Survey" last year indicated 50 percent of the students surveyed would be willing to travel from their local high school to a centralized facility for unique educational opportunities. Existing examples include the Green Thumb and Home Repair Training Program and the Performing Arts magnet while some students are attending part-day at Benson, Franklin, and Marshall High Schools because of the reputation certain programs enjoy.

Option 4: Collaboration with community colleges and neighboring school districts

How this option might be approached:

a. Build on existing articulation agreements with Portland Community College to include joint use of district and college facilities where availability of space exists

- Open up these shared programs to high school students and adults alike.
- Faculty from both institutions should have roles in delivering instruction.
- Be flexible in the hours for these programs to accommodate youth and adults alike.

b. Develop reciprocal agreements with neighboring school districts so that students can take advantage of available programs nearby.

- o Create a metropolitan consortium for vocational programs which encourages schools to send students to an adjacent district if the program a student desires is not available within one's district.
- o Try to maintain balance in the number of students transferring each way across districts.

Option 5: Locate vocational programs at private sector sites where state-of-the-art resources are available.

How this option might be approached:

a. Invite community business leaders in occupational fields where future growth is predicted to collaborate with the District on creating specialized training centers for high school students.

b. Wherever possible, use of donated space and equipment should be sought.

c. District faculty would provide on-site instruction, supplemented by the skills of practitioners who work in that field daily.

d. These satellite programs should also serve as exploratory centers for middle school students and as orientation centers for district personnel, particularly counselors.

Examples of the kinds of satellite centers that might be scattered around the city include: health occupations in a medical center, retail merchandising in a shopping mall, laser printing and advanced graphics through a local association of printers and designers, advanced accounting in a downtown office building, data processing at a major government or university computing center, transportation careers at Tri-Met or the Port of Portland, environmental careers at Metro Service District offices, etc.

Option 6: Establish a central campus for delivery of advanced and highly specialized programs operating as an extension of neighborhood high schools.

How this option might be approached:

a. Create a council comprised of directors of instruction and/or high school principals to plan and oversee a centralized campus which provides unique opportunities for students not justifiable in their home high school because of excessive costs and low enrollments--e.g., advanced technological programs such as computer-driven manufacturing equipment, computer-assisted design systems, large-scale word processing systems.

b. Encourage the private sector to underwrite the costs of equipping laboratories and providing materials where demonstrated need exists e.g., automotive electronics, home care for the elderly.

c. Again, consider this campus to be a community resource, shared with community colleges, open on an extended day basis, available to business and industry for employee updates, and operated as a natural extension of neighborhood high schools on a year-round basis.

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I. INTRODUCTION

1.1 Purposes

In the corporate world today, the prospectus for a company often serves as the potential investor's first overview of the company, its operations and its vision of the future. Secondary vocational education today is not inexpensive, but the personal and societal costs of not offering young people the minimum transition skills for the world of work may be even greater. Thus, this prospectus is addressed to the needs of three specific investors in public education--1) school board members who are responsible for investing the taxpayers' money wisely; 2) advisory council members who invest their time, talent, and energy in improving vocational offerings in the district; and 3) teachers and administrators who invest their professional identify and work lives in attempting to provide students a sound foundation for lifelong learning and success as workers and citizens.

Vocational education is at an important crossroads both in Portland and across America. The national rush to achieve excellence in education has focused primarily on academic expectations, while vocational and career development has received only limited attention. At the same time, the nation's requirement for a well-trained and technologically-literate work force is ever-increasing.

It is time to reassess the w in which our society prepares youth for the challenges which this increasingly complex world of work presents. Educators must examine not only the processes used to educate young people, but the purposes and desired outcomes of that education. They must set new directions in both academic and vocational education which will provide youth with the skills and abilities needed to function successfully throughout life.

This prospectus looks at vocational/technical education in the Portland area high schools as a followup to the Portland Blue Chip Plan for Career and Vocational/Technical Education of 1983. It has two main purposes:

1. A comprehensive status report on vocational education as it exists within the district is presented, and includes:

   a. student and faculty data, labor market trends, district organizational information, profiles of students and faculty within the district, and relationships with community colleges and neighboring school districts;

   b. summaries of over 80 interviews with district and non-district staff, covering a broad range of topics related to the purposes, goals, and practices of vocational education;

   c. results of a detailed self-assessment process conducted by vocational instructors and advisory council members of cluster programs in the district. This process further clarifies the current status of programs and highlights program needs;

d. profiles of both individual high school vocational programs and of each cluster program throughout the district, based on the self-assessment activities and current district data.

2. Alternative futures for vocational education in the district are discussed, based on both national perspectives and on information derived from the interview and self-assessment processes. Options for future planning and program development are presented which would meet the goals of alternative perspectives. Steps for achieving new directions are also considered.

This study, like the Blue Chip Plan of 1983, not only examines the current status of vocational education in the Portland Public Schools, but also reveals the complex nature of planning for future directions in vocational education.

To assist in examining the appropriate roles and functions of vocational education, five key questions are critical:

1. What should vocational education be? What are the desired outcomes, considering our society's changing world of work and the needs of students?

2. Who is vocational education serving? Is vocational education an option which students can choose, a program primarily intended to meet the needs of special groups of students, or a requirement for all students as part of their comprehensive education? How well is it addressing equity and accessibility?

3. How is vocational education to be organized? Whose responsibility is the funding and operation of vocational programs, and what structures work effectively to deliver services equitably, based on program goals?

4. How effective is vocational education in the District? What are its strengths and weaknesses? How can it be improved?

5. What new directions for secondary vocational education should the district consider? What are the strengths and limitations of each option?

These questions provided the framework for addressing major issues throughout the study, formed the basis for interviews with district and non-district personnel, and were considered when developing alternative perspectives and options for future planning.

1.4 Relationship to Other PPS Studies

This 1985-86 study of vocational programs comes at an important time in the district when several independent efforts are converging:

- A study of the "core" curriculum is underway, aimed at identifying the common or standard elements that should exist between required academic programs among the high schools in the District.

- A re-examination of the Mission of Secondary Education, which has identified employability skills, vocational development and technological literacy as the proper responsibility of a high school program.

- Solidification of alternative education offerings as important elements of the total District curriculum.

- Near completion of the several-year effort to implement middle schools.

The 1983 report "Portland's Blue Chip: Career and Vocational/Technical Education Program" identified the result of a 1982-83 analysis of program needs by staff and advisory committees. That planning document provided a useful framework for a K-12 approach to career and occupational education programming in the District. It has received wide visibility in the District and community, and many of the concepts are now part of everyday operations in some schools:

- The middle school career development model known as "Career Horizons" was pilot tested at Mt. Tabor and Ockley Green schools and implemented in Mt. Tabor, Ockley Green, Whitaker, Gregory Heights, Gray, and Beaumont schools.

- The "pre-vocational" model known as Introduction to Occupations was pilot tested at Jefferson High School and will be implemented at Cleveland High School.

- A centralized cooperative work experience program was established providing full-time coordinators to serve students from all high schools in all vocational programs.

- Efforts to strengthen the integration of academic and vocational instruction were enhanced by a competitive, District-funded "block grant program" project for the 1985-86 school year.

- Short-term training opportunities for English as a Second Language (ESL) students were also provided by a pilot program funded by District block grant funds in several fields.

- Attention to the need to eliminate sex role stereotyping and math anxiety on the part of females was provided through special federally-funded projects aimed particularly at the middle school level.

- How to help all students receive more comprehensive occupational information and career planning assistance is the focus of a statewide guidance consortium project.

- Improvements in the delivery of vocational education for special education students are being realized with the addition of special education job placement coordinators at the Child Services Center and in local buildings.

- Refugee Job Prep, a program to prepare refugee youth for employment, has been expanded

The Blue Chip plan recommendation to create an Opportunity Center that would serve all high schools with advanced vocational and academic offerings was not implemented; however, a number of program improvements in vocational-technical education are under way with the promise of signficant positive impact:

- The Board earmarked $270,000 to the District Vocational/ Technical Education Department in 1985 for priority program improvement needs in business education offerings throughout the system. These funds are being directed to curriculum revision, standardization, replacement of outmoded equipment and update of facilities.

  A business education task force produced a new curriculum guide for secretarial/clerical, marketing and accounting programs across the district which provides a model for how coursework can be standardized across schools using common student outcomes as the focal point.

- Benson High School is in the initial planning stages of a curriculum revision process which is suggesting that narrow occupational fields are actually comprised of many common skills that might be addressed in new ways. Since 1983, Benson has received funding for staff development, curriculum development, equipment to meet industry standards in selected areas and facility renovation.

- Portland Community College officials are meeting regularly with constituent secondary school agencies to explore how increased articulation might occur. Agreements have already been written specifying how students in the secondary program can earn advanced standing in a comparable community college program.

- A career guidance project was completed, resulting in a handbook for middle and high school staff on career-related activites in classrooms K-12.

- Superintendent Prophet and other key government and private sector officials in Portland are meeting regularly as members of a "Leaders Roundtable" so that mutual concerns about the needs of youth can be addressed at the highest policy levels. Mayor Bud Clark and Private Industry Council chair Vern Ryles are active members of the roundtable.

- Several projects have emerged as the result of this kind of collaboration, particularly with the private sector: a Financial Services Academy project at Jefferson, the Grant Partnership Project, a Summer Training and Education Program (STEP), and an Urban Network project aimed at achieving more coordination among services for at-risk youth in the city.

At the same time this status report on vocational education was being prepared, the District embarked on a comprehensive review of the mission of secondary education in Portland Public Schools. That process began with a cross-section of district administrators and teachers compiling a list of some 51 elements that a comprehensive secondary program should address. Through a district-wide review process, that list was consolidated with an existing secondary school standards document which resulted in 11 goals. While the completion of that developmental process has not yet occurred, it is clear that vocational education and related employability skills should remain a strong emphasis in the District. While career development themes are woven throughout the 11 statements, one outcome calls for students to have:

"The skills, knowledge and activities which are necessary to perform socially useful and personally gratifying work, including pursuit of further study or related work experiences."

The same outcome directs that "students will develop employability skills which enable them to assess employment options, secure a job, succeed as a productive worker or perhaps eventually own their own business. Setting short- and long-range goals will be emphasized. Vocational skills of sufficient depth, flexibility and adaptability to obtain entry-level positions and continue further skill development in postsecondary institutions and on the job will be provided."

1.3 National and State Perspectives

As noted in the Blue Chip document, a number of forces are also emerging nationally that call for a new look in vocational/technical education for the remainder of this century. While prestigious national commission reports and research on American high schools contain few suggestions on how secondary vocational education might be improved, there have been recent warnings that the nation's rush to achieve educational excellence may have a serious impact on future workforce requirements:

- The Association for Supervision and Curriculum Development (ASCD) warns in With Consequences for All (1985) that increasing graduation requirements may cause serious problems for many students, particularly those who do not go on to college.

- The National Academy of Sciences in High Schools and the Changing Workplace (1984) urges that basic education for America's youth emphasize the ability to learn and adapt to changes in the workplace.

- The Education Commission of the States in Reconnecting Youth: A Report from the Business Advisory Commission (1985), challenges leaders at all levels to "reconnect young people who have become disconnected from the values, the schooling and the early work expriences that will guarantee for them a productive future."

- The National Commission on Secondary Vocational Education in The Unfinished Agenda: The Role of Vocational Education in the High School (1984) concluded after many months of discussions and public hearings (including one in Portland) that "all students, whether college bound or not, need a mix of both academic and vocational courses...."

- The National Governors Association in The Five-Year Dilemma (1985) warned that the "quest for quality education must not ignore a second challenge, the challenge to assure that all youth are able to make the transition from school to work and to make a contribution to their society."

Meanwhile, data on the Oregon high school Class of 1984 provided by the Educational Coordinating Commission (November 1985) indicate that 54 percent of that year's graduating seniors enrolled in a postsecondary institution (two or four-year colleges or private training schools). It may be assumed that the remainder of those youth are either working, looking for work, have chosen not to work at this time or have joined the military.

Recent analysis of data from the National Longitudinal Study of Labor Market Experience--New Youth Cohort--indicates that nationally of 100 students entering high school, 23 will drop out of high school and 77 will graduate (Campbell and Winterstein, 1985). Of the 100 students entering high school, 31 will graduate in the vocational curriculum, 33 in the general curriculum, and 13 in the academic curriculum. By the time the 31 vocational graduates are 25 years of age, six will graduate from a four-year college, seven will complete some other type of postsecondary program or training, 10 will go directly to work, and eight will be unemployed or in training programs they will not complete.

Employment Policy Issues

A National Alliance of Business (NAB) paper on employment policy issues for 1990 to the year 2010, released in November 1985, presents some important issues and data to consider in our discussion of the vocational training of youth.

In describing the demographic picture for the coming decade, it states that:

- The number of youth entering the work force will decrease through 1995, while the percentage of minority youth to the total youth population will increase.

- Nationally, more than 25 percent of all youth will not graduate, with figures for minorities and the poor being much higher. Of these youth, 60 percent will be functionally illiterate.

- Currently, among 17 year-olds, 40 percent cannot draw inferences from written materials and 66 percent cannot solve math problems with several steps.

- Despite decreases in the total youth population, youth unemployment is expected to rise in the coming decade, due to increased competition for the declining number of low skilled positions, continued ineffective vocational counseling, and lack of basic skills of youth.

The labor market picture shows some equally disturbing trends:

- Anywhere from 5 to 15 million manufacturing jobs will be lost by the end of the century, with the likelihood of an equal number of service jobs being lost. New jobs which will be created will not make up for these losses.

- Technology will change all jobs in the future, requiring higher levels of skills. By 1990, the report estimates that 3 out of 4 jobs will require some education or technical training beyond high school.

- Basic skills, problem solving, and interpersonal skills will become increasingly important skills for job seekers to have. Companies will seek employees with these skills to minimize problems of lower productivity, increased supervisory time, and poor product quality associated with employees who lack basic skills.

The study also notes these trends indicate the need for increased basic skills training, increased vocational training facilities, and increased vocational counseling and assessment:

- School systems must stress the building of basic skills and the development of problem solving, communicating, and team work skills which will be increasingly essential in the labor market. Moreover, they must develop programs which encourage youth to stay in school.

- Training must be viewed as a lifelong process, and must be seen as the responsibility of public and private institutions, schools, and labor.

- The work force will require better labor market information, improved counseling, testing and assessment services. Youth in particular will need to be provided with more career information earlier in their schooling.

Several of the report's conclusions and recommendations are of particular interest to this study. NAB believes the challenges of the next 15 years in the area of employment and training require the development and implementation of comprehensive and cooperative employment policies at the national, state and local levels.

Further, service delivery for these policies must be a partnership of all sectors working together, and that these groups must expand beyond traditional roles and practices in order to adequately meet future labor market challenges. Business, in particular, must take a leadership role

by not only providing more in-house training opportunities for its workers, but also by increasing its involvement and support of public education systems.

Finally, the education system has responsibility not only for the development of basic skills, but also for providing greater awareness of the work place and career choices. Schools must begin in elementary years to show students the link between basic skills and work, and must provide increased opportunities for career counseling, assessment and exploration. Actual work experience and accurate labor market information are essential for high school students. Interestingly, provision of skill specific training was not highlighted as a primary role of the school system in this report.

Future Trends

In looking at future trends affecting Oregon in the year 2010, the Commission on Futures Research (1986) identified seven forecasts affecting jobs and economic development:

- Employment in manufacturing is expected to grow slowly, or not at all, during the next 20 years.
- Future employment growth is expected in the nonmanufacturing sectors with strong growth in services. Other growth areas include trade; education; transportation and communications; and finance, insurance and real estate.
- Tourism has the potential for strong growth. It will remain one of Oregon's largest and most important industries.
- Increasing automation and productivity is helping Oregon's wood products industry to become more competitive. A majority of the jobs lost during the early 1960s, however, will not be replaced.
- Oregon's agricultural industry will face increasing competition in international markets, particularly for wheat exports.
- There will be a shortage of entry-level workers during the 1990s.
- Displaced workers and mid-career baby boomers seeking new career opportunities will spur entrepreneurial growth.

The Commission on Futures Research also describes the knowledge, skills and abilities they feel students will need to prepare them for the 21st century. They state that:

> Employers have emphasized the need for general problem-solving and reasoning skills, as well as effective communication skills and the ability to work cooperatively with others. For many occupations, entry-level job-specific skills are also desired. These preferences are likely to be sustained, if not increased, over the next two decades. From the individual's point of view, such skills have great value for coping with the broad-scale changes our society will undergo. For example, a person must be able to adapt to new job demands or career shifts over the course of his or her working life. Thus, skills that are transferable across a wide variety of occupations will best equip the individual to deal with changing economic and occupational circumstances.

In a study entitled The Strategic Context of Education in America, 1985-1995, Snyder states that "studies conducted by employers and labor force experts consistently show that student involvement in assignments requiring real-world applications of classroom knowledge substantially increase the level of educational achievement for both secondary and postsecondary schooling (1984, p. 19). He goes on to discuss the role of cooperative work-study programs as a means of encouraging high-tech economic development.

Relationship to Secondary Education Mission

By popular consent and statutory action, education for work--vocational education--has become an integral part of the public education enterprise across the nation. Vocational education's time-honored mission has been to enhance individual competence and independence while meeting society's need for economic stability. Determining the appropriate place for vocational education in the total educational structure requires a clear policy framework. The kinds of experiences students have will be a direct result of those decisions. If a local educational agency decides not to encourage students to prepare for the transition from school to work, their pathway will be difficult and prolonged. The costs for the individual and for society can be high if youth are not equipped with the skills to negotiate an increasingly complex world of work. It is time to reassess the policies related to excellence in education, especially those which influence how the nation prepares its people for work. It is particularly imporant to address those policies which may lead to a denial of access and choice. Access and choice are hallmarks of freedom from which no policy on excellence should depart.

Harold Hodgkinson (1985) is one of a growing number of people critical of those states who increased academic high school graduation requirements without taking into consideration the impact it will have on increasing the number of dropouts from high school: "Many localities have developed excellent dropout prevention programs. Particularly useful are the programs which combine intensive, individualized training in the basic skills with work-related projects. Vocational education and work study strategies seem to work well, as does the "alternative high school"

pattern. When the relationship between education and work becomes clear, most of these potential dropouts can be motivated to stay in school and perform at a high level."

In a summary of selected dropout studies, the National Center for Research in Vocational Education (1985) drew several conclusions:

- Significantly fewer dropouts reported being in the vocational curriculum while in high school than did members of the comparison group.
- Dropouts earned significantly fewer vocational credits than students in the comparison group.
- Significantly fewer dropouts than comparison students had a vocational specialty, i.e., a vocational service area in which they earned over 60 percent of their vocational credits.

In Oregon, the high school dropout rate is about 25 percent (Oregon Education Coordinating Commission, 1985). "Half of those who do graduate do not enroll in college the following year. Of those who enter college right away, a quarter will drop out within the first year. This means that about two-thirds of the 18-19 year old age group in Oregon are not in college and need or have jobs" (OECC, 1985). Based on data for the PPS freshman class of 1984-85, of the 4200 entering students the District anticipates that 25 percent (1050) will not graduate. Of the 3150 who will graduate, half will go to college and half will enter the job market. Of those going to college, 25 percent (394) will dropout by the end of freshman year. Adding all the numbers together over the five year period, we anticipate by the summer of 1989, 72 percent or 3019 will be seeking work or in the work force" (personal correspondence from Frank McNamara, PPS Director of Government, Relations, February 3, 1986).

In a statewide high school three year follow up study on vocational and non-vocational graduates in Oregon (Owens 1985), six percent of the former vocational students reported that they would likely have dropped out of school if they had not enrolled in vocational education. Based on the information presented in this section we conclude that vocational education has a role to play not only in preparing high school graduates for success in employment or futher education but also in helping to reduce the high school dropout rate.

Gallup Polls and other surveys since the 1983 Blue Chip plan support the notion that schools must address the employment needs of youth. School program planning, however, still centers largely on what four-year college and university entrance requirements demand. Even before stiffer admission standards were implemented recently in many Northwest colleges, local school districts had begun to adjust graduation requirements to reflect higher education entry criteria. Parents are often strong influences on these decisions as well, particularly as students begin to plan a four-year high school program. Secondary youth must now make difficult choices as they balance the "common core".

How schools in the state, region and nation are beginning to respond to these challenges to vocational education delivery is an interesting study in itself. The 1983 Blue Chip plan outlined the typical ways vocational education is provided (pp. 86-89). While the insitutional framework for providing vocational preparation is much the same as three years ago, the values that persons place on vocational education and the expectations made appear to be changing.

Views Regarding Vocational Education

Part 7 "Alternative Futures" of this report will provide more detail on how components of vocational education might look in Portland. At this point, however, it might be interesting to define what our study revealed about the expectations Portlanders have for secondary vocational education today. The following five perspectives provide an overview of these expectations, and are supported by national as well as local studies:

Perspective A: Prepare high school youth for specific entry-level occupations not requiring a four-year college degree. Traditional examples include such diverse areas as electronics, metal fabrication, secretarial-clerical, horticulture. In the past, most vocational educators have insisted on a minimum number of hours to prepare young people in these areas. To be a state-approved program in Oregon, for example, students should be enrolled in a cluster for two hours (classes) daily--and in most cases students would be involved both in their 11th and 12th years to complete the "major" and supporting courses that lead to job competence. Said one of our interviewees: "We need to get students job-ready in a specified vocational area because we never know how long they'll be with us and we want them to be ready."

Perspective B: Prepare secondary youth in a set of general occupational skills that cut across a number of fields and that emphasize adaptibility and flexibility. The Oregon cluster concept in vocational was originally conceived to address this concern, and indeed there are efforts to revise the Oregon clusters to recognize emerging occupational arenas and to encourage more generalizability. A student interested in the "hospitality" industry might be exposed to such career skills as meeting the public, basic recorkeeping, food services, basic hotel/motel management, travel geography, and public health. Hopefully, a high school graduate with this kind of exposure would be able to take any number of pathways in the fast-growing personal services/leisure sector. One respondent noted: "We need more introductory courses like Introduction to Technology with hands-on exposure."

Perspective C: Use vocational education as a vehicle for delivery of basic skills for some students, perhaps even allowing graduation credit for equivalent outcomes met through occupational applications. The historic ties between vocational and academic instruction have broken down over the years and some would like to see the return of interdisciplinary instruction and the recognition that many vocational teachers, for instance, are demanding intensive performance of the "basics" such as math, science and English during everyday classroom and laboratory experiences. A sample quote was "High school should focus on basic skills and applied areas of reading and math. Let the community colleges do more in-depth occupational training."

Perspective D: Personal development, self confidence, responsibility, and survival skills are all needed for adult success. There are many ways that vocational education contributes to personal and social development. Vocational student leadership organizations play a powerful role not only in helping students practice technical skills but they also expose students to applied communication skills and good work habits. Community service projects and vocational counseling are two other ways personal/social development is fostered. Said one respondent: "The emphasis should be on life skills adaptability and on things students can use such as auto tuneup and repair."

Perspective E: Students need to understand what it takes to find and keep a job. While some students seek specific occupational skills that may require a concentrated two-year vocational cluster program, others seek short-term training opportunities to gain full or parttime employment. Comprehensive career centers can provide students with access to a wide variety of human and material resources. Work experience, placement service, short term training, and classroom training in employability skills would all support this perspective. According to one of our sources, "Vocational education skills are the vehicle for teaching work survival skills, the work ethic, communications and follow through."

1.4 NWREL Involvement

In November of 1985, the Portland Public Schools contracted with the Northwest Regional Educational Laboratory (NWREL) to conduct a comprehensive study of vocational education in the District and to propose alternative directions for the district and Board to consider. The timeline was short since the district needed a report by early 1986.

In close collaboration with the district, NWREL staff prepared a comprehensive study plan that was reviewed and approved by the district's steering committee. NWREL staff reviewed existing project documents, interviewed over 80 key persons within and outside the district, coordinated part of the vocational program self-assessment process, collected state and national perspectives, conducted a "sounding board" meeting to air tentative recommendations, and conducted numerous reporting meetings with distict staff and the advisory council.

1.5 Organization of The Report

Following this introduction, Section II of the report contains a description of the current status of vocational education in the District. Included is a description of the vocational offerings, organizational structure of the career and vocational education department at the central office level, description of vocational students and staff, and labor market data.

Section III describes procedures and findings from interviews with over 80 people in and outside of the district.

Section IV describes the comprehensive self-assessment conducted by vocational instructors and advisory council members of cluster programs in the high schools. A summary of estimated costs for program improvement is presented as well as an evaluation of the self-asessment process.

Section V contains a profile of the individual high schools in the district showing the vocational self-assessment results organized around the individual schools and showing recommendations by cluster at each school.

Section VI contains a profile of the vocational cluster programs in the District including an assessment of vocational components, recommendations for improvement, and job outlook by cluster.

In Section VII, we look at recommendations and options for alternative directions in vocational education.

Section VIII consists of the appendicies containing more detailed information and tabulation of surveys used.

II. DESCRIPTIVE REPORT

2.1 Overview

This section describes current and recent enrollments in various vocational clusters in the District, the central office organizational structure of the Career and Vocational/Technical Department, the characteristics of vocational education students and staff, current and projected labor market demand.

2.2 Vocational Offerings

Vocational education programs are offered in 10 of the 11 Portland high schools (Lincoln High School is the exception). Vocational training is also offered through special districtwide programs such as Green Thumb, the Home Repair Training Program and cosmetology. Training is offered in the following program clusters: clerical (at nine schools including Vocational Village), secretarial (8 schools), metals (7 schools), industrial mechanics (7 schools), child care (5 schools), accounting (5 schools), marketing (4 schools), graphic communications (4 schools), construction (2 schools and at the Home Repair Program), electricity/electronics (3 schools), health occupations (3 schools), diversified occupations and food service (each at 2 schools), and banking, drafting and horticulture (each at one school or location).

The Oregon Department of Education recommends high school students should have their choice of five or more vocational cluster programs in high school. Using that as a criterion, eight of the 11 high schools meet that standard (Lincoln has none, Jefferson has three, and Marshall has four). A later part of this section will show the number of students and staff by program by school. In total, the number of students enrolled in vocational education in the district has decreased each year since 1980. In 1981-82, 48% of the district's students in grades 11 and 12 were in vocational programs. Since then the percentage has dropped to 36% each year.

2.3 The Career and Vocational Education Department

Department Function and Funding

The central Career and Vocational Education Department provides District wide leadership through coordination and support activities in all career, vocational and technical education programs. State standards adopted by the Oregon State Board of Education require that career education activities and goals be implemented in all classrooms in all subject matter areas and at all grade levels. In vocational education, centrally managed federal funds are allocated to those high schools operating state-approved cluster progarms. These federal funds and limited central office resources are used primarily to improve existing vocational programs within the various high schools.

With support from the Board of Education, the Career and Vocational Education Department has been able to implement a Cooperative Work Experience program involving four coordinators who work with students on a District wide basis. In addition, program assessments have provided a basis for expanded support of the business education and Benson High School programs. These gains have been somewhat offset by a significant reduction in federal vocational funding resulting from enactment of the Carl Perkins Vocational Education Act as well as the continued decline of student enrollment in state-approved vocational programs (programs usually offered in grades 11-12, two hours a day, five days a week--though definitions are becoming more flexible).

Perceived Roles of Vocational Education

The District's high school vocational/technical programs are seen as multipurpose programs by Department staff. They are intended to provide technical skills and at the same time foster good work attitudes, facilitate the transfer of skills needed in all jobs, motivate disenchanted learners, enhance basic skills attainment, serve as an exploration into the career arena, and compensate for discrimination in society against special needs populations. These multiple roles appear to serve two streams of national priorities--one more socially oriented (equity and access priorities) and the other more economically oriented (basic skills, employability skills, occupational skills, exploration and youth unemployment priorities).

In the view of Department staff, vocational education at the high school level emphasizes basic skills and basic technical literacy. Central staff have been instrumental in creating and supporting building-level efforts such as the Partnership project at Grant, the Financial Services Academy at Jefferson, and the Career Awareness Related Education (CARE) program at Cleveland designed to provide students with access to community settings (business, industry and public agencies) that will help them discover useful skills and reinforce basic skills through application in real occupational and community life settings similar to those they are likely to encounter after leaving school.

Staffing and Assignments

The District's Career and Vocational/Technical Education Department consists of ten professional staff:

Warren Rathbun, Department Supervisor

Darrell Tucker, Career Education Specialist

Kathy Hostager, Youth Employment Specialist

Ken Kline, Home Repair Training Program Director

Sharon Chasko, Equity/Partnership Coordinator

Becky Wheeles, Special Projects Coordinator

Jim Albers, Cooperative Work Experience Coordinator

Phil Coquillette, Cooperative Work Experience Coordinator

Don Gainer, Cooperative Work Experience Coordinator

Gentria Sipp, Cooperative Work Experience Coordinator

Department Supervisor Warren Rathbun provides direction for planning, evaluation, and administration of the Career and Vocational/Technical Education programs of the District.

Darrell Tucker's major responsibilities are assisting with budgeting, planning and administering CVE, and coordinating K-12 career education.

Kathy Hostager's responsibilities include coordination of Career Horizons, Cooperative Work Experience and Placement, JTPA projects, special youth employment projects such as the Portland Urban Network Project, and the Leaders Roundtable.

Ken Kline is responsible for the Home Repair Training Program, Safety Education, and assists with middle school planning, industrial education program planning and facility renovation.

Becky Wheeles' major roles include program articulation, business education coordination, assists coordinating vocational cluster advisory committees, and cluster program assessment activities.

Sharon Chasko handles several equity programs, the CE/VE Departmental Newsletter, private sector partnerships, and assists with vocational cluster advisory committee coordination and cluster program assessment activities.

Jim Albers and Gentria Sipp coordinate Cooperative Work Experience placement and supervision in marketing and business education for the high school district wide. Don Gainer and Phil Coquillette are the district Trade and Industry Cooperative Work Experience Coordinators.

Perceived Roles of District Career and Vocational Education Department

In individual interviews the staff expressed the view that their department provides a number of functions including assistance with vocational staff development; curriculum development; obtaining funding for special projects; equipment purchases; program assessment; coordination of existing programs; team effort with building level staff; cooperative planning with other agencies such as the Urban League, the city, and Portland Community College; maintaining contact with industry; and emphasizing and promoting quality in career and vocational education.

Special Needs Students

In addition to the District coordination of regular vocational education through the Department of Career and Vocational/Technical Education, there is also attention given to vocational education for special needs students in the District. Bob Crebo, supervisor of Vocational Education for Special Education, coordinates the work of eight work experience coordinators and three vocational assessment specialists. He is also

supervisor of Career and Vocational Education for the English as a Second Language/Bilingual Program which includes Refugee Job Prep projects, Women's Educational Equity grants and other special projects.

2.4 Description of Vocational Students and Enrollment Patterns

This section contains subsections dealing with: (1) PPS vocational enrollments and trends, (2) ethnic enrollment, (3) disadvantaged enrollment, and (4) enrollment by gender.

Vocational Enrollments

Information shown here about vocational education students in the PPS generally comes from the SERVE (Secondary Enrollment Report for Vocational Education) report prepared by the Division of Vocational Education at the Oregon Department of Education and submitted annually by local buildings through the District office.

To be considered "official," vocational education students must be enrolled at least two hours a day in state-approved vocational cluster programs that are generally taught 10 hours a week. Most of the students enrolled in such courses are juniors or seniors although some 9th and 10th graders participate and the state is becoming more flexible in how programs can be defined.

Table 1 shows the 1984-85 enrollment by sex and school for students in grades 11 and 12. As can be seen, there are slightly more male than female students participating in vocational education. Benson High School and Vocational Village alone account for 39 percent of the district's 2,502 vocational students in grades 11 and 12. Although Lincoln High School does not offer any cluster programs, 10 students enrolled in vocational education at other locations.

Table 2 shows the vocational enrollment history by cluster for 1979-80 through 1983-84 (the most recent years for which SERVE data are reported). Between these years the enrollment for vocational students in grades 9-12 has decreased 45 percent. Most noticable declines are in Service Occupations (a drop of 82 percent), Secretarial/Clerical (66 percent), Health Occupations (53 percent), and Horticulture (51 percent). The only clusters gaining more then five percent was Accounting (up 21 percent) and Food Service (up 9 percent).

A more dramatic view of the vocational enrollment declines is shown in Figure 1 which traces vocational enrollment from 1976. Between 1976-77 and 1984-85 vocational enrollment dropped by 57 percent. During that same time period the total district's 9-12 grade enrollment dropped 22 percent; thus, vocational enrollments have suffered a net loss of 35 percent over that time period. Figure 2 is also helpful in showing the proportion of students in grades 9-12 enrolled in vocational cluster programs. Forty-one percent of the district seniors are enrolled in vocational (1,340 out of 3,269 students), 35 percent of the 11th graders, 15 percent of the 10th graders and 2 percent of the District's 9th graders.

TABLE 1

VOCATIONAL EDUCATION ENROLLMENT BY

SCHOOL, GRADE LEVEL AND SEX

(1984-85)

	GRADE 11		GRADE 12		
School	Male	Female	Male	Female	Total
Benson	267	60	280	84	691
Cleveland	49	86	44	65	244
Franklin	45	68	66	97	276
Grant	42	50	39	54	185
Jefferson	17	19	22	34	92
Lincoln	1	4	4	1	10
Madison	31	44	37	79	191
Marsnall	27	45	32	51	155
Roosevelt	19	28	31	49	127
Vocational Village	75	56	106	63	300
Wilson	24	60	63	84	231
	597	520	724	661	2,502

Note: Data shown here are preliminary data based on SERVE report information obtained by personal communication with Alan Schultz in January 1986. The official SERVE report will be available in the spring. The figures shown here represent the school of attendance for students even though they may be involved in vocational education at other schools or in programs such as Green Thumb or the Home Repair Training Program.

TABLE 2

VOCATIONAL CLUSTER PROGAM

ENROLLMENT HISTORY FOR THE PORTLAND PUBLIC SCHOOLS

Cluster	1979-80	1980-81	1981-82	1982-83	1983-84	Change 1979-84
Agriculture/Horticulture	152	58	115	96	75	-51%
Child Care	146	147	197	127	147	0%
Construction	207	158	86	125	147	-29%
Electrical	299	264	316	272	290	- 3%
Food Service	101	107	131	113	113	+11%
Graphic Arts	178	165	115	115	107	-40%
Health Occupations	108	92	61	51	51	-53%
Industrial Mechanics	523	444	590	456	343	-35%
Metals	378	428	396	462	363	- 5%
Office Occupations						
o Accounting	236	231	426	302	297	+21%
o Marketing	280	247	242	181	164	-41%
o Secretarial	971	1095	461	622	408	-58%
o Clerical	2222	1808	2442	898	670	-70%
Service Occupations	94	61	106	12	17	-82%
Other	3	3	114	9	0	
TOTAL:	5898	5308	5798	3837	3192	-45%

NOTE: Figures represent the number of students in grades 9-12 enrolled in vocational classes for at least two class periods per day. Information was gathered from SERVE forms completed by teachers and submitted to the State Department of Education each spring. The distinction between clerical and secretarial is difficult to make since they take many of the same classes. Thus the sudden change in numbers between 1980-81 and 1981-82. The drop in listed enrollment in secretarial/clerical between 1981-82 and 1982-83 may be due to changes in the reporting process that counted students in courses such as typing as vocational students prior to but not after 1982.

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Figure 1.

Vocational Education Enrollment Trends
Grades 9-12

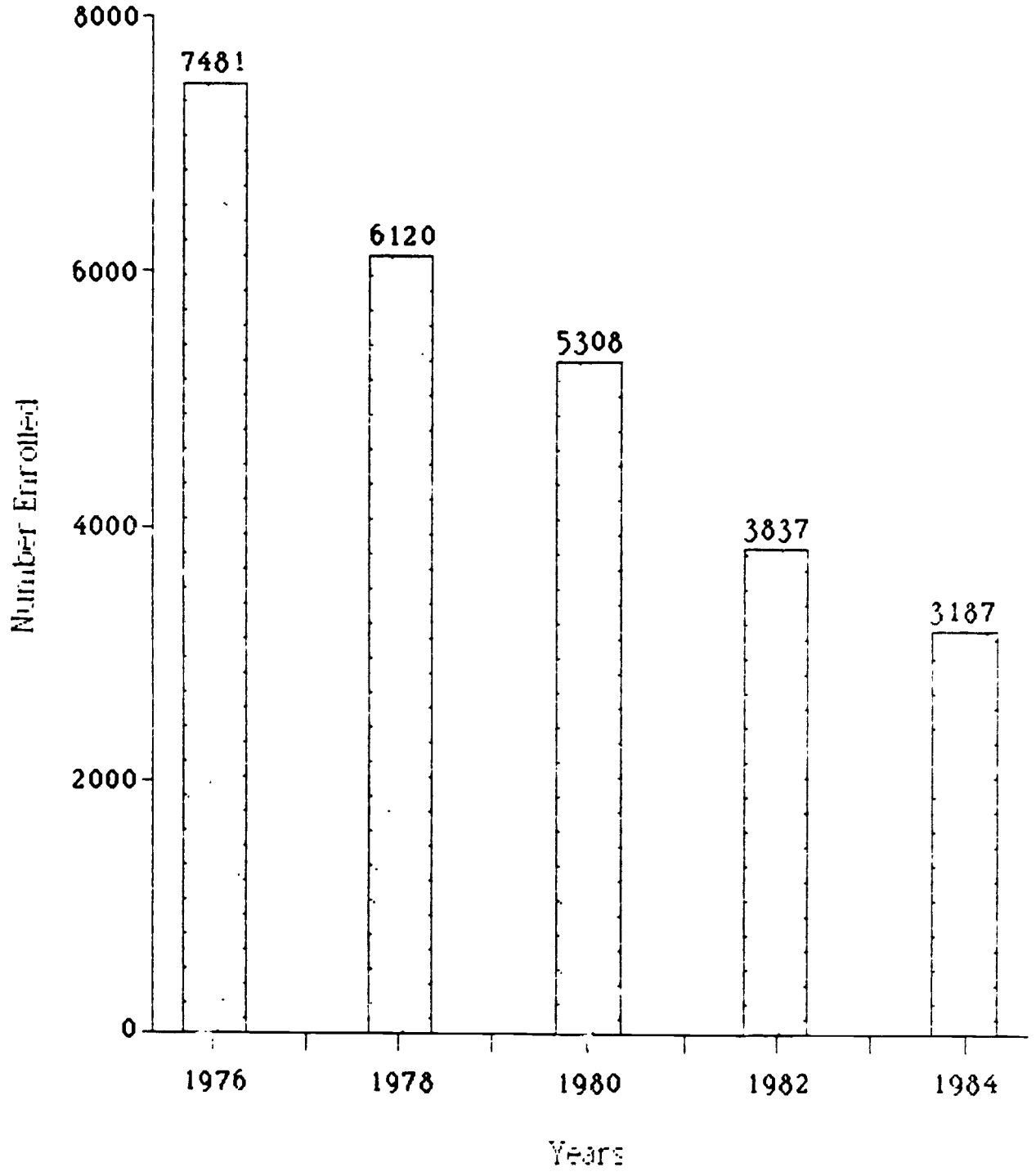


Figure 1A

Vocational Education Enrollments
Grades 11-12

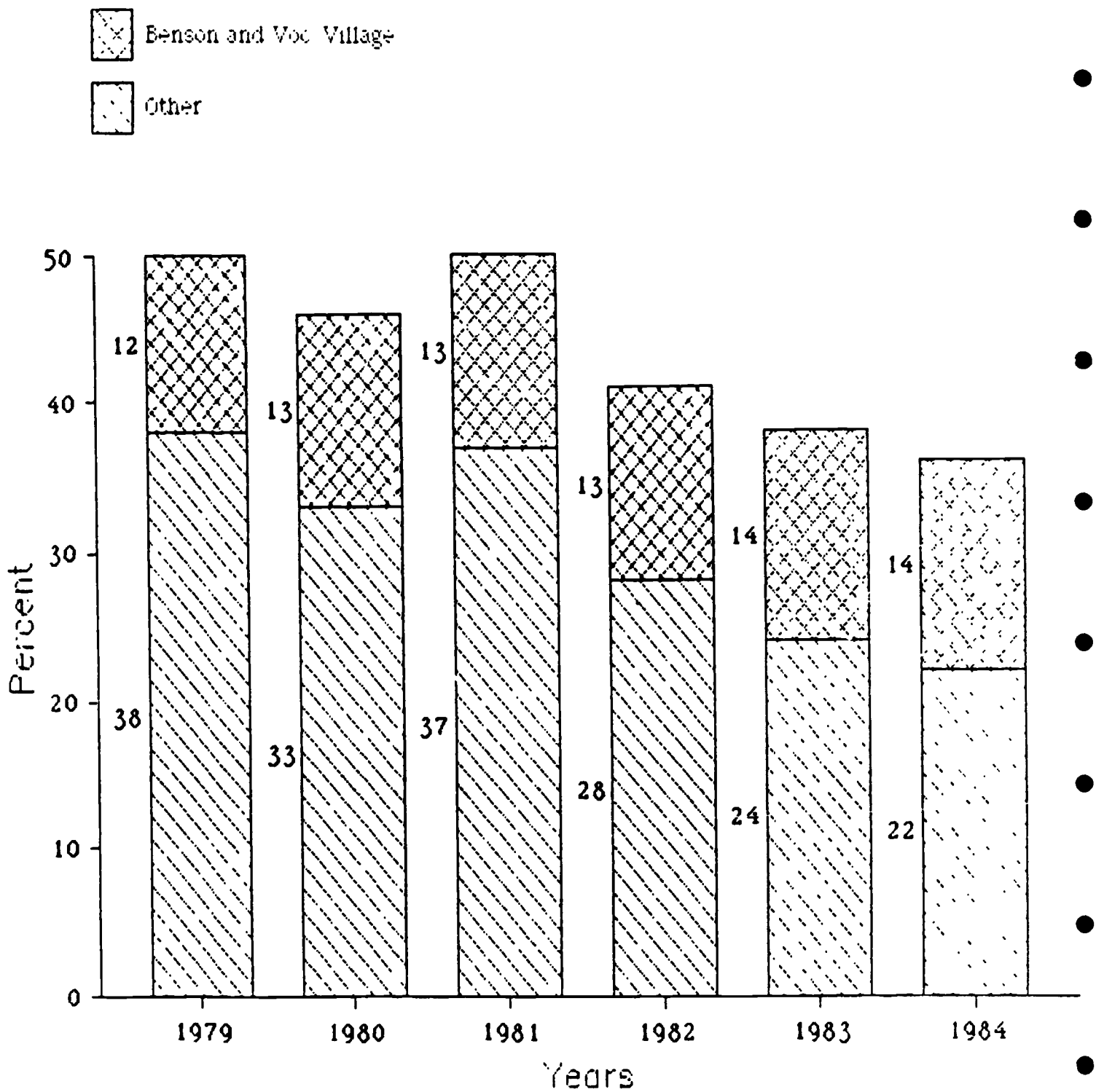
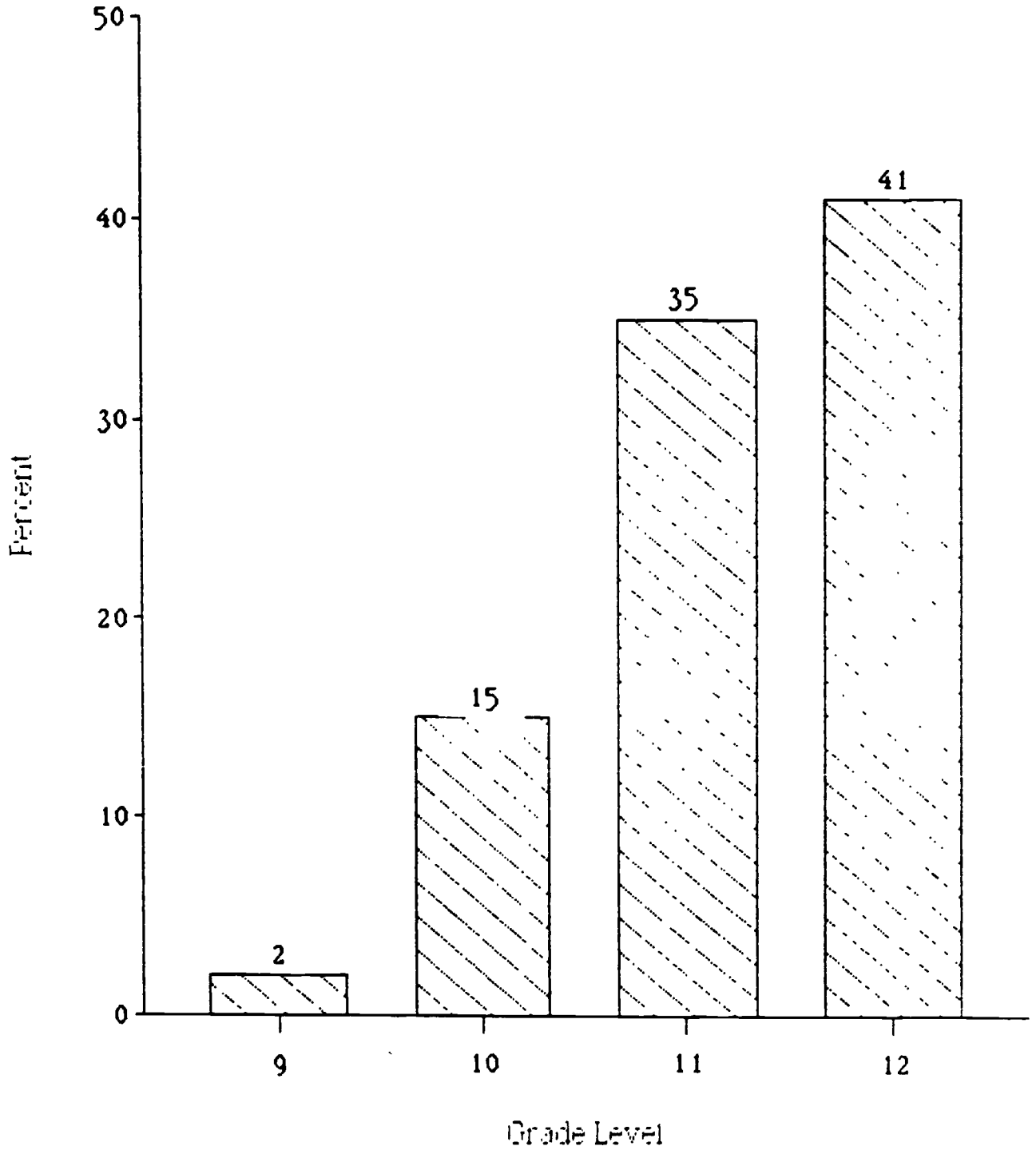


Figure 2.

Vocational Student Enrollments 1983-84



Vocational Enrollments by School, Cluster and Geographic Area

Figure 3 illustrates that vocational education is not offered uniformly across all high schools in the district. While Benson and Vocational Village are entirely vocational, Lincoln offers no vocational cluster programs.

Figure 4 is a graph showing the percent of students in each of the vocational clusters. Secretarial and clerical combine to account for a third of the vocational enrollments.

Figure 5 shows a geographic view combining clusters offered by schools. In addition, we have added clusters offered by the neighboring school districts and by three campuses of Portland Community College. In the future, it may be important to think of where vocational training should be offered if collaborative agreements can be worked out with PCC and neighboring school districts.

Figure 3.

Vocational Enrollments by School
Grades 11-12
1984-85

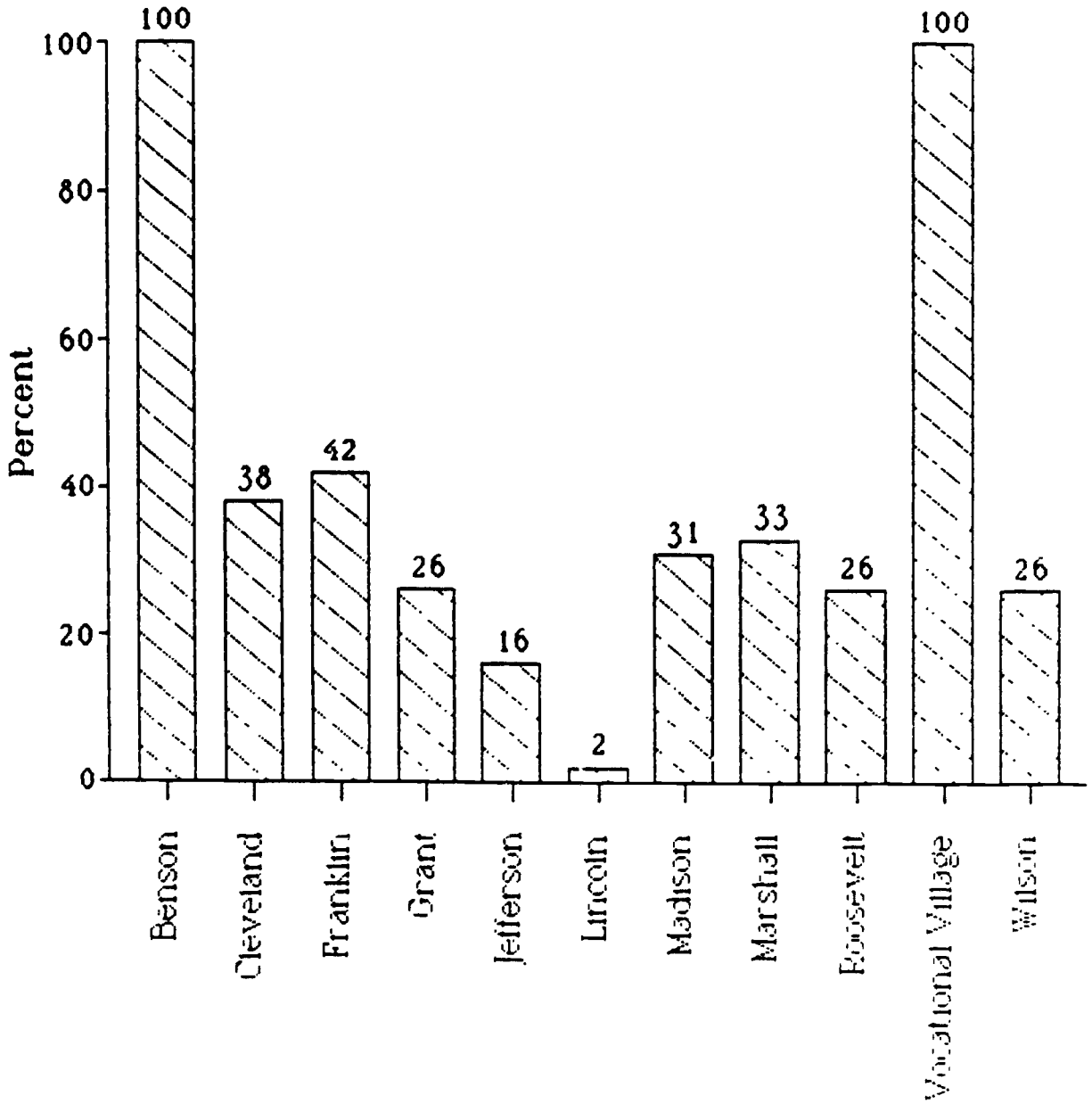
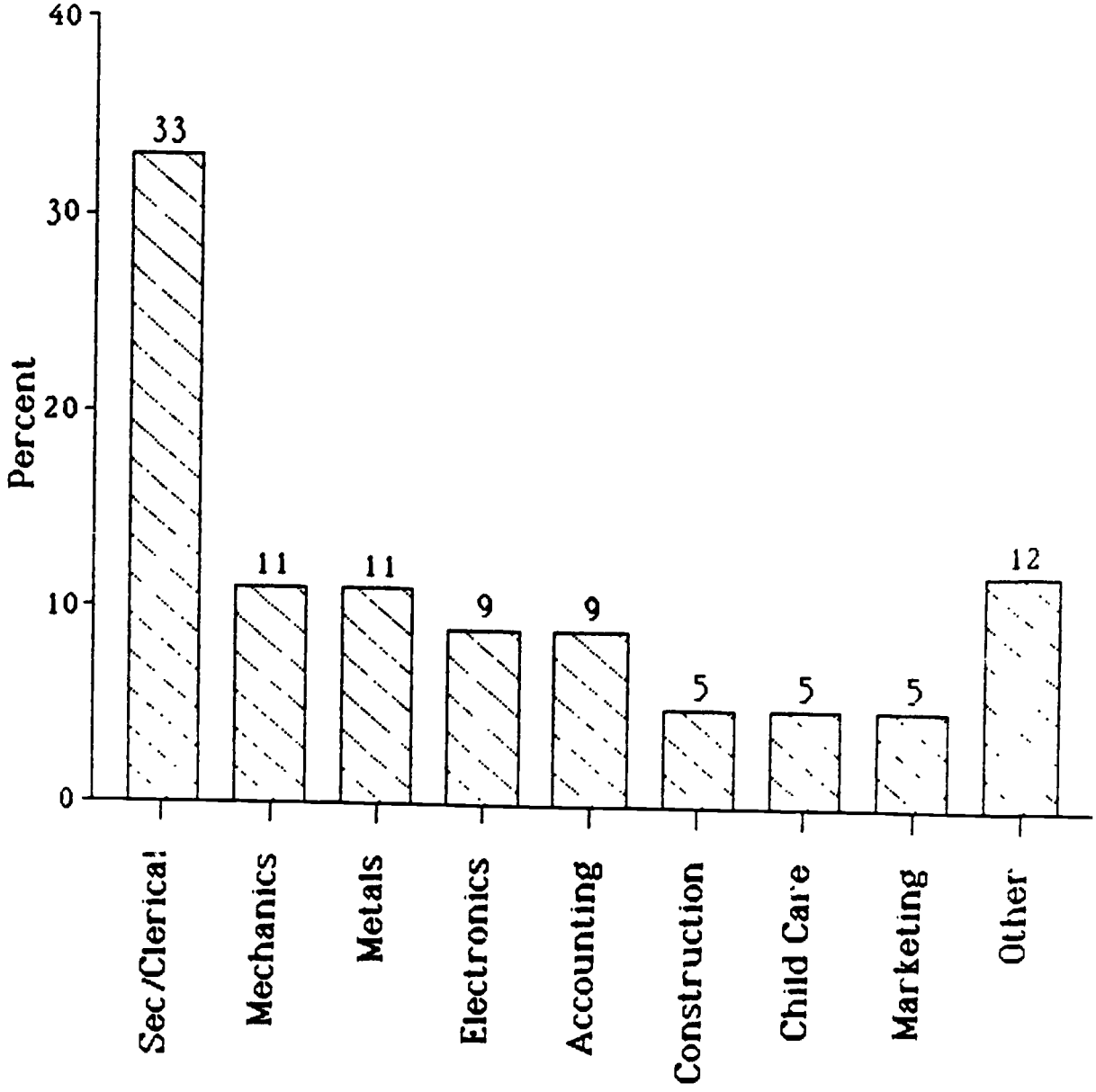


Figure 4.

Enrollments by Cluster
Grades 9-12
1993-94



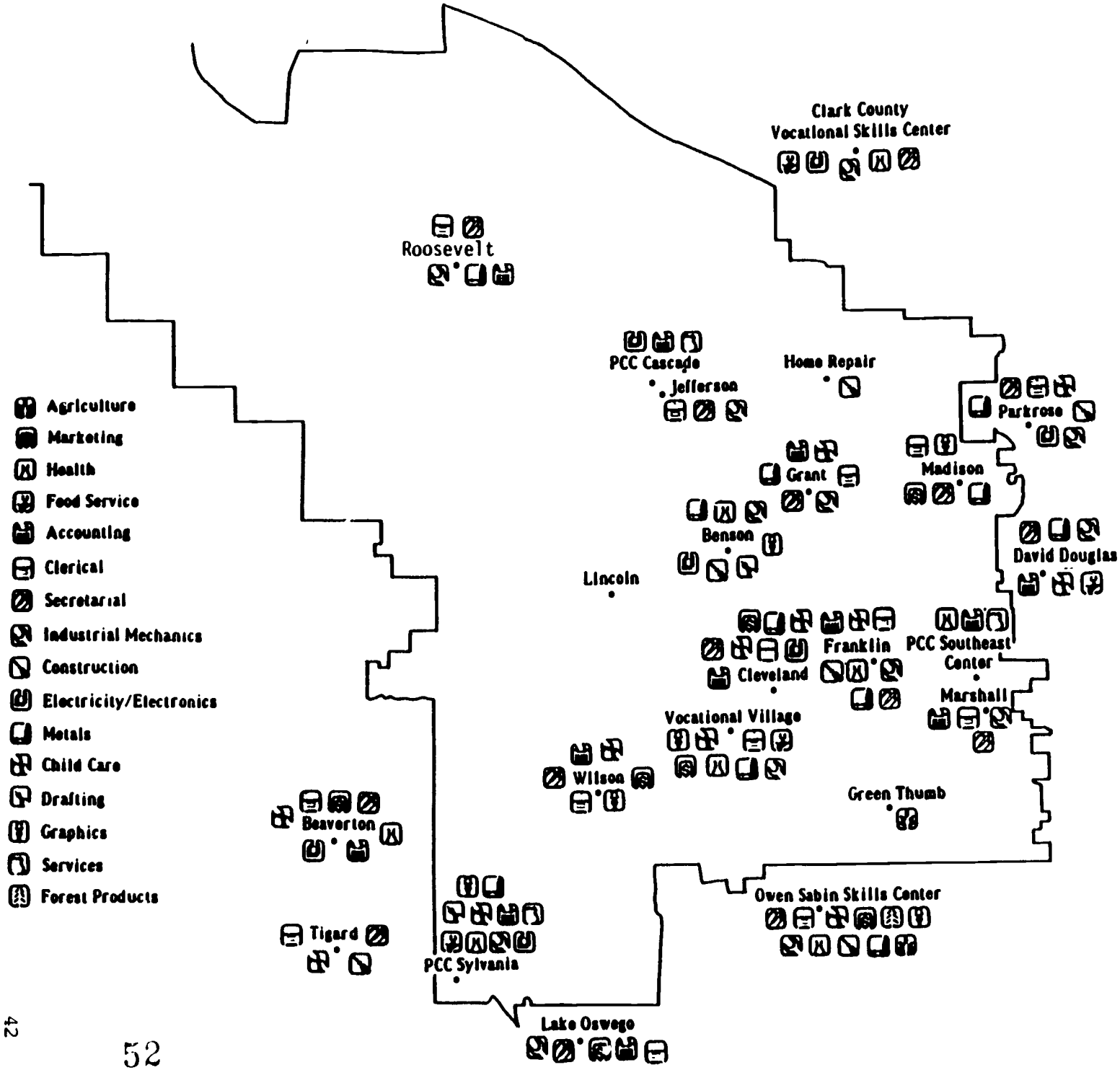


Figure 5
VOCATIONAL EDUCATION SITES
PORTLAND METRO AREA
Spring 1986

Ethnic Enrollment

An analysis was made of vocational student enrollments by ethnic background. Table 3 indicates that 24 percent of the vocational students in grades 9-12 in 1983-84 were minority compared to the district's average of 28 percent. Asians and Blacks were slightly under represented while whites were slightly overrepresented. A more detailed breakout of minority participants by school and clusters is shown in Table 4 for grades 11 and 12 in 1983-84.

TABLE 3

COMPARISON OF ETHNIC ENROLLMENTS IN VOCATIONAL EDUCATION

Ethnic Group	Vocational Education		Total District	
	N	%	N	%
White	2542	76	11,048	72
Asian	275	8	1,433	10
Black	383	12	2,088	14
Hispanic	50	2	239	2
Indian	57	2	247	2
TOTALS	3307	100	15,055	100

Note: Vocational student enrollments are taken from the SERVE report; total district data from the PPS October, 1983 Enrollment Report. Numbers are grades 9-12 for 1983-84.

TABLE 4

VOCATIONAL EDUCATION ENROLLMENT OF MINORITY PARTICIPANTS

IN GRADES 11-12 FOR 1983-84

	Schools											
Cluster Programs	BENSON	CLEVELAND	FRANKLIN	GRANT	JEFFERSON	LINCOLN	MADISON	MARSHALL	ROOSEVELT	VOCATIONAL AGNAIL	WILSON	
Agriculture			1				1	2				
Marketing							2			5	6	
Health Services			3		1							
Food Services									1	7		
Accounting		9	8	34							12	
Clerical		27	14	6	29		44	17	8	1	7	
Secretarial		19	16	21	8		8	8	12		1	
Mechanical	21		5	8	9				3	1		
Construction	14		1	3	3						1	
Electronics	27	5								4		
Metals	21	2	2	3			1		10	6		
Child Care		3	3	10						1	2	
Clothing												
Graphic Arts	12									1		
Service Occupation		2		1			4					
Special Programs			5	5	2	1	10					

Disadvantaged Enrollment

In 1983-84 there were 753 disadvantaged students enrolled in vocational education in the Portland Public Schools. Of that number, 497 were identified as economically disadvantaged, 299 as academically disadvantaged, and 173 as limited English proficient students. Students could have multiple classifications.

Table 5 shows the breakout of disadvantaged students by school and cluster. The majority of disadvantaged youth came from Vocational Village (373 students), Cleveland (89 students), Grant (66 students), Madison (58 students), and Franklin (57 students). The clusters representing the largest concentration of disadvantaged youth are clerical (173 students) and metals (108 students).

Table 6 compares the percentage of 9-12 grade students enrolled in vocational education in comparison with their representation in grades 9-12 for the total district in four areas: economically disadvantaged, limited English proficient, academically disadvantaged, and special education. Vocational education enrolls about three-fourths as many economically disadvantaged as the overall district, about half as many limted English proficient and special education students and only about a quarter as many academically disadvantaged students (defined as two grade levels or more below expectation in reading).

TABLE 5

DISADVANTAGED STUDENT ENROLLMENT IN VOCATIONAL EDUCATION

Cluster Programs	Schools											
	BENSON	CLEVELAND	FRANKLIN	GRANT	JEFFERSON	LINCOLN	MADISON	MARSHALL	ROOSEVELT	WILSON	VOCATIONAL VILLAGE	TOTAL
Accounting		7	3	13						1		24
Banking & Finance												0
Child Care		3	3	22							4	32
Clerical		33	12	5			31	11	5	2	74	173
Construction	2		2	2	2							8
Diversified Occupation												0
Drafting												0
Electricity/Electronic	6	4									69	79
Foodservice											22	30
Graphic Communications											64	64
Health Occupations	8										20	20
Horticulture			3	1								4
Industrial Mechanics	3		6	6	16				2		19	52
Marketing		6								1	35	42
Metals	1	9	7	2			3		22		66	108
Secretarial		25	14	14	6		4	7	9			79
Service Occupations		2					5					7
Clothing Services												0
TOTAL	20	89	57	66	30	0	58	18	38	4	373	753

Note: Data is based on the 1983-84 SERVE report for grades 9-12. Figures shown are an unduplicated count combining academically disadvantaged, economically disadvantaged and limited English speaking students.

Table 6

COMPARISON OF VOCATIONAL STUDENTS WITH THE DISTRICTS TOTAL SECONDARY POPULATION

	Percentages	
	Vocational Educ. (n = 3,233)	District (n = 14,828)
Economically Disadvantaged	15	19
Limited English Proficient	5	10
Academically Disadvantaged	9	35
Special Education	4	8

Note: Figures for vocational students are based on the 1983-84 SERVE report while district figures were provided by the District's Management Information Service. Academically disadvantaged figures are based on the percent of students two or more years below expected grade level in reading. Special education includes mentally retarded, emotionally disturbed and physically impaired.

Interviews with district staff indicated that many felt that vocational education was placing great emphasis on sex equity. Some staff said that despite attention by teachers in encouraging young women to enroll in any vocational area of interest, they were not sure whether the enrollments in various clusters have become more balanced between males and females. The NWREL research team calculated the percent of female enrollment by cluster since 1976. A summary for selected years of 1977-78, 1980-81 and 1983-84 is presented in Table 7.

Health Occupations and Secretarial enroll over 90 percent females in the latest year for which data are available (1983-84) while Construction, Industrial Mechanics and Metals enroll less than 10 percent. In general, no major shifts in enrollment by sex were found over the years with the exception of a slight increase in males in Child Care and of females in Electronics and Construction.

Table 7

Percentages of Females in Various Vocational Clusters

	Percentage of Females		
	1977-78	1980-81	1983-84
Health Occupations	88	86	92
Secretarial	88	80	91
Child Care	100	98	88
Clerical	76	69	78
Accounting	58	62	67
Food Service	63	41	67
Marketing	62	52	59
Graphic Arts	36	32	39
Electronics	4	6	11
Construction	1	4	8
Industrial Mechanics	3	4	7
Metals	5	2	4

2.5 Cooperative Work Experience

Data supplied by the four District Cooperative Work Experience Coordinators in Janaury 1986 indicated that 505 students were placed by them on jobs during the past two years. This figure includes 85 students placed during the 84-85 school year in the area of business and 48 placed in trade industry positions. Also 85 students were placed last summer. In addition to students placed in CWE through these four cross-building coordinators, approximately another 100 were placed by local teachers at Wilson, Cleveland, Franklin and Madison.

2.6 Student Organizations

Portland Public Schools enrolled 309 students in five vocational student organizations: Distributive Education Clubs of America (DECA), Vocational Industrial Clubs of America (VICA), Health Occupations Student Association (HOSA), Future Farmers of America (FFA), and Future Business Leades of America (FBLA). This year, VICA has 132 participating students, DECA 88 students, HOSA 55 students, FBLA 17 students, and FFA 17 students. The largest enrollments overall are at Benson (111 students), Vocational Village (56 students), and Cleveland (49 students). Table 8 shows the enrollment by school.

TABLE 8

ENROLLMENT IN VOCATIONAL EDUCATION STUDENT ORGANIZATION BY SCHOOL

	DECA	FBLA	FFA	HOSA	VICA	TOTAL
Benson				42	69	111
Cleveland	40	9				49
Franklin					25	25
Grant						0
Jefferson						0
Lincoln						0
Madison						0
Marshall						0
Roosevelt		8			5	13
Vocational Village	17			13	26	56
Wilson	31				7	38
Green Thumb			17			17
	88	17	17	55	132	309

Note: Data are based on telephone calls by Katy Hostiger to each school in February 1986.

2.7 Student Career Interests

The Columbia Pacific Council of the Boy Scouts of America, serving the Portland area, conducts an annual career interest survey of tenth, eleventh and twelfth graders for use in planning Exploring Program activities. Results from eight Portland high schools and five surrounding high schools (Parkrose, Central Catholic, David Douglas, St. Helens, and Scappose) are summarized below. The survey consists of 115 career interest areas to be selected by students. Their first choice was ranked from most frequent first choice to least frequent, for 7,537 students.

The top ten career responses for the 1985-86 survey were, in order: Computer programmer, hairstylist, accounting, professional sports, business management, music, law/lawyer, medicine, auto mechanic and architect.

The bottom ten career interest areas (actually eleven areas because of a tied rank) were: marine mechanics, logging, labor union apprenticeship, textiles, painter, military reserves, geology, merchant seaman, surveying, urban planning, meteorology, and community services. A complete listing of the career interest choices appears in Appendix D.

The fact that 378 of over 7,500 respondents identified "no choice" and 218 identified professional sports suggests a strong need at earlier grade levels to help students consider future career options. The high interest in computer programming may be influenced by what students hear outside of school as well as opportunities now for students to use computers in school, community, and in many homes.

The 115 careers were grouped by Scouting specialists into 11 categories. The popularity of these categories, in descending order was: (1) communications, (2) art and architecture, (3) business, (4) law and government, (5) medicine, (6) social service, (7) military careers, (8) transportation, (9) science and engineering, (10) building trades, and (11) service trades.

The Columbia Pacific Council of Boy Scouts of America has also published results of the annual career interest survey of 40,000 Oregon students in grades 9-11. In 1983 the 20 most popular careers selected by students, in descending order, were: computer programmer, hair stylist, accounting, professional sports, medicine, music, business management, secretarial, lawyer, auto mechanic, nursing, teacher, veterinary medicine, aviation, psychology, architect, Air Force, flight attendant, law enforcement and child care.

A second source of information about students vocational interests is the 1985 PPS Freshman Survey conducted as part of the impact analysis study of the Opportunity Center. The 1,414 9th graders who indicated an interest in attending an Opportunity Center were asked to select up to three vocational clusters of preference. Table 9 shows their selections in descending order. Thirty percent or more expressed interest in advanced office occupations, child care, home remodeling, marketing and graphic arts.

Table 9

FRESHMAN PREFERENCES
FOR
VOCATIONAL EDUCATION COURSES

	Percent
Advanced Office Occupations	38
Child Care	34
Home Remodeling	32
Marketing	31
Graphic Arts	30
Interior Furnishings	24
Electro/Mechanic Occupations	22
Industrial Mechanics	20
Food Service/Hospitality	20
Health Occupations	19
Protective Services	19
Industrial Metals	11
Dry Cleaning	6
Heating, Cooling, Ventilation	4
Physical Plant Maintenance	4

Note: Data are taken from the PPS 1985 Opportunity Center Impact Analysis and are based on 1,414 freshman who indicated they would attend an Opportunity Center.

2.8 Student Follow Up

An important aspect of an evaluation of vocational education is the impact that it has on students who participate. A variety of data are available on those who have graduated from vocational programs. This section summarizes first the findings from the annual one year follow up study conducted by the Oregon Department of Education, then reports Portland findings from a three year comparative follow up study of vocational and non-vocational graduates conducted by NWREL for the Oregon Department of Education and then discusses some new data collected for this study about the District's graduates who are attending local community colleges.

Annual Followup

The Oregon Department of Education conducts an annual one year follow up study of secondary vocational program graduates that records current employment and educational status, ratings of program components and identifies the relevance of current work or education to high school vocational area of preparation. The most recent data available are from 1984. The information is prepared for the Portland schools, the Portland Metro area and for the entire state. The return rates on this written survey are relatively low--approximately 35 percent, thus some caution is needed in interpreting findings.

Findings from the Spring 1984 survey of 1983 vocational program completers from Portland high schools indicated that 93 percent were working or pursuing futher education. This district percentage is identical to the percentage for the entire state. Data were also reported by vocational cluster.

Table 10 indicates the percentage of graduates by vocational cluster area who were employed and/or pursuing further education in areas related to their vocational preparation. Because some cluster areas (agriculture, child care, food service, graphics, health and service occupations) had responses from five or fewer graduates, we are including only clusters with 10 or more respondents. As can be seen in Table 10 there is a wide range with marketing having 86 percent of its graduates in related employment or education while construction had only 10 percent. These differences reflect a variety of factors including labor market demand in these fields and the degree to which various curricula are directed to employment skills and opportunities. For comparative purposes data are also shown from Metropolitan Portland and from the state.

Graduates also rated features of their high school vocational programs. As seen in Table 11 the relative ratings in Portland and the state were rather similar. Hands-on job skills, technical knowledge and mathmatics skills were rated highest while vocational counseling and job placement were rated lowest. These findings are similar to those from other studies in Oregon and other states.

Table 10

Percentage of Vocational Program Graduates
Employed or Pursuing Further Education
in Areas Related to their Vocational Preparation

	Percent		
	Portland	Metro	State
Marketing	86	72	69
Accounting	79	74	73
Secretarial	64	67	65
Mechanics	62	61	53
Electronics	62	62	69
Clerical	55	66	64
Metals	33	33	39
Construction	10	26	32
All Clusters	55	62	59

Note: Data based on 208 Portland Public School graduates, 661 graduates from metropolitan Portland and 1605 from the state.

Table 11

RATINGS OF VOCATIONAL FEATURES BY PROGRAM COMPLETERS

	Percent	
	Portland Schools	State Total
Hands-on Job Skills	3.1	3.1
Technical Knowledge	3.0	2.8
Mathematics Skills	3.0	2.9
Reading Skills	2.9	2.8
Awareness of Job Opportunities	2.9	2.7
Writing Skills	2.8	2.8
Vocational Counseling	2.7	2.7
Job Placement	2.5	2.2

Note: Data come from the one-year follow-up survey of 1983 Oregon vocational completers. Ratings were on a five point scale of A to F with A=4.0, B=3.0, C=2.0, D=1.0 and F=0.0.

Three Year Followup

In the spring of 1984, NWREL conducted a three year high school follow up study with a sample of graduates from 19 Oregon high schools including four from the Portland district. A total of 1,650 vocational and non-vocational students participated. Highlights of statewide findings from the former high school students are organized around five clusters: current status, career goals, postsecondary education, high school vocational education, and mathematics and science.

Current Status

- Sixty-six percent of the vocational education and 62 percent of the nonvocational graduates were working full or part-time.
- Thirty percent of the vocational and 41 percent of the nonvocational graduates were enrolled in school.
- Seven percent of all the graduates were not employed but seeking work.
- Vocational graduates were most commonly employed in marketing, health and service occuptions; nonvocational graduates were most commonly in professional, marketing and service occupations.
- Male vocational graduates were earning $1.91 more per hour than male nonvocational graduates ($8.22 versus $6.30); female vocational graduates were earning $.14 less per hour than nonvocational graduates ($4.89 versus $5.03).
- Significantly, more vocational than nonvocational graduates had worked in their present job for over 30 months.
- Over 90 percent of the graduates were satisfied with their present job.

Career Goals

- Eighteen percent of the graduates were still undecided about their career goals.
- Thirty-one percent of the vocational and 21 percent of the nonvocatioal students made a career choice during high school years.
- Career choices were most often influenced by changing interests, work experiences and the influence of parents or friends. Career interest surveys and career education class materials were seldom identified as influencing career goals.

Postsecondary Education

- Seveny-six percent of the vocational graduates and 78 percent of the nonvocational graduates have attended postsecondary education within the three year period after graduation.

- Thirty percent of the vocational graduates and 30 percent of the nonvocational graduates in school were attending Oregon community colleges.

- Four percent of the vocational graduates and 5 percent of the nonvocational graduates were enrolled in liberal arts.

- Business and health were the two most common vocational majors.

- Students enroll in postsecondary education most frequently to receive a degree, obtain a broad education, and to obtain or improve job-related skills.

- Half of the students were very satisfied with their postsecondary education and only 10 percent were unsatisfied.

- Over half of the students rated high school math and English as very helpful to their postsecondary education while over half rated foreign language as not helpful.

- Half of the vocational students rated their vocational courses as very helpful to postsecondary education and only 15 percent rated them as not helpful.

High School Vocational Education

- Vocational cluster students enrolled in vocational classes most frequently to prepare for a job and to explore different occupations. The majority of nonvocational students had the same expressed reasons plus the desire to try something new.

- Motivation to prepare for a job was particularly strong among female vocational students. The desire to try something new was especially true for nonvocational cluster males.

- Fifty-nine percent of the vocational students reported their current job to be closely related to their high school vocational courses.

- Approximately half of the students wished they had taken more vocational classes in high school while less than 5 percent wished they had taken fewer such classes.

- Aspects of vocational classes rated highest by students were the quality of instruction, hand-on applications, teaching of technical skills and the depth of content.

- Rated lowest by students were information about vocational programs available after school and articulation with related community college classes.

Math and Science

- A third of the students recommended requiring three years of math for high school graduation; 26 percent of the vocational and 39 percent of the nonvocational students recommended a four year requirement.

- Twenty percent recommended a three year science requirement and 10 percent recommended four years.

- Sixty percent of the vocational students and 52 percent of the nonvocational students wished they had taken more math while in high school.

- Thirty-eight percent of both groups wished they had taken more science classes.

- Vocational students averaged 2.4 years of math and 1.9 years of science while nonvocational students averaged 2.9 years of math and 2.4 years of science.

PPS Enrollments in Postsecondary

A survey of 1984 Oregon high school graduates by the Oregon Educational Coordinating Commission (OECC), shows that 42 percent enrolled in postsecondary education programs in the state. Of the high school graduates from Multnomah County, 21 precent enrolled in community colleges, 15 percent in public state colleges, and 6 percent entered private schools. It is also estimated that 9 percent enrolled in out-of-state institutions and 3 percent enrolled in private vocational schools. These are in addition to the 42 percent.

Table 12 indicates that 1,149 of the PPS graduates entered colleges in 1984. By far, the largest proportion of graduates go on to Portland Community College (PCC).

TABLE 12

NUMBER OF PPS HIGH SCHOOL GRADUATES IN THE CLASS OF 1984
ENROLLED IN OREGON COLLEGES IN FALL 1984

High School	Percent Entering Oregon Colleges	Number Enrolled at Colleges								
		PCC	Mt. Hood	CCC	Other C.C.	PSU	U of O	OSU	Other Oregon Colleges	Total Enrolled
Benson (340)	45	43	23	1	2	23	14	22	25	153
Cleveland (220)	38	30	6	1	0	19	6	8	14	84
Franklin (299)	44	51	14	6	0	18	8	18	17	132
Grant (323)	48	65	6	1	0	26	26	10	21	155
Jefferson (187)	31	26	3	0	0	12	0	0	17	58
Lincoln (268)	42	37	0	1	1	13	33	4	24	113
Madison (267)	40	52	14	1	0	13	6	6	14	106
Marshall (193)	39	25	17	1	0	8	5	6	13	75
Roosevelt (203)	32	32	3	0	0	8	9	3	10	65
Vocational Valley (15)	13	2	0	0	0	0	0	0	0	2
Wilson (457)	44	76	2	0	1	31	35	37	18	200
Metropolitan Learning Center (29)	21	4	0	0	0	1	0	0	1	6
		443	88	12	4	172	142	114	174	1149

Note: The number in parentheses is the total number of graduates from each high school in 1984. Be aware that data are not available on graduates entering colleges in other states. The source for these data are printouts received from the Oregon Educational Coordinating Commission.

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Local Community College Enrollment

In January 1986, the NWREL staff contacted Portland, Mt. Hood and Clackamas Community Colleges to request data on numbers of students currently enrolled who graduated from each of the PPS high schools. Data were provided from all three schools broken down by fulltime and part-time students. We also calculated the number of graduates from high school in 1980 or after (whom we defined as recent graduates) and those graduating prior to 1980. Information was also gathered regarding the students' major although such information was not always available. The number of students enrolled who graduated before and after 1980 and the number who had declared a vocational area as a major are shown in Table 13. Across all the high schools there are 2,423 students enrolled who graduated from PPS before 1980, 1,488 who graduated from high school in 1980 on or after, and at least 836 total who graduated in 1980 or after and are enrolled in vocational education at the community college.

Table 13

Total PPS Graduates Currently Enrolled in Local Community Colleges

	PCC			Mt. Hood			Clackamas		
	B80	A80	VE	B80	A80	Ve	B80	A80	VE
Benson	145	111	51	72	59	48	30	18	13
Cleveland	141	112	36	83	26	29	40	7	10
Franklin	81	118	42	136	52	67	50	18	13
Grant	145	149	34	110	51	56	34	11	13
Jefferson	117	56	8	89	17	28	24	3	5
Lincoln	84	115	17	37	9	11	16	2	2
Madison	73	119	46	151	78	75	17	3	3
Marshall	77	58	18	104	46	50	26	11	7
Roosevelt	119	85	22	49	10	20	21	1	4
Wilson	117	113	44	66	14	12	14	5	3

Note: Data are based on computer records supplied to NWREL by the three community colleges in February 1986. B80 = students who graduated from high school before 1980, A80 = students graduating in 1980 or after, VE = students graduating from PPS in 1980 or after who specifically registered as intending to major in a vocational education area. Since the majors are not specified for a number of students, the VE figure is an under estimate.

Portland Community College had the most detailed information on areas of vocational speciality of their students. Table 14 hows the distribution of vocational fields by prior high school attended for 317 PCC students who graduated in 1980 or after. Table 15 shows the PCC vocational areas enrolled in by 10 or more students who graduated from PPS in 1980 or after. The largest number of vocational students were from Benson, Madison, Wilson and Franklin. Areas of greatest enrolled are in electronics (61 students), mechanical (53), medical/dental (34), and computer sciences (33). This information should be of special interest to individual high school staff to see what areas of major many of their students pursue for futher education.

At present, Portland Community College has an articulation agreement with the District for three clusters; graphics, drafting, and business and office. Discussions are underway regarding articulation agreements in the areas of electronics and child care.

Table 14

Areas of Vocational Enrollment at PCC of PPS Graduates

VOCATIONAL FIELDS	Benson	Cleve-land	Frank-lin	Grant	Jeff-erson	Lin-coln	Mad-ison	Mar-shall	Roos-evelt	Wilson	Total
Accounting	0	3	3	0	0	1	2	1	1	1	12
Art	3	3	1	2	0	2	1	0	0	1	13
Banking & Finance	0	1	1	0	0	0	0	0	0	0	2
Business Admn. & Management	0	0	2	0	0	0	0	0	0	0	2
Computer Sciences	5	3	2	1	3	4	10	0	2	3	33
Counseling & Psychology	0	0	1	0	0	0	1	0	0	0	4
Criminal Justice	7	0	5	5	0	0	3	2	2	1	25
Drafting	4	1	0	2	0	1	3	2	1	4	19
Education	0	1	1	1	0	0	1	0	1	2	7
Electronics	14	7	6	5	0	2	15	3	5	4	61
Engineering	1	0	0	0	2	0	0	1	0	0	2
Fire Science	1	0	2	3	0	0	0	1	3	0	10
Food Science & Health	0	1	1	0	0	0	0	0	1	0	3
Horticulture	0	0	0	1	0	0	0	0	0	1	2
Legal Asst. & Clerical	2	1	1	1	0	1	0	0	0	0	6
Mechanical Maint/Tech	10	6	8	4	1	4	5	1	3	11	53
Media/ Communications	0	1	1	0	1	0	0	0	0	2	5
Medical/Dental	1	2	3	8	0	2	2	3	3	10	34
Real Estate	0	0	1	0	0	0	0	0	0	1	2
Theatrical/Music	0	1	0	1	0	0	0	1	0	1	4
Misc.	3	5	3	1	1	0	3	3	0	2	21
TOTAL	51	36	42	33	8	17	46	18	22	44	317

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Table 15

PCC Vocational Enrollment of Recent PPS Graduates

Vocational Areas	Number Enrolled
Electronics	61
Mechanical	53
Medical/Dental	34
Computer Sciences	33
Criminal Justice	25
Drafting	19
Art	13
Accounting	12
Fire Science	10

2.9 Vocational Faculty Profile

As of January 1986, there are 122 vocational instructors in the Portland Public Schools. Table 16 shows the distribution of instructors by cluster area and by physical location (high schools or special project sites). By far, the largest cluster represented is clerical, which involves 36 instructors. Benson High School houses the largest number of vocational instructors (27) followed by 12 each at Cleveland, Franklin, and Madison.

Information about vocational education teachers was obtained from two sources: a written survey completed anonymously by 74 vocational teachers and a search of the district's computerized teacher records to determine the types of endorsements held by vocational staff. A tabulated copy of the survey is shown in Appendix E. The teacher survey indicated that 59 percent of the vocational staff had teaching ceritificates with endorsements in vocational trade/industrial education, 38 percent in business education and 25 percent in industrial arts. Some teachers have two or three endorsements.

Most of the vocational teachers (64 percent) have a master's degree including four percent with an educational specialist degree and 36 percent have a bachelor's degree as their highest education degree.

Teachers were asked their number of years of teaching experience, and number of years of service to the Portland School District. About three quarters have over 10 years of service in the district and only 8 percent have less than five years of teaching experience. Fifteen percent of the vocational staff have over 25 years of teaching experience.

In terms of the instructors' current teaching assignments, we asked them to identify the number of separate subject matter class preparations each day. Thirty-five percent had less than three preparations a day, 49 percent had three to five preparations, and 14 percent had more than five preparations.

Teachers were also asked about their work experience in business or industry related to their endorsements, their involvement with Cooperative Work Experience (CWE) and their involvement in vocational student leadership organizations (such as DECA). Eighty percent of the vocational teachers have had four or more years of experience in business or industry. Seventy-two percent have had involvement with placement and supervision of CWE students, but only 44 percent have worked with students in vocational organizations.

In addition to information obtained from the vocational teacher survey, a printout was run by the District's Management Information Department of the number of teachers with various vocational education assignments and endorsements. This information is summarized in Table 17. By far the largest area is Business Office Education. Some teachers may have multiple assignments which would explain why 8 work experience coordinators are shown. In general there appears to be no vocational area where there are a number of teachers assigned without appropriate endorsements.

TABLE 16

NUMBER OF VOCATIONAL EDUCATIONAL INSTRUCTORS BY SCHOOL AND CLUSTER

Cluster Programs	Schools														
	BENSON	CLEVELAND	FRANKLIN	GRANT	JEFFERSON	LINCOLN	MADISON	MARSHALL	ROOSEVELT	WILSON	VOCATIONAL VILLAGE	HOME REPAIR	GREEN THUMB	TOTAL
Accounting		1	1	1	1			1		1				6
Banking & Finance								1						1
Child Care		1	1	1						2	1			6
Clerical		4	6	3	4		5	4	4	4	2			36
Construction	3		1									5		9
Diversified Occupation		1					1							2
Drafting	2													2
Electricity/Electronic	6	1												7
Foodservice											1			1
Graphic Communications	1						1			1	1	1		4
Health Occupations	4		1									1		6
Horticulture													5	5
Industrial Mechanics	4		1	1	1			1	1					9
Marketing		2					1			1	1			5
Metals	5	1	1	1			1		1		1			11
Secretarial		1		1	2		3	1	1	1				10
Other	2													2
TOTAL	27	12	12	8	8	0	12	8	7	10	8	5	5	122

Note: Data based on 1985-86 Portland Public Schools listing of vocational instructors.

TABLE 17

FREQUENCY OF VOCATIONAL TEACHER ASSIGNMENT AND ENDORSEMENTS BY AREA

	Assignment	Endorsements
Agriculture	3	9
Auto Mechanics	9	8
Business and Office Education	65	51
Construction	5	5
Carpentry	0	3
Diversified Occupations	1	1
Distributive Education	2	4
Electricity/Electronics	6	4
Food Services	1	1
Horticulture	5	1
Health Occupation	9	8
Machine Shop	5	4
Metals	2	5
Trade/Industrial and Technical Ed.	6	6
Vocational Distributive Education	1	6
Vocational Home Economics	3	21
Vocational Industrial Arts	8	--
Welding	1	1
Work Experience Coordinator	8	3

Note: Source was a January 1986 printout based on the Portland Public Schools Personnel Data Records. Vocational Industrial Arts was not listed as an endorsement area.

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In summary, the PPS vocational instructors are an experienced group of teachers with two-thirds holding a masters degree. Most have had work experience in business or industry although less than half have worked with vocational student organizations. District records of vocational teacher assignments and endorsements indicated no major discrepancy between teachers assigned and their endorsement areas except for a major surplus of endorsements in vocational home economics.

2.10 Labor Market Data

Current and projected labor market data have been gathered by NWREL from local, state and federal sources. We begin by presenting the larger picture and then discuss more specific information. The most recent federal projections for the Portland Consolidated Metropolitan Statistical Area come from the Projections Branch, Regional Economic Analysis Division of the U.S. Department of Commerce (1985). Their information relates to personal income, population, and employment for the years 1983, 1990 and 2000. Table 18 contains these figures and national comparisons. In terms of per capita personal income, the Portland Metropolitan Area ranks 54th out of 330 metropolitan areas for the year 2000. The population and employment growth rates for the Metropolitan Portland Area are also above the national average.

In the most recent occupational employment projections through 1995 from the Department of Labor (Silvestri and Lukasiewicz, 1985) they list occupations with the largest job growth in terms of absolute numbers as well as the fastest growing occupations. These are shown in Appendix G. Examples of occupations with the largest job growth between 1984 and 1995 are cashiers (556,000 additional people will be needed) and registered nurses (452,000). Examples of fastest growing occupations are paralegal personnel (with a change in employment of 51,000 and 98 percent growth rate) and computer programmers (245,000 needed and 72 percent growth rate).

At the state level, the Oregon Occupational Information Coordinating Committee has released 1985 occupational demand information for the top 22 occupations (see Appendix G). What is useful about their table is the addition of the number of people unemployed in 1983 in each of these occupations. Thus, while there may be projected openings for 1,055 truck drivers, there were 5,962 truck drivers unemployed in 1983.

For a more complete picture of employment outlook, unemployment rates, and number of vocational programs offered at the high school and community college level for each of the PPS clusters, refer to Section 6 of this report.

Table 18

METROPOLITAN PORTLAND PERSONAL INCOME, PUPULATION AND EMPLOYMENT PROJECTIONS

	1983	1990	2000	Portland Average Annual Growth	National Average Annual Growth
Total Personal Income	7,490	9,498	12,044	2.8	2.6
Per Capita Personal Income	5,626	6,613	7,640	---	---
Population	1,331	1,436	1,576	1.0	0.8
Employment	623	737	861	1.9	1.5

NOTE: Source is the Regional Economic Analysis Division, U.S. Department of Commerce, 1985. Total personal income is in millions of 1972 dollars. Per capita personal income is in 1972 dollars. Population and employment are in thousands of persons or jobs respectively.

In 1985 the Oregon Occupational Information Coordinating Committee conducted a review of the vocational cluster system used in Oregon. After studying projected state and national labor market trends they came up with a set of proposed new clusters. These clusters are:

(1) Natural resources management, (2) construction, (3) metals, (4) transportation and trade, (5) marketing, (6) business management, (7) hospitality and recreation, (8) health, (9) protective services, (10) educational services, (11) human services, (12) electronics, (13) communications, (14) information processing, (15) mechanical technologies, (16) other professional, and (17) other manufacturing. They relate each cluster to Oregon industries and to worker aptitudes and interests. The proposed cluster system is currently under review by the Oregon Department of Education.

III. INTERVIEW FINDINGS

3.1 Overview

Although statistical information about vocational programs, staff and student enrollments is important for presenting a status report, it was felt that personal interviews were needed to complete the picture and to obtain insights about future directions. Interviews were conducted by the NWREL staff with over 80 individuals, including central office staff and directors of instruction, community college administrators, principals and vice-principals, vocational instructors, counselors, advisory group representatives, district career and vocational education staff, and neighboring school superintendents. A listing of those interviewed appears in Appendix A and the interview questions are shown in Appendix C.

Following this overview is a brief description of procedures used. The findings are then summarized around the 14 topics listed in the Contents.

3.2 Procedures

The NWREL study coordinators met with Warren Rathbun and Darrell Tucker of the Department of Career and Vocational Technical Education to discuss the categories of persons to be interviewed and questions to be asked. Letters were sent to each candidate explaining the purpose for the study and interview, enclosing a copy of the questions to be asked and proposing a date and time for the interview. Interview scheduling was confirmed by telephone. The six NWREL interviewers met to discuss interview procedures, clarify interview questions, and develop a common understanding of the process, goals and desired outcomes.

A set of approximately eight questions was prepared for each of 10 categories of people interviewed. Some questions were asked only of a single group while other core questions were addressed across all categories. For example, questions regarding perceived purposes for secondary vocational education and recommendations for improving vocational education were asked of all.

3.3 Purposes of Vocational Education

There is a general consensus that vocational education should provide all students with basic career exposure and knowledge of the job world. Currently vocational education is used mainly by non-college bound students while other students do not receive any hands-on exposure to vocational areas.

In addition, vocational education must be closely integrated with basic skill development and training in practical, generic job skills which can be transferred to many different kinds of careers. Examples included measuring, applied math skills, goal setting, communication, computer literacy. Job survival, life skills, and good work habits should also be emphasized.

The issue of whether high school vocational programs should prepare students for entry level jobs was not agreed upon by those interviewed. Many feel that if the district introduced a centralized vocational training center, more in-depth training would be feasible, with high schools concentrating on basic and generic skills. It was felt that under the current system, teaching advanced job specific skills is difficult because of limitations on funding, equipment, space, number of hours available to students, and inability to keep up with technology.

At the same time, the schools have a responsibility to adequately prepare non-college bound students for employment immediately after graduation, so there is a need to provide some specialized vocational training and placement assistance.

Ideally, the high school system should be able to provide career exposure for all students, pre-vocational training for most, and specialized training for entry level jobs for those who seek it.

3.4 Future Goals and Directions

Respondents felt the first step in setting new directions must be to clarify what role the district really wants to play in the vocational training of youth.

There is some agreement that if the District wishes to try to prepare students for entry level jobs and to train them in specific vocational skills, changes need to be made in how such training is delivered. The district needs to look at all possible options for such training, including a centralized opportunity center, several satellite programs, magnet programs, use of community colleges through articulation agreements, and use of industry through cooperative work experience and other means.

Plans for change, new directions, and ideas for improvement were shared by some respondents.

For example, some schools are planning minor changes in specific programs and are adding or deleting certain clusters, based on funding, enrollments, and other factors. School personnel are hesitant to institute major changes at this time because of the continuing drop in enrollments and uncertainty about future directions for vocational/ technical education.

A variety of ideas for change were mentioned by respondents. Promotion of the image of vocational education by the district and development of curricula which will attract students would help bolster enrollments while improving the relationship between academic and vocational programs. More articulation with the community colleges is seen as a

priority, in order to help students move directly into college programs following high school completion. The concept of satellite programs as opposed to a single skill center for vocational training was suggested by one principal as being more cost effective and accessible to students.

Comprehensive high school programs need to retain vocational education to the extent they teach generic job skills, applications of basic skills, and provide career exposure and job readiness training to all students. Skill centers and other options listed above would then be available to students who really want and need additional training while in high school.

A number of problems were cited in connection with "away-from-school" approaches to specialized training. Transportation, student reluctance to leave their own schools, fear of the community college setting, teachers' reluctance to give up their "best" students, and the isolation of vocational students and programs from the rest of the school programs were all mentioned as problems which would need attention.

Other directions which were discussed included the need for high schools to develop stronger ties with the community, especially local industry and the colleges; a need to reassess how graduation requirements and the granting of credit affect the ability of students to take vocational programs which are currently often elective courses; and the need for the district to develop a clear plan of action with a timeframe to implement needed changes.

The community colleges will integrate a computer focus into vocational education programs, increase involvement with the private sector in order to meet their employment needs, and begin to establish more agreements that will allow the CC to pick up where the high school leaves off, thus developing a more continuous program for the student. They will begin to offer higher level programs for those who are above entry level and focus toward specific job training involving six month to one year programs. For example, PCC has a one year program for counselors who want to specialize in drug and alcohol counseling. Community colleges are also planning to expand into new areas such as international trade and marketing, hospitality, tourism, and hazardous waste disposal. Mt. Hood will be emphasizing technician-level occupations.

3.5 Strengths and Weaknesses of Vocational Education

Strengths cited by respondents included the following:

- Specific clusters, including industrial mechanics, business, and banking/finance are considered to be strong because they train students sufficiently for employment upon graduation.
- Vocational programs give students who are not academically oriented the opportunity for an alternative learning environment. The programs are often effective in remediation because they allow students to use skills and develop interests beyond the scope of the academic classroom.

- Programs can provide practical skills which can be used by students not only in jobs but also in daily living situations.

- Vocational teaching staff are seen as committed to students.

Weaknesses were also identified by interviewees:

- There is a lack of commitment to career education and vocational education by regular classroom staff and administration. Lack of communication between academic and vocational teachers, and competition for funds for programs adds to the problem.

- Inadequate facilities and the high cost of maintaining adequate facilities for training in such specialized areas as industrial mechanics is another major problem.

- Programs are not able to provide enough in-depth training to adequately prepare students for jobs following graduation. Academic graduation requirements limit the amount of time youth can spend in vocational classes, and advanced, specialized courses are not generally offered.

- Programs have difficulty forecasting the future job market in order to develop curriculum which will fill the needs of that market. This, coupled with the limitations of facilities and training equipment, limits the ability of programs to be responsive to future demands of the job market.

- The perception of vocational education as being only for non-college bound youth interested in trades means that college-bound youth are not getting any vocational exposure. All students need the opportunity to explore careers.

- Overall, enrollments in vocational programs are declining, yet more students are not heading for college after graduation.

3.6 Counseling/Work Preparation

Each school handles vocational counseling differently. Some provide for a specific counselor to perform that function, but most schools have all counselors involved in all phases of counseling. The result is that the level of vocational counseling depends a great deal on who is doing the counseling, and what that counselor's interest is in the area.

Specialty schools such as Benson and Vocational Village place more emphasis on vocational counseling than most traditional high schools.

Other school activities such as career days, cooperative work experience, and in class discussions complement the delivery of vocational counseling. Some schools are trying to integrate career information into academic classes.

Benson and Vocational Village also felt that they respond well to the needs of non-college bound youth who plan to enter employment after

graduation. Benson is set up with two tracks or options, one for college-bound and one for non-college bound youth. Employers often hire Benson students directly after graduation as they know they have been well trained. Vocational Village is able to address the total needs of students because of its size and structure.

Other schools vary in their ability to adequately serve the non-college bound student. Most felt that some additional work experience and hands on training opportunities are needed, as well as improved job placement services.

3.7 Cooperative Work Experience

Cooperative Work Experience (CWE) coordinators work with vocational programs and school staff to provide appropriate work experience activities to vocational students. These activities provide students with an opportunity to work at local community businesses in the vocational field for which they are being trained.

There are currently four cooperative work experience coordinators in the district, serving students from all high schools.

CWE Coordinators feel that the major strength of the program is the fact that the job experience matures students and provides them with an understanding of how academic learning in school relates to the job world. Major weaknesses cited by coordinators concern the perception of the purpose of cooperative work experience by teachers and administrators. The activity is currently viewed as an appendage to vocational education, rather than an integral part of it. It is also seen as primarily for students not doing well in school, rather than for all students to explore interests.

Several suggestions were made to improve the program. The development of a liaison position with industry for each vocational cluster would improve ties between school programs and industry and increase opportunities for meaningful work experience positions for students. Work experience coordinators cannot perform this function adequately because they are involved with student guidance, site monitoring and other issues. The advisory committees could also play a more forceful role in developing ties with local industry.

The role of cooperative work experience also needs to be clearly defined and agreed upon by vocational and other staffs, so that more students who wish to explore interests and gain real work experiences are given the opportunity to do so.

3.8 Student Standards and Requirements

Respondents were generally in agreement that instituting any kind of entry level requirements to vocational programs would be counter-productive and would screen out too many students. One of the purposes of vocational programming is to allow students not academically oriented an opportunity to succeed in a different learning environment. Often the vocational programs are successful in raising basic and academic skill levels in the process of teaching vocational skills.

The problem of students entering vocational programs without the minimal skills or interests needed must be resolved through counseling and the integration of academic and vocational curricula. Initial assessment, development of learning plans for each student, and remediation would help students while raising the overall standards of vocational programs.

Many respondents felt that continuation and exit requirements would be useful to assure that students who graduate from vocational programs are adequately prepared for the job market or further training. These requirements should be linked directly to job market requirements for the vocational areas being taught. Since all students must pass graduation competencies, no additional academic requirements should be instituted.

If such requirements were instituted, they should be clearly defined for students so that they know what to work toward. Again, remediation in skill deficient areas and focused learning plans must accompany any requirements that are instituted, so that students have a good chance to succeed. Programs must be careful not to screen out too many or to discourage them from starting programs. These students will be entering the job force whether they pass exit requirements or not.

All community college administrators interviewed believe there should be academic-vocational requirements and they should be enforced either for continuation or at the end of the program. They suggest students possess basic skills upon entry into college vocational education programs in order to "build in" success. Another approach was having high school or CC exploration classes which would have no requirements but might "whet the appetite" of students who lack motivation.

3.9 Testing

Community college administrators feel that the measurement of vocational skills through written, standardized tests would be difficult, as many skills are practical and hands on rather than academic. The vocational sections of the SAT serve to do some testing of general vocational skills.

Business students already tend to take SATs and do well in them, so this group is already being tested on a regular basis. These students make up about 50 percent of the vocational student population nationwide.

In order for testing to be effective for other vocational programs, testing would have to be done program by program, with measurable skills defined for each program. This would be a huge undertaking, and would require development of tests to cover skill applications as well as theory and concepts.

Another possibility for assessing vocational programs is the use of an external evaluation done by professional, third party organizations or experts.

Finally, many vocational areas have licensing tests and other requirements which must be passed before students can enter trades. It might be possible to try to track this information or to use some modification of them to test vocational students in high school programs.

There was mixed reation regarding the assessment of vocational education skills. Suggestions included looking at what the industry requires, being clear what skills are necessary to enter and exit a program, and having an outside evaluation team look at each program individually.

3.10 Special Needs Youth

Special education departments at schools and at the district work on providing vocational training to special education students. Vocational cluster classes are open to special education students but safety considerations and the technical nature of some of the courses limit their involvement. However, some schools have developed cooperative programs which teach vocational cluster classes specifically for special education students. An example of this is the machine shop and welding classes offered to special education students at Roosevelt. Work experience for credit is another option for special education students.

Some respondents felt that not enough was being done in their schools for the special education population, while others felt that they receive more services and attention because there are specific staff hired to work with them.

Economically disadvantaged youth are not given special services, but vocational courses are often well suited to their needs. Summer work programs set up through the high schools using JTPA and school district resources are geared to economically disadvantaged youth.

Talented and gifted (TAG) students do not receive special vocational services but TAG does offer a mentorship program which provides some vocational exploration activities. Most TAG students are in a "college track" and do not become involved in vocational cluster classes. Some exceptions to this are the advanced computer and accounting classes offered at some schools.

Respondents agreed that vocational departments have made efforts to reduce sex stereotyping in occupational decisionmaking and training, and that some impact has occurred. Girls are beginning to enter clusters which are traditionally considered "male" occupations, such as automotive. However, boys are less likely to enter occupations which are considered "female", such as child care. Respondents felt that the problem is being addressed, but that its roots are in the family and society as a whole and cannot be overcome through just one avenue.

3.11 Staff Preparation

The general sense from interviews with principals and vocational instructors is that teachers are reasonably well prepared and up to date in their fields. A good deal of this preparedness depends on the efforts teachers make on their own, by attending special classes, arranging for seminars and workshops, owning their own businesses and so on. There are always exceptions to this, and a few instances were cited of staff who do not make adequate efforts to stay up to date with their fields.

The district provides opportunities for professional growth: two days of inservice per year and $750 every third year to attend a seminar.

Staff could use more time to make site visits to local industry and business. Both the District and the State need to place more emphasis on staff upgrading, using some kind of formal staff development plans and maintaining requirements for certification.

3.12 Relationships with Academic Staff

Some schools have developed formal systems to promote communication and cooperation between vocational and academic staffs. These include regular meetings between the two staffs to discuss student needs and basic skills development, advisor teams made up of both academic and vocational teachers who work with students daily (NOTE: This occurs primarily at Vocational Village), inservice sessions taught by vocational teachers to academic teachers to acquaint them with programs, and cross-teaching of courses.

Other schools have no formal method of encouraging cooperation, but report that informal relationships between the staffs are good.

One school principal felt that vocational education staff members see themselves as second class faculty, and that cooperation between them and academic staff is limited. He is trying to change that image and work toward integrating career education throughout both areas.

3.13 Follow-up Data

Nearly half of the high school principals and vice principals interviewed, when asked if they had seen and used follow up information on vocational education graduates in the past two years, said they had not seen the information. Those who had seen the information were split as to whether it was useful to them in planning programs. Most felt that more information was needed.

3.14 Advisory Committees

Advisory committees met regularly from four to six times in the past year, with some committees meeting more often in sub-groups. Full attendance is not often achieved. Members of the committees represent different areas within the vocational field, but not all committees have a complete range of skill areas represented.

The committees are responsible for advising vocational clusters which they represent about appropriate curriculum to meet industry standards, assist with budgeting recommendations and equipment needs identification, obtain assistance from the community, provide skill development assistance to teachers, and other advisory functions. They have no direct authority to institute changes.

Committee members report varying successes in meeting responsibilities and filling a need for the cluster programs. Improved membership and attendance would strengthen the committees, as would a clearer definition of the roles of the committees. The effectiveness of the committees also depends to some extent on how they are viewed and used by vocational instructors and administrators.

3.15 Community College Coordination

The presidents and directors of instruction from Portland, Mt. Hood, and Clackamas Community College were interviewed. In addition, one condensed interview was conducted with the vice president of Clark College, Vancouver, Washington.

Cooperation/Articulation

The community colleges are open and anxious to negotiate ways in which PPS and the colleges can work cooperatively. This could be established in several areas. Sharing of facilities and pooling expertise could allow students and staff to move back and forth between centers and campuses. Establishing dual credit agreements and providing transfer functions between the high schools and colleges would enhance cooperation and expand options for students. For example, the articulation agreements between Clackamas and many of its district high schools are very successful.

It was suggested that the Education Service Districts could facilitate the agreements and perhaps supplemental grants could start the funding process for cooperation.

The expressed factors that inhibit cooperation were: separate boards, time schedules, turf issues, the past history of non-cooperation and funding issues.

The funding issue was a concern expressed by six out of seven community college respondents. Because both high school and college funds from the state are tied to the number of full-time students attending, major questions would arise as to which institution would "count" the high school students attending the community colleges.

It was suggested that new legislation must encourage cooperation. Perhaps there could be joint funding of facilities where all students, both HS and CC have access to them.

One administrator expressed concern that resistance to cooperation could occur from the Oregon Education Association if this cooperation would reduce the number of high school teachers.

Overlap/Duplication

Community college administrators believe there is some overlap in vocational offering in PPS but that it is not significant, wasteful, or necessarily bad. The majority of the colleges would like to work more closely with PPS to develop a more focused, congruent direction for students. They suggested the development of sequential curriculum in which the high school would teach up to a certain level and the college could continue the training.

Competition for Business and Industry Support

The majority of those interviewed saw no competition. Industry is willing to support schools in general; the schools must decide where to locate equipment and how to share it. Some coordination on a formal basis on this issue is in place. For example, one of the community colleges meets each month with vocational education directors from the high school to discuss how they can work together with business/industry.

The need to define the roles of the high schools and colleges in vocational education training was voiced by college administrators, as it was by high school staffs. Two college administrators felt that the high schools should emphasize basic and applied skills while community colleges should provide skill-specific and advanced training.

Other comments were that vocational education needs to be integrated with high school curriculum as much as possible but certain programs will dictate centralization in order to maintain a high quality experience and use funds most effectively. Critical thinking and personal relations as well as reading, writing, and math need to be stressed.

3.16 Recommendations from the Vocational Education Department Staff

Areas Needing Attention

Some vocational department staff felt greater attention is needed to giving support to existing programs and having more direct contact with students and building level staff so as to be better grounded in what's needed and what's possible. Several staff felt more attention was needed in developing short-term training while others stressed the need for better relationships with the schools. Several cited a need to help upgrade teacher skills so they would be more aware of entry level skill requirments. Other suggestions included: greater attention to working with career development of students in grades 7-10, developing master teachers to improve content and direction in each vocational area, revamping the Advisory Committee system to make it more forceful in the eyes of industry, closer coordination with alternative education and the curriculum department, greater emphasis on helping instructors teach generic skills up to the senior year where intensive training for entry level skills could occur, providing CWE or mentorship for all high school students in the district, and closer coordination and unity within the C/VE department.

Future Staffing Needs

When asked about whether the department of career and vocational education was adequately staffed to do the job most of the educators outside of the department and in the schools felt it was adequate while the C/VE department staff felt more staff were needed. Most frequently the C/VE staff felt new staff were needed as curriculum supervisors in the various vocational areas.

Future Direction in Vocational Education

The staff cited a need for strengthening vocational education's image to administrators and counselors; starting vocational education earlier in a student's school life; improving collaboration with industry, and better articulation of high school vocational education with middle schools and with community colleges.

Vocational Offerings In Neighboring Districts

Key administrators in three neighboring school districts (North Clackamas, David Douglas, and Parkrose) were interviewed as well as the Vocational Coordinator for the Washington County Educational Services District (ESD). Listed below are the vocational cluster offerings in seven neighboring districts.

Beaverton High School. Accounting, child care, clerical, electronics, health, marketing, and secretarial.

Clark County Skills Center. Clothing, electronics, fashion merchandising, microcomputer repair, food services, health occupations, industrial mechanics, and secretarial.

David Douglas. Accounting, child care, food services, home economics, industrial mechanics, metals and secretarial.

Lake Oswego High School. Accounting, clerical, industrial mechanics, marketing, and secretarial.

North Clackamas. Agriculture, building construction, business data processing, business education, child services, electricity/electronics, forest products, graphic arts, health occupations, industrial mechanics, marketing, metals and nursery/landscaping.

Parkrose. Business education, child care, construction, distributive education, electronics, industrial mechanics, metals and wood. They are considering a foods program. Approximately 15 students are sent on a [illegible]dition basis to the Clark County Vocational Skills Center in Vancouver, Washington, for training in computer technology, electronics, fashion design and food technology.

Tigard High School. Child care, clerical, construction and secretarial.

For a listing of vocational offerings at each of the Portland Community College campuses see Appendix I.

IV. SELF-ASSESSMENTS

4.1 Overview

An important part of this study of vocational education consisted of involving vocational teachers and advisory council members in a systematic process for evaluating their vocational programs. The basic system and forms developed by the Oregon Department of Education were used with some modification by NWREL and the Portland Public Schools. This section describes the procedures used and provides a summary of findings, estimate of costs for program improvement in existing buildings, and evaluation of the self-assessment process. The specific ratings of components for each school and cluster and suggestions for ways to strengthen programs are included in Sections 5 and 6 of this report.

4.2 Procedures

The Oregon Department of Education has developed a vocational cluster self-assessment process that was modified slightly and used in this study. Use of this format allows for comparison across vocational clusters and for comparison between the District and statewide findings.

All vocational education teachers were contacted by mail and asked to participate in the self-assessment of their cluster programs. Each teacher completed the first two of six activity sheets. These two activities asked them to compare their program with State standards (e.g., time requirements, credit requirements, course content, etc.) and with state programs goals.

The information from individuals was distilled into a cluster composite for the particular building. Then one representative from that building's cluster attended an evening work session where further assessment was made using the composite information.

Three activities were performed at the work session. Cluster representatives worked together with a facilitator to assess the subject matter of their program and to identify areas in need of strengthening. Next, the functional component common to all programs were assessed by cluster (e.g., input of advisory panel, instructor's competencies, equipment, etc.). At the work session each cluster representative summarized the previous activity and made suggestions for improvement of the program.

A sixth activity was distributed at the work session to be done at a later time. It was designed to project costs for program improvement. The cost estimates for provement are discussed later.

Following the work session, the completed activities were sent to NWREL. The ratings of the functional components of the programs (see next section for their description) and suggestions for improvement were summarized by cluster programs district-wide and by building across all its programs. A discussion of the major results follows in the next session.

Description of functional components of vocational cluster program

Seventeen functional program components formed the basis of the self-assessment activities. The components appear in Tables 18 and 19 in a shortened format. A brief description of each element follows:

1. Advisory committee: Program is developed and conducted with the assistance of an employer advisory committee.

2. Instructor competencies: Instructors have the occupational and educational competencies needed for the vocational program area.

3. Equal opportunity: Program is open to all individuals.

4. Non-biased curriculum: Program curriculum materials avoid sex role and minority group stereotyping?

5. Facilities: Facilities are adequate to meet the objectives of the program.

6. Safety: Students receive adquate instruction in safety practices related to the occupation or group of occupations.

7. Equipment materials and supplies: Equipment is adequate to provide "industry standard" skill development; instructional materials and supplies are adequate.

8. Skill/knowledge requirements (curriculum): Instruction is based on the skills and knowledge required in the occupational area.

9. Job preparation objectives (clusters): The program is designed to prepare individuals for work in an occupational area or a specific occupation or for further specialized vocational education.

10. Cooperative work experience (paid): Working students concurrently enrolled in vocational program.

11. Work experience (unpaid): Students are not paid for their work experience.

12. Vocational student organization: Provision is made for a vocational student organization if applicable to the vocational program.

13. Vocational guidance: Vocational guidance is available to all students in vocational education with emphasis given to persons with special needs.

14. Placement/followup: Placement and followup services should be provided for all program leavers and completers.

15. Evaluation/placement: Evaluation and followup of programs are based on stated objectives and are from students, employers, occupational advisory committees.

16. School-directed projects: School directed projects and activities are related to the curriculum.

17. Written agreements/contracts: Written agreements and contracts are in effect between the school and all community resources used for student learning and occupational experience.

4.3 Summary Ratings of Functional Components

District

Component ratings are based on a nine point scale with 1=fair and 9=superior.

The average program component ratings by building and by cluster appear in Tables 18A and 19. The weighted average column reflects the district-wide rating of each of the components. (We considered ratings to be high if they were greater than or equal to 7 and low if they wre less than or equal to 3.)

Across the district, three program components were rated highly:

1. Equal Opportunity (7.5)
2. Instructor Compentencies (7.1)
3. Skill/Knowledge Requirements (7.0)

These components were also rated highly in the statewide self-assessment. The state rating was also high for the Non-biased Curriculum component. The district rating for this component was 6.7.

The only low district rating was for Placement/Followup with a score of 2.8. A close second, 3.8, was Vocational Student Organization. The statewide low ratings were different, with paid and unpaid work experience rated below 3.0, and Placement/Followup a close third with a rating of 3.4. A comparison of component ratings by District and State results is shown in Table 20. Other patterns for the District and State are quite similar.

School

The next analysis was to identify patterns of high or low ratings of cluster program components among buildings. Again, ratings greater than or equal to 7.0 were considered high, and ratings less than or equal to 3.0 were considered low.

Benson, Cleveland, Marshall and Vocational Village had no low ratings and at least four high ratings. Benson and Marshall had seven or more high ratings. High ratings were generally in components relating to instructors and the curriculum.

TABLE 18A

VOCATIONAL CLUSTER PROGRAM ANALYSIS
SUMMARY BY HIGH SCHOOL

SCHOOLS

CLUSTER PROGRAM COMPONENTS	BENSON	CLEVELAND	FRANKLIN	GRANT	JEFFERSON	MADISON	MARSHALL	ROOSEVELT	WILSON	VOCATIONAL VILLAGE	HOME REPAIR	AVERAGE
ADVISORY COMMITTEE	6.1	4.3	6.8	7.7	6.0	4.2	8.6	6.0	5.0	4.7	7.0	5.7
INSTRUCTOR COMPETENCIES	7.1	7.3	7.2	8.2	9.0	4.4	8.0	7.0	6.2	7.4	5.0	7.1
EQUAL OPPORTUNITY	8.0	7.3	7.2	8.7	8.2	4.6	9.0	6.0	8.5	8.0	8.0	7.5
NON-BIASED CURRICULUM	7.5	6.1	5.6	8.3	7.7	5.0	8.6	5.5	6.6	7.2	7.0	6.7
FACILITIES	5.5	4.6	5.8	4.5	4.7	3.8	5.0	3.7	4.4	4.1	7.0	4.7
SAFETY	7.8	7.1	7.6	7.7	6.7	3.0	7.0	5.5	6.0	7.0	5.0	6.5
EQUIPMENT, MATERIALS, SUPPLIES	6.0	5.1	5.0	4.2	4.2	2.2	3.6	5.5	2.8	5.5	9.0	4.6
SKILLS/KNOWLEDGE REQUIREMENTS (CURR.)	7.8	7.6	6.4	7.0	7.5	5.0	8.0	6.5	7.6	7.2	6.0	7.0
JOB PREPARATION OBJECTIVES (CLUSTERS)	8.0	3.3	7.2	7.0	6.7	4.2	7.3	7.5	5.6	6.2	5.0	6.4
COOPERATIVE WORK EXPERIENCE (PAID)	6.5	4.5	6.0	5.5	6.7	3.0	7.6	6.3	4.0	3.6	--	5.1
WORK EXPERIENCE (UNPAID)	7.0	4.3	7.2	4.5	2.5	1.0	5.6	6.0	5.0	4.0	--	4.6
VOCATIONAL STUDENT ORGANIZATION	6.0	4.0	4.0	1.0	1.0	1.2	9.0	3.5	4.0	5.2	--	3.8
VOCATIONAL GUIDANCE	5.8	5.3	5.3	3.6	5.5	5.0	4.3	3.5	3.7	6.8	3.0	5.0
PLACEMENT/FOLLOWUP	4.0	3.6	2.0	1.0	3.5	2.4	5.0	2.0	1.3	3.2	1.0	2.8
EVALUATION/PLCEMENT	3.8	4.0	5.7	5.0	6.2	2.8	5.6	4.0	4.0	4.5	3.0	4.4
SCHOOL DIRECTED PROJECTS	7.2	5.2	4.6	--	8.0	3.2	6.0	5.0	6.3	6.5	6.0	5.5
WRITTEN AGREEMENTS/CONTRACTS	6.6	4.6	4.0	7.0	7.2	2.0	3.0	8.0	4.3	6.0	9.0	5.5

Note: The average is a weighted mean that takes into consideration the number of clusters responding per school.

TABLE 19

RATINGS OF VOCATIONAL COMPONENTS BY CLUSTER

CLUSTER PROGRAM COMPONENTS	Accounting	Child Care	Clerical	Construction	Electronics	Food Service	Graphics	Health	Mechanics	Marketing	Metals	Secretarial	Average
ADVISORY COMMITTEE	5.5	5.0	5.3	6.3	5.5	1.0	3.0	5.3	9.0	2.0	6.1	6.8	5.1
INSTRUCTOR COMPETENCIES	7.7	7.7	8.0	6.3	8.0	3.0	5.6	7.3	9.0	0.7	6.5	7.2	6.9
EQUAL OPPORTUNITY	7.7	9.0	6.3	8.0	7.0	9.0	6.0	7.0	8.1	8.2	6.4	7.8	7.5
NON-BIASED CURRICULUM	7.2	6.2	7.0	7.0	9.0	7.0	6.3	7.3	8.1	6.0	5.1	6.6	6.3
FACILITIES	5.5	3.0	6.0	7.0	6.5	7.0	6.3	1.0	4.5	4.2	3.5	5.5	5.0
SAFETY	7.2	6.7	5.0	7.0	9.0	9.0	5.6	6.6	8.1	5.2	6.7	5.0	6.8
EQUIPMENT, MATERIALS, SUPPLIES	5.5	6.5	5.3	7.0	6.0	3.0	3.6	5.0	3.4	3.0	3.8	3.6	4.6
SKILL/KNOWLEDGE REQUIREMENTS (CURRICULUM)	8.0	8.0	7.6	6.6	8.5	7.0	7.3	5.6	5.4	7.0	6.4	7.3	7.1
JOB PREPARATION OBJECTIVES (CLUSTERS)	7.2	3.7	7.4	5.3	7.0	5.0	3.6	5.3	6.7	6.3	6.4	6.6	6.0
COOPERATIVE WORK EXPERIENCE (PAID)	5.2	6.0	7.4		7.0	1.0	2.0	5.0	6.2	2.5	4.4	6.2	4.8
WORK EXPERIENCE (UNPAID)			8.0		9.0			5.3	7.0		4.3	3.7	6.2
VOCATIONAL STUDENT ORGANZATION	3.0		5.6	7.0	9.0		4.3	4.3		3.2	2.7	4.0	4.8
VOCATIONAL GUIDANCE	7.0	5.3	6.3	4.3	7.0	5.0	3.0	7.3	4.6	4.2	3.8	3.6	5.1
PLACEMENT/FOLLOWUP	1.0	5.0	4.6	3.0	6.0		3.0	1.6	4.0	1.3	1.9	1.8	3.0
EVALUATION/PLACEMENT	6.5	4.5	6.0	3.0	5.5	1.0	1.6	3.3	4.7	2.2	2.4	5.1	3.8
SCHOOL DIRECTED PROJECTS	1.0	8.0	6.5	7.0	8.0	7.0	6.0	7.0	5.0	4.0	5.0	4.0	5.7
WRITTEN AGREEMENTS/CONTRACTS	6.0	8.0	5.0	7.0	9.0			8.3	6.5	2.0	2.5	5.6	6.0

Note: No ratings were received from Diversified Occupations, Drafting or Horticulture. The average is a weighted mean. Blanks indicate no ratings were given in that area.

Table 20

VOCATIONAL COMPONENT RATINGS BY DISTRICT AND STATE

	District Ratings	State Ratings
Equal Opportunity (program open to all)	7.5	7.5
Instructor Competencies	7.1	7.3
Skills/Knowledge (consistent with job requirements)	7.0	7.0
Non-Biased Curriculum	6.7	7.1
Safety	6.5	6.5
Job Preparation Objectives	6.4	6.3
Advisory Committee Involvement	5.7	4.7
School Directed Projects (are related to curriculum)	5.5	4.2
Written Agreements (with community resources)	5.5	4.0
Paid Cooperative Work Experience	5.1	2.7
Vocational Guidance (available to all)	5.0	5.2
Physical Facilities	4.7	6.2
Equipment, Materials, Supplies	4.6	5.9
Unpaid Work Experience	4.6	2.3
Evolution of Programs	4.4	4.1
Vocational Student Organizations	3.8	4.5
Student Placement/Follow-up	2.8	3.4

Note: Ratings are based on a 9 point scale. State ratings are based on a average across 234 vocational cluster programs and reported in the October 1985 draft of the Secondary Oregon Vocational Program Education System.

Clusters

Using the same high/low rating as in the previous analysis, we analyzed program components among clusters.

Clerical, Electricity, Industrial Mechanics had no low ratings and six or more high ratings. Their high ratings were concentrated in the instructional/curriculum components. With the exception of Construction, Graphics and Metals, all clusters had high ratings for the equal opportunity component. The curriculum was rated high in all but Construction, Health Occupations, Industrial Mechanics and Metals.

Accounting, Construction, Food Service, Graphics, Marketing and Metals had more than two low ratings. There ratings were concentrated in the two Followups and Placement components. Graphics, Marketing and Metals had the most number of low ratings with few high ratings for counter-balance.

Whether at the building level or at the district cluster level, placement, follow up and evaluation appear to be areas in need of improvement based upon self-assessment ratings. Unpaid work experience with Food Service, Graphics and Marketing may need improvement. Also, some improvement should be considered in the advisory process for Food Service, Graphics and Marketing.

4.4 Summary of Program Recommendations by School and Cluster

Summary by School

BENSON HIGH SCHOOL

Curriculum development was most often cited by respondents as being needed to strengthen vocational programs. Each cluster listed a wide variety of technical subject matter which could be added to curriculum or improved.

Inservice needs were also primarily in the area of technical skills and knowledge within each vocational area.

CLEVELAND HIGH SCHOOL

Development of followup systems to track students was seen as a priority in many vocational clusters. Respondents also cited curriculum development, career information and work experience activities, and strengthening student involvement in VICA as being needed to strengthen their programs.

In addition to technical subject matter, career information was also listed as a subject needing improvement and expansion.

Inservice needs were primarily in technical skills and knowledge within each cluster.

FRANKLIN HIGH SCHOOL

Curriculum expansion and improvement, improving basic math and English skills, and development of career guidance and information components were reported as being needed to strengthen programs.

Technical subject matter was most often cited as being needed to improve curriculum, as well as improving basic skills and career information.

Inservice needs were also primarily in specific occupational areas.

GRANT HIGH SCHOOL

The addition of equipment, materials and supplies in order to strengthen programs was cited most often by resondents.

Respondents noted basic skills as a major subject area needing improvement, in addition to improvement of various technical subjects.

Inservice needs were primarily in technical areas.

JEFFERSON HIGH SCHOOL

The addition and updating of equipment and supplies in order to strengthen programs was cited most often by respondents. Technical subjects, computer skill development, and basic skill development were all listed as needing improvement within each cluster's curriculum.

Inservice needs were in technical skill areas.

MADISON HIGH SCHOOL

Respondents listed curriculum expansion or improvement, acquisition of additional equipment and supplies, and a variety of additional items as being needed to strengthen programs.

Subject matter needing improvement included a variety of technical areas within each vocational area, as well as career development for students and upgrading basic skills.

Inservice needs were primarily in technical skill areas.

MARSHALL HIGH SCHOOL

Each of Marshall's two vocational clusters cited distinct ways in which their programs could be strengthened, ranging from acquisition of equipment to curriculum updating.

No generalizations in the areas of improving subject matter and inservice needs can be drawn from responses given.

ROOSEVELT HIGH SCHOOL

Primary ways to strengthen programs were curriculum development in technical skill areas and career development activities.

In addition to technical subject matter improvements, career development activities were also cited as needing improvement.

Inservice needs were primarily in technical skill areas.

WILSON HIGH SCHOOL

The addition of specific equipment and supplies, updating facilities, hiring additional staff, and upgrading or improving curricula were all listed as major ways to strengthen programs.

Subject matter needing improvement primarily in technical skill areas and career development activities.

Inservice needs were primarily in technical skill areas.

VOCATIONAL VILLAGE

Improvement or reorganization of facilities was cited most often as being needed to strengthen programs. Also listed were career development and work experience activities, as well as improving curriculum within each subject area.

Subject matter needing improvement included technical skill areas as well as career development, work experience activities, and personal skill development.

Inservice needs focused on techniques for teaching personal skills and on training in technical skill areas.

Summary by Cluster

Results of the self assessment activities revealed a number of areas which staff and Advisory Council members felt needed improvement within each cluster area. A summary of highlights of their concerns and recommendations is provided in this section, and a more comprehensive listing of needs and recommendations is found in Section 6 of this report.

ACCOUNTING

The need for additional computer hardware and appropriate software was most frequently mentioned by respondents. Development and improvement of computer-related curriculum and upgrading students' basic skills were also cited. Teachers need more time to visit local businesses and learn new software applications.

CHILD CARE

Respondents cited student employment-related activities, such as work experience, vocational clubs, and job preparation as areas needing strengthening. Also mentioned were the need to improve facilities, add staff, and improve curriculum. Teachers would like training in student placement and followup activities.

CLERICAL

Acquisition of computer hardware, software, and related furnishings and curriculum development in computer usage were frequently mentioned as major needs. This cluster also cited student employment activities as needing strengthening. Staff development in computers was also mentioned.

CONSTRUCTION

Expansion and improvement of curriculum is felt to be needed to strengthen this unit. Respondents also want to increase on-site experiences for students, and to develop job placement and followup activities. Curriculum development is needed in technical subject areas as well as in basic skill areas. Staff would like increased training in technical skill areas.

ELECTRICAL

Respondents cited the need to revise and update curriculum both in technical and career-related areas, and would like to see development of computer training for electrical cluster students. Staff would like more time to train in technical areas and in computer applications.

FOOD SERVICE

Curriculum development in skill areas and in leadership and marketing was cited most frequently by respondents. Improvement of classroom facilities and teacher ratios were also cited. Staff would like to see improvements in their Advisory Committee and would like training in how to use this group more effectively.

GRAPHIC COMMUNICATIONS

Improvement of equipment and supplies, and curriculum upgrading and expansion are seen as the most pressing needs of this cluster. Curriculum improvements in technical skills, personal skills and basic math skills were all seen as important. Staff training needs are primarily in technical skill areas.

HEALTH OCCUPATIONS

This cluster would like to see improvements in facilities and equipment, technical skills curriculum, teaching applications of basic skills, and vocational counseling. Staff would like assistance in ways to improve existing facilities, and training in technical skill areas.

HOME REPAIR

This unit cited the addition of specific curricula and job development as primary ways to strengthen the program. Subject matter needing improvement was in technical skill areas, as were inservice needs.

INDUSTRIAL MECHANICS

Improvements in technical curriculum, basic skills applications, and job readiness training activities were seen as important for this cluster. Respondents also cited improvement of equipment and training materials. Staff would like time to visit local industry and training facilities, to receive training in technical areas of the trade, and time to improve their teaching aids.

MARKETING

Curriculum revision and development in both marketing and in basic and personal skills were the most often cited needs of this cluster. Staff also cited improvement of cooperative work experience and follow-up. Staff needs include on-site visits and training in various skills and career areas.

METALS

Integration of basic and personal skills into the curriculum, and improvements in technical curricula are primary needs of this cluster. Respondents also suggested modifying equipment to accommodate handicapped students, and improvements in Advisory Committee. Staff would like more specific skill training.

SECRETARIAL

This cluster needs to work to improve student basic skills, and would like improvements in lab setting, curriculum, and software. Respondents would like to see English credit granted for some secretarial courses. Staff want training in computer software and to learn new equipment uses.

4.5 Estimated Costs For Program Improvement

After completing the vocational cluster self-assessment, vocational staff and advisory council members were asked to identify what program improvements were needed in the cluster at their school and to estimate what the costs would be for such improvements Teachers were asked to take the cost estimate form with them after the evening group meeting and to discuss estimated costs with others before filling in a dollar figure. Table 21 shows the estimated costs for nine categories of improvement by school and program. The business and office occupations staff went through a similar process the prior year.

Information shown in Table 21 is best interpreted as an expression of teacher input into changes needed rather then a specific budget for planned change. The costs shown are only estimates and in many cases fail to take into consideration money needed for installation and maintenance of equipment that might be purchased. Another limitation is that several schools did not return their forms.

Table 21
Estimated Costs for Program Improvement

Cluster & Cluster Total	Curriculum Revision	Staff Development	Equipment	Equipment Installation	Equipment Maintainance	Facility Renovation	Coop Work Experience	Vocat Studies Organization	Personnel (Aides)	Cluster/Bldg. Total
Accounting $146,418										
Franklin	1,500	---	1,820	---	---	---	---	1,000	---	4,320
Grant	---	---	67,862	---	---	---	---	750	---	68,612
Marshall	- -	---	22,965	---	---	---	---	---	---	22,965
Wilson	3,452	750	16,319	---	---	---	---	---	---	50,521
Child Care $19,050										
Cleveland	750	---	---	---	---	10,800	---	---	7,500	19,050
Construction $15,270										
Benson	---	600	2,445	---	---	---	---	---	---	3,045
Franklin	500	500	3,525	---	---	---	---	---	---	4,525
Hm. Rpr Train Pro	200	750	750	---	---	---	6,000	---	---	7,700
Electronics $64,645										
Benson	8,000	---	26,100	---	---	12,000	---	---	---	46,100
Cleveland	300	300	17,445	500	---	---	---	---	---	18,545
Graphics $12,900										
Benson	---	---	10,500	---	2,400	---	---	---	---	12,900
Marketing $62,447										
Cleveland	---	---	16,200	---	400	14,000	---	1,000	---	31,600
Vocat. Village	1,200	---	9,460	300	2,000	2,000	---	1,000	---	15,960
Wilson	1,300	---	4,050	3,837	---	5,700	---	---	---	14,887
Mechanics $347,971					---	---	---	---	---	
Benson	---	2,500	45,750	---	750	---	---	---	---	49,000
Franklin	900	1,400	3,496	500	---	6,000	---	---	---	12,296
Marshall	---	1,000	60,300	2,700	---	200,000	---	1,000	---	265,000
Roosevelt	---	875	19,900	900	---	---	---	---	---	21,675
Metals $533,307										
Benson	4,000	6,500	69,026	1,700	---	22,150	---	750	---	104,126
Cleveland	4,000	7,500	97,000	12,500	9,000	17,000	1,500	2,000	15,000	165,500
Franklin	---	2,100	21,000	1,700	---	300	---	---	---	25,100
Grant	---	---	9,561	250	---	150,100	---	---	---	159,911
Roosevelt	---	375	---	---	---	45,000	---	---	---	45,375
Vocat. Village	---	500	31,295	---	---	1,500	---	---	---	33,295

Table 21
Estimated Costs for Program Improvement (continued)

Cluster & Cluster Total	Curriculum Revision	Staff Development	Equipment	Equipment Installation	Equipment Maintainance	Facility Renovation	Coop Work Experience	Vocat Studies Organization	Personnel (Aides)	Cluster/Bldg. Total
Secretarial/Clerical $748,934										
Cleveland	---	---	77,000	---	---	8,600	---	---	---	85,600
Franklin	1,500	---	53,135	---	---	---	600	1,000	---	56,235
Grant	---	---	30,563	---	1,000	---	---	750	---	32,313
Jefferson	2,700	8,000	75,692	---	---	150,000	31,000	10,000	---	277,392
Madison	5,200	5,847	40,757	---	---	---	---	---	---	51,804
Roosevelt	3,324	---	25,504	---	3,500	---	---	---	---	32,328
Marshall	---	---	106,316	---	---		---	---	---	106,316
Vocat. Village	5,000	---	28,301	---	---	1,000	---	---	---	34,301
Wilson	2,885	1,000	60,190	70	---	8,500	---	---	---	72,645
TOTALS	46,711	40,497	1,084,227	24,957	19,050	654,650	39,100	19,250	22,500	1,950,942

As seen in Table 21, the two largest requested expenditures were for equipment ($1,084,227) and facility renovation ($654,650). Total requests by total were: Secretarial/Clerical $748,934, Metals $533,307, Mechanics $347,971, Accounting $146,418, Electronics $64,645, Marketing $62,447, Child Care $19,050, Construction $15,270, and Graphics $12,900. The highest single requests were for industrial mechanics facility renovation at Marshall High School, $150,000 for metals facility renovation at Grant High School and $150,000 for secretarial/clerical renovation at Jefferson High School. The total amount requested for the coming year was $1,950,942.

4.6 Evaluation of the Self-Assessment Process

Vocational teachers participating in the program self assessment were later mailed a critique form to provide feedback on the process. Teachers were asked to rate eight aspects of the process on a 5 point scale ranging from "strongly agree" to "strongly disagree". They were also invited to make open-ended comments about each of the eight aspects.

Responses were received from 39 of the 65 staff who participated. A tabulation of ratings on the eight aspects of the process is shown in Appendix F. A summary of the open-ended comments received is provided below. Not all respondents provided comments.

Summary of Open-Ended Comments Regarding Self-Assessment

Comments received from the evaluations of the self assessment activities indicated that those who responded had mixed feelings about the value of the activities and the process itself.

Regarding the process used to obtain the self assessment information, respondents felt that they were given insufficient information about what was expected. They would have appreciated a meeting prior to the activity to clarify expectations. They also felt that facilitators did not understand the process, that instructions were confusing and repetitive, and that the physical environment was not comfortable.

Having the activities scheduled for the end of a long work day was also seen as a problem, as people were too tired to complete activities thoroughly and with thought.

Suggestions for the future included allowing release time to do the activities rather than scheduling them for the end of a work day, and having the activities completed at each school where more information would be available to draw upon for responses.

Respondents felt that the usefulness of the information obtained from the self-assessment in improving programs and in long range planning was limited. Comments indicated that respondents see funding issues and district follow through as being crucial to the adoption of any suggestions obtained from the self assessment process. Some also felt that vocational program improvement was beyond the control of individual teachers.

Several people felt that the information could be useful in short range planning, and in stimulating their thoughts about improving their own programs.

Respondents were supportive of incorporating some kind of self-assessment into the annual program planning process. However, they felt that it need not be as detailed each year, that advisory council members should also be involved, and that the process should be closely tied with central office planning and budget issues.

V. HIGH SCHOOL PROFILES

5.1 Overview

This section presents profiles of vocational programs offered within each high school site in the Portland Public Schools. For each school, we present: (1) approved vocational course offerings for 1985-86; (2) 1983-84 student enrollment data for clusters then offered within each school; (3) the averages of ratings of functional components completed by staff and advisory members during the Self-Assessment Process; (4) summaries of program needs and recommendations for improvements, by cluster, as identified during that same process.

Please refer to section 4 of this report for more information about the self-assessment process.

BENSON POLYTECHNIC HIGH SCHOOL
APPROVED VOCATIONAL CLUSTER COURSE OFFERINGS

Construction

Architectural Design and Drafting, Building Construction, Cooperative Work Experience (CWE)

Electricity/Electronics

Communications/Electronics, Industrial Electronics (CWE)

Graphic Arts

Graphic Arts (CWE)

Mechanical

Automotive, Fluid Power, Aviation (CWE)

Metals

Foundry, Mechanical Drawing, Metal Fabrication, Patternmaking, Welding (CWE)

Health Occupations

Dental Assistant, Health Assistant, Medical Assistant, Medical Clerical (CWE)

BENSON HIGH SCHOOL

1983-84 VOCATIONAL EDUCATION ENROLLMENTS FOR GRADES 9-12

Vocational Education Cluster Programs	Males N=598	Females N=119	Handicapped N= 4	Minority N=135	Total N=717
Agriculture					
Marketing					
Health Services	14	56		23	70
Food Services					
Accounting					
Clerical					
Secretarial					
Mechanical	140	14	1	21	154
Construction	95	12	2	14	107
Electronics	197	18	1	44	215
Metals	119	5		21	124
Child Care					
Graphic Arts	33	14		12	47
Service Occupation					
Diversified Occupation					
Special Programs					

BENSON HIGH SCHOOL

VOCATIONAL CLUSTER PROGRAM ANALYSIS SUMMARY

Cluster Program Components	1 FAIR	2	3 GOOD	4	5 VERY GOOD	6	7 EXCELLENT	8 SUPERIOR	9
1. Advisory Committee						6.1			
2. Instructor Competencies							7.1		
3A. Equal Opportunity								8.0	
3B. Non-Biased Curriculum							7.5		
4. Facilities					5.5				
5. Safety							7.8		
6. Equipment, Materials, Supplies						6.0			
7A. Skill/Knowledge Requirements (Curriculum)							7.8		
7B. Job Preparation Objective (Clusters)								8.	
* 8A. Cooperative Work Experience (Paid)						6.5			
* 8B. Work Experience (Unpaid)							7.0		
9. Vocational Student Organization						6.0			
10. Vocational Guidance					5.8				
11. Placement/Follow-Up				4.0					
12. Evaluation/Placement			3.8						
13. School Directed Projects							7.2		
14. Written Agreements/ Contracts							6.6		

SELF ASSESSMENT ACTIVITIES:
SUMMARY OF ACTIVITY 5 RESPONSES, BY SCHOOL AND CLUSTER

BENSON HIGH SCHOOL

Automotive

1. Ways to strengthen program:

   Develop follow up program
   Add fluid power and CNC classes

2. Subject matter that could be improved:

   New scope
   Engine dynamics
   Current engines, gas and diesel

3. Subject matter on which inservice would be helpful:

   Emission testing
   Current equipment and manuals
   Information on factory schools

Construction

1. Ways to strengthen program:

   Add to curriculum

2. Subject matter that could be improved:

   Introductory plumbing and electrical courses

3. Subject matter on which inservice would be helpful:

   Classes in heating, electrical
   Update on plumbing codes
   Uses of computers

Electrical/Electronics

1. Ways to strengthen program:

   Add and revise curriculum in specific skill areas
   Update theory classes
   Improve career information and VICA participation

2. Subject matter that could be improved:

   Technical electronics subject areas
   Service/repair of VCR equipment
   Design techniques and applications

3. Subject matter on which inservice would be helpful:

Technical electronics subject areas
Basic computer programming and uses

Graphic Communication

1. Ways to strengthen program:

Restructure Advisory Committee

2. Subject matter that could be improved:

Commercial art classes
Develop computer class

3. Subject matter on which inservice would be helpful:

Computer maintenance

Health Occupations

1. Ways to strengthen program:

Curriculum development and revision
Tie curriculum to basic skills
Improve facilities
Develop follow up and evaluation tools
Develop public relations materials

2. Subject matter that could be improved:

Computer/clerical skills
Lab skills
Rehabilitation
Nutrition

3. Subject matter on which inservice would be helpful:

Development of computerized follow up / evaluation
Health occupations computer programming
Reassessment of existing facilities

Metals

1. Ways to strengthen program:

Develop communication skills of students
Incorporate CNC and equipment specifications classes

2. Subject matter that could be improved:

Communication skills
Joining, shaping and finishing techniques

3. Subject matter on which inservice would be helpful:

CNC skill development
Tool cutting skills

CLEVELAND HIGH SCHOOL
APPROVED VOCATIONAL CLUSTER COURSE OFFERINGS
1985-86

Accounting

Accounting/Bookkeeping, Computers in Business, Office Machines, Computer Based Accounting, Simulated Office Practice (CWE)

Clerical

Accounting I, Briefhand, Office Practices, Typing III and IV, Business Communications, Office Machines, Simulated Office Practice (CWE)

Child Care

Child Care (CWE)

Diversified Occupations

Diversified Occupations

Electricity/Electronics

Electronics III and IV (CWE)

Metals

Metal Fabrication (machines) (CWE)

Secretarial

Office Practice, Shorthand I and II, Typing III and IV, Word Processing, Office Machines, Shorthand III and IV, Simulated Office Practice (CWE)

Marketing

Deli. Prep, Marketing I, Merchandising, Sales, Retail Lab, Spc. Bus. Project, Retail Management, Marketing/Management Lab Supervisor (CWE)

CLEVELAND HIGH SCHOOL

1983-84 VOCATIONAL EDUCATION ENROLLMENTS FOR GRADES 9-12

Vocational Education Cluster Programs	Males N=126	Females N=229	Handicapped N= 6	Minority N= 93	Total N=355
Agriculture*	1	4		1	5
Marketing	21	29		2	50
Health Services					
Food Services					
Accounting	15	20		12	35
Clerical	49	77	2	39	126
Secretarial	5	76		25	81
Mechanical					
Construction*	3		1		3
Electronics	13			5	13
Metals	16			3	16
Child Care	2	20	1	4	22
Graphic Arts					
Service Occupation*	1	3	2	2	4
Diversified Occupation					
Special Programs					

Note: Programs with a star are not offered at this school but students travel to another location for such offerings.

CLEVELAND HIGH SCHOOL

VOCATIONAL CLUSTER PROGRAM ANALYSIS SUMMARY

Cluster Program Components	1 FAIR	2	3 GOOD	4	5 VERY GOOD	6	7 EXCELLENT	8 SUPERIOR	9
1. Advisory Committee					4.3				
2. Instructor Competencies							7.3		
3A. Equal Opportunity							7.3		
3B. Non-Biased Curriculum						6.1			
4. Facilities					4.6				
5. Safety							7.1		
6. Equipment, Materials, Supplies					5.1				
7A. Skill/Knowledge Requirements (Curriculum)							7.6		
7B. Job Preparation Objective (Clusters)					5.3				
* 8A. Cooperative Work Experience (Paid)					4.5				
* 8B. Work Experience (Unpaid)					4.3				
9. Vocational Student Organization					4.0				
10. Vocational Guidance					5.3				
11. Placement/Follow-Up			3.6						
12. Evaluation/Placement					4.0				
13. School Directed Projects					5.2				
14. Written Agreements/ Contracts					4.6				

CLEVELAND HIGH SCHOOL

Accounting

1. Ways to strengthen program:

   Support from math and language arts departments
   Support from counseling and guidance
   General program coordination

2. Subject matter that could be improved:

   Business communication and computation skills
   Human relations skills
   Computer skills

3. Subject matter on which inservice would be helpful:

   Internships/paid leaves to work in industry
   Technical training by business/industry professionals

Child Care

1. Ways to strengthen program:

   Employ teacher aide
   Develop follow up system

2. Subject matter that could be improved:

   Needs of exceptional children
   Student leadership program

3. Subject matter on which inservice would be helpful:

   No responses given

Clerical

1. Ways to strengthen program:

   Develop microcomputer /information processing

2. Subject matter that could be improved:

   Information processing curriculum

3. Subject matter on which inservice would be helpful:

   Microcomputers and information processing

Electronics

1. Ways to strengthen program:

   Add technical courses in subject
   Add basic computer programming class
   Develop career information/placement activities
   Add VICA club

2. Subject matter that could be improved:

   Transistor fundamentals
   Trainers for circuit boards and electro-mechanics

3. Subject matter on which inservice would be helpful:

   VCR equipment repair
   Laser and Opto-electronics technology

Marketing

1. Ways to strengthen program:

   Restructure curriculum sequencing
   Re-introduce cooperative work experience
   Expand community resources and use
   Update lab facilities

2. Subject matter that could be improved:

   Economics classes in free enterprise
   Business math
   Sales promotion
   Store operations

3. Subject matter on which inservice would be helpful:

   Using computers as a business training tool
   Hospitality/Tourism industry training

Metals

1. Ways to strengthen program:

   Improve Advisory Committee participation
   Develop good follow up system
   Strengthen VICA club

2. Subject matter that could be improved:

   Computers and science data
   Classes on entrepeneurship

3. Subject matter on which inservice would be helpful:

   Developing follow up guide
   Computers and scientific data
   Human relations

FRANKLIN HIGH SCHOOL
APPROVED VOCATIONAL CLUSTER COURSE OFFERINGS
1985-86

Accounting

Advanced Accounting, Bookkeeping/Accounting, Office Machines, Office Procedures (CWE)

Child Care

Child Care, (CWE)

Clerical

Bookkeeping, Briefhand, Business Clerical Assistance, Office Practice, Office Simulation, Recordkeeping, Typing (CWE)

Metals

Interim Metals, Advanced Metals Cluster (CWE)

Health

Hospital Worker, Medical/Clerical (CWE)

Mechanical

Industrial Mechanics (CWE)

Secretarial

Office Practice, Shorthand, Typing (CWE)

Construction

Construction (IBCC 1-2 and 3-4)

FRANKLIN HIGH SCHOOL

1983-84 VOCATIONAL EDUCATION ENROLLMENTS FOR GRADES 9-12

Vocational Education Cluster Programs	Males N=167	Females N=292	Handicapped N= 11	Minority N= 81	Total N=459
Agriculture*	17	10	3	1	27
Marketing					
Health Services	3	27		3	30
Food Services					
Accounting	5	49		8	54
Clerical	24	73	2	21	97
Secretarial	11	76	1	28	87
Mechanical	42		2	5	42
Construction	13			1	13
Electronics					
Metals	43	1		3	44
Child Care	9	49	3	4	58
Graphic Arts					
Service Occupation					
Diversified Occupation					
Special Programs*		7		7	7

Note: Programs with a star are not offered at this school but students travel to another location for such offerings.

FRANKLIN HIGH SCHOOL

VOCATIONAL CLUSTER PROGRAM ANALYSIS SUMMARY

Cluster Program Components	1 FAIR	2	3 GOOD	4	5 VERY GOOD	6	7 EXCELLENT	8 SUPERIOR	9
1. Advisory Committee							6.8		
2. Instructor Competencies							7.2		
3A. Equal Opportunity							7.2		
3B. Non-Biased Curriculum					5.6				
4. Facilities					5.8				
5. Safety							7.6		
6. Equipment, Materials, Supplies					5.0				
7A. Skill/Knowledge Requirements (Curriculum)							6.4		
7B. Job Preparation Objective (Clusters)							7.2		
* 8A. Cooperative Work Experience (Paid)						6.0			
* 8B. Work Experience (Unpaid)							7.2		
9. Vocational Student Organization				4.0					
10. Vocational Guidance					5.3				
11. Placement/Follow-Up		2.0							
12. Evaluation/Placement					5.7				
13. School Directed Projects					4.6				
14. Written Agreements/ Contracts				4.0					

FRANKLIN HIGH SCHOOL*

Construction

1. Ways to strengthen program:

   Organize curriculum content
   Increase math skills
   Increase on-site experiences for students
   Emphasize energy efficiency

2. Subject matter that could be improved:

   Basic math and communication skills
   Plumbing and electrical classes

3. Subject matter on which inservice would be helpful:

   Materials, new or current
   Scientific data

Health Occupations

1. Ways to strengthen program:

   Improve vocational guidance through counseling department
   Allow some cluster classes to fulfill graduation requirements
   Add space and equipment
   Organize student HOSA

2. Subject matter that could be improved:

   Crisis intervention and mental health
   Pediatrics
   Rehabilitation

3. Subject matter on which inservice would be helpful:

   Pediatrics nursing
   Physiotherapy

Note: Business and Office occupations ratings and narrative comments were not provided to NWREL for inclusion in this report.

Industrial Mechanics

1. Ways to strengthen program:

   Electronics update
   Allow release time to work on program
   Institute student prerequisites in reading /math
   Teach relevant computer skills

2. Subject matter that could be improved:

   Electronic ignition
   Welding
   Micro-fiche for parts
   Advanced fluid power program

3. Subject matter on which inservice would be helpful:

   Visits to training facilities and industry
   Release time to improve training aids and work stations

Metals

1. Ways to strengthen program:

   Integrate math/science into curriculum
   Develop career options component
   Improve / add to curriculum in technical areas

2. Subject matter that could be improved:

   Improve computation skills
   Improve autobody repair and other welding instruction
   Integrate study of scientific principals
   Introduce entrepeneursnip

3. Subject matter on which inservice would be helpful:

   Robotics
   Advanced sheet metal / autobody repair / welding
   Computer applications
   Training in entrepeneurship opportunities

GRANT HIGH SCHOOL
APPROVED VOCATIONAL CLUSTER COURSE OFFERINGS
1985-86

Accounting

Basic Accounting, Advanced Accounting, Office Machines (CWE)

Child Care Services

Child Service (CWE)

Clerical

Briefhand, Office Practice, Recordkeeping, Typing (CWE)

Mechanical

Basic Automotive, Industrial Mechanics (CWE)

Metals

Machining, Metal Fabrication (CWE)

Secretarial

Model Office, Shorthand I, II, III and IV, Typing III and IV (CWE)

GRANT HIGH SCHOOL

1983-84 VOCATIONAL EDUCATION ENROLLMENTS FOR GRADES 9-12

Vocational Education Cluster Programs	Males N= 95	Females N=163	Handicapped N= 18	Minority N=104	Total N=258
Agriculture*	7		1	1	7
Marketing					
Health Services					
Food Services					
Accounting	19	51	4	28	70
Clerical	2	12		7	14
Secretarial	6	45	3	27	51
Mechanical	37	5	5	11	42
Construction*	6				6
Electronics					
Metals	12				12
Child Care	6	42	5	22	48
Graphic Arts					
Service Occupation*		1		1	1
Diversified Occupation					
Special Programs*		7		7	7

Note: Programs with a star are not offered at this school but students travel to another location for such offerings.

GRANT HIGH SCHOOL

VOCATIONAL CLUSTER PROGRAM ANALYSIS SUMMARY

Cluster Program Components	1 FAIR	2	3 GOOD	4	5 VERY GOOD	6	7 EXCELLENT	8	9 SUPERIOR
1. Advisory Committee							7.7		
2. Instructor Competencies								8.2	
3A. Equal Opportunity									8.7
3B. Non-Biased Curriculum								8.3	
4. Facilities					4.5				
5. Safety							7.7		
6. Equipment, Materials, Supplies				4.2					
7A. Skill/Knowledge Requirements (Curriculum)							7.0		
7B. Job Preparation Objective (Clusters)							7.0		
* 8A. Cooperative Work Experience (Paid)					5.5				
* 8B. Work Experience (Unpaid)					4.5				
9. Vocational Student Organization	1.0								
10. Vocational Guidance			3.6						
11. Placement/Follow-Up	1.0								
12. Evaluation/Placement					5.0				
13. School Directed Projects									
14. Written Agreements/ Contracts							7.0		

GRANT HIGH SCHOOL

Accounting

1. Ways to strengthen program:

   Acquire more personal computers and 10-key calculators
   Acquire new software and textbooks in accounting
   Increase computer classes and lab
   Increase staff training time

2. Subject matter that could be improved:

   Verbal/ written communication and comprehension
   Basic personal skill development
   Time management

3. Subject matter on which inservice would be helpful:

   Training in new computer software and systems

Metals

1. Ways to strengthen program:

   Develop follow up program
   Start VICA chapter

2. Subject matter that could be improved:

   Related technical subjects, in classroom setting
   Math skills
   Robotics
   CAD/CAM and CNC/NC
   Metalurgy

3. Subjects on which inservice would be helpful:

   Robotics training
   CNC/NC/CAD training

Secretarial

1. Ways to strengthen program:

   Grant English credit for some business courses
   Produce flyer for advertising department
   Add equipment

2. Subject matter that could be improved:

   Hook up electronic mail system in district
   More emphasis on entrepeneurship

3. Subject matter on which inservice would be helpful:

   Release time to learn new equipment

JEFFERSON HIGH SCHOOL
APPROVED VOCATIONAL CLUSTER COURSE OFFERINGS
1985-86

Clerical

Computer Application in Business, Office Procedures, Office Practice Simulation (CWE)

Mechanical

Industrial Mechanics, Advanced Industrial Mechanics (CWE)

Secretarial

Shorthand I and II, Typing II, Legal Secretary (CWE)

JEFFERSON HIGH SCHOOL

1983-84 VOCATIONAL EDUCATION ENROLLMENTS FOR GRADES 9-12

Vocational Education Cluster Programs	Males N= 43	Females N= 70	Handicapped N= 8	Minority N= 61	Total N=113
Agriculture					
Marketing					
Health Services*		2		1	2
Food Services					
Accounting					
Clerical	5	45	5	32	50
Secretarial		20	1	13	20
Mechanical	31	1		10	32
Construction*	7		2	3	7
Electronics					
Metals					
Child Care					
Graphic Arts					
Service Occupation					
Diversified Occupation					
Special Programs*		2		2	2

Note: Programs with a star are not offered at this school but students travel to another location for such offerings.

JEFFERSON HIGH SCHOOL

VOCATIONAL CLUSTER PROGRAM ANALYSIS SUMMARY

Cluster Program Components	1 2 3 FAIR	GOOD	4 5 VERY GOOD	6 7 EXCELLENT	8 9 SUPERIOR
1. Advisory Committee				6.0	
2. Instructor Competencies					9.0
3A. Equal Opportunity					8.2
3B. Non-Biased Curriculum				7.7	
4. Facilities			4.7		
5. Safety				6.7	
6. Equipment, Materials, Supplies			4.2		
7A. Skill/Knowledge Requirements (Curriculum)				7.5	
7B. Job Preparation Objective (Clusters)				6.7	
* 8A. Cooperative Work Experience (Paid)				6.7	
* 8B. Work Experience (Unpaid)		2.5			
9. Vocational Student Organization	1.0				
10. Vocational Guidance			5.5		
11. Placement/Follow-Up		3.5			
12. Evaluation/Placement				6.2	
13. School Directed Projects					8.0
14. Written Agreements/ Contracts				7.2	

JEFFERSON HIGH SCHOOL

Accounting

1. Ways to strengthen program:

   Staffed business lab
   Update equipment

2. Subject matter that could be improved:

   Improve network of presenters```
   Subject matter on which inservice would be helpful:
   On-site training and visits to businesses
   Training in Lotus 123

Clerical/Secretarial

1. Ways to strengthen program:

   Purchase more computer hardware and equipment
   Purchase software and develop software library
   Purchase reference manuals
   Hire lab aide and institute open lab

2. Subject matter that could be improved:

   Basic skill development
   Computer software and hardware

3. Subject matter on which inservice would be helpful:

   Using PC's in clerical positions
   Learning specific software applications
   Career paths
   Release time for program updating

Industrial Mechanics

1. Ways to strengthen program:

   Update equipment for today's cars
   More computer applications
   More supporting courses

2. Subject matter that could be improved:

   Computer applications
   Fluid power
   Front wheel drives

3. Subject matter on which inservice would be helpful:

   Computers
   Fluid power
   Electronic ignition

MADISON HIGH SCHOOL
APPROVED VOCATIONAL CLUSTER COURSE OFFERINGS
1985-86

Clerical

Bookkeeping/Accounting, Briefhand, Business English Communication, Office Practice, Typing (CWE)

Diversified Occupations

Diversified Occupations (CWE)

Marketing

Marketing 1-2, Marketing 3-4 (CWE)

Metals

Machining, Metal Fabrication (CWE)

Secretarial

Office Practice, Shorthand, Typing 3-4, Word Processing (CWE)

Graphic Arts

Graphic Production I, II, III, IV, V, VI, VII and VIII (CWE)

MADISON HIGH SCHOOL

1983-84 VOCATIONAL EDUCATION ENROLLMENTS FOR GRADES 9-12

Vocational Education Cluster Programs	Males N= 81	Females N=155	Handicapped N= 13	Minority N= 81	Total N=236
Agriculture*	4	2	2	1	6
Marketing	11	9		2	20
Health Services					
Food Services					
Accounting	2	1			3
Clerical	38	98	10	45	136
Secretarial	2	22		8	24
Mechanical					
Construction*	9			2	9
Electronics					
Metals	6		1	1	6
Child Care					
Graphic Arts					
Service Occupation*	6	6		5	12
Diversified Occupation					
Special Programs*	3	17		17	20

Note: Programs with a star are not offered at this school but students travel to another location for such offerings.

MADISON HIGH SCHOOL

VOCATIONAL CLUSTER PROGRAM ANALYSIS SUMMARY

Cluster Program Components	1 FAIR	2	3 GOOD	4	5 VERY GOOD	6	7 EXCELLENT	8	9 SUPERIOR
1. Advisory Committee					4.2				
2. Instructor Competencies					4.4				
3A. Equal Opportunity					4.6				
3B. Non-Biased Curriculum					5.0				
4. Facilities				3.8					
5. Safety			3.0						
6. Equipment, Materials, Supplies		2.2							
7A. Skill/Knowledge Requirements (Curriculum)					5.0				
7B. Job Preparation Objective (Clusters)					4.2				
* 8A. Cooperative Work Experience (Paid)			3.0						
* 8B. Work Experience (Unpaid)	1.0								
9. Vocational Student Organization	1.2								
10. Vocational Guidance					5.0				
11. Placement/Follow-Up		2.4							
12. Evaluation/Placement			2.8						
13. School Directed Projects			3.2						
14. Written Agreements/ Contracts		2.0							

MADISON HIGH SCHOOL

Clerical/Secretarial

1. Ways to strengthen program:

   Acquire software to teach information processing

2. Subject matter that could be improved:

   Resumes and job search techniques
   Computer experience
   Office simulation experience
   Spelling/grammer classes

3. Subject matter on which inservice would be helpful:

   no responses given

Graphic Communications

1. Ways to strengthen program:

   Reorganize Advisory Committee
   Update/improve production equipment
   Expand curriculum and supplies

2. Subject matter that could be improved:

   Training in production equipment
   Commercial Art tools and techniques
   Add safety curriculum
   Measuring standards
   Importance of media

3. Subject matter on which inservice would be helpful:

   New production techniques
   Layout/design techniques
   Computers and typesetting

MARSHALL HIGH SCHOOL
APPROVED VOCATIONAL CLUSTER COURSE OFFERINGS
1985-86

Clerical

Intro. Accounting, Office Practice, Typing (CWE)

Mechanical

Automotive and General Mechanics (CWE)

Secretarial

Office Practice, Shorthand, Typing (CWE)

Banking & Finance

Accounting, Typing V and VI, Business Office Practice, Principles of Banking, Business Ethics, Business English, Banking Lab (CWE)

Marketing

1. Ways to strengthen program:

   Improve/upgrade curriculum in marketing
   Incorporate economics classes
   Teach human relations

2. Subject matter that could be improved:

   Management and operations
   Computers
   Communications
   Math and economics support classes

3. Subject matter on which inservice would be helpful:

   No responses given

Metals

1. Ways to strengthen program:

   Develop two-period modules
   Revise machines for handicapped students
   Add course in shop math
   Add prerequisites for course levels

2. Subject matter that could be improved:

   Shop math and measuring
   Blueprint reading
   Resume writing

3. Subject matter on which inservice would be helpful:

   Metallurgy
   Foundry practices
   Programming for the handicapped

MARSHALL HIGH SCHOOL

1983-84 VOCATIONAL EDUCATION ENROLLMENTS FOR GRADES 9-12

Vocational Education Cluster Programs	Males N= 46	Females N=149	Handicapped N= 4	Minority N= 39	Total N=195
Agriculture*	14	11		2	25
Marketing					
Health Services					
Food Services					
Accounting					
Clerical	19	73		24	92
Secretarial	5	61		13	66
Mechanical	7	1			8
Construction	9			2	9
Electronics					
Metals					
Child Care					
Graphic Arts					
Service Occupation	6	6		5	12
Other			4		4
Special Programs*	1	3			4

Note: Programs with a star are not offered at this school but students travel to another location for such offerings.

MARSHALL HIGH SCHOOL

VOCATIONAL CLUSTER PROGRAM ANALYSIS SUMMARY

Cluster Program Components	1 FAIR	2	3 GOOD	4	5 VERY GOOD	6	7 EXCELLENT	8 SUPERIOR	9
1. Advisory Committee								8.6	
2. Instructor Competencies								8.0	
3A. Equal Opportunity									9.0
3B. Non-Biased Curriculum								8.6	
4. Facilities					5.0				
5. Safety							7.0		
6. Equipment, Materials, Supplies			3.6						
7A. Skill/Knowledge Requirements (Curriculum)								8.0	
7B. Job Preparation Objective (Clusters)							7.3		
* 8A. Cooperative Work Experience (Paid)							7.6		
* 8B. Work Experience (Unpaid)					5.6				
9. Vocational Student Organization									9.0
10. Vocational Guidance				4.3					
11. Placement/Follow-Up					5.0				
12. Evaluation/Placement					5.6				
13. School Directed Projects						6.0			
14. Written Agreements/ Contracts			3.0						

MARSHALL HIGH SCHOOL

Automotive

1. Ways to strengthen program:

   Improve audio-visual and other training aids
   Acquire computer software
   Improve resume and interview training
   Add VICA
   Improve and update curriculum

2. Subject matter that could be improved:

   Fluid power programs
   Alignment
   Electronic ignitions
   Math applications

3. Subject matter on which inservice would be helpful;

   Factory schools
   Emission testing
   Computer training
   Current manuals

Secretarial

1. Ways to strengthen program:

   Use of calculators to increase computation skills
   Increase emphasis on word processing
   Upgrade general office skills using simulation

2. Subject matter that could be improved:

   Add business English and math courses
   Add office machines course
   Subject matter on which inservice would be helpful:
   Release time to learn equipment

ROOSEVELT HIGH SCHOOL
APPROVED VOCATIONAL CLUSTER COURSE OFFERINGS
1985-86

Clerical

Bookkeeping/Accounting, Office Practice, Typing (CWE)

Mechanical

Automotive, Industrial Mechanics (CWE)

Metals

Machining, Metals Fabrication (CWE)

Secretarial

Office Practice, Shorthand, Typing (CWE)

Accounting

Accounting I, II, III and IV, Computer Programming, Office Practice, Typing III and IV (CWE)

ROOSEVELT HIGH SCHOOL

1983-84 VOCATIONAL EDUCATION ENROLLMENTS FOR GRADES 9-12

Vocational Education Cluster Programs	Males N=145	Females N=130	Handicapped N= 4	Minority N= 50	Total N=275
Agriculture*		1			1
Marketing					
Health Services					
Food Services	4	14		1	18
Accounting					
Clerical	4	48		11	52
Secretarial	7	62		18	69
Mechanical	44	2		3	46
Construction					
Electronics					
Metals	6		1	1	6
Child Care					
Graphic Arts					
Service Occupation					
Diversified Occupation					
Special Programs					

Note: Programs with a star are not offered at this school but students travel to another location for such offerings.

ROOSEVELT HIGH SCHOOL

VOCATIONAL CLUSTER PROGRAM ANALYSIS SUMMARY

Cluster Program Components	1 FAIR	2 3 GOOD	4 5 VERY GOOD	6 7 EXCELLENT	8 9 SUPERIOR
1. Advisory Committee				6.0	
2. Instructor Competencies				7.0	
3A. Equal Opportunity				6.0	
3B. Non-Biased Curriculum			5.5		
4. Facilities		3.7			
5. Safety			5.5		
6. Equipment, Materials, Supplies			5.5		
7A. Skill/Knowledge Requirements (Curriculum)				6.5	
7B. Job Preparation Objective (Clusters)				7.5	
* 8A. Cooperative Work Experience (Paid)				6.3	
* 8B. Work Experience (Unpaid)				6.0	
9. Vocational Student Organization		3.5			
10. Vocational Guidance		3.5			
11. Placement/Follow-Up		2.0			
12. Evaluation/Placement			4.0		
13. School Directed Projects			5.0		
14. Written Agreements/ Contracts					8.0

ROOSEVELT HIGH SCHOOL

Clerical

1. Ways to strengthen program:

   Strengthen career development
   Improve work environment

2. Subject matter that could be improved:

   Job retention and growth
   Applications of information processing
   Telecomunications
   Office procedures: filing, reception, mail, typing

3. Subject matter on which inservice would be helpful:

   Telecommunications
   Reception

Industrial Mechanics

1. Ways to strengthen program:

   New car repair and maintenance classes
   Develop job readiness skills
   Additional training in specific repairs

2. Subject matter that could be improved:

   New car tune up, alignment and suspension
   Increase training in specific repair areas
   Parts cleaning procedures
   Job readiness training

3. Subject matter on which inservice would be helpful:

   New vehicle equipment and repair
   Training in uses of specific machinery

Metals

1. Ways to strengthen program:

   Communication and human relations classes
   Use of machines and equipment

2. Subject matter that could be improved:

   Communications
   Shaping

3. Subject matter on which inservice would be helpful:

   Computer assisted design
   Robotics applications
   Entrepeneurship

VOCATIONAL VILLAGE
APPROVED VOCATIONAL CLUSTER COURSE OFFERINGS
1985-86

As an alternative school Vocational Village uses individualized units instead of prespecified courses. Students must achieve at least a 90 percent rate to pass each competency before credit is awarded. Students then correct errors to reach 100 percent of competency.

There are nine clusters offered at Vocational Village: marketing, health, food services, clerical, mechanical, electronics, metals, child care and graphics.

VOCATIONAL VILLAGE HIGH SCHOOL

1983-84 VOCATIONAL EDUCATION ENROLLMENTS FOR GRADES 9-12

Vocational Education Cluster Programs	Males N=197	Females N=160	Handicapped N= 48	Minority N= 47	Total N=357
Agriculture					
Marketing	17	18	4	5	35
Health Services	1	18	3		19
Food Services	20	5	6	8	78
Accounting					
Clerical	2	71	6	8	73
Secretarial					
Mechanical	18	1	3	1	19
Construction					
Electronics	48	14	5	9	62
Metals	65	7	11	9	72
Child Care		2	2	1	2
Graphic Arts	26	24	8	6	50
Service Occupation					
Diversified Occupation					
Special Programs					

VOCATIONAL VILLAGE HIGH SCHOOL

VOCATIONAL CLUSTER PROGRAM ANALYSIS SUMMARY

Cluster Program Components	1 2 3 FAIR	4 5 6 GOOD	VERY GOOD	7 EXCELLENT	8 9 SUPERIOR
1. Advisory Committee			4.7		
2. Instructor Competencies				7.4	
3A. Equal Opportunity					8.0
3B. Non-Biased Curriculum				7.2	
4. Facilities			4.1		
5. Safety				7.0	
6. Equipment, Materials, Supplies			5.5		
7A. Skill/Knowledge Requirements (Curriculum)				7.2	
7B. Job Preparation Objective (Clusters)				6.2	
* 8A. Cooperative Work Experience (Paid)		3.6			
* 8B. Work Experience (Unpaid)			4.0		
9. Vocational Student Organization			5.2		
10. Vocational Guidance				6.8	
11. Placement/Follow-Up		3.2			
12. Evaluation/Placement			4.5		
13. School Directed Projects				6.5	
14. Written Agreements/ Contracts				6.0	

VOCATIONAL VILLAGE HIGH SCHOOL

Child Care

1. Ways to strengthen program:

   Improve facilities
   Develop infant / toddler course
   Improve employment preparation training

2. Subject matter that could be improved:

   Employment preparation
   Infant/toddler courses

3. Subject matter on which inservice would be helpful:

   Developing worksites for students
   Developing leadership skills

Clerical

1. Ways to strengthen program:

   Reorganize computer center
   Develop non-paid work experience
   Develop student organizations
   Follow up services for completers

2. Subject matter that could be improved:

   General office skills: telephones, filing, mail
   Computer skills
   Work experience activities

3. Subject matter on which inservice would be helpful:

   Computer updating
   Altering poor speech and grammar patterns

Food Service

1. Ways to strengthen program:

   Hire teacher aide
   Improve classroom facilities
   Improve curriculum in health science, marketing
   Teach computer skills

2. Subject matter that could be improved:

   Human relations/leadership
   Food serving techniques

3. Subject matter on which inservice would be helpful:

   Access to trade publications
   Technical skill upgrading

Health Occupations

1. Ways to strengthen program:

   Add to and improve technical knowledge and skills
   Develop follow up system

2. Subject matter that could be improved:.

   Advanced health care skills
   Increase social science classes

3. Subject matter on which inservice would be helpful:

   Computerized follow up system
   Reassessing and improving existing facilities

Industrial Mechanics

1. Ways to strengthen program:

   Have more definite timelines
   Entrepeneurship
   Improve welding classes

2. Subject matter that could be improved:

   Hydraulic systems
   Test equipment

3. Subject matter on which inservice would be helpful:

   Updating on specification books

Marketing

1. Ways to strengthen program:

   Develop cooperative placement and follow up
   Separate classroom and lab facilities

2. Subject matter that could be improved:

   Cooperative placements

3. Subject matter on which inservice would be helpful:

   Career opportunities

Metals

1. Ways to strengthen program:

   Improve training in working with metals

2. Subject matter that could be improved:

   Training in welding machines and other equipment

3. Subject matter on which inservice would be helpful:

   Autobody , robotics, machining

WILSON HIGH SCHOOL
APPROVED VOCATIONAL CLUSTER COURSE OFFERINGS

Accounting

Accounting I, II, III and IV (CWE)

Clerical

Accounting, Business Machines, Office Management, Typing (CWE)

Marketing

Marketing (CWE)

Secretarial

Office Practice, Office Simulation, Shorthand, Typing (CWE)

Graphic Arts

Intermediate Graphics, Advanced Graphics (CWE)

Child Care

Child Care Vocational Program (CWE)

WILSON HIGH SCHOOL

1983-84 VOCATIONAL EDUCATION ENROLLMENTS FOR GRADES 9-12

Vocational Education Cluster Programs	Males N= 95	Females N=171	Handicapped N= 1	Minority N= 32	Total N=266
Agriculture*	3				3
Marketing	19	40		6	59
Health Services					
Food Services					
Accounting	58	77	1	14	135
Clerical	6	24		7	30
Secretarial		10		1	10
Mechanical					
Construction*	2			1	2
Electronics					
Metals					
Child Care	1	16		2	17
Graphic Arts	6	4		1	10
Service Occupation					
Diversified Occupation					
Special Programs					

Note: Programs with a star are not offered at this school but students travel to another location for such offerings.

WILSON HIGH SCHOOL

VOCATIONAL CLUSTER PROGRAM ANALYSIS SUMMARY

Cluster Program Components	1 2 3 FAIR	4 5 VERY GOOD	6 7 EXCELLENT	8 9 SUPERIOR
1. Advisory Committee		5.0		
2. Instructor Competencies			6.2	
3A. Equal Opportunity				8.5
3B. Non-Biased Curriculum			6.6	
4. Facilities		4.4		
5. Safety			6.0	
6. Equipment, Materials, Supplies	2.8			
7A. Skill/Knowledge Requirements (Curriculum)			7.6	
7B. Job Preparation Objective (Clusters)		5.6		
* 8A. Cooperative Work Experience (Paid)		4.0		
* 8B. Work Experience (Unpaid)		5.0		
9. Vocational Student Organization		4.0		
10. Vocational Guidance	3.7			
11. Placement/Follow-Up	1.3			
12. Evaluation/Placement		4.0		
13. School Directed Projects			6.3	
14. Written Agreements/ Contracts		4.3		

WILSON HIGH SCHOOL

Accounting

1. Ways to strengthen program:

   Purchase computer hardware and related furnishings
   Purchase software
   Purchase electronic calculators

2. Subject matter that could be improved:

   Improve computerized accounting classes
   Improve information processing classes

3. Subject matter on which inservice would be helpful:

   Site visits to training schools, businesses
   Computer software training

Child Care

1. Ways to strengthen program:

   Expand facility
   Hire aide position
   Increase work experience; develop follow up system
   Start FHA/HERO programs
   Develop 2 year program

2. Subject matter that could be improved:

   Needs of exceptional children
   Job readiness training

3. Subject matter on which inservice would be helpful:

   Student follow up
   Computerized management systems

Graphic Communications

1. Ways to strengthen program:

   Include computer training
   More math classes for graphics students

2. Subject matter that could be improved:

   Leadership training
   Importance of media
   Measurement classes
   Safety training

3. Subject matter on which inservice would be helpful:

   Computer maintenance

Marketing

1. Ways to strengthen program:

   Update facilities
   Hire another marketing staff person
   Develop follow up system

2. Subject matter that could be improved:

   Use of computers in marketing
   Increase economics curriculum
   Increase math classes
   Career development information

3. Subject matter on which inservice would be helpful:

   Hospitality / tourism trades
   Site visits to businesses
   Entrepreneurship

Secretarial

1. Ways to strengthen program:

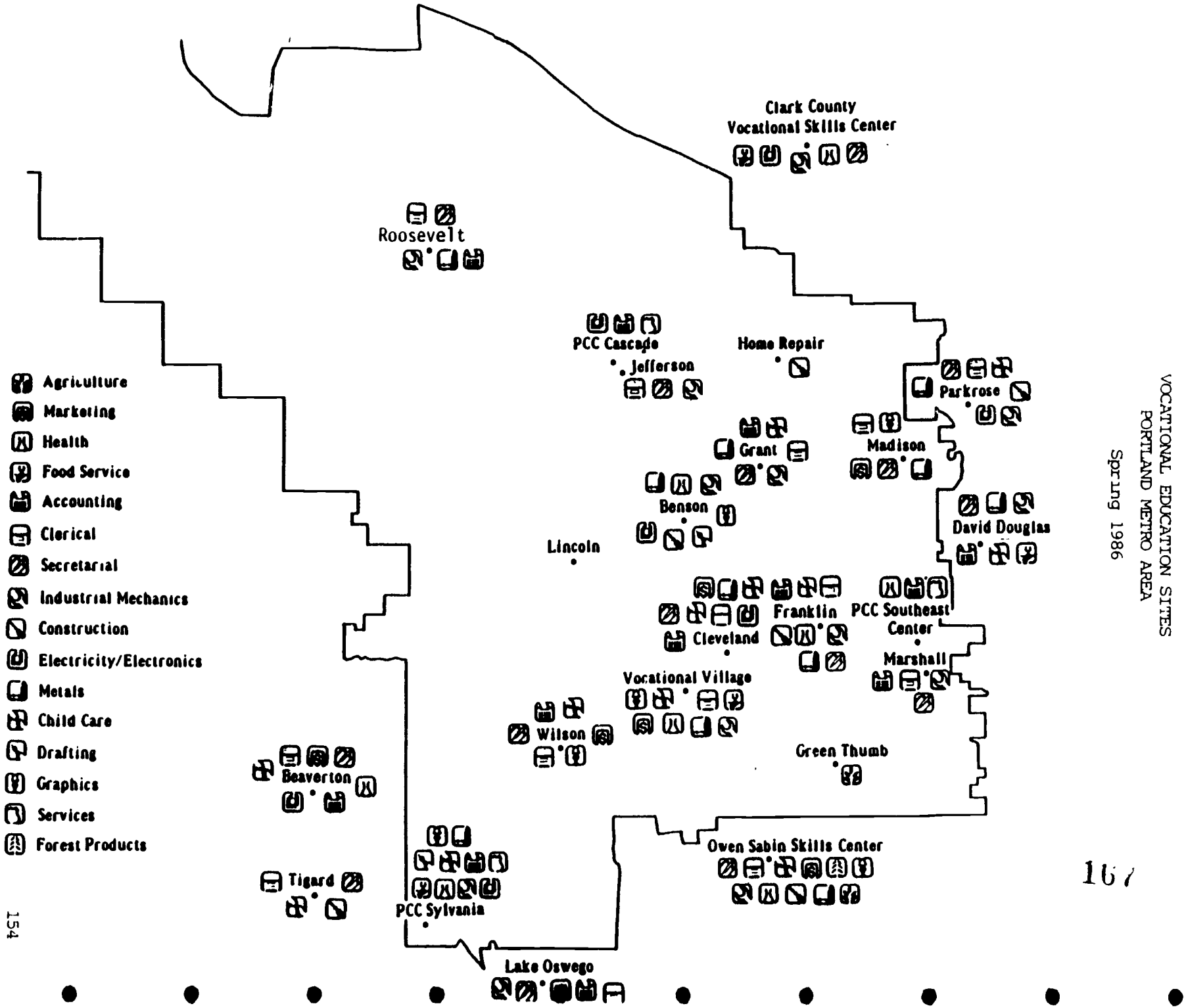
   Acquire data base and spreadsheet software
   Develop quality teaching materials and flyers
   Obtain telephone/telecommunications system

2. Subject matter that could be improved:

   Use of computers and software
   Electronic mail systems

3. Subject matter on which inservice would be helpful:

   Release time for training in computer software



VOCATIONAL EDUCATION SITES
PORTLAND METRO AREA
Spring 1986

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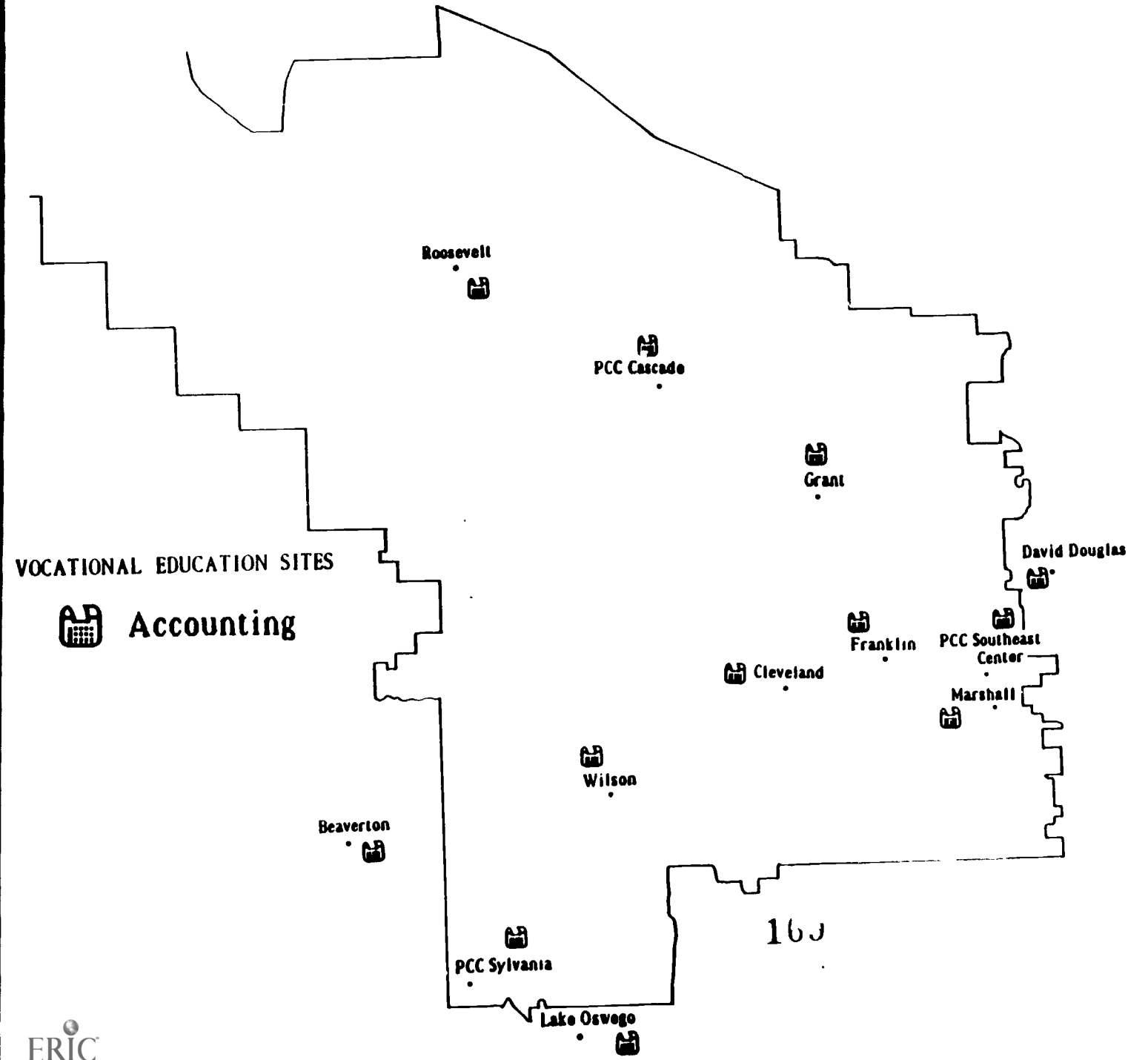
VI. CLUSTER PROFILES

6.1 Overview

This section is organized around the existing clusters found in the Portland Public Schools. For each cluster (i.e., accounting) we present: 1) a map showing the locations where the cluster is taught, 2) the averages of ratings of functional components done by instructors and advisory council members during the self-assessment process; 3) a summary of program needs and recommendations for improvements as identified during that same process; and 4) a statewide listing of employment, openings, unemployment rate, ratio of education supply to openings, number of existing programs in this cluster at the secondary and community college level, and outlook for program expansion. The Portland labor market area may offer more employment opportunities than the balance of the state. Interpretation of these data must also be balanced by employer advisory committee input.

For more information on the self assessment process, please refer to section 4 of this report. The statewide employment and vocational supply tables come from the April 1985 "Program Development Forecasts, Fiscal Years 1986-1988," produced by the Oregon Department of Education, Division of Vocational Education, and the Oregon Occupational Information Coordinating Committee. Columns 1 to 6 of these tables are hopefully self-explanatory. Column 7 is the ratio of 1983 educational supply to projected 1983 openings (educational supply includes completers of high school, community college, private vocational schools and corrections programs). Columns 8 and 9 are the number of state approved secondary and community college programs for 1984-85. Columns 10 and 11 are the estimated number of new secondary or community college programs that could be started in order to meet the labor market demand. Columns 12 and 13 reflect the program expansion outlook for secondary and community college vocational programs. The numbers indicate the projected number of additional sections that could be expanded assuming an average enrollment of 15 students per section.


VOCATIONAL EDUCATION SITES
Accounting
Roosevelt
PCC Cascade
Grant
David Douglas
Franklin
PCC Southeast Center
Cleveland
Marshall
Wilson
Beaverton
PCC Sylvania
Lake Oswego

ACCOUNTING
CLUSTER RATINGS

Cluster Program Components	1 2 3 FAIR	4 5 6 GOOD	7 8 9 VERY GOOD	EXCELLENT	SUPERIOR
1. Advisory Committee			5.5		
2. Instructor Competencies					7.7
3A. Equal Opportunity					7.7
3B. Non-Biased Curriculum				7.2	
4. Facilities			5.5		
5. Safety				7.2	
6. Equipment, Materials, Supplies			5.5		
7A. Skill/Knowledge Requirements (Curriculum)					8.0
7B. Job Preparation Objective (Clusters)				7.2	
* 8A. Cooperative Work Experience (Paid)			5.2		
* 8B. Work Experience (Unpaid)					
9. Vocational Student Organization		3.0			
10. Vocational Guidance				7.0	
11. Placement/Follow-Up	1.0				
12. Evaluation/Placement				6.5	
13. School Directed Projects	1.0				
14. Written Agreements/ Contracts				6.0	

6.2 Ways to Strengthen Program

Accounting

1. Ways to strengthen program:

   Obtain additional equipment, including computer hardware, office furniture, calculators
   Obtain additional computer software and general textbooks
   Increase support from other departments, such as language arts, math, counseling
   Increase staff training time
   Computer training classes for staff

2. Subject matter that could be improved:

   Improve personal skills training
   Upgrade basic skills
   Improve classes in computer use and applications
   Improve classes in business skills, especially communication and computation
   Develop staffed business lab
   Develop/improve network of classroom presenters

3. Subject matter on which inservice would be helpful

   On-site visitations to industry and training schools
   Business internships/leaves of absence for training
   Training in specific computer software and applications
   Technical workshops/training from members of business community

PROJECTED SECONDARY AND COMMUNITY COLLEGE PROGRAM DEVELOPMENT AND EXPANSION OUTLOOK
FISCAL YEARS 1986 - 1988

		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13
CIP CODE	CIP PROGRAM	EMPLOYMENT 1986	EMPLOYMENT 1988	OPENINGS 1986	OPENINGS 1988	UNEMPLOYMENT RATE 1983	UNEMPLOYMENT RATE 1984	EDUCATION SUPPLY/ OPENINGS 1983	PROGRAMS SEC	PROGRAMS CC	NEW PROGRAM DEVEL OUTLOOK SEC	NEW PROGRAM DEVEL OUTLOOK CC	EXPANDED PROGRAM DEVEL OUTLOOK SEC	EXPANDED PROGRAM DEVEL OUTLOOK CC
	ACCOUNTING													
07010200	ACCOUNTING	9,421	9,876	581	611	8.3%	6.8%	2.08		.8		2		2
07010300	BOOKKEEPING	27,296	28,638	1,733	1,800	13.0	10.6	.27		4		1		2
TOTAL		36,717	38,506	2,314	2,411	11.4	9.3	.69	106	12	3	3	2	4

Notes: Secondary program development and expansion outlook shown at the cluster level only.
Employment Across All Industries.

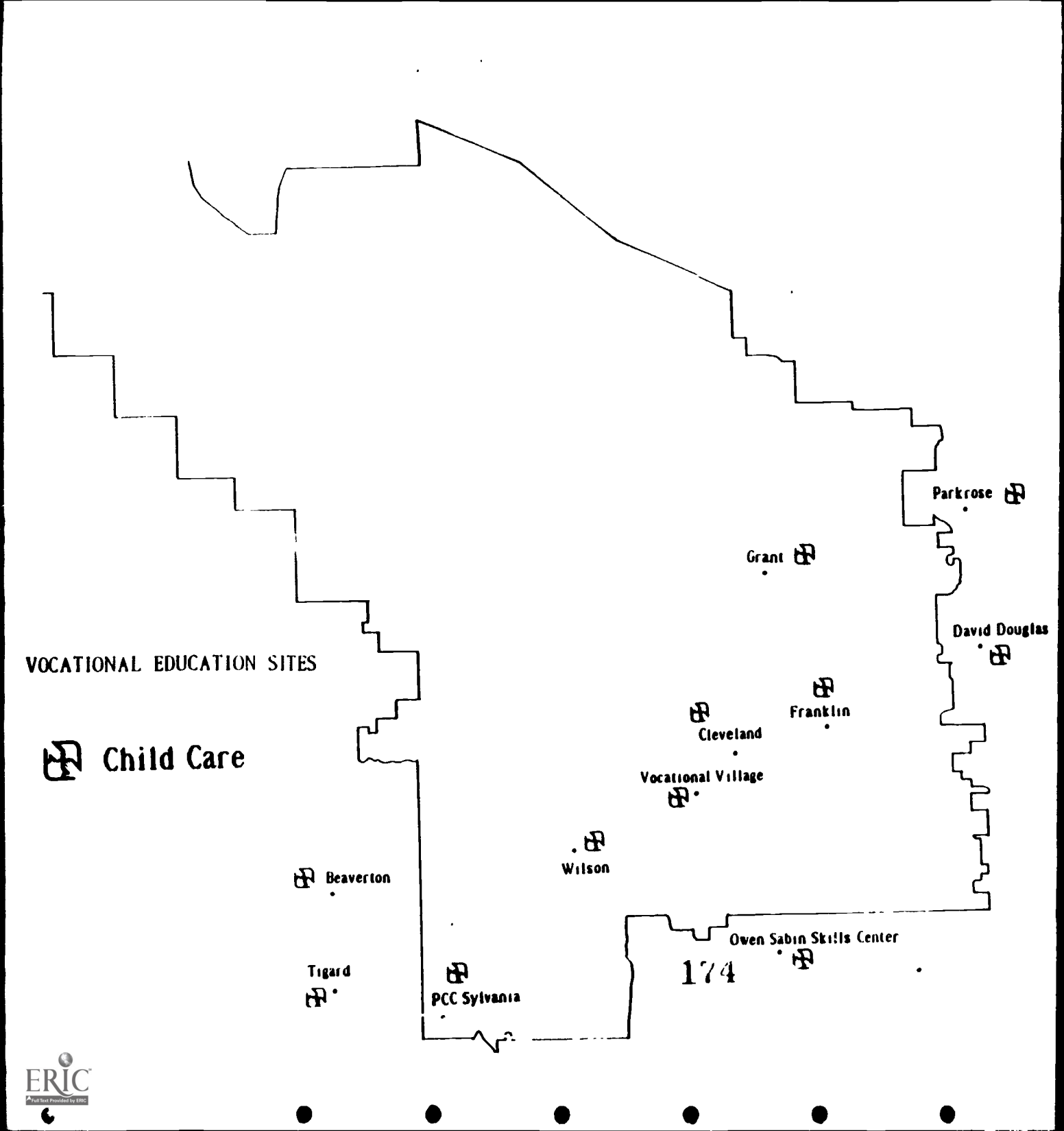
CLUSTER SUMMARY: A balance of workers is indicated. Both the demand for workers and the skills needed are being influenced by computerized accounting systems. Considering both future employment growth and the number of existing programs, the need for new and expended programs is average.

159

172

173

ACCOUNTING


VOCATIONAL EDUCATION SITES
Child Care
Parkrose
Grant
David Douglas
Franklin
Cleveland
Vocational Village
Wilson
Beaverton
Owen Sabin Skills Center
Tigard
PCC Sylvania

CHILD CARE
CLUSTER RATINGS

Cluster Program Components	1 FAIR	2	3 GOOD	4	5 VERY GOOD	6	7 EXCELLENT	8	9 SUPERIOR
1. Advisory Committee					5.0				
2. Instructor Competencies								7.7	
3A. Equal Opportunity									9.0
3B. Non-Biased Curriculum							6.2		
4. Facilities			3.0						
5. Safety							6.7		
6. Equipment, Materials, Supplies							6.5		
7A. Skill/Knowledge Requirements (Curriculum)								8.0	
7B. Job Preparation Objective (Clusters)			3.7						
* 8A. Cooperative Work Experience (Paid)						6.0			
* 8B. Work Experience (Unpaid)									
9. Vocational Student Organization									
10. Vocational Guidance					5.3				
11. Placement/Follow-Up					5.0				
12. Evaluation/Placement				4.5					
13. School Directed Projects								8.0	
14. Written Agreements/ Contracts								8.0	

Child Care

1. Ways to strengthen program

   Fund teacher aide position
   Develop a follow up system
   Institute work experience
   Institute 2 year program
   Improve courses in infant/toddlers, needs of exceptional children
   Improve facilities
   Improve student employment preparation, organizational skills
   Start faculty day care program
   Institute HERO organizations

2. Subject matter that could be improved

   Needs of exceptional children
   Infant/toddler courses
   Job readiness/personal skills training

3. Subject matter on which inservice would be helpful

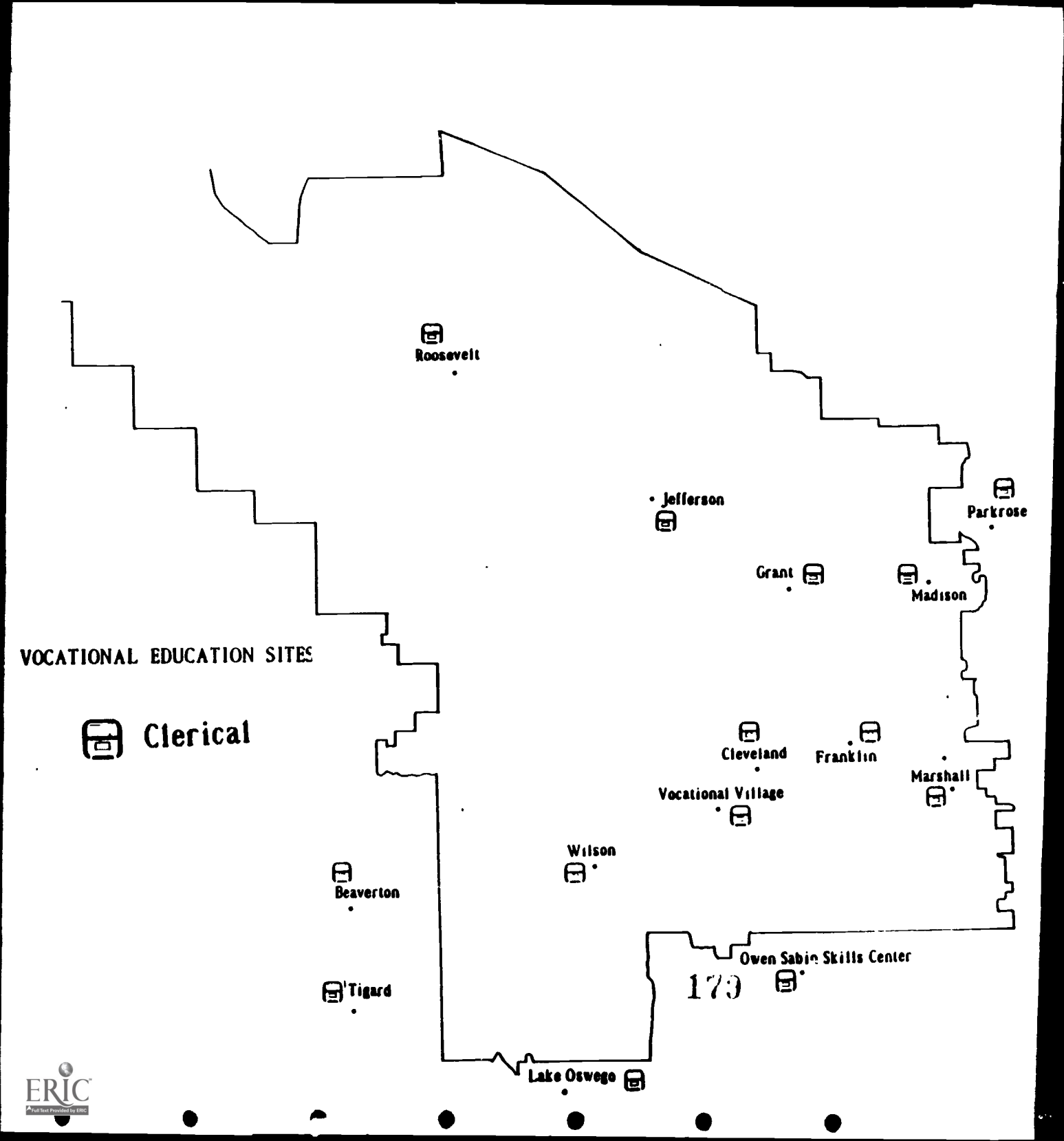
   Student follow up
   Development of outside work/training sites for students
   Computerized management systems
   Developing student leadership skills

PROJECTED SECONDARY AND COMMUNITY COLLEGE PROGRAM DEVELOPMENT AND EXPANSION OUTLOOK
FISCAL YEARS 1986 - 1988

		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13
CIP CODE	CIP PROGRAM	EMPLOYMENT 1986	EMPLOYMENT 1988	OPENINGS 1986	OPENINGS 1988	UNEMPLOYMENT RATE 1983	UNEMPLOYMENT RATE 1984	EDUCATION SUPPLY/ OPENINGS 1983	PROGRAMS SEC	PROGRAMS CC	NEW PROGRAM DEVEL OUTLOOK SEC	NEW PROGRAM DEVEL OUTLOOK CC	EXPANDED PROGRAM DEVEL OUTLOOK SEC	EXPANDED PROGRAM DEVEL OUTLOOK CC
	CHILD CARE													
20020100	CHILD CARE & GUIDANCE	2,979	3,156	233	242	13.3%	11.6%	.50		6		1		2
TOTAL		2,979	3,156	233	242	13.3	11.6	.50	26	6	2	1	2	2

Note: Secondary program development and expansion outlook shown at the cluster level only.

CLUSTER SUMMARY: A surplus of workers is indicated for this cluster. Considering both the future employment outlook and the number of existing programs, the need for program development and expansion is minimal.


VOCATIONAL EDUCATION SITES
Clerical
Roosevelt
Jefferson
Parkrose
Grant
Madison
Cleveland
Franklin
Marshall
Vocational Village
Wilson
Beaverton
Tigard
Owen Sabin Skills Center
Lake Oswego

CLERICAL
CLUSTER RATINGS

Cluster Program Components	1 FAIR	2	3 GOOD	4	5 VERY GOOD	6	7 EXCELLENT	8 SUPERIOR	9
1. Advisory Committee					5.3				
2. Instructor Competencies								8.0	
3A. Equal Opportunity							6.3		
3B. Non-Biased Curriculum							7.0		
4. Facilities						6.0			
5. Safety					5.0				
6. Equipment, Materials, Supplies					5.3				
7A. Skill/Knowledge Requirements (Curriculum)							7.6		
7B. Job Preparation Objective (Clusters)							7.4		
* 8A. Cooperative Work Experience (Paid)							7.4		
* 8B. Work Experience (Unpaid)								8.0	
9. Vocational Student Organization					5.6				
10. Vocational Guidance							6.3		
11. Placement/Follow-Up					4.6				
12. Evaluation/Placement						6.0			
13. School Directed Projects							6.5		
14. Written Agreements/ Contracts					5.0				

Clerical

1. Ways to strengthen program

   Purchase computer hardware and software
   Purchase needed furniture and reference manuals
   Institute courses in personal skills, career information
   Develop non-paid work experience for students
   Develop student organizations
   Reorganize computer center

2. Subject matter that could be improved

   Computer uses and applications
   General office procedure courses, i.e. mail handling, filing, reception, typing
   Job retention and growth

3. Subject matter on which inservice would be helpful

   Use of computers, data bases and systems in clerical positions
   Telecommunications
   Receptionist techniques
   Career paths for clerical students
   Improving verbal skills of students
   Visits to local businesses

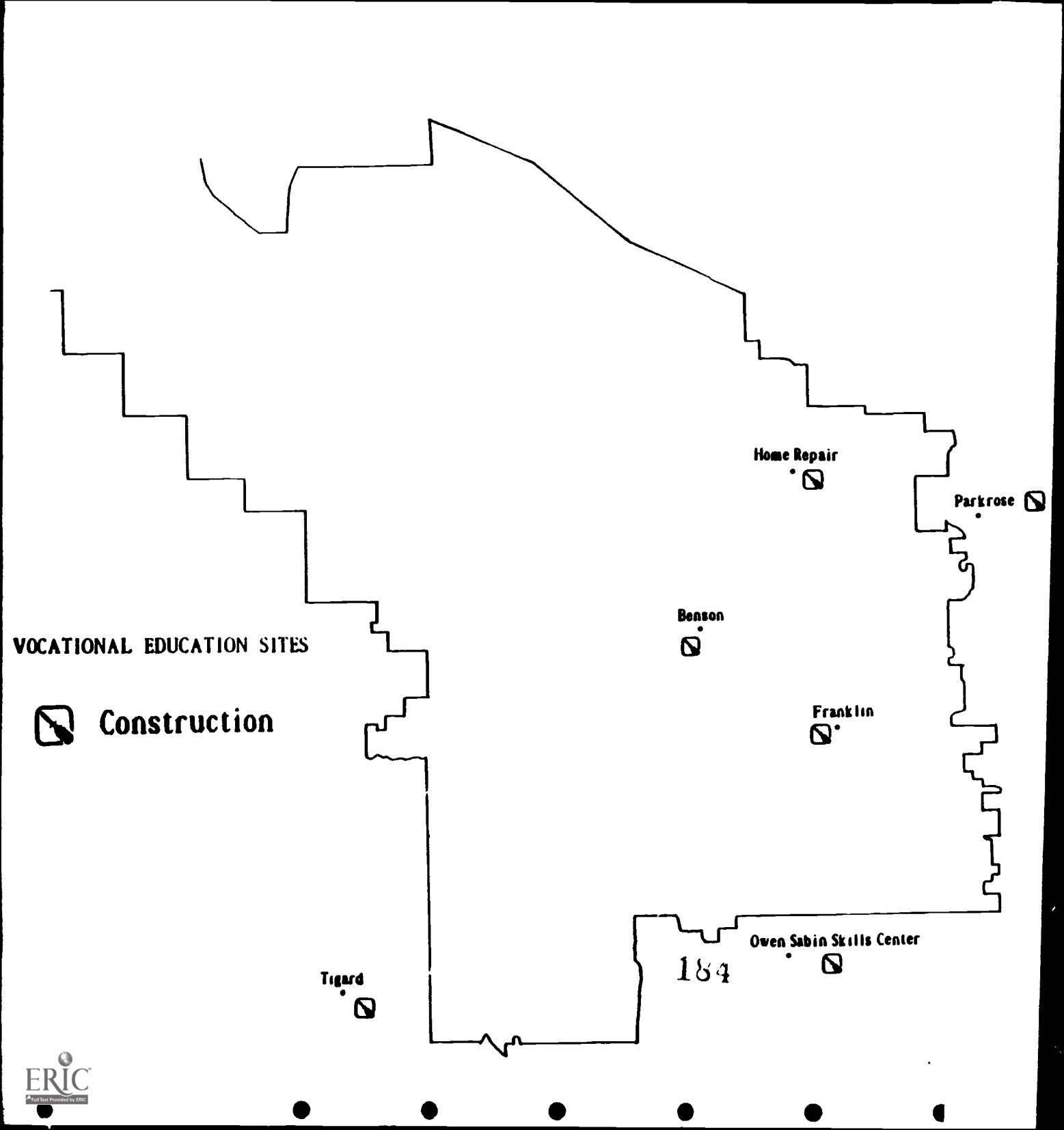
PROJECTED SECONDARY AND COMMUNITY COLLEGE PROGRAM DEVELOPMENT AND EXPANSION OUTLOOK
FISCAL YEARS 1986 - 1988

CIP CODE	CIP PROGRAM	#1 EMPLOYMENT 1986	#2 EMPLOYMENT 1988	#3 OPENINGS 1986	#4 OPENINGS 1988	#5 UNEMPLOYMENT RATE 1983	#6 UNEMPLOYMENT RATE 1984	#7 EDUCATION SUPPLY/ OPENINGS 1983	#8 PROGRAMS SEC	#9 PROGRAMS CC	#10 NEW PROGRAM DEVEL OUTLOOK SEC	#11 NEW PROGRAM DEVEL OUTLOOK CC	#12 EXPANDED PROGRAM DEVEL OUTLOOK SEC	#13 EXPANDED PROGRAM DEVEL OUTLOOK CC
	CLERICAL													
07030200	COMPUTER & CONSOLE OPERATION	1,805	1,899	77	79	19.5%	17.2%	.63		3		1		2
07030300	DATA ENTRY EQUIPMENT OPERATION	5,443	5,720	321	336	7.4	5.3	.06		2		0		0
07030500	DATA PROGRAMMING	2,210	2,342	85	87	8.0	7.3	9.59		6		0		0
07040100	OFFICE SUPERVISION & MGMT	4,851	5,014	255	264	3.8	3.2	.56		20		0		0
07070100	TYPING & GENERAL OFFICE	47,017	48,974	2,610	2,712	14.0	11.6	.07		10		0		0
07070200	CLERK-TYPIST	12,012	12,388	639	661	8.1	6.6	.66		4		0		0
07070700	RECEPTIONIST & COMMUNICATION	12,902	13,436	759	789	16.6	14.1	.01		3		0		0
11010100	COMPUTER & INFORMATION SCIENCES	NA	NA	NA	NA	NA	NA	NA		2		0		0
17050600	MEDICAL RECORDS TECHNOLOGY	252	262	15	15	7.7	8.3	6.85		3		1		0
TOTAL		86,492	90,035	4,761	4,943	11.5	9.6	.37	145	53	6	2	0	2

Notes: Secondary program development and expansion outlook shown at the cluster level only.
Employment Across All Industries.

NA = Not Available

CLUSTER SUMMARY: Overall, a surplus between supply and demand is indicated. However, many of the occupations in this cluster require computer skills that provide many employment opportunities for these workers in other fields. In addition, the job duties of several occupations are changing as computer skills are now being required. Three examples are the typist, data entry keyer, and the medical records technician. Considering future employment growth, the number of existing programs and new and changing job duties, the need for program development is average.


Home Repair
Parkrose
Benson
VOCATIONAL EDUCATION SITES
Construction
Franklin
Owen Sabin Skills Center
Tigard

CONSTRUCTION
CLUSTER RATINGS

Cluster Program Components	1 2 3 FAIR	4 5 GOOD	6 VERY GOOD	7 EXCELLENT	8 9 SUPERIOR
1. Advisory Committee				6.3	
2. Instructor Competencies				6.3	
3A. Equal Opportunity					8.0
3B. Non-Biased Curriculum				7.0	
4. Facilities				7.0	
5. Safety				7.0	
6. Equipment, Materials, Supplies				7.0	
7A. Skill/Knowledge Requirements (Curriculum)				6.6	
7B. Job Preparation Objective (Clusters)				6.3	
* 8A. Cooperative Work Experience (Paid)					
* 8B. Work Experience (Unpaid)					
9. Vocational Student Organization				7.0	
10. Vocational Guidance			4.3		
11. Placement/Follow-Up		3.0			
12. Evaluation/Placement		3.0			
13. School Directed Projects				7.0	
14. Written Agreements/ Contracts				7.0	

Construction

1. Ways to strengthen program

   Expand, update and organize curriculum
   Increase on-site experiences
   Develop follow up system
   Develop job placement program
   Improve math skills of youth

2. Subject matter that could be improved

   Plumbing skills classes
   Electrical skills classes
   Concrete work skills
   Blueprint reading
   Improving basic skills

3. Subject matter on which inservice would be helpful

   Upgrading in plumbing, electrical and other specific skills
   Uses of computers in construction-related fields
   Scientific data

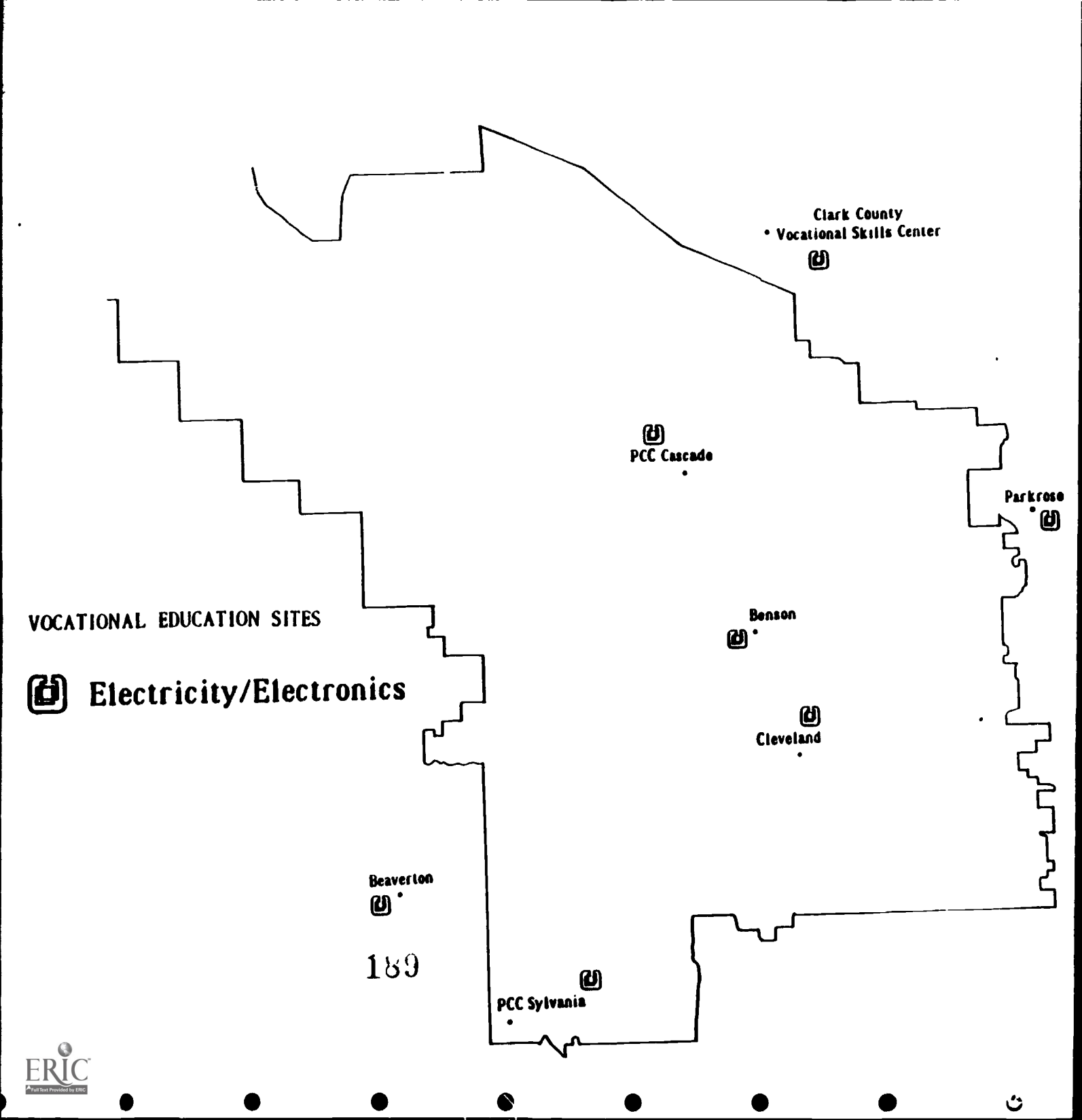
PROJECTED SECONDARY AND COMMUNITY COLLEGE PROGRAM DEVELOPMENT AND EXPANSION OUTLOOK
FISCAL YEARS 1986 - 1988

		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13
		EMPLOYMENT		OPENINGS		UNEMPLOYMENT RATE		EDUCATION SUPPLY/ OPENINGS	PROGRAMS		NEW PROGRAM DEVEL OUTLOOK		EXPANDED PROGRAM DEVEL OUTLOOK	
CIP CODE	CIP PROGRAM	1986	1988	1986	1988	1983	1984	1983	SEC	CC	SEC	CC	SEC	CC
	CONSTRUCTION													
15020100	CIVIL TECHNOLOGY	4,960	5,225	251	262	10.5%	8.9%	1.69		7		0		0
46010100	TILE & MASONRY	673	762	60	64	27.4	21.5	.00		0		A		0
46020100	CARPENTRY	9,300	10,305	804	848	33.4	26.4	.04		4		0		0
46040300	CONSTRUCTION INSPECTION	452	459	29	31	11.0	8.4	.37		1		0		3
46040600	GLAZING	533	580	36	37	18.0	15.0	.00		0		A		0
46040800	PAINTING & DECORATING	1,633	1,721	109	115	30.0	25.0	.00		0		A		0
46040900	PLASTERING	325	369	31	32	19.2	15.3	.00		0		A		0
46041000	ROOFING	789	848	45	47	35.4	31.9	.00		0		A		0
46049900	CONSTRUCTION TRADES, OTHER	7,207	7,770	444	463	52.8	45.4	.08		0		A		0
46050100	PLUMBING & PIPEFITTING	4,216	4,507	265	277	15.2	13.2	.00		0		A		0
48070300	MILLWORK & CABINET MAKING	1,302	1,423	171	185	27.8	21.6	.00		1		0		1
49020200	CONSTRUCTION EQUIP OPERATION	6,266	6,672	363	379	27.8	23.8	.38		0		A		0
TOTAL		37,656	40,641	2,608	2,740	33.0	27.0	.27	49	13	0	0	0	4

Note: Secondary program development and expansion outlook shown at the cluster level only.

A = Apprenticeable Trade

CLUSTER SUMMARY: Construction has experienced a surplus of workers since 1979. 1.7 million housing starts nationally may not help Oregon's construction industry due to a surplus of housing in Oregon. Self employment is significant in this cluster. For example, according to the 1980 Census, in Oregon approximately 50 percent of the Carpenters were self employed. This labor force is also highly mobile. Considering both future employment outlook and the number of existing programs, the need for program development and expansion is minimal.


Clark County
• Vocational Skills Center
PCC Cascade
Parkrose
VOCATIONAL EDUCATION SITES
Electricity/Electronics
Benson
Cleveland
Beaverton
PCC Sylvania

ELECTRONICS
CLUSTER RATINGS

Cluster Program Components	1 2 3 FAIR	GOOD	4 5 VERY GOOD	6 7 EXCELLENT	8 9 SUPERIOR
1. Advisory Committee			5.5		
2. Instructor Competencies					8.0
3A. Equal Opportunity				7.0	
3B. Non-Biased Curriculum					9.0
4. Facilities				6.5	
5. Safety					9.0
6. Equipment, Materials, Supplies				6.0	
7A. Skill/Knowledge Requirements (Curriculum)					8.5
7B. Job Preparation Objective (Clusters)				7.0	
* 8A. Cooperative Work Exper ence (Paid)				7.0	
* 8B. Work Experience (Unpaid)					9.0
9. Vocational Student Organization					9.0
10. Vocational Guidance				7.0	
11. Placement/Follow-Up				6.0	
12. Evaluation/Placement			5.5		
13. School Directed Projects					8.0
14. Written Agreements/ Contracts					9.0

Electrical

1. Ways to strengthen program

   Revise and update curriculum in technical subject matter
   Incorporate computers and programming into curriculum offerings
   Improve career information and job placement component
   Encourage participation in student vocational organizations

2. Subject matter that could be improved

   Computer related technical skills
   Design techniques
   Practical servicing/trouble-shooting skills
   Use of lasers, fiber-optics and other technical innovations

3. Subject matter on which inservice would be helpful

   Laser, fiber-optics and other technical innovations
   Computer related technical skills
   Service and repair of VCR equipment

PROJECTED SECONDARY AND COMMUNITY COLLEGE PROGRAM DEVELOPMENT AND EXPANSION OUTLOOK
FISCAL YEARS 1986 - 1988

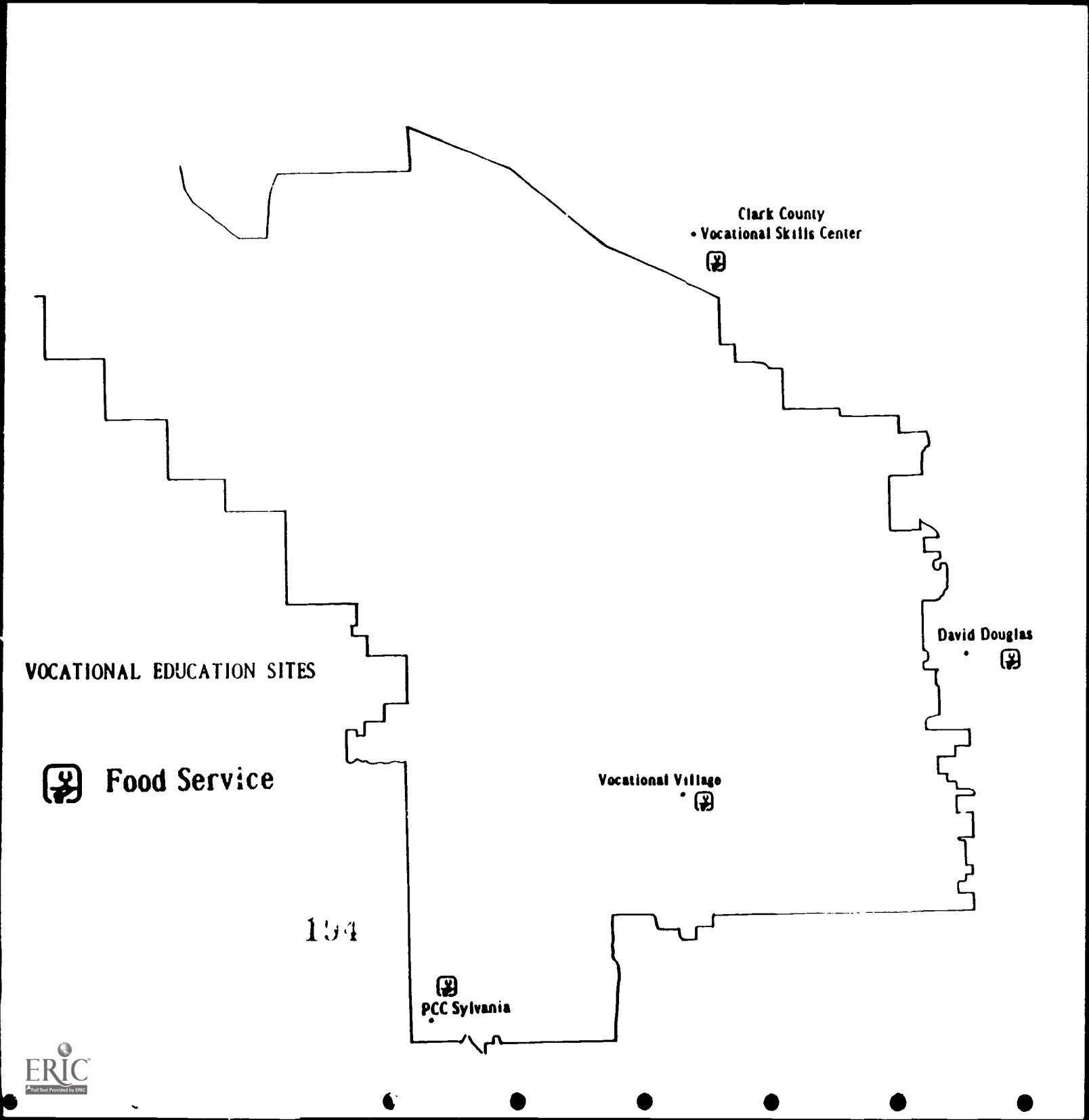
CIP CODE	CIP PROGRAM	#1 EMPLOYMENT 1986	#2 EMPLOYMENT 1988	#3 OPENINGS 1986	#4 OPENINGS 1988	#5 UNEMPLOYMENT RATE 1983	#6 UNEMPLOYMENT RATE 1984	#7 EDUCATION SUPPLY/ OPENINGS 1983	#8 PROGRAMS SEC	#9 PROGRAMS CC	#10 NEW PROGRAM DEVEL OUTLOOK SEC	#11 NEW PROGRAM DEVEL OUTLOOK CC	#12 EXPANDED PROGRAM DEVEL OUTLOOK SEC	#13 EXPANDED PROGRAM DEVEL OUTLOOK CC
	ELECTRICITY/ELECTRONICS													
15030100	COMPUTER TECHNOLOGY	NA	NA	NA	NA	NA	NA	NA		1		0		0
15030300	ELECTRONIC TECHNOLOGY	9,025	9,758	506	521	5.6%	4.7%	1.57		10		1		2
15040200	COMPUTER SERVICING TECH.	NA	NA	NA	NA	NA	NA	NA		1		0		0
46030200	ELECTRICIAN	4,882	5,187	251	260	19.7	16.5	.00		0		A		0
46030300	LINEWORKER	2,547	2,644	99	102	9.3	8.3	.00		0		A		0
47010100	ELEC./ELECT. EQUIP. REPAIR	NA	NA	NA	NA	NA	NA	NA		1		0		0
47010300	COMMUNICATION ELECTRONICS	2,750	2,861	102	105	6.4	5.2	.61		5		1		3
47010500	INDUSTRIAL ELECTRONICS	2,095	2,218	105	109	2.8	2.5	.63		0		1		0
47010600	MAJOR APPLIANCE REPAIR	791	830	47	49	15.0	12.6	7.18		1		0		0
47040100	ELECTROMECHANICAL INSTR REPAIR	620	644	31	32	32.0	30.1	5.10		1		0		0
48999910	ELECTRICAL/ELECTRONIC ASSEMBLY	4,788	5,259	351	366	17.6	17.6	.07		1		0		0
48999920	ELECTROMECHANICAL ASSEMBLY	945	1,058	79	82	4.8	3.9	.00		0		1		0
TOTAL		28,443	30,459	1,571	1,626	11.6	10.3	.90	30	21	10	4	3	5

Note: Secondary program development and expansion outlook shown at the cluster level only.

A = Apprenticeable Trade

NA = Not Available

CLUSTER SUMMARY: A balance between demand and supply is indicated. Considering both the future employment outlook and the number of existing programs, the need for program development and expansion is average. Electronics cluster programs at the secondary level provide students with many transferable skills. If major expansion occurs in Oregon's electronics industry, community colleges may offer a variety of short term electronics programs.


Clark County
• Vocational Skills Center
David Douglas
VOCATIONAL EDUCATION SITES
Food Service
Vocational Village
PCC Sylvania

FOOD SERVICE
CLUSTER RATINGS

Cluster Program Components	1 FAIR	2	3 GOOD	4	5 VERY GOOD	6	7 EXCELLENT	8 SUPERIOR	9
1. Advisory Committee	1.0								
2. Instructor Competencies			3.0						
3A. Equal Opportunity									9.0
3B. Non-Biased Curriculum							7.0		
4. Facilities							7.0		
5. Safety									9.0
6. Equipment, Materials, Supplies			3.0						
7A. Skill/Knowledge Requirements (Curriculum)							7.0		
7B. Job Preparation Objective (Clusters)					5.0				
* 8A. Cooperative Work Experience (Paid)	1.0								
* 8B. Work Experience (Unpaid)									
9. Vocational Student Organization									
10. Vocational Guidance					5.0				
11. Placement/Follow-Up									
12. Evaluation/Placement	1.0								
13. School Directed Projects							7.0		
14. Written Agreements/ Contracts									

Food Service

1. Ways to strengthen program

   Develop health sciences, computer and other classes
   Add marketing and leadership training to curriculum
   Strengthen advisory committee
   Improve classroom facilities and teacher ratios

2. Subject matter that could be improved

   Human relations
   Serving techniques

3. Subject matter on which inservice would be helpful

   Access to trade publications
   Technical skill upgrading
   Advisory committee
   Assistance with ROA and NRA

PROJECTED SECONDARY AND COMMUNITY COLLEGE PROGRAM DEVELOPMENT AND EXPANSION OUTLOOK
FISCAL YEARS 1986 - 1988

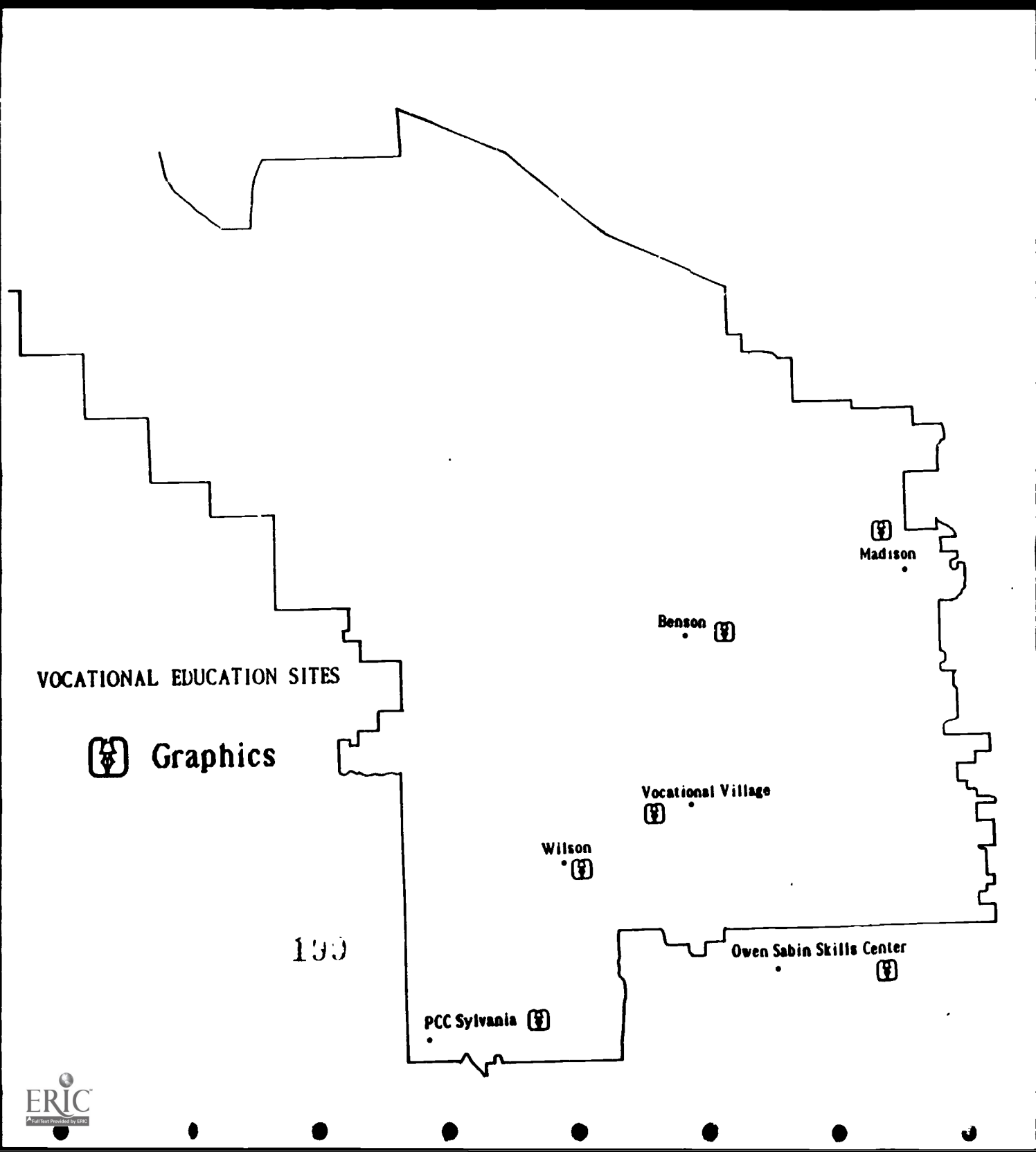
		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13
CIP CODE	CIP PROGRAM	EMPLOYMENT 1986	EMPLOYMENT 1988	OPENINGS 1986	OPENINGS 1988	UNEMPLOYMENT RATE 1983	UNEMPLOYMENT RATE 1984	EDUCATION SUPPLY/ OPENINGS 1983	PROGRAMS SEC	PROGRAMS CC	NEW PROGRAM DEVEL OUTLOOK SEC	NEW PROGRAM DEVEL OUTLOOK CC	EXPANDED PROGRAM DEVEL OUTLOOK SEC	EXPANDED PROGRAM DEVEL OUTLOOK CC
	FOOD													
01040200	FOOD PRODUCTS	7,176	7,397	292	303	20.8%	19.6%	.02		1		0		0
08090500	WAITER/WAITRESS/RELATED SERVICE	36,067	37,940	2,075	2,154	12.4	10.3	.00		0		0		0
20040100	FOOD PROD, P. MT & SERVICE	17,296	18,214	1,017	1,063	13.2	11.5	.40		4		0		0
20040200	BAKING	1,566	1,583	69	72	16.9	14.3	.00		0		A		0
20040300	CHEF/COOK	39,373	41,237	2,531	2,625	13.1	11.4	.00		3		4		3
48040200	MEATCUTTING	2,939	3,003	140	146	11.9	10.3	.35		0		A		0
TOTAL		104,417	109,374	6,124	6,363	13.5	11.7	.07	24	8	3	4	3	3

179

Note: Secondary program development and expansion outlook shown at the cluster level only.

A = Apprenticeable Trade

CLUSTER SUMMARY: Data indicate a surplus of workers for this cluster. However, there is a large demand for workers due to sizable employment, high turnover, and projected future industry growth. Considering both employment outlook and the number of existing programs, the need for new and expanded programs is average. At the secondary level, new Food Service programs would primarily serve the needs of the fast food service industry.


VOCATIONAL EDUCATION SITES
Graphics
Madison
Benson
Vocational Village
Wilson
Owen Sabin Skills Center
PCC Sylvania

GRAPHICS
CLUSTER RATINGS

Cluster Program Components	1 FAIR	2	3 GOOD	4	5 VERY GOOD	6	7 EXCELLENT	8	9 SUPERIOR
1. Advisory Committee			3.0						
2. Instructor Competencies					5.6				
3A. Equal Opportunity						6.0			
3B. Non-Biased Curriculum							6.3		
4. Facilities							6.3		
5. Safety					5.6				
6. Equipment, Materials, Supplies			3.6						
7A. Skill/Knowledge Requirements (Curriculum)							7.?		
7B. Job Preparation Objective (Clusters)			3.6						
* 8A. Cooperative Work Experience (Paid)		2.0							
* 8B. Work Experience (Unpaid)									
9. Vocational Student Organization				4.3					
10. Vocational Guidance			3.0						
11. Placement/Follow-Up			3.0						
12. Evaluation/Placement	1.6								
13. School Directed Projects						6.0			
14. Written Agreements/ Contracts									

Graphic Communication

1. Ways to strengthen program

   Improve and expand graphics equipment, materials and supplies
   Improve graphics curriculum
   Add safety classes
   Add computer class
   Increase math skills training
   Improve advisory committee

2. Subject matter that could be improved

   Graphic/Commercial arts and production
   Importance of media (site visits)
   Measurement standards coursework
   Safety training
   Leadership development
   Computer skills and applications

3. Subject matter on which inservice would be helpful

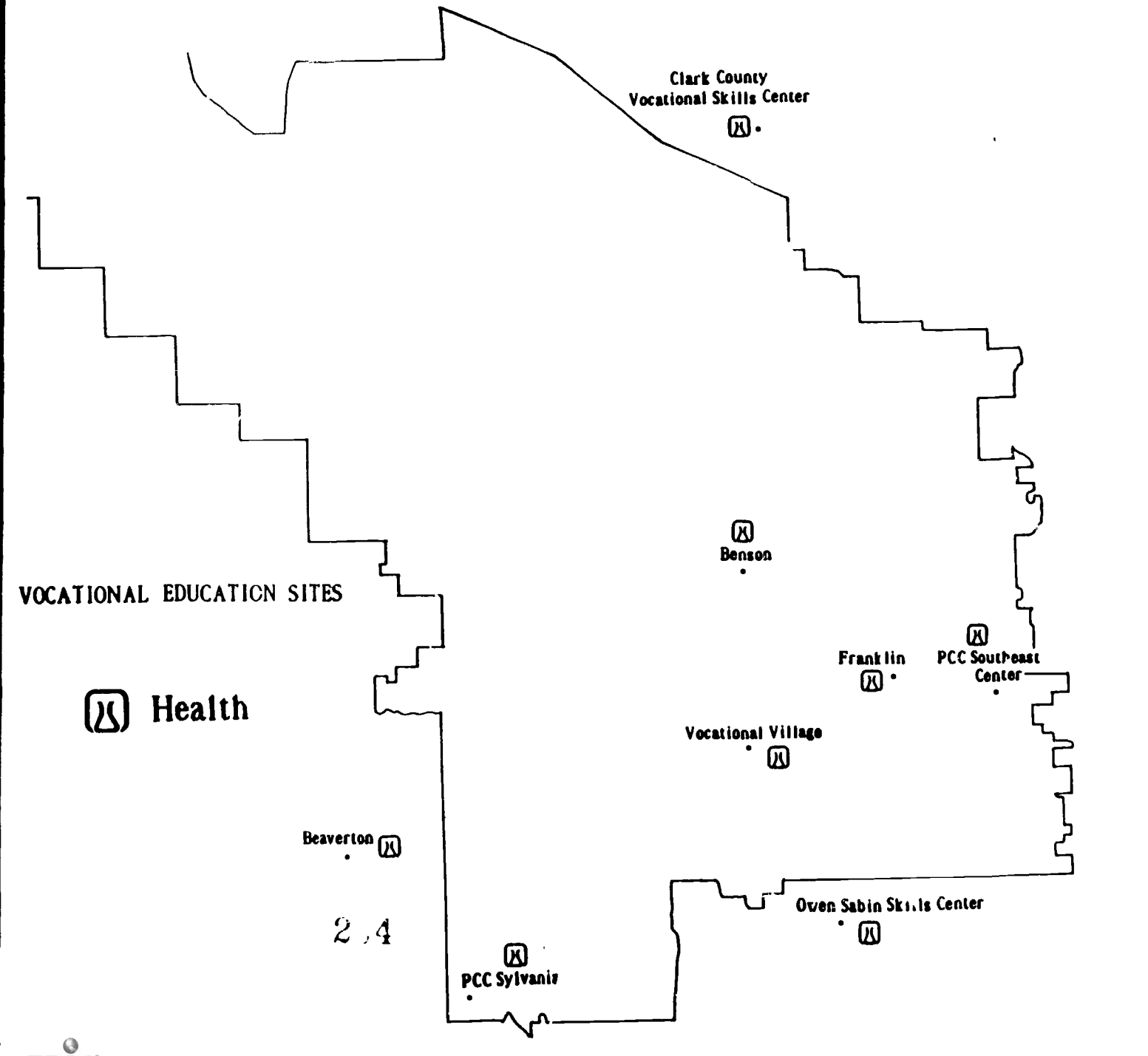
   Computer maintenance
   New techniques in design and production

PROJECTED SECONDARY AND COMMUNITY COLLEGE PROGRAM DEVELOPMENT AND EXPANSION OUTLOOK
FISCAL YEARS 1986 - 1988

		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13
CIP CODE	CIP PROGRAM	EMPLOYMENT 1986	EMPLOYMENT 1988	OPENINGS 1986	OPENINGS 1988	UNEMPLOYMENT RATE 1983	UNEMPLOYMENT RATE 1984	EDUCATION SUPPLY/ OPENINGS 1983	PROGRAMS SEC	PROGRAMS CC	NEW PROGRAM DEVEL OUTLOOK SEC	NEW PROGRAM DEVEL OUTLOOK CC	EXPANDED PROGRAM DEVEL OUTLOOK SEC	EXPANDED PROGRAM DEVEL OUTLOOK CC
	GRAPHICS													
09070100	RADIO/TELEVISION BROADCASTING	1,469	1,507	30	31	11.8%	10.5%	5.10		6		0		0
48020300	COMMERCIAL ART	1,516	1,609	79	83	24.3	21.0	3.33		3		0		0
48020600	LITHOGRAPHY/PHOTOGRAPHY	662	694	28	28	10.6	8.5	1.59		0		0		0
48020700	PHOTO LAB & DARKROOM	1,216	1,300	73	76	7.0	5.4	.00		1		0		0
48020800	PRINTING PRESS	2,281	2,379	92	95	8.9	7.6	.09		3		0		1
48029900	GRAPHIC/COMMUNICATIONS/OTHER	555	599	39	40	17.8	12.5	.00		1		0		0
TOTAL		7,699	8,088	341	353	12.4	10.5	1.07	14	14	1	0	2	1

Note: Secondary program development and expansion outlook shown at the cluster level only.

CLUSTER SUMMARY: A surplus of workers is indicated in this cluster. Considering both the future employment outlook and the number of existing programs, the need for program development and expansion is minimal.


Clark County
Vocational Skills Center
Benson
VOCATIONAL EDUCATION SITES
Health
Franklin
PCC Southeast
Center
Vocational Village
Beaverton
Oven Sabin Skills Center
PCC Sylvania

HEALTH
CLUSTER RATINGS

Cluster Program Components	1 2 3 FAIR	4 5 6 GOOD	7 8 9 VERY GOOD	EXCELLENT	SUPERIOR
1. Advisory Committee			5.3		
2. Instructor Competencies				7.3	
3A. Equal Opportunity				7.0	
3B. Non-Biased Curriculum				7.3	
4. Facilities	1.0				
5. Safety				6.6	
6. Equipment, Materials, Supplies			5.0		
7A. Skill/Knowledge Requirements (Curriculum)			5.6		
7B. Job Preparation Objective (Clusters)				6.3	
* 8A. Cooperative Work Experience (Paid)			5.0		
* 8B. Work Experience (Unpaid)			5.3		
9. Vocational Student Organization		4.3			
10. Vocational Guidance				7.3	
11. Placement/Follow-Up	1.6				
12. Evaluation/Placement		3.5			
13. School Directed Projects				7.0	
14. Written Agreements/ Contracts					8.3

Health Occupations

1. Ways to strengthen program

   Improve facilities and equipment
   Improve follow up
   Emphasize basic skills
   Improve vocational and educational counseling
   Improve technical skills curriculum

2. Subject matter that could be improved

   Training in specific health career areas
   Basic and advanced health care skill development
   Computer/clerical skill development

3. Subject matter in which inservice would be helpful

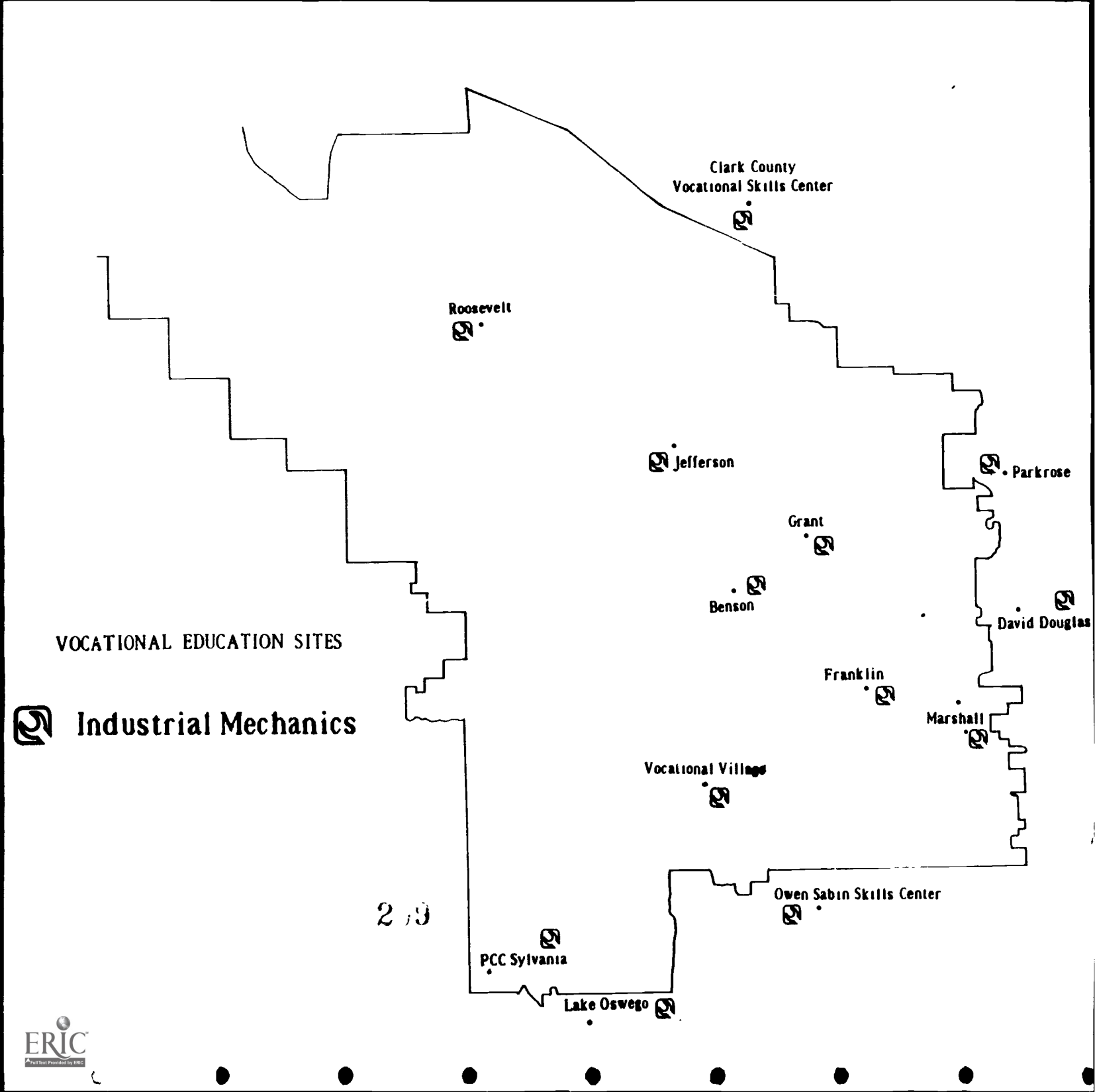
   Assessment of facilities and assistance in making improvements
   Development of computerized teaching and tracking systems
   Technical upgrading in specific skill areas

PROJECTED SECONDARY AND COMMUNITY COLLEGE PROGRAM DEVELOPMENT AND EXPANSION OUTLOOK
FISCAL YEARS 1986 - 1988

		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13
CIP CODE	CIP PROGRAM	EMPLOYMENT 1986	EMPLOYMENT 1988	OPENINGS 1986	OPENINGS 1988	UNEMPLOYMENT RATE 1983	UNEMPLOYMENT RATE 1984	EDUCATION SUPPLY/ OPENINGS 1986	PROGRAMS SEC	PROGRAMS CC	NEW PROGRAM DEVEL OUTLOOK SEC	NEW PROGRAM DEVEL OUTLOOK CC	EXPANDED PROGRAM DEVEL OUTLOOK SEC	EXPANDED PROGRAM DEVEL OUTLOOK CC
	HEALTH													
12030100	FUNERAL SERVICES	104	104			4.5%	2.7%	26.00		1		0		0
17010100	DENTAL ASSISTING	2,704	2,788	143	148	9.9	8.8	1.04		5		1		2
17010200	DENTAL HYGIENE	1,197	1,236	68	72	3.3	2.5	1.28		3		1		2
17010300	DENTAL LABORATORY	526	553	27	28	12.2	11.3	.56		2		0		1
17020600	EMERGENCY MEDICAL TECHNOLOGY	598	594	24	25	15.7	11.0	3.95		3		0		1
17020900	RADIOGRAPH/NUCLEAR MED TECH	1,413	1,463	64	66	2.0	1.9	.77		1		0		1
17021000	RESPIRATORY THERAPY TECHNOLOGY	546	569	23	24	5.7	4.7	1.77		3		0		0
17021100	SURGICAL TECHNOLOGY	394	409	16	17	3.3	3.0	1.06		1		0		1
17030900	MEDICAL LABORATORY TECHNOLOGY	3,862	3,988	161	165	4.1	3.4	.38		1		0		2
17040500	MENTAL HEALTH ASSISTING	1,924	1,903	70	70	5.8	4.6	.00		1		0		2
17050300	MEDICAL ASSISTING	1,934	1,998	76	79	9.2	8.2	2.69		5		0		1
17060200	NURSING ASSISTING	13,112	13,784	884	918	9.7	8.5	.25		4		2		3
17060500	PRACTICAL NURSING	4,230	4,406	301	311	4.4	3.9	1.09		11		0		1
17080700	OCCUPATIONAL THERAPY	247	255	9	9	11.6	7.7	1.62		1		0		1
17081500	PHYSICAL THERAPY ASSISTING	336	351	14	14	5.9	4.4	1.53		1		0		1
17999900	ALLIED HEALTH, OTHER	1,229	1,274	48	49	4.9	4.2	2.13		1		0		0
18110100	NURSING, GENERAL	16,632	17,240	968	998	1.2	1.3	.95		12		0		1
19050300	DIETETIC/NUTRITIONAL SERVICES	499	520	27	27	5.4	4.7	2.46		2		0		0
TOTAL		51,487	53,435	2,923	3,020	5.1	4.4	.95	19	56	2	2	0	20

Note: Secondary program development and expansion outlook shown at the cluster level only.

CLUSTER SUMMARY: Overall there appears to be a balance of workers in the Health cluster. Occupationally specific training opportunities at the secondary level are good for Nursing Assistant. Infusion of marketing and computer skills into Health programs would support industry movements toward preventive health care and cost containment.


Clark County
Vocational Skills Center
Roosevelt
Jefferson
Parkrose
Grant
Benson
David Douglas
VOCATIONAL EDUCATION SITES
Industrial Mechanics
Franklin
Marshall
Vocational Village
Owen Sabin Skills Center
PCC Sylvania
Lake Oswego

MECHANICS
CLUSTER RATINGS

Cluster Program Components	1 2 3 FAIR GOOD	4 5 VERY GOOD	6 7 EXCELLENT	8 9 SUPERIOR
1. Advisory Committee				9.0
2. Instructor Competencies				9.0
3A. Equal Opportunity				8.1
3B. Non-Biased Curriculum				8.1
4. Facilities		4.5		
5. Safety				8.1
6. Equipment, Materials, Supplies	3.4			
7A. Skill/Knowledge Requirements (Curriculum)		5.4		
7B. Job Preparation Objective (Clusters)			6.7	
* 8A. Cooperative Work Experience (Paid)			6.2	
* 8B. Work Experience Organization			7.0	
9. Vocational Student Organization				
10. Vocational Guidance		4.6		
11. Placement/Follow-Up		4.0		
12. Evaluation/Placement		4.7		
13. School Directed Projects		5.0		
14. Written Agreements/ Contracts			6.5	

Industrial Mechanics

1. Ways to strengthen program

   Develop/improve automotive technical courses
   Increase coursework in welding, computer applications and other industry-related supportive subjects
   Improve career awareness/job readiness
   Update equipment and training materials
   Improve basic skills, esp. reading and math
   Encourage involvement in VICA

2. Subject matter that could be improved

   General automotive tune up, repair skills
   Technical automotive subjects, including fluid power, electronic systems
   Coursework on specialty tools and equipment
   Computer applications to automotive field
   Job readiness training
   Parts maintenance and cataloging

3. Subject matter on which inservice would be helpful

   Site visits to training schools and industry
   Release time to improve training materials and aids
   Training in computer use and applications
   Upgrading technical automotive skills, esp. for new cars
   Emission test training
   Information on new manuals

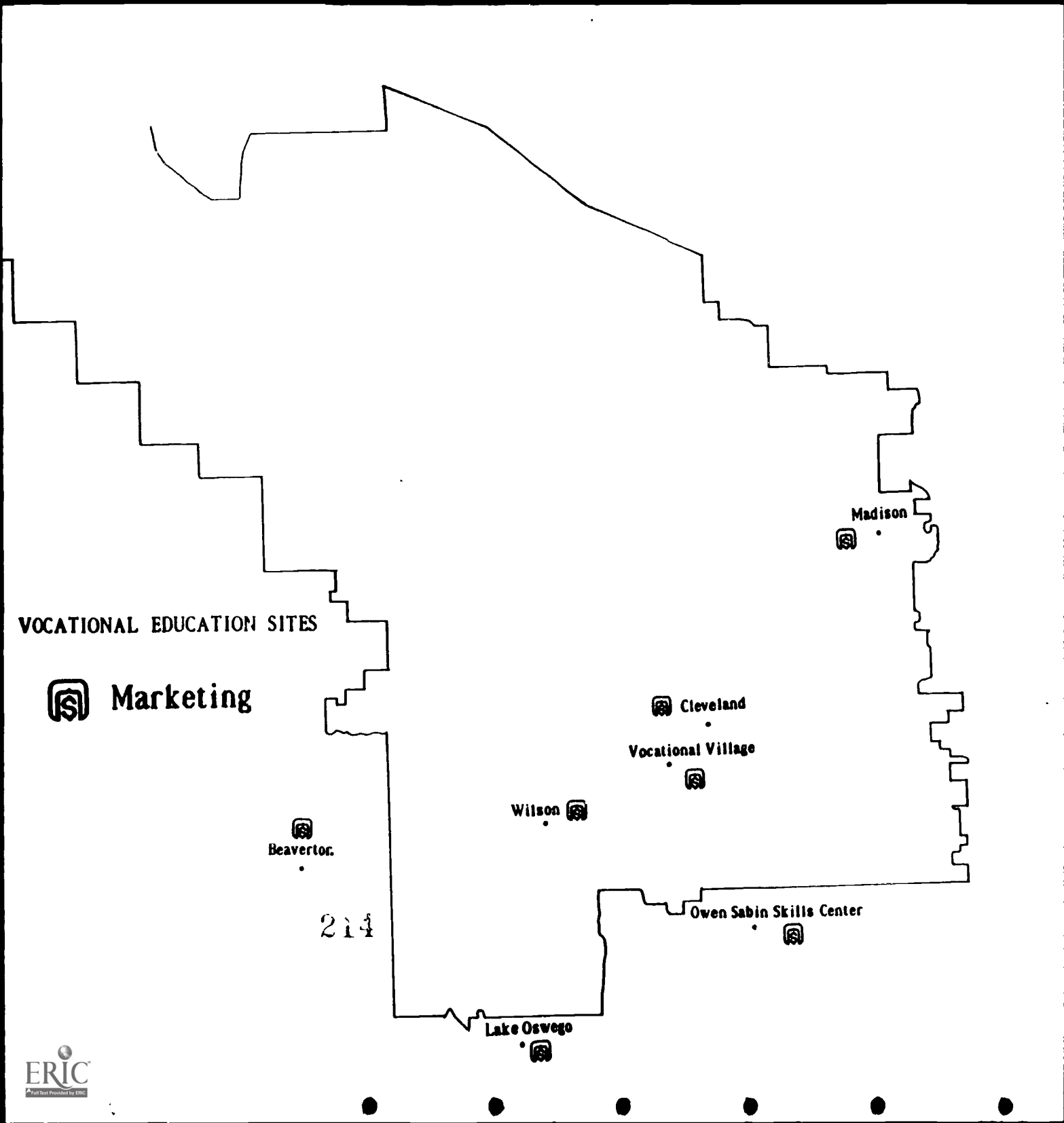
PROJECTED SECONDARY AND COMMUNITY COLLEGE PROGRAM DEVELOPMENT AND EXPANSION OUTLOOK
FISCAL YEARS 1986 - 1988

		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13
		EMPLOYMENT		OPENINGS		UNEMPLOYMENT RATE		EDUCATION SUPPLY/ OPENINGS	PROGRAMS		NEW PROGRAM DEVEL OUTLOOK		EXPANDED PROGRAM DEVEL OUTLOOK	
CIP CODE	CIP PROGRAM	1986	1988	1986	1988	1983	1984	1993	SEC	CC	SEC	CC	SEC	CC
	INDUSTRIAL MECHANICS													
08120300	AUTO VEHICLE/ACCES MKTG	799	837	52	55	11.1%	10.3%	.00		1		1		0
14190100	MECH ENGINEERING & TECHNOLOGY	3,695	3,972	227	237	6.6	5.1	1.21		1		1		2
47010200	BUSINESS MACHINE REPAIR	1,383	1,455	64	67	6.2	4.9	.18		2		3		2
47020100	HEATING/COOLING MECH	1,221	1,289	92	97	12.0	8.9	.19		2		3		2
47030200	HEAVY EQUIP MAINTENANCE	14,829	15,541	717	748	16.7	13.3	.06		8		2		2
470 0200	AIRCRAFT MECHANICS	522	556	24	25	23.2	19.7	1.73		2		0		0
47060400	AUTOMOTIVE MECHANICS	8,100	8,471	409	427	19.9	16.2	.48		11		0		2
47060500	DIESEL ENGINE MECHANICS	2,370	2,484	127	132	17.4	13.7	.57		3		0		2
47999900	MECHANICS & REPAIRERS, OTHER	NA	NA	NA	NA	NA	NA	NA		1		0		0
TOTAL		32,919	34,605	1,712	1,788	15.7	12.6	.30	99	31	0	10	2	12

Note: Secondary program development and expansion outlook shown at the cluster level only.

NA = Not Available

CLUSTER SUMMARY: A surplus of workers is indicated. There is considerable specialized training taking place in this cluster. Much of the training is in need of upgrading, specifically in electronic analysis and applications. Considering both future employment outlook and the number of existing programs, the need for program development and expansion is minimal.


VOCATIONAL EDUCATION SITES
Marketing
Madison
Cleveland
Vocational Village
Wilson
Beaverton
Owen Sabin Skills Center
Lake Oswego

MARKETING
CLUSTER RATINGS

Cluster Program Components	1 FAIR	2	3 GOOD	4	5 VERY GOOD	6	7 EXCELLENT	8	9 SUPERIOR
1. Advisory Committee		2.0							
2. Instructor Competencies							6.7		
3A. Equal Opportunity								8.2	
3B. Non-Biased Curriculum						6.0			
4. Facilities				4.2					
5. Safety					5.2				
6. Equipment, Materials, Supplies			3.0						
7A. Skill/Knowledge Requirements (Curriculum)							7.0		
7B. Job Preparation Objective (Clusters)						6.3			
* 8A. Cooperative Work Experience (Paid)		2.5							
* 8B. Work Experience (Unpaid)									
9. Vocational Student Organization			3.2						
10. Vocational Guidance				4.2					
11. Placement/Follow-Up	1.3								
12. Evaluation/Placement		2.2							
13. School Directed Projects				4.0					
14. Written Agreements/ Contracts		2.0							

Marketing

1. Ways to strengthen program

   Improve cooperative work experience and follow up systems
   Update and restructure class and lab facilities
   Develop classes in communications/human relations/management
   Incorporate math, economics into curriculum
   Restructure curriculum
   Expand use of committee

2. Subject matter that could be improved

   Computer uses and applications to marketing
   Business and management curriculum
   Upgrading basic skills, esp. math and communication skills
   Career awareness/cooperative work experiences
   Economics--theory and applications

3. Subject matter on which inservice would be helpful

   On-site visits to business and industry
   Training in tourism/hospitality field
   General training in current career opportunities
   Computer use and applications

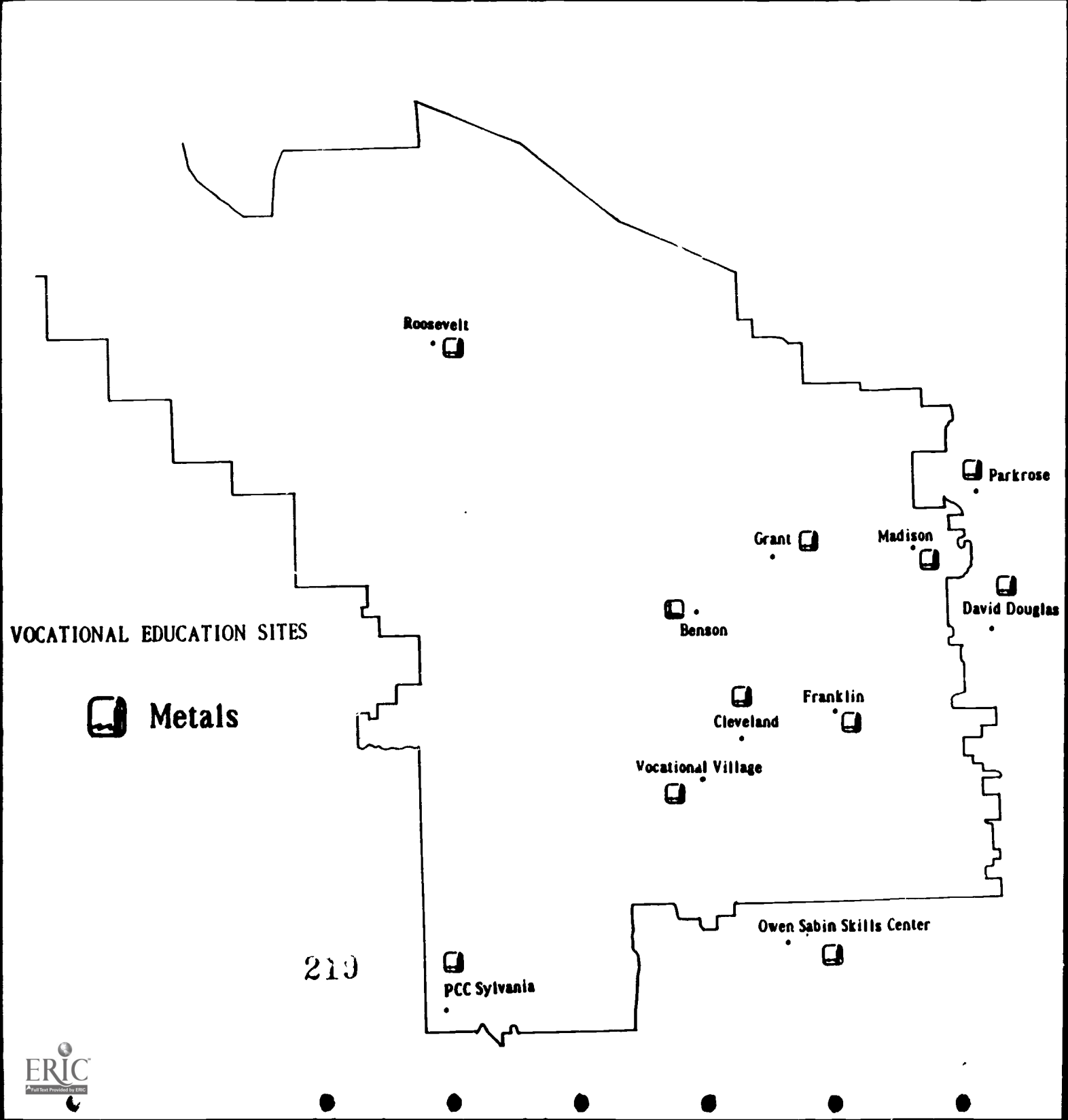
PROJECTED SECONDARY AND COMMUNITY COLLEGE PROGRAM DEVELOPMENT AND EXPANSION OUTLOOK
FISCAL YEARS 1986 - 1988

		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13
CIP CODE	CIP PROGRAM	EMPLOYMENT 1986	EMPLOYMENT 1988	OPENINGS 1986	OPENINGS 1988	UNEMPLOYMENT RATE 1983	UNEMPLOYMENT RATE 1984	EDUCATION SUPPLY/ OPENINGS 1983	PROGRAMS SEC	PROGRAMS CC	NEW PROGRAM DEVEL OUTLOOK SEC	NEW PROGRAM DEVEL OUTLOOK CC	EXPANDED PROGRAM DEVEL OUTLOOK SEC	EXPANDED PROGRAM DEVEL OUTLOOK CC
	MARKETING													
06170100	REAL ESTATE, GENERAL	11,618	12,025	1,075	1,143	1.5%	1.1%	1.05		9		0		0
08040100	FINANCIAL SERVICES MARKETING	11,587	12,084	625	651	6.9	6.1	1.33		7		1		2
08070600	SALES	124,067	129,965	7,253	7,572	12.5	10.7	.06		4		1		3
08100100	INSURANCE MARKETING, GENERAL	6,757	6,818	275	287	3.3	2.9	3.69		1		1		2
09020100	ADVERTISING	NA	NA	NA	NA	NA	NA	NA		1		0		0
TOTAL		154,029	160,892	9,228	9,653	10.9	9.3	.34	54	22	7	3	3	7

Note: Secondary program development and expansion outlook shown at the cluster level only.

NA = Not Available

CLUSTER SUMMARY: Overall, the Marketing cluster appears to have a surplus of workers. However, this cluster contains many of the occupations with the greatest demand in Oregon. Considering both the employment outlook and the number of existing programs, the need for new program development and expansion appears to be excellent. This cluster prepares students with many transferable skills that are applicable to other clusters. Marketing is a significant aspect of entrepreneurial training.


VOCATIONAL EDUCATION SITES
Metals
Roosevelt
Parkrose
Grant
Madison
David Douglas
Benson
Franklin
Cleveland
Vocational Village
Owen Sabin Skills Center
PCC Sylvania

METALS
CLUSTER RATINGS

Cluster Program Components	1 FAIR	2	3 GOOD	4	5 VERY GOOD	6	7 EXCELLENT	8	9 SUPERIOR
1. Advisory Committee							6.1		
2. Instructor Competencies							6.5		
3A. Equal Opportunity							6.4		
3B. Non-Biased Curriculum					5.1				
4. Facilities			3.5						
5. Safety							6.7		
6. Equipment, Materials, Supplies			3.8						
7A. Skill/Knowledge Requirements (Curriculum)							6.4		
7B. Job Preparation Objective (Clusters)							6.4		
* 8A. Cooperative Work Experience (Paid)					4.4				
* 8B. Work Experience (Unpaid)					4.3				
9. Vocational Student Organization			2.7						
10. Vocational Guidance			3.8						
11. Placement/Follow-Up		1.9							
12. Evaluation/Placement			2.4						
13. School Directed Projects					5.0				
14. Written Agreements/ Contracts			2.5						

Metals

1. Ways to strengthen program

   Integrate basic science and math coursework into curriculum
   Integrate personal skills such as communication into curriculum
   Improve classes in cutting, joining, and finishing metals
   Develop course prerequisites
   Improve involvement in VICA clubs
   Modify equipment for handicapped students
   Improve advisory committee participation

2. Subject matter that could be improved

   Courses in specific machinery and equipment use and application
   Applied math and science classes
   Training in technical areas related to metals trades
   CNC/NC and CAD/CAM classes
   Entrepeneurship and other career information
   Develop/improve follow up program

3. Subject matter on which inservice would be helpful

   Robotics training
   Autobody repair
   CNC/NC/CAD classes
   Uses of computers in metal trades
   Advanced training in welding techniques, practices
   Information on entrepeneurship
   Programming for handicapped

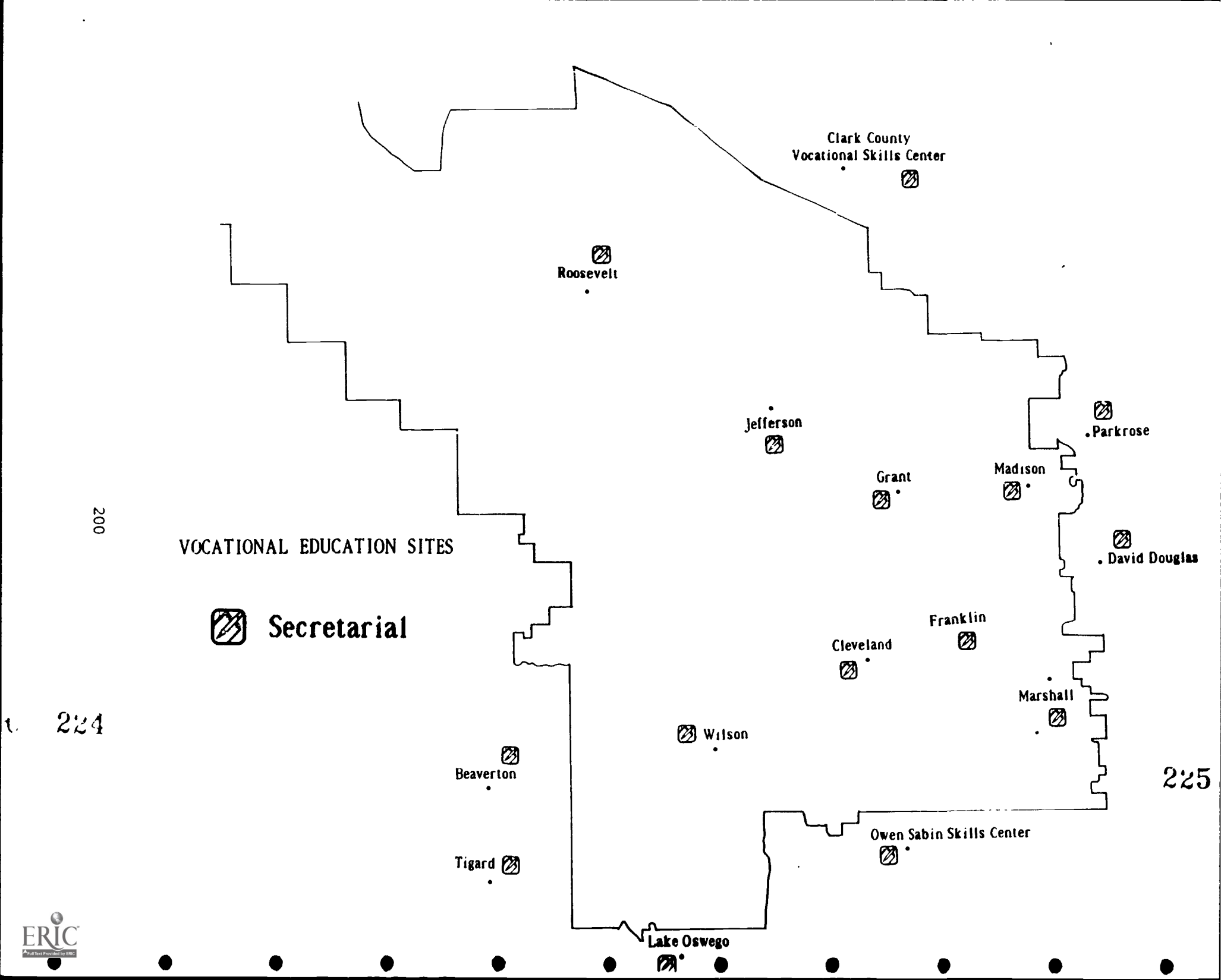
PROJECTED SECONDARY AND COMMUNITY COLLEGE PROGRAM DEVELOPMENT AND EXPANSION OUTLOOK
FISCAL YEARS 1986 - 1988

CIP CODE	CIP PROGRAM	#1 EMPLOYMENT 1986	#2 EMPLOYMENT 1988	#3 OPENINGS 1986	#4 OPENINGS 1988	#5 UNEMPLOYMENT RATE 1983	#6 UNEMPLOYMENT RATE 1984	#7 EDUCATION SUPPLY/ OPENINGS 1983	#8 PROGRAMS SEC	#9 PROGRAMS CC	#10 NEW PROGRAM DEVEL OUTLOOK SEC	#11 NEW PROGRAM DEVEL OUTLOOK CC	#12 EXPANDED PROGRAM DEVEL OUTLOOK SEC	#13 EXPANDED PROGRAM DEVEL OUTLOOK CC
	METALS													
15060300	INDUSTRIAL TECHNOLOGY	1,276	1,390	80	82	12.6%	10.1%	1.25		11*				2
41030300	METALLURGICAL TECHNOLOGY	249	272	16	16	4.8	3.8	.53		1		0		1
47060300	AUTOMOTIVE BODY REPAIR	2,685	2,847	156	164	22.7	19.3	.53		7		0		0
48050200	FOUNDRY	2,162	2,370	145	149	8.1	6.1	.00		0		0		0
48050300	MACHINE SHOP/TOOL OPERATION	10,836	11,721	736	773	19.8	15.0	.21		7		0		0
48050600	SHEET METAL	2,544	2,775	190	200	20.8	16.9	.00		0		0		0
48050800	WELDING/BRAZING/& SOLDERING	5,606	6,135	408	427	38.3	31.7	1.18		8		0		0
48059900	PRECISION METAL WORK, OTHER	2,563	2,781	169	177	31.3	27.3	.02		0		A		0
48060200	JEWELRY DESIGN & REPAIR	153	162	12	13	17.0	15.2	7.18		1		0		0
TOTAL		28,074	30,453	1,912	2,001	24.2	19.5	.47	64	35	3	0	0	3

Note: Secondary program development and expansion outlook shown at the cluster level only.

* = All apprentice-related training programs assigned to this CIP.
A = Apprenticeable Trade

CLUSTER SUMMARY: A surplus of workers is indicated for this cluster. Considering both the future employment outlook and the number of existing programs, the need for program development and expansion is minimal.


Clark County
Vocational Skills Center
Roosevelt
Jefferson
Parkrose
Grant
Madison
David Douglas
VOCATIONAL EDUCATION SITES
Secretarial
Franklin
Cleveland
Marshall
Wilson
Beaverton
Owen Sabin Skills Center
Tigard
Lake Oswego
200
224
225

SECRETARIAL
CLUSTER RATINGS

Cluster Program Components	1 FAIR	2	3 GOOD	4	5 VERY GOOD	6	7 EXCELLENT	8 SUPERIOR	9
1. Advisory Committee						6.8			
2. Instructor Competencies							7.2		
3A. Equal Opportunity								7.8	
3B. Non-Biased Curriculum						6.6			
4. Facilities					5.5				
5. Safety					5.0				
6. Equipment, Materials, Supplies			3.6						
7A. Skill/Knowledge Requirements (Curriculum)							7.3		
7B. Job Preparation Objective (Clusters)						6.6			
* 8A. Cooperative Work Experience (Paid)						6.2			
* 8B. Work Experience (Unpaid)			3.7						
9. Vocational Student Organization				4.0					
10. Vocational Guidance			3.6						
11. Placement/Follow-Up	1.8								
12. Evaluation/Placement					5.1				
13. School Directed Projects				4.0					
14. Written Agreements/ Contracts					5.6				

Secretarial

1. Ways to strengthen program

   Expand software for use in teaching computer skills
   Develop professional quality flyers, materials for use by departments
   Develop modern telephone / telecommunications unit
   Improve basic skills of students
   Improve lab setting and options
   Grant English credit for qualifying business courses

2. Subject matter which could be improved

   Job search techniques and entrepeneurship
   Expand computer experiences
   Improve classes in applied basic skills, eso. English and math
   Add course in office machines
   Add course in electronic mail
   Set up office simulation

3. Subject matter on w[illegible] inservice would be helpful

   Release time to learn new equipment
   Training in specific computer software

PROJECTED SECONDARY AND COMMUNITY COLLEGE PROGRAM DEVELOPMENT AND EXPANSION OUTLOOK
FISCAL YEARS 1986 - 1988

		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13
CIP CODE	CIP PROGRAM	EMPLOYMENT 1986	EMPLOYMENT 1988	OPENINGS 1986	OPENINGS 1988	UNEMPLOYMENT RATE 1983	UNEMPLOYMENT RATE 1984	EDUCATION SUPPLY/ OPENINGS 1983	PROGRAMS SEC	PROGRAMS CC	NEW PROGRAM DEVEL OUTLOOK SEC	NEW PROGRAM DEVEL OUTLOOK CC	EXPANDED PROGRAM DEVEL OUTLOOK SEC	EXPANDED PROGRAM DEVEL OUTLOOK CC
	SECRETARIES													
07060600	SECRETARIAL	27,840	28,973	1,577	1,635	11.5%	9.3%	.62		25		0		3
07060700	STENOGRAPHIC	1,820	1,872	102	105	3.9	3.2	.48		1		1		1
TOTAL		29,660	30,845	1,679	1,740	11.1	9.0	.61	147	26	3	1	2	4

Notes: Secondary program development and expansion outlook shown at the cluster level only.
Employment Across All Industries.

CLUSTER SUMMARY: A balance between demand and supply is indicated. Considering both future employment outlook and the number of existing programs, the need for program development is minimal. Program expansion needs are average. The cluster provides good preparation for higher level secretarial and administrative assistant occupations.

VII. FUTURE DIRECTIONS

7.1 Overview

This section describes procedures used in identifying alternative futures and in obtaining initial staff reaction to these alternatives. Twelve guiding principles for preparing youth for employment are presented. This is followed by the presentation of alternative directions for delivering occupational skills training in the District: three approaches that concentrate delivery on local high schools and three approaches that concentrate resources in specialized centers with students traveling part-day to a different location. The strengths and limitations of each option are identified for Board and Staff consideration before making decisions affecting the direction of vocational education in the District.

7.2 Procedures

Initial input to the recommendations and alternative directions came from our interviews with over 80 key educators and advisory members in the Portland area and our review of the vocational program self-assessments and other data gathered as a part of this study. We then prepared a set of 23 statements describing future directions for vocational education in the District.

The set of 23 statements was discussed and items were rated by building-level representatives at a "Sounding Board" meeting held at Cleveland High School on January 23. Each high school was invited to send representatives consisting of an administrator, teacher, community advisory committee member and two students (one a student government leader and the other a vocational education student). There were 11 school administrators (generally principals), 11 teachers, 11 students and six community people who participated for two hours. After a brief welcoming, Larry McClure described each of the 23 options and provided a descriptive handout. Tom Owens then explained procedures for completing a five point rating scale from "very favorable" to "very unfavorable". After participants completed the individual ratings they formed into six groups to discuss the strengths and limitations of each alternative. Trained group facilitators from NWREL guided each group and recorded ideas. After small group discussions, participants again completed another copy of the 23 statement rating sheet. A copy of the ratings and the summary of strengths and limitations of each alternative are contained in Appendix V.

Sounding Board Reactions

Of the 23 alternative statements, five had a mean rating of 2 or less (on a scale of 1 = highly favorable to 5 = highly unfavorable). The top five alternative directions are shown in Table 22. In addition to the five point ratings after the small group discussion, people were also asked to select their top 10 choices and put them in priority order with number 1

TABLE 22

MOST FAVORABLE RATINGS OF ALTERNATIVE DIRECTIONS FOR VOCATIONAL EDUCATION BY THE SOUNDING BOARD

Alternatives	Post Mean
Employability skills such as job interviewing and preparation of resumes taught to all students	1.3
Provide a comprehensive Career Center in each high school.	1.4
Vocational and academic teachers "team up" to support each other	1.5
Occupational skills development offered through courses at the comprehensive high schools as now	1.8
Schools offer an active job placement center for graduates and early leavers	1.9

NOTE: Thirty-nine participants rated 23 alternative directions. These were the top five ratings given after participants discussed the strengths and weaknesses of each. Ratings ran from 1 for highly favorable to 5 for highly unfavorble.

TABLE 23

SOUNDING BOARD'S HIGHEST RATINGS OF ALTERNATIVE DIRECTIONS FOR DELIVERING VOCATIONAL EDUCATION - TOP THREE CHOICES

	Percent Selecting Choices as:			
	First	Second	Third	Combined
Occupational skills development offered through courses at the comprehensive high school as now	31	15	8	54
Cooperative education expanded to avoid expensive facilities/equipment	5	10	18	33
Vocational programs offered through a magnet school program	8	8	15	31
Vocational classes offered at the local business/community sites	8	8	13	29
Vocational programs offered through a school consortium arrangement	3	13	3	19

being their top pick. Table 23 shows the most popular top three choices. The overwhelming choice of direction for delivering vocational education selected by the Sounding Board was through the comprehensive high school. Vocational education in the future was expected to stress employability skills, provide a comprehensive Career Center in each high school and offer a job placement center for graduates and early learners.

An analysis was also run to determine if there were significant differences in the ratings given by Sounding Board participants depending on the types of respondent (i.e., administrators, community advisory member, vocational instructors or students). Significant differences occurred on five statements. Administrators were less favorable than the other groups to expanding the cooperative education and allowing students and parents a voucher to "buy" vocational training at approved private or public facilities. Students were more favorable then the other groups in creating additional specialized high schools like Benson. Teachers and students were more favorable toward expanding vocational student organizations than were community representatives. And finally, administrators and teachers were more favorable toward school consortium arrangements than were students and community representatives.

.ed on reactions from the Sounding Board we revised the statements into 10 recommendations and six alternative directions. These were included in a draft copy of the executive summary which was shared and discussed in separate meetings with: (1) the District's Career and Vocational Education Department staff, (2) the Superintendent, (3) the Project Steering Committee, (4) the District's Career and Vocational Education Council, and (5) at two Districtwide Forums that were attended by educators and advisory committee members.

Reactions from people at these meetings helped influence the revised recommendations and alternatives presented in this report.

7.3 Guiding Principles for Career Development and Employability

1. Lifelong Learning: It May Be the Most Important Vocational Skill

We must recognize that vocational education at the secondary level can no longer be viewed as a terminal program--if it ever was. Students who choose vocational preparation during the high school years will discover the need to learn additional and unique skills on the job. Some occupations will require special certification, perhaps available only in a postsecondary insitution. Advances in technology will require continuing education for years to come. Business and industry may offer their own training opportunities; many times it will be up to the individual to follow the trends and find out how to adjust.

Therefore, every high school teacher, vocational and academic alike, should reinforce the lifelong dimension of learning and help students recognize the resources that are available for keeping skills up to date. Reading, writing, listening, speaking and computing skills appropriate to a particular career field must be mastered if young people are to succeed in tomorrow's workplace.

2. New Look in the Workplace: An Interdisciplinary Curriculum May Be Needed

Changes in technology, in the makeup of the labor force, and in political/economic decision making worldwide mean that old formulas may not hold true any longer. Traditional vocational programs have stood the test of time very well. It is true that there will always be the need for qualified workers in any specific occupational classification; it is also true that some titles will carry a surplus at any particular time. A second outcome that every vocational program must address is flexibility--now to transfer skills learned in one field to another, if needed. Over the years, the state of Oregon has tried to keep vocational program areas (clusters) up to date, reflecting in part the need for trained workers in certain critical career fields around the state. Discussions are now underway to again revise those cluster definitions. One likely outcome is recognition of the cross-cutting nature of many occupational skills.

Therefore, teaching flexibility and generalizability of skills can be accomplished both in counseling offices and classrooms. Curriculum revision efforts in secondary school programs should emphasize generic skills that can be applied in a number of occupational fields. The integration of academic and vocational instruction should also be supported where appropriate. Equivalent credit for areas such as science, math and English should be considered in specified vocational courses where outcomes are parallel and sufficient rigor and performance can be demonstrated.

3. Short-Term Training: Many Students Need to Work Right Away

Secondary vocational programs traditionally operate within a fixed time-frame based on years of experience (i.e., it takes so many hours to learn the theory and then practice bookkeeping skills). There are some jobs, however, that are in high demand but may require limited skill development. These may, in fact, be the kinds of door openers some students will need for an appropriate life career. Others look to part-time jobs during high school or after graduation as the means to other ends such as more schooling. There may be a number of high-intensity training possibilities a school could provide on a short-term basis strictly for those students who would benefit and where a need exists. Examples might include: Operating Electronic Cash Registers, Certified Nurse's Aide Training, Building Maintenance, Telephone Solicitation Skills, Waiter/Waitress Training, Computerized Retail Stock Control, Introduction to Word Processing Systems, Automotive Care Systems, Hotel/Motel Housekeeping. These are the kinds of training requirements which the private sector might help establish in a particular school or community site if enough employers are experiencing a real need. Hours for these programs might be scheduled in summers, after school, or using "mobile units" provided by industry.

Therefore, encourage high schools to plan and implement short-term training opportunities in creative new ways. Such courses may or may not carry elective credit, but could be viewed as a student service and community economic development activity.

4. Providing Opportunities for Student Career Development: Documenting Academic and Vocational Performance

With the introduction of new career education and pre-vocational coursework at the middle and early secondary level, and improved guidance systems on the drawing board, the District is better positioned than ever to help every student see the "big picture" in occupational decisionmaking. Every high school should establish an active Career Planning and Placement Center staffed with qualifed staff and volunteers who can provide services to students and teachers alike. Examples include classroom presentations on occupational trends, access to labor market information, electronic and print files on post-secondary education and training opportunities, mini-courses on such topics as interviewing skills, meeting places for parents and representatives from the military, training schools, and colleges/universities, lists of part-time work requests received from area employers, etc. Part of the service is now provided by a placement secretary in each high school who works with students seeking immediate employment. However, there are no standard expectations in place districtwide for what these paraprofessionals are expected to accomplish. Some schools also operate career information centers, often in conjunction with the counseling department and/or library. Each student should also have access to a personal "career file" or portfolio that might be maintained by a Placement Bureau secretary. Employer and teacher references and a complete work history, including school performance, could be sent on request by students--perhaps for as long as five years after graduation--with graduates allowed to keep adding to their files. The process should be voluntary.

Therefore, encourage every secondary education site (including alternative programs) to establish and maintain an active Career Planning and Placement Center that would include a resource file of part-time work opportunities.

5. Opening Up Vocational Education to All: Redefining the Image

While the option of vocational education is available to all, it takes special effort for some groups of students to enroll: college-bound students have a full schedule of credits to earn to meet real or imagined university entry standards, talented and gifted students may not see where their unique skills could be expanded and enriched to higher levels, Limited-English-Proficient students may feel their communication skills or cultural differences are barriers, special education students may present challenges that vocational teachers are not equipped to handle. Many of these barriers may not lie within students but created by adults who are shaping student decisions. We believe the images of vocational education are too often negative, not recognizing the rigor which most of today's vocational programs demand. Private sector advisors can play important support roles here. By and large, most counselors, building administrators and districtwide administrators are not fully informed about the variety and diversity of vocational programs operating in the District or have not tried to promote student consideration of these options. Most forward-thinking vocational educators DO want their students to master the related academic

fundamentals so essential to the applied settings where vocational skills are learned and used. And it is also true that many vocational students will indeed pursue a college program of some sort if they are to succeed and advance in a chosen occupational field. We uncovered a number of myths about Portland's vocational programs and lack of factual information about what vocational education is and can be.

Therefore, information and communication about the opportunities and realities of vocational education programs in the Portland schools must flow freely throughout the system. Particular audiences must be middle school students, parents and staff since it is at this level where critical planning decisions are made. Vocational teachers and administrators should be encouraged to promote their programs just as aggressively as the drama teacher, yearbook adviser, tennis coach, or music department recruit students to maintain strong programs.

6. Keeping Faculty Up-to-Date: Renewal and Skill Upgrading

Vocational education professionals in the District average over 10 years of teaching experience. This represents a valuable resource pool but also underlines the importance of keeping faculty in touch with the occupational marketplace. We understood that staff development had been a priority a few years ago but the press of ongoing responsibilities apparently diverted the effort to have professional development plan for each vocational faculty member. While some vocational teachers do operate a business of their own, or work in the private sector during the summer or part-time, we see real benefit for those who are able to arrange summer internships in business and industry in addition to the informal contacts that are possible while arranging for classroom presentations, field trips, student work experience placements, etc. Having registration and travel funds to attend private-sector training events and professional meetings should be a District priority. Faculty need these opportunities as do counselors and administrators if they are to keep abreast of the fast-changing world of work students will soon enter.

Therefore, encourage the private sector to provide short-term, paid or non-paid internship opportunities for teachers during the school year or summer. Consider creating a Skill Enrichment Fund for vocational faculty members with the expectation that every vocational teacher should apply for District reimbursement for at least one state-of-the-art training event every other year.

7. Articulation With Other Schools and Agencies

The climate may never be better for aggressive planning efforts with two critical institutions who can "make or break" strong vocational offerings: middle schools and community colleges. Middle schools represent the vital springboard from which students choose future directions. Middle school students are naturally curious about the world of work. Visits to school programs where students and employers can then carry the message about opportunities can be powerful experiences. It is becoming increasingly difficult for secondary vocational programs to include the upper level exposure needed in some fields, yet community colleges seem willing to give those students advanced standing in their

similar programs while avoiding having to duplicate the vocational fundamentals high schools can deliver best. This suggests the value of metropolitan planning--perhaps to the extent of including representatives from all jurisdictions when planning who should offer what programs in an area like automotive technician or metal fabrication. We found interest among neighboring school districts in sending students back and forth across political boundaries. Parkrose School District, for example, is already sending several students each day to the Clark County (WA) Vocational Skills Center for several programs. The Owen Sabin Skills Center in North Clackamas School District has a fine facility and reputation and expressed willingness to discuss collaborative possibilities with Portland in addition to those it has with Oregon City and West Linn Public Schools. While these may never be permanent arrangements, they might be considered one of many options the District should make available for students.

Therefore, give priority attention to planning efforts with community colleges and middle schools so as to lay the foundation for a coordinated approach to vocational education through postsecondary levels. Expand planning to include the Metropolitan Portland area.

8. The Private Sector Connection: Build on a Good Thing

Since the Blue Chip Plan emerged in 1983, the number of partnerships with the private sector has quadrupled. Similarly, activities such as those sponsored by the Portland Private Industry Council are increasing. We see great potential yet to be tapped by these efforts. Portland is becoming known nationwide as a testing place for coordinated efforts and for its "can do" approach. The position of "city-schools liaison" at City Hall is a pacesetter, too. We feel that vocational education's future rests largely on how the private sector becomes involved. Much of that involvement now comes through the District's 13 advisory committees overseeing vocational program areas. Many more employers provide work experience opportunities while some are contributing equipment, materials and occasionally working directly with students as mentors, as classroom speakers or by hosting field trips.

Therefore, use private sector resources both to establish a policy base for program improvement and expansion as well as to provide direct resources for curriculum development and instruction.

9. Student Leadership Organizations: Pathway to Personal Development

Enrollment of vocational students in student leadership organizations averaged only five percent for the district in 1983-84 and eight percent in 1984-85 as compared to 13 percent for the state. Some of the District's participants in organizations such as Future Farmers of America (FFA) at Green Thumb have gone on to win national recognition for projects in horticulture. Participation in such organizations provides opportunities for developing teamwork, leadership and a sense of pride in quality accomplishments--the qualities advocated in the business community. This component of vocational education was rated very low by vocational instructors and advisory committee members.

Therefore, after exposing students to the possibilities offered through vocational student organizations, assess interest of all vocational education students in participating in such leadership opportunities related to their vocational cluster and expand participation in those organizations where there is interest.

10. Program Evaluation: Assessing Future Progress

Of 17 components of vocational education that were covered in the District's self assessment, program evaluation was rated third lowest. In narrative comments by instructors regarding ways to improve vocational education, program evaluation was also mentioned often as an area needing attention. In January 1986 members of the Industrial Mechanics Advisory Committee in a letter addressed to Roger Honig, Chairperson of the Career and Vocational Education Council, pointed out limitations in the self-assessment process that make it difficult for instructors to be objective and for advisory members to communicate their ideas in the time frame allowed. They expressed a desire to conduct an in-depth assessment of their cluster. We concur and feel that this process can provide as an excellent base for continuous assessment.

Therefore, after the Board has reacted to this report and established a direction regarding vocational education, a more in-depth assessment of vocational programs should occur that closely involves advisory committees and draws implications from labor market data.

11. Special Needs and High-Risk Youth: Reaching Out

The percent of special needs students in vocational education was compared to the percent they represent in the secondary population of the District. Economically disadvantaged, limited English proficient, academically disadvantaged, and special education students were found to be underrepresented. Black and Asian Students were also under-represented. While vocational education should be an option open to all students, it seems especially important to encourage participation of students with special needs or who are at "high risk" of dropping out of school entirely. Short-term training options identified might be especially useful as a starting point for some of these youth.

Therefore, involve school staff with expertise in working with special needs youth to identify what existing or new vocational options would be appropriate for these students. Make a concerted effort to inform these youth and their parents about opportunities available through vocational education. An additional site such as Vocational Village should be considered. Another option would be to add or improve the pre-vocational curriculum in existing alternative school programs with special attention to 14 and 15 year olds.

12. Introduction to Occupations: A Preview

Even though students have participated in career education activities in elementary and middle school, many still need more information before making a decision as to which vocational program to select. An "Introduction to Careers" course is needed at each neighboring high

school to provide students with an overview of the broad clusters or other occupational patterns that organize common skills across a number of jobs and to enable students to try out various possibilities before deciding which areas to pursue in depth.

Therefore, extend the "Introduction to Occupations" approach to each neighborhood high school to help students decide on an appropriate vocational program to select. The District should expand the assessment center concept (at one location) so that it is available to all students who want to learn more about their aptitudes and abilities.

7.4 Options for Delivering Vocational Education

1. Options which keep students in their neighborhood high school or in a single learning center

This first set of options for strengthening delivery of vocational/technical education concentrates resources for improvement in the existing high school structure, encouraging students to remain in their neighborhood for a comprehensive secondary school program or to attend a districtwide school or learning center on a full-day basis.

Option 1: Require a minimum number of vocational clusters at each high school.

How this option might be approached:

a. Every school would likely offer one or more clusters in the business education area: secretarial/clerical, accounting, and/or marketing, reflecting student interest as well as labor market demand.

b. Support efforts to modernize the curriculum and update equipment for each cluster so that it meets advisory committee standards. Some existing programs might be changed to take on a different focus or direction.

c. Additional clusters would be offered based on student interest, staff availability and labor market demand. The superintendent should take a direct role in determining placement of clusters to avoid expensive duplication. If existing shops and laboratories are underutilized, the use of itinerant teachers should be considered.

d. Development of new vocational programs should be encouraged if local staff can demonstrate to the superintendent that the curriculum reflects future trends, has community support and can be offered using existing facilities and reasonable outlays for equipment. It may be wise to build on existing programs at a particular school to make them "vocational" in nature and meet the minimum cluster requirements. For example, with some additional development, the performing arts program at Jefferson High School would be considered a vocational program in some states. The international "magnet" at Lincoln High School might be adapted to include an international marketing career emphasis, drawing heavily on downtown business interests and internship resources.

Strengths. Option 1 presents an opportunity to upgrade present programs while allowing students to stay with neighborhood friends at the local high school. It can encourage integration of academic and vocational content. Because it is part of a comprehensive program students in grades 9-12 could enroll in one or more vocational classes without having to make a major commitment to a vocational major.

Weaknesses. This option allows duplication of vocational programs among buildings and limits opportunities for students to use expensive state-of-the art equipment. Larger vocational enrollment may draw students from other electives and cause competition among electives.

Option 2: Create "lighthouse" programs in all buildings in order to achieve desired standards of excellence

How this option might be approached:

a. Provide additional resources to high schools willing to redesign one cluster area in radically new ways.

   - Rearrange related science, math, English or other offerings so that interdisciplinary instruction occurs.
   - Allow students to earn graduation credit using integrated approaches (blending of theory and practice) so that a three-unit electronic sequence earns a student one credit in math and two vocational credits.
   - Draw heavily on volunteers from business and industry to demonstrate today's technology and tomorrow's work requirements.
   - Arrange paid or nonpaid work experience for each student in small and large business environments.

b. The superintendent should allocate additional resources for a "lighthouse" program only if conditions such as the following are met:

   - The demand for persons with this kind of general preparation is evident using labor market projections.
   - There is active and continuous involvement of the advisory committee for that cluster, supplemented by additional employers and local community college representatives as needed.
   - The building has potentially adequate facilities and equipment as a starting point for future development.
   - There are articulation agreements under way with two-or four-year institutions so that students can continue their education and training along the same "track."
   - Every high school should have a lighthouse program so that student distribution might be equitable.

Strengths. Option 2 can draw students from a broad geographical area into a vocational program of exemplary status thus promoting program quality and pride. This option is particularly useful for programs that would not draw adequate enrollments in each local high school. It also reduces equipment duplication across the District and concentrates a greater number of staff with expertise in an area thus creating opportunities for quality interaction among staff.

Weaknesses. Some students are reluctant to leave their local neighborhood and others may encounter transportation difficulties. The exemplary program may draw students and resources from other electives. It may also be difficult to eliminate a lighthouse program if the labor market shifts. Some students are not ready to make vocational choices by ninth grade.

Option 3: Strengthen and expand specialized high schools

How this option might be approached:

a. Encourage efforts at Benson High School to realign the curriculum to reflect ongoing changes in the workplace. Integration of academic and vocational instruction makes sense at Benson, where there is a long tradition of offering a truly comprehensive program using polytechnic skills as the central thrust. Waiting lists and the establishment of an enrollment "lid" at Benson seem to indicate that students in Portland schools want vocational education and are willing to make the sacrifice to acquire it (e.g., traveling from another neighborhood).

b. Provide improved facilities for the existing Vocational Village High School (VVHS). VVHS now operates at capacity and should not be expanded greatly at the risk of sacrificing individual treatment which students receive. Leased facilities now housing the school are inadequate. Programs such as physical education are not up to standard if the school is to continue offering a regular diploma.

c. Create a second VVHS-type school in the northerly sector of the city. Demand is high in the north half of the district for a school serving dropout youth. The majority of students presently attending the Village are drawn from southern attendance areas.

d. Provide planning funds for any school willing to become "specialized" in format and program. For example, some large city districts have designated entire schools to have an organizing "theme" much like Benson High School or when Cleveland High School was known as Portland's "school of commerce." A 1990s example might be a High School of Science and Technology (emphasizing biotechnology, environmental occupations, electronic communication technologies, etc.) or a High School for Human Services (emphasizing careers in health sciences, social sciences, personal services--e.g., leisure and hospitality careers). Again, the expectation would be that academic and vocational offerings would be blended with teachers approaching their instruction in new ways.

Strengths. This option also allows interested and qualified students to be recruited Districtwide. Cross-cluster courses such as Principles of Technology can be offered and a fulltime comprehensive experience provided. Strong community support already exists for specialized high schools like Benson.

Weaknesses. Specialized vocational high schools may have difficulty offering nonvocational electives such as art or foreign languages. Once vocational programs are established that require expensive equipment or facilities, it is difficult to make changes.

2. Options which concentrate resources in distinctive settings, allowing students to attend on a shared-time arrangement

The following set of options builds on an existing phenomenon which occurs daily in the District's high school program: some 25-30 percent of all secondary students are attending a school outside their neighborhood on a full-time basis. At the same time, a significant number are taking the necessary time and effort required to travel from their regular school to another location for unique educational opportunities. Existing examples include the Green Thumb program and the performing arts magnet while some students are enrolling part-day at Benson, Franklin, and Marshall High Schools because of the reputation certain programs enjoy.

Option 4: Collaboration with community colleges and neighboring school districts

How this option might be approached:

a. Build on existing articulation agreements with Portland Community College to include joint use of district and college facilities where availability of space exists

   - o Open up these shared programs to high school students and adults alike.
   - o Faculty from both institutions should have roles in delivering instruction.
   - o Be flexible in the hours for these programs to accommodate youth and adults alike.

b. Develop reciprocal agreements with neighboring school districts so that students can take advantage of available programs nearby.

   - o Create a metropolitan consortium for vocational programs which encourages schools to send students to an adjacent district if the program a student desires is not conveniently available within one's district.
   - o Try to maintain balance in the number of students transferring each way across districts.

Strengths. Option 4 can expand student opportunities and give them a "fast-track" to post-secondary institutions. It offers optimum use of talented staff, facilities and equipment and can reduce duplication of course offerings. In some cases students may have shorter travel time to a community college or neighboring district then to high schools at the other end of the District.

Weaknesses. Some students are not ready to deal with the "foreign" environment of a community college or neighboring school district and would encounter transportation problems. State funding formulas and teacher certification issues may arise in cases where students attend classes at the community college. There is also the possible "student drain" from local high schools to the community colleges. There is no guarantee that vocational programs now available in other jurisdictions would have available enrollment space in future years.

Option 5: Locate vocational programs at private sector sites where state-of-the-art resources are available.

How this option might be approached:

a. Invite community business leaders in occupational fields where future growth is predicted to collaborate with the District on creating specialized training centers for high school students.

b. Wherever possible, use of donated space and equipment should be sought.

c. District faculty would provide on-site instruction, supplemented by the skills of practitioners who work in that field daily.

d. These satellite programs should also serve as exploratory centers for middle school students and as orientation centers for district personnel, particularly counselors.

Examples of the kinds of satellite centers that might be scattered around the city include: health occupations in a medical center, retail merchandising in a shopping mall, laser printing and advanced graphics through a local association of printers and designers, advanced accounting in a downtown office building, data processing at a major government or university computing center, transportation careers at Tri-Met or the Port of Portland, environmental careers at Metro Service District offices, etc.

Strengths. Use of private sector sites offer access to modern, expensive equipment, facilities, and private sector experts who could serve as mentors or guest instructors. It would help assure that programs meet industry standards. Maximum flexibility would exist in coding, changing or deleting programs. This option could facilitate excellent cooperative work experience opportunities and chances for placing vocational graduates.

Weaknesses. Some educators have a fear of business "take over" of education and there is potential of focusing in too narrowly on one companies needs and modes of operation. Sites might not be available during normal school hours and the geographic location might be inconvenient for students.

Option 6: Establish a central campus for delivery of advanced and highly specialized programs operating as an extension of neighborhood high schools.

How this option might be approached:

a. Create a council comprised of directors of instruction and/or high school principals to plan and oversee a centralized campus which provides unique opportunities for students not justifiable in their home high school because of excessive costs and low enrollments--e.g., advanced technological programs such as computer-driven manufacturing equipment (robotics), computer-assisted design systems, large-scale word processing systems.

b. Encourage the private sector to underwrite the costs of equipping laboratories and providing materials where demonstrated need exists e.g., automotive electronics, home care for the elderly.

c. Again, consider this campus to be a community resource, shared with community colleges, open on an extended day basis, available to business and industry for employee updates, and operated as a natural extension of neighborhood high schools on a year-round basis.

Strengths. Use of a central campus can eliminate vocational program duplication for areas not attracting enough students at each high school. It can offer equitable access for students and provide close ties to business and industry. Flexibility exists for making program changes since the campus is not organized around a single vocational cluster.

Weaknesses. The initial cost of option 6 would be high. Transportation and student scheduling are potential problems. There is also the fear that at one extreme a central campus could be viewed as a dumping ground for students unable to handle an academic curriculum and at the other extreme that it would "cream" top students away from local high schools.

VIII. APPENDICES

A. List of Persons Interviewed
B. Current Program Description
C. Composite List of Voc Ed Interview Questions
D. Career Interest Areas
E. Vocational Faculty Survey
F. Evaluation Survey of the Self-Assessment Process
G. Labor Market Information
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M. Student Enrollment in Vocational Education Programs - 1986

APPENDIX A

LIST OF PERSONS INTERVIEWED

PPS Vocational Education Study Personal Interviews

1. Neighboring School Districts

Parkrose SD Superintendent	Ron Zook
David Douglas SD Superintendent	Anthony Palermini
Washington Co. ESD Career and Vocational Education Specialist	Ron Munkres

Community Colleges

Mt. Hood CC	
Dean of Instruction	Jack Miller
President	Dr. Paul Kreider
Portland CC	
Dean of Instruction	Paul Williams
Interim President	Jim Van Dyke
Clark College	
President	Ellis Dunn
Clackamas College	
President	John Keyser
Dean of Instruction	Lyle Reese

2. PPS Central Office

Superintendent	Matthew Prophet
Exec. Dpty. Supt.	Donald McElroy
Special Education	Mary Ann Stowell
Curriculum	Carlos Taylor
Curriculum	Rich Cole
District Wide Pgrm.	Ernest Hartzog
Guidance/Counseling	Glenn Hill
Research/Evaluation	Walter Hathaway
Data Processing	Porter Sexton
A Media Communications	Dick Gilkey
Director of Instruction	Helen Fisher
Director of Instruction	Edith Wilson
Director of Instruction	Larry Ayres
Director of Instruction	Dick Wheatley
Director of Instruction	Bill Gerald
Director of Instruction	Cliff Low
Director of Instruction	Jack Peterson

3. PPS Career Vocational-Technical Education

Supervisor	Warren Rathbun
Specialist	Darrell Tucker
Special Projects Coordinator	Rebecca Wheeles
Youth Employment Specialist	Kathy Hostager
Home Repair Training Director	Ken Kline
Equity/Partnership Coordinator	Sharon Chasko
Cooperative Work Experience Coordinator	Don Gainer
Cooperative Work Experience Coordinator	Jim Albers

4. High Schools

Benson High School	
Principal	Paul Benninghoff
Vice Principal,Curriculum	Carol Matarazzo
Counselor	Dick Wilkes
Vice Prin. (Vocational)	George Nordling
Vocational Teacher	Jerry Waterbury
Cleveland High School	
Principal	Robert O'Neill
Vice Principal	Dorothy Jones
Counselor	Dave Anderson
Vocational Teacher	Bob Krell
Franklin High School	
Principal	George Guthrie
Vice Principal	Audrey Haynes
Counselor	Erik Utterstrom
Vocational Teacher	Peter Mahr
Grant High School	
Principal	Eugene Douthit
Vice Principal	Brad Cermak
Counselor	Dave Culver
Teacher	Molly Palmer
Jefferson High School	
Principal	Nathan Jones
Vice Principal	Dick Rumble
Counselor	Tony Hopson
Teacher	Sandy Coe
Lincoln High School	
Principal	Myra Rose
Madison High School	
Principal	Leodis McDaniel
Vice Principal	Luke Fiorante
Counselor	Cathy Williams
Teacher	Gordon Johnson

Marshall High School	
Principal	Judith Lachenmeier
Vice Principal	Bill Tapfer
Counselor	Dan Emery
Teacher	Cathy Witte
Roosevelt High School	
Principal	George Galati
Vice Principal	David Aiken
Counselor	Jim Winters
Teacher	Jean Hummel
Vocational Village High School	
Principal	Paul Erickson
Vice Principal	Toni Hunter
Counselor	Natalie Ettlin
Teacher	Colleen Trancn
Wilson High School	
Principal	Stan Blair
Vice Principal	Don Muno
Vice Principal	Lois Washington
Green Thumb	
Director	Mike Miller

5. Advisory Committees

Industrial Metals	Roger Honig Iron Workers Local #516
Business Education	Fred Carter Laventhol & Horwath
Child Care	Charlotte O'Donnell Volunteers of America
Health Occupations	Dr. Ken Chung OHSU School of Dentistry

6. Oregon Department of Education

Monty Multanen
Associate Superintendent
Oregon Vocational Education

APPENDIX B

SPECIAL PROJECTS IN

CAREER AND VOCATIONAL/TECHNICAL EDUCATION

BANKING AND FINANCE
Marshall High School

The Banking and Finance program is designed to consist of an integration of selected office education courses and activities designed to equip a student with marketable skills, human relations skills, business knowledge, and professional attitudes so that the student can successfully adapt to the needs of banking and finance in the business world. The program is designed at this time to service 25 students but, with an afternoon section 50 students could be accommodated. During the last semester of the senior year, the students will be employed in a banking position (either teller or clerical) for pay and may also receive work experience credit. The program is two years in length with special courses designed to fit the end product desired.

BENSON HOUSE CONSTRUCTION
Benson High School

The Benson House Construction program is done in cooperation with the Portland General Electric Company. The school contracts with PGE to construct a solar powered single family residence on a lot purchased by PGE. This project is used to give the students valuable "on site" experience and help teach the fundamentals of trades involved in residential construction. The students actually do all the work on the house -- from designing and drawing the plans through the final finish. There are approximately five Architectural Drawing students involved in designing the house and drawing all plans, including necessary details and specifications. There are about 45 Building Construction students who do all of the construction including concrete, framing, roofing, drywall, painting, cabinets and floor covering. The only work not done by students is the electrical wiring and plumbing. Approximately 11 juniors work on the site in the morning and 11 seniors in the afternoon (1/2 of the class) while the other half remains in the shop doing related work and getting material ready for the next day. Upon completion of this two-year program, the students will have had experience constructing two houses and with the trades of the residential construction industry.

BUSINESS BASICS (Junior Achievement)
Districtwide

Business Basics is an elementary school program that is designed to allow 5th and 6th grade students to gain information that will assist them in making intelligent career decisions in the future. Specially trained achievers from the high school Junior Achievement Program teach four class periods covering the following topics: Business Organization, Management, Production and Marketing. A variety of instructional techniques and activities are utilized, including Role Playing, Production Competition and Stock Purchase and Evaluation.

CAREER AWARENESS RELATED EDUCATION (CARE)
Cleveland High School

This "Experience-Based Career Education" project is an individualized program designed to teach youth to be independent and responsible while developing academic skills in the context of their future as workers. EBCE students participate in vocation exploration and career internships which are integrated with academic learning projects. The participants form mentor relationships with adults in the business community, from whom they receive counseling and instruction.

A school-based EBCE program can realistically expect the following student outcomes:

1. A high school diploma
2. Progress in basic skills (reading, writing, math, computer literacy) and communication skills
3. Increased self-awareness, pride, responsibility and accountability
4. Occupational information and work experiences
5. Decision-making and independent living skills
6. Employability skills, e.g., application procedures, punctuality, grooming
7. Career Portfolio (often called "Passport") with a career development plan for next steps

CAREER GUIDANCE PROJECT
Districtwide

Major activities include:

1. Provide support for implementation of Career Guidance Handbooks at Middle School and High School levels.
2. Provide leadership in the identification of resource materials for use throughout the District, at the K-5 level.
3. Assist in ordering resource materials (K-12) in order to provide similar materials in Career Education Centers throughout the District.
4. Provide assistance to teachers and other staff involved in delivery of career education activities to students.

CAREER HORIZONS
Beaumont, Gray, Gregory Heights, Mt. Tabor, Ockley Green, Whitaker Middle Schools

Career Horizons/Career Exploration programs are an organized means of disseminating career information to broaden the experiences of middle school students.

This program gives the student an opportunity to look at many occupational areas for better preparation in making decisions about personal needs and future goals.

Career Horizons includes instruction designed to make students knowledgeable about the world of work, action-oriented experiences common to those performed in these occupational fields, and guidance in making some tentative decisions about their future study and occupational decisions.

COMMERCIAL SEWING
Child Services Center

This class prepares students for entry-level jobs as commercial sewing machine operators. The class is intended to meet the vocational training needs of refugee and other disadvantaged students, ages 17 to 21 years, who desire full-time employment as commercial sewing operators. Students who successfully complete this course are hired by firms like Jantzen, White Stag and Pendleton Woolen Mills.

CONSUMER/HOMEMAKING PROJECT
Districtwide

This project addresses the following goals:

1. To promote Home Economics in Portland Public Schools
2. To update and improve the Home Economics curriculum to keep up with the changing needs of students
3. To provide a strong communications network for all PPS Home Economics teachers through inservice classes and sharing sessions

COOPERATIVE WORK EXPERIENCE
Districtwide

Four coordinators provide services to students in Business Education, Graphics, Electronics, Industrial Mechanics and Industrial Metals programs throughout the District.

The Cooperative Work Experience program provides a setting for relating study in school to a work setting in business or industry, based on the career objectives of the student. In order to participate, students must be enrolled concurrently in an approved career cluster program.

EXPANDING CAREER OPTIONS FOR MIDDLE SCHOOL ETHNIC MINORITY FEMALES
Glenhaven, James John, and Whitaker Middle Schools

The Expanding Career Options Program is designed to involve approximately 50 girls, grades 6-8, from Cambodian, Ethiopian, Hispanic, Hmong, Lao and Mien ethnic groups in visits to a variety of career sites. These visits and related activities are directed to increase their awareness of the variety of career options available in our society, as well as to provide assistance in developing an educational plan to prepare for expanding career options.

FINANCIAL SERVICES TECHNOLOGY ACADEMY
Jefferson High School

The Financial Services Technology Academy is a unique industry-school partnership that offers a three-year training program to selected students at Jefferson High School. It provides practical training related to the growing financial services sector of the Portland economy, along with basic academic education, and helps students to bridge the gap between education and work.

FINANCIAL SERVICES TECHNOLOGY ACADEMY (continued)

The Academy is structured as a "school-within-a-school." Beginning in 10th grade, its students have separate classes in communications (a mixture of English and employability skills), math, and business, taught by Portland Public School District teachers skilled in these fields. Students take their other high school courses as usual, and graduate with a regular high school diploma. They also receive a certificate of proficiency in financial services technology.

Built into the curriculum are career motivation components: visits to companies, presentations by business people, exercises in self-assessment of interests and skills, and career counseling. After the second year of the program (11th grade), students are assisted in finding summer jobs, and during the third year (12th grade), they are placed in part-time work experience positions.

Three organizations are working together to manage the program:

- The Portland Public School system, and specifically Jefferson High School, which provides the classroom space, the teachers, and some of the equipment necessary to successfully implement the curriculum.
- The Urban League of Portland, the recipient of a grant from the Edna McConnell Clark Foundation in New York, which provides a director for the program and a counselor who works with students and their parents.
- The Business Youth Exchange, an arm of the Portland Chamber of Commerce, which promotes and coordinates business involvement with Portland companies working in the financial services field. This includes banks, savings and loans, accounting firms, insurance companies, stock brokerages, and so on.

GREEN THUMB PROJECT
6801 S.E. 60th Avenue

Operation Green Thumb is a vocational agriculture-business program designed for Portland Public Schools' sophmore, junior and senior students with its primary emphasis on developing knowledge and skills in the horticulture field. The program is located on a 13-acre campus and serves approximately 120 students per year. Students have the opportunity to enroll at all District high schools and spend one-half of their school day on the Green Thumb Campus earning three high school elective credits.

HOME REPAIR TRAINING
5616 N.E. 42nd Avenue

This program is a "hands-on" vocational experience for high school upper classmen from Portland Schools. Jointly funded by the District, the City of Portland and federal vocational funds, the training is open to students from both public and private schools. From day one, the student will be taken out to work on private homes in Portland. They are given instruction and work in three specialties: carpentry, roofing, and painting which trains the student for entry-level employment in those trades. The student can earn three credits per year in a half-day program and choose either a three hour morning or a three hour afternoon class.

INTEGRATING MATH AND SCIENCE WITH VOCATIONAL EDUCATION
Benson, Cleveland, Franklin

Under the broad direction of a Districtwide advisory committee, project activities include:

- o a review of national trends and models
- o selection of one or more program areas where collaboration seems natural
- o time for both vocational and academic faculty to become familiar with each other's subject matter
- o interview by school staff with local employers regarding work skill expectations
- o analysis of curriculum outcomes to identify common competencies
- o testing of prototype models that seem appropriate

INTRODUCTION TO TECHNOLOGY
Jefferson High School

The Introduction to Technology Project was created to address the increasing need for instruction related to new technology and the growing "middle group" of students that do not go on to college or attend specialized vocational programs. Technology education can help students be better prepared to select and prepare for careers, use new technology, and make decisions related to technology.

The result of a pilot program at Jefferson is a curriculum outline and suggested activities for Energy and Power. Communications, and Materials and Processes (the three areas selected for emphasis).

Plans are under way to transport this model to Cleveland High School during the 1986-87 school year, with continued curriculum development at both participating schools.

PROJECT INVEST

The project is a cooperative effort between the insurance industry and Cleveland High School to help students who can profit from such training to attain skills needed for an entry-level job. It is a course designed to provide marketable skills to high school juniors and seniors. The simulated office practice class develops, in addition to refining basic clerical skills, actual practical application of office skills whereby students rotate on various jobs typical in an office. The training qualifies students for careers, not only in the insurance industry, but in other related fields such as banking, title companies, etc.

MARKETING/BUSINESS MANAGEMENT
Cleveland High School

Cleveland High School is the Districtwide magnet school for Business Marketing/Management. This is a four-year program open to all students in the district who can profit from such training. The four phases of training are:

1. Classroom Training - Tailor-made courses are offered to include a variety of activities with flexibility in specialized areas to meet individual interests. Counseling and guidance are also part of this phase.

2. Laboratory Training - A unique shopping mall gives students first-hand experience in cashiering, merchandising, buying, selling and advertising. Students also gain experience in inventory control, administrative management and other related aspects of Marketing/Management.

3. Leadership Training - Students are encouraged to participate in DECA, the youth organization related to Marketing/Management, whereby students can experience personal leadership growth.

4. On-the-job Training - Internship and cooperative work experience programs are available to assist students in obtaining valuable experience in the community.

MINI-SKILLS TRAINING PROJECT
Grant, Madison, Roosevelt

Students receive training in one of the three areas: Building Maintenance, Auto Parts Salvaging, or Mail-sorting, followed by job placement. The training component consists of four weeks of intensive classwork, followed by six weeks work experience, involving 15-20 hours per week.

This training model will be used in providing short-term training in additional areas, subject to verified needs in the current labor market, in order to provide students the opportunity to develop marketable skills in a time-efficient manner. Working cooperatively with local business representatives to develop curriculum and identify opportunities for shared use of facilities and equipment has allowed training to be offered on a cost-efficient basis as well.

PARTNERSHIP PROJECT

The Partnership Project is a year-round school-to-work transition program operated at Grant High School by the Business Youth Exchange in cooperation with Portland Public Schools, the Portland Private Industry Council and the New York-based Edna McConnell Clark Foundation.

The primary goals of the program are to:

1. Provide high school students with private sector jobs and a work related program of classroom instruction geared toward the primary, rather than the secondary, labor market.

PARTNERSHIP PROJECT (continued)

2. Demonstrate the relationship between school and work by providing a special curriculum developed to support and enhance the work experience.

3. Establish new and lasting relationships among local businesses and Portland Public Schools.

4. Change the climate and cultural attitudes in "establishment businesses" toward high school students and public schools and conversely change the climate and attitudes of school officials toward establishment businesses.

PORTLAND URBAN NETWORK PROJECT
Districtwide

Because we believe in the potential of a collaborative approach to problem solving, the Portland business community, Portland Public Schools and the city government are joining together to increase youth employment and to improve the quality of career and vocational education in our city. It is our intent to launch a concerted effort to assist young people to develop attitudes and skills which are necessary for competing in the local job market.

This collaboration effort has resulted in a planning grant which will result in an action plan for a 3-4 year demonstration project to improve and increase educational alternatives for youth at risk of dropping out of school.

PROJECT BUSINESS (Junior Achievement)
Districtwide

Project Business utilizes executives from local businesses to act as instructors in 8th and 9th grade Social Studies classes. Once each week, the "consultants" teach a class which stresses economics using curriculum developed by Junior Achievement. The teachers, consultants and students discuss The Nature of Economics, Money and Financial Institutions, Different Economic Systems, and Supply and Demand. Classroom work is also supplemented with field trips to local businesses where students are given the opportunity to talk with management about basic skills and education needed to qualify for various positions.

REFUGEE JOB PREPARATION
Cleveland, Grant, Jefferson, Madison, Roosevelt

Refugee Job Prep serves refugee students who are 16-20 years old and in need of information/training in the process of choosing a field for employment and applying for employment as well as the requirements of specific jobs/careers. RJP is a one semester course and can be used to replace the CESA requirement for graduation. The ideal is for the student to be enrolled both in the classroom portion of the course and employed in a part-time paid position. The schedules and needs of all students do not always allow for the ideal. Consequently, some students are employed but seen on an individual tutorial basis. Other are not yet ready to apply for employment, but are enrolled in the classroom portion of the course. Budget is determined by the ESL Department and the Career/Vocational Education Department.

SCIENCE AND MATH EQUITY PROJECT (SAME)
Binnsmead, Mt. Tabor, Ockley Green

The purposes of this federal Women's Educational Equity Act-funded project are:

1. To increase interest in mathematics, science and computer courses among females at the middle school level.

2. To increase understanding among adults regarding the importance of mathematics and science for students, especially females.

3. To organize a systematic linkage between particular middle schools and local industries.

4. To develop and disseminate nationwide a videotape and accompanying manual of activities emphasizing the importance of mathematics and science for females and encouraging girls to pursue these areas. The 15 minute video-tape will feature middle school girls as participants in the activities and dialogue. Parents, teachers and representatives of local industry will also appear in the tape.

SUMMER TRAINING AND EDUCATION PROGRAM (STEP)
Districtwide

The Summer Training and Education Program (STEP) seeks to improve school retention rates and, ultimately, labor market outcomes for poor, educationally at-risk youth ages 14 and 15, by addressing two serious obstacles to high school graduation: negative academic experiences and adolescent parenthood. Participants in STEP spend two consecutive summers in a program that provides both academic remediation and instruction in life skills, in addition to work experience through the Summer Youth Employment Program. During the intervening school year, they participate in a voluntary support component designed to reinforce gains achieved during the summer and to sustain motivation to succeed. STEP participants must be academically deficient as well as economically disadvantaged in order to qualify for the program.

APPENDIX C

COMPOSITE LIST OF VOCATIONAL EDUCATION INTERVIEW QUESTIONS

Listed in this appendix are 59 questions asked as part of the NWREL interviews. Individual interviews usually covered about 6 to 12 questions. After each question is an abbreviation indicating the category of respondent(s) to whom the question was asked. Here are the abbreviations used to identify the respondent groups:

DCV District and Career and Voc Ed Department Staff

CC Community College Presidents and Deans of Instruction

NSS Neighboring School Superintendents

CWE Cooperative Work Experience Coordinators

PVP Principals and Vice Principals

D&W Additional Questions for Darrell and Warren

VEI Vocational Education Instructors

C Counselors

AC Advisory Group Members

COS Central Office Staff

1. I have already read your job description. Of the tasks listed here, which three take the largest amount of your time?
(DCV-#1)

2. What three tasks do you feel are most important for you to do?
(DCV-#2)

3. As you look at the overall mission of the central office vocational staff, what are the most important functions that your department performs? Why?
(DCV-#3)

4. What are the major types of support that your department provides to the local schools? How could it be improved?
(DCV-#4)

5. What changes would you suggest in the role or functions of your department for the next few years? How might this be accomplished?
(DCV-#5)

6. Given the responsibilities of your department, do you feel it is adequately staffed to do the job? If not, what additional type of staff would be needed?
(DCV-#6)

7. Vocational education is widely believed to be the academic dumping ground in many high schools. Should vocational programs institute rigorous academic-vocational requirements for entry and continuation in programs?
(DCV-#7; PVP-12; C-#4; AC-#5; COS-#5; NSS-#3; CC-#12; CWE-#6; VEI-#4; D&W-#13)

8. People today have widely differing views on what purpose, if any, vocational education should have at the secondary level. Some feel high schools should not teach vocational education. Others feel it should prepare students for specific jobs or education beyond high school, that it should focus on a broader set of skills needed for future employment, give students practical skills they can use such as fixing their own car, or help in teaching basic skills through direct application of these skills. What purposes do you see vocational education serving at the secondary level in Portland?
(CC-#5; DCV-#8; NSS-#4; CWE-#7; PVP-#5; VEI-#5; C-#6; AC-#6; COS-#7)

9. Just as there is a wide variety of opinions about the purpose for vocational education at the secondary level, there is also no single view about how it should best be carried out. Some people feel it should be integrated with academic subjects in a comprehensive high school, offered by itself as an elective like music or art, taught in one or more centralized locations in the city, taught only at community colleges or taught on the job by business and industry. What is your view on future directions in vocational education?
(CVE-#9; CC-#6; NSS-#5; CWE-#8; PVP-#6; VEI-#6; C-#7; AC-#7; COS-#8; DCV-#9)

10. What recommendations do you have for the future directions of vocational education in the PPS?
(DCV-#10; CC-#7)

11. What types of articulation agreements, if any, does your community college have with PPS regarding vocational training? If one exists how effectively do you feel it is being carried out?
(CC-#1)

12. What additional areas of cooperation with PPS do you feel would be desirable in the next few years? Please describe. What would be necessary to bring this added cooperation?
(CC-#2)

13. Do you feel that there is any overlap or duplication in vocational offerings being provided to young people in the Metropolitan Portland area?
(CC-#3)

14. What vocational education plans, if any, does your community college have for the next several years that might influence the direction of vocational education in the PPS?
(CC-#4)

15. What structural or systematic issues inhibit cooperation between high schools and community colleges such as state funding, laws, attitudes of educators or others?
(CC-#8; W&D-#9)

16. Do you perceive competition between high school districts and community colleges for the attention and support of business and industry for their respective programs?
(CC-#9; W&D-#10)

17. Should high schools and community colleges prepare students for the same occupations? If not, how does one decide which programs should be in the high school and which should be in the community college?
(CC-#10; D&W-#8)

18. The transfer function from the community college to the 4 year college is part of the mission of community colleges by law. Should this be the case between high school vocational programs and community colleges?
(CC-#11; D&W-#12)

19. High schools are assessed by external agencies such as College Boards through the administration of S.A.T. or other nationally normed achievement tests. Should there be a comparable assessment of vocational education skills?
(CC-#13; D&W-#14)

20. What high school vocational programs are open to students in your school district?
(NSS-#1)

21. Do you have, or have you discussed, any inter-district agreements with the PPS for providing vocational training to students in either district? Please describe.
(NSS-#2)

22. What plans do you have for vocational education for your district for the next few years?
(NSS-#6)

23. Please describe your responsibilities as CWE coordinator.
(CWE-#1)

24. Please describe the number and types of students being served in CWE in the schools you coordinate.
(CWE-#2)

25. Please describe the number and types of job placements being provided.
(CWE-#3)

26. What do you see as the major strengths of the CWE program? What are its major weaknesses?
(CWE-#4)

27. What future do you see for CWE in the PPS?
(CWE-#5)

28. What state approved vocational programs are offered at your school?
(PVP-#1)

29. Please describe the approximate number and types of students enrolled in state approved vocational programs in your school.
(PVP-#2)

30. How well prepared do you feel your vocational education staff are in their vocation areas? Are there adequate opportunities for their professional development?
(PVP-#3)

31. How do the academic and vocational staffs at your school relate to each other? Is there active cooperation occurring? If yes, please describe. If no, would you like to see cooperation and if so, what benefits might you expect?
(C-#3; PVP-#4; VEI-#1)

32. What support does your school receive from the district's career and vocational department? How adequate is that support? Are there ways they could provide more or better support? Do you know which person to contact for help with a specific vocational problem or concern?
(PVP-#7; VEI-#7; C-#5)

33. What special attention is being given in vocational education (a) for special education youth? (b) for economically disadvantaged? (c) for talented and gifted students? (d) for reducing sex role stereotyping?
(COS-#6; PVP-#8; C-#5)

34. Student follow-up information is sometimes collected on vocational education graduates. (a) Have you seen such information in the past two years? (b) If yes, has the information been useful? (c) If yes, how has it been used for program planning or improvement?
(PVP-#9)

35. What do you see as the major strengths of vocational education in your school? Major weaknessses?
(C-#9; AC-#4; PVP-#10; VEI-#8)

36. Does your school have any plans for changing vocational education over the next few years? If so, what?
(VEI-#9; C-#10; PVP-#11)

37. Is Career and Vocational Education adequately described in the district's mission statement? What should be added?
(W&D-#1)

38. Does the CVE department have its own mission statement? Can I have a copy?
(W&D-#2)

39. What are the goals and objectives of the CVE department?
(W&D-#3)

40. What role does the CVE department play in (a) vocational course planning; (b) curriculum development; (c) coordination of inservice, (d) business, industry and labor linkages; (e) program evaluation, (f) use of labor market information and (g) student follow-up studies?
(W&D-#4)

41. What staff development is provided to the CVE department staff? Are individual staff development plans used?
(W&D-#5)

42. How does the CVE department relate to general education and other units of the district?
(W&D-#6)

43. What access is made of the PPS data bases? What uses might be made in the future?
(W&D-#7)

44. If schools have a particular problem or concern related to vocational education, do yc: feel they know which person in your department to contact?
(W&D-#8)

45. Should high schools and community colleges prepare students for the same occupations? If not, how does one decide which programs should be in the high school and which should be in the community college?
(W&D-#11)

46. The transfer function from the community college to the 4 year college is part of the mission of community colleges by law. Should this be the case between high school vocational programs and community colleges?
(W&D-#12)

47. Please describe briefly the vocational programs you teach. What type of students generally enroll?
(VEI-#1)

48. How well prepared do you feel your vocational education staff are in their vocation areas? Are there adequate opportunities for their professional development?
(VEI-#2)

49. How do the academic and vocational staffs at your school relate to each other? Is there active cooperation occurring? If yes, please explain.
(C-#3)

50. Are you involved in vocational counseling of students? If yes, please describe.
(C-#1)

51. How well do you feel your school is serving the needs of the student who is planning to enter directly into employment after graduation? Are there additional services that would be helpful to such students? If yes, what services?
(C-#2)

52. How often last year did your advisory committee meet?
(AC-#1)

53. Does the committee seem to reflect adequately the diversity of people working in this vocational area?
(AC-#2)

54 What are the major functions that the committee performs? How effective do you feel the committee is? Why?
(AC-#3)

55. In what ways, if any, do you work with the District's Career and Vocational Education department?
(COS-#1)

56. Given the responsibilities of that department, do you feel it is adequately staffed to do the job? If not, what additional type of staff would be needed?
(COS-#2)

57. How effectively do you feel the Career and Vocational education staff relate to other units within the District? Are there ways this cooperation could be improved?
(COS-#3)

58. Do you feel you are adequately informed about the goals and objectives of the Career and Vocational Education department?
(COS-#4)

59. Do you have any suggestions for improving the Career and Vocational Education operations within the District?
(COS-#9)

APPENDIX D

FIRST CHOICE CAREER INTEREST AREAS
FROM PORTLAND AREA HIGH SCHOOL
TENTH THROUGH TWELFTH GRADERS[a]
CONDUCTED BY:
COLUMBIA PACIFIC COUNCIL
BOY SCOUTS OF AMERICA

1.	Computer programming	(427)[b]
2.	Hairstylist	(265)
3.	Accounting	(250)
4.	Professional Sports	(218)
5.	Business Management	(206)
6.	Musci	(204)
7.	Law/Lawyer	(194)
8.	Medicine	(184)
9.	Auto Mechanic	(157)
10.	Architect	(154)
11.	Law Enforcement/police	(152)
12.	Steno/Secretarial	(148)
13.	Pilot/aviation	(144)
14.	Drama	(135)
15.	Electronics	(132)
16.5	Psychology	(131)
16.5	Modeling	(131)
17.	Nursing	(125)
18.	Mechanical Engineering	(122)
19.5	Teacher/education	(111)
19.5	Fashion designing	(111)
20.	Banking and Finance	(109)
21.	Air Force	(107)
22.	Art	(106)
23.	Photography	(104)
24.	TV Broadcasting	(103)
25.	Journalism	(101)
26.	Child Care	(100)
27.	Veterinary medicine	(99)
28.	Cooking/food service	(96)
29.5	Dance	(95)
29.5	TV Production	(95)
30.	Flight Attendant	(92)
31.	Interior Design	(78)
32.	Army	(72)
33.	Drafting	(69)
34.	Construction	(68)
35.	Forestry	(66)
36.5	Graphic Arts	(64)
36.5	Oceanography/Marine Biology	(64)
38.	Fish Management	(62)
39.	Dentistry	(62)
40.	Physical Therapy	(62)
41.	Tourism	(56)

[a] N = 7,537
[b] the number of students choosing this interest area

46.5	Ranching	(53)
46.5	Real Estate	(53)
48.5	Navy	(51)
48.5	Carpentry	(51)
50.5	Counseling	(48)
50.5	Driving Occupations	(48)
52.	Retail merchandizing	(47)
53.	Advertising	(46)
54.5	Fire fighting service	(45)
54.5	Dental Technology	(45)
56.	Astronomy	(42)
57.	Coaching	(41)
58.	Space Science	(40)
60	Civil Engineering	(39)
60	Social Work	(39)
60.	Medical Technology	(39)
62.5	Electrician	(38)
62.5	International Trade	(38)
64.	Hotel Management	(37)
65.	Marines	(35)
66.5	Chemistry	(31)
66.5	Welder	(31)
69	Truck Mechanics	(28)
69	Public Relations	(28)
69	Government	(28)
71.5	Biology	(27)
71.5	Mathematics/Statistics	(27)
73.5	Anthropology	(26)
73.5	Insurance	(26)
75.5	Pharmacy	(25)
75.5	Zoology	(25)
77	Coast Guard	(21)
78.5	Metal Fabrication	(19)
78.5	Aviation Mechanics	(19)
80.	Commercial Fishing	(18)
81.	Florist	(17)
82.	Heavy Equipment	(16)
83.	Special Education	(15)
84.	Earth Sciences	(14)
85.5	Truck Management	(13)
85.5	Longshoreman	(13)
87.	Nuclear Science	(12)
89.	Machinist	(11)
89.	Clergy	(11)
89.	Search/Emergency serv.	(11)
92.	Physics	(10)
92.	Foundry/Metal Casting	(10)
92.	Appliance Repair	(10)
94.	Aviation Management	(9)
96.5	Printing	(8)
96.5	Agriculture	(8)
96.5	Shipping Management	(8)
96.5	Plumbing	(8)

99.5	Parks/Recreation	(7)
99.5	Occupational Therapy	(7)
102.	Dietician	(6)
102.	Optometry	(6)
102	Speech/Hearing Therapy	(6)
104.5	Marine Mechanics	(5)
104.5	Logging	(5)
107.	Labor Union (Apprenticeship Occup.)	(4)
107.	Textiles	(4)
107.	Painter	(4)
110.5	Military Reserves	(3)
110.5	Geology	(3)
110.5	Merchant Seaman	(3)
110.5	Surveying	(3)
113.5	Urban Planning	(2)
113.5	Meteorology	(2)
115	Community Services	(0)

APPENDIX E

VOCATIONAL EDUCATION TEACHER SURVEY
PORTLAND PUBLIC SCHOOLS
(74 Teachers Replied)

Please complete this checklist as part of the comprehensive study of vocational technical education being conducted by the district.

Place a checkmark in the space preceding the characteristics that describe yourself.

CURRENT SUBJECT MATTER ENDORSEMENTS

Percent
(Some teachers have more than one endorsement)

03	Art	___	Language
___	Biology	___	Math (advanced)
38	Business Ed.	01	Math (basic)
08	Distributive Ed.	___	Music
___	Drama	01	Physical Ed.
04	Driver Ed.	___	Physical Science
___	Educational Media	___	Physics
___	Foreign Language	01	Reading
04	Health Ed.	03	Social Studies
04	Home Economics	03	Special Ed.
25	Industrial Arts	___	Speech
___	Integrated Science	59	Vocational Trade/ Industrial Ed.
___	Journalism		

HIGHEST EDUCATION DEGREES

Percent

36	Bachelor's	64	Master's	4	Educational Specialist
0	Doctorate				

NUMBER OF SUBJECT MATTER PREPARATIONS

35	less than 3	49	3 to 5	14	more than 5

YEARS OF TEACHING EXPERIENCE

4	less than 3	4	3 to 5	12	6 to 10
66	11 to 25	15	more than 25		

YEARS OF SERVICE TO PORTLAND SCHOOL DISTRICT

7	less than 3	8	3 to 5	15	6 to 10
65	11 to 25	8	more than 25		

APPENDIX E

VOCATIONAL EDUCATION TEACHER SURVEY
PORTLAND PUBLIC SCHOOLS
(Continued)

YEARS OF WORK EXPERIENCE IN BUSINESS OR INDUSTRY RELATED TO ENDORSEMENT

5	less than 1	14	1 to 3	41	4 to 10
38	more than 10				

YEARS OF INVOLVEMENT WITH PLACEMENT AND SUPERVISION OF STUDENTS IN COOPERATIVE WORK EXPERIENCE

28	none	8	less than 1	21	1 to 3
28	more than 3				

YEARS INVOLVEMENT IN VOCATIONAL STUDENT LEADERSHIP ORGANIZATIONS (E.G., DECA, FBLA, FFA, VICA)

53	none	5	less than 1	8	1 to 3
31	more than 3				

Thank you for your help. Please return the survey to NWREL in the self-addressed envelope provided.

APPENDIX F

CRITIQUE OF THE VOCATIONAL EDUCATION PROGRAM SELF-ASSESSMENT PROCESS

We would like your help in improving the self-assessment process developed by the Oregon Department of Education that you participated in recently.

Please complete this instrument anonymously, put it in the enclosed envelope and return it to the Northwest Regional Educational Laboratory.

What was your role in the self assessment process [Check one]

33% Teacher/Facilitator & Participant
77% Teacher/Participant
_____ Advisory Committee Representative

Please rate the process by circling the response to each statement that most closely indicates your opinion.

1. The preliminary information about the Self Assessment Activities prepared me for what was expected. Mean = 3.5*

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Scale =	5	4	3	3	1

Comments: _____

2. The facilitators were helpful in completing the activities. Mean = 3.8

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

Comments: _____

3. The Self Assessment Activities stimulated me to think about my program. Mean = 4.0

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

Comments: _____

4. The arrangements for the activities were well structured. Mean = 3.4

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

Comments: _____

*The mean is the average rating by 39 vocational teachers who completed this critique. The scale ran from 5 = strongly agree to 1 = strongly disagree.

5. The information generated by the activities will be useful to me for vocational program improvement.

Mean = 3.6

Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

Comments:_____

_____

6. The information generated by the Activities will be useful for short and long range vocational program planning in our school.

Mean = 3.1

Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

Comments:_____

_____

7. The Self Assessment was worth my time.

Mean = 3.2

Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

Comments:_____

_____

8. The Self Assessment (or some modification) should become an annual part of program planning.

Mean = 3.1

Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

Comments:_____

_____

46% of respondents had comme

APPENDIX G

LABOR MARKET INFORMATION

Table 3. Occupations with the largest job growth, 1984–95

(Numbers in thousands)

Occupation	Employment		Change in employment 1984–95		Percent of total job growth 1984–95
	1984	1995	Number	Percent	
Cashiers	1,902	2,469	[illegible]	29 8	3 6
Registered nurses	1,377	1,829	452	32 8	2 8
Janitors and cleaners, including maid and housekeeping cleaners	2,940	3,383	443	15 1	2 8
Truck drivers	2,484	2,911	428	17 2	2 7
Waiters and waitresses	1,625	2,049	424	26 1	2 7
Wholesale trade salesworkers	1,248	1,817	369	29 8	2 3
Nursing aides, orderlies, and attendants	1,204	1,552	348	28 9	2 2
Salespersons, retail	2,732	3,075	343	12 6	2 2
Accountants and auditors	882	1,189	307	34 8	1 9
Teachers, kindergarten and elementary	1,581	1,862	281	20 3	1 9
Secretaries	2,797	3,064	268	9 6	1 7
Computer programmers	341	586	245	71 7	1 5
General office clerks	2,398	2,629	231	9 6	1 4
Food preparation workers, excluding fast food	987	1,205	219	22 1	1 4
Food preparation and service workers, fast food	1,201	1,417	215	17 9	1 4
Computer systems analysts, electronic data processing	308	520	212	68 7	1 3
Electrical and electronics engineers	380	587	208	52 8	1 3
Electrical and electronics technicians and technologists	404	607	202	50 0	1 3
Guards	733	921	188	25 6	1 2
Automotive and motorcycle mechanics	922	1,107	185	20 1	1 2
Lawyers	490	665	174	35 5	1 1
Cosmetologists and related workers	524	674	150	28 7	9
Cooks, restaurant	463	601	138	29 7	9
Maintenance repairers, general utility	878	1,015	137	15 6	9
Bookkeeping, accounting, and auditing clerks	1,973	2,091	118	6 0	7
Bartenders	400	512	112	27 9	7
Computer operators, excluding peripheral equipment	241	353	111	46 1	7
Physicians and surgeons	476	585	109	23 0	7
Licensed practical nurses	682	788	106	17 6	7
Carpenters	944	1,046	101	10 7	6
Switchboard operators	347	447	100	28 7	6
Food service and lodging managers	657	746	89	13 6	6
Electricians	545	633	88	16 2	6
Teacher aides and educational assistants	479	566	88	18 3	6
Blue-collar worker supervisors	1,470	1,555	85	5 8	5
Receptionists and information clerks	458	542	83	18 2	5
Mechanical engineers	237	317	81	34 0	5

Table 4. Fastest growing occupations, 1984–95

(Numbers in thousands)

Occupation	Employment		Change in employment 1984–95		Percent of total job growth 1984–95
	1984	1995	Number	Percent	
Paralegal personnel	53	104	51	97 5	3
Computer programmers	341	586	245	71 7	1 5
Computer systems analysts, electronic data processing (EDP)	308	520	212	68 7	1 3
Medical assistants	128	207	79	62 0	5
Data processing equipment repairers	50	78	28	56 2	2
Electrical and electronics engineers	380	587	208	52 8	1 3
Electrical and electronics technicians and technologists	404	607	202	50 7	1 3
Computer operators, except peripheral equipment	241	353	111	46 1	7
Peripheral EDP equipment operators	70	102	32	45 0	2
Travel agents	72	103	32	43 9	2
Physical therapists	58	83	25	42 2	2
Physician assistants	25	35	10	40 3	1
Securities and financial services salesworkers	81	113	32	39 1	2
Mechanical engineering technicians and technologists	55	[illegible]	20	36 6	1
Lawyers	490	665	174	35 5	1 1
Correctional officers and jailers	130	175	45	34 9	3
Accountants and auditors	882	1,189	307	34 8	1 9
Mechanical engineers	237	317	81	34 0	5
Registered nurses	1,377	1,829	452	32 8	2 8
Employment interviewers, private or public employment service	72	95	23	31 7	1

Source: Silvestri and Lukasiewicz (1985). Occupational Employment Projections: the 1984-85 Outlook, Monthly Labor Review.

Oregon Occupational Information
Coordinating Committee
875 Union Street NE
Salem, OR 97311

December 1984

1985 OREGON OCCUPATIONAL DEMAND
RANKED BY PROJECTED EMPLOYMENT

Occupation	1985 Employment	1985 Openings	1983 Unemployed
Sales Representatives	48,883	3,230	2,398
Secretary	27,040	1,536	3,428
Truck Driver	22,351	1,055	5,692
Waiter/Waitress	21,836	1,309	3,860
General Clerk	21,267	1,212	6,282
Janitors/Porters/Cleaners	19,804	1,666	1,501
Cashier	19,634	986	4,486
Professional Nurse	16,072	944	196
Bookkeeper	14,245	933	2,759
Sales Clerks	13,472	812	4,774
Nurse Aide/Orderly	12,776	867	1,303
Elementary Teacher	11,847	632	364
Typist/Word Processor Operator	11,815	628	1,012
Bartender	11,520	649	1,618
Fast Food Service Worker	11,449	748	Not avail.
Kitchen Helper	11,419	690	1,945
Accounting Clerk	10,608	646	895
Real Estate Sales Agent	9,371	903	Not avail.
Cafeteria Counter Attendant	9,209	562	551
Store Manager	8,855	588	583
Housekeeping Cleaner	7,737	770	724
Automotive Mechanic	7,593	385	1,760

Source: Occupational Program Planning System, 1984

State of Oregon
EMPLOYMENT DIVISION
Department of Human Resources

Research and Statistics
November 27, 1985

OREGON'S CHANGING ECONOMY 1979-1985
NONAGRICULTURAL WAGE & SALARY EMPLOYMENT
Selected Industries

	August 1979	August 1985	Change #	Change %
Total	1,072,800	1,029,800	-43,000	- 4.0
Manufacturing				
Lumber & Wood Products	243,600	208,200	-35,400	-14.5
Primary Metals	85,000	67,400	-17,600	-20.7
Fabricated Metals	11,300	8,800	- 2,500	-22.1
Machinery	13,900	10,600	- 3,300	-23.7
Electronic Equipment	17,900	15,500	- 2,400	-13.4
Instrument	8,900	14,200	5,300	59.6
Food Products	18,900	14,300	- 4,600	-24.3
Paper	32,100	30,300	- 1,800	- 5.6
Printing	10,700	9,500	- 1,200	-11.2
	10,100	11,100	1,000	9.9
Nonmanufacturing				
Construction	829,200	821,600	- 7,600	- 0.9
Transportation	59,300	35,500	-23,800	-40.1
Commications	37,200	33,000	- 4,200	-11.3
Wholesale Trade	16,100	13,500	- 2,600	-16.1
Retail Trade	68,600	67,200	- 1,400	- 2.0
Finance, Insurance, Real Estate	191,100	198,800	7,700	4.0
Health Services	71,500	69,900	- 1,600	- 2.2
Business Services	60,300	70,300	10,000	16.6
Other Services	24,600	37,600	13,000	52.8
Federal Government	102,800	104,500	1,700	1.7
State Government	32,200	31,900	- 300	- 0.9
Local Government	52,700	52,000	- 700	- 1.3
	101,600	96,900	- 4,700	- 4.6

OCCUPATIONAL CHANGE 1979-1985
Employment Loss Selected Occupations

Occupation	Employment 1979	Employment 1985	Loss #	Loss %
Bookkeeper	15,193	12,820	-2,373	-15.6
Bookkeeping/Billing Machine Operator	2,164	1,314	- 850	-39.3
Brick Layer	1,436	195	-1,241	-86.4
Butcher/Meat Cutter	2,159	1,479	- 680	-31.5
Carpenter	9,310	4,629	-4,681	-50.3
Cement Mason	1,081	596	- 485	-44.9
Chain Offbearer	5,656	4,771	- 885	-15.6
Core Layer/Sheet Turner	1,331	903	- 428	-32.2
Data Entry Keyer	3,983	2,669	-1,314	-32.9
Drafters	4,115	2,713	-1,403	-34.1
Electricians	5,438	3,861	-1,577	-29.0
Faller and/or Bucker	3,036	2,257	- 779	-25.7
Heavy Equipment Operator	6,724	4,805	-1,919	-28.5
Machinist	3,189	2,230	- 959	-30.1
Mechanic, Automotive	9,707	8,210	-1,497	-15.4
Plumber and/or Pipefitter	4,263	2,504	-1,759	-41.3
Real Estate Broker	1,317	820	- 497	-37.8
Truck Driver	25,029	19,177	-5,852	-23.4
Typist/Word Processor Oper.	13,479	9,805	-3,674	-27.3
Veneer Grader	2,165	1,269	- 896	-41.4
Welders and Flamecutters	6,786	4,603	-2,183	-32.2

INDUSTRY JOB CREATION
1983-1991

Industry Title	1983 Employment	Projected 1991 Employment	Jobs to Be Created 1983-1991
Eating & Drinking Places	65,351	76,000	10,649
Nursing & Personal Care Facilities	12,877	19,804	6,927
Measuring & Controlling Instruments	12,350	17,200	4,850
Grocery Stores	24,312	28,497	4,185
Offices of Physicians	11,310	15,266	3,956
Electronics Components & Accessories	6,475	10,000	3,525
Hotels, Motels & Tourist Camps	12,752	16,000	3,248
Misc. Shopping Goods Stores	8,069	11,251	3,182
Elementary & Secondary Schools	59,840	63,000	3,160
Office Computing & Accounting Machines	6,257	9,400	3,143
Telephone Communication	10,671	13,693	3,022
Department Stores	22,073	25,049	2,976
Machinery Equipment & Supplies	15,471	18,000	2,529
Religious Organizations	9,396	11,907	2,511
General Bldg. Contractors (Resid.)	3,585	5,972	2,387

DEMAND OCCUPATIONS
1983-1991

Occupation	1983 Employment	Projected 1991 Employment	Jobs to Be Created 1983-1991
Sales Representative	41,155	50,162	9,007
Secretary	25,896	30,555	4,659
Sales Clerks	17,881	21,982	4,101
General Clerk	20,651	24,543	3,892
Nurse Aide/Orderly	11,451	14,955	3,504
Waiter or Waitress	18,721	22,223	3,502
Cashier	16,287	19,044	2,757
Truck Driver	18,512	21,173	2,661
Janitors, Porters & Cleaners	18,984	21,633	2,649
Store Manager	10,548	12,884	2,336
Kitchen Helper	11,867	14,054	2,187
Fast Food Prep. & Service Worker	12,779	14,889	2,110
Receptionist	6,506	8,133	1,627
Professional Nurse	15,386	16,778	1,392
Electrical/Electronic Engineer	3,831	5,176	1,345
Teacher Elem. Ac[illegible]	11,057	12,327	1,270
System Analyst	1,752	2,129	377

APPENDIX H

VOCATIONAL PROGAM OFFERINGS
AT EACH CAMPUS OF PORTLAND COMMUNITY COLLEGE

Rock Creek

Agricultural Mechanics
Auto Body Painting
Auto Body Repair
Avaiation Maintenance Tech
Building Construction Tech
Diesel Service Tech
Landscape Tech
Office Administration
Welding
Computer Science
Technical Report Writing
Veterinary Science

Cascade

Computer Field Service
Electronic Service Tech
Micro Electronic Processing Tech
Optical Tech
Vocational Music
Alcohol/Drug Counselor
Educational Paraprofessional
Interpreter for Deaf
Instructional Assistant (TA)
Media Library Assistant
Vocational Teacher Education
Tele-Communications

Sylvania

Dental Assistant
Dental Hygienist
Health Records
Medical Laboratory Tecn
Nursing
Radiologic Tecn
Theatrical Jazz
Automotive Tecn
Computer Operator
Computer Programming
Computer Software Tech
Drafting Tech
  1. Architectural
  2. Industrial
Electronic Engineering Tech
Engineering Tech
  1. Civil
  2. Mechanical
Industrial Illustration
Machine Tech
Commercial Art
Dietetic Tech
Early Childhood Education
Culinary Assistant
Restaurant Management
Sous Chef
Graphic Reproduction

South East

Emergency Medical Tech
Professinal Skills Training
Apprenticeship/Trade Program
  (approximately 40 kinds)
Criminal Justice
Fire Science
Law Enforcement
Legal Assistant
World Trade & Transportation

All Campuses

Accounting
Business Administration
  (in Applied Science form)
Public Administration
Television Production
Management/Supervisory Development

APPENDIX I

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APPENDIX J

RATINGS OF ALTERNATIVE DIRECTIONS FOR VOCATIONAL EDUCATION

Group represented (please check one):

Building administrator	11	Student	11
Community advisory committee	6	Other	0
School staff	11		

For each option listed below, please indicate with a check mark how favorable or unfavorable you feel toward each alternative. A description of each alternative appears on a separate sheet.

	Highly Favorable	Favorable	Neutral Don't Know	Unfavorable	Highly Unfavorable	Mean Pre	Mean Post
	Percent						
1. Occupational skills development offered through courses at the comprehensive high school as now	44	49	3	3	3	1.7	1.8
2. Cooperative education expanded to avoid expensive facilities/equipment	39	36	15	5	3	1.9	2.5
3. While enrolled in high school students take vocational classes at community college	3	37	15	36	10	3.2	3.6
4. Vocational classes offered at local business/community sites (health occupations in a hospital)	21	33	18	23	5	2.6	2.8
5. Advanced vocational classes offered at a centralized district facility	15	28	5	39	10	3.0	3.4
6. Vocational programs offered through a magnet school program (such as Jefferson's Performing Arts or Green Thumb)	18	39	18	21	0	2.4	2.4
7. Vocational programs offered through a school consortium arrangement (such as shared programs between Franklin and Marshall)	13	41	21	23	3	2.6	2.3

	Highly Favorable	Favorable	Neutral Don't Know	Unfavorable	Highly Unfavorable	Mean Pre	Mean Post
	Percent						
8. Vocational programs offered at a North Portland and a South Portland skills center	10	26	8	36	2.	3.3	3.5
9. Students and parents are given a voucher to "buy" vocational training at approved private or public facilities	5	18	13	36	28	3.6	4.2
10. Create additional specialized high schools like Benson	8	18	15	41	18	3.4	3.4
11. Students receive training in broad areas such as "principles of technology" rather than in skills for specific occupations	15	36	13	31	5	2.7	2.5
12. Students earn high school graduation credit through selected vocational classes (for example, science through an electronics course)	36	39	8	10	5	2.1	2.4
13. Encourage more students to participate in vocational student organizations such as Future Business Leaders of America (FBLA)	31	41	18	8	3	2.1	2.4
14. Schools offer an active job placement center for graduates and early leavers	44	46	10	0	0	1.7	1.9
15. Schools provide short-term (i.e. six week) training for specific entry level positions	18	39	15	15	10	2.6	2.7
16. Employability skills such as job interviewing and preparation of resumes taught to all students	80	15	5	0	0	1.3	1.3
17. Students taught how to start and operate their own business (entrepreneurship)	8	41	28	15	8	2.7	3.2
18. Vocational programs taught primarily to give students skills in basic home and auto repair (survival skills) rather than preparation for a job	10	31	10	39	10	3.1	3.5

	Highly Favorable	Favorable	Neutral Don't Know	Unfavorable	Highly Unfavorable	Mean Pre	Mean Post
	Percent						
19. Vocational programs not taught at high school but after high school at a community college, private schools or by employer	3	5	3	26	64	4.4	4.0
20. Make vocational courses available before or after the regular school day (for example, 3 - 6 p.m.) and in summer	10	44	0	13	33	3.2	2.5
21. Vocational and Academic teachers "team up" to support each other	44	54	3	0	0	1.6	1.5
22. Require all students to perform a community service project	10	26	13	33	18	3.2	3.4
23. Provide a comprehensive Career Center in each high school	49	44	5	0	0	1.6	1.4

NOTE: Percentages are based on responses of 39 participants before small group discussions. Means are based on a five point scale with 1=high favorable and 5=highly unfavorable. The post mean is based on ratings after the discussions. The lower the mean, the more favorable the response.

APPENDIX K

SOUNDING BOARD ASSESSMENT OF OPTIONS

1. Occupational skills development strengthened at every existing high school so that at least some choices are available in every neighborhood.

STRENGTHS

Politically acceptable option

Would strengthen program district wide

Parents want occupational development available; they know many of their children will not go to college

Efficient: equipment, space, staff, students and so on are already set up in most schools

Helps build community pride and identity in local school, and provides continued local visibility of programs

Requires no student transportation and wasted time

Programs more accessible to more students

WEAKNESSES

Some parents want mainly academics for their children; all schools do not need extensive vocational programs

Facilities and equipment are obsolete or unavailable at many sites, would need a lot of upgrading at a high cost

Some negative administrative attitudes toward putting more money into existing programs

Expensive duplication of programs at each school would dilute services in all high schools by spreading resources too thinly

Doesn't allow for specialization of programs as much as other systems

Not supported by all communities

Limits the options available to students at each school

Not enough students at each school to really fill programs and be cost effective

2. Cooperative education expanded greatly so that most students pursue a vocational interest through a training agreement with an individual employer.

STRENGTHS

Expands an existing program which is already known to students and staff

Would allow highly individualized training opportunities

Cost effective, efficient use of community resources

Wide variety of offerings available

Realism of employer/employee relationship; a new role for students

Requires students to take a more responsible role in their education

More up-to-date equipment and training

Enhances partnership between business and schools

WEAKNESSES

Difficult to manage and coordinate

Inconsistent training occurring at each site

Problem of quality control with employers

Puts too much demand on student; i.e., timing, coordination of other activities, etc.

Would require too much time away from academics and other elective courses

Requires lots of staff time

Training sites not easily accessible to some youth

May be hard to find sufficient quality training sites, due to employer reluctance

Transportation time for students

Training too narrowly focused

Possible union difficulties.

3. Students jointly enroll in their high school for academic program and a community college for vocational preparation.

STRENGTHS

Clearly defines roles of high schools and community colleges

Cost effective, and efficient use of existing resources

Allows more diversity in training

Affords excellent opportunities for specialized training for students

Helps provide students with smooth transition to community college setting after high school graduation

WEAKNESSES

Community colleges might not be able to handle all students; many already over-enrolled

Some students not mature enough or not comfortable in community college setting

Counseling, coordination and control issues complicated

Transportation would be time-consuming and difficult

Community college programs not geared to needs of high school students

Would require students to fragment their day to get a complete education whether they want to or not

Reinforces separation of voc ed and academic programs

Could increase dropout rate

Could water down college programs trying to accommodate high school students.

4. Vocational classes held in community workplaces, taught either by high school staff or jointly with private sector experts.

STRENGTHS

Provides structured on-site experiences

Has models in other cities (Parkway Program in Philidelphia)

Would offer success in short periods of time

Promotes positive student attitudes

Cost effective

Involves business community in vocational education

Provides good reality exposure to students

Visibility in community

WEAKNESSES

Transportation and time

Liability and safety issues

Coordination and management problems

Reduces options for youth, especially opportunities to move from program to program

Limits numbers of youth who could be exposed to voc ed

Hinders industry productivity

Limits social contacts for students

5. Advanced occupational classes with expensive equipment and/or specialized staff taught only at a centralized facility with students at their home campus part-day and the central campus for 1-3 periods.

STRENGTHS

Standardization of classes offered and consistency of teachers

Would equalize student access to full range of classes district-wide

Makes possible more expensive and specialized programs

Might increase local industry/business involvement in vocational education by centralizing activities at one location

Having all voc ed under one roof would increase coordination and sharing among teachers

Improves quality of programs offered

WEAKNESSES

Transportation problems; not equally accessible to all students

Limits what students could take at home school because of reduced time on campus; could interfere with meeting graduation requirements and prerequisites

Loss of student identity with home school

Teachers attitude towards losing students

Fragmentation of student's day

Duplicates facilities already in place at community colleges

School principals and vice principals are opposed to it

Taxpayers would view it as additional costly program

Gets away from local community involvement and linkages; may destroy community school concept

Does not appear to meet needs of special ed students

Limited in number of students it could serve

Separates academic and vocational programs

Less access to programs for students just interested in taking one course

6. Additional magnet programs scattered around the city built around specialized topics.

STRENGTHS

Good for directed students who know what they want

If students went full time to the magnet school it would be a good idea

Strengthens overall school

Results in less duplication districtwide of course offerings

Motivates students

Makes possible specialized programs that could not otherwise exist

Uses mainly existing facilities

Could foster healthy competition among schools

Programs open to all students, district wide

Good for unique and specialized programs

Could make Portland schools a dynamic and highly specialized environment

Could result in more racially integrated schools and programs

WEAKNESSES

Too difficult to schedule students if only there part time

How do you decide how to distribute programs?

Some students uncomfortable choosing magnet so early

Popular magnets would become overcrowded

Magnet program draws money away from other components within the school, thus weakening them

Draws students away from their community schools--loss of community identity

7. Vocational programs offered through a consortium arrangement between cooperating schools.

STRENGTHS

Has many of the advantages of a single skill center without the cost and transportation time

Schools would share and cooperate more

Provides an opportunity for social interaction among students from neighboring schools

Effective use of school resources, staff, programs

Maintains positive community attitudes about local schools

Possible to add other members to the cooperative plan, such as community colleges or private businesses

Would provide new opportunities for students

Concept has already been tested on an individualized basis at some schools

WEAKNESSES

Not all schools in a position to form a consortium due to location and other problems

Transportation, timing, coordination and scheduling are still problems

Problems in crossing districts

Cost balancing among schools would be difficult

Could be abused by students who are not ready to handle the independence

Reluctance of students to go to rival school

Problems in trying to maintain identity of home school for students

8. All vocational programs placed in a North Portland and a South Portland facility; students would attend home school part-time and North or South campus part-time.

STRENGTHS

Allows more options for students with slightly less transportation problems than a single facility

Could improve racial integration

WEAKNESSES

Causes same problems as option 5

Duplicates programs within the district

Twice as expensive as option 5, with little added benefit

Lack of funds to spend on two separate facilities

District does not divide easily or logically into two sections; it ignores the west side of the city

May not be enough enrollment to fill two facilities

Less access of vocational courses for students who just want one class in something

Separates academic and vocational programs

9. Students and parents issued a voucher or coupon only redeemable at an approved vocational program in a high school, a nearby community college, or other training facility.

STRENGTHS

More individualized training for students

Parents would become better informed about choices

Increases freedom of choice for students and parents

Makes educational system very responsive to community needs and wants; healthy competition

WEAKNESSES

Could be more expensive than current system

Easily abused by private training facilities; possibility of illegal abuses, such as mix of church and state

Problems with scheduling activities

Sets dangerous precedents

Enrollment fluctuations at each school would make planning and staffing difficult

Hard to standardize curriculum and set standards for completion

Not feasible at this time--too different from existing system

Could result in decline of overall school programs

Could open door for vouchers to be used in all parts of program, including academic; end of traditional public education

Difficulty of student liability

Possibility of fraud and abuse by students and parents holding and selling vouchers

10. Create additional specialized high schools like Benson which requires all students to explore a variety of fields and settle on one "major."

STRENGTHS

Students would graduate with job entry level of skills

Eliminates coordination and transportation problems

If all schools were set up like Benson, it would provide consistency among schools and increase overall excellence

Community acceptance of concept

Students would be able to learn marketable skills sooner, and could take advanced courses

WEAKNESSES

Students not ready to choose one major

Limits opportunities to explore by pigeonholing students early

Limited access by majority of students

Not all students want or need to have such intensive training

Too costly to set up a number of schools like Benson

Too much extra demand on student time

Reduces non-vocational options for students

11. Students receive training in broad skill areas such as "principals of technology" rather than a single occupation.

STRENGTHS

A sounder approach educationally

Easier to integrate into nonvocational subjects

Skills learned would not be outdated so quickly

Students would not be required to choose an occupational area

WEAKNESSES

Would be better placed at the middle school as introduction to vocational education

Does not replace need for skill training for many students

Would require curriculum revision and teacher retraining

Employers expect specific skills when hiring for entry level

12. Students earn credit in academic subjects (such as math) though a sequence of vocational learning experiences (such as electronics).

STRENGTHS

Good principal of learning; teaching basic skills through application integrates learning process

Offers flexibility and renewal of interest to students who have trouble in traditional academic classes

Efficient way to satisfy requirements

WEAKNESSES

Difficulty of getting concept through TSPC; they may not allow academic credit to be earned this way

Difficult to measure learning experience

Could end up watering down both vocational and academic programs

Students would need basic skills prerequisites

13. Encourage more students to participate in vocational youth leadership organizations.

STRENGTHS

Shows student professionalism and interest

Gives students realistic goals

Increases student motivation and confidence

Gives students recognition in the community

Could lead to some kind of credit for students involved

Develops student leadership qualities

WEAKNESSES

Hard for students and teachers to find the time to participate

Requires additional staff time

Some schools are not interested in developing active clubs

Minimal interest by students in career club activities

14. Create in every high school an active job placement center for graduates and early leavers.

STRENGTHS

Job placement could be tied in with a strong career center as in option 23

Could provide a focal point for graduates to return to for job assistance

Benson HS is already involved in this, so the idea is tested and has a model

Students would feel comfortable in a school job placement setting rather than an outside agency

Makes the vocational experience more credible if there is an active effort to place youth after training

WEAKNESSES

This may not be a role which schools want to or should take on

Would require additional funds not obtainable by reducing another program

Should not be for early leavers as it would encourage them to drop out

Could foster dependency on job placement program by finding jobs for students rather than teaching them to find their own jobs

15. Provide opportunities for short term training in high demand jobs.

STRENGTHS

Would improve student's employment opportunities

Could be operated as a summer school program

WEAKNESSES

Conflicts with traditional scheduling system would produce problems

Should not replace traditional vocational classes

16. Provide employability skills instruction to all students in job interviewing and presentation skills, career portfolio development, how to keep a job, etc.

STRENGTHS

Important skills for students to have; gives reality to vocational learning

Such a program should be central to each high school

Could involve local businesspeople to teach skills

WEAKNESSES

Hard to monitor

17. Students receive training in how to start and operate their own businesses (entrepreneursnip).

STRENGTHS

An important subject to teach as part of career education

Youth could earn money while learning skills

Studying entrepreneurship would make economics more relevant

WEAKNESSES

Not a feasible high school topic; students need to know basics of working and business practices first

Few successes in entrepeneurship; society is more corporate now. Hard to encourage youth in this direction

Students are impressionable; might think they can all be entrepreneurs and get involved over their heads

18. Vocational programs designed primarily to offer students skills in basic home and auto repair (survival skills) rather than preparation for a job.

STRENGTHS

Survival skills are important for all students to have

WEAKNESSES

Job skills are more important to have in the long run

No difference between survival and pre-vocational skills

19. Vocational programs should be removed from the high school and taught later by community colleges, private schools or by employers themselves when a person is on the job.

STRENGTHS

It would be cheaper for the district

It would allow schools to concentrate on basic education more

WEAKNESSES

Exploration at the high school level is important

Cost of vocational education would fall to students

Vocational education is a basic part of educational needs of youth

It would leave existing facilities standing idle

More students would drop out if vocational programs eliminated; some are only held there because of these programs

Would prevent students from learning vocational skills while in high school

Would result in a loss of the comprehensive high school concept

20. Make vocational programs available before or after the regular school day and in the summer.

STRENGTHS

Increases usage of facilities

Makes vocational classes available to students whose schedules are usually too tight to fit them in

Students could take classes just because they are interested, rather than because of credits or as part of vocational plan

Could open door for non-student participation, such as dropouts or adults

Would work well with high cost or high interest areas, where additional classes were needed and extra use of facilities warranted

Students might be able to take more credits and graduate sooner

WEAKNESSES

Separates vocational and academic programs; academic programs need to be closely linked with vocational training

Staffing problems and need for additional funding for teachers

Most students not ready or interested in doing classes after school hours

If used instead of current system of voc ed, would discourage many students from taking classes

Would prevent working students from participating, or would prevent them from working after school

21. Find ways for vocational and academic teachers to "team up" to support each other's work (for example, students needing help with math in a machine tech class would receive help from a math teacher or in a math resource center).

STRENGTHS

This is the ideal way to teach. There are pilot projects going on right now in this area through Oregon State University (articulation programs)

Can meet the needs of a whole range of students

Helps students see practical applications of academic education

Builds cooperative spirit among teaching staff

Would increase exchange of information among staffs

WEAKNESSES

Requires additional teaching staff to be effective

Requires attitudinal changes by teachers, administration, students

Would require careful coordination

22. All students would be required to plan and carry out a productive community service project of some kind, documenting skills learned.

STRENGTHS

Good P.R. potential in community

Would involve the community in school programs more

Would be excellent experience for students

Students would relate to public and learn "hands on"

Students would learn more about community needs and resources

WEAKNESSES

Negative P.R. potential if program not operated smoothly or if students were not responsible

Management problems

Schools should not mandate community service

If all students were required to do it, schools would have little quality control over activities chosen

Many students would drop out of the program

Program is set up to failure: too many variables and not enough control possible

23. Provide a comprehensive career center in each high school staffed by qualified occupational specialist.

STRENGTHS

Would provide tremendous support program for voc ed classes

Encourages broad career exploration by students

Potential to expand into comprehensive center for vocational and career exploration programs within each school

Good way to serve a large high school with a diverse population

WEAKNESSES

Supportive services such as this one are costly

No way to measure effectiveness

APPENDIX L

CAREER AND VOCATIONAL/TECHNICAL ADVISORY COMMITTEES

The following individuals have contributed time, information and advice in the development of this status report or otherwise serve on related advisory committees.

Career/Vocational-Technical Program Improvement Steering Committee

Career and Vocational/Technical Education Advisory Council

Vocational/Technical Education Cluster Advisory Committees

1985-86
CAREER/VOCATIONAL-TECHNICAL PROGRAM IMPROVEMENT
STEERING COMMITTEE

LARRY AYERS
Director of Instruction

HERB CAWTHORNE
Urban League

SHARON CHASKO
Career/Vocational Ed. Department

MARILYN DAVIS
Oregon Department of Education

GEORGE GUTHRIE
Portland Assn. of Principals

ERNIE HARTZOG
Alternative Education

WALT HATHAWAY
Evaluation Department

BRUCE HIGBY
Voc. Ed. Teacher - Benson H.S.

ROGER HONIG
Career/Voc. Advisory Council - Chair

KATHY HOSTAGER
Career/Vocational Ed. Department

JEAN HUMMEL
Voc. Ed. Teacher - Roosevelt H.S.

MARY KARTER
Middle School

KEN KLINE
Career/Vocational Ed. Department

CAROL MATARAZZO
Curriculum Vice-Principal

LARRY MCCLURE
Northwest Regional Educational Lab.

TOM OWENS
Northwest Regional Educational Lab.

BASIL PANARETOS
Portland School Board

SCOTT PHILIPS
Career/Voc. Advisory Council - V. Chair

WARREN RATHBUN
Career/Vocational Ed. Department

CAROLYN SHELDON
Guidance & Counseling

MARY ANN STOWELL
Special Education

CARLOS TAYLOR
Curriculum Department

SYD THOMPSON
Oregon Department of Education

DARRELL TUCKER
Career/Vocational Ed. Department

PORTER SEXTON
Management Information

RANDY VENTGEN
Portland Association of Teachers

REBECCA WHEELES
Career/Vocational Ed. Department

PAUL WILLIAMS
Portland Community College

1985-86
CAREER AND VOCATIONAL/TECHNICAL EDUCATION COUNCIL

FRED CARTER
Laventhol & Horwath

DR. KEN CHUNG
OHSU School of Dentistry

EDWARD J. CONROY
Conber Creations

HARRY DAY
Portland Community College

HAROLD DICK
Harold's Auto Service

ROGER HONIG - CHAIRPERSON
Iron Workers Local #516

GERT JENSEN
Litho Development & Research

DALE JOHNSON
Northwest Natural Gas Company

HARRIET KELTY
Volunteers of America

LEWIS NICKERSON
Fleet Management Corp.

SCOTT PHILIPS
Northwest Natural Gas Company

ROBERT SICKLER
Electric Scientific Industries

DENNIS SNODGRASS
Dennis's 7-Dees Nursery

EDWARD WADSWORTH
Edward Wadsworth Institute for Hair Design

DON WEBER
Intel

CAREER AND VOCATIONAL/TECHNICAL EDUCATION DEPARTMENT STAFF

WARREN RATHBUN
Supervisor

DARRELL TUCKER
Specialist

KATHY HOSTAGER
Youth Employment Specialist

KEN KLINE
Home Repair Training Project

SHARON CHASKO
Equity/Partnership Coordinator

BECKY WHEELES
Special Projects Coordinator

JIM ALBERS
Coop Work Experience Coordinator

PHILLIP COQUILLETTE
Coop Work Experience Coordinator

DONALD GAINER
Coop Work Experience Coordinator

GENTRIA Sipp
Coop Work Experience Coordinator

VOCATIONAL/TECHNICAL EDUCATION ADVISORY COMMITTEE

AVIATION

CHARLES DARLAND
Mt. Hood Community College

DENNIS DUDYCHA
Flightcraft

BOB GERLOCH
Oregon Pilots Assn.

DAVE OSMUNDSON
Flightcraft

JEFF SPARKS
Air Horizon

TOM KINGSBURY
Benson

HARRY DAY
Portland Community College

BRIAN EAKIN
Army National Guard

DAN MARSH
United Airlines

LT. COL. BOB PARKER
O.A.N.G. (Flight Interceptor Group)

DICK SWANSON
U.S.A.F.

BANKING & FINANCE

SYDNEY BROWN
The Oregon Bank

KATHY EDWARDS
First Interstate Bank

ANGELA BURNS
U. S. Bancorp

BUILDING CONSTRUCTION

GEORGE BRAND
Oregon Remodelers Assn.

EDWARD J. CONROY
Conber Creations

ORA HART
Real Estate

CHARLES T. MELKER
OR/WA Carpenters' Training Trust

CLIFF SCHILLING
CSC, Inc.

JERRY WIGGINS
Home Repair Training

CARL BUNNELL
First Interstate Bank

JERRY DEVOE
Former Benson Student

MERLIN LANE
Kingsley Lumber Co.

WALT NEILSON
PCC - Rock Creek

BOB TOPPING
Self Employed

BUSINESS EDUCATION

JUDY ANDREASEN
Pacific Western

CECIL BURT
Oregon Health Sciences University

JULIE CHARRON
Far West Federal Savings

TIA DORSEY
Blue Cross-Blue Shield

CARLA JOCHIM
Xerox Corp.

RICK HOLLINGSWORTH
Portland General Electric Co.

BOBBIE STEINBECK
Word Processing Consultant and
Data Bases

OLIVE BARTON
Retired

FRED CARTER - CHAIRMAN
Laventhol & Horwath

RAY CONKLING
Conkling, Inc.

KATHY EDWARDS
First Interstate Bank

HAL HART
Portland Community College

DON SEARS
Standard Insurance

JERRY EURICH - Liaison
Franklin High School

CHILD CARE

DOROTHY ANKER
PCC - Sylvania Campus

NANCY HILDICK
West Hills Montessori Center

NINA LINDSTROM
Belmont Day Care Center

CHARLOTTE O'DONNELL
Volunteers of America

DR. GERALD SMITH
Oregon Health Sciences University

OLGA TALLEY
PPS - Head Start Program

HEATHER CLARK
Holladay Park Hospital

HARRIET KELTY (Chairperson)
Volunteers of America

SONYA MCDOWELL
PCC - Sylvania Campus

RITA SCHAEFE.
Montessori Education Center

JUDITH HYLTON
Oregon Health Sciences University

PRISCILLA DOWNING
Vocational Village

CONSUMER/HOMEMAKING

BARBARA DURBIN
The Oregonian Foodday

ELAINE HERMANS
The Moore Co.

GENEVA JONES
KATU-TV, AM Northwest

BARBARA STEINBOCK
Consultant

CHRIS BOSAK
PPS - Food Services

ANNE FOSTER
PCC

DALE JOHNSON
Northwest Natural Gas Co.

WANDA PHIPPS
Multnomah County Extension

JANET BEER
PPS - Food Services

LUCILLE MEYER
Wilson High School

COSMETOLOGY

EDWARD WADSWORTH
Edward Wadsworth Inst. for Hair Design

SHIRLEY A. COWAN
Phagans' School of Hair Design

BONNIE FOGARTY
Multnomah College of Hair Design

JOHN OLSEN
Phagans' School of Hair Design

DENISE DUBE
Boost Program

VERA CASTNER
Edward Wadsworth Inst. for Hair Design

PATRICIA EYSTER
Beau Monde College of Hair Design

ADRIENNE MILLER
Mt. Hood Comm. College Beauty School

JEAN ROOT
University Beauty College

DRAFTING

KIRKLAND COOPER
Freightliner Corp.

LOUIS GILHAM
Williams & Gilham

BRUCE SAMUELSON
Self-Employed

JOHN MURTAGH
Benson High School

JENE COVEY
Pierce-Pacific Co.

S.R. HALL
NW Marine Iron

JOHN MERRIFIELD
Moffatt, Nichol & Bonney

ELECTRICITY/ELECTRONIC

HOWARD ARNETTE
Retired VP - PGE & PPL

CAROL FRIZ
Pacific Northwest Bell

VERN HARTSHORN
Mt. Hood Community College

GWEN BLAKE
Tektronics, Inc.

LEN MONROE
Tektronix, Inc.

ROBERT SICKLER
Electro Scientific Industries

DOUGLAS STUNKARD
Tektronix, Inc.

DONALD WARDWELL
Mt. Hood Community College

STANLEY CRAIG
Benson High School

LARRY FREYTAG
Intel

CECIL HARRIS
Retired

DAVE HATA
Portland Community College

JACK RILEY
Technical Associates

BRENT SMITHLINE
N.W.I. Audiovisual System

R. PATRICK SWEENEY
Retired from NW Bell

BILL IRGENS - Liaison
Benson High School

FOOD SERVICE

DON BARR
Papa Joe's

WILLIAM CHENG
Trader Vic's - Benson Hotel

ELSTON IRELAND
Retired Restaurateur

BETTY KAY
Portland Community College

TIM MOONEY
Perkins Cake & Steak

CHERYL UCHIDA
Portland Public Schools

DANNY WOO
Danny Woo's Restaurant

JAMES ST. CLAIR
Burger King

JAMES ST. CLAIR
Burger King

GEORGE MCARTHUR
Multnomah County Dept. of Corrections

ROBERT ROLES
Fred Meyer, Eve's Buffet

HAZET UTT
Fruit & Flower Day Care

PAT MONTAGUE
Vocational Village

GRAPHIC ARTS

BRUNO AMATTER
Schultz/Wack/Weir

SALLY BASHAR
Benjamin Franklin Fed. Savings & Loan

LEN BERGERON
Farwest Graphics

JOE CHESNEY
Lithtex, Inc.

JACK DAVIS
North Pacific Insurance Co.

MICHELLE HAMILTON
Century Litho, Inc.

JOE KING
Rono Graphic Communications Co.

GERT T. JENSEN
Litho Development & Research

LINDA PEMENT
Print Right

JACK PEDEN
A. B. Dick Co.

FRANK STAMMERS
Graphic Arts Center

THOM PERRY
Portland Community College

BRUCE LITERAL
Madison High School

STEVE WILLIAMSON
Graphic Arts Center

GREEN THUMB

DAN BARNHART
Oregon Association of Nurserymen

RAY COLLIER
Collier Spray & Tree Service, Inc.

DON LOHMEYER
Don's Landscaping Service

DENNIS SNODGRASS
Dennis' 7-Dees Nursery

MICHAEL MILLER
Green Thumb - PPS

HEALTH OCCUPATIONS

DR. HERBERT BAKER
Self Employed

DR. KEN CHUNG
OHSU School of Dentistry

MARY ANN ELLIOTT
USVA Medical Center

DEBBIE GAINER
Student

KATHERINE GRINNELL
Oregon Health Science University

MARY HUGHES
Private Nurse

FRAN JOHNSON
Bess Kaiser Medical Center

LLOYD KIMELDORF
Vulcan Dental Lab

HEALTH OCCUPATIONS (Cont.)

MARGE LARSEN
P.C.C.

GAYLA SCHWANZ
Dr. Love's Office

MARK STEVENS
Buck Ambulance

DEITZ MASON, R.N.
Registered Nurse

KAREN STAHLECKER
Friendship Health Center

COLLEEN TRANCH
Vocational Village

INDUSTRIAL MECHANICS

JIM BLACKBURN
Portland Community College

ROBERT GAMACHE
Consultant

DENNIS KOLBO
Eastside Auto Body

LARRY MACKIN
Mackin & Son Automotive, Inc.

JIM McDONALD
Mac's Radiator Repair

BRUCE MURRAY
Majhor-Murray, LTD.

HAROLD NORRIS
Starks & Norris Co.

FRED POEHLER
Poehler's Automotive Service

WAYNE SEAMON
Brown & Wise, Inc.

ALAN STEWART
Portland Transmission Warehouse

BRUCE HIGBY
Benson High School

HAROLD DICK
Harold's Auto Service

JERRY ILLINGSWORTH
Oregon Gasoline Dealer's Assn.

RALF LEOPOLD
German Formula

LEE MATTHEWS
Mt. Hood Community College

LYLE MOORE, JR.
Baxter Auto Parts, Inc.

DON NASH
Western Turbo & Fuel Injection, Inc.

GLENN PERRY
S & P Electric

PHIL RICHARDSON
Phil's Auto Clinic

JACK SNYDER
Portland Community College

ED WILSON
DEQ

INDUSTRIAL METALS

JIM BRODIGAN
Columbia Steel Casting Co., Inc.

MACK CALLISON
Macro Manufacturing

WILLIAM B. CHAMBERS
A & B Installations

HARRY FELDMAN
Portland Community College

BILL HALKINRUDE
Portland Public Schools

ROGER HONIG
Iron Workers Local #516

LYLE MOONEY
Mt. Hood Community College

JIM NORRIS
Omark Industries

DICK ORDWAY
Superior PMI

DON PERMAN
Portland Community College

HELMUTH SUCHER
Portland Pattern, Inc.

PETER MAHR
Franklin High School

MARKETING

CHUCK BRITTON
Businessland

BRUCE CLIFTON
G.I. Joe's

PETE GILMORE
Fred Meyer, Inc.

MARV GILES
United Grocers

FRED HICKS
Montgomery Ward & Co.

SHEILA MCQUEEN
Thunderbird Motor Inn

SCOTT PHILIPS
Northwest Natural Gas Co.

SCOTT STEPHENSON
Arctic Circle

LYNN TAYLOR
Southland Corp.

WILLARD WILSON
Wilson Writing Services

POWER SEWING

CAM and BUD MORRISON
The Sewing B's

LINDA ANDERSON
Columbia Sportswear

BARRY HAYSLIP
Jantzen, Inc.

GLADYS GORTNER
Kandel Knitting Mills

FELIX ENGELS
Pendleton Woolen Mills

OSCAR FULLER
Pendleton Woolen Mills

SONYA MCDOWELL
Portland Community College

SID ATLAS
White Stag

JIM GARIBAY
White Stag

BARBARA KESSLER
Commercial Sewing

REFUGEE JOB PREPARATION

JO EARLY
Rivergate Auto Wrecking

JOHN KOR
Fred Meyer, Inc.

SYLVIA M. POSEDEL
Sylvia's Italian Restaurant

JOHN SLEVIN
Bureau of Labor & Industry

KEITH TOTTON
American Bldg. Maintenance Co.

GAYLE WHITEHURST
Tektronix, Inc.

JEANNE ALLEN
Blue Cross-Blueshield

JOHN GRAHAM
Heathman Hotel

CAROLYN LOCKHARD
Pacific Power & Light

DIANA RONK
Westin Benson

DR. BONG W. TO
Chinese Social Service Center

DON WEBER
Intel

BOB HYP
ESL

RICHARD PISARSKY
Portland Habilitation Center

APPENDIX M

1986 STUDENT ENROLLMENTS IN VOCATIONAL EDUCATION PROGRAMS

Schools

Cluster Programs	BENSON	CLEVELAND	FRANKLIN	GRANT	JEFFERSON	LINCOLN	MADISON	MARSHALL	ROOSEVELT	WILSON	VOCATIONAL-TECHNICAL OLNAGLE	OTHER	TOTAL
Accounting		93	111	33	21		34	14		15			376
Banking & Finance								8					8
Child Care		30	71	8						44	13		166
Clerical/Secretarial		99	378	256	80		209	42	134	58	26		1282
Construction	76		6									42	124
Diversified Occupation							20						20
Electricity/Electronic	164	10											174
Food Service											24		24
Graphic Arts	41						36			14	32		123
Health Occupations	167		7								18		192
Horticulture													103
Industrial Mechanics	135		27	25	35			7	53		26		308
Marketing		60					51			8	26		145
Metals	229	12	29	40			13		33				355
Cosmetology													4
Total	811	304	629	417	136		363	71	220	139	165	149	3404

Note: Data as based on 1986 telephone calls to the schools for grade 9-12. Under the column "other" are included 42 students at the Home Repair Program, 103 in horticulture at Green Thumb, and four in cosmetology.