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ABSTRACT

The Manpower Information Clearinghouse (MIC) was established in 1972 as a service of Career Information System to provide consultation and interpretation of labor market data to program planners. Clients include planners of educational programs and social services agencies, with priority given to local agencies within Lane County, Oregon. This clearinghouse designed and developed a Manpower Training Information System (MTIS) in order to provide essential information to public officials to facilitate the planning, administration, and evaluation of manpower programs. MTIS incorporates a data bank which acquires information about who is being served and by which manpower program, what services they are receiving, and what happens to them after they are no longer in a manpower program. The final report is a detailed description of the development of the Manpower Information Clearinghouse and the design and operation of the Manpower Training Information System. It is intended to supplement a report entitled "Developing a Career Information System." Contents include: statements of objectives, types of requests and characteristics of clients, sources and utilization of data, and financial considerations of MTIS. detailed appendixes include an occupational report on computer programmers as an example of the kind of information provided by MIC using a variety of data sources. (Author/RG)

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16. Abstract: The Manpower Information Clearinghouse (MIC) was established in 1972 as a service of Career Information System to provide consultation and interpretation of labor market data to program planners. Although early clients were chiefly planning educational programs, the bulk of recent MIC activity has been directly related to servicing the data needs of social service agencies, particularly the local Comprehensive Employment and Training Act (CETA) prime sponsor. To meet their current needs for program information for both short and long range manpower program planning, the Clearinghouse designed and developed a management information system known as the Manpower Training Information System (MTIS). MTIS acquires data about individual applicants and enrollees and produces confidential reports for each participating program. Periodically, the data are aggregated and reported to program operators and planners. MIC continues to respond to labor market data requests giving priority to those from agencies within Lane County, Oregon.

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THE MANPOWER INFORMATION CLEARINGHOUSE

FINAL REPORT
CONTRACT NO. 82-41-7203

Submitted by:

BRUCE MCKINLAY, PROJECT DIRECTOR

On behalf of the Oregon Career Information System, a consortium with representation from the Oregon Board of Education, the Oregon Employment Division, the Oregon State System of Higher Education, intermediate education districts, and local school districts.

NOVEMBER, 1974

This report was prepared for the Manpower Administration, U. S. Department of Labor, under research and development contract No. 82-41-7203 authorized by Title I of the Manpower Development and Training Act. Since contractors performing such work under Government sponsorship are encouraged to express their own judgment freely, the report does not necessarily represent the Department's official opinion or policy. Moreover, the contractor is solely responsible for the factual accuracy of all material developed in this report.

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INTRODUCTION.

The 1960's witnessed an increasing national awareness of and concern for the hundreds of thousands of Americans who were (and are) chronically unemployed or underemployed, notwithstanding numerous continuing reports of shortages of skilled workers. In response, Congress enacted the Manpower Development and Training Act of 1962 and related laws to provide for the training or retraining of disadvantaged workers. Also enacted were the Vocational Education Act of 1963, the Vocational Education Amendments of 1968, and Part F of the Higher Education Act of 1965 to strengthen the capacities of public school systems from the elementary through the college level to provide the necessary training. The Comprehensive Employment and Training Act of 1973 (CETA) shifted most of the responsibility for achieving these broad goals to local and state governments as prime sponsors with Federal funding.

These sponsors must choose from all the occupations present in the nation's labor market today and decide which occupations training will be provided to clients. Many factors must be considered including the current and prospective availability of specialized facilities and equipment, qualified instructors, and adequate funding. For many occupations institutional or classroom-type training may not be able to provide the required skills. On-the-job or apprentice-type training carried out under the general supervision of education institution or manpower program supervisors may be more appropriate. Thus, career education or manpower training programs can be used to prepare for a variety of occupations. Program planners are now considering an additional factor: the projected relative availability of jobs in an occupation or group of related occupations when students or trainees have completed training. These labor market data, including analyses of the relationship of projected demand and supply of training workers, vary markedly with time and from one geographic area to another. The major responsibility of the Manpower Information Clearinghouse (MIC) is developing, supplying, and interpreting such occupational information to program planners.

THE RELATIONSHIP OF CAREER AND PROGRAM PLANNING INFORMATION

Career planning and program planning closely complement each other. The best education programs can be overlooked or misapplied unless students have clear career plans. By the same token, well-reasoned career plans may be unrealizable unless appropriate career education programs are available.

The important difference between career planning information and program planning information lies in the different audiences, and thus in the different formats required for effective communication of information. Despite these different delivery formats, additional benefits, in the form of time savings, information sharing, and broadened perspectives, accrue to staff collaboration on these assignments. For example, the existing occupational descriptions (300-word statements of job duties, hiring requirements, outlook, etc.) were designed for individual use in career planning, but they find use in program planning as well. School district career education coordinators have reported them to be of value as a first reference in considering program changes. Employment Service counselors have also found them useful in justifying MDTA referrals (a combination career and program planning application).

Both career and program plans require occupational labor market information; and there are substantial economies to be achieved by multiple use of data sources. Within the Career Information System, the program and career planning information components share the same data collection efforts and library of published materials. Substantial dollar savings can be achieved by the development of an excellent resource in a joint library, rather than separate, less thorough efforts to identify and accumulate much of the same information.

Structure and Functions of Information Clearinghouse

The Manpower Information Clearinghouse is the direct result of a need expressed by the Lane County CAMPS Labor Market Information Ad Hoc Committee in Fall 1971. Consisting of representatives from local and state offices of the Oregon Employment Division, the Governor's Manpower Planning Council, the State Educational Coordinating Council, Career Information System, Lane Community College, Lane Intermediate Education District, an industrial realtor, and the Lane Council of Governments, the committee found that, despite an interagency willingness to cooperate and exchange information, there was considerable duplication of effort. Furthermore, none of the agencies had continual, systematic, direct knowledge of all local data sources, much less adequate knowledge of the data needs of other agencies. Discussions with state agency officials showed that not only did they support a manpower data clearinghouse in the Eugene-Springfield SMSA but also they believed a successful operation in Eugene could serve as a model for similar projects elsewhere in the state as resources became available.

The MIC was established as a service to the Career Information System and is primarily intended to supply and interpret labor market information to program planners. In the first year and a half of its existence MIC worked principally with educational agencies but also served industrial and economic development organizations and associations. In the last ten months MIC has increasingly served local governmental manpower planning agencies and manpower program operators. These services have been largely limited to the Eugene-Springfield Standard Metropolitan Statistical Area (Lane County, Oregon) since methodologies are being developed and tested and while financial support is available from this area only. Nevertheless, the Clearinghouse has responded to data requests from agencies throughout Western and Southern Oregon on a time-available basis. Complementary and supplementary functions

include the development and operation of a library-depository of labor market information oriented to the state, compilation and publication of Oregon Manpower Studies (now discontinued), and identification and establishment of liaisons with local, state, and federal manpower data-generating agencies and with educational and training establishments and agencies. In addition, the Clearinghouse coordinator serves as a resource person to the Oregon District 5 Manpower Advisory Committee (formerly the CAMPS committee), was chairman of its Manpower Policy Subcommittee which drafted the District 5 Comprehensive Manpower Plan for Fiscal Year 1975, and is an active member of the Manpower Services Subcommittee to the Lane County Social Services Advisory Committee (also known as the Lane County Prime Sponsor's Planning Council established under the Comprehensive Employment and Training Act). As a direct outgrowth of the latter activities, the Manpower Information Clearinghouse has been asked to design, develop, test and operate a Manpower Training Information System (MTIS), for Lane County (described later in this report).

Types of Requests and Characteristics of Clients

The Manpower Information Clearinghouse is a resource for program planners in Lane County in several ways. (In this report "program planners" refers to administrators, curriculum coordinators, manpower program planners and operators, and economic development personnel who are all users of MIC). By utilizing the substantial data sources of the CIS library and staff members and enlarging upon them on a cooperative basis, the MIC responds to requests from program planners seeking specific information for a particular occupation or group of related occupations in one or more geographic areas (such as a county, SMSA, Oregon statewide, Washington statewide, the nation or a designated region). Such data requests commonly include several or all of these elements:

- --recent, estimated current and projected employment levels;
- --estimated average annual expansion and replacement needs;
- --recent job listings (but not for job search purposes);
- --recent or current entry or journeyman wage or salary rates;
- --recent, current, or projected education and training completion;
- --recent numbers of geographic migrants;
- --current characteristics of workers in the occupation(s) and apparent trends;
- --training and/or experience requirements for entry into an occupation;
- --evaluation of present occupational supply/demand relationships; and
- --evaluations of the currency and relative validity of data sources.

The chief effort of the MIC, therefore, is responding to manpower information requests from a variety of agencies. Many of the requests call for limited information on a strictly defined subject--current wage rates for a single occupation in the Eugene SMSA for example. Responses to these requests can often be given over the telephone or within a day or two. Some requests, on the other hand, require considerable consultation, research, and report writing.

The types of labor market information requests handled by the Clearinghouse have varied considerably. The Manpower Information Clearinghouse "Record of Service" reports for the period March 1972--March 1974 include those shown below:

1. Data on current employment and projected need in 1975 in Oregon and several local areas for five construction industry occupations;

2. Data sources for estimating the type and number of potential positions resulting from possible expansion of Oregon public employment programs;

3. Recent, current and projected employment, average annual need, sources and rates of supply of trained computer programmers, and an analysis of current supply/demand relationship for the occupation;

4. Total current and projected employment (all occupations) in 1975, 1980, and 1985 by Oregon local and state governments exclusive of educational institutions;

5. Current and projected demand/supply for drafting and related occupations in Oregon and the nation;

6. Information on Oregon and Federal civil service personnel selection procedures;

7. Data on availability of farrier training offered together with information on cost, length of training, and income and employment prospects;

8. Information on current and projected Eugene SMSA employment for meatcutters;

9. Data on current and annual new entrant need for cosmetologists in the Eugene SMSA;

10. Identification of occupations for which a Communications and Media Cluster curriculum could be designed including current and projected demand/supply for those occupations in the Eugene SMSA, Oregon, Pacific Northwest and the nation;

11. Similar data for occupations in a Social Services Cluster as for the Communications and Media Cluster;

12. Enrollment data for all Lane County post-secondary educational institutions with breakdowns of vocational and all other programs, and the number of students from low income families in such institutions and programs;

13. Current employment prospects for combination welders in Eugene, Salem, and Portland SMSA's, Oregon, Washington, and in the nation;

14. Current wage rates for logging occupations in Western and Southern Oregon;

15. Minority employment occupational distributions in Lane County;

16. Current Oregon wage and salary rates for ten glass manufacturing occupations;

17. List of occupations for which supply appears to substantially exceed demand in the Willamette Valley;

18. Probable employment effects resulting from proposed regional shopping center;

19. Number of job openings listed for aircraft mechanics and helpers in all reporting Job Banks across the nation in July 1973;

20. National median family income in 1960 and 1970 and percentage of persons living below designated poverty level;

21. Current and projected employment, demand for, and supply of trained small engine mechanics and related occupations for Coos County and Oregon statewide;

22. Numbers of handicapped persons in and out of the labor force in Oregon cities and counties in 1970;

23. Estimated employment and expansion or replacement needs for occupational therapy aides in Lane County;

24. Occupational demand/supply outlook for accounting occupations in Lane County and Oregon statewide;

25. List of 50 occupations suggested for proposed wage and salary survey;

26. Occupational demand/supply outlook and current wage and salary rates for systems analysts, assistant comptrollers, and certified public accountants;

27. Employment outlook for dental hygienists in Lane County;

28. Current and projected demand/supply data for photographers, developers, and photo finishers in Oregon and the United States;

29. Current wage and salary data for a variety of governmental occupations in Lane County; and

30. Prevailing wage and salary rates in the Eugene and Portland SMSA's for 55 occupations for which Lane Community College offered training programs.

Clients of the MIC have included: career education coordinators for school districts in Lane, Coos, and Marion counties; directors of special training programs and instructional planning at Lane, Linn-Benton, Clackamas, Chemeketa and Southwestern Oregon Community Colleges and at Southern Oregon College; employment counselors at the Eugene, Corvallis, Albany, Portland, Salem, Coos Bay and Lebanon Employment Service local offices; the MDTA coordinator

in the Eugene ES office; the manpower planners in the Lane County and Portland Community Action agencies; summer workshop committees of local educators exploring the needs for new educational clusters; counselors of the Children's Services Division, Oregon Department of Human Resources and of the Lane County Juvenile Division; the Manpower Planner/Coordinator and the Director of Economic Development Planning for the Lane Council of Governments; the NIN coordinator in the Eugene ES office; the Oregon Vocational Rehabilitation Division; the Vice Principal of North Eugene High School; local manpower economists and research analysts of the Oregon Employment Division; the Oregon Council on Computer Education; the Eugene Office of Associated General Contractors of America; and the Lane County Employees Association. Although a number of the persons on the foregoing list are not professional educators, most of the questions they posed were directly related to training programs.

The MIC has maintained records on 59 specific service requests. Many other single item requests were not recorded. Lane Community College, the Eugene Public Schools, and units of the Oregon State System of Higher Education (including the University of Oregon, Oregon State University, and Southern Oregon College) have been among the most frequent users, involving some eighteen separate service contacts. The Employment Division and other state agencies together with units of Lane County local governments with manpower program responsibilities have also utilized the MIC over twenty-five times. Other types of users account for the remaining service contacts. (For a discussion of resources required to provide these services, see the following sections.)

Efforts to date in providing labor market information for program and curriculum planning largely constitute an experimental phase, and expansion of the service has been intentionally limited. Even so, potential planning information consumers have learned of MIC program assistance efforts when the career information delivery system of CIS has been presented to potential users. Also, local MIC clients have spread word of the nature of its services to professional colleagues elsewhere in Oregon. Since schools were the first focus of activity, educators are the group most widely informed of Clearinghouse activities. Interest in curriculum planning information has been evidenced consistently; although specific records have not been kept, it is estimated that an additional twenty or thirty institutions--school districts, community colleges, universities, state agencies, local governments, private sector employers and associations--have expressed interest in program planning assistance, even though few have submitted requests. The greatest amount of interest has been expressed by community college personnel and by local government manpower program planners and operators. The community college personnel see manpower information as being especially helpful in building instructional programs, so they are interested in manpower training needs and local employment outlook as they initiate new programs each year in an effort to respond to changing needs. Planners and operators of Federally funded manpower programs similarly seek current and near future labor market information about local occupational outlooks. Secondary school personnel expressing interest are usually concerned with broader questions, e.g., which career cluster should be incorporated into the curriculum. Most interest on the secondary level is shown by persons involved in curriculum development. The extent to which they and others would use the service if

they are obliged to carry part or all of their proportionate share of the cost is, of course, only partially known at this time (see Financial Considerations below).

Procedures Used to Disseminate Information for Planning.

Oregon Manpower Studies. An early effort of the Manpower Information Clearinghouse to simultaneously inform the many generators and producers as well as users of information about occupations in the Oregon labor market was the compilation and publication of a current, annotated bibliography of surveys, studies, and reports under the title Oregon Manpower Studies. (See sample page following.)

This publication was distributed without charge to nearly 150 local individuals and agencies concerned with program planning or with generating manpower data. In addition to listing and describing the content of the various data sources, many of which are unpublished but accessible to the MIC and its clientele, Oregon Manpower Studies listed the author and/or agency, geographic area covered by the data, the format (such as computer printouts, etc.), the survey methods used to secure the data, and plans for updating the study. The inventory not only listed data sources recently completed but included those which were planned or under way, together with scheduled completion dates.

The acquisition, classification, and compilation of the data items needed for the initial issue of Oregon Manpower Studies required approximately one man-month plus about two weeks of clerical time. The early, start up months of the MIC provided considerable time gaps between data requests from clients, which were used to develop the materials for Oregon Manpower Studies. However, as the availability of the data services offered by the MIC became more widely known, at least partly due to the publication of Oregon Manpower Studies, smaller amounts of time were available for the research and compilation necessary for updating the publication. Hiring additional staff for that purpose, however, could not be justified for the purpose of publishing a free publication. Although readers of Oregon Manpower Studies were generally quite favorable in their evaluations of the publication,[1] there appeared to

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[1] Client comments about Oregon Manpower Studies included:

"Uses the report and feels it is of great value as a reference for staff and students"--Dean James Kelly, University of Oregon School of Community Service and Public Affairs

"Uses it limitedly but feels it is valuable"--Hartley Troftgruben, Director of Career Education, Springfield School District

"Used it for curriculum planning and found it very useful"--James Holst, Career Education Coordinator for Eugene School District

"Uses it a great deal"--Earl Vossen, Career Education Coordinator, Bethel School District

"Doesn't personally use it"--Clarence Eklof, Manager of Eugene Employment Service Office

"Would like more minority information"--Jack Steward, University of Oregon Personnel Director

No.	Topic or Title	Author (Agency)	Geographic Area	Availability	Survey Method	Schedule
5.	National Survey of Professional, Administrative, Technical, and Clerical Pay, June 1970 (Summarizes results of annual salary survey of selected occ. in private industry)	BLS Bulletin #1693	US	69 pp. pub. report w/ 16 tables, 5 charts, 4 appendices, text; avail. from BLS or MIC	National sample excl. Alaska & Hawaii of 7 broad industry categories w/ emphasis on larger private employers	Data based on June 1970 conditions; pub. annually
6.	Salary Rates for Municipal Employes in Oregon (Salary & wage schedules paid to city employees in Oregon in 1971; incl. job desc.	BGR&S LOC	Oregon	Public Information Bulletin #163, 77 pp., 36 tables, appendix; avail. from BGR&S or MIC	Questionnaires sent to all 231 Ore. cities w/ 191 responding incl. all over 2,500 pop.	Surveyed in Fall 1971, pub. Nov. 1971; pub. annually

Basic Materials - General Occupational Information - Wage Supplements (I-A-4)

7.	Fringe Benefits for Municipal Employes in Oregon (Report of city personnel practices for selected occ. as to vacations, overtime pay, emerg. & sick leaves, holidays, call-back pay, uniform allowances, reimbursement for educ. expense & private autos & physical exam. requirements, etc.)	BGR&S LOC	Oregon cities	Public Information Bulletin #165, 33 pp., 14 tables; avail. from BGR&S or MIC	Questionnaires sent to all Ore. cities w/ 191 responding; somewhat different surveys of cities over 2,500 pop. and under 2,500 pop.	Surveyed in Fall 1971, pub. March 1972; formerly combined w/ Data Source #6 and pub. annually
8.	Measuring Employee Compensation in U.S. Industry (Evolution of BLS studies tracing growth of wage supplements; shows compensation structure for selected worker grps & industries; etc.)	BLS MLR reprint #2695	US	8 pp. leaflet w/ 2 charts, 1 table avail. from BLS or MIC	Data from BLS misc. studies & US Dept. of Commerce	Latest data given is for 1968; pub. Oct. 1970
9.	Trends in Labor and Leisure (Discusses causes-shorter work-week, paid vacations & holidays, greater lifetime but shorter worklife & amounts of increased leisure; projections)	BLS MLR reprint #2714	US.	9 pp. leaflet w/ 8 tables, 1 chart avail. from BLS or MIC	Data from misc. BLS studies	Data thru May 1970; pub. Feb. 1971

Sample Page From

Oregon Manpower Studies

small likelihood that the publication could be self-sustaining on a subscription basis. Thus plans to publish the bibliography on a quarterly or even annual cycle were abandoned.

Closely associated with the compilation of Oregon Manpower Studies are the repetitive requests by the MIC to data generating agencies to check with the Clearinghouse before launching new manpower surveys. This is not a regulatory function, but data gathering researchers recognize that sizeable amounts of money can be saved if they can avoid duplication of surveys. The MIC points out the advantages which can result when agencies share existin, data or collaborate on a survey. Even though this coordinating function has not been a prime Clearinghouse activity, there are several cases in which an MIC client indicated an intent to conduct a survey but discovered that CIS was then in the process of securing data for other purposes paralleling that desired by the client. By slight modifications of its survey, the CIS was able to secure and forward the data desired by the client. The cases include two requests from Lane Community College (re: occupational therapist outlook and current average pay rates for registered nurses and licensed practical nurses) and a request from the Lane Community Action Agency (re: current enrollments by program in Lane County post-secondary schools). The forms used by the MIC in contacting data gathering agencies to obtain the information for Oregon Manpower Studies were a convenient and regular means of reminding the agencies to inform the Clearinghouse of their survey plans. Termination of that publication left a procedural void which thus far has not been satisfied completely by personal and telephone contacts.

Research and Consultation. A few of the requests for manpower data have come from persons familiar with labor market statistics and terminology. In those cases where the client knows rather exactly what he needs, the MIC function is essentially confined to researching available data sources and delivering the information without interpretation.

However, most of the individuals placing data requests with the Clearinghouse do not have experience or training in the labor market field. With these clients it is necessary first to clearly determine the particular purpose for which data are needed. This step is crucial. For example

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"Uses it for reference and refers other people to it; it could be more comprehensive"--Dennis Miner, Manpower Economist in Eugene Employment Service Office

"Has used it only once; feels it is positive, but would not favor expanding it"--Larry Murray, Lane Community College Director of Special Training Programs

"Gives him very good services; uses it a great deal and feels it is reliable and accurate"--Bill Manley, Lane IED Director of Career Education

"Uses it a great deal and finds it very valuable"--Wes Morgan, Nils B. Hult and Assoc., Industrial Developer

McKinlay, Bruce. Oregon Career Information System: An Evaluation of Phases I and II of a Three-Phase Development Project. Career Information System. Eugene, Oregon. March 1974. pp. 138-9.

clients may confuse industries with occupations and will ask for data for "publishing occupations" or for the "drafting industry". Through consultation, the Clearinghouse has encountered and is striving to cope with a considerable communication problem between educators and their frame of reference on one side and the often complex technical terminology and quite disparate approach of labor market reports on the other. Therefore, the first step is always to fully delineate the objectives of the applicant, either through a careful telephone conversation, or, as in the case of educator workshops, through attendance at one of their sessions. In those sessions the MIC staff reach an understanding of the context for the requests and explain the concepts and resources of manpower research. This discussion often deals with elementary concepts (expansion demand, replacement demand, supply sources other than schools) as well as with difficult issues (the relationship of preprofessional institutional education with the labor market, etc.). Indeed, defining the occupations in question is sometimes the principal service performed. Although requests from educators are mostly posed in terms of the "demand" for a given occupation or cluster of occupations, the MIC provides whatever data may be available on the size and character of occupational supply as well.

The MIC experience is that most inquiries, although phrased as requests for statistics (e.g., What is the demand for computer programmers?) are really attempts to answer policy questions (Should ABC Community College establish a one or two year course to train persons as computer programmers?) to which the data are necessary but not sufficient answers themselves. This is the reason that MIC goes to such lengths to explain and interpret data which, to manpower economists, need no explanation or interpretation. In these consultations and in its written reports, the staff avoids the naive position that labor market demand is the sole determinant of program offerings. Instead, the MIC staff show why manpower data are an important part, but acknowledge that program planners must take other factors into account as well. This stance increases the credibility more than it compromises the manpower aspect of career education.

Research Pattern and Response Format. Following initial consultation and definition of the information need, the Clearinghouse's next step is typically to define the pertinent occupational group. Included in this process is the listing of the occupational titles comprising the subject group (using the titles specified in the U. S. Employment Service's Dictionary of Occupational Titles and perhaps including occupational descriptions from that source and/or from CIS DESCRIPTION file for the pertinent geographic area). Next, the recent, current, and/or projected employment levels and the projected expansion and replacement needs for the geographic area or areas are researched as are data on the sources of trained manpower and the rate at which it is becoming available for each occupation or occupational group. This research phase includes searching the shelves and files of the CIS Library and, perhaps, the University of Oregon Library, discussing the data with other CIS professional staff members and with other knowledgeable persons such as local Employment Service manpower economists, manpower analysts of the Oregon Educational Coordinating Council, and persons active in the occupation or industry(ies) in which the occupation is significantly represented. A regularly used source is the Job Bank Openings Summary (JBOS), a monthly collection of microfiche compiled and published for the Manpower

Administration by the Oklahoma State Employment Service. JBOS provides a summary of the number of job openings and unfilled openings by occupation for reporting Job Banks from around the nation.

Following the data compilation, a report is drafted which includes the data just described and which also analyzes the completeness of the data and its relative reliability. (The appended report on Computer Programers illustrates such a response.) The MIC coordinator normally discusses the completed report with the client to clarify any points which may appear ambiguous and to help apply the information to the program planning decision he has to make.

Notification to planners of significant new labor market developments. The MIC has not yet developed a fully effective means to routinely notify program planners of major developments in the labor market. The publication of Oregon Manpower Studies performed this function in part. Also, MIC personnel do inform a number of clients and representatives of data-producing agencies by telephone and by personal contact of some of the recent or proposed new manpower policies, changes in manpower programs and related developments. Until now the Clearinghouse effort has been concentrated upon perfecting effective ways to respond to requests, identifying and acquiring copies of or access to labor market data sources, developing a Manpower Training Information System, and performing consultative services to units of local government involved in manpower program planning. On occasion, CIS research staff write brief descriptions of recent labor market developments for inclusion in issues of the CIS newsletter Update. Reporting about such developments is a highly desirable function for the Clearinghouse to perform.

Effectiveness of dissemination procedures. Consultation has much to recommend it as an information delivery vehicle, but its exact impact is hard to assess. Through consultation, manpower considerations can influence several aspects of program planning, and program planners develop an understanding of manpower concepts they may apply in future decisions. These influences are hard to isolate. Nevertheless, it seems that the hours spent in consultation and discussion with clients to clarify terminology and their goals are at least as important as the quality of the statistics supplied to them.

In an effort to evaluate the impact and effectiveness of the Manpower Information Clearinghouse's research and consultation services to planners, a telephone survey of a dozen clients was conducted by the manpower coordinator for the Lane Council of Governments. Clients surveyed included local school district career education coordinators and teachers, program planners at Lane Community College and Linn-Benton Community College, local area manpower economists of the Employment Service, the program planner for a local community action agency, and a manpower program operator in the local Employment Service office. The following types of comments were received:

--all stated that the MIC-provided data were what was needed, with the qualification in some cases that they wish more data were available.
--all clients agreed that the information supplied was understandable.
--each stated the data were actually used to help reach decisions even though the decision is one or two cases was not supported by the data (other factors were deemed to be of overriding importance).

--the data supplied contributed to decisions by clients as to whether to undertake new or to retain existing programs.
--the information provided by MIC was deemed to be unbiased and objective.
--clients appreciated the inclusion of cautionary notes when data were incomplete.
--not only did all clients indicate they would again avail themselves of the services of the Clearinghouse, but also one submitted another data request during the interview and a second client mailed in another request that day.
--only two suggestions were offered: greater publicity about the availability of the services, and urge data-producing agencies to expand their surveys to gather and report data not presently available.

Nevertheless, as noted above, there is a need to broaden and regularize the dissemination not only of information about new labor market developments but also of copies of formal Clearinghouse reports and abstracts or notes about less formal MIC responses to recent data requests.

The CIS occupation descriptions partially serve this purpose.

Program Planners' Use of Occupation Descriptions

The CIS occupation description file (300 word descriptions for each occupation in the system) was primarily designed to inform persons making career choices about the nature of each occupation, but program planners also use the CIS descriptions in their work.

Specific uses included:

--uses the descriptions as part of the justification for requesting training funds for a client (from a program referral officer)
--sends clients to a CIS teletype terminal located in another agency to obtain DESC printouts and then counsels clients largely on the basis of the material obtained there (from a program operator)
--shows and makes copies of descriptions for vocational counselors to use with clients (from manpower economist)
--goes through descriptions for all occupations and constructs lists of "shortage/high turnover, balanced, and surplus" occupations (from manpower economist)
--advises educational program planners whether to initiate or retain programs from the standpoint of the occupational outlook found in the descriptions (from manpower economist)
--uses as source of wage and salary data to prepare official agency reports (from manpower economist)
--requires job development and counseling staff members to use the descriptions as basic reference (from program operator).
--has counselors use descriptions in developing "employability plans" for each client (from program operator).

Frequency of use by the respondents varied from every day to occasional and was, in some cases, directly related to the availability of current descriptions. All of the respondents were high in praise for the quality and comprehensiveness of the descriptions. Most specifically expressed a desire

to have greater and more regular access to the CIS DESC file. These self-initiated uses of the CIS occupation descriptions are meaningful indications that program planners make use of the standard CIS information as well as specialized responses.

INFORMATION DEVELOPMENT

Where and how should Career Information System seek for the elements of it's data base--the information which, after appropriate processing, is to be supplied to its clients? Should CIS initiate a series of independent surveys to gather and statistically verify raw data or should it utilize existing data and data sources? Many factors pro and con entered into the resolution of these questions.[2] The founders of CIS believed that great amounts of useful information were being compiled by many agencies but that much was not widely known or readily available to those needing it. Though recognizing the existence of many data gaps, it was concluded that the most useful course for CIS was to identify a wide variety of data sources, establish solid and continuing relationships with data producing agencies, obtain copies of available data, and then organize and store it in a readily retrievable location.

The decision to concentrate the information development energies of CIS on the identification, acquisition, and organization of existing documentary sources of labor market and education and training information applied with equal force to the Manpower Information Clearinghouse. The program planning and career planning assistance services of CIS share substantially the same types and sources of data. For the most part, these data resources are in some type of documentary format and are stored in the CIS Library. Use of these resources is not restricted, however, to CIS staff. Instead, they are available to students and other researchers as well. Because the principles and procedures utilized are generally common to both the Information Development Section and the Clearinghouse of CIS, much of the following chapter is extracted from the CIS evaluation report.[3]

Economics of Information Development

The development of labor market information is more than hiring a labor market analyst, just as effective counseling services require more than just hiring counselors. There are distinct cost considerations with regard both to the number of occupations and the number of information items to be developed, as well as the extent of localizing, sophistication of storage and retrieval systems, and frequency of updating. It is useful, therefore, to consider some of the economic characteristics of labor market information.

Information is a product, is costly to produce, and is unevenly consumed by clients. Further, information on some occupations and topics is

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[2]For a full discussion of these factors, see Chapter III of the CIS report: McKinlay, Bruce. Oregon Career Information System, op. cit.

[3]Ibid., pp. 32-49.

more costly than on others, and information for some items and occupations is more strongly needed than for others.

Theoretically, for the same expenditure, it would be possible to produce a few units of information for many occupations or many units of information for a few occupations. In between, a large number of combinations of information units and occupational cells could be produced.

Generally, the Clearinghouse has attempted to provide information at a level of detail that is useful from a program planning standpoint as well as feasible from the standpoint of data collection. The Dictionary of Occupational Titles (D.O.T.) lists over 20,000 entries, including, for example, over 30 distinct welding specialties. In providing career planning information CIS aggregates data for the several specialties and presents it under the pertinent generic occupational titles; nevertheless, it is sometimes necessary for the Clearinghouse to research and present greater detail for each of the specialties of an occupation, when the data are available. However, the MIC does not normally research as many information topics for each occupation as are contained in CIS occupation descriptions. Whereas the latter present information on 18 topics for a general occupation, the Clearinghouse occupational reports usually cover much fewer.

A major consideration for the Clearinghouse at all times is the accuracy of the information which it delivers to clients. Obviously, the validity of its data is a crucial element in the MIC's professional reputation. Therefore, considerable effort must be made to verify that the information supplied by the MIC is the most accurate available. An early and key step is to identify several alternative sources of a particular information item and to compare the statistics from each. When different figures are found (a common occurrence), it is then necessary to determine the reasons. Often this may involve discussions with personnel of the data producing agencies, with specialists in the occupation or industry concerned, or with other data analysts. Such checking and rechecking often is time consuming and therefore expensive. To minimize these costs Clearinghouse personnel become familiar with all salient characteristics, including limitations, of each new data source which becomes available to the MIC.

Another factor bearing on the costs of data development is the currency of the data. Data published two or more years after it was obtained tends to be relatively more accurate than data recently obtained since those persons responsible for securing and publishing the data require time to recheck survey methodologies, compilations, computations, and clerical work. On the other hand, clients of MIC seek the most current information together with projections so that their evaluations and plans reflect recent shifts in trends, the impact of contemporary developments, and other factors bearing upon the soundness of their proposals. Consequently, the Clearinghouse checks the newer data against apparent trends as revealed in older published information sources. Again, such comparisons require time to make and to analyze.

Since most MIC clients represent local agencies and institutions, they are principally interested in securing local information with statewide, regional, and national data usually of secondary concern. Obtaining good quality localized labor market information, particularly occupational data,

is frequently very difficult, but important to both program and career planning. To fill this common need, CIS maintains liaisons with the local manpower economists of the Oregon Employment Division, utilizes the services of Review Panels, as well as extracting available published data. A Review Panel has been established by CIS for each of some 200 generalized occupations. The panels are typically composed of six individuals each: a worker in the occupation; an employer of workers in the occupation; placement specialist in the occupation; a manpower economist; a representative of a training institution preparing people for the occupation; and an "expert observer" having special expertise about the occupation. Panel members often are able to supply "area specific" information about the occupation such as wage and salary data which are difficult or impossible to obtain from published sources. Nevertheless, the industry-occupation matrix estimates prepared by the Research and Statistics Section of the Employment Division have been the prime source of published employment and expansion and replacement needs statistics for Oregon. Finally, clippings of news articles from local newspapers may also be quite useful except that there are no patterns to the frequency of such articles nor are all occupations the subject at one time or another of feature articles. In any case, the usage of these several alternative data sources requires validating and cross checking by CIS staff and thus adds to the costs of developing occupational information.

Although the geographic emphasis is the Oregon labor market, CIS seeks and acquires labor market data for non-Oregon areas as well. Because a large number of occupations, not well represented in Oregon industry, are of potential career interest to some Oregon students and thus to training program planners and because there are significant gaps in strictly Oregon labor market data which may be fairly inferred from non-Oregon data, it is necessary to go beyond the state's boundaries for information. Furthermore, the Oregon labor market obviously does not operate in an economic vacuum; national and regional economic forces have major impacts upon Oregon's economic health. Therefore, CIS obtains considerable information from non-Oregon sources to enable the CIS staff to better evaluate probable future manpower supply and demand relationships. Out-of-state information is often the only source of knowledge about changing job duties and clarification of worker trait requirements.

In an era of expanding formal instruction, raw figures on population growth or decline for an areas, even when broken down by sex, age group, employment status, and labor force participation rates are inadequate measures of current or future manpower supply. Therefore, it is essential that not only these data but also information relating to the capacity and rate of completions for training and educational programs be obtained. Because of their impact on training capacity, it is similarly necessary to acquire information about educational policies, whether in effect or proposed.

Table I lists the key elements of information needed by the Career Information System and the major sources of information. This table is intended to indicate the general types of sources used; as such it is illustrative rather than exhaustive, and emphasizes local rather than national sources.

Table I

MAJOR INFORMATION SOURCES

Data Sources	Author/Agency	Geographic Scope	Data Format	Frequency Data Is Updated
Nature of Job (including function, duties, & occupational specialties)				
(1) Dictionary of Occupational Titles (D.O.T.)	Manpower Administration (MA) U.S. Dept. of Labor (D.O.L.)	National	Published (3rd Edition 1965)	Varies
(2) Otcupational Outlook Handbook (O.O.H.)	Bureau of Labor Statistics (BLS) D.O.L.	National	Published (1974-75 Edition)	Biennially
(3) California Occupational Guides (Cal. Occ'al. Guides)	Cal. Dept. of Human Relations Development	California, but generally applicable to Far West	Published in looseleaf, inserted in binders	Varies
(4) CIS Review Panels	Created by CIS Data Development Section	Oregon statewide	Committees (1 per occ.) contacted by mail or phone	Continuous
(5) Professional, occupational, or industry brochures	Various associations	Usually national	Published leaflets, booklets, or pamphlets	Varies
(6) Position descriptions of large employers (e.g., state or county governments)	Oregon Personnel Division and personnel depts. of cities and counties, major industries	Varies with the employer	Usually printed for in-house use	Varies, but usually annually
(7) Oregon's Current Occupational Employment Statistics Program With Projected Occupational Employment Statistics for Oregon... (O.E.S.'72)	Research and Statistics Section (R&S), Oregon Employment Division (O.E.D.)	Statewide and 6 state administrative districts	Published (but CIS has added D.O.T. codes)	1972, w/data updated semi-annually & pub. biennially

Table I (Continued)

Data Sources	Author/Agency	Geographic Scope	Data Format	Frequency Data Is Updated
(8) Employer Index	R&S and CIS	Portland SMSA	Computer printout	1971, no plans for updating
(9) Oregon Occupational Employment Statistics: Manufacturing Occupational Coefficients By Employment Size Class (O.E.S.-Mfg.)	R&S, OED	Oregon statewide	Unpublished tables, in-house compilation	Biennially
(10) Occupational Employment Statistics Conversion Manual (Converts O.E.S., D.O.T., Bureau of the Census, and BLS I-O Matrix Codes-MIC has added CIS Codes)	Tom Lynch: R&S, OED Manpower Information Clearinghouse	National	Unpublished tables, in-house compilation	1974. Modified as needed
(11) Health Resources Statistics, 1972-73 (H.R.S.)	National Center for Health Statistics, DHEW	National	Published descriptions, tables	Annually
(12) Manpower (magazine)	MA,DOL	National	Published journal	Monthly
(13) Occupational Outlook Quarterly (O.O.Q.)	BLS,DOL	National	Published journal	Quarterly
(14) Monthly Labor Review (M.L.R.)	BLS,DOL	National	Published journal	Monthly
Working Conditions (including environment, work schedule, current levels of employment, & earnings)				
(2) O.O.H.				
(3) Cal. Occ'al. Guides				
(15) 1966 Supplement to the D.O.T.	MA,DOL	National	Published	Varies

Table I (Continued)

Data Sources	Author/Agency	Geographic Scope	Data Format	Frequency Data Is Updated
(4) CIS Review Panels				
(7) O.E.S. '72				
(16) Tomorrow's Manpower Needs Vol. IV (T.M.N.)	BLS, DOL	National	Published tables	1969, 1971
(17) Oregon's Labor Force Trends	R&S, OED	Oregon statewide	Published tables and charts	Monthly
(18) Labor Force: Employment; Unemployment; Hours and Earnings; Turnover--In The State of Oregon and Portland, Eugene, and Salem Metropolitan Areas	R&S, OED	Oregon statewide and the Portland, Eugene, and Salem SMSA's	Published in looseleaf	Annually
(19) Monthly Economic Letter	First National City Bank	National	Published newsletter	Monthly
(20) Labor Force Trends (L.F.T.)	Local area manpower economists of OED	26 local areas & 14 Oregon administrative districts	Published commentary tables & charts	Monthly
(21) Labor Force in Oregon Counties	R&S, OED	Table for each county except SMSA's	Published looseleaf, sheets placed in binder	Annually
(22) Occupational Trends: Washington State, 1970-75	Research & Statistics Branch, Washington Employment Security Dept.	State of Washington	Published report with commentary and tables	Oct. 1971, updating plans unknown
(23) 1970 Census of Population	Bureau of the Census (B.O.C.) U.S. Dept. of Commerce as processed by Bur. of Gov't Res. & Service, U of O	Oregon statewide, SMSA's, CCD's, ED's	Published tables and magnetic tapes with computer printouts	Aug. 1972 decennially

Table I (Continued)

Data Sources	Author/Agency	Geographic Scope	Data Format	Frequency Data Is Updated
(24) Job Bank Openings Summary (JBOS)	MA, DOL	Varies--90 to 150 Reporting Job Banks across the nation	Microfiche	Monthly
(25)-County Area Skills Surveys also known as Manpower Resource of (county or area)	R&S, OED	Individual counties or small groups of counties, Portland area	Published	1962 to 1970, superseded by Industry-Occupational Matrix Estimates (1971-72) and by #7 and #9 above.
(4) CIS Review Panels				
(26) Area Wage Surveys	BLS, DOL	Portland & Eugene SMSA's	Commentary with tables	Annually.
(27) Cooperative Salary Survey Report (CSSR)	Oregon State Personnel Division and Local Government Personnel Institute	Oregon	Published in looseleaf with methodology, participants, and tables with occupational definitions	October 1973, Annually
(28) Licensed Occupations in Oregon (L.O.O.)	Occupational Analysis and Testing Section, OED	Oregon	Published listing with standards	1970, 1972, now being updated
(29) General Schedule (of salaries and wages for Federal employees)	U.S. Civil Service Commission	National	Published	As revised and published
(30) Union contracts as reported by--	Bldg. Trades Council, and by BLS Regional Office	Eugene, Portland, Oregon & Pacific Coast states	Phone contacts & published BLS data	As needed (phone) and quarterly by BLS

Table I (Continued)

Data Sources	Author/Agency	Geographic Scope	Data Format	Frequency Data Is Updated
(31) Special Wage Surveys	Oregon E.D. manpower economists	Oregon administrative districts	Unpublished data obtained by phone	Intermittent
(32) U.S. DOL News	BLS, DOL	National	Published	Occasional
(33) Area Trends In Employment and Unemployment	MA, DOL	National and local	Published bulletin	Monthly
(34) Business Review	Federal Reserve Bank of San Francisco (FRB-SF)	9 Western states (12th FRB District)	Published magazine	Quarterly
(35) Business & Financial Letter	FRB-SF	9 Western states	Published newsletter	Weekly
(36) Western Economic Indicators	FRB-SF	9 Western states	Published tables	Monthly
(37) Business Review	Business Research Division, Pacific Northwest Bell Telephone Co.	Oregon and Washington	Published newsletter	Monthly
(9) O.E.S.-Mfg.				
(11) H.R.S.				
(12) Manpower				
(13) O.O.Q.				
(14) M.L.R.				
(38) Interim Manpower Projections, U.S. Census occupational employment adjusted to 1972 levels with projections to 1980 and estimated average annual expansion and replacement needs	R&S of OED	Oregon statewide and Portland Metro Area	Published 1974	Undetermined

Table I (Continued)

Data Sources	Author/Agency	Geographic Scope	Data Format	Frequency Data Is Updated
Qualifications (including native qualifications, education, training, & experience required)				
(2) O.O.H.				
(3) Cal. Occ'al. Guides				
(4) CIS Review Panels				
(11) H.R.S.				
(12) Manpower				
(13) O.O.Q.				
(39) Manpower Resource of the Portland SMSA	R&S, OED	Portland SMSA	Published	1968, no plans for updating
(40) Occupational Manpower and Training Needs	BLS, DOL	National	Published as Bulletin 1701	1971, updating plans unknown
Institutional Setting (including types of employers, promotional ladder, legal qualifications, employee organizations, & hiring channels)				
(2) O.O.H.				
(3) Cal. Occ'al. Guides				
(4) Review Panels				
(11) H.R.S.				
(12) Manpower				
(13) O.O.Q.				
(16) T.M.N.				
(41) Oregon Trade Associations	Various associations	Oregon statewide	Unpublished, data obtained by phone	Continuous
(42) Directory of Oregon Manufacturers (D.O.M.)	Oregon Economic Development Division	Oregon statewide	Published index with cross indexes	1972, 1974

Table I (Continued)

Data Sources	Author/Agency	Geographic Scope	Data Format	Frequency Data Is Updated
Employment Prospects				
(42) D.O.M. (7) O.E.S. '72 (16) T.M.N. (20) L.F.T. (24) JBOS (2) O.O.H. (3) Cal. Occ'al. Guides (4) CIS Review Panels				
(43) Newspaper articles	Eugene, Medford, Coos Bay, and Portland newspapers	Local, statewide, and national	Newspaper articles	Daily or as available
(44) News magazine articles	Newsweek	National	Magazine	Weekly
(45) Professional and semi-governmental journals, newsletters, and job listings (e.g., TAB, Job Finder)	Various professional societies (e.g., Amer. Soc. of Planning Officials), semi-gov'tal orgs. (e.g., WGRA), Western City	National, regional	Magazine	Varies
Education and Training Sources; Rates of Supply				
(46) Reports of graduates & other training course completions from Oregon post-secondary institutions by program & by year (2) O.O.H.	Oregon Educational Coordinating Council (OECC)	Oregon statewide	Published reports with tables and commentary	Annually

Table I (Continued)

Data Sources	Author/Agency	Geographic Scope	Data Format	Frequency Data Is Updated
(47) Guidepost	American Personnel and Guidance Association	National	Published newsletter	Bi-weekly, except July and August
(48) Annual enrollment totals for Oregon post-secondary schools and colleges by program	OECC	Oregon	Published commentary and tables	Annually
(49) College Educated Workers, 1968-80	BLS, DOL	National	Published	Unknown
(50) Apprenticeship and Training Summary	Oregon Bureau of Labor	Oregon statewide and by county	Published	Semi-annually
(4) CIS Review Panels				
(51) Various publications of Women's Bureau (e.g., Handbook on Women Workers, Women in Apprenticeship, Careers for Women in the 70's)	Women's Bureau, DOL	National	Published	Irregularly
(52) The College Handbook	College Entrance Examining Board	National	Published books (2 vol.)	1972, updating plans unknown
(53) Mapping Your Education	Abbott, Kerns & Bell Co.	Oregon and Washington	Published book	Annually
(54) Steps Beyond High School (Educ. programs offered by public & private institutions in Oregon)	Oregon Board of Education	Oregon	Published looseleaf directory	June 1972, continuously updated by OBE

Table I (Continued)

Data Sources	Author/Agency	Geographic Scope	Data Format	Frequency Data Is Updated
(55) College, univetsity and ptoptietary school catalogs	All Oregon post-secondary public and private schools	Oregon	Published catalogs, course and program descriptions	Annually
(56) Barton's Profiles of Colleges	Barron's Educational Series, Inc.	National	Published book	Annually
(57) Higher Education General Information Survey (HEGIS) Reports	Oregon Educational Cootdinating Council (OECC)	Oregon	Published repotts with tables	Annually
(58) Reports of graduates, programs, requirements at state system schools	Oregon State System of Higher Education (OSSHE)	Oregon	Published repotts with tables and commentary	Annually
(59) Transfer Curricula	OSSHE	Oregon	Published report	1973, annually
(60) Institutional Questionnaire	Educational Components staff of CIS	Oregon	Questionnaire mailed to all schools	Annually
(28) L.O.O.				
(61) Statistical Report	Oregon Bureau of Labor	Oregon	Tabulat reports	Semi-annually
(62) Apprenticeship Standards (for various occupations)	State of Oregon Apprenticeship and Training Council	Oregon Counties	Published in looseleaf	Quarterly
(63) Inventory of Post-Secondary Educational Programs in Oregon	Oregon Educational Coordinating Council (OECC)	Oregon	Published report with tables	Annually

The frequency of use of the various data sources naturally fluctuates with the nature of the clients' requests. Those inquiries desiring recent, current, or projected employment levels of or qualifications for entering an occupation are best answered by reference to published sources. On the other hand, the acquisition of data on the current and near future need for new workers to enter an occupation requires somewhat greater consultation with knowledgeable persons and unprocessed sources. This illustrates the point that standard research output provides answers to many research questions, but some queries can only be satisfied by customized research. Employment forecasts for many occupations are available, usually for a large geographic area such as a state or the nation, but the current outlook is known for only a few occupations. To determine the current outlook, it is often necessary to examine unprocessed data and tap informed opinions. For the latter two principal sources of data have been used: 1) contacts with persons knowledgeable about the occupation; and 2) data from the Job Bank Openings Summary.

As noted above, reliance on knowledgeable persons and unprocessed data is less necessary with such other information items as current employment and wages. Two major data needs are worth discussing in detail. One concerns information on local and state current and projected employment by occupational specialty (6-digit Dictionary of Occupational Titles code equivalent). Such data for Lane County vary from two to five years old. The CIS recently received the first partially processed results from the new Occupational Employment Statistics (OES) survey of 1971-72 Oregon occupational employment in manufacturing industries. Data from surveys of government service, trade and other non-manufacturing industries will not be available until late 1974 or 1975. The first projections of occupational employment and of expansion and replacement needs based upon the OES surveys data will not be completed before 1976, according to present schedules of the Oregon Employment Division's Research and Statistics Section. Generally, the OES employment data together with OES-based projections are expected to provide greater statistical reliability than other published data sources. However, OES information is only being acquired and published for the Portland SMSA and for the state of Oregon as a whole in contrast to the earlier area skill surveys for some 20 local areas and the Industry-Occupational Matrix Estimates for six major local areas plus statewide figures. The lack of localized OES data will be a serious deficiency. In those cases in which localized data are essential it will mean that the Clearinghouse will need to interpolate the OES statewide data for the local area concerned and then rely on the opinions of knowledgeable persons to adjust the derived figures.

The other data need is information on local and state, current and projected supplies of trained manpower by occupation or occupational group. Some such data are becoming available for a number of occupational groups as a result of the efforts and publications of the Oregon Educational Coordinating Council. Nevertheless, substantial data gaps remain for many occupational groups as well as for specific occupations. A major data need for which there is small prospect for early improvement is in the current and projected numbers of geographic migrants by occupation or occupational group into or out of the state or its local areas. The limited information available is obtained from the decennial federal censuses of population and

is based on a 20 percent sample. The time spans between such censuses, however, are too great for the data to be of great value to CIS.

Standard published sources provide answers to a large number of research questions. Alternative sources of information are knowledgeable persons and unprocessed data. Most frequently this is the case when highly local information or information with a short useful life is needed. Currently, the greatest needs are for data about occupational supply, wages, current and projected employment, hiring requirements and training sources.

Information classed as unprocessed refers to data sources which are not completely processed, some of which are totally unprocessed and others incompletely processed. An example of totally unprocessed data is newspaper "Help Wanted" advertisements. More thoroughly processed is the Job Bank Openings Summary. The Job Bank Openings Summary, consisting of 100 to 175 microfiche films, normally arrives about four weeks following the end of the month for which the data are compiled. These are first checked for obvious omissions, data are extracted for the selected occupations for which time series charts are prepared, and the fiche are then filed by month in 4" x 6" card files. No special index or catalog file is prepared for the JBOS as each month's fiche arrive already divided into two groups: one based on location of openings, i.e. by Job Bank and by state; and the other based on occupation. In addition, for the location format, a separate microfiche card lists the names of all the job banks included in the month's JBOS together with their fiche numbers. Similarly, for the occupation format, all job openings are serially listed under the 6-digit D.O.T. occupational code and include the names of the job banks reporting openings under each 6-digit code classification. Even though the openings shown in JBOS represent only a fraction of all existing job openings, as neither all employers list all of their openings nor do all Job Banks in the nation consistently report their openings to JBOS each month, it is a useful new source in the hands of knowledgeable researchers.

To reiterate, useful data comes in a variety of formats. With the exception of information developed expressly for occupational information purposes, most requires some additional processing.

Frequency of Information Supply. Labor market information is developed by organizations at both regular and irregular intervals. Organizations such as Bureau of Labor Statistics, whose primary objective is to publish information, adhere to the most regular schedules. Other organizations such as state Employment Services, whose information development responsibility is one of many functions, publishes some of its information, like labor market letters, at regular intervals and other information, such as occupational information, at less regular intervals.

Another aspect of information frequency is the timeliness of data. Sometimes information is too old to be of much value by the time it is published and released. This is most often the case when the information is highly perishable such as wages, and when it is published in formats that require lengthy preparations. For this reason the Clearinghouse tries to arrange with data producers for the early release, often in the form of photocopies, of information which has not yet been fully edited and is still in draft format.

Geographic Scope of Information Sources. Some information items vary between geographic areas while others do not. For information items that fall into the latter category, data developed at the national, regional, or statewide levels are used and preferred for reasons of efficiency. There is usually an adequate amount of data to meet these information needs. On the other hand information which tends to differ from area to area needs to be developed in each local area. Rarely, however, are these data completely available, particularly when the local area is smaller than the state as a whole. An example is wage information. It is sometimes possible to customize and utilize national and state data in these instances. One method is to compare the national data with local data from the JBOS to verify its proximity to local conditions. Another method is to place the national data in a draft of an occupational description and then submit it to the appropriate CIS Review Panel for validation or comments before publication.

In short, although methods are available for customizing national data to local areas, there continues to be a need for information produced at the local level.

Data Storage. Information about the labor market and education and training acquired by Career Information System is stored in a library-depository consisting of material on shelves and in vertical and microfiche files.

Arrangements with Data-Producing Agencies. Arrangements to ensure a regular inflow of labor market data and educational and training information to the Career Information System including the Manpower Information Clearinghouse may be divided into four broad categories: subscriptions and purchased documents; mailing lists and bibliographies; informal agreements; and CIS-initiated inquiries and surveys.

Currently, CIS subscribes to over a score of periodicals ranging from the Bureau of Labor Statistics' Monthly Labor Review to Guidepost published by the American Personnel and Guidance Association. Although some of these provide valuable statistics, their principal value to CIS is to inform the staff of recent and current developments and new projects planned or under way around the nation. Because many federal government-produced documents are unavailable except through direct purchase, a large number are acquired in this manner each year. For the most part, these are statistical reports but periodic publications such as the Occupational Outlook Handbook are also included.

One result of being on a number of mailing lists is the regular receipt of news releases from a wide variety of federal and state agencies, some of which have considerable value but many of which do not. Far more important are the regular reports such as JBOS, the newsletter and monthly reports from commercial banks, the Twelfth Federal Reserve Bank of San Francisco, Pacific Northwest Bell Telephone, together with the several statistical series of the Oregon Employment Division and similar agencies.

The third arrangement with data-gathering agencies provides for the exchange of data between CIS and the agencies, a quid pro quo agreement. An example is the understanding worked out with the Oregon Employment Division in which CIS submits occupational description drafts to OED local

area manpower economists serving on CIS Review Panels. The manpower economist is asked to review generally the description and specifically the sections of the description on wages, current employment, and employment outlook. He is not asked to develop information for the description, but if he already has data available, he is encouraged to enclose it with appropriate comments. In turn, each manpower economist is invited to copy, use, and share the occupational descriptions, other CIS informational files, and the MIC program planning services.

In lieu of formal agreements, informal professional understandings have been reached between individual CIS staff and OED personnel. The respect which key persons in those agencies have developed for the professional treatment accorded their data by CIS staff has resulted in the release to CIS of reports not formally published for general distribution such as intra-agency documentary bulletins, or memoranda, preliminary draft reports, or even raw data.

Even with maximum use of available data, existing sources frequently do not satisfy the CIS need for conclusive information about various changing characteristics of an occupation. To fill these data gaps, the CIS initiates requests for information which include procedures such as questionnaires addressed to CIS advisory Review Panels and phone calls to specific employers, manpower economists, training program directors, licensing board executives, labor leaders and others. Although requests to these informed sources may result in the receipt of additional data or other information, they are often very informal and result in evaluative comments from knowledgeable sources. These add measurably to a CIS staff member's "feel" for the subject.

SUMMARY

Program planners are experiencing a growing need for reliable localized labor market information. The Manpower Information Clearinghouse specifically, and the Career Information System more generally, provide these needed data in several ways: in response to requests, in the regular publication of CIS occupational descriptions, and by the monthly and annual Manpower Training Information System report.

Significant benefits are realized by the MIC from its inclusion in the Career Information System. Among such benefits are its direct access to the resources of the CIS library and to the professional knowledge and skills of other CIS staff members. Conversely, substantial amounts of labor market information developed by the Clearinghouse and filed in the common library as well as the professional contacts of the MIC coordinator are advantageous to CIS.

The Clearinghouse is more than a source of statistical data. Of at least equal importance is its consultation with clients to determine their exact needs and, after researching and providing the needed data, interpreting the information so that the data are directly and immediately useful to the clients.

The services of the MIC fall into three categories in terms of the time required to perform them. The most numerous requests have come from persons technically knowledgeable about labor market data. Usually these clients ask for just one or two data items for a particular occupation. Clearinghouse responses to these require a minimum of research, consultation, or interpretation and often may be completed within minutes or hours. The active participation of the Clearinghouse coordinator in the Manpower Advisory Committee (and its subcommittees) of the Lane Council of Governments and in the Manpower Services Subcommittee of the Lane County Prime Sponsor's Council represents variations of this category of MIC services. Next in frequency are requests from program planners seeking only modest amounts of labor market information and, most commonly, for just one or two occupations. Equally important, they need the data within a very brief period such as one to three days. The short time frame imposes a major constraint and allows only brief research with much of the available time given to explaining the data and noting their limitations. Although requests from program planners for full studies are received least often, they require the greatest time expenditure by the MIC. Greater research efforts are made and much time is spent in preparing and editing report drafts. Considerably more time is also required in initial consultation and in personal explanations of interim and final reports. The report on Computer Programers and the development and management of the ManPower Training Information System for Lane County, a continuing service, are illustrative.

Clients of the Clearinghouse have repeatedly expressed their appreciation for its services and have endorsed their quality by informing their professional colleagues and returning with additional requests. It is apparent the Clearinghouse is serving a need not satisfied elsewhere.

DESIGNING AND OPERATING A MANPOWER TRAINING INFORMATION SYSTEM

The Problem

Notwithstanding the mass of general economic, labor market, education and training statistics produced by federal, state, and local agencies, serious data gaps exist at the local level. The missing information is needed by a variety of local agencies, planners, and administrators to effectively carry out their respective functions in the broad field of manpower program planning, implementation, and evaluation. Although many agencies charged with administration of such programs have acquired and stored large amounts of data about the progress of their programs and about the characteristics of their clients, there has been little comparability in the frames of reference used. Strict records confidentiality regulations governing the agencies have often prevented meaningful aggregations, much less analyses, of data from two or more agencies. Thus, programs have diminished in their utility because of changed labor market conditions or changed client needs that went unnoted because of barriers to information exchange.

More seriously, program clients have been trained for jobs which are declining in numbers as the result of technological or general economic change. The result is that programs intended to provide job training and employment opportunities for economically disadvantaged, unemployed, and underemployed persons so that they might become economically self-sufficient have not only failed in many instances but have compounded the discouragement of the clients they were designed to aid. These problems are recognized to exist in local areas to greater or lesser degree across the nation.

A frequently cited factor contributing to the problems of manpower programs has been the stifling effect of federal control. When not only the funding but the policy determinations were made at the federal level, it was frequently very difficult to adapt the programs to the realities of the many local labor markets. In those cases in which an accommodation was eventually reached between federal policies and local needs, the local patterns had changed and no longer were compatible with the accommodations. The new Comprehensive Employment and Training Act of 1973 (CETA) was enacted by the Congress to provide greater flexibility together with substantial shifts of control to local governments. The legislation also provides the opportunity for local governments acting as "prime sponsors" to standardize and centralize records of manpower programs under their egis.

These problems were recognized by members of the Manpower Advisory Committee (MAC) of the Lane Council of Governments (L-COG) some time ago. When the character and substance of the new federal law became known, the

Committee encouraged the development of a means to acquire, store, aggregate compare, and deliver data about the various manpower programs and their clients. The Lane County Manpower Plan for the 1975 Fiscal Year, prepared under the direction of the Committee, formally recommended the creation of a Manpower Trainin; Information System (MTIS). The full Plan, including the recommendation, was officially approved in May 1974 by the L-COG Board of Directors, elected representatives of 25 local governments in Lane County including the three largest school districts, the Intermediate Education District, community college, cities, and the county. Earlier, Lane County Government was designated as the CETA prime sponsor for manpower programs within the county by the U. S. Department of Labor's Manpower Administration. In a letter of intent addressed to Career Information System, Lane County indicated its intent to contract with and to fund CIS and its Manpower Information Clearinghouse (MIC) to develop and operate MTIS for the 1975 Fiscal Year.

OBJECTIVES OF MTIS

Foremost, the system is designed to enable local administrators and program operating personnel to better administer their programs. At the same time, MTIS will better enable local elected officials to make periodic, informed appraisals of the extent and types of need for manpower programs and thereupon make such policy adjustments as they deem necessary. MTIS in turn will facilitate meeting the federal reporting requirements of Lane County as the local prime sponsor.

As the title indicates, MTIS is a system of providing essential information to key public officials to facilitate the performance of a number of manpower functions including:

1. Planning for individual programs;
2. Administrative processes including supervision, reporting requirements, and budget preparations;
3. Individual and joint policy formulation;
4. Inter-program coordination;
5. Comprehensive, county-wide manpower planning on both an annual and multi-year, long term basis;
6. Comparison and evaluation of individual programs; and
7. Evaluation of all programs combined on a year to year basis.

MTIS DESIGN

At this time much remains to be done before the design for a Lane County Manpower Training Information System is complete. Nevertheless, a general outline can be described together with a discussion of the methodology employed in its development and of the principles considered.

Essentially, MTIS incorporates a data bank which acquires information about whom is being served and by which manpower program, what services they are receiving, and what happens to them after they are no longer in a manpower program. Supporting data to be developed and disseminated will include an identification of Lane County shortage and high turnover occupations, the extent to which various occupations are represented in each significant industry within Lane County, and a list of Lane County industries and the firms in which they are represented.

Actual work on defining the problems, objectives and designing a Lane County Manpower Training Information System began in the last months of 1973. Staff of the Clearinghouse first interviewed each operator of federally-funded manpower programs and representatives of other training programs to identify and define problems which they had encountered in their operations. Data-related problems, i.e. problems arising out of a shortage of information, conflicting information, or excessive reporting requirements, were extracted and often found to be common to two or more programs.

MTIS Advisory Committee. The process of designing the Manpower Training Information System involved the resolution of some policy questions. Since the System is intended to serve several purposes, it was felt that there should be substantial input into the design from each of the major agencies expected to participate and to benefit. Accordingly, an MTIS Advisory Committee was established and includes the manpower planning coordinator from L-COG, the manager and the manpower economist for the Eugene Office of the Oregon Employment Division[4], Cooperative Work Experience Coordinator for the Lane Intermediate Education District, Director of Special Programs for Lane Community College, Lane County manpower planner, the local representative of the Oregon Bureau of Labor's Apprenticeship and Training Division, Director of Analytic Services for the State System of Higher Education, and the MIC coordinator acting as chairman. In addition, several other officials have attended meetings of the committee to discuss points of special interest to their agencies. The committee is expected to continue to function in an evaluative role during the implementation and operation of MTIS.

Although there was immediate general agreement among committee members that data about manpower program clients needed to be acquired and stored in the system, it was not readily clear whether program operators and similar data sources should supply aggregated data for each program's clients or, alternatively, that individualized data should be acquired by the system. Discussion of this point led to an examination of several related topics including whether the system was to be designed to keep track of individual clients as they might move from one program to another and how the statutory and administrative regulations governing the confidentiality of client records

[4]Although top State officials of the Division declined to permit participation of local officers in the operation and testing of MTIS, the continued membership on the committee of the local Division personnel was deemed highly desirable because of their administrative and technical expertise.

could be observed. Other related questions included: what data outputs are needed by program operators to enable them to modify their program plans to best cope with new developments? which data do program operators need to satisfy state or federal program report requirements (such as reports on CETA programs to DOL)? what data are needed for a comparative evaluation of the effectiveness programs? how often should MTIS data be disseminated and to whom? Committee members found that nearly all of the nonfinancial data required of CETA prime sponsors either for quarterly reports or for future funding applications could be developed from MTIS printouts (see Table II). It also became evident that the data outputs desired or required by different agencies and program operators overlapped to a significant degree but were definitely not identical. Thus the prospect of a single MTIS printout serving all of the needs of all programs and agencies was found to be impractical.

Client Identifier. Investigation by the local ES office manager found that state and federal confidentiality laws and regulations would permit individualized data to be acquired and stored provided that access to information about a particular individual is restricted to the agency initially developing the data. To accomplish this objective the Advisory Committee devised a coding system utilizing the last four digits of a client's Social Security number combined with the numerical notation of the month, day, and year of birth. This sufficiently identifies his or her file for the agency with which he or she is registered. Even though a client may be reported by more than one participating program, each query must carry the pertinent program code; consequently programs do not obtain client information entered by other programs. The committee decided that a client's home address would be recorded in MTIS as the 1970 Census Tract Number in which it is located. Finally, all requests for MTIS data, whether for individual files or for aggregated information, must be cleared through the MTIS manager. These measures would assure compliance with all applicable confidentiality requirements since none of the completed data report forms supplied to MTIS would contain a client's name or address.

Table II

Data Availability From MTIS Needed for Local Program Planning and for CETA Reports

	Data Element	Required for: Local Program Planning	CETA Reports
	Available From MTIS		
1.	Number of applicants by program per day/ week, etc.	X	
2.	Number of applicants by program not enrolled	X	
3.	Detailed characteristics of applicants not enrolled[a]	X	
	Reasons for not enrolling applicants:		
4.	Residence ineligibility	X	
5.	Income ineligibility	X	
6.	Lack of program funds/facilities/ placement opportunities	X	
7.	Eligible, but applicant declined enrollment	X	
8.	Other reason	X	
	Number of clients enrolled by program:		
9.	Current fiscal year to date	X	X
10.	Carry over from last fiscal year		X
11.	Number of clients terminated by program	X	X
12.	Entering employment via:	X	X
13.	Direct placements (no program training or employment	X	X
14.	In full time employment	X	
15.	In part time employment	X	
16.	Indirect placements (after program training or employment)	X	X
17.	In full time employment	X	
18.	In part time employment	X	
19.	Self placement	X	X
20.	In full time employment	X	
21.	In part time employment	X	
22.	Other positive terminations by program, client	X	X
23.	Entered school	X	
24.	Entered military	X	
25.	Enrolled in another manpower program	X	
26.	Non-positive terminations by program	X	X
27.	Moved from area	X	

[a]See Data Elements #50-87.

Table II--Continued

	Data Element	Required for: Local Program Planning	Required for: CETA Reports
	Non-positive terminations by program (Continued)		
28.	Behavior problem-administrative separation	X	
29.	Transportation problem	X	
30.	Health problem (incl. pregnancy)	X	
31.	Family care	X	
32.	Left labor force (incl. marriage)	X	
33.	Other	X	
34.	Number of clients enrolled by program on specified date	X	X
	Number of clients enrolled by program activity[b]		
35.	In classroom basic education	X	X
36.	In institutional skills training	X	X
37.	In on-the-job trsining	X	X
38.	In public service employment	X	X
39.	In work experience	X	X
40.	In counseling services	X	
41.	In testing services	X	
	Number of clients receiving supportive services[c]		
42.	Medical/Dental care	X	
43.	Child care	X	
44.	Residential supportive (subsistence)	X	
45.	Transportation	X	
46.	Tuition	X	
47.	Legal services	X	
48.	Other services	X	
49.	None	X	
	Characteristics of enrolled clients by program prior to enrollment and after termination by reason[d]:		
50.	Sex (number of each)	X	X
51.	Age[e]	X	X
52.	Education (yesrs of schooling completed)[f]	X	X

[b]MTIS can also report numbers receiving training in secondary or proprietary schools, community or 4-year college or university, or with employers. These training locations data are not required by CETA.

[c]CETA requires data on expenditures for supportive services provided but not number of clients

[d]CETA only requires characteristics of enrolled clients and, for those terminated, of those entering employment and of those not entering employment without detailed breakdowns by reason for termination.

[e]MTIS can report number at any specific age. CETA require only numbers in 6 age groups.

[f]MTIS can report number by single years completed. CETA requires numbers in 4 groupings. Other programs require data in different groupings than CETA.

Table II--Continued

	Data Element	Required for: Local Program Planning	CETA Reports
	Characteristics (Continued)		
	Family income in preceding year[g]		
53.	Receiving Aid to Families with Dependent Children	X	X
54.	Receiving other public assistance	X	X
55.	Economically disadvantaged[g]	X	X
	Ethnic group[g]		
56.	White	X	X
57.	Black	X	X
58.	Oriental	X	X
59.	American Indian	X	X
60.	Alaskan Native	X	X
61.	Hispanic	X	X
62.	Mexican American	X	
63.	Puerto Rican	X	
64.	Other	X	X
65.	Limited English speaking ability[g]	X	X
66.	Migrant or seasonal farm family member[g]	X	X
	Veteran[g]		
67.	Special Vietnam era	X	X
68.	Other veteran	X	X
69.	Handicapped[g]	X	X
70.	Physically	X	
71.	Emotionally	X	
72.	With alcohol problem	X	
73.	With other drug problem	X	
74.	Mentally retarded	X	
75.	Receiving unemployment insurance benefits[g]		X
76.	Hourly wage rate before and after termination[gh]		X
77.	Number in family[g]	X	
78.	Home address by cenaus tract[g]	X	
79.	Affiliation with other (11 specific) agencies/programs[g]	X	
80.	Referred by which agency/program[g]	X	
81.	Referred to which agency/program[g]	X	
82.	Whether in prior manpower program[g]	X	
83.	Whether completed prior manpower program[g]	X	
84.	Occupational title or last job[g]	X	

[g]Not supplied to MTIS or required by some participating programs such as Lane Community College Cooperative Work Experience. Data would be needed by other prospective participant programs such as WIN or DVR.

[h]CETA requires numbers in each of 7 wage rate ranges and the mean. MTIS can report number at any specific rate as well as lowest, highest (to $10.00/hr.), mean and/or median.

Table II--Continued

Data Element	Required for: Local Program Planning	CETA Reports
Characteristics (Continued)		
85. Weeks of unemployment[g,i]	X	
86. Occupational title of training job	X	
87. Occupational title of work experience job	X	
Name, location, and SIC code of training or work experience employer:		
88. For OJT jobs	X	
89. For work experience jobs	X	
90. For public service jobs	X	
Post-program jobs:		
91. Occupational title	X	
92. Employer name, location and SIC code	X	
93. Whether program training-related	X	
94. Whether placed by program	X	
Not Available From MTIS		
1. Program budget, proposed or approved	X[j]	X
Program expenditures for:	X[j]	
2. Administration		X
3. Allowances[k]		X
4. Wages paid by program		X
5. Fringe benefits paid by program		X
6. Training costs (tuition, etc.)		X
7. Services		X
8. Vocational Education grants expended		X
9. Non-Federal funds expended		X
10. Management by objectives	X[l]	
11. List of Lane Co. employers with slots available for:		
On-the-job training by occupation	X[m]	
Work experience by occupation	X[m]	
Public service jobs, temporary or permanent, by occupation	X[m]	

[i] MTIS can report lowest, highest (to 100 weeks), mean and/or median number of weeks of unemployment experienced by clients.

[j] All programs need these or similar data but as accounting systems vary considerably among governmental units, there are few identical elements which can be reported in a common data system such as MTIS.

[k] See Data Elements #42-49 above.

[l] Accounting for time spent by staff to perform specific tasks is becoming increasingly common but the methodologies vary among governmental units.

[m] Needed by most but not all programs.

Aside from the legal and technical issue of the confidentiality of individualized records, the MTIS committee considered whether such records were in fact essential. The committee agreed that recording client data on an individualized basis was the only method by which maximum flexibility of output could be achieved and also concluded that it was most improbable that designers of the system could determine in advance of trail operations all of the most needed output combinations. Furthermore, recently received federal CETA technical guidelines stipulate that CETA records be so designed and maintained that individual clients can be "tracked". Finally, it was recognized that requiring program operators to aggregate client data (e.g., report total number of white females under 19 years of age in a program) would impose a time consuming task which would materially reduce the operators' overall effectiveness. With these factors in mind, the committee decided that client-related information would be recorded on an individualized basis.

The decision to record individualized data makes it possible to track which services are provided to a client by which programs and agencies and with what success without naming the person concerned.

Well over one hundred items of possible and summary detailed data output have been considered by the MTIS committee to date. Final decisions have only recently been made on which items will be included. Committee members have designated which items are to be reported monthly, which quarterly, and which annually. Also, each such report will be divided into two parts. One section will provide a summary of information of general interest to all recipients and a second part which will be a status or progress report for each program. The reports will be distributed to each program operator, to CIS, to the manpower service administrator of the prime sponsor, to the L-COG manpower coordinator, and, if desired, to the central office in the case of an agency cooperating in the system (e.g., Oregon Employment Division, Vocational Rehabilitation Division, superintendent's office of a school district, or the Lane Intermediate Education District).

The principal data to be produced by MTIS relates directly to the current status of the various manpower and manpower-related programs in operation within Lane County. It is still uncertain whether programs of the state Division of Vocational Rehabilitation will cooperate in providing data. However, the Oregon Employment Division's central office has declined to permit its Eugene office to participate because of the extra cost in manhours of ES personnel to fill out the MTIS forms. Top Oregon ES officials indicated they might permit local officer participation if the local CETA prime sponsor would pay for any costs incurred by ES. However, representatives of the prime sponsor held that the benefits from MTIS to local ES program planning would far outweigh the slight cost in manhours. This ES response did not come as a surprise, for it appears to CETA prime sponsors that the agency consistently resists such cooperative efforts with local prime sponsors in the state. On the other hand, the Springfield (large) and Cottage Grove (small) school districts and Lane Community College will supply data for their Cooperative Work Experience students to MTIS as will the CETA-funded programs under the direction of Lane County. Information

will be included on the number of persons served, the type of service provided, where and when provided, and what happens to clients, such as the whys of early terminations and the degree of success resulting from the services offered. These types of data are needed in part to meet federal and state reporting requirements but, more importantly, to enable program planners, administrators, and policy makers to better identify the nature and scope of Lane County manpower-related problems and to develop alternative methodologies which will lead to solutions. While it is expected that additional programs will participate in MTIS in the future, the current emphasis is on development of a data system which efficiently meets management needs of current participants. Fuller implementation will follow, providing more complete analysis of the Lane County manpower programs.

Supplementing the program data will be information describing salient characteristics of Lane County industries, employers, and occupations along with updated basic demographic data. These will be developed by the Manpower Information Clearinghouse and the research staff of the Lane Council of Governments. Such intelligence will be useful principally in program planning, evaluation, and policy determination. The demographic data will identify the sizes and locations of target (client) populations needing various manpower services for the purpose of siting manpower programs. The economic data will identify occupations significant in the county, designate the industries in which they are represented, and match these industries with the Lane County employing firms in which they are found.

Operation of MTIS. Since the system is still in the design stage, there has been no experience with operation to date. Nevertheless, an outline can be sketched of the proposed mode of operation.

The principal source of raw data input into MTIS will be a single form forwarded to the MTIS manager. The form is oriented to the individual client. Some part of the form will be filled in for each applicant, enrollee, or former enrollee at each activity stage. Taken as a whole, information on the form will include characteristics of the client (including such changes as occur), services provided to the client, dates of program completion or termination (with reasons), and the client's labor force status at various times after program completion. The form, however, does not contain the client's name, or home address, or full Social Security Number so that the individual client's record as stored in MTIS can only be identified by the operator of the particular program in which the client is enrolled. (See Appendix for a facsimile of the MTIS input form.)

Discussion among MTIS committee members and checking of report forms currently in use by local manpower agencies confirmed suspected disparities in definitions of terms commonly used. This alone eliminated the possibility of using existing agency report forms either for direct data input into MTIS or even transferring the data to an MTIS form. Consequently, an MTIS Data Completion Guide was drafted containing a series of definitions to minimize different interpretations. For the most part, the definitions were those spelled out in the CETA Act or were borrowed from well established programs. The Manual is essentially a "how to code" set of instructions for interviewers and others developing the data for input into MTIS (See Appendix E).

As experience is gained through operation of MTIS, it is probable the Guide will be modified to further clarify either procedural issues or definitions.

Most of the MTIS forms will be completed by intake and counseling personnel of the CETA prime sponsor (Lane County) located at the Eugene main office or in outreach office in Springfield, Cottage Grove, Florence, Oakridge, and Veneta. Cooperative Work Experience coordinators (during the first test year) in the Cottage Grove and Springfield school districts and at Lane Community College and, possibly, counselors in the Vocational Rehabilitation Division round out the list of personnel responsible for completing the forms.

The original copies of the forms then will be forwarded to the Manpower Information Clearinghouse for editing and subsequent key punching the data onto IBM computer cards.

The data on the cards will then be batch entered onto magnetic tape at the Lane County data processing facility. At this time it appears neither necessary nor desirable that the MTIS data be stored for "on line" access or processing. Instead, the reels of magnetic tape containing the MTIS data will be stored until they are retrieved periodically for batch processing using specially written computer programs to produce the desired reports as printouts. Copies of the report printouts will be reproduced and distributed to program operators, administrators, and planners.

As noted above, detailed items of output have not been finally determined, but the MTIS Committee has tentetively approved the production and dissemination of four types of reports as described below. Probably other types of reports will be recommended in the future. Strictly speaking, some of the reports will be produced independently of data developed from MTIS information but will be distributed with "regular" MTIS reports. The reports presently planned include:

1. Program Status Report. A monthly summation of applicants, enrollees, program completers and early terminators, and former enrollees as to characteristics, services provided, and current status. To be compiled for each participating program. An annual summary for all programs combined will also be produced. Based on MTIS-developed data.

2. OJT and Work Experience Placement Report. A monthly listing of all on-the-job training and work experience placements made during the preceding month by each participating program. If approved by employer representatives, it is proposed that the report will list names of employers with whom placements are made by SIC code and alphabetically and show number of placements made by occupational group by cooperating programs. Probably an annual summary will also be produced. Based on MTIS-developed data.

3. Basic Lane County Demographic Data. An annual presentation of updated census information developed by Lane Council of Governments research staff identifying sizes and characteristics of manpower program target populations within the smallest geographic areas for

which reliable data can be developed. May be based in part on MTIS-developed data.

4. Shortage and High Turnover Occupations. A quarterly listing of those Lane County occupations for which labor market demand appears to exceed the supply of qualified workers. Prepared by MIC based on CIS-developed and Eugene Employment Division manpower economist-developed information.

Other reports which are under consideration by the MTIS Advisory Committee include a listing of Lane County establishments according to their Standard Industrial Classification category, identification of occupations significant in Lane County industry classifications, and estimates of average annual expansion and replacement need for Lane County occupations. Much of the data on which such reports would be based are confidential. If any of these sources are to be used as part of MTIS, it will be necessary to negotiate with the data sources to determine whether report formats can be designed so as not to violate confidentiality requirements.

In addition to the periodic reports, the System will have the capability of tracking individual clients. That is, at any point in time, a complete record of an individual's progress including his or her participation in the several participating programs and the services provided by them can be delivered. Each change in the client's status will be dated. And, as noted earlier, each such client status report will be anonymous save for the client identifier which is translatable only by the program operator initiating the request for the report. As noted earlier, this tracking capability is required under the provisions of the Comprehensive Employment and Training Act of 1973 so that Manpower Administration auditors can review the progress of and services provided to randomly selected clients.

SUMMARY OF MTIS

Operators, planners and administrators of a variety of manpower programs in Lane County have recognized a need not only for a coordinated, systematic set of data about the number and characteristics of local people needing training and about clients currently being served but also for up-to-date occupational information about the Lane County labor market. The Manpower Training Information System is intended to serve these perceived needs.

MTIS was designed by a local group of knowledgeable program operators, manpower data specialists, planners, and administrators to cope with problems they had experienced. Since it is anticipated that "bugs" will be found in the system, the committee will continue to meet from time to time to resolve such problems. If the system successfully achieves its stated objectives, the cooperative efforts of the program operators, their staffs, and the MTIS Advisory Committee will be responsible.

MIC FINANCIAL CONSIDERATIONS.

The Manpower Information Clearinghouse still has some characteristics of a pilot program. Nowhere is this more evident than in its finances. The MIC began as and continues to be a one man office supported by part time clerical and consultant assistance furnished by other Career Information System staff. In addition, the Clearinghouse draws heavily upon the data resources of CIS. Also, CIS provides office space, equipment, and bookkeeping services.

Initial funding in early 1972 of the MIC coordinator's position was provided by L-COG using an Emergency Employment Act grant of $12,000. The coordinator was carried on the L-COG payroll through December 1973 when the position was shifted to the University of Oregon payroll as a CIS staff member. However, he has always been physically located in the CIS offices on the University campus. When the original and supplemental EEA grants were expended, the Lane County government began to provide about 75 percent of the funding for the MIC budget with CIS providing the balance. The Lane County monies represent compensation to CIS for the services of the Clearinghouse in developing and managing the Manpower Training Information System and for producing several periodic and special Lane County labor market reports. The MIC benefits CIS by assisting its information development activities by selecting, ordering and analyzing labor market data, advising other CIS staff members, and by providing consultative services including manpower information to CIS clients located outside Lane County.

About three-quarters of the $18,400 MIC budget for 1974-75 is allocated to the salary and other personnel costs of the coordinator. Nearly $2,000 is budgeted for the time of other CIS staff spent in consultation to MIC and in providing secretarial services. Most of the balance of the budget is assigned to meet various indirect costs for facilities and overhead. Because of its housing in CIS, it is not necessary for the MIC budget to contain separate funds for the purchase of the wide variety of data sources and references upon which much of the services of the Clearinghouse are built. These costs are borne entirely by the general CIS budget and this circumstance constitutes a major point of justification for incorporating in a single agency the MIC function of providing labor market data to educational program planners with the CIS function of delivering related information to assist people in making career choices.

The position of MIC coordinator requires a person with a thoroughly professional attitude and outlook. He must be able to relate and communicate effectively, both orally and in writing, with other professionals. His training and experience should result in considerable skill as a researcher and consultant and a familiarity with most standard labor market information sources and with statistical concepts and techniques. One person has held this position since the establishment of the Clearinghouse. His background in urban planning, college teaching, local and state government planning, research, and administration, and both technical and non-technical report writing has enabled him to bring a variety of helpful skills and experience to the position.

Because of its obvious contributions to manpower program planning, the outlook for continuation of the Manpower Information Clearinghouse appears to be good. The agreement to develop and manage the Manpower Training Information System for Lane County has provided the needed funding for the current fiscal year. It seems probable that other units of government within the county, notably the community college and local school districts, will agree to help support the MIC in succeeding years. The Lane Council of Governments and the University of Oregon may also provide additional support. Obstacles remain, however. In a period of rapidly escalating costs for educational institutions and local governments while their revenues increase at a much slower rate, new financial commitments from them, however modest and justified, will be difficult to obtain. The much discussed prospect of extending the services of the Clearinghouse on a substantial scale to serve potential clients elsewhere in Oregon is hindered not only by the difficulty of obtaining paying clients but also by the nature of MIC's services. These are most effective when provided on a personalized basis, i.e. by direct consultation with clients. Serving one or more areas remote from Eugene would require the employment of additional personnel to be stationed in the areas to be served.

SUMMARY AND CONCLUSION

The Manpower Information Clearinghouse supplements and complements its parent organization, the Career Information System. CIS is principally a successful program of developing and delivering information about a variety of occupations to assist people in making informed choices of careers. MIC assists educational program planners to arrive at informed decisions about educational and training programs. Such assistance includes researching and delivering labor market data but just as importantly it includes interpreting and explaining its significance through intensive consultation. In addition, the Clearinghouse assists other CIS staff in the development of occupational information by identifying and securing new data sources and by aiding in the storage, retrieval, and analysis of the data.

The Clearinghouse coordinator also actively works with local manpower planning committees and agencies to develop and implement community manpower plans. The assignment to develop and supervise the operation of the Lane County Manpower Training Information System arose out of this activity. The MTIS will offer a systematic management tool whereby manpower program operators are provided up-to-date summaries of the status of their programs supplemented by current Lane County labor market data which are useful in day to day, short and long term program planning.

APPENDIX A

OCCUPATIONAL REPORT

on

COMPUTER PROGRAMERS

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com·put·er . . . a device used for computing; specifically, an electronic machine which, by means of stored instructions and information, performs rapid, often complex, calculations or compiles, correlates, and selects data . . . . . /Webster's New World Dictionary

Introduction

Considerable fascination and awe have been shown by Americans in the development and application of electronic computers. Computers are a recent invention that came along just in time to help man cope with a rising volume of business and governmental paperwork. In science and engineering, too, computers are making possible the solution of problems which man had the ability but not the time to solve.

Enthusiastic publicists have painted exciting pictures of future applications ranging from automated direction of machines performing household chores to worldwide interconnected libraries and laboratories servicing data retrieval calls or problem inquiries from anywhere in the world. Paralleling these projections of expanded computer use are forecasts of great increases in the corps of personnel expected to be needed to design, program, and operate the growing numbers of computers. Predictions of rapid growth in computer-related occupations, however, must be tempered with the knowledge that the newer computers with, for example, ten times the capacity of earlier models do not require ten times as many computer personnel and may, in fact, require fewer. Furthermore, it is technologically possible for a single, centrally located, very large, multi-function computer to replace dozens or scores of smaller, local computers. (In practice, however, a host of communications problems have caused a trend in the opposite direction.) Nevertheless, the development and availability of

standardized computer programs appears to have reduced the rate of growth of demand for computer programers.

A major service of the Career Information System (CIS) is the development and delivery of information about a large number of occupations to assist people in making informed career choices. The CIS occupational descriptions are continuously under review and revision. The current (March 1974) description for computer programers (combined with the closely related occupation of systems analysts) presents the Oregon statewide picture as follows:

DESC FOR: 1684 PROGRAMMERS & SYSTEMS ANALYSTS

AREA 100

10 PROGRAMMERS & SYSTEMS ANALYSTS PREPARE DETAILED DATA PRO-
20 CESSING INSTRUCTIONS FOR COMPUTER OPERATORS TO SET UP COM-
30 PUTERS. ANALYSTS PLAN AND COORDINATE ACTIVITIES TO DEVELOP
40 SYSTEMS WHICH PROCESS DATA TO SOLVE BUSINESS, SCIENTIFIC OR
50 ENGINEERING PROBLEMS. PROGRAMMERS PREPARE DETAILED INSTRUC-
60 TIONS FOR COMPUTER OPERATORS TO FOLLOW WHEN PROCESSING DATA;
70 EXAMINE TRIAL RUNS FOR ERRORS; & FINALLY ADD ANY REVISIONS.
80 RELATED OCCUPATIONS: COMPUTER OPERATORS. WORK SETTING: USU-
90 ALLY OFFICES WITH SOME WORK DONE IN COMPUTER ROOMS; SOME
100 EVENING AND WEEKEND WORK.
110
120 ABILITIES: ABILITY TO ORGANIZE IDEAS AND DATA, PATIENCE,
130 GOOD MEMORY AND CLERICAL PERCEPTION. HIRING REQUIREMENTS:
140 FORMAL TRAINING IN COMPUTER SCIENCE. EMPLOYERS: RESEARCH
150 ORGANIZATIONS, BANKING AND INSURANCE FIRMS; WHOLESALE AND
160 RETAIL BUSINESSES; TRANSPORTATION AND PUBLIC UTILITIES; GOV-
170 ERNMENT AGENCIES; UNIVERSITIES, COLLEGES AND PUBLIC SCHOOL
180 SYSTEMS; AND MANUFACTURING INDUSTRIES.

10 TRAINING: AVAILABLE AT SEVERAL COMMUNITY COLLEGES AND PRI-
20 VATE BUSINESS SCHOOLS; 4-YEAR AND GRADUATE PROGRAMS OFFER-
30 ED BY THE UO AND OSU. CURRENT EMPLOYMENT: ALMOST 1,900
35 PROGRAMMERS, ANALYSTS AND COMPUTER SPECIALISTS EMPLOYED
40 STATEWIDE; THE MAJORITY ARE CONCENTRATED IN THE WILLAMETTE
50 VALLEY WITH 1,300 WORKING IN THE PORTLAND AREA. SALARY:
60 ENTRY RATE VARIES WITH TRAINING AND EMPLOYMENT SETTING,
70 BUT GENERALLY RANGES FROM $700-800/MONTH.
80 EMPLOYMENT PROSPECTS: SLIGHT SURPLUS OF APPLICANTS.
81 OUTLOOK DEPENDS ON EXPANDED USE OF COMPUTERS IN
90 BUSINESS, EDUCATION, GOVERNMENT AND RESEARCH, AND UPON

```
100  TECHNOLOGICAL ADVANCES IN PROGRAMMING METHODS AND EQUIP-
110  MENT.  STUDIES PREDICT MODERATE EMPLOYMENT GROWTH.
120  CURRENTLY, DEMAND FOR EXPERIENCED PROGRAMMERS IS FAIRLY
130  STEADY AS THE TREND FOR COMPUTERIZED INFORMATION INCREASES.
140  HOWEVER, NON-EXPERIENCED GRADUATES ARE CONFRONTING EXTREME
150  COMPETITION IN AREAS WITH LOCAL TRAINING PROGRAMS.  FUTURE
160  OPPORTUNITIES FOR PROGRAMMERS MAY DECREASE AS PROGRAMMING
170  ITSELF BECOMES AUTOMATED;  OUTLOOK FOR EXPERIENCED SYSTEM
180  ANALYSTS IS GOOD.
```

Source: Career Information System. Occupational Descriptions for Oregon: March 1974. University of Oregon. Eugene, Oregon. 1974.

For those occupations whose characteristics (wage rates, demand/supply, work environment, hiring requirements, etc.) vary markedly from region to region within the state, special descriptions are prepared for each area.

Supplementing each occupational description is a CIS education summary which presents a brief statement of the kind of training needed to enter an occupation together with a listing of institutions offering such training. The current CIS education and training summary for computer programers (and systems analysts) is reproduced here:

```
EDUC FOR: 1684    PROGRAMMERS & SYSTEMS ANALYSTS

     AREA 100

  10   PRESENT HIRING PRACTICES SHOW THAT ABOUT 75% OF THE EMPLOY-
  20   ERS OF PROGRAMMERS REQUIRE SOME SPECIFIC POST-HIGH SCHOOL
  30   TRAINING; OVER 90% OF THE EMPLOYERS OF SYSTEMS ANALYSTS RE-
  40   QUIRE AT LEAST SOME COLLEGE.  IF YOU DECIDE TO TAKE TRAINING
  50   REMEMBER THAT THERE ARE MANY DIFFERENCES AMONG TRAINING PRO-
  60   GRAMS.  BY VISITING THE SCHOOLS, TALKING TO TEACHERS, STU-
  70   DENTS, RECENT GRADUATES AND EMPLOYERS, YOU CAN LEARN ABOUT
  80   THESE DIFFERENCES.
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100  PROGRAMMERS:  ASSOCIATE DEGREE PROGRAMS:
110  CHEMEKETA COMMUNITY COLLEGE, SALEM
120  CLATSOP COMMUNITY COLLEGE, ASTORIA
130  LANE COMMUNITY COLLEGE, EUGENE
140  PORTLAND COMMUNITY COLLEGE, PORTLAND
150  UMPQUA COMMUNITY COLLEGE, ROSEBURG
151  LINN-BENTON COMMUNITY COLLEGE, ALBANY
152  SOUTHWEST OREGON COMMUNITY COLLEGE, COOS BAY
160  CERTIFICATE PROGRAM:
170  OREGON CAREER INSTITUTE, INC. (PORTLAND & EUGENE)
180
190  SYSTEMS ANALYSTS:  4-YEAR COLLEGE DEGREE
200  OREGON STATE UNIVERSITY, CORVALLIS
210  PORTLAND STATE UNIVERSITY, PORTLAND
220  UNIVERSITY OF OREGON, EUGENE
230  UNIVERSITY OF PORTLAND, PORTLAND
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Source: Career Information System. Education and Training List for Oregon: March 1974. University of Oregon, Eugene, OR 1974

This report is concerned with Oregon employment patterns of computer programers. From time to time the question is raised: "What is the employment outlook for computer programers in Oregon?" This study addresses that query within the limitations imposed by available data. The results will not definitively answer the particular question of whether an institution should establish, enlarge or reduce a program to train computer programers. That particular issue involves questions of available financial, physical, and instructional resources beyond the purview of this study. Instead, this report provides the best available Oregon labor market information on:

a. recent and estimated current employment together with projections of future employment levels of Oregon computer programers;

b. experienced and projected average annual demand for programers in Oregon;

c. numbers of persons completing training as programers in recent years at Oregon post-secondary public and proprietary institutions; and

d. other supply sources of programers including geographic migrants.

Employment and Major Employers

Employment of computer programers in Oregon totaled 1,024 in 1970 of whom 199 (19 percent) were females according to U.S. Census reports.[1] In contrast, only 68 programers were employed in Oregon in 1960.[2] (Note that these figures are for civilian computer programers including engineering and scientific as well as business programers.) These data are comparable to revised estimates prepared by the Oregon Employment Division showing 1,025 workers in wage and salary jobs in 1970.[3] The 1970 Census reported that about 60 percent of all "computer specialists" (which includes programers, systems analysts, and other professional supervisory workers) were employed by private firms, 12 percent by the federal government, 17 percent by Oregon state agencies, 10 percent by local governments, and only one percent were self-employed.[4] Across the nation, the most significant private employers of computer programers are manufacturing firms. However, lumber and wood products manufacturers, important to the Oregon economy, have not made significant numbers of electronic data processing (EDP) equipment installations thus far, according to EDP equipment representatives.

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[1] Bureau of the Census. 1970 Detailed Characteristics. Final Report PC(1)-D39 Oregon. U.S. Government Printing Office, Washington, D.C, 1972. Table 170. pp. 403-409. The data were developed from a 20 percent sample with an approximate standard error of ± 65.

[2] Ibid., p. 403.

[3] Thomas Lynch, Research and Statistics Section, Oregon Employment Division. Salem, Oregon. See Table 1 and its source reference.

[4] Census. 1970 Characteristics. Table 173, p. 430. Detailed data for computer programers as to type of employer are not available but probably follow the pattern for the broader occupational group "computer specialists" referred to except that fewer programers are self-employed.

Table 1. Estimated and Projected Oregon Statewide Employment of Business and Scientific Computer Programers Compared to Employment of Other Wage and Salary Workers, 1970 and 1980.

	Wage and Salary Employment		Average Annual Expansion and Replacement Need in the Period 1970-1980		
	Estimated 1970	Projected 1980	Expansion	Replacement	Total
All occupations, all industries, total	824,379	1,017,298	18,210	30,880	49,100
Professional, Technical and Kindred Occupations, total	108,810	144,600	3,580	4,480	8,060
Computer Specialists, total	1,560	2,210	63	27	90
Computer Programers	1,025	1,400	37	19	56
Systems Analysts	445	680	22	5	27
Other Computer Specialists	90	130	4	3	7
Computer Programers as Percent of all Occupations	0.12%	0.14%	0.20%	0.06%	0.11%
Computer Programers as Percent of Professional, Technical and Kindred Occupations	0.94%	0.97%	1.03%	0.42%	0.69%

Source: Thomas Lynch, Research and Statistics Section, Oregon Employment Division. The data are to be published shortly as Oregon Interim Manpower Projections as part of a national program mandated under the U.S. Comprehensive Employment and Training Act of 1973 (CETA). Occupation titles and classifications are U.S. Bureau of the Census taxonomy. Statistical data are based on 1970 U.S. Census of Population figures as adjusted and projected by the Oregon Employment Division using methodologies developed by the U.S. Bureau of Labor Statistics.

About two-thirds of all Oregon programers are employed in the Portland metropolitan area (Multnomah, Clackamas, and Washington counties). Nearly all of the

remainder are employed elsewhere in the Willamette Valley.[5]

Demand

The Oregon Employment Division estimates that an average 56 additional computer programers will be needed each year in Oregon between 1970 and 1980 to replace workers retiring or otherwise leaving the occupation and to fill newly created jobs which are expected.[6] Significantly, 66 percent of the new workers are expected to go into new jobs. The figures do not include normal vacancies resulting from job turnovers.

Current Demand. An indication of demand for computer programers over the past year is shown in Table 2. That data source, Job Bank Openings Summary, is a monthly report summarizing all job openings for the preceding month filed by employers with state Employment Service local area Job Banks around the nation. It can be a good statistical indicator of the trends in demand for workers in a given occupation over a period of time if the local Job Bank has good penetration into the local labor market for that occupation.

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[5] Oregon Employment Division. A Presentation of Oregon's Current Occupational Employment Statistics Program. Oregon Department of Human Resources, Salem, Oregon. 1972. pp. 24, 59 and 88.

[6] See Table 1.

Table 2. Job Openings for EDP Computer Programers (D.O.T. 020.188), March 1973 - February 1974

Months	As Reported by Willamette Valley Job Bank (Benton, Lane, Linn, Marion, Polk and Yamhill counties)			As Reported by Portland Area Job Bank (Clackamas, Multnomah, Washington counti Oregon and Clark Co., Washington)		
	No. of Openings Filed	Avg. Entry Salary Offered	Hard-To-Fill Openings[a]	No. of Openings Filed	Avg. Entry Salary Offered	Hard-To-Fill Openings[a]
3/73 - 2/74, Total	14	8,427	3	50	8,988	15
March 1973	1	7,200	0	3	8,813	1
April 1973	3	8,600	3	3	8,800	3
May 1973	4	8,850	0	4	8,550	2
June 1973	1	9,000	0	3	9,200	1
July 1973	1	7,800	0	5	9,450	2
August 1973	No Report			No Report		
September 1973	1	7,800	0	10	9,421	3
October 1973	1	8,796	0	8	8,262	0
November 1973	1	8,796	0	7	9,133	0
December 1973	0	-	0	3	10,200	1
January 1974	1	9,000	0	2	8,400	1
February 1974	0	-	0	2	8,400	1

Source: U.S. Manpower Administration, Job Bank Openings Summary. (microfiche). For each month shown.

[a] These are job openings which have been unfilled for 30 days or more. Although "hard-to-fill" listings may be an indirect indicator of supply/demand relationships, other possible factors include low compensation, less than optimum working conditions, hours, or locations, or high training or experience requirements.

Table 3. Average Number of Job Openings for Computer Programers Per Month Reported by Portland Area, Willamette Valley, and Other Job Banks As Percentages of Total Openings for All Occupations, March 1973-February 1974.

Job Bank Area	All Occupations: Average No. of Openings per Month	All Occupations: Average No. of Hard-To-Fill Openings Per Month[a]	Average No. of Programer Openings Per Month	Programer Openings as % of Total Openings for All Occupations	Average No. of Hard-To-Fill Programer Openings[a]	Hard-To-Fill Programer Openings As % of Total Hard-To-Fill Openings for All Occupations[a]
Portland	3,201	805	3.9	0.12%	1.3	0.16%
Willamette Valley	1,343	280	1.0	0.07	0.3	0.11
117[b] Other Job Banks	2,732	862	9.7	0.35	4.9	0.57

Source: Developed from data reported by U.S. Manpower Administration in Job Bank Openings Summary. (mitrofiche) for the months March 1973 through February 1974. The data were derived by averaging the totals of reported openings for all occupations, the hard-to-fill openings for all occupations, openings for computer programers, and hard-to-fill programer openings for the Job Banks shown in the same reporting months.

[a] These are job openings which have been unfilled for 30 days or more. See footnote to Table 2.

[b] The number of reporting Job Banks varied from 72 to 150 each month but averaged 117 over the period.

Demand Analysis. The data presented in Table 3 clearly indicate the two Oregon Job Banks lag considerably behind most Job Banks in the percent of their openings that are for computer programer jobs. Either the Oregon Job Banks are an appreciably smaller hiring channel for programers here than elsewhere, or the job prospects are not as good. Oregon representatives of EDP equipment manufacturers have expressed the opinion there were substantially more programer openings in Oregon in the past year than were listed by local Job Banks. Nevertheless, these representatives observed quite large responses of applicants for specific job openings with which they were familiar. Such responses probably indicate either exceptional mobility (dissatisfaction with present jobs) among applicants or a relative shortage of programer jobs and a surplus of candidates.

Supply

Workers enter the occupation of computer programing in several ways. Some are first employed as computer operators, accounting clerks, management trainees, or tabulating or payroll maching operators after which they receive "on the job" training as programers. Most workers, however, first undergo institutional training at post-secondary schools for as little as one to two years (proprietary school or community college) to as much as six or more years of college or university education. After completing their institutional training, most new workers who found jobs last year in Oregon were hired as programer trainees or as junior programers. Entry level salaries for those jobs averaged about $7,000 per year. The two year training programs are usually adequate for entry into business record computer programing if supported by parallel training or experience in accounting, business administration, or mathematics. Those persons with only one year of institutional programer training have experienced greater difficulty in securing

programer jobs, atcording to EDP equipment suppliers. Employers whose organizations use computers in engineering and scientific applications most often require new programers to have at least bachelor degrees in computer science plus experience. After two or more years' experience as programers, computer science graduates (and usually having earned advanced degrees) may be promoted into higher positions as systems analysts or as managers of data processing departments.

Specialized institutional training in programing alone is seldom sufficient to secure a job as a computer programer. In nearly all cases, employers are seeking workers with experience, especially experience on the particular type or model of computer in use by the employer. The specific minimum mix of training and experience naturally varies among employers depending mostly on the degree of complexity and responsibility attached to the particular job.

A summary of training completions in computer programing at Oregon post-secondary schools in the academic years ending in June 1972 and June 1973 is presented in Table 4. Although the completions listed for the four year and post-graduate courses in computer science are obviously not directly equivalent to the completions from the certificate (one year) and associate degree (two year) programs, the computer science graduates do tend to compete initially for available programer jobs.

Table 4. Computer Programer and Related Training Completions from Oregon Post-Secondary Institutions, Academic Years Ending June 1972 and June 1973.

	Number of Completions			
	Year Ending June 1972		Year Ending June 1973	
	1 Year Program	2 Year Program	1 Year Program	2 Year Program
All One and Two Year Programs Total	91	60	143	45
Community Colleges, Total	1	54	31	38
Chemeketa C.C.	0	12	6	2
Clatsop C.C.	0	2	0	3
Lane C.C.	0	13	0	5
Linn-Benton C.C.	1	3	2	5
Portland C.C.	0	17	23	14
Southwest Oregon C.C.	0	3	0	5
Umpqua C.C.	0	4	0	4
Proprietary Schools, Total	90	6	112	7
Oregon Career Institute	90	0	112	0
Oregon College of Business	0	6	0	7
4 Year Colleges and Universities	Bachelors	Masters	Bachelors	Masters
Total	22	20.5[a]	16	64
Oregon State University	0	3	4	35
University of Oregon	22	13.5[a]	12	24
University of Portland	0	4	0	5
Portland State University	0[b]	0	0[b]	0

Source: Telephone survey of all Oregon post-secondary public and private schools listing computer programer, computer science or similarly titled curricula in their catalog offerings. Many of the course listings were found not to include inatruction in computer programming but only orientation.

Note: "Related Training" includes curricula in systems analysis or similar courses in which designing or writing and testing of computer programs is a major inatructional element. Excludes courses training key punch and computer operatora and the design or repair of computers or computer-related equipment as major instructional elements.

[a] A student completing coursework in two majors is counted as 0.5 completion in each major.

[b] Portland State University offers an option to students with upper division standing in mathematics entitled "Mathematics (Major)-with Computer Science Emphasis". No summary of 1971-72 or 1972-73 graduates electing this option is available except that 20 students in March 1973 had chosen this option. The University also offers a Ph.D. degree in "Systems Science". PSU faculty advise that students satisfactorily completing the option in Mathematics or the Systems Science curriculum are qualified as computer programers.

Simply comparing the number of programer job openings to the number of persons completing programer training curricula shows more completions than openings. But such comparisons must be tempered with an understanding of the many factors involved. Just as there are differences, often substantial, between the range of subjects covered, opportunity to practice, and points of emphasis for one, two, four, and six year training programs, so also are there a wide variety of work environments, pay and related benefits, and greater or lesser diversity of tasks associated with different job openings. Furthermore, many persons receive training in the elements of computer programing as part of broader curricula designed to train them to enter other occupations such as computer design, repair, and maintenance. In a period of general economic expansion workers training in these other computer-related occupations usually are not competing for programer jobs, but in a period of retrenchment some such workers may apply for available programer openings.

The supply of trained computer programers is not limited to those trained on-the-job or in Oregon schools. Other supply sources include former Armed Services personnel trained at U.S. military schools and geographic migrants trained in other states or foreign countries. Unfortunately, very little data are available on the rates at which in-migrants or ex-military personnel with computer programer qualifications are added to the total Oregon supply, but there are indications they contribute a few each year to the available supply.[7]

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[7] Published 1970 U.S. Census data indicate that of persons 14 years old and over in the Oregon civilian labor force reporting their occupations to be in the class of "professional, technical, and kindred workers," 17.0 percent (10,927 of 64,162) had migrated to Oregon since 1965 and had been in the same occupation in their former state of residence. Computer programers (and other occupations) are included in the Census class of "professional, technical, and kindred workers". (Census. 1970 Characteristics. Table 178, pp. 466-468.) Of all workers in the class "professional, technical, and kindred" in Oregon in 1970 (111,208), the Census reported that 1,039

Current and Projected Demand/Supply Analysis

Recent and current demand for computer programers in Oregon as indicated in Table 2 has not been large. Indeed, the March 1974 Portland Area Manpower Review reported a moderate surplus of applicants for business computer programers with little demand for new (inexperienced) entrants.[8] The short term outlook is for continued low to moderate demand with a mild surplus of qualified applicants. The total of 64 job openings reported by the Portland and Willamette Valley Job Banks in the past year compares unfavorably to the 188 trainee completions from Oregon one-and two-year training programs plus 80 students earning bachelors and masters degrees in computer science from Oregon universities in the 1972-73 academic year and a small number of in-migrants and ex-military personnel with programer qualifications. If the decline in Oregon computer programer job openings in early 1974 (see Table 2) reflects the general slowdown in business activity as it appears to do, then significant improvement in the outlook for this occupation cannot be anticipated in less than six months and perhaps much longer.

Longer range prospects are presently unclear. It appears certain, however, that many more Oregon businesses and public agencies will need to purchase and

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or 0.9 percent were computer programers (15 were not employed at the time of the Census). If it is assumed the 1965-1970 in-migrants to Oregon with computer programer skills comprised the same (0.9) percentage of total "professional, technical, and kindred" in-migrants, then about 132 of the in-migrants were computer programers. [Detailed Census data on computer programer in-migrants to Oregon are not available. But nationwide data for the 1965-70 period indicate a much higher percentage (23.2) of computer specialists, of whom over 3/5 are programers, migrated to a different state than did all other "professional, technical, and kindred workers" (only 14.4 percent)]. Bureau of the Census. Census of Population: 1970 Subject Reports, Final Report PC (2)-2B Mobility for States and the Nation. U.S. Government Printing Office, Washington, D.C. 1972. Tables 7 and 8, pp. 38-48. Migration, however, is not a one way street. Even less data are available from the Census on the characteristics of out-migrants than for in-migrants. If out-migrant characteristics were comparable to those of in-migrants, the net in-migration of programers was about 28, or 6 per year, into Oregon between 1965 and 1970. No data are available on any aspect of in- or out-migration of computer programers for the period since 1970.

[8] Portland Research and Statistics Staff, Employment Division. Area Manpower Review For March 1974. Portland Office, Oregon Employment Division, April 1974. Table 2.

install electronic data processing equipment before the supply of programers is absorbed. In the present atmosphere of business uncertainty it seems unlikely that many private firms are prepared to make the very large capital outlays necessary to acquire EDP equipment. Public agencies, on the other hand, are faced with rapidly escalating operating costs resulting from inflation and generally tight or modest increases in revenues.

Thus public agencies also appear unlikely to be significant purchasers of EDP equipment until their budgets become more stable. On the other hand, EDP equipment distributors expect modest increases in demand for programers in the next year and a somewhat stronger demand over the next five years. Whether these views are the optimistic hopes of industry salesmen or realistic appraisals of probable trends based on knowledge of customers' orders and plans is difficult to determine. Dramatic improvement in the labor market demand for programers is not expected by industry representatives, and that fact supports the cautious view that it will be a buyers', i.e. employers', market.

APPENDIX B

Name _____

Address _____ Street City Zip Code

Telephone _____

_/_/_/_/_/_/_/_/_/ Social Security Number

_/_/_/_/_/_/ Date of Birth

_/_/_/_/_/_/ Current Date

MTIS DATA

Staff Interviewer _____ Telephone _____

1–1 Action Code
1-Open, new enrollee
2 Open, but not enrolled (client info only)
If 2, give reason:
1 Residence ineligibility
2 Income ineligibility
3-No facilities/personnel/funds/placement opportunities
4-Eligible, declined enrollment
5-Other
3-Change in trng activity or service
4-Training completion
5 Training termination w/o compl
6-Post program information

Program Code
01-CETA I
02 CETA II
03 High Sch CWE
04-LCC CWE
05 OVR
06-WIN
07-Job Corps

Office Code
CETA/High School CWE
01-Eugene metro
02-Cottage Grove HR
03-Veneta HR
04-Oakridge HR
05-Florence HR
06-Springfield HR
07 Cottage Grove SD
08-Springfield SD

Current Date

Client Code
Last 4 SS #
Date of Birth

Incomplete Information/Client Factors
1-Incomplete 2-Complete

CLIENT INFORMATION/ ENROLLMENT

Sex
1-Male 2-Female

Race
1 White
2 Oriental
3-Amer Indian
4-Black
5-Mex. American
6 Puerto Rican
7-Alaskan Native
8-Other

Language-Limited English Speaking Ability
1 Limited
2-Fluent

Migrant or Seasonal Farm Family Member
1-Yes 2 No

Head of Household
1 Yes 2-No

Number in Family

Estimated Annual Family Income

Public Assistance
1 None 2 ADC
3-Other Assistance

Economically Disadvantaged
1-Yes 2 No

Address (Census Tract)

Education—number years completed

In School
1 Yes, full time
2-Yes, part time
3 No

Veteran Status
1 Non veteran
2 Special Viet vet
3 Other veteran

Health Problems
1-None
2-Physical handicap
3-Emotional problem
4-Alcohol problem
5-Drug problem
6-Mentally retarded
7-Other

Disabled Veteran
1 Yes 2 No

Affiliation with Other Agencies/Programs
01-None 08-CETA I
02 Welfare 09-CETA II
03 Child. Serv 10 HS CWE
04 Adult Corr. 11 LCC CWE
05 Juv. Corr. 12-WIN
06-Ment. Hlth. 13 Other
07-Voc Rehab.

Referred
—by which agency (use same code as above)
—to which agency(ies) (use same code as above)

Previous Manpower Program Trainee
1 Yes 2 No

Completed previous program
1 Yes 2 No

Pre-Program Employment Status
1-Employed full time
2-Employed part time
3 Unemployed
4-Not in labor force

Underemployed
1 Yes 2-No

Current or last job title code

Current or last wage rate/hourly

If unemployed:
weeks of unemp.

Receiving unemp. benefits
1-Yes 2-No

2–1 TRAINING SERVICES

Training Activity
1-Classroom basic educ.
2 Institutional skill trng
3 On the job training
4-Transitional public emp
5 Work experience
6-Counseling services
7-Testing services
8 Other

If applicable:
Training job title code

Employer Name 35-64

Industry Type Code

Employer Location (Census Tract)

Training Facility
1 Secondary school
2-Community college
3-Proprietary school
4-4 yr. college or univ.
5-Employer/on-site
6-Other

Supportive Services
1-None
2-Medical/Dental
3-Child care
4-Residential support (subsistence)
5 Transportation
6-Tuition
7-Legal services
8 Other

TERMINATION/COMPLETION

Reason for Termination
1-Not applicable/completed
2-Found job on own
3-Entered school
4-Entered military
5-In another trng program
6-Moved from area
7-Beh. prob/admin. sep
8-Transportation problem
9-Health/pregnancy
10-Family care
11-Marriage/left labor force
12-Other
13-Unknown

3–1 POST PROGRAM STATUS

Employment
1-Employed full time
2 Employed part time
3-Unemployed
4-Not in labor force
5-Entered military
6-In another trng. program
7-Unknown

Underemployed
1-Yes 2-No

If employed:
Current job title code

Current wage rate/hourly

Employer Name 34-43

Industry Type Code

Employer Location (Census Tract)

Job is Training Related
1-Yes 2-No

Job Placement
1-Placed by program
2-Found job through other means

If unemployed:
Weeks of unemp.

Receiving unemp benefits
1-Yes 2 No

APPENDIX C

Revised Classification System for CIS/MIC Library

I - GENERAL

I-A General Occupational Information, n.e.c.

I-A-1 Occupational and Industrial Definitions and Classifications
I-A-2 Occupational Safety and Health. Workmen's Compensation
I-A-3 Legislation and Regulations, n.e.c. (interpretations, effects, proposed policy, etc.)
I-A-4 Wage Rates and Supplements (incl. fringe benefits, pension plans, etc.)
I-A-5 Price Data and Indexes

I-B Labor Market Research Methodology

I-C Demographic Data

I-D General Economic Data, n.e.c. (incl. miscellaneous local, state and regional data)

I-E Personnel Management (methods, position classifications, problems, etc.)

I-F Job Search (techniques and related information)

I-G Periodic Agency Reports

I-J Bibliographies (data source lists, publication advertisements, etc.)

I-K Miscellaneous Directories, n.e.c.

I-L Manpower Planning

I-M Manpower Programs

I-N Career Development

II - MANPOWER SUPPLY

II-A Manpower Supply Sources - Institutional (general labor supply studies)

II-A-1.1 School Directories
II-A-1.2 Catalogs for 4-Year Colleges and Universities (public and private)
II-A-1.3 Catalogs for 2-Year Public Colleges
II-A-1.4 Catalogs for Proprietary Schools
II-A-1.5 School Data, n.e.c. (enrollments, completions, drop-outs, etc.)
II-A-1.6 Career Education Policies and Methods (some sources on DK's or JC's shelves in Room 247 A Hendricks Hall)
II-A-2 On-The-Job Training (incl. apprenticeship programs)
II-A-3 Occupational Transfers (flow between occupations, occupations most affected)
II-A-4 Geographic Migrants (into and out of various areas by occupation and/or by industry)
II-A-5 Unemployment (statistics, trends, analyses, UI claims, etc.)
II-B Manpower Supply Sources-Special Labor Force Groups (characteristics, manpower programs, etc.)
II-B-1 Youth (persons under 21 years of age)

II-B-2 Older Workers (persons over 45 years of age)

II-B-3 Women

II-B-4 Handicapped (physically, mentally or emotionally)

II-B-5 Indians (Amerinds or Native Americans)

II-B-6 Negroes

II-B-7 Spanish Surname, Persons with

II-B-8 Asians (persons of Asiatic descent)

II-B-9 Poor (persons with incomes near or below poverty level)

II-B-10 Veterans (ex-military)

III - MANPOWER DEMAND
(Current and Future Size, Other Characteristics)

III-A Occupational Information (data on individual occupations and occupational groups)

(III-A-11 thru III-A-98 are filed in Occupational Materials File in top drawer of 4-drawer file in Room 247B Hendricks Hall)

III-A-11 Administrative Occupations

III-A-14 Clerical Occupations

III-A-16 Bookkeeping Occupations

III-A-21 Social Research and Planning Occupations

III-A-23 Engineering and Design Occupations

III-A-26 Laboratory Occupations

III-A-31 Mechanics Occupations

III-A-34 Building Maintenance Occupations

III-A-41 Agricultural and Forestry Occupations

III-A-42 Construction Occupations

III-A-43 Food Products Occupations

III-A-44 Textile and Apparel Occupations

III-A-45 Timber Products Occupations

III-A-47 Graphic Arts Occupations

III-A-54 Metal Working Occupations

III-A-56 Electricity and Electronics Occupations

III-A-59 Other Production Occupations

III-A-61 Transportation Occupations

III-A-71 Stock Control Occupations

III-A-74 Sales Occupations

III-A-78 Food Service Occupations

III-A-81 Health Service Occupations

III-A-84 Social Service Occupations

III-A-94 Protective Service Occupations

III-A-98 Art and Entertainment Occupations

III-B Geographic Area Studies (demand for and supply of manpower within defined geographical areas; may be broken down by occupation, occupational group or by industry)

III-B-1 Oregon (statewide or local areas within the state)

III-B-2 Other States or Regions

III-B-3 United States (the nation as a whole)

III-B-4 Foreign (other nations)

III-C Industry Studies (current and future demand for and supply of manpower for all industries)

III-C-1 Agricultural, Forestry and Fishing Industries (SIC 01-09)

III-C-2 Construction Industries (SIC 15-17)

III-C-3 Lumber and Wood Products Industries (SIC 24)

III-C-4 Other Manufacturing Industries (SIC 20-23, 25-39)

III-C-5 Transportation Industries (SIC 40-47)

III-C-6 Communications Industries (SIC 48)

III-C-7 Utilities Industries (SIC 49)

III-C-8 Wholesale and Retail Trade Industries (SIC 50-59)

III-C-9 Finance, Insurance and Real Estate Industries (SIC 60-67)

III-C-10 Service Industries (SIC 70-89)

III-C-11 Public Administration (SIC 91-97)

APPENDIX D

Major Organizations Producing Occupational Data

A career information system can establish liaisons with a large number and variety of manpower data-producing as well as data-using agencies. (Oregon examples are illustrative.) Some of the most useful include:

1. Personnel departments of large cities and counties, and large private firms.
2. Councils of Government and other regional planning bodies.
3. Career education departments of county education districts.
4. Career education directors and coordinators, counselors, program planners and other administrators of many local school districts and community colleges.
5. The Career Education, Student Services, and Teacher Certification Divisions of the State Board of Education.
6. The State Education Coordinating Council.
7. The State Education Association.
8. Local manpower economists, personnel of the Research and Statistics, and Occupational Analysis and Testing Sections of the State Employment Security Agency.
9. Apprenticeship and Training Division.
10. The Office of Institutional Research Education, the Office of High School Relations, and various registrars, deans, and department heads of institutions of the Oregon State System of Higher Education.
11. The State Economic Development Division.
12. The Federal Cooperative Extension Service.
13. The Program for the Aging, Economic Opportunity Office, and the Governor's Manpower Planning Council.

14. Personnel Division of the State Executive Department.

15. The Center for Population and Research and Census, Portland State University.

16. The Public Welfare and Vocational Rehabilitation Divisions.

17. The Bureau of Governmental Research and Services, Bureau of Business and Economic Research, and Institute of Industrial and Labor Relations of the University of Oregon.

18. The U.S. Employment Service, Manpower Administration, U.S. Department of Labor.

19. The Office of Federal Contract Compliance and Women's Bureau, Employment Standards Administration, U.S. Department of Labor.

20. The National Science Foundation.

21. The Division of Vocational and Technical Education and National Center for Educational Statistics, U.S. Office of Education.

22. The Federal Reserve Bank.

23. State Licensing Boards.

24. Professional Associations, Trade Associations and Unions.

25. B'nai B'rith Career and Counseling Service

26. The Career Education Program, National Institute of Education.

27. National Center for Health Statistics, Public Health Service, U.S. Department of Health Education, and Welfare.

28. Bureau of Health Manpower Education, Public Health Service, HEW.

29. The Division of Labor Statistics and Occupational Outlook, Office of Wages and Industrial Relations, Division of Occupational Wage Structures, Division of Employment and Unemployment Analysis, and others of the Bureau of Labor Statistics, U.S. Department of Labor.

APPENDIX E

DATA COMPLETION GUIDE

for the

LANE COUNTY
MANPOWER TRAINING INFORMATION SYSTEM

Prepared by

MANPOWER TRAINING INFORMATION SYSTEM ADVISORY COMMITTEE
of
Lane Council of Governments

September, 1974

Members of the
Lane Council of Governments
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(Typed by Paula Price)

MTIS DATA COMPLETION GUIDE

1. Action Code

   1 - Enter after the collection of client characteristic information at the
   2 time the client's eligibility and enrollment determinations are made.

   3 - Enter during the active enrollment period at the time any previously collected training information is changed.

   4 - Enter at the time the client completes or terminates program partici-
   5 pation.

   6 - Enter at the time the client completes or terminates, or at any later date.

   Action Subcode

   If Action Code 2 (above) is used, one of the following subcodes must also appear. (If 2 is not used, leave blank.)

   1 - Client is not a Lane County resident.

   2 - Client's income is excessive (see item numbers 13, 14, 15 & 16 for income criteria).

   3 - Although client is eligible, for some reason the program is unable to provide services.

   4 - Although client is eligible, for some reason the client decides not to enroll.

   5 - Any other reason, or reason unknown.

2. Program Code

3. Staff Interviewer - Name and phone number if information has been completed by a program staff person.

4. Office Code - Only appropriate for CETA and High School CWE Programs.

5. Current Date - The six digits of the date on which the present information is obtained; e.g., 01|01|75.

6. Client Code - Last 4 digits of client's Social Security number and 6 digits of client's month, date, and year of birth; e.g., 0|0|1|4|0.

7. Incomplete Data - Incomplete only if some data is absent due to client's refusal to disclose or lack of knowledge.

CLIENT INFORMATION

8. Sex

9. Race

7 - Alaskan Native-a person born in Alaska who is of native tribal origin.

10. Language-Limited English - The client's native language is not English, and his inability to communicate orally in English is a job handicap.

11. Migrant or Seasonal Farm Family Member - Whether the family: (1) habitually travels from its established place of residence to accept seasonal or temporary employment; or (2) is employed in seasonal farm work without leaving its established place of residence.

12. Head of Household - The person who is regarded as head by members of the household.

13. Number in Family - In 2 digits, all persons living in a single household who are related to each other by blood, marriage, or adoption; e.g., [0|4].

14. Estimated Family Income - In 5 digits, income for the last calendar year for the client's family (as defined in item number 13). Included are: all gross wages or salary, net self-employment income, net rents, social security benefits, pensions; excluded are: non-cash income (food, housing), cash welfare payments, veterans' disability comoensation, VA education benefits, capital gains and losses, scholarship grants. (If income is less than 5 digits, 0 should be entered in the extra boxes to the left of the income figure; e.g., [0|8|0|0|0].

15. Public Assistance

2 - The client or a member of his family is receiving Aid to Families with Dependent Children (ADC).

3 - The client or a member of his family is receiving any other form of federal or non-federal public assistance, including assistance such as participation in a subsidized meals program.

16. Economically Disadvantaged - The client is a member of a family which (1) receives cash welfare payments, or (2) whose annual income does not exceed the following:

Family Size	Non-Farm	Farm
1	2,200	1,870
2	2,900	2,465
3	3,600	3,060
4	4,300	3,655
5	5,000	4,250
6	5,700	4,845
7	6,400	5,440
(for each additional family member add):	700	600

17. Address-Census Tract - The 2-digit Metro or Rural Census Tract district which includes the client's street address (from the maps provided).

18. Education - Number of school years completed, in 2 digits; e.g., 08. (GED equivalency should be counted as 12; one year of college or technical school as 13, etc.)

19. In School

    1 - Currently enrolled full time in a public school, or in a technical or proprietary school, community college, university, or or other educational institution. (Definition of "full time" is that of the particular institution concerned.)

    2 - Part time enrollment in any of the educational institutions specified above.

20. Veteran Status

    2 - Special Viet vet - A veteran with active duty service in Vietnam, Korea, or adjacent waters between August 4, 1964, and January 31, 1973, with other than a dishonorable discharge.

    3 - Any other veteran with other than a dishonorable discharge.

21. Health Problems - Any of the specified impairments which could limit the client's work activities (multiple responses may be aporoorfate and should be entered from left to right in the series of boxes provided. Extra boxes should be left blank).

22. Disabled Veteran - A veteran currently rated at least 10% physically disabled by the VA or retired by a branch of the armed forces for physical disability.

23. Affiliation with Other Agencies/Programs - If the client is currently receiving service from local offices of other social agencies or is enrolled in another local manpower program (multiple responses may be appropriate). (All appropriate 2-digit codes should be entered from upper left to upper right in top row of boxes, continuing from left to right in bottom row as necessary. Unused boxes should be left blank.)

24. Referred - The appropriate agency code if:

    a. the client was referred to manpower services by another agency, or

    b. referred by the manpower program to another service agency (or agencies) or to another manpower program.

25. Previous Manpower Program Trainee - The client is a former trainee or participant in MDTA, WIN, Operation Mainstream, Jobs Optional, Neighborhood Youth Corps, CWE, or other previous public manpower training or work experience programs.

26. Completed Previous Program - If the client finished the training activity schedule planned for him.

27. Pre-Program Employment Status - Employment status prior to the client's contact with this program.

3 - Unemployed - The client is not working, but is available for work and is engaged in specific job-seeking activity (registering at a public or private employment office, placing or answering an ad, writing letters of application, etc.).

4 - Not in the labor force - The client is not working and not seeking work, or is otherwise out of the labor force because of retirement, full time school attendance, chronic illness, family care, etc.

28. Underemployed - The client is working part time but seeking full time work, or working full time but with a family income below poverty level (as defined in item number 16). (Does not include such cases as sheltered workshop employment, etc.)

29. Current or Last Job Title - The 4-digit CIS code most applicable to the client's current or most recent occupation prior to program enrollment (from CIS Classification of Occupations, Appendix A).

30. Current or Last Wage Rate - Hourly wage in dollars and cents. (If the client has a monthly salary, divide the monthly amount by 160 hours.)

31. If unemployed - To be completed if the client is currently "unemployed" according to the definition in item number 27:

a. weeks of unemployment - The number of continuous, uninterrupted weeks of unemployment up to the present date, in 2 digits; e.g., 08.

b. unemployment benefits - Currently receiving unemployment insurance benefits under any state or federal program.

TRAINING SERVICES

32. Training Activity - (Multiple responses may be appropriate. All appropriate codes should be entered from left to right. Unused boxes should be left blank.)

33. If Applicable - To be completed if the client is participating in on-the-job training, transitional public employment, or work experience while enrolled in the program.

a. Training job title - The 4-digit CIS code most applicable to the client's on-the-job training position or other employment experience during program enrollment (from CIS Classification of Occupations, Appendix A).

b. Employer name - The firm name (up to 30 letters) which is providing the job training or other employment experience during the client's program enrollment.

c. Industry type code - The 2-digit SIC code most appropriate for the employer of item number 34 (from SIC Classification of Industries, Appendix B).

d. Employer location - The 2-digit Metro or Rural Census Tract district which includes the street address of the employer of (b.) (from maps provided).

34. Training Facility (multiple responses may be appropriate. Enter codes from left to right. Unused boxes should be left blank.)

1 - Secondary school - public or private high school.

3 - Proprietary school - private post-secondary institution for vocational preparation.

35. Supportive Services - Only services provided by program funds, not by an employer, another service agency, etc. (multiple responses may be appropriate. Enter codes from left to right. Unused boxes should be left blank.)

TERMINATION/COMPLETION

36. Reason for Termination

1 - Not applicable - To be used if the client completed the program. All other codes apply where the client drops out for some reason before the program experience is considered complete.

POST-PROGRAM STATUS

37. Employment - Definitions for unemployed and not in the labor force are those used in item number 27.

38. Underemployed - Definition is that used in item number 28.

39. If employed - To be completed if the client is employed at the time the post-training information is collected:

a. Current job title - Definition is that used in item number 29.

b. Wage rate - Definition is that used in item number 31.

c. Employer name - The firm name (up to 30 letters) where the client is employed after leaving the program.

d. Industry type code - The 2-digit SIC code most appropriate for the employer of (c.).

e. Employer location - The 2-digit Metro or Rural Census Tract district which includes the street address of the employer of (c.).

f. Job is training-related - The client's post-training job is: 1) identical to that of the on-the-job training position or transitional employment during program participation, 2) within the same occupational group as the work experience participation, or 3) is otherwise directly related to the employment experiences during training.

g. Job placement

1 - Placed by program - The training program staff provided job development and/or placement information and services which directly led to the client's employment with the post-program employer.

2 - The client's present job was obtained through any means other than the direct efforts of the manpower program staff.

40. If unemployed - To be completed as in number 31:

a. Weeks of unemployment - Definition is that used in item number 31.

b. Unemployment benefits - Definition is that used in item number 31.

MTIS Data Flow Model