ED 133 611	CE 009 810

TITLE	Colorado Career Information System. Annual Report.
INSTITUTION	Colorado Univ., Boulder. Colorado Career Information Center.
SPONS AGENCY	Manpower Administration (DOL), Washington, D.C.
PUB DATE	30 Sep 76
GRANT	DL-99-6-488-08-6
NOTE	144p.; Pages 3 through 8 of appendix III-I (containing the QUEST questionnaire developed at the University of Oregon) are copyrighted and therefore not available. They are not included in the pagination. Several pages may not reproduce well due to faint type
AVAILABLE FROM	National Technical Information Service, Springfield, Virginia 22151

EDRS PRICE	MF-$0.83 HC-$7.35 Plus Postage.
DESCRIPTORS	Administrative Agencies; Career Choice; *Career Education; Computer Oriented Programs; Delivery Systems; Higher Education; *Information Dissemination; *Information Systems; *Occupational Information; Post Secondary Education; Program Coordination; Program Descriptions; *Program Development; Secondary Education
IDENTIFIERS	*Colorado; Colorado Career Information System

ABSTRACT

Covering the period from October 1, 1975, to September 30, 1976, this annual report contains information on the Colorado Career Information System's (COCIS) administration and organization, information development, delivery vehicle, and marketing and field services. (COCIS is an on-line computerized career information system that has been available for marketing since September 15, 1976. It contains the following files: Occupational Description, Preparation, Program, Employers, Bibliography, Women's Career Resources, and Job Skills. It includes 234 occupations which have localized data for the Denver metropolitan and State of Colorado areas. An occupational information library, using the Oregon classification system, has been established, as well as review panels for the occupations and update cycles for new and corrected material.) Appendixes make up the majority of the document and cover the following items: (1) Administration and organization information (administrative staff, organization structure, COCIS board members, and board meeting minutes); (2) information development (library list, library categories, occupation list, program list, samples of PROG, DESC, and PREP files, and samples of employers, bibliography, women's career resources, and job search files, test site instruments, test site results report, COCIS-COVIEW merger, and process evaluation; and (3) marketing and field services (demonstrations, product offering, preliminary income projections, proposed target populations, priority groupings of COCIS populations, the five COCIS regions, second year marketing timetable, cost guidelines, proposed user handbook, tentime user contract, COCIS/user contract, and COCIS/computer service contract). (TA)

A N N U A L R E P O R T

COLORADO CAREER INFORMATION SYSTEM

October 1, 1975 - September 30, 1976

The material in this project was prepared under
Grant No. 99-6-488-08-6 from the Manpower Admini-
stration, U. S. Department of Labor, under the
authority of Title III of the Comprehensive Em-
ployment and Training Act of 1973. Grantees
undertaking projects under Government sponsor-
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view or opinions stated in this document do not
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COLORADO CAREER INFORMATION SYSTEM
WILLARD ADMINISTRATIVE CENTER • UNIVERSITY OF COLORADO • BOULDER, COLORADO 80309 • (303) 492-8932

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              Associate Director

2

BIBLIOGRAPHIC DATA SHEET	1. Report No. DLMA	2	3. Recipient's Accession No.
4. Title and Subtitle Annual Report of the Colorado Career Information System			5. Report Date 9/30/76
			6.
7. Author(s) Pauline A. rish, Director; Warren W. Wolff, Deputy Director			8. Performing Organization Rept. No. 4
9. Performing Organization Name and Address Colorado Career Information System Willard Administrative Center University of Colorado, Boulder, Co. 80309			10. Project/Task/Work Unit No.
			11. Contract/Grant No. DL 99-6-488-08-6
12. Sponsoring Organization Name and Address U.S. Department of Labor Manpower Administration National Occupational Information Service 601 "D" Street, N.W., Washington, D.C. 20213			13. Type of Report & Period Covered Annual 10/1/75-9/30/76
			14.
15. Supplementary Notes			

16. Abstracts

This report covers the period October 1, 1975 through September 30, 1976. It contains information regarding Administration and Organization, Information Development, Delivery Vehicle, Marketing and Field Services.

17. Key Words and Document Analysis.   17a. Descriptors

COCIS - Colorado Career Information System
CoVIEW - Colorado Vocation Information for Education and Work
Files - the various divisions of information in the computer system, i. e. PROG, PREP, BIB.

17b. Identifiers/Open-Ended Terms

17c. COSATI Field/Group

18. Availability Statement Distribution is unlimited. Available from National Technical Information Service, Springfield, Va. 22151	19. Security Class (This Report) UNCLASSIFIED	21. No. of Pages 27 + Indices
	20. Security Class (This Page) UNCLASSIFIED	22. Price

FORM NTIS-35 (REV. 3-72)

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USCOMM-DC 14952-P72

3

SUMMARY

The Colorado Career Information System staff contains 13½ people (11½ FTE) in the following categories: a Director, a Deputy Director, an Associate Director of Marketing/Field Services, a Marketing/Satellite Center Supervisor and a Marketing/Field Services Representative, 2 Labor Market Analysts, 3 Information Development graduate interns, 1 Marketing/Field Service graduate intern and a clerical staff of 2½. All positions have been filled and affirmative action requirements met.

The Board of Directors currently consists of 18 members, representing the human resources agencies of the State of Colorado, potential users of the COCIS system and persons from business and industry.

The computerized career information system is on-line and has been available for marketing since September 15. It contains the following files: Occupational Description, Preparation, Program, Employers, Bibliography, Women's Career Resources and Job Search Skills. It includes 234 occupations which have localized data for the De r-Metropolitan and State of Colorado areas. In addition, there are 85 PRO es. Forty-seven of the occupational descriptions, preparations and bibliography statements were developed by COCIS staff, as well as 24 new programs. An occupational information library, using the Oregon classification system, has been established as well as review panels for the occupations and update cycles for new and corrected material.

Delivery systems have been finalized or are in progress. A DEC 10 version of the DISCOVER IBM software has been completed and will be used to deliver the Career Information System this coming year. It is also capable of delivering all DISCOVER Modules. Work is under way on the development of a Needlesort Deck and a printed version of the occupational descriptions. Exploration has begun on the development of a microfiche version of COCIS which will use the QUEST as an access strategy and will replace COVIEW as it currently exists in the State of Colorado. Future plans include review of other methods of delivery of the computerized information system and the potential use of mini-computers.

Marketing plans and sales strategies have been developed for a second year marketing thrust. Priorities have been established aimed primarily at school populations but also include state agencies.

1

A Consortium cost formula has been established; $1.50 per user for the
first 4,000 users and $1.00 per user thereafter.

COCIS has developed a Process Evaluation Format and has participated
in the development of the NOIS Impact Evaluation. In addition, COCIS
tested the computerized system in 4 areas of the State during Spring, 1976,
and has prepared a report of the result from the test sites.

5

COCIS BUDGET

July 1, 1976 through August 31, 1976

		BUDGET	(THRU AUG. 31) EXPENDITURES	ENCUMBRANCES AND EST. EXPEND. SEPTEMBER	ESTIMATED FINAL EXPENDITURES
PERSONNEL		$145,866	$119,963	$13,407	$133,370
BENEFITS		16,045	11,408	1,789	13,197
TRAVEL		9,000	5,070	2,833	7,903
PERSONNEL (Hourly)		7,823	5,634	400	6,034
EQUIPMENT		20,000	5,938	15,596	21,534
SUPPLIES		16,000	10,930	2,457	13,387
CONSULTANTS		9,000	1,418	2,775	4,193
COMPUTER SERVICES		53,156	21,435	31,564	52,999
MODIFY COVIEW		3,500	52	2,448	2,500
EVALUATION		15,000	12,573	-0-	12,573
INDIRECT COSTS		36,466	34,021	678	33,343
	TOTALS	$331,856	$228,442	$72,591	$301,033

List of Appendices

I. ADMINISTRATION AND ORGANIZATION INFORMATION

    I-A.   Administrative Staff
    I-B.   Organization Structure
    I-C.   COCIS Board Members
    I-D.   Board Meeting Minutes

II. INFORMATION DEVELOPMENT

    II-A. Library List
    II-B. Library Categories
    II-C. Occupation List
    II-D. Program List
    II-E. Samples of PROG, DESC and PREP Files
    II-F. Sample of Employers File
    II-G. Sample of Bibliography File
    II-H. Sample of Women's Career Resources File
    II-I. Sample of Job Search File
    II-J. Test Site Instruments
    II-K. Test Site Results Report
    II-L. COCIS-COVIEW Merger
    II-M. Process Evaluation

III. MARKETING AND FIELD SERVICES

    III-A. Demonstrations
    III-B. Product Offering
    III-C. Preliminary Income Projections
    III-D. Proposed Target Populations
    III-E. Priority Groupings of COCIS Populations
    III-F. The Five COCIS Regions
    III-G. Second Year Marketing Timetable
    III-H. Cost Guidelines
    III-I. Proposed User Handbook
    III-J. Tentime User Contract
    III-K. COCIS/User Contract
    III-L. COCIS/Computer Service Contract

TABLE OF CONTENTS

9

1. ADMINISTRATION AND ORGANIZATION INFORMATION

   Staff

   Currently all staff positions are filled. These positions are as
   follows: a Director, a Deputy Director, an Associate Director of Marketing/
   Field Services, a Marketing/Satellite Center Supervisor and a Marketing/
   Field Services Representative, 2 Labor Market Analysts, 3 Information
   Development graduate interns, 1 Marketing/Field Services graduate intern,
   1/2 Administrative Assistant, 1 Secretary and 1 Typist. (See Appendix
   I-A, List of current staff and Appendix I-B, Current Organization
   Structure.)

   During the year turnover has been somewhat of a problem, although
   not too serious. The major position that has given difficulty is the
   Associate Director for Marketing/Field Services, recently filled for the
   third time. The original resignation came as a result of a job offer
   and the second as a request for reassignment within the COCIS staff. In
   spite of the fact that a number of graduate interns have left, they either
   graduated or have taken better positions. The quality of work provided
   by interns is excellent and the source of talent among graduate students
   is unlimited. We have used consultants to supplement staff particularly
   in the area of computer services and will continue to do so during the
   coming grant year.

   Affirmative Action

   All staff vacancies other than one promotion from within have been
   widely advertised. The Denver Post has been used since it goes to all
   corners of the state as well as the local Boulder Daily Camera. One
   attempt was made to use Chicano and Indian newspapers. The latter was
   totally unsuccessful. Almost without exception the persons who have
   applied for vacancies as a result of newspaper ads have been primarily
   white and primarily male. We have made a concerted effort to locate
   minority persons otherwise but have had no success in employing them.
   The one area where COCIS has been able to employ minorities has been
   graduate interns. This may indicate that minorities are finally in the
   educational pipelines. During this past year COCIS has employed two
   orientals, one black and one chicana intern. COCIS has had better suc-
   cess with female applicants. The staff consists of 7 men and 6½ women,
   of which 1 is oriental, 1 is chicano, 1 is black and 10½ are white.

A continued effort will be made to seek other qualified minorities and women when vacancies occur.

In-Service Training

COCIS provided in-service training to staff in the following areas:

Career Education Concepts
Career Counseling Theory
Computer Technology
Occupational Information Development
Sales and Marketing Strategies

The technical assistance training program established by NOIS has been of great value and COCIS has had two visits from Oregon's CIS staff and has participated at Oregon in a TAT visit plus the Cadre Training Program.

Staff Problems

Some staff problems arose this year, primarily over disagreement with management on the directions of the project. One staff member resigned because of this and another staff member was fired because of it as well as a lack of good interpersonal skills with people. Since the basic disagreements have been resolved staff cooperation has increased 100%.

Board of Directors

The current consortium Board of Directors consists of 18 members. The chairman of the Board is Wilbur Richardson, Executive Director of the State Division of Automated Data Processing. A current list of Board members and their titles is contained in Appendix I-C. The permanent members of the Board were appointed by the Governor at the beginning of the grant year. The rotating members of the Board were not appointed until July of 1976. An indoctrination for all new members was held in August, 1976.

The Board has had difficulty this year in organizing. This did not relate to a lack of cooperation on the part of any board member but rather to an extensive turnover of the designates of the permanent appointees to the Board. Even so, designates who are no longer with the Board were highly supportive and helpful. NOIS staff should note that the concept of inter-agency cooperation has never been in conflict.

The lack of quorums have related to political changes and legislative and budgetary demands or constraints, rather than a lack of cooperation or support. The first meeting of the new Board will be held October 28. Throughout the difficult period when a quorum did not materialize, the Chairperson, Wilbur Richardson, has provided assistance, personal support and direction to the project which has been invaluable.

Major Contacts and Conferences Attended

1. Les Schlitt in the Office of the Executive Director of Labor and
    Employment to facilitate the establishment of a working relation-
    ship between the occupational information staff and appropriate
    information staff in the Employment Division.
2. Pat Brannigan, Employment Division, who is responsible for OES
    surveys.
3. Larry Pape, Director of the Computing Center, Boulder Valley Schools,
    related to the modification and conversion of CVIS/OAIS system and
    the use of DISCOVER software.
4. Jim Boyd, Technical Director for Project DISCOVER.
5. Richard Adamich, State Planning and Budget Office related to the use
    of grant funds, appointment of the Consortium Board, contracts,
    accounting and billing procedures.
6. University personnel related to the Office of Contracts and Grants,
    Personnel, Research, Payroll, Warehouse, etc., related to the employ-
    ment of staff and organization of the office.
7. Technical Committee of the Div. of Automated Data Processing staff.
8. Dr. Fred Holmes, State Department of Education.
9. Walter Hammond, Mountain Bell Communication System.
10. Harrell Guard, Director, Career Education Resource Center.
11. Miles Reznik, Department of Institutions regarding their using
    the system.
12. Laprell Martin, Coordinator of Counseling, Boulder Valley Schools
13. James Folks and staff, University of Southern Colorado.
14. Virginia Patterson, President, Boulder Valley Schools.
15. Robert Scott, Acting Director, Division of Employment.
16. Violet Wagner, Boulder Public Library regarding potential library
    grant for use of COCIS.
17. Richard Edsall, Board of Community Colleges and Occ. Education.
18. John Copper, Director, Counseling and Guidance, Veterans Admin.
19. Randy Ruff, Research and Analysis Unit, OES Section, Division of
    Employment.
20. Russell Bateson, Dictionary of Occupational Titles Occupational
    Analysis Field Center.
21. David Monarchi, Business Research Division, University of Colorado.
22. Keith Wiley, Colorado Joint Apprenticeship Council.
23. Charles Carlson, State Bureau of Training and Apprenticeship.
24. Dick Dugdale Mountain States Employment Council.
25. Ray Kimball and Cliff Johnston, Colorado Division of Commerce
    and Industry.
26. Charles Sisson and Sharon Friedman, Colorado Department of Education.
27. Neal Price, Explorer Division, Boy Scouts of America.
28. Larry Dreller, WIN, South Metro Job Center.
29. Sandy Carruthers, Better Jobs for Women.
30. Rubble Weber, HEW, Department of Labor
31. Larry Gotfriedson, Interagency Personnel Agency, Department of
    Labor
32. Judy White, Colorado VIEW.
33. Warren LaSalle, Career Education Center for Greeley School District
34. Dr. Labak and Dr. Don Carson, Arapahoe Community College.
35. Mike Weitz, Area Manpower Institute for Development of Staff.

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31. Larry Gotfriedson, Interagency Personnel Agency, Department of Labor

32. Judy White, Colorado VIEW.

33. Warren LaSalle, Career Education Center for Greeley School District

34. Dr. Labak and Dr. Don Carson, Arapahoe Community College.

35. Mike Wells, Area Manpower Institute for Development of Staff.

36. Pat Ryan, Superintendent of Boulder Valley Schools.
37. Jack Parsons, Vice President for Administration, University of Southern Colorado.
38. Kenneth Burns, Vice President for Student Affairs, University of Southern Colorado.
39. Mel Hess, Director of Automated Data Processing, University of Southern Colorado.
40. Carl Walburg, Assistant to the President, Mesa College -
41. John U. Tomlinson, President, Mesa College.
42. Gilbert Garcia, Superintendent of Schools, San Luis Valley.
43. Zach Bernal, Head Counselor of District, San Luis Valley.
44. Gary Robbins, Director, San Luis Valley Board of Cooperative Educational Services.
45. Dr. Burnett Severson, Principal, North High School, Denver.
46. Daryl Boubier, Director of Guidance, Denver Public Schools.
47. Ray Pitsker, Chief of Branch of Information Systems, Division of Employment and Training.
48. Dan Whittemore, State Controller.
49. Joseph Ricciard, Jr., Marketing Manager, Hazeltine Corp.
50. Dr. Thomas Dorland, Director of Secondary Education, Boulder Valley Schools.
51. Markus Herzog, Director of C.U., Educational Computing Center.
52. Randy Ruff, Director of Research and Analyses, Division of Employment and Training.
53. Arthur Smith and Dorothy Eggan, Director and Assistant Director of the Colorado Pre-Retirement Planning Institute.
54. Bob Storer, Project Director for the Singer Corporation's Career Development Center.
55. Bruce McKinlay and John Clyde, Oregon Career Information System.
56. Dr. William Liddle, Director of Instructional Services, Roger Lowder, Career Education Coordinator and Dick Aplin, Director of Computer Services, Colorado Springs Public School District #11.
57. Dr. Robert Blum, Director of Career Education, Jefferson County Public Schools.
58. Ken McNulty and Helen Rubenstein, Labor Economists, Colorado Division of Employment.
59. Lloyd Wilcox, Data Systems Marketing, Denver.
60. Matt Savoren, Asst. Superintendent, Colorado State Reformatory, Buena Vista, Colo.
61. Jack Offerle, Personnel Director, Colo. State Dept. of Institutions.
62 Jan Rohr, Director of Employment Program, Virginia Neal Blue Society for Women.

Conferences

1. Eleventh Annual Colorado Business. - Economic Outlook Forum.
2. Governor's Conference on Employment.
3. University of Northern Colorado Mid-Year Conference.
4. NOIS - User Services Conference and an Information Development Conf.
5. Career EXPLO Fair (COCIS exhibited at Fair).
6. CVIS conference at Phoenix.
7. National Career Education Team Leadership Conference
8. American Society for Training and Development re: computer assisted education and preview of training films on modification and career development.
9. Oregon Cadre Training Program, OIS, Eugene, Oregon.

Major Problems

Perhaps one of the things learned in initiating a project of this nature is that there are many circumstances which are uncontrollable and as a result, create a number of unforeseen and unanticipated problems. Two have already been alluded to, the problem of staff disagreement with management and the difficulties encountered in organizing a functioning Board of Directors.

Two additional problems of major proportions related to the development and delivery of the computerized system. The Legislature failed to appropriate funds to develop a statewide computer network. The initial plan for the delivery of COCIS has been based on use of the social service or human resources computer, which would be a part of this network to deliver to approximately 40 counties in this state.

The other major problem was the collapse of arrangements with Boulder Valley Schools to serve as the delivery system for the Denver-Metropolitan area. As a substitute an agreement has been reached with Tentime Corp. to deliver to the Denver-Metro area on a DEC 10 computer. In progress is a study of alternative delivery systems which will be used this coming year for long-range planning.

Other problems related to the selection of terminals which would deliver the Oregon CIS and also the DISCOVER system. A number of false starts were made but a terminal manufactured by Automated Data Corp. resolved the problem. The terminal has the following characteristics:

14

Upper and lower case, 5 X 7 dot matrix, 80 columns by 25 lines,
dual brightness, blinking and reverse w/blinking, Text editing and
order entry, 9600 Baud capability, paging variable, buffer memory,
programmability with built-in micro-processor, addressable cursor.

Consultants

Consultants have been used as resources to supplement the talents
and experience of the regular staff.

1. Dr. Daryl Sander, Professor of Education and the University's
expert on career education and guidance has been used for staff
training in career counseling theories and application and is
in the process of preparing a study on the use of the career
information system in institutions, i.e., correctional, mental
health.

2. Mr. Larry Pape, former Director of Boulder Valley Computing
Center served as a computer consultant in the effort to breach
the gaps between COCIS, CVIS and the conversion to DISCOVER.

3. Mr. Rocklyn R. Garcia developed a list of Chicano organizations
which would be potential users of the system and agreed that he
would also be available to serve as an intermediary to these
groups.

4. Mr. Paul Talmey, who had previously worked for the DIME
program and who had currently returned to the University for
advanced degree work was employed to develop a limited number
of occupations.

5. Dr. Gene Glass, Division Chairman for Foundations, and Research,
analyzed the data collected from COCIS test sites and provided the
staff with a basic report from which the final evaluation has been
prepared.

6. Mr. James Boyd, Co-Director of DISCOVER, has served as a
consultant related to the conversion of IBM's DISCOVER software
for use on a DEC 10 computer.

15

6

II. INFORMATION DEVELOPMENT

Library

The Occupational Information Library was established and the Oregon classification system was adapted for use. The current library consists of 730 items which contain occupational data and related information. Some of the major source materials currently in the library are reflected in Appendix II-A which contains extracted pages from the library catalog. Appendix II-B is a listing of COCIS library categories.

Outstanding orders for materials include: College Blue Book (all 3 volumes), "Journal of Employment Counseling", "Business Week", "The Labor Market: An Information System", "Contacts Influential of Colorado".

In an effort to build a quality library COCIS has employed as .10 FTE for the next year, the career information and occupational librarian on the Career Development and Placement staff. The librarian will perform several functions: 1) supervise the receipt and cataloging of materials, 2) the use of materials by COCIS staff, 3) review current materials on the market and recommend new purchases, 4) order new occupational materials for COCIS use.

COCIS Files

As of September 30 COCIS has 234 occupations in its data bank. A list of these occupations can be found in Appendix II-C. COCIS developed 47 new occupations during the first grant year. Of this total, 41 were new titles requiring our staff to do all research associated with development. Six of the occupations were developed using Oregon CIS's previous research on areas common to Oregon and Colorado (e.g., general job description, specialties, related occupations, aptitudes, etc.). These occupations include DESC, PREP and BIB files for each. Approximately 17 more are near completion but will not be included in the system until March, 1977.

In addition to the development of the new and review of Oregon CIS occupational descriptions the Information Development staff has reformatted all descriptions using the Oregon CIS format. This necessitated some rewriting of Oregon descriptions.

COCIS developed 24 new programs for the Educational Program File and completely revised another 12. It has a list of 85 programs in its data bank as of September 30)see Appendix II-D). A sample PROG will be found in Appendix II-E along with samples of the DESC and PREP files.

7

A new file is under development, the Employers File. Permission was received from the U. S. Department of Labor, NOIS Director, to survey employers in the State of Colorado. To date 45 employers interviews have been held and 28 employer descriptions prepared. Access to the employers file may be provided in two ways. Students may directly access the employers file by a number assigned to each employers description. In this way a user may obtain a complete profile of an employer. Reference to the employers file will also be contained in the appropriate occupational description. A user therefore will be able to obtain a list of all employers who employ persons in that particular occupation. This list may be used to select particular employer profiles by the user. Appendix II-F is a sample of an employers profile. COCIS is considering several different formats for the employers file, but will get user response to different formats prior to making a final decision.

The Bibliography File format has been changed; Appendix II-G represents the new format. As new occupations are developed the new Bibliography format will be used. As old occupations are updated related bibliography files will be reformatted and additional source materials added.

The Women's Career Resources File (Appendix II-H) will contain the following: 1) Interviews with women in traditional and non-traditional opportunites, 2) employment myths and job barriers and, 3) resources for women.

The Job Search Skills File, which had previously been included in the women's career counseling file will be revised and redesigned during the coming year. The file presently contains answers to the following job hunting questions: 1) What kind of job should I seek?, 2) What are some sources of job information?, 3) How do I fill out a job application form?, 4) How do I prepare for a job interview?, 5. How do I act in an interview? and, 6) How do I write a resume? (See Appendix II-I).

The Occupational Information File contains localized data for the Denver-Metropolitan area and Colorado. COCIS is in the process of collecting local labor market information from the Pueblo region. This data will be included in the system as of March, 1977. Collection of other localized data is scheduled as follows: 1) the second grant

year data from the Colorado Springs SMSA will be completed, 2) collection of data from the Western Slope and Northeastern Colorado regions will be finalized for inclusion during the third year.

As of September 30 the Colorado Career Information System consists of the Occupational descriptions, Preparations, Bibliography, Programs, Employers; Women's Career Resources and the Job Search Skills files. To be added December, 1976 is the Four-Year College Information and Search File and the Financial Aid File.

.Review Panels

All occupational descriptions and preparation statements will be submitted to review panels consisting of, at least, 2 persons having knowledge of the occupations. All occupations from each cluster will be mailed on the same date and reviewed by our information development staff during a time period specified in the COCIS work plan. This process will begin during October, 1976. A mailing schedule has been developed which will allow materials to be returned to the assigned information development staff member in time to use the panel members comments in reviewing occupations which they have been assigned in the work plan. Each panel member will receive a letter requesting their assistance, a copy of the DESC and PREP statement for the occupation and a short questionnaire which will be used to record reactions to the material. The questionnaire will cover such areas as accuracy of data, clarity of presentation and requests for additional information which should have been included in the description or prep statement.

In addition to the procedure described above, a second review of all descriptions will be requested from the Research and Analysis Unit, Colorado Division of Employment.

These procedures are seen as on-going activities which will provide a yearly reality check on the information being developed COCIS.

Access Strategy

Access strategies currently in use are those developed by the Oregon Career Information System, i.e., QUEST and direct. In general,

18

the QUEST has been received quite favorably as an accessing strategy.
The attribute coding on the whole was excellent.

Test Sites

The computerized career information system was tested at four
sites during late Spring of 1976. These test sites were North High
School, Denver; University of Southern Colorado, Pueblo; Centennial
High School, San Luis; and Mesa College, Grand Junction. Each site
participated in the program by providing a site coordinator and handling
all scheduling and testing of participants. A staff member was assigned
to each test site and served as the contact for the test site coordinator
and was available at the beginning of the test period for training and
at the end of the test period for a wrap-up session. The instruments
used in evaluation are contained in Appendix II-J   The overall response
to the computerized career information system was excellent.
full report see Appendix II-K.

As a part of the evaluation, video-tape interviews were conducted
with both administrative officials and users of the system. A video-
tape is currently being prepared for NOIS and will be forwarded sometime
this fall. A second tape is being prepared for use in sales and marketing.
Portions of the uncut tape have been used with the Board of Directors
and meetings with high school administrators and conselors. Reactions
have been excellent.

Equipment Purchases

Following is a list of equipment which has been purchased or ordered:
    1 Singer Caramate Slide Projector
    4 Novation Acousti-Couplers
    2 Texas Instrument Portable Terminals, Model 725
    1 Bell & Howell Spacemaster Microfiche Reader/Printer
    4 Texas Instrument Portable Terminals, Model 547
    1 Delta Data System, Model 4000L Computer Terminal
    1 DSM 103 Acoustic Coupler
    2 Novation 3102A Acousticouplers
    1 Texas Instrument Model 735 Portable Data Terminal
    1 Digital Equipment Corp. DEC Writer
    1 Ektagraphic Projector
    1 Soundamatic Recorder
    1 JVC 3420 TV Monitor/Receiver

COVIEW

An access strategy for COVIEW was decided upon after studying a
variety of accesses. It was agreed to use the QUEST System as developed
for a Microfiche card system in Iowa. Work will proceed this coming
year on the development of the Microfiche COVIEW system which will be
compatible with COCIS occupational information. A proposal has been
made to the Board of Community Colleges and Occupational Education to
merge COVEW with COCIS. All COVIEW decks this coming year will carry
the COCIS logo while negotiations continue for final merger. It was
agreed that the monies allocated to COVIEW during fiscal 1976-77 would
be used to develop the COCIS-COVIEW microfiche decks. Appendix II-L
represents items of consideration by COCIS and COVIEW related to the
merger.

Evaluation

COCIS will be evaluated during the 1976-77 grant year through use
of three evaluation methods. The State of Colorado will conduct a process
evaluation to determine if COCIS objectives are being met. This work is
being performed by Mr. Eric Durland of the State Planning and Budgeting
Office in cooperation with the COCIS staff. Please refer to Appendix
II-M. Mr. Durland is a very competent person and has the necessary skills
to assist not only with the project evaluation but with the development
and implementation of the impact evaluation. He has served as the COCIS
representative in the development of the impact evaluation and has made
every effort to reflect staff concerns and suggestions to NOIS.

Secondly, as previously mentioned, the DISCOVER System will be
tested. The evaluation to be conducted will be based upon the plan pre-
viously developed by the DISCOVER Foundation Staff. The replication
of the DISCOVER evaluation plan with Colorado students, a significant
percentage of whom are of Spanish-American ethnic background, is seen
as a needed evaluation to the results of the original DISCOVER test
site program conducted in the Baltimore Public Shools during Spring, 1976.

Thirdly, those sites which are operational during 76-77 will be
requested to administer the NOIS Impact Evaluation instrument, if
appropriate. This instrument will be administered in the Spring with
results provided to NOIS.

Other sources of evaluative data will be obtained from an on-
line assessment by individual users and a statistical package to
determine amount of file use.

21

III. DELIVERY VEHICLE

The services and activities involving TENTIME for the period of time from January through September, 1976 included discrete projects and supportive services and consultation. All work was done by TENTIME staff personnel or individuals-under direct contract and control of TENTIME staff and was performed in the local area using computer resources owned or under contract by TENTIME. For the purposes of this report, the activities have been grouped into four categories, Software Development, Consulting and Support, Hardware Evaluation, and General Services. A brief summary of the major activities is included below.

Software Development

1. DISCOVER Conversion - The principal effort in software development was made in providing a DECsystem-10 compatible version of the DISCOVER career information system. The two main tasks involved in making DISCOVER run on the DEC-ystem-10 included a conversion of the DISCOVER file system and the development of DISCOVER-System/Applications software. Restructuring of the data base was done consistent with the goals of allowing the applications code to take advantages of the usable features of the host computer hardware and software, and also of allowing for portability of the final working version to other computer systems. The current DECsystem-10 version of DISCOVER makes use of a number of system features but does so through the data base architecture thus allowing comparable features to be exploited on future host systems. The system/Applications software is a composite of COBOL and assembly language routines which provide the DISCOVER-defined functions. Assembly language routines were used in place of COBOL routines at strategic points in the system to increase overall efficiency of the DISCOVER program. Dual capabilities were built into the DISCOVER system to allow operations using both light and non-light pen terminals.

2. Oregon Information System - The Oregon Information System application software and data base were converted to run on the DEC system-10 and to be available for external users in September. Information specific to the COCIS user base was merged into the OIS system. The system was set up to be runnable on a variety of ASCII terminals using the Decsystem-10.

13   22

3. DISCOVER Editor - A generalized editor package was written to allow COCIS staff members to edit existing DISCOVER data base information and to create new frames of information. The editor presuppose no computer knowledge on the part of the user and allows all the necessary operations required to make changes to existing data and to integrate new data with arbitrary linkages to existing frames.

Consulting and Support

1. IBM DISCOVER Software for State of Colorado - TENTIME personnel were involved in an advisory and assistance role with State personnel on implementing the DISCOVER system on a State operated IBM computer system. Efforts included discussions and analysis along with providing information from working version of DISCOVER on the DECsystem-10 computer.

2. Network Evaluation - Information on network operations and communications was provided for COCIS to allow planning for future implementation of terminals at remote sites. Information was designed to allow COCIS to examine alternatives for delivering career information to remote sites and to sites where terminals could be clustered together. Networking information included types and cost estimates of communication alternatives and computer hardware and software considerations.

3. Feasibility Study of Minicomputer Delivery System - The alternatives available for deliverying DISCOVER on minicomputers were examined in terms of system requirements, costs, expansion capabilities and auxiliary applications. An effort was made to provide COCIS with sufficient data to quantitatively evaluate the options, including computer configurations, for local delivery of DISCOVER on dedicated minicomputer systems.

4. General Consulting - An ongoing effort was made to provide COCIS staff and director with information relating to the use of computers and capabilities afforded by systems. Information was also provided on contractual considerations between COCIS and their users and between COCIS and the DISCOVER Corporation. The intent was

23

14

to provide COCIS with sufficient information to set long range
plans and strategies which would be consistent with advances
in the computer and communications industries. .

5. Orientation c Staff – A number of sessions were held to acquaint
COCIS staff with the use of the DECsystem-10 and with elementary
programming and editing functions. This effort was directed
toward providing COCIS staff with sufficient computer understand-
ing to evaluate the advantages and limitations of their product
and to be able to provide service and support to COCIS users.

6. Personnel Interviews – TENTIME worked with COCIS staff in evalu-
ating applicants for Associate Director position. Opinions and
recommendations were provided to COCIS on both procedures for
screening applicants and considerations for final selection.

Hardware Evaluation

1. Terminal Selection – A major effort was made by TENTIME to evaluate
DISCOVER terminal options and make final recommendations to COCIS.
A series of vendor terminals was tested in-house for compatibility
with the proposed use by DISCOVER users. An attempt was made to
recommend for selection by COCIS, a terminal having good light pen
characteristics, accessible microcode features, realistic costs,
and sufficient ruggedness to withstand above-average rough treat-
ment by users. Equal importance was attached to recommending a
terminal vendor having a solid financial basis and reputable field
service policies.

Services

1. Oregon Information System Data Preparation – TENTIME provided ser-
vices to enter the hard copy information into the data base on
the DECsystem-10. This service included editing source material,
keypunching source data, and final editing of the data files in
the system.

Terminal Specifications and Alternatives for Users

Two comptatible teletypewriters are known to be available on a monthly basis in the Denver area. Allow an additional $10-$15 per month for paper and ribbon to be separately ordered. One cathode ray tube (CRT) has een identified which meets all the known requirements for delivery of both the Oregon CIS and DISCOVER components of COCIS. Monthly rental and annual leasing costs are not yet known.

Terminal Name & Model	Features	Cost	Conditions	Vendor
Decwriter LA 36	• 30 characters per second • Accoustacoupler included • Maintenance included	$90/mo plus $55 installation	• 30 days notice to order • one day termination notice	Contact: Bob Goard, 427-2121 Am. Teledata Corp., 7290 Samuel Dr. Denver, Co.
IBM 2741	• 14 characters per second • Maintenance included • Accoustacoupler not included • Selectric Typewriter mechanism	$108/mo plus $40 shipping	• 30-60 days notice to order • 30 days termination notice	Contact: Lee Steckmest, 831-5000, IBM Corp., 777 Grant Denver, Co.
Delta Data System, 4000L	• 30+ characters per second • Addressable cursor • 80 columns X 25 lines • Regular and Reverse Blinking • Programmable Micro-processor	$3,300 plus $100 shipping	Unknown at this time	Delta Data Sys. Woodhaven Industrial Park Cornwells Hts. Penna. 19020 A/C 215 580-7621

25

16 ·

If you should choose other terminals be certain they have the following characteristics:

For Teletypewriters:

1. 64 ASCII Keyboard with upper case, alpha-numeric and punctuation
2. 80 column print width
3. EIA RS232 interface
4. Impact printer preferred over thermal
5. 300 baud preferred but not required

For Cathode Ray Tubes:

1. 300 baud full duplex transmission
2. 64 ASCII Keyboard with upper case, alpha-numeric, punctuation and rollover features
3. 80 column by 24 lines screen size
4. EIA RS232 interface
5. 110 =/- 5 volts alternating current and 60 =/- 1 cycles per second power compatability
6. Non-destructive censor with direct address and home capabilities
7. Upward scroll on page overflow
8. Screen erase
9. 5 X 7 character matrix

If you should choose other terminals be certain they have the following characteristics:

For Teletypewriters:

1. 64 ASCII Keyboard with upper case, alpha-numeric and punctuation
2. 80 column print width
3. EIA RS232 interface
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6. Non-destructive censor with direct address and home capabilities
7. Upward scroll on page overflow
8. Screen erase
9. 5 X 7 character matrix

IV. MARKETING AND FIELD SERVICES

Market Stimulation Contacts

During the first year of the grant the Field Services staff has
conducted a number of demonstrations of COCIS for potential users.
These demonstrations were done in an effort to stimulate the market
for an aggressive sales program during the second grant year. The
kinds of demonstrations have been varied and they include exhibits
at conferences and career fairs, demonstrations to school and agency
personnel, private businesses and libraries, and educational insti-
tutions as a part of an academic class in career development and
career education. The complete listing of demonstrations and dates
are contained in Appendix III-A. Feedback from the demonstrations
almost without exception has been excellent. There have been the
occasional times when the computer was down and, as one might expect,
some negative feedback resulted.

Marketing Plan

Throughout the year COCIS has been evolving its marketing program
and priorities for the second year. There have been a number of re-
visions made to the initial version. The plan has been developed with
the concept that during the second year a statewide marketing effort
will be made selling both the computerized and a non-computerized
version of COCIS. The new organizational structure will include
satellite centers in the Pueblo region and Western Slope as a part
of the effort to saturate the state. Although the priority target for
the second year remains the school systems, a similar effort will be
made to sell the program to state agencies.

The marketing plan includes the following:

Product - Localized occupational and educational information repre-
sent the core product offering to be delivered in three forms:
1) by computer, 2) by printed copy with needlesort and, 3) by
microfiche and needlesort. Computerized delivery will be available
in the Denver-Metropolitan area effective September 1, 1976.
Completed development of a needlesort occupational card deck is
schedule for January 1, 1977 pending agreement with Colorado VIEW.

27

Photo offset copies of the occupational descriptions, preparation
statements, educational and training file and the employers file
would be available at that time. Cooperative development with
COVIEW of a microfiche version of that same information is slated
for marketing September 1, 1977. (See Appendix III.-B, COCIS
Product Offering.)

In-service training, technical troubleshooting and written
guides for student, client and staff use will also be offered by
the Field Services unit. This support component of the greater
COCIS product is designed to ensure the knowledgeable and efficient
use of all delivery forms of the career information system in keep-
ing with individual organizational needs.

Costs - A universal $1.50 per user consortium cost will apply to
all three modes of information delivery. Delivery choice is a
separate and independent organizational decision and the costs of
each delivery form become self-justifiable. This method of costing
possesses ultimate equity for consortium members of all sizes and
state location. The lower per user rate for more than 4,000 users
encourages cooperative contracting efforts among organizations and
the uniform cost regardless of delivery mode encourages the up-
grading from manual to computer systms.

The cost formula and rate were based largely upon the experience
of the Oregon CIS. Preliminary Income Projections (Appendix III-C)
indicate that COCIS must have commitments to serve some 67,000 users
by September 30, 1977 in order to generate required income for con-
tinuing program operation.' Excluding other sources of income,
a paid user base of 240,000 Coloradans is projected to ensure com-
plete self-sufficiency at the $300,000 annual budget level.

Target Populations - Marketing efforts will focus on both the edu-
cational and governmental agency markets. Initial and follow-up
marketing contacts will include but not be limited to:

- The 71 school districts with secondary school populations
  in excess of 500 students (includes both junior and senior
  high schools)

- The 17 regional Boards of Cooperative Services which provide
  centralized career education and other support services to
  groupings of school districts

- The 4 area Vocational Schools serving as special purpose Boards of Cooperative Services

- The state's 15 community colleges

- Colorado'< 13 public colleges and universities

- State Department of Labor and Employment concerning COCIS interface with the proposed computerized Job Match System

- State Department of Institutions regarding use in correctional and mental health facilities

- State Department of Social Service as applies to Welfare, WIN and vocational rehabilitation clients

- The Governor's Manpower Council and the 10 Manpower prime sponsors and appropriate subcontractors

- Selected community service programs serving disadvantaged minority populations

Successful marketing to these groups would offer COCIS a diversified user base geographically distributed throughout Colorado serving young adults and adults of all ethnic backgrouds. (See Appendices III-D through III-G,, Proposed Target Populations, Priority Groupings of Target Populations, The 5 COCIS Regions and Second Year Marketing Timetable, respectively).

Marketing Strategies - A number of underlying strategies have been incorporated into the COCIS marketing effort to optimize the total number of Coloradans using the career information system statewide.

Multiple Delivery Modes - The accelerated development of a needlesort accessing strategy to the COCIS occupations in printed forms will make statewide delivery a reality during the second grant year. This broadened product mix gives potential users a choice of computer, microfiche and print delivery to best meet their individual pocketbooks and intended application (i.e., counseling versus classroom).

Statewide Demand Stimulation - Availability of non-computerized career information delivery lifts the geographic restrictions and enables statewide marketing. Satellite offices in Grand Junction and Pueblo staffed by part-time professionals will service the sparsely populated western slope and southeastern regions of the state and lend local credibility to those areas. All three

29

delivery modes will be promoted throughout the state. This will
help to stimulate advanced demand for the computer-based system
in areas where it is not yet available and for the microfiche
system in preparation for its Fall, 1977 introduction.

Pilot Demonstration Program - In the spirit of "seeing is believing"
COCIS will make its computerized system available on an income
producing, one to three months basis to interested organizations.
In this way a leading high school within a district, special agency
programs or appropriate field locations have the opportunity to
evaluate the effectiveness of COCIS in serving the career information
needs of their particular user population. Personnel from nearby
locations may also observe the "in-house" operation and lend
knowledgeable decision making input before committing to the larger
sums required by that delivery mode. A special telephone line will
also be available for potential users to access the computerized
system for demonstrations for several hours.

Group Contracting - Many small locations, such as rural school
distrcits, may not have the financial resources to independently
subscribe to COCIS. In such cases, a number of small districts will
be encouraged to combine forces in a collective agreement whereby
the COCIS materials may be shared on a rotating basis (i.e., a
portable computer terminal). Consideration is also being given
to a costing structure which would encourage central contracting
with multiple location statewide governmental agencies.

Initial Market Contract and Research - Some school districts or
state agency offices will be more receptive to COCIS than others.
In order to optimize the success of potential of a sales contract,
an initial informal meeting will be held with central administrators
to both inform about COCIS and learn about existing and projected
programs, funding and key personnel. This meeting will allow COCIS
to better assess the level of organizational, ideological and fiscal
readiness so that marketing prospects may be prioritized. It will
also lend insights as to the prevailing patterns of decision making
efforts. Those organizations exhibiting the strongest interest and
immediate fiscal resources would become qualified COCIS prospects
and receive initial marketing attention.

Promotional Activities and Materials -

A. Presentations and Demonstrations

   Counselor, teacher, administrator and other staff groups
   within prime target schools and agencies will receive in
   person COCIS presentations. Participants will view a slide-
   tape presentation and experience a "hands-on" demonstration
   of the computer and needlesort versions. Portable computer
   terminals make on-site demonstrations possible anywhere in
   the state and the COCIS Demonstration Center provides facili-
   ties for groups up to 15 and will serve as a showcase of
   computer equipment alternatives for DISCOVER demonstrations
   during the second year of development. COCIS will also con-
   tinue promotional efforts at conferences and conventions such
   as the Colorado School Counselors Association, the State Con-
   vention of School Board Superintendents and Administrators,
   the Career Exploration Fair and other special interest gather-
   ings throughout the state.

B. Public Relations Materials

   The quarterly COCIS newsletter, "Colorado Careers" reaches
   over 800 school and agency personel with news of COCIS events
   and developments. A general purpose brochure and numerous
   special topic handouts also provide needed information regard-
   ing COCIS content, costing and equipment. A video-tape of
   student and staff reactions to COCIS test sites will also
   be available for interested viewers.

C. Media and Special Promotions

   Under consideration for second year marketing are radio and TV
   appearances, public services announcements, newspaper articles,
   production of a COCIS film for statewide circulation and
   shopping center demonstrations.

31

Training Program

The following outline of training has been prepared by the field services staff. A coordinator's handbook, which will be used as part of the training materials, is in the process of being finalized and will be available October, 1976.

In addition to supplying updated, localized occupational and educational information to subscribing members, COCIS will also provide initial and continuing training and related support services.

Local Coordinator Training

1. Each user site will designate a local coordinator at least 30 days prior to the commencement of contracted services. The local coordinator serves as the principle liaison to COCIS in communicating user problems and needs, and assumes responsibility for efficient site management.

2. Within 10 working days of the contract starting date COCIS will conduct Phase I training individually at the user site or at a central location for a group of coordinators in the case of multiple-location consortium members. Group training of coordinators will occur when georgraphic and time restraints so warrant.

3. Phase I Coordinator Training content will be oriented to the appropriate delivery mode(s) and shall include:

   - Introduction to equipment operation and troubleshooting procedures

   - Structured review of information content, methodology of preparation, and update procedures

   - Explanation and practical "hands-on" exercises of the use of COCIS accessing strategies and internal program movement (for computerized delivery)

   - Suggestions for integration into counseling and classroom activities

   - Guidelines for introduction to staff and users

   - Publicity recommendations to encourage system use

   - Research data

   - Evaluation procedures and feedback methods

4. Phase II Coordinator Training occurs 30-60 days after Phase I training. The agenda will be set with the attending coordinator(s) based on individual complaints, questions, needs and COCIS observations of use. Anticipated topics include:

23

- More detailed discussion of information content

- Applications for special purpose use in the organizational setting (i.e., for classroom social studies class or prison inmates preparing for release)

- Suggestions for COCIS content amendment and expansion

- Efficient scheduling of materials availability and use

- Potential for para-professional to assist in COCIS use (computer system)

- Further promotional recommendations to encourage staff and student/client use

- Planning for special purpose staff workshops

Staff Training

The Field Services Unit is available for special purpose staff training at school or agency request. Previous experience of Career Information Systems elsewhere indicates that many local coordinators take an active role in promoting and training CIS use among local staff. In such cases, COCIS shall serve a support role. Direct staff training will be available to teachers for instruction in classroom applications during 1977, by request. Other workshops will be developed for special purpose applications in a number of settings as indicated by the expanding nature of member organizations. As the COCIS user base grows, specialized training in areas such as these may be offered:

- Classroom exercises and applications by grade level and subject area

- Applications for vocational rehabilitation clients, mental patients, supervised legal offenders, inmates, college students, unemployed adults, mid-life career changers and pre-retirees

The potential for college credit courses in COCIS content and use also exists.

Written Support Materials

1. A User Guide for the computerized delivery mode will be available in the fall of 1976 with a needlesort and print-out instructional booklet completed by January 1977. A common occupational content will include:

- An introductory statement of "What is COCIS".

33

- Self-assessment 24 item "QUEST" questionnaire
- Alphabetical listing of occupational code numbers
- Recommendations for follow-up action after COCIS use

In addition, the computer-based system will also include instructions for moving from one program file to another and the needle-sort version of "QUEST" will offer step-by-step sorting instructions and produce exercises to ensure proper initial use.

2. An interim "Coordinator Handbook" will be available in September 1976 and will include:

- A statement of COCIS and local site responsibilities
- Guidelines for initial set up and ongoing management of the computerized system
- Explanation and brief documentation of COCIS information development rationale and procedures
- Detailed instructions for internal program movement
- Suggestions for use in counseling and classroom settings
- Equipment operations and troubleshooting procedures
- Procedures for forwarding questions about existing content and ideas for new content

During the second grant year the Coordinator Handbook will be used to reflect expanded information content and features. Sample exercises for individual and small group use in a variety of organizational settings. The final Handbook will include instructions for use of all three COCIS delivery modes.

Cost Formula

Perhaps one of the most difficult things to come to grips with is the establishment of a cost formula. COCIS staff has spent a large number of hours agonizing over an equitable method of assessing users and at the same time trying to keep the costs high enough to support the career information system. The first formula agreed upon was a per user terminal cost. This was used on an interim basis to make projections. After another period of trial and error, this formula was discarded and instead a per user fee was established. Appendix III-H contains the final cost formula approved by the Board. Appendix III-C contains the Preliminary Income Projections and their sources.

34

Materials Produced

Throughout the year COCIS has produced a number of handouts to be used during the demonstrations and at test sites. These have included: Career Exploration Handbooks, Brochures and special handouts on information content and cost. A final sales brochure is in the last stages of printing. Appendix III-I is the proposed final User Handbook designed for use in schools this fall. The final version will be available September 30.

As previously mentioned, a video tape of interviews at test sites is being prepared for use in marketing. In addition, a standardized slide-audio tape presentation is being developed.

Contracts

User contracts have been developed by Tentime for use with schools and other agencies for delivery of a computerized system. For a copy of the Tentime User Contract please refer to Appendix III-J.

The proposed COCIS-User Contract for consortium fees is in the process of being finalized. A copy of the proposed version is contained herein as Appendix III-K.

Appendix III-L is the proposed COCIS/Computer Service Contract.

Feedback

Field Service staff is responsible for providing the Information Development staff with regular feedback from users of the system. The following methods will be used:

1. User-grams which will reflect information that needs immediate attention.

2. Annual evaluations of the programs by counselors, coordinators and other supervisory personnel.

3. An on-line assessment by individual users.

4. Informal feedback, i.e., calls to user agencies, dropping in on users when in the vicinity.

5. The use of a statistical package to ascertain amount of usage of each file by each user agency.

In addition it is the intent of the User Services staff to hold regional conferences from time to time. These will also promote input and feedback concerning the effectiveness and attractiveness of the system, recommended changes, new informational needs, etc.

35

V. FINIS

The COCIS staff wishes to convey to the NOIS staff their thanks and
gratitude for their assistance, support and understanding throughout the
trials and tribulations encountered from October 1, 1975 through Sep-
tember 30, 1976.

27

36

Administrative Staff

Pauline A. Parish, Director. M.A. from Stanford in Guidance and Counseling;
Twenty-two years administrative and guidance counseling experience;
current position at University of Colorado, Director of Career Develop-
ment and Placement.

Anita Reisig, Administrative Assistant. Secretarial Diploma from
Brown-Macky Business School, Salina, Kansas. Various secretarial
positions at local Boulder firms.

Lyn Richards, Secretary. Variety of secretarial positions in various
parts of the country.

Aileen McCain, Typist. Prior to joining staff at University of Colorado
attended college in Nebraska for four years as an English major.

Information Development Staff

Warren W. Wolff, Deputy Director. Ph.D. candidate in Counseling at
University of Colorado. Extensive experience in the design of computer-
based systems as an Air Force officer; presently a Coordinator for
Career Development at University of Colorado.

John Evans, Information Development Specialist. M.S.E. degree in Guidance
and Counseling; five years experience in employment counseling and job
placement activities with special manpower programs serving military
personnel, parolees and the economically disadvantaged.

Dale Lathrop, Information Development Specialist. B.A. in Mathematics
from the University of Colorado.

Christian M. Madu, Administrative Intern. A native of Nigeria; master's
degree in Business Administration; pursuing doctorate in economics; three
years of varied exerpience in personnel administration and labor relations.

Aileen Lucero, Administrative Intern. Enrolled in Sociology
program; worked as teaching assistant and researcher for seve   can-
American employment and educational programs.
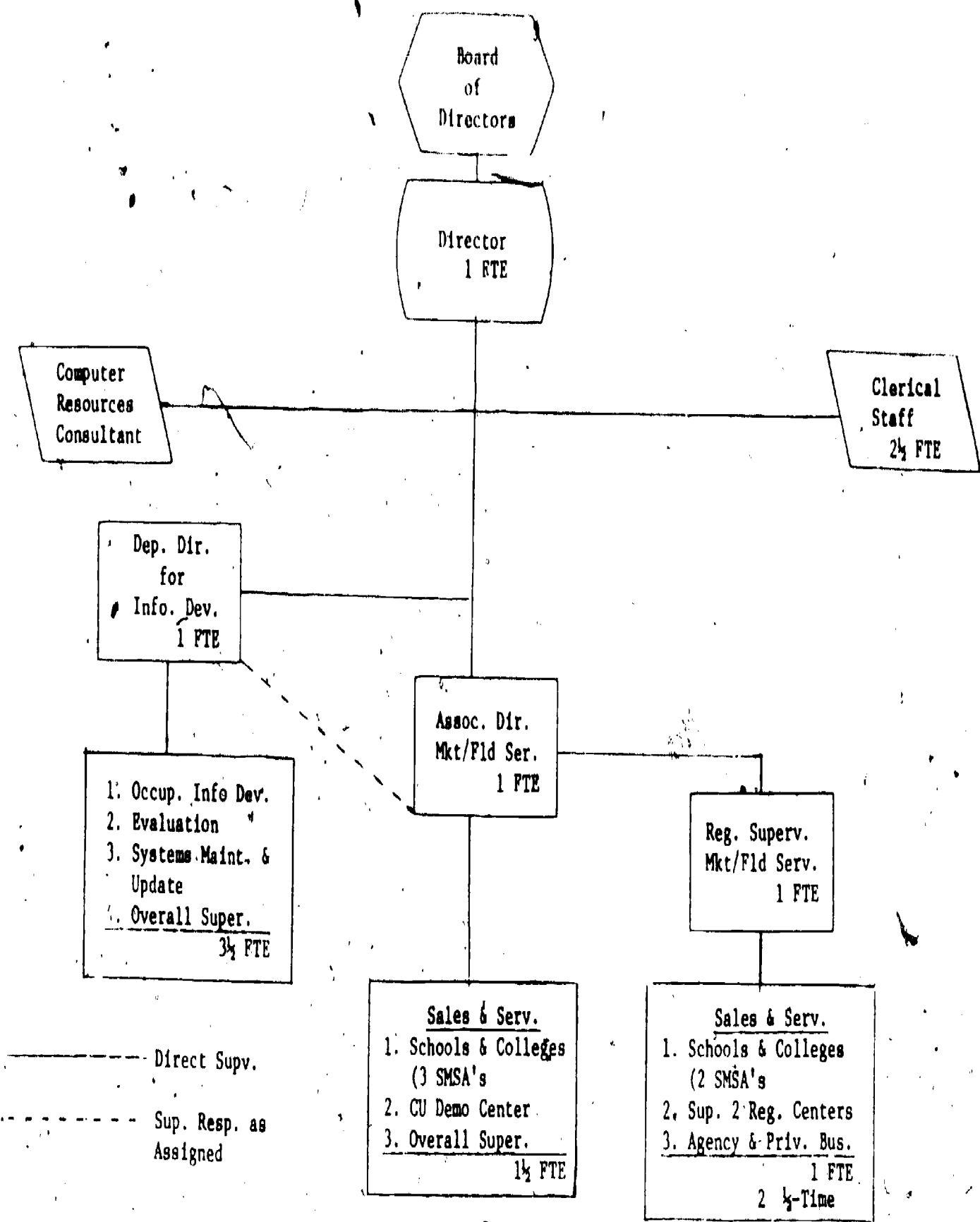
Field Services Staff

Frank Scanlon, Associate Director for Marketing/Field Services, has com-
pleted course work at the University of Colorado for his M.A. Taught
Spanish at C.U., Denver Center. Twenty years experience in marketing -
ethical medical/dental products, computerized orthodontic diagnosis system
and industrial products.

John Lickly, Maketing/Satellite Center Supervisor. M.A. in Guidance
and Counseling after three years of staff and consulting experience in
job classification and related personnel work; was involved in career
counseling and job development as a University Cooperative Education
Program Coordinator.

37

Sylvia Parker, Field Services Specialist. B.A. from Colorado State University; graduate work at University of Colorado; certified secondary teacher; labor market analyst with Stanford Research Institute for three years; additional experience in writing, research, employment counseling and testing, media production and training.

Carole Ishimaru, Administrative Intern. B.A. in English, M.A. in Psychology, Guidance & Counseling; pursuing master's degree in public administration; nine years educational experience as English teacher in Iowa, exhange counselor in Washington, elementary and psychology teacher in Hawaii.

33

Board of Directors

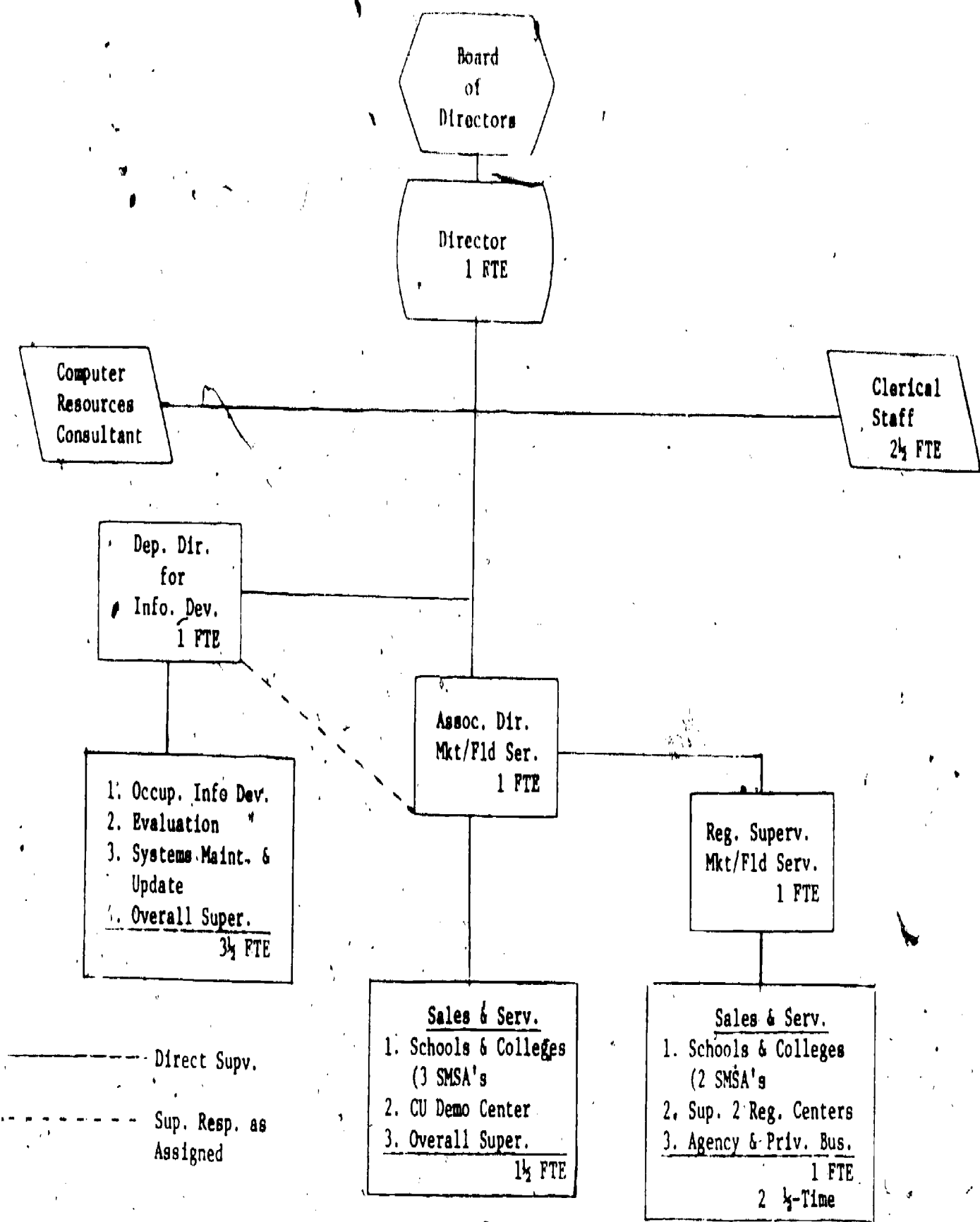Director
1 FTE

Computer Resources Consultant

Clerical Staff
2½ FTE

Dep. Dir. for Info. Dev.
1 FTE

1. Occup. Info Dev.
2. Evaluation
3. Systems Maint. & Update
4. Overall Super.
3½ FTE

Assoc. Dir. Mkt/Fld Ser.
1 FTE

Reg. Superv. Mkt/Fld Serv.
1 FTE

——————— Direct Supv.

- - - - - - - Sup. Resp. as Assigned

Sales & Serv.
1. Schools & Colleges (3 SMSA's
2. CU Demo Center
3. Overall Super.
1½ FTE

Sales & Serv.
1. Schools & Colleges (2 SMSA's
2. Sup. 2 Reg. Centers
3. Agency & Priv. Bus.
1 FTE
2 ½-Time

Appendix I-B

40

NEW ORGANIZATION STRUCTURE

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                          ┌──────────┐
                          │  Board   │
                          │   of     │
                          │ Directors│
                          └────┬─────┘
                               │
                          ┌────┴─────┐
                          │ Director │
                          │  1 FTE   │
                          └────┬─────┘
                               │
┌──────────┐                   │                    ┌──────────┐
│ Computer │                   │                    │ Clerical │
│Resources │───────────────────┼────────────────────│  Staff   │
│Consultant│                   │                    │  2½ FTE  │
└──────────┘                   │                    └──────────┘
┌──────────┐                   │
│ Dep. Dir.│                   │
│   for    │                   │
│ Info. Dev│                   │
│  1 FTE   │                   │
└────┬─────┘            ┌───────┴──────┐
     │                  │ Assoc. Dir.  │
     │                  │ Mkt/Fld Ser. │
     │                  │   1 FTE      │
     │                  └───────┬──────┘
┌────┴────────────┐             │            ┌──────────────┐
│1. Occup. Info Dev.│           │            │ Reg. Superv. │
│2. Evaluation      │           │            │ Mkt/Fld Serv.│
│3. Systems Maint. &│           │            │       1 FTE  │
│   Update          │           │            └───────┬──────┘
│4. Overall Super.  │           │                    │
│            3½ FTE │           │                    │
└───────────────────┘           │                    │
                          ┌──────┴──────────┐  ┌──────┴──────────┐
                          │  Sales & Serv.  │  │  Sales & Serv.  │
                          │1. Schools & Colleges│ │1. Schools & Colleges│
                          │   (3 SMSA's     │  │   (2 SMSA's     │
                          │2. CU Demo Center│  │2. Sup. 2 Reg. Centers│
                          │3. Overall Super.│  │3. Agency & Priv. Bus.│
                          │         1½ FTE  │  │            1 FTE │
                          └─────────────────┘  │          2  ½-Time│
                                               └─────────────────┘
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——————— Direct Supv.

– – – – – Sup. Resp. as
          Assigned

August 1976 - COCIS Board Members

Wilbur M. Richardson, Director
Div. of Automated Data Processing
2002 S. Colorado Blvd.
Denver, Co. 80222
759-1221

Dr. Keith Asplin, Director
Academic Affairs
Colorado Commission on Higher Education
Room 1000
719 State Services Bldg.
1525 Sherman Street
Denver, Co. 80203
892-2723; 892-2115

Peter Burton, Director
Personnel Research, Planning and
  Information
United Bank of Denver
P. O. Box 5247
Denver, Co. 80217
861-8811

Mr. Michael Byrne, Exec. Vice President
.Chamber of Commerce
7100 N. Broadway Bldg., 1B
Adams City, Co. 80221
426-1570

Mr. Robert Cooley, Director
Southeast Metropolitan BOCES
3647 S. Santa Fe
Englewood, Co. 80110
761-8757

Gary E. Angerhofer
Management Analyst II
Department of Social Services
1575 Sherman, Room 710
Denver, Co. 80203
892-2444

41

Gerald Gerber
Career Development and Counseling
University of Southern Colorado
Pueblo, Co.
549-2581

Paul Hoskins
Division of Labor and Employment
1210 Sherman, Room 358
Denver, Co. 80203
893-2400

Dr. Ronald Kelton
Colorado Department of Education
State Office Building
201 E. Colfax
Denver, Co. 80203
892-2247

Lloyd Lawson
State Board for Community Colleges
and Occupational Education
State Services Bldg.
1525 Sherman
Denver, Co. 80203
892-3071

George Mercer, Counselor
Craig Junior High School
Craig, Colorado
824-3287

Irv. Moskowitz
Career Education Center
Denver Public Schools
2650 Eliot Street
Denver, Co. 80211
458-8218

V   42

Ms. Ellen Mrachek
2270 Oswego
Denver, Co.
366-0575

Gene Nightingale
State Office of Planning and Budget
1525 Sherman, Room 617
Denver, Colorado 80203
892-3386

Jack Offerle
Personnel Officer
Department of Institutions
4150 S. Lowell Blvd.
Denver, Co. 80236
761-0220 Ext. 410

M. L. Sandos (Sam)
Manpower Development and Training
770 Grant, Room 222
Denver, Co. 80203
892-3165

Ms. Margaret Whelan
850 20th Street
Boulder, Co.
442-2434/

43

MINUTES OF THE COCIS BOARD MEETING
9:00 a.m., November 25, 1975

The members of the COCIS Board were introduced by the Acting Chairperson, Wilbur Richardson. Members present were: Miles Riznik, representing the Department of Institutions 761-0220 x 208, Rich Adamich, State Planning and Budget 892-3386, Frank Abbott, Colorado Department of Higher Education 892-2723, James Harris (substitute), State Board for Community Colleges and Occupational Education 892-2335, Chuck Sisson, Department of Education 892-2247, and Herrick Roth 573-6440, Colorado Department of Labor and Employment. Representatives of State Social Services and State Manpower Services were not present. Visitors were: Eric Durland, State Planning and Budget 892-3386, and the COCIS Staff members: Pauline Parish, COCIS Director; Warren Wolff, Associate Director for Occupational Information and Systems Modification; Tim Rivera, Associate Director for User Services; Jean Wisner, Occupational Information Specialist; John Evans, Occupational Information Specialist; John Lickly, User Services Specialist; Linda Wilkinson, Su-Yu Wu, and Terry Odendahl, Administrative Interns.

Pauline Parish introduced her staff and explained staff organization. The COCIS staff is organized functionally to accomplish two main tasks: Occupational Information Development staff is responsible for the preparation of occupational information, systems design and modification. The User Services staff is responsible for the sales and marketing of the COCIS system, in-service training programs, contact negotiation and trouble shooting. Each staff member introduced themselves and gave brief personal information. Ms. Parish mentioned that COCIS is still missing one professional staff member, a User Services Specialist, and 2 and 1/2 clerical staff members who will be hired in the near future.

Tim Rivera briefed the board on the Consortium Constitution by high-lighting each article of the constitution and explanation of the responsibilities of the Board.

Ms. Parish mentioned that there had been some controversy in the U.S. Department of Labor, Manpower Administration over requiring an Interagency Consortium. Some felt that State agencies could not work well together but Ms. Parish said that it has worked out well for Colorado in the past. She also said that the COCIS staff was required to submit a constitution in order to receive the grant. However, she stressed the fact that nothing was particularly sacrosanct in the constitution except for a few points which were stipulated in the grant and that the Board should feel free to make any changes they felt necessary.

Mr. Abbott asked if this was the first board meeting. He said it seemes as if a lot had already been done. He was concerned that the board would really be a governing body. The Chairperson replied that there had been an advisory committee which had assisted throughout the development of the grant proposal. Pauline Parish mentioned that she felt the COCIS staff needed a board and to have someone to turn to when they needed help. She said that in his position as Chairperson of the Interim Committee, Wilbur Richardson had been a most effective and helpful person.

The election of officers was discussed. Since there was not a quorum present the board decided to delay elections until the next meeting and decided to appoint an interim chairperson at the end of the meeting.

Ms. Parish asked how the board would like to proceed with the appointment of the rotating members of the board. She suggested that the staff might be able to give the board some help by suggesting people who had already served on similiar boards in the past, such as CVIS. She suggested that she didn't want to take over any of the functions of the board but that the staff would assist if the board wished.

Mr. Abbott agreed with the procedure suggested by Ms. Parish. Mr. Harris suggested that the staff get a list together with background of people they think would be good on the board, and that the board members would also make nominations.

Ms. Parish gave a brief history of the COCIS Project. The computerized Vocational Information System (CVIS) was implemented in the Boulder Valley School District and is currently in operation there and in eight other schools in the suburban Denver area. The CVIS Project was initiated by Chuck Sisson and carried out through the efforts of Larry Pape. The funding for this project was received by the State Department of Education, from Title III funds and was supervised by Denver Area School Superintendent's Council (DASSC).

The Oregon Occupational Information Access System (OIAS) was implemented at the University of Colorado with funding from the University, grants from the Boettcher Foundation and the Colorado Commission on the Status of Women, and assistance from the Research and Analysis Unit of the State Department of Labor and Employment.

These two projects agreed to merge and to cooperate in the preparation of an initial planning grant for the development of the Colorado Career Information System. The project was approved by both Governors Vanderhoof and Lamm. The State of Colorado was one of twenty out of 44 to receive an initial planning grant of $5,000 and one of eight to actually receive a final grant. The total money to be received by the state over a four year period will be approximately $1,000,000. There has been a history of real cooperation between all the various agencies in the state in order to make the grant happen.

In the first year (Oct. 1, 1975 - Sept. 30, 1976) the state will receive $331,856. The budget was negotiated for the Board by the State Planning and Budget Office with the NOIS (National Occupational Information System) Manpower Administration of the U.S. Department of Labor. This year the state will provide $50,000 of in-kind service. Next year the state is expected to provide approximately 25 to 30% of the Federal budget which will remain approximately the same. In the third year, the federal government will fund 50-75%, and the final year, the federal government will fund 25-50%. By this time the COCIS system should be self-supporting, obtaining its budget from user fees.

Mr. Sisson asked if the money was handled through Colorado University or through the state. Mr. Adamich replied that State Planning and Budget Office was the apportioning agency although most of the money is channeled to CU. The Budget Office will keep 10-20% of the overhead for its own administrative costs.

45

The Chairperson mentioned that the success of the COCIS project has to do with the success of the staff in marketing it. He said that it was planned to be self-supporting. A majority of the costs probably would be paid by the user.

Warren Wolff gave an overview of the COCIS Project. The underlying assumption made by the Department of Labor was that local career employment and educational information was available, but was not getting to the people who needed it. Along with this the Department of Labor realized that some good delivery systems (both computer and microfiche) were available for delivering this information. So the Department of Labor thought that a combination of these two would be beneficial and was needed and decided to fund those states with the best proposals and most impressive records of state cooperation on the proposed project.

The primary target populations for the first year of the grant will be secondary school students, school drop-outs, and ethnic minority groups. Other important target populations are community colleges and universities, correctional institutions, employment service offices, welfare offices and libraries throughout the state.

CVIS is already operating in the Boulder Valley Schools and some areas of Denver. The Oregon system is operating at C.U. However, the staff realizes that there will be some trouble getting computer systems into all areas of the state and, consequently, Vocational Information for Education and Work (VIEW) the microfiche system will be also utilized in these places. The computers used will be the IBM 370 and DEC 10 Computers in the Boulder Valley Schools and the State Human Resources Computer in Denver. The Human Resources Computer will be able to deliver to all county seats if terminals are allocated for use in the State Teleprocessing Network in the next fiscal year.

Mr. Abbott asked if there was a central data base of information on some computer in the state.

Mr. Wolff replied that there will be two identicial data bases, one at the Boulder Valley Schools serving the Eastern slope and Denver metropolitan area and the State Human Resources computer serving all the county seats. From the county seats, lines can be run to various school systems throughout the state. However, it is possible that if a school system has access to a computer capable of operating COCIS and it is economically feasible, a school system could replicate the information already in the primary two computers.

Jean Wisner discussed the information sources which the COCIS staff is developing. These sources are statewide and regional organization and individuals, such as the Employment Service, the Mountain States Employers Council, the DIME project, various Chambers of Commerce through the state, Federal government agencies and various publications. Ms. Wisner said that the staff is establishing contacts with these agencies and procedures for obtaining information. She also mentioned that she is developing a COCIS library consisting of a collection of books, organizational information and national labor market and cataloging the materials.

John Evans discussed the problems incurred in the selection of occupations to be used in the system and a classification method. He mentioned the list of occupations already developed for the system and some critieria for including occupations in the system (i.e., the number of people employed in the occupation within the state, identifiable-training programs within the state, future prospects for projected growth for the occupations, the emerging occupations within the state and the strength of interest shown towards a particular occupation).

Mr. Evans mentioned that a secondary list of occupations is being prepared in which there is little data. These occupations will be gradually added to the system when accurate job descriptions, labor market data, and projections are completed. This information will be checked for accuracy by the Research and Analysis Unit of the Department of Labor and Employment. The DOT Occupational Analysis Field Center in Salt Lake City will be providing information on emerging occupations in the mountain states area.

Mr. Abbott asked what Mr. Evans meant by local. Mr. Evans explained that the state will be divided into five regions and specific information about occupations in each of these regions may be obtained by the user.

Mr. Abbott asked if the State Board for Community Colleges and Education Occupations had a fairly comprehensive list of this information. Mr. Harris replied that they did and had been working on it for about seven years. Mr. Abbott said that to be blunt he thought that the COCIS staff and the State Board ought to be getting together on this. Mr. Wolff replied that he didn't think there was any problem there and that there has been extensive cooperation between the two groups.

Terry Odendahl discussed the Women's Career Counseling File. This particular part of COCIS contains information on traditional and nontraditional jobs for women, employment myths and stereotypes about women, data on how to find a job, resources for women in the state of Colorado, and a bibliography of books for the interested woman to read.

Warren Wolff enumerated the problems the staff had related to Occupational Information Development. One major problem continues to be the receipt of information from the Division of Employment. Several meetings have been held between the Employment Service Research and Analysis personnel and the COCIS staff. Cooperation has been good but the problems to be overcome in generating the information in the format required are very complex. And a final concern is the absence of terminals in the state. Warren observed that there seemed to be adequate computer time-sharing capability but insufficient numbers of terminals to allow use of the computers.

Su-Yu Wu discussed the conversion of the system from a machine dependent system to one which can be used on different types of computers.

Warren Wolff discussed the Discover Software. Note Discover is the second generation CVIS. Discover is another computerized careering information system being developed by a joint HEW - IBM grant based at Western Maryland College. It will be installed in the Boulder Valley Schools in the next year.

Mr. Wolff also gave a terminal equipment report. He said that the COCIS staff has purchased a Texas Instrument portable terminal for use in demonstrations of COCIS. A second portable terminal is on order and should arrive in February.

Three terminals are also on-order which will be used in the COCIS demonstration Area at C.U. Two new DEC terminals with a built-in copier can provide a copy for the user of anything displayed on the screen. The third terminal is a DEC teletypewriter machine for use in inputting and editing by the development staff. Larry Pape is placing this order through Boulder Valley Schools and is receiving a quantity discount of which COCIS can take advantage. This will mean that current CVIS users will also receive the new DEC terminal in April, 1976.

After re-convening from a break, Tim Rivera discussed the User Services Side of the COCIS Project. He said that they are trying to make people aware that they exist by use of a newsletter, publications, demonstrations of the system, development of extensive mailing lists, and by the identification of a target population.

Linda Wilkinson talked about the publicity which was being developed. She mentioned the design of a brochure explaining the system, the compiling of notebooks of computer printouts on various parts of the system, and various publicity materials. She invited the Board to look at these materials at the end of the meeting.

John Lickly discussed the demonstrations that had already been done and were planned for the future. He enumerated the ten demonstrations which have been completed thus far.

Ms. Parish briefly discussed a Marketing Plan that is currently being developed by the User Services staff and herself. She mentioned that people are welcome to come to the COCIS office or that COCIS Staff would go to them for any demonstrations.

Mr. Abbott asked if they would be advertising as a delivery system on microfiche or computers.

Ms. Parish replied that there were a variety of options open. It is possible to use the computerized terminal system now. Such things as long distance or Watts lines across the mountains would be discussed. She said that the User Services Staff will work with each contracting agency separately and negotiate for their individual needs. The microfiche delivery system will not be developed until next year.

Mr. Sisson brought up the idea of using the state microwave system for transmitting, but it was mentioned that most of the microwave equipment in the state is out of date.

John Lickly discussed the alternatives for contracts and pricing. He mentioned that the total user cost involves the operational costs plus consortium costs. Operational costs involve hourly, monthly, or yearly computer use, terminal rental, and communication charges, such as long distance telephone calls. The Consortium charges involve informational updates, system improvements and new developments, in-service training for counselors, and continuing marketing efforts. Pricing alternatives include charging by the terminal, number of user schools or agency cities, number of potential student or client users. number of actual student or client users and number of hours of on-line use.

Operational costs for Colorado CVIS users are now approximately $3,800 per year. To maintain a self-sufficient program at the current funding level, consortium cost would need to be set at around $1,200 per terminal (assuming 250 terminals were in use.) The $5,000 total user cost per terminal estimate represents $3.30 per hour of use to a school using COCIS eight hours per day, five days per week for nine months each year.

Tim Rivera discussed the fact that although there are no users now the User Services Staff will be responsible for in-service training and trouble shooting. Warren Wolff mentioned that COCIS staff could be doing in-service training and orientation with current CVIS users in January. In fact, we do have users currently on board.

Warren Wolff discussed Project Discover, a system developed jointly by HEW and an IBM grant. This system allows the student or client to enter it at a particular level of career maturity. In addition there will be a college version supported by the Exxon grant for the college student seeking assistance in career decision-making. Mr. Wolff indicated the numerous advantages of this system but also said that it would not be on the market until July, 1976.

Ms. Parish mentioned that the Colorado system had the possibility of becoming a test-site for Discover. We are now the third choice next to Baltimore and Illinois. She felt we would be a good choice for a test-site because of our Chicano population.

Ms. Parish discussed the Colorado-Oregon Contractual Agreement. She explained that the first contract which Oregon hoped to negotiate with Colorado was not sufficient for our needs because it limited the changes which the COCIS project could make on the system. The Oregon contract negotiations are underway to make the contract less restrictive.

Ms. Parish also stated that the grant stipulated two types of evaluations which must be made on the project, a Process Evaluation Plan and an Impact Evaluation Plan. Eric Durland, the evaluator for the State Planning and Budget Office stated that he was responsible for the evaluation. Ms. Parish mentioned that this evaluation and method must be approved by the Board.

Mr. Wolff suggested that an Interim Technical Committee might be appointed to help the staff in evaluating and approving of technical decisions dealing with computer networks, communications and terminal features. The chairpersons agreed to draw up a list of possible candidates for this committee and present it at the next board meeting.

Ms. Parish discussed the Washington training conference which was held November 10-14 for the State Directors and Associate Directors for Occupational Development. At this meeting Ms. Parish and Mr. Wolff were able to meet and work with the NOIS staff and learned what the staff had to offer local development of systems.

The Board asked Wilbur Richardson to serve as interim chairperson until the permanent officers are elected.

The next meeting was to be set for the week of the 15th of December.
The meeting was adjourned at approximately 12:00 noon. A demonstration
of the terminal was provided for interested members of the board follow-
ing the meeting.

MINUTES
COCIS BOARD OF DIRECTORS MEETING
January 7, 1976, 1:30 p.m.

PRESENT:

Board Members

Wilbur Richardson, Division of Automated Data Processing, Ad Hoc
Miles Reznik, Department of Institutions
Fred Langille (for Henry Foley), Social Services
Keith Asplin, Colorado Commission on Higher Education
Charles Sisson, State Department of Education
Lloyd Lawson, State Board for Community Colleges & Occupational Education
Richard Adamich, State Planning and Budget Office
Leslie Schlitt, Department of Labor and Employment
Pauline A. Parish, Director, COCIS, Ad Hoc

Other

Eric Durland, State Planning and Budget, program evaluator for state
John R. Lickly, Associate Director, COCIS
Jean Wisner, COCIS staff member

ABSENT:

Board Members

M. L. Sandos, Colorado Division of Manpower

        The meeting was called to order by Wilbur Richardson at approximately
1:30 p.m.

        The minutes of the last meeting were approved as circulated.

        Pauline Parish explained the Financial Report. There was no dis-
cussion about the report.

Old Business

        Election of Officers. Keith Asplin nominated Les Schlitt for
chairperson. The nomination was seconded and he was unanimously voted
as chairperson. The election of other officers was postponed until other
board members are finalized. There was no further discussion on the election
of officers.

        Consideration of New Board Members. In addition to the 8 permanent
members on the board, 8 to 10 rotating members will be appointed. A list of

-1-

potential members prepared by the staff was distributed to each board member.
Les Schlitt sugge~~~~~~~each board member choose his top three candidates
from the list and~~~~those choices to the next board meeting. He also
suggested that if~~~~board members had additional names to recommend, that
that board mem~~~~~~~submit the names to Mr. Schlitt prior to January 19.
Les Schlitt would then inquire as to their willingness to serve on the board.
It was discussed that other considerations for representation on the board
are: private business sector, geographical distribution, labor unions,
legislature and student user.

   Appointment of Technical/Committee. Wilbur Richardson agreed to
act for the board as chairperson of the Technical Committee. He suggested
and it was agreed that Bob Yackell (Planning and Coordination Team of ADP)
would be the state's representative on the Technical Committee. There was
no further discussion about the Technical Committee since Warren Wolff
was not present.

   Wilbur Richardson mentioned that the statewide teleprocessing
network is behind schedule and that it has an unknown future.

New Business

   Oregon Contract. A copy of the proposed contract was distributed
to each member. Pauline Parish explained that the contract was rewritten
because it placed potential restrictions upon future development and
modifications unless approval was given in advance by Oregon CIS. The current
revision is based on the State of Washington contract. Lloyd Lawson ques-
tioned why COCIS had to pay Oregon $2,000 for information in the public
domain. Pauline Parish responded that QUEST is copyrighted and for Oregon
to support and maintain the system, it must be self supporting. Colorado
has the same problem.

   Letter of Intent to DISCOVER. A copy of the letter of intent to
use DISCOVER was distributed to the Board. It was pointed out that the
letter was not a binding contract. Miles Reznik raised the problem of
the fiscal years being different for DISCOVER and COCIS. DISCOVER's fiscal
year begins July 1. Les Schlitt suggested that we pay DISCOVER on a quarterly
basis in an effort to solve the fiscal year problem. It was mentioned that
COCIS will be getting special privileges since Larry Paper is on the Board
of Directors. COCIS will receive the use of DISCOVER software for one year
free beginning April 1 rather than July 1. Chuck Sisson raised the question
of what year would be the best to get free. Pauline Parish mentioned that
DISCOVER would find it more helpful if we paid the fee the first year.

   Cost Structure. John Lickly presented his report on consortion
costs. Four different cost methods were mentioned (i.e., cost method per
terminal, user, building and consortion member). There was sentiment that
the per building method had the least to offer. Wilbur Richardson felt that
a combination of the remaining three methods was the only way to go. Eric

Durland brought up two points -- that the system should be affordable and widely distributed.' Pauline Parish questioned whether or not it was good psychology to give users the system free now and then charge later when the federal funds ran out. Eric Durland felt that we would have to know how many users there would be before we decide on consortion costs. John Lickly said the cost didn't seem to be a major factor to most potential users. People he spoke with would pay as much as $2,000 for consortion costs. The general consensus was that consortion costs charged now would build up revenues to use in the future for program development as federal funding recedes. The problem of how to handle that money was raised and Rich Adamich said that he would look into the guidelines and limitations of our contract to see if we could hold over funds.

Chuck Sisson raised the question of who would be billed for computer time. Pauline Parish said that the users would be responsible for paying the actual vendor. COCIS would only be involved with consortion costs; however, the COCIS staff would make the users aware of different vendors.

Miles Reznick asked that John Lickly consolidate the three best cost formula alternatives for the board to address at the next meeting. Rich Adamich said that he would consult with Mr. Lickly regarding pricing before the next meeting.

Status Report. Jean Wisner presented the status report for the Information Development staff. The contacts that the staff have made were enumerated and the procedures that have been adopted for development of occupational descriptions were explained. Research is currently being done in the classification system to be used in COCIS.

Time and Place for Future Meetings. Pauline Parish suggested that the board meet monthly initially. Les Schlitt asked the board members what days would not be good for them to meet and he will work on a permanent day for meetings prior to the next meeting.

Adjournment

There being no further business, the meeting was adjourned at approximately 3:30 p.m.

MINUTES
COCIS BOARD OF DIRECTORS MEETING
February 17, 1976, 1:30 p.m.

PRESENT:

Board Members

Miles Reznik, Department of Institutions
Lloyd Lawson, State Board for Community Colleges and Occupational Education
Richard Adamich, State Planning and Budget Office
Leslie Schlitt, Department of Labor and Employment
Pauline A. Parish, Director, COCIS, Ad Hoc

Other

Eric Durland, State Planning and Budget Office, program evaluator for State
John R. Lickly, Associate Director, COCIS
Warren W. Wolff, Associate Director, COCIS
Sylvia Parker, COCIS staff member
John Masci, COCIS staff member

ABSENT:

Board Members

Wilbur Richardson, Division of Automated Data Processing, Ad Hoc
Henry Foley, Social Services
Keith Asplin, Colorado Commission on Higher Education
Charles Sisson, State Department of Education
M. L. Sandos, Colorado Division of Manpower

        Since there were not enough members present to reach a quorum
an informal discussion was held rather than a formal meeting of the Board of
Directors. The minutes of the previous meeting and the financial report
were not discussed. The financial report is attached.

National Occupational Information Service (NOIS)

        Polly Parish reported that on February 2 and 3, 1976, Kathy Naughton,
the Project Monitor and Maurice Burch of the Technical Assistar^e Staff
visited in Boulder. They came to receive an overview of the status of the
project and were pleased and satisfied by the situation. Lloyd Lawson
suggested that a copy of their report to their supervisors be requested.
This was agreed upon by the members present.

54

MINUTES
COCIS BOARD OF DIRECTORS MEETING
February 17, 1976, 1:30 p.m.

PRESENT:

Board Members

Miles Reznik, Department of Institutions
Lloyd Lawson, State Board for Community Colleges and Occupational Education
Richard Adamich, State Planning and Budget Office
Leslie Schlitt, Department of Labor and Employment
Pauline A. Parish, Director, COCIS, Ad Hoc

Other

Eric Durland, State Planning and Budget Office, program evaluator for State
John R. Lickly, Associate Director, COCIS
Warren W. Wolff, Associate Director, COCIS
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ABSENT:

Board Members

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This was agreed upon by the members present.

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Ms. Parish also reported that on February 23 through 27, 1976, she and John Lickly will attend the NOIS inservice workshop for User Services in Washington, D. C. The topics of the workshop will be the Marketing Strategy and the Impact Evaluation.

Information Development Activities

Warren Wolff reported that the system will be ready the first week in March.

He also reported that the test sites have been chosen and the testing will be done in two phases. All expenses for the testing will be paid by COCIS. The first draft of an evaluation has been completed.

Phase I - Schools only, since they are in session then, but will not be open during the summer. Phase I tests will be held from mid-April to mid-May.* The sites will be:

1. Grand Junction at Mesa College, to cover the Western Slope. The testing will be at the Career Center and students from local high schools will come to the college.

2. Pueblo at Southern Colorado University to cover the medium-sized city. Local high school students will be brought to the University to test the system.

3. North High School, Denver to cover both the large city and a school with a good racial mix.

4. San Luis Valley - an exact location has not yet been determined. This location will cover the rural and Chicano areas.

    A fifth test site will be conducted on the DISCOVER system and will be conducted at C.U. Boulder with students from Lincoln High School in Denver.

Phase II - will be conducted later in the spring and summer and will include employment offices, libraries, institutions and Manpower offices.

There are further developments in the choice of hardware. The CRT with copier that has been previously mentioned has been rejected due to lack of cooperation from the manufacturer and to reports that there have been problems with the copier. Currently there is a re-evaluation of possible terminals taking place. Also, a light pen has been found for use with DISCOVER that is reasonably priced.

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*There will be an on-site test monitor at each site trained and paid by COCIS.

Field Services Activities

John Lickly reported that the first issue of the newsletter will be completed next week. If any one wishes to add to the mailing list, please send the names and addressed to the COCIS office.

He also reported that three demonstrations were held recently at the Denver Public Schools, Jeffco Schools and at C.U. for the Directors of Counseling from Denver and Arapaho Community Colleges.

Mr. Lickly also said that the marketing plan will be directed to counselors and administrators as well as to school boards. The first efforts will be placed on the 16 largest school districts.

Proposed Consortium Cost Formula

John Lickly distributed a handout, included with these minutes, explaining the proposed consortium cost formula. An extensive discussion followed touching on these topics: definition of the word "location," the potential income using formula, the potential first year income, the gross income to maintain the project, if over-subscribed, the possibility of a rebate, how the funds will be handled and the relationship with the State Planning and Budget Office, the costing formula for the use by the private sector, the costing formula from the other grant states, the possible validation of the cost formula with potential user school budgets.

Polly Parish, at the conclusion of the discussion, asked if the formula could be tried on for size. There was general agreement that it should.

Marketing Plan

John Lickly said that this would be discussed at the next board meeting after he and Polly Parish returned from the Washington, D. C. meeting on marketing strategy.

New Board Members

Due to a lack of a quorum, the choice of the new members was left to the next meeting. Leslie Schlitt recommended that a copy of this list be sent to all board members who were not present. He also said that new names could be added at the next meeting.

Letter to the Department of Labor and Employment

There was discussion about the possibility of sending a letter to the Department of Labor and Employment to obtain the additional help needed for the necessary labor market information. After extensive discussion it was agreed that the COCIS staff would send a letter to Bob Scott requesting the help.

Evaluation

Eric Durland reported that he has done nothing toward the evaluation due to the pressure of work in the State Planning and Budget Office.

The meeting was adjourned at 4:00 p.m.

57

MINUTES
COCIS BOARD OF DIRECTORS MEETING
March 30, 1976, 9:30 a.m.

PRESENT:

Board Members

Charles Sisson, State Department of ·Education
Wilbur Richardson, Division of Automated Data Processing, Ad Hoc
Pauline A. Parish, Director, COCIS, Ad Hoc

Other ·-

Warren W. Wolff, Associate Director, COCIS
·John R. Lickly, Associate Director, COCIS
Jean Wisner, COCIS staff member ·
Elizabeth Goldin, COCIS staff member

ABSENT:

Board Members

Miles Reznik, Department of Institutions
Lloyd Lawson, State Board for Community Colleges and Occupational Education
Richard Adamich, State Planning and' Budget Office
Ray Garvey, Social Services
Keith Asplin, Colorado Commission on Higher Education
M. L. Sandos, Colorado Division of Manpower

Other

Eric Durland, State Planning and Budget Office, program evaluator for State

Since there were not enough members present to reach a quorum
an ·informal discussion was held rather than a formal meeting of the Board of
Directors. The minutes of the previous meeting and the financial report
were not·discussed. The financial report is attached. Since there were so
few board members in attendance, it was decided that in the future, all
board members would be contacted and reminded several days prior to the
meetings.

New Board Members

It was decided by those present that a letter would be sent to
the board members who were not present at the meeting asking for their
approval to submit the following names to the governor for nomination
as board members: Peter Burton, Michael Byrne, Robert Cooley, Blanche

58

Cowperthwaite, Gerald Gerber, George Mercer, Irv Moskowitz, Ellen Mrachek, and Margaret Whelan. The board members were instructed to respond if they had any objections by April 16, 1976.

Delivery Vehicles

Polly Parish announced that Larry Pape has submitted his resignation effective May 1, 1976 as technical consultant to COCIS. Since his presence at Boulder Valley Schools was the reason for COCIS using Boulder Valley Schools as its primary deliverer of the system, alternative delivery vehicles were discussed.

Technical Committee

In order for Field Services to put on demonstrations, Wilbur Richardson advised that the cost of hooking up a dial-up teletype port into the State IBM 370-145 would be a $74.63 installation fee and a $53.66 monthly charge. He also advised that there would be a 30 to 45 day waiting period once we made the decision to do it.

Warren Wolff stated that he would meet with Bob Yackell (Planning and Coordination Team of ADP) and Mike Ellis (Boulder Valley Schools) next week to discuss the capabilities of putting DISCOVER on the State IBM 370-145 and problems inherent therein.

Classification System

Jean Wisner was to present a Position Paper on the Classification System for COCIS. The presentation was postponed to the next board meeting due to the lack of a quorum. Attached is a copy of the position paper.

The meeting was adjourned at 10:45 a.m.

59

MINUTES
COCIS BOARD OF DIRECTORS MEETING
May 27, 1976, 10:00 a.m.

·PRESENT:

Board Members

Ray Garvey, Social Services
Paul Hoskins, Labor and Employment
Kenneth McNulty, Manpower Council
Miles Reznik, Department of Institutions
Charles Sisson, State Department of Education
. Wilbur Richardson, Division of Automated Data Processing, Ad Hoc
Pauline Parish, Director, COCIS, Ad Hoc

Other

Eric Durland, State Planning & Budget Office, program evaluator for State
Mike Ellis, technical consultant, COCIS
Helen Rubinstein, R & A Unit, Division of Labor
Warren W. Wolff, Associate Director, COCIS
John R. Lickly, Associate Director, COCIS
Elizabeth Goldin, COCIS staff member

ABSENT:

Board Members

Richard Adamich, State Planning & Budget Office
Keith Asplin, Colorado Commission on High Education
Lloyd Lawson, State Board for Community Colleges and Occupational Education

Wilbur Richardson called the meeting to order at approximately 10:00 a.m.
The minutes of the last meeting and the financial report were approved. Polly
Parish reported that a revolving account will be set up when we begin receiving
income. This is a requirement of NOIS - all income to COCIS is to be returned
to COCIS. She also reported that she is in the process of revising the
budget categories for this year's budget at the request of NOIS. She was
advised by NOIS that any money that is left over this year will be applied
to next year's budget; however, we were urged to spend this year's money
this year. •

New Board Members

Wilbur Richardson reported that the appointment letters to the new board
members were in the governor's office and would probably be mailed out on
Friday, May 28, 1976. Polly Parish gave a run down of the new prospective
board members, giving a brief statement on each.

Cost Formula

John Lickly reported that an interim cost formula of $1,000 per computer terminal has been proposed. The reason for the interim cost formula is that CVIS schools will be using COCIS in the fall and have had cost questions so that they can budget. John Lickly felt that the $1,000 cost is in line with future pricing. John Lickly reported that he felt the problem with a per terminal cost formula is that we may later use microfiche. He is working on a uniform cost formula. Prior to the next board meeting, John Lickly will distribute various cost formula alternatives to the board members so that it can be discussed at the meeting.

Wilbur Richardson questioned why CU hasn't had to pay Oregon for CUCIS when COCIS had to pay $2,000. Warren Wolff explained that CU provides COCIS with alot of free time on their computer. Wilbur mentioned that others are giving us free time (e.g., judicial center) and he felt that COCIS should charge CU just like any other user. Chuck Sisson agreed. It was agreed that costs incurred by CU or other donors of services and personnel should be recorded and applied against future use charges or shown as state contributions to the development of the system.

Relationship with Boulder Valley Schools & Tentime Company
DEC 10 Conversion Progress Report

Due to the resignation of Larry Pape, Boulder Valley Schools has asked to terminate most of their contract with COCIS. Tentime Co. (Mike Ellis) had been subcontracted by Boulder Valley Schools to do the DEC 10 conversion. Tentime's services will now be purchased directly with COCIS. The Boulder Valley Schools computer will continue to deliver the system for awhile. The CU computer will also deliver the system this summer. Warren Wolff reported that we are moving rapidly to get Oregon up on the DEC 10 and Oregon will run as a module under DISCOVER. Warren Wolff reported that we need access to storage Tech's DEC 10 — either through Boulder Valley Schools or Tentime Company. Mike Ellis reported that he would establish a contract with COCIS for use of the DEC 10 for $200 per month per user. The Board concurred with the cost arrangement.

Mike Ellis reported that he plans to have DISCOVER modules converted by the end of the summer. Approximately 70% of the software conversion has been completed; however, the remaining 30% is the most difficult to do. Mike reported that he will take the Oregon data base and put it on the computer using DISCOVER software. The biggest problem he has faced are the lack of documentation of existing IBM software and the problem of obtaining the DISCOVER tapes.

Wilbur Richardson moved that the Technical Committee meet and evaluate Mike Ellis' progress report prior to approving a contract with Tentime. Wilbur's motion was seconded and approved and the Technical Committee will report back to the board at the next meeting with their recommendations.

61

Report on Potential Lease Arrangements with DISCOVER for use of DEC
Software

Polly Parish reported that COCIS will negotiate with the DISCOVER
Foundation for use of the DEC 10 software and thereby realizing income
each time DISCOVER sells the DEC 10 version of its system. There is no
detailed information available at this time, but she hopes to have more
information at the next board meeting.

Report on Test Sites

Warren Wolff and John Lickly reported on the four test sites:
North High School, University of Southern Colorado, Mesa College and
Centennial High School. They explained that we were able to evaluate
diverse clients at the various test sites: North High School, Denver –
inner city high school students; Pueblo – University of Southern Colorado
students and institutional clients from the vocational rehabilitation
office and state hospital; Centennial High School, San Luis Valley –
rural Chicano population and many adult users; Grand Junction – Mesa
College students, high school students, clients from vocational rehabilitation
office and special high school program for dropouts. Warren explained
that the COCIS staff also chose these test sites because of the geographical
distribution. John Lickly reported that the test sites generated alot of
interest in the project, especially in the rural areas, such as San Luis.
Warren Wolff reported on the status of the test site evaluation. He
feels that we will not have any results by the next board meeting. The
COCIS staff will have to decide exactly what kind of analysis it wants
from the data.

Polly Parish reported that NOIS asked us to do several hours of video-
taping of the test sites. It will not only be useful for NOIS, but will
be helpful in our promotion of COCIS. The Board requested that the video
tape be run at the next meeting or as soon as it is ready for viewing.

Staff Evaluation Letter

Polly Parish reported that she has asked Gerry Smith of NOIS for a
copy of the evaluation of our staff prepared by NOIS staff. We were
unable to get a copy of that report, so Gerry Smith wrote a letter to
Polly summarizing the contents of the report. NOIS felt the basic problem
was COCIS' inability to obtain LMI information from the Division of Employment.

Impact Evaluation

Eric Durland reported on the status of impact evaluation. He felt that
the questionnaire prepared by NOIS was too general and too lengthy.
Eric reported that he is waiting for input from the COCIS staff on goals
and objectives in order to prepare a realistic process evaluation document.
He discussed the problems of getting a control group to fill out questionnaires.
Since Impact evaluation is a problem educators have been pondering for
thousands of years, Eric felt that a realistic way to evaluate the system
is in terms of numbers -- how many people are using the system. Polly
Parish suggested to NOIS the idea of putting together a task force
comprised of a member from each of the OIS states to finalize an impact evaluation
document.

Report on CVIS Conference in Phoenix

Polly Parish reported that the CVIS conference in Phoenix was very un-eventful and had little impact.

Singer Career Center

John Lickly reported that the Singer Career Center is very interested in evaluating COCIS over the summer with the intent of becoming a user. The Board members were very concerned about the private sector using COCIS. The Board's recommendations to the COCIS staff are: (1) That COCIS evaluation by Manpower, Employment Service and related clients be accomplished within the physical setting of the relevant agency; (2) that the Singer Career Center may proceed with the COCIS evaluation providing that: (a) Singer bear all costs related to the test period, and (b) subsequent implementation of COCIS as a permanent Singer service to clients be subject to the "Standards of Use" to be developed for private sector consortium members; and (3) The . COCIS staff prepare recommendations for private sector "Standards of Use" for Board review and approval prior to September 1, 1976. An informal committee comprised of Paul Hoskins, Miles Reznik, Chuck Sisson and Ken McNulty was set up to clear tentative "Standards of Use" for Singer as a summer site.

The meeting was adjuourned at 12:15 p.m.

COCIS BOARD OF DIRECTORS MEETING

July 27, 1976, 1:15 p.m.

PRESENT:

Board Members

Jack Offerle, Department of Institutions
Wilbur Richardson, Div. of Automated Data Processing, Ad Hoc
Pauline Parish, Director, COCIS, Ad Hoc

Other

Warren W. Wolff, Associate Director, COCIS
John R. Lickly, Associate Director, COCIS
Sylvia Parker, Field Services Rep., COCIS
Lyn Richards, COCIS staff member

ABSENT:

Paul Hoskins, Labor & Employment
Charles Sisson, State Department of Education

Since there were not enough members present to reach a quorum an informal discussion was held rather than a formal meeting of the Board of Directors. The minutes of the previous meeting and the financial report were not discussed.

Introduction of New Board Member

Mr. Richardson introduced Jack Offerle, Department of Institutions. Ms. Parish gave Mr. Offerle a brief description of the Second Year Scope of Work and some information about the budget, i.e., that the $331,856 is a set amount and is the same amount as provided last year. She also explained the $50,000 contribution made by the Division of Automated Data Processing.

Orientation Meeting

Polly Parish announced there will be an orientation meeting for new Board Members. This will be scheduled the week of August 23rd.

Organizational Chart

A chart showing the new organization structure was presented by Ms. Parish. She explained that some minor changes have been made; John Lickly will be regional manager for Marketing/Field Services and will be the key person working with institutions. Further, there will be two satellite offices using half-time persons.

64

General Discussion

There was general discussion of various topics. Mr. Offerle inquired about the proportion of costs that will be borne by the various agencies, schools, etc. Ms. Parish explained that a cost formula has been set up on a per-user basis. She also said that COCIS would work with Mr. Offerle's agency on the utilization of the system in programs they have.

Buddy Wolff handed out a chronological sheet regarding the development of DISCOVER.

John Lickly presented and explained a Cost Guideline chart.

The meeting was adjourned at 2:45 p.m.

Cat #

A - 1   Dictionary of Occupational Titles 1965 Definitions of Titles
         3rd Edition   Volumes I and II.   U.S. Dept. of Labor
         10/10/75

A - 2   Estimates of Worker Trait Requirements for 4,000 Jobs as Defined
              in the Dictionary of Occupational Titles
         U.S. Department of Labor
         10/10/75

A - 3   Directory of Colorado Manufacturers,   1974-75
         Univ. of Colorado, Boulder / Business Research Div.
         10/10/75

A - 4   Volunteers in Action   Peace Corps   Vista
         Action
         10/10/75

A - 5   1972 Colorado Industrial Capability Register
         Colorado Interstate Gas Co.
         10/10/75

A - 6.   Occupational Information- Its Development and Application   3rd Ed.
         Carroll L. Shartle
         10/10/75

A - 7   Federal Career Directory   A Guide for College Students
         U.S. Civil Service Commiss
         10/10/75

A - 8   College Placement Annual   1975
         College Placement Council, Inc.
          10/75

A - 9   College Placement Annual - 1976
         College Placement Council, Inc.
         10/10/75

B1 - 10 Working for the USA
         U.S. Civil Service Commission
         10/10/75

B1 - 11 Koontz: More Women, Minorities in Science
         APGA, Guidepost Vol. 17,8 Jan. 4, 1975
         10/10/75

B1 - 12 22 Educational Fields With Examples of Major Interest Areas
         No Author
         10/10/75

B1 - 13 Gearing Your Education for the World of Work
         The Christian Science Monitor   March 18, 1974
         10/10/75

C2 - 76   "1967 Lane County Labor Skill Survey" Vols. I & II
             State of Oregon, Department of Employment
             10/10/75

D1 - 77   Employment in Agricultural and Agribusiness Occupations- Region 8
             Economic Research Service, U.S. Dept. Of Agriculture
             10/10/75

D1 - 78   Manpower Report of the President   Copies 1 & 2
             U.S. Dept. of Labor and U.S. Dept. of H, E W
             10/10/75

D1 - 79   Employment in Agricultural and Agribusiness Occupations
             Economic Research Service, U.S, Dept. of Agriculture
             10/10/75

D1 - 80   ' The U.S. Labor Force: Projections to 1990
             U.S. Dept. of Labor- Bureau of Labor Statistics, 1973
             10/10/75

D1 - 81   "Consumer Price Index" Jan. 21, 1975
             U.S. Dept. of Labor- Office of Information
             10/10/75

D1 - 82   The Labor Market for College Graduates
             American Council on Education
             10/10/75

D1 - 83   1975 Economic Forecast for Colorado & the Nation
D2   United Banks of Colorado
             10/10/75

D2 - 84   "Selected Colorado Companies Employing 250 or More Persons"
                   Copies 1 & 2
             No Author
             10/10/75

D2 - 85   "Employment Levels- State of Colorado- State-Wide" Copies 1 & 2
             No Author
             10/10/75

D2 - 86   "Comparative Statistical Data and Narrative Based on the 1970
                   Census for the Governor's Twelve Planning Regions of Colorado"
             Cooperative Area Manpower Planning System
             10/10/75

D2 - 87   "Employment News" 11/25/74   Copies 1 & 2
             U.S. Dept. of Labor- Bureau of Labor Statistics
             10/10/75

D2 - 88   "Employment News." 12/17/74
             U.S. Dept. of Labor- Bureau of Labor Statistics
             10/10/75

E2   - 137   "Class Titles In Alphabetical Order"
Colorado State Dept. of Personnel
10/10/75

E2   - 138   "1973 Salary and Employee Benefit Studies"
Colorado State Dept. of Personnel
10/10/75

E2   - 139   "Class Titles and Salary Ranges- Schematic Within Grade Order"
Colorado State Dept. of Personnel
10/10/75

E2   - 140   "Compensation Plan- July 1, 1974"
Colorado State Dept. of Personnel
10/10/75

E2   - 141   "1974 Community Compensation Survey" Copies 1 & 2
Mountain States Employers Council, Inc.
10/10/75

D2   - 142   "Annual Manpower Planning Report- Fiscal Year 1974- State of
D2a-e   Colorado"
Colorado Dept. of Labor and Employment- Division of Employment-
        Research and Analysis
10/10/75

E2a   - 143   "Area Wage Survey- Denver, Colorado, Metropolitan Area- December, 1973"
        Copies 1-4
U.S. Dept. of Labor- Bureau of Labor Statistics
10/10/75

E2a   - 144   "1973 Office-Clerical and Data Processing Survey"
Mountain States Employers Council, Inc.
10/10/75

E2a   - 145   "1973 Production, Maintenance and Material Handling Survey"
Mountain States Employers Council, Inc.
10/10/75

E2a   - 146   "Area Wage Survey- Denver, Colorado, Metropolitan Area- December
        1972"
U.S. Dept. of Labor- Bureau of Labor Statistics
10/10/75

E2a   - 147   "Earnings and Supplementary Benefits in Hospitals- The Denver,
        Colorado Mertopolitan Area- August 1972"
Mountain - Plains Regions- Bureau of Labor Statistics
10/10/75

E2a   - 148   "1973 Financial Survey"
Mountain States Employers Council, Inc.
10/10/75

68

D2   - 272   Colorado Health Occupations Manpower Survey - 1972
               State Board for Community Colleges & Occupational Education
                    Colorado State Employment Service
               11/5/75

I1   - 273   Military - Civilian Occupational Source Book - July 1975
               Armed Forces Vocational Testing Group - Dept. of Defense
               11/5/75

C2   - 274   Visual Supplement to Exploring Values for Career Decision-
                    Making: A Computer-Based System of Interactive Guidance
                    and Information (SIGI)
               Martin R. Katz   Educational Testing Service
               11/7/75

C2   - 275   SIGI - A Computer-Based System of Interactive Guidance and
                    Information
               Educational Testing Service
               11/7/75

C2   - 276   SIGI - Printout
               SIGI
               11/7/75

C2   - 277   SIGI: Report of a Pilot Study Under Filed Conditions
               Warren Chapman, et al. Educational Testing Service
               11/7/75

C2-   - 278   Guidance Information System II - Letter from Time Share
                    Corporation promoting GIS.
               Charles A. Morrissey   Time Share Corporation
               11/7/75

F6   - 279   Colorado Adult Needs Assessment - Summary Report, Employer
                    Survey, Agency Survey and Citizen Survey
               Bruce M. Barlow, Carmen R. Timiraos
               Colorado Department of Education. State Board for Community
                    Colleges and Occupational Education
               11/7/75

F6   - 280   "Measurement andAnalysis of Work Training"
               Willard Wirtz and Harold Goldstein
               11/10/75

J2   - 281   "Summaries of R & D Reports - No. 15"
               U.S. Dept. of Labor - Manpower Administration
               11/ 10/ 75

D2   - 282   Miscellaneous Survey Forms for the OES Survey
               U.S. Dept. of Labor   Bureau of Labor Statistics
               11 10 75

I1   - 283   Selected Bibliography   Career/Labor Market Information
               National Occupational Information Service   Manpower Administra
                    tion - U.S. Dept. of Labor
               11/10/75

COCIS Library Categories

A. REFERENCES

B. OCCUPATIONS
    1. General
    2. Trends and Outlooks.
    3. Specific Occupations
    4. Clusters

C. SYSTEMS ·
    1. General
    2. Specific Systems

D. LABOR MARKET AND POPULATION INFORMATION
    1. National
    2. Colorado
        2a. Denver-Boulder SMSA
             Northeastern Colorado
        2c. Pikes Peak High Plains
        2d. Southeastern Colorado
        2e. Western Slope
    3. General

E. WAGE AND SALARY INFORMATION
    1. National
    2. Colorado
        2a. Denver-Boulder SMSA
        2b. Northeastern Colorado
        2c. Pikes Peak High Plains
        2d. Southeastern Colorado
        2e. Western Slope
    3. General

F. EDUCATION AND TRAINING (GEN'L MATERIALS)
    1. Proprietary-Commercial Schools
    2. Vocational-Technical Schools, Public
    3. Community and Junior Colleges
    4. Colleges and Universities
    5. Apprenticeships
    6. General

G. EDUCATIONAL CATALOGS
    1. Educational Directories
    2. Colleges and Universities, State and Private, Accredited
    3. Community and Junior Colleges
    4. Vocational-Technical Schools, Public
    5. Proprietary-Commercial Schools
    6. Apprenticeships
    7. Schools, General, Non-Colorado
         (restricted to catalogs containing unique offerings
          not found in Colorado)

H. CAREER GUIDANCE AND CAREER EDUCATION MATERIALS
   1. General
   2. Career Guidance and Career Education Aids
   3. Tests and test information

I. MILITARY
   1. General
   2, Specific Branch

J. INFORMATION RESOURCES
   1. Indexes of Publications
   2. Individuals and Organizations

K. POTENTIAL USERS
   1. General
   2. Specific Potential Users

L. WOMEN AND MINORITY GROUPS
   1. Women
   2. Black
   3. Chicano/Spanish
   4. Other

M. MISCELLANEOUS OR UNCLASSIFIED*

NUMERICAL LIST OF OCCUPATIONS
(Revised 9/76)

1100 Administrative

1132 Hotel and Motel Managers
1134 Health Service Administrators
1136 Educational Administrators
1138 Public Administrators
1142 Small Business Operators
1144 Business Executives
1152 Construction Superintendents
*1156 Building Inspectors
1162 Sales and Service Managers
1172 Military Officers
*1182 Interpreters and Translators
1184 Buyers and Purchasing Agents
1186 Personnel Managers
1195 Public Relations Workers

1400 Clerical

1411 Office Managers
1412 Secretaries
1414 Stenographers
1416 Clerk Typists
1418 Clerks, General Office
1422 Teachers Aides
1452 Receptionists
1454 Telephone and Telegraph Operators
1456 Messengers

1600 Bookkeeping- Accountants

1614 Accountants and Auditors
1616 Bookkeepers
1634 Appraisers
*1635 Underwriters
1636 Loan Officers
*1638 Credit Managers
1642 Cashiers
*1644 Bank Tellers
1646 Clerks, Railroad
1684 Programmers and Systems Analysts
1686 Computer Operators
1688 Key Punch Operators
1692 Office Machine Operators

2100 Social Research and Planning

2144 Scientists, Social
2441 Sociologists
2442 Economists
2165 Social Program Planners
2174 Writers, Freelance
2176 Reporters and Editors
2177 Writers, Technical

2300 Engineering and Design

2314 Urban Planners
2316 Architects
2318 Ecologists
2332 Mathematicians and Statisticians
*2335 Actuaries
2352 Surveyors
*2353 Rod and Chain Workers
2354 Engineers
*23541 Engineer, Agricultural
*23542 Engineer, Chemical
*23543 Engineers, Civil
*23544 Engineers, Electrical
*23545 Engineers, Industrial
*23546 Engineers, Mechanical
*23547 Engineers, Metallurgical
*23548 Engineers, Mining
*23549 Engineers, Petroleum
2356 Engineering Technicians
*2359 Electronics Technicians
2364 Drafters
*2366 Interior Designers and Decorators

2600 Laboratory

2624 Scientists, Physical
*26241 Biologists
*26242 Chemists
*26243 Physicists
2626 Scientists, Earth
*26261 Geologists
2628 Scientists, Soil
2644 Opticians
2654 Medical Technologists
*2655 Dental Laboratory Technicians
2656 Laboratory Testers
2672 Quality Control Inspectors
2674 Sanitarians

3100 Mechanical

3112 Mechanics, Automobile
3114 Mechanics, Diesel and Heavy Equipment
3116 Mechanics, Aircraft
3118 Small Engine Repairers
3124 Service Station Attendants
3126 Oilers
3142 Millwrights

72

*cates developed during period 1/10/75- 30/9/76.

3100	Mechanical (continued)		4400	Textile and Apparel

3100 Mechanical (continued)

3144 Industrial Machinery Repairers
3146 Mechanics, Heating and Cooling System
*3159 Mechanics, Farm Equipment
3164 Office Machine Repairers
3166 Telephone Installers-Repairers
3168 Radio and TV Repairers
3169 Household Appliance Repairers
3184 Jewelers
3186 Instrument Repairers

3400 Building Maintenance

3422 Building Maintenance Workers
3455 Janitors
3456 Houseworkers, General

4100 Agricultural and Forestry

4124 Foresters
4126 Fish and Wildlife Specialists
4128 Forestry Aides
4144 Groundskeepers and Gardeners
4146 Floral Designers
*4164 Farmers and Farm Managers
*4166 Farm Hands
*4168 Farm Workers, Seasonal

4200 Construction

4242 Painters
4244 Plasterers and Drywall Installers
4246 Cement Masons
*4248 Glaziers
4254 Carpenters
*4256 Insulation Workers
4264 Bricklayers
4274 Plumbers
4276 Floor Covering Installers
4278 Roofers
4286 Construction Laborers
4288 Railroad Track Workers

4300 Food Products

4324 Bakers
4326 Meat Cutters
4348 Cannery Workers

4400 Textile and Apparel

4442 Clothes Designers and Patternmake
4446 Sewers, Custom
4448 Sewing Machine Operators
4464 Dry Cleaning and Laundry Workers
4494 Upholsterers
4496 Shoe Repairers

4500 Timber Products

4556 Woodworking Machine Operators
4586 Cabinetmakers

4700 Graphic Arts

4724 Commercial Artists and Designers
4734 Photographers
4766 Printing Occupations

5400 Metal Working

5422 Metal Working Patternmakers
5424 Molders
5426 Foundry Workers
5462 Tool and Die Makers
5464 Machinists
5468 Saw Filers and Tool Sharpeners
5472 Machine Tool Operators
5482 Welders
*5483 Structural Steel Workers
5484 Sheetmetal Workers
5486 Body and Fender Repairers
5488 Blacksmith and Forge Shop
      Workers

5600 Electricity and Electronics

5624 Line Installers - Repairers
5626 Electricians and Electrical
      Repairers
5664 Broadcast Technicians
5686 Electronics Assemblers

5900 Other Production

*5912 Petroleum Drilling Workers
 5914 Petroleum and Processing
        Occupations
 5918 Rubber and Chemical Processing
        Occupations
 5924 Rubber and Plastics Fabricators
 5926 Production Painters and Finishers
*5944 Engineers, Stationary
 5946 Water Treatment Plant Operators
 5966 Production Assemblers
 5982 Hand Crafters

6100 Transportation

 6126 Air Traffic Controllers
 6128 Railroad Conductors
 6142 Bus and Taxi Drivers
 6144 Truck Drivers
 6152 Bulldozer Operators
 6154 Operating Engineers
 6158 Industrial Truck Operators
 6172 Locomotive Engineers and Firers
 6174 Railroad Brakers and Switchers
 6184 Ship Officers and Engineers
 6188 Pilots and Flight Engineers

7100 Stock Control

 7112 Car Loaders (Material Handlers)
 7114 Warehousers
 7116 Clerks, Shipping and Receiving
 7118 Clerks, Stock
 7122 Mail Carriers
 7124 Newspaper Carriers
 7126 Packers and Wrappers
 7164 Librarians
 7166 Library Assistants

7400 Sales

 7414 Salespersons, Manufacturers
 7415 Salespersons, Securities
 7416 Salespersons, Insurance
 7417 Salespersons, Real Estate
 7418 Salespersons, Automobile
 7422 Salespersons, Business Service
 7434 Route Sales Drivers
 7484 Clerks, Sales

7800 Food Service

 7824 Cooks, Chefs and Dinner
 7826 Cooks, Fry
 7852 Waiters and Waitresses
 7856 Flight Attendants
 7884 Kitchen Helpers
 7888 Dining Room Attendants

8100 Health Service

 8112 Physicians
 8113 Dentists
 8114 Veterinarians
 8115 Optometrists
*8116 Dietitians
*8117 Physician's Assistants
*8122 Chiropractor
 8124 Pharmacists
*8126 Health Therapists
 8128 Speech Pathologists and Audiologists
*8129 Respiratory Therapists
 8162 Nurses, Registered
 8164 Nurses, Licensed Practical
 8166 Nurses Aides and Orderlies
*8168 Emergency Medical Technicians
 8174 Dental Hygienists
 8176 Dental Assistants
 8182 Morticians
 8184 Barbers
 8186 Cosmetologists

8400 Social Service

 8414 Counselors
 8416 Caseworkers
 8418 Psychologists
 8428 Social Service Aides
 8432 Lawyers
 8433 Legal Assistants (Paralegals)
*8436 Clergy
*8438 Probation Officers
*8448 Teachers, Pre-School
 8454 Teachers, University and College
 8456 Teachers, Elementary and Secondary
 8458 Education Program Specialists
 8459 Child Care Workers
 8482 Recreation Program Directors
 8486 Recreation Leaders
 8488 Recreation Aides

74

9400   Protective Service

9414   Law Enforcement Officers
9426   Firefighters
9436   Military Enlisted Occupations
9476   Guards
*9480 Parking Lot Attendants

9800   Art and Entertainment

9824   Radio and TV Announcers
9842   Models
9866   Performing Artists
*9868 Professional Athletes

75

PROGRAMS OF STUDY AND TRAINING

Code
Number   Name

  157 - Accounting
  065 - Agriculture
  081 - Architecture and Environmental Science
  311 - Art
  582 - Anthropology
*631 - Apprenticeships
*278 - Auto and Diesel Mechanics
*275 - Aviation Maintenance
  143 - Banking and Finance
  131 - Biology
  197 - Broadcast Technology
  145 - Business Mangement and Administration
  524 - Chemistry
  389 - Child Care
*373 - Chiropractic Training
*163 - Commercial Driving Training
  238 - Counseling
  211 - Data Processing
*358 - Dental Assisting
  361 - Dental Hygiene
*362 - Dental Technology
  357 - Dentistry
*413 - Dietetics
  277 - Drafting
  583 - Economics
  231 - Education Administration
  239 - Education Aide Programs
  233 - Education, Business
  234 - Education, Elementary
  236 - Education, Secondary
*292 - Electronics
  251 - Engineering
*253 - Engineering Technology.
*381 - Environmental and Sanitation Technology
  067 - Fish and Wildlife Sciences
  274 - Flight Training
*165 - Food Service
  068 - Forestry
  585 - Geography
*526 - Geology
  383 - Health Technologies: Laboratory
*385 - Health Technologies: Radiological (X-ray)
*387 - Health Technologies: Other
  584 - History
  411 - Home Economics
*065 - Horticulture and Landscaping
  161 - Hotel and Motel Management
*287 - Industrial Mechanics
  193 - Journalism

*Developed during period 10/1/75-9/30/76

Code
Number   Name

214 - Keypunch
421 - Law
567 - Law Enforement
461 - Library Science
*295 - Machine Technologies
146 - Marketing
*368 - Massage
481 - Mathematics and Statistics
*366 - Medical Assisting
*351 - Medical Records Administration
363 - Medicine
378 - Medicine, Veterinary
353 - Nursing (RN)
*367 - Occupational Therapy
369 - Optometry
372 - Pharmacy
317 - Photography
374 - Physical Therapy
364 - Physician's Assisting
523 - Physics
586 - Politcal Science
*318 - Printing/Graphics
541 - Psychology
562 - Public Administration
*376 - Public Health
196 - Radio and Television
147 - Real Estate
564 - Recreation and Park Management
446 - Religious
511 - ROTC
158 - Secretarial Studies
587 - Sociology
245 - Speech and Hearing
316 - Theatre and Drama
589 - Urban Studies
283 - Welding

77

PROG 367
367   OCCUPATIONAL THERAPY

        TO BECOME REGISTERED AS A CERTIFIED OCCUPATIONAL THERAPIST REQUIRES
COMPLETION OF A FOUR YEAR BACHELOR'S DEGREE PROGRAM AND SIX TO NINE
MONTHS OF CLINICAL EXPERIENCE. A FEW SCHOOLS IN COLORADO OFFER DEGREE
PROGRAMS IN OCCUPATIONAL THERAPY AND PRE-OCCUPATIONAL THERAPY.
        ---PURPOSE: TO ENABLE YOU TO WORK AS A MEMBER OF A HEALTH TEAM
WHICH EVALUATES LEARNING AND PERFORMANCE ABILITIES AND SEEKS TO TEACH
THOSE ADAPTIVE SKILLS AND BEHAVIORS CRUCIAL TO INDEPENDENT HEALTHY FUNCT-
IONING.
        ---COURSEWORK: EMPHASIZES ANATOMY, PHYSIOLOGY, NEUROLOGY, PSYCHO-
LOGY AND SOCIOLOGY. OTHER SUBJECTS INCLUDE:
        -ARTS AND CRAFTS
        -WOODSHOP MANAGEMENT
        -VISUAL FORM
        ---SCHOOLS: BELOW EACH SCHOOL ARE THE PROGRAMS THEY OFFER AND WHO
TO CONTACT.

COLORADO STATE UNIVERSITY
DEPARTMENT OF OCCUPATIONAL THERAPY
HUMANITIES BUILDING, ROOM 100
PROFESSOR ALICE C. JANTZEN, HEAD
FORT COLLINS, COLORADO 80521
ADMISSIONS: 491-7201
"OCCUPATIONAL THERAPIST" BACHELORS AND MASTERS DEGREES.

UNIVERSITY OF COLORADO
BOULDER CAMPUS IN COOPERATION WITH COLORADO STATE UNIVERSITY
WRITE TO: REGISTRAR
           COLORADO STATE UNIVERSITY
           FORT COLLINS, COLORADO 80521
"OCCUPATIONAL THERAPIST" BACHELORS DEGREE

UNIVERSITY OF DENVER
DIVISION OF PRE-PROFESSIONAL TRAINING
UNIVERSITY PARK
DENVER, COLORADO 80210
ADMISSIONS: 753-2036
"PRE-OCCUPATIONAL THERAPY" OFFERS UP TO THIRD YEAR WHICH IS TRANS-
FERRABLE TO A PROFESSIONAL SCHOOL.

AURORA TECHNICAL CENTER
500 BUCKLEY ROAD
AURORA, COLORADO 80011
ADMISSIONS: 344-4910
"OCCUPATIONAL THERAPY AIDE" CERTIFICATE DEGREE.   ONE YEAR PROGRAM.

FOR MORE INFORMATION CONSULT YOUR VOCATIONAL COUNSELOR, SCHOOL CATA-
LOGS, AND WRITE ADMISSIONS DEPARTMENTS.

    RELATED JOB DESCRIPTIONS:
      DESC 8126 HEALTH THERAPISTS

    RELATED EDUCATIONAL PROGRAMS:
      PROG   PHYSICAL THERAPY
      PROG 187 HEALTH TECHNOLOGIES   OTHER

DESC8168
8168 · EMERGENCY·MEDICAL TECHNICIANS (EMT'S)

EMERGENCY MEDICAL TECHNICIANS (DOT 355.378-010) PROVIDE IMMEDIATE
CARE TO THE CRITICALLY ILL AND INJURED AND DRIVE THE AMUBLANCE TO THE
HOSPITAL. THEY DETERMINE THE NATURE AND EXTENT OF ILLNESS OR INJURY,
PROVIDE FIRST AID, LIFT AND ·CARRY PATIENTS ON STRETCHER TO AMBULANCE,
AND RADIO THE PATIENT'S CONDITION TO MEDICAL PERSONNEL AT THE HOSPITAL.
THEY ALSO INSPECT AND TEST AMBULANCES TO INSURE EFFICIENT OPERATING CON-
DITION. WHEN NOT ON CALL, THEY SPEND THEIR TIME AT THE STATION WHERE
THEY SLEEP AND EAT.
---APTITUDES: STRENGTH TO LIFT AND CARRY PATIENTS, MANUAL DEX-
TERITY, COORDINATION, GOOD JUDGEMENT AND EMOTIONAL STABILITY, ABILITY
TO WORK QUICKLY AND CONFIDENTLY UNDER PRESSURE, ABILITY TO WORK WITH
PEOPLE WHO MAY BE INJURED OR IN A STATE OF SHOCK.
---WORK SETTING: WORK BOTH INDOORS AND OUT. MOST WORK ROTATING
SHIFTS, WORKING FOR 24 to 48 HOURS AND THEN OFF 24 TO 48 HOURS.
EMPLOYERS: FIRE DEPARTMENTS, PRIVATE AMBULANCE SERVICES, GOVERNMENT
AGENCIES, HOSPITALS, SKI RESORTS AND LARGE INDUSTRIES.
---HIRING REQUIREMENTS: ALL EMT'S MUST BE CERTIFIED WHICH MEANS
COMPLETING A ONE TERM COURSE AT A COMMUNITY COLLEGE AND PASSING A
WRITTEN AND PRACTICAL EXAM. MANY COMMERCIAL AMBULANCE COMPANIES RE-
RE EMT'S TO BE 21 YEARS OLD AND HOLD A CHAUFFEUR'S LICENSE.
--- CURRENT EMPLOYMENT: THERE ARE AROUND 3,000 CERTIFIED EMT'S
IN THE STATE OF COLORADO. THE MAJORITY ARE VOLUNTEERS IN FIRE DEPART-
MENTS, AMBULANCE SERVICES AND SKI PATROL MEMBERS.
---WAGES: MOST VOLUNTEER THEIR SERVICES, BUT SOME ARE EMPLOYED.
TRAINEES GENERALLY START AT AROUND $750 PER MONTH. AFTER THE TRAINING
PERIOD THE SALARY RANGE IS OFTEN BETWEEN $868 TO $1,300 PER MONTH
---OUTLOOK: AVERAGE EMPLOYMENT PROSPECTS. MOST COMMERCIAL
AMBULANCE SERVICES REQUIRE EMT CERTIFICATION AS A CONDITION OF EMPLOY-
MENT. CERTIFICATION IS ALSO RECOMMENDED FOR FIRE FIGHTERS, POLICE
OFFICERS AND SKI PATROL MEMBERS IN COLORADO. MOST VOLUNTEER FIRE
DEPARTMENTS AND AMBULANCE SERVICES WELCOME ASSISTANCE FROM CERTIFIED
EMT'S IN THEIR AREAS, AS DO THE MOUNTAIN RESCUE TEAMS. FOR INFORMATION
ON HOW TO PREPARE FOR THIS OCCUPATION,
TYPE: PREP
FOR MORE INFORMATION AVAILABLE IN BOOKS OR PAMPHLETS,
TYPE: BIB

8168   EMERGENCY MEDICAL TECHNICIANS (EMT'S)

   ---SKILLS: THE INDIVIDUAL SHOULD HAVE THE ABILITY AND KNOWLEDGE
OF FIRST AID AND EMI .;ENCY MEDICAL CARE. KNOWLEDGE IN THE USE AND CARE
OF EMERGENCY EQUIPMENT SUCH AS OXYGEN DELIVERY SYSTEMS, THE ABILITY TO
OPERATE AND MAINTAIN AMBULANCES AND FAMILIARITY WITH SANITIZING AND DIS-
INFECTING PROCEDURES.
   ---PREPARATION: TO BE CERTIFIED AS AN EMT IN COLORADO, A PERSON
NEEDS TO COMPLETE AN 81 HOUR COURSE THAT HAS BEEN ESTABLISHED BY THE
U.S. DEPARTMENT OF TRANSPORTATION. THIS COURSE IS GIVEN AT 13 LOCAL
COMMUNITY COLLEGES AND VOCATIONAL TECHNICAL SCHOOLS. UPON COMPLETION,
A WRITTEN AND PRACTICAL EXAM MUST BE TAKEN AND PASSED PRIOR TO CERTI-
FICATION. PREFERENCE FOR ADMISSION IS GIVEN TO THOSE PERSONS WHO ARE
EMPLOYED ON A PROFESSIONAL OR VOLUNTEER BASIS AS FIRE FIGHTERS, AMBU-
LANCE ATTENDANTS, POLICE OFFICERS AND SKI PATROL PERSONNEL. EMT'S MUST
UNDERGO A RECERTIFICATION EVERY THREE YEARS BY TAKING 20 HOURS OF
TRAINING AND PASS THE APPROPRIATE WRITTEN AND PRACTICAL EXAMS.
   ---TIPS: THOSE CONSIDERING A CAREER AS AN EMT, WILL FARE BEST IF
THEY HAVE COMPLETED AN EMT COURSE, HAVE SERVICE ON A VOLUNTEER BASIS
FOR A FIRE DEPARTMENT OR AMBULANCE SERVICE, AND ARE WILLING TO WORK
ANY SHIFT OR HOURS INCLUDING WEEK-ENDS AND HOLIDAYS.

BIB 8168

8168.   EMERGENCY MEDICAL TECHNICIANS (EMT'S)

THIS IS AN EMERGING OCCUPATION. THEREFORE, THERE ARE FEW PRINTED
MATERIALS AVAILABLE. FOR MORE INFORMATION, CONTACT YOUR CAREER COUN-
SELOR OR CAREER LIBRARIAN.

ARAPAHOE CHEMICALS
1045 65TH STREET
BOULDER, CO. 80303

ARAPAHOE CHEMICALS WAS FOUNDED IN 1946, AND PURCHASED BY THE SYNTEX COR
PORATION IN 1966. IT IS A LEADING MANUFACTURER OF SPECIALTY CHEMICALS
SUCH AS THOSE USED IN PHARMACEUTICAL WORK, POLLUTION CONTROL, PHOTO-
GRAPHY, AND FOR OTHER PURPOSES WHICH REQUIRE ORGANIC CHEMICALS. ARAPAHOE
IS NOT A GOVERNMENT CONTRACTOR AND WORKS SOLELY WITH PRIVATE ENTERPRISE.
THE BOULDER PLANT EMPLOYS BETWEEN 160 AND 200 EMPLOYEES. IN PRODUCTION
JOBS A PERSON ENTERS AS A CHEMICAL TRAINEE AND MAY THEN BE PROMOTED TO
ASSISTANT OPERATOR, OPERATOR, SENIOR OPERATOR, OR SUPERVISOR. IN RE-
SEARCH AND DEVELOPMENT ARAPAHOE CHEMICALS HIRES CHEMISTS, CHEMICAL EN-
GINEERS, AND TECHNICIANS WHO WORK IN LABS AND OFFICES. THE COMPANY HAS
A WAREHOUSING STAFF WHICH WORKS IN SHIPPING AND RECEIVING AND A COMPLETE
OFFICE STAFF WHICH INCLUDES CLERICAL WORKERS, ACCOUNTANTS, SALES REPRE-
SENTATIVES, AND MANAGERS.

ARAPAHOE CHEMICALS USUALLY ADVERTISES ITS JOB OPENINGS ALTHOUGH THE MAIN
OFFICE RECEPTIONIST IS ALSO ALWAYS AWARE OF ANY OPENINGS. APPLICATIONS
ARE AVAILABLE FROM THE RECEPTIONIST AND ALL HIRING IS DONE DIRECTLY
THROUGH THE BOULDER OFFICE. ARAPAHOE CHEMICALS WORKS CLOSELY WITH JOBS
FOR PROGRESS AND VARIOUS MINORITY ORGANIZATIONS WHEN HIRING. IT IS A
NON-UNION SHOP. THEIR TRAINING PROGRAMS ARE V. A. APPROVED. ARAPAHOE
IS AN AFFIRMATIVE ACTION EMPLOYER.

ARAPAHOE OFFERS A SIX WEEK FORMAL TRAINING PROGRAM TO ITS CHEMICAL
TRAINEES CONSISTING OF BOTH CLASSROOM WORK AND ON THE JOB TRAINING. IT
ALSO HAS AN APPRENTICESHIP PROGRAM FOR MAINTENANCE MECHANICS AND ELEC-
TRICIANS.

MOST PROMOTIONS AT ARAPAHOE CHEMICALS ARE MADE FROM WITHIN THE COMPANY.
ALL JOB OPENINGS ARE BID INTERNALLY FOR FIVE DAYS BEFORE THEY ARE OPENED
TO THE PUBLIC. PROMOTIONS ARE MADE MAINLY ON THE BASIS OF MERIT.

OVER A NORMAL YEAR ARAPAHOE CHEMICALS RUNS TWO TO THREE TRAINING
CLASSES FOR CHEMICAL OPERATORS. THIS YEAR ARAPAHOE WILL HIRE IN TO
FEWER NEW JOBS ALTHOUGH SOME ARE EXPECTED. MOST HIRING WILL BE DONE
TO FILL CURRENT JOBS.

Examples of ... Technical Engineers

THE FOLLOWING BOOKS AND PAMPHLETS MAY BE OF HELP TO YOU. YOU
MAY FIND THEM IN THE GUIDANCE OFFICE OR THE LIBRARY.

OCCUPATIONAL OUTLOOK HANDBOOK, p. 34
DICTIONARY OF OCCUPATIONAL TITLES, pp. 737-738
(WHERE THEY APPLY)

YOU MAY WRITE TO THESE ORGANIZATIONS FOR MORE INFORMATION:

AMERICAN FEDERATION OF TECHNICAL ENGINEERS (AFL-CIO)
900 "F" STREET, N.W.
WASHINGTON, D.C. 20004

INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS
345 EAST 47TH STREET
NEW YORK, N.Y. 10017

YOU MAY WRITE FOR THESE FREE PAMPHLETS:

WHAT'S IT LIKE TO BE AN ENGINEER? (1972)
EDUCATIONAL RELATIONS
GENERAL ELECTRIC COMPANY
OSSINING, NEW YORK

QUINCY LOOKS INTO HIS FUTURE, CAREERS IN ENGINEERING (1973)
GENERAL ELECTRIC
DEPARTMENT Q
570 LEXINGTON AVENUE
NEW YORK, NEW YORK 10022

IF A GROUP OF STUDENTS IS INTERESTED IN EXPLORING THIS OCCUPATION
OR RELATED ONES FURTHER, YOU MAY ASK YOUR TEACHER OR COUNSELOR
TO CHECK THE CAREER EDUCATION RESOURCE CENTER CATALOG FOR MATERIALS
THAT COULD BE OF HELP TO YOU. THE LIBRARIAN, COUNSELOR OR PRINCIPAL
OF YOUR SCHOOL SHOULD HAVE A COPY OF THIS CATALOG. A CATALOG CAN
BE ORDERED FROM:

CAREER EDUCATION RESOURCE CENTER
3647 SOUTH SANTA FE DRIVE
ENGLEWOOD, COLORADO 80110
(303) 761-8757
TOLL FREE WATS LINE 1-800-332-8470

IF YOU WOULD LIKE TO GET ANOTHER OCCUPATIONAL DESCRIPTION TYPE
DESC AND THE 5-DIGIT NUMBER. FOR EXAMPLE: DESC 23544

82

WOMEN'S CAREER RESOURCES FILE

SUMMARY OF ATTITUDES ON WOMEN WORKING

IN THIS SECTION YOU MAY READ A RUN-DOWN OF THE GENERAL COMMENTS
RECEIVED FROM ALL THE INTERVIEWS ON THE SUBJECT OF:
1.)   OPINIONS OF HUSBANDS, BOYFRIENDS, OR FAMILIES
2.)   ATTITUDES OF WORKING MOTHERS
3.)   ATTITUDES OF COLLEAGUES
4.)   ATTITUDES OF CLIENTS OR CUSTOMERS
TYPE IN THE NUMBER OF YOUR CHOICE.

1.)   OPINIONS OF HUSBANDS, BOYFRIENDS, OR FAMILIES
GENERALLY SPEAKING THE PEOPLE CLOSEST TO THE WOMEN INTERVIEWED
WERE VERY SUPPORTIVE OF HER AND THE FACT THAT SHE WORKED. IN A FEW
CASES, THE HUSBAND WAS THE ONE WHO HAD ENCOURAGED THE WOMAN TO SEEK A
CAREER. MANY HUSBANDS OR BOYFRIENDS HAD MET THE WOMAN WHEN SHE WAS
ALREADY WORKING AND ACCEPTED IT AS A PART OF HER LIFE. OTHERS WERE
RELUCTANT ABOUT HAVING THEIR WIFE PURSUE A CAREER. BUT ONCE THEIR WIFE
WAS INVOLVED IN THE OCCUPATION THEY WHOLE-HEARTEDLY SUPPORTED HER. IN
ONLY ONE INSTANCE DID A DIVORCE OCCUR WHICH WAS ATTRIBUTED TO THE COM-
PETITION THE HUSBAND FELT WITH HIS WORKING WIFE BECAUSE OF HER CAREER.

OR

2.)   ATTITUDES OF WORKING MOTHERS
ABOUT 50 PERCENT OF THE WORKING MOTHERS HAD STAYED AT HOME UNTIL
THEIR CHILDREN WERE OF SCHOOL AGE. ABOUT 25 PERCENT WORKED PART-TIME
OR MADE SPECIAL ARRANGEMENT IN THEIR SCHEDULE. ANOTHER 25 PERCENT
WORKED FULL TIME. NONE OF THE WOMEN FELT THAT THEIR CAREER HAD AN ILL
EFFECT ON THEIR CHILDREN. MANY WOMEN FELT THAT IT WAS IMPORTANT FOR
THEM TO STAY HOME WITH THEIR CHILDREN DURING THE FORMATIVE YEARS, OR AT
LEAST NOT WORK FULL TIME. OTHERS FELT THAT THE FACT THAT THEY WORKED
WAS POSITIVE FOR THEIR CHILDREN BECAUSE IT MADE THE CHILDREN MORE INDE-
PENDENT AND SELF-MOTIVATED. SOME WOMEN SENT THEIR CHILDREN TO CHILD-
CARE CENTERS OR NURSERY SCHOOLS, OTHERS HIRED PRIVATE BABYSITTERS, AND
SOME LEFT THEIR CHILDREN WITH RELATIVES WHILE THEY WORKED. IN A FEW
CASES CHILDCARE WAS SHARED BY THE HUSBAND AND THE WIFE WHO BOTH ARRANGED
THEIR SCHEDULES SO AT LEAST ONE PARENT WAS IN THE HOME ALL OF THE TIME.

OR

3.)   THE ATTITUDES OF COLLEAGUES.
THE ATTITUDES OF COLLEAGUES ON THE JOB WERE EXTREMELY DIVERGENT.
GENERALLY SPEAKING, THE ATTITUDE OF COLLEAGUES WAS POSITIVE. WOMEN IN
TRADITIONAL JOBS EXPERIENCED NO ILL FEELING FROM THEIR COLLEAGUES AND
GENERALLY GOT ALONG QUITE WELL WITH THEIR BOSSES. HOWEVER, THE LESS
TRADITIONAL THE WOMAN'S JOB, THE MORE RESISTANCE OR RESENTMENT WAS FELT
FROM MALE COLLEAGUES AND BOSSES. SOME WOMEN IN NON-TRADITIONAL OCCUPAT-
IONS EXPERIENCED VERY POSITIVE ATTITUDES FROM THEIR COLLEAGUES. OTHERS
FELT INITIAL RESENTMENT. BUT AFTER THEY PROVED THEIR SERIOUSNESS AND
THE FACT THAT THEY COULD DO THEIR JOB WELL, THEIR COLLEAGUES ACCEPTED
AND SUPPORTED THEM. ONLY ONE WOMAN FELT SHE WAS NEVER ACCEPTED BY HER
COLLEAGUES. THE GENERAL CONCENSUS WAS THAT THINGS ARE NOT PERFECT BUT
BARRIERS ARE FALLING LITTLE-BY-LITTLE. MOST OF THE WOMEN ALSO FELT THAT
BEING ACCEPTED BY YOUR COLLEAGUES IS MORE A MATTER OF YOUR ATTITUDE, AND
HOW YOU APPROACH PARTICULAR SITUATIONS, THAN THE ATTITUDE OF THE COL-
LEAGUES. THAT IS, IF YOU EXPECT NEGATIVE ATTITUDES, YOU GET THEM IF
YOU PUT YOUR BEST FOOT FORWARD AND ANTICIPATE SUCCESS, YOU WILL BE
SUCCESSFUL.

FOR INFORMATION HELPFUL IN ANSWERING THE FOLLOWING JOB HUNTING QUESTIONS
TYPE; JSS' AND THE APPROPRIATE QUESTION NUMBER AND THEN PRESS THE RE-
TURN KEY.
(FOR EXAMPLE: JSS 3)

1. WHAT KIND OF JOB SHOULD I SEEK?
2. WHAT ARE SOME SOURCES OF JOB INFORMATION?
3. HOW DO I FILL OUT A JOB APPLICATION FORM?
4. HOW DO I PREPARE F A JOB INTERVIEW
5. HOW DO I ACT IN AN INTERVIEW
6. HOW DO I WRITE A RESUME?

? JSS 3

3. HOW DO I FILL OUT AN APPLICATION FORM?

IN MOST CASES YOU WILL BE REQUIRED TO FILL OUT A JOB APPLICATION
FORM BEFORE YOU ARE INTERVIEWED. THE APPLICATION ITSELF IS VERY IM-
PORTANT BECAUSE IT GIVES AN EMPLOYER A FIRST, OR POSSIBLY THE ONLY,
IMPRESSION OF YOU. THE FOLLOWING ARE SOME POINTS WHICH ARE IMPORTANT
TO REMEMBER WHEN FILLING OUT AN APPLICATION FORM.

A. ALWAYS BE HONEST. EMPLOYERS OFTEN CHECK OUT SOME OF THE
RESPONSES WHICH YOU GIVE.

B. BE NEAT. IF THE APPLICATION IS SLOPPY, THAT IS THE IMPRESSION
WHICH YOU WILL PRESENT OF YOURSELF. IF POSSIBLE, TYPE ALL
APPLICATIONS. IF YOU ARE ASKED TO FILL OUT AN APPLICATION
WHILE IN THE OFFICE, PRINT NEATLY WITH A PEN THAT WRITES
CLEARLY.

C. BE THOROUGH, BUT CONCISE. MAKE SURE THAT YOU HAVE ANSWERED
ALL QUESTIONS COMPLETELY.

D. BRING YOUR: 1) SOCIAL SECURITY NUMBER; 2) DRIVER'S LICENSE;
3) MILITARY I.D. OR DRAFT CARD; 4) THE ADDRESSES AND PHONE
NUMBERS OF AT LEAST THREE PEOPLE WHO COULD GIVE YOU GOOD RE-
FERENCES (THESE PEOPLE SHOULD BE PREVIOUS EMPLOYERS, CHARACTER
REFERENCES, OR TEACHERS, NOT YOUR NEXT DOOR NEIGHBOR OR YOUR
BEST FRIEND.); AND 5) A COMPLETE LIST, WITH DATES, OF ALL THE
JOBS WHICH YOU HAVE EVER HAD, PAID OR UNPAID.

THE BEST WAY TO FILL OUT AN APPLICATION IS TO SIMPLY DO ONE.
SAMPLES ARE PROVIDED IN THIS ROOM. ASK THE ATTENDANT.

AT THIS POINT, YOU MAY:
TYPE: 'JSS'   TO GET ANSWERS TO OTHER QUESTIONS ABOUT
                        JOB HUNTING

TYPE: 'INFO'   TO CHOOSE ANOTHER TYPE OF INFORMATION

TYPE: 'QUEST'   TO TAKE THE 'QUEST' QUESTIONNAIRE

TYPE: 'END'   TO QUIT FOR NOW

84

Colorado Career Information System (COCIS)
USER EVALUATION QUESTIONNAIRE
PART I

Site Name _____   User No. _____

You have been chosen to take part in an evaluation of the Colorado Career
Information System (COCIS). We hope you can tell us, by way of this question-
naire what you like about COCIS as well as what we can do to improve the system..

Before you start using the system, please answer this set of questions. AFTER
you finish using the system, the monitor will give you a second set of questions
to answer.

1. Please check (✓) if you are:

   _____ a student
   _____ a VNB client
   _____ an Institutions client

2. Your age is: _____

3. Your sex is: _____ female   _____ male

4. In what grade in school are you?

   High School: _____ 9th _____ 10th _____ 11th _____ 12th
       College: _____ Frosh _____ Soph _____ Junior _____ Senior
                 _____ I'm not in school at this time

5. In school your grades are:

   _____ Below Average (D's & F's)

   _____ Average (Mostly C's)

   _____ Above Average (Mostly A's & B's)

   _____ I'm not in school at this time

6. Your ethnic background is closest to which of the following:

   _____ Spanish Surname or Latin American   _____ Oriental or Asian American
   _____ American Indian or Native American   _____ White or Caucasian
   _____ Black or Afro-American   _____ I prefer not to answer

7. Do you live in an:

   _____ Urban area (for example, mostly city)

   _____ Suburban area (for example, a neighborhood close to a city)

   _____ Rural area (in a small town or outside of a town or city)

85

8. What was your family's total income for last year? (You may not be sure but take a guess!)

_____ Less than $5,000
_____ between $5,000 - $9,999
_____ between $10,000 - $15,000
_____ more than $15,000
_____ I prefer not to say

9. Present career plans: (check one or more, if applicable)

_____ Attend a four-year college or university
_____ Attend a community college
_____ Attend a vocational-technical school
_____ Begin an apprenticeship or on-the-job training program
_____ Begin a full-time job
_____ Enter military service
_____ Become a homemaker
_____ Other (please specify) _____
_____ No plans at this time

10. Which statement(s) best tells why you may want to use the _____ today? (You can check more than one answer)

_____ I don't know what I can go into after I leave high ___. I need more information to help me decide.
_____ I think I know what job I want to go into but I need more information to be sure.
_____ I know what I want to do. I need to know how to prepare for that job.
_____ I want to know about colleges, vocational schools or apprenticeship training programs.
_____ To use the computer terminal because I thought it would be interesting.
_____ Other reasons; please write in:

_____

_____

11. You may already have in mind some occupations which interest you. If you have, please list them in order of your interest.

1st _____
2nd _____
3rd _____

Write down any others you are considering:

_____

_____

_____ I don't have any occupations in mind

12. At this time, how certain are you that you will try to enter the occupation you listed as your first choice in question 11?

_____   _____   _____   _____
Very certain   Certain   Uncertain   Very uncertain

86

Colorado Career Information System (COCIS)

USER EVALUATION QUESTIONNAIRE

PART II

Site Name _____   User No. 1 _____

1. Which parts of COCIS were most useful to you? Check (✓) those parts you
   used, then rank those you used from "1" (most useful) to "7" (least useful).
   Only rank those parts you used!

   Check (✓)   Rank 1 to 7

   _____   _____   DESCriptions of occupations.

   _____   _____   PREParation statements for each occupation.

   _____   _____   PROGrams of study and training.

   _____   _____   APPRenticeship information in the resource guide
                                          beside the terminal.

   _____   _____   BIBLiographic information about each occupation.

   _____   _____   Vocational, Trade and Technical Schools information
                                          in the resource guide beside the terminal.

   _____   _____   Community College information in the resource
                                          guide beside terminal

   _____   _____   Women's Career Counseling File

   _____   _____   QUEST questionnaire

2. When you used the system, did you find it:

   _____   _____   _____   _____   _____

   Very easy   Easy to   Some   Difficult   Very Difficult
   to use   use   were easy,   to use   to use
                                   some were
                                   hard to use

3. Place a check (✓) in front of any of the following statements which you
   agree with.

   The words in COCIS:

   _____   I had a hard time understanding alot of the words. Give two examples
             of words you didn't understand. _____

   _____   I had difficulty understanding some of the words. Give two examples
             of words you didn't understand. _____

   _____   I didn't have any trouble understanding the words.

   _____   Additional comments

4. Place a check (✓) in front of any of the following statements which you agree with:
   Quality of the Information in COCIS:

   _____ I got all the information I needed

   _____ I needed more information than I got about occupations

   _____ I needed more information than I got about myself

   _____ I needed more information than I got about colleges, technical schools, apprenticeships, etc.

   _____ I think that some of the information I received was poor

   _____ I think that most of the information I received was excellent

   _____ Additional Comments: _____

   _____

   _____

5. This system is provided to you free-of-charge today. If we had to charge for using it, how much would you be willing to pay (or ask your parents to pay) for each one hour of use.

   _____ More than $10.00 per hour

   _____ $10.00 per hour

   _____ $7.50 per hour

   _____ $5.00 per hour

   _____ $4.00 per hour

   _____ $3.00 per hour

   _____ $2.00 per hour

   _____ $1.00 per hour

   _____ nothing

6. How many occupations did you get on your final QUEST questionnaire list?

   _____ more than 20 occupations

   _____ between 10 - 20 occupations

   _____ between 5 - 9 occupations

   _____ between 1 - 4 occupations

   _____ no occupations

7. Did the occupations you received on your QUEST questionnaire list give you occupations about which you have not thought?

   _____ Yes, but I'm not interested in any of them.

   _____ Yes, and it was helpful.

   _____ No, I've thought of most of them already.

88

-2-

8. Now that you have used the system and received some information from it, you may be interested in the same, or different, occupations. Please list them in the order of your interest.

1st _____

2nd _____

3rd _____

Write down any others you are now considering:

_____

_____

_____

_____ I don't have any occupations in mind.

9. At this time (after you have used the Career Information System), how certain are you that you will try to enter the occupation you listed as your first choice in question 7?

_____   _____   _____   _____

Very certain   Certain   Uncertain   Very uncertain

10. Which of the following career information materials have you used before? (Check (✓) as many as you've used)

_____ Occupational Outlook Handbook (OOH)

_____ Dictionary of Occupational Titles (DOT)

_____ Vocational Information for Education and Work

_____ Other materials used in your school (please list as many as you can remember). _____

_____

_____

_____ I haven't used any other materials.

How would you compare the materials you checked above with the COCIS system you just used?

_____ I found much more information I need in the COCIS system.

_____ I found more information I need in the COCIS system.

_____ I found about the same information in the COCIS system as in the materials I previously used.

_____ The other materials gave me more information that I needed.

_____ I didn't use the other materials.

89

-3-

12. Which means of getting career information would you rather use?

_____ The materials I'd already used

_____ The COCIS system

_____ Both the materials and the COCIS system

13. After using the system, to whom do you plan to talk about your career plans? (You can check (✔) more than one)

_____ Your parents

_____ Your teacher(s)

_____ Your counselor

_____ Your friends

_____ No One

_____ Others (list) _____

14. What other information would you like to see added to this system? Please list:

_____

_____

_____

EVALUATION OF THE

COLORADO CAREER INFORMATION SYSTEM

APRIL, 1976

BY

WARREN W. WOLFF
DEPUTY DIRECTOR

INTRODUCTION

This report provides the results of evaluations of the Colorado Career Information System (COCIS) which were obtained at four test sites during April, 1976. Consequently, it reflects the "state of the System" as of that date. The purpose of the test sites was to obtain reactions from potential user populations which could be used by COCIS staff in future development of the system and to determine the kinds of problems that could be encountered in delivering COCIS statewide. Specifically, the evaluation was intended to gather information on the following major topics:

a) Ease of use of the system by different types of clients.

b) Quantity and quality of information contained in the system.

c) Willingness to pay for the system.

d) Number of new occupations not previously considered and the total number of occupations provided by the "QUEST" questionnaire list of occupational titles.

e) Change in preferred occupations before and after usage.

f) Change in certainty of preferred occupations before and after usage.

g) Usage of career materials other than COCIS.

h) Comparison of COCIS with other career information materials used by the clients.

i) Extent of discussion of career plans with other persons.

j) Cross-referencing of user background variables (i.e., sex, ethnic background, grade level, residence, grades in school, career plans and reasons for wanting to use the system) with outcome variables listed in a) through i) above.

The system evaluated was the Oregon Career Information System as it had been localized with Colorado labor market information as of April, 1976 and a COCIS developed Women's Career Counseling File. The system consisted of five basic files of information: the DEScription, PREParation, BIBliographic, PROGram and Women's File. There were 196 occupations represented by the DESC, PREP and BIB files, and 63 programs of study and training. In addition, an "off-line" book of supplemental information on Colorado Technical and Specialized Schools, Community Colleges and Apprenticeships was provided next to the computer terminal. This book was referred to in applicable PREP statements and served to expand the amount of information available on programs of study and training within Colorado. This supplemental information was compiled from the Computerized Vocational Information System (CVIS).

92

TEST SITE PROCEDURES

Four test sites were chosen to provide a wide range of contrasting user backgrounds (e.g., grade in school, place of residence, ethnic background, sex and career concerns). These sites were:

● Centennial High School at San Luis

● North High School at Denver

● University of Southern Colorado at Pueblo

● Mesa College at Grand Junction

At each site one or more monitors was hired to assist with all aspects of the evaluation to include monitoring attendance of the subjects, adminis-tering the evaluation questionnaires, assisting subjects in using the system and in reporting problems caused by computer or terminal failure. Each moni-tor was required to maintain a log book for recording of significant events which may have affected the reactions during each day of the test site.

Prior to beginning the evaluation, extensive coordination was effected with a representative from each test site to include a visit and briefing on the purpose of the evaluation by the COCIS Director and Associate Director for Information Development. Representatives included the principal and key counselors at each high school test site and deans, vice-presidents and assistants to the president at each college test site.

During the first week of the evaluation, a COCIS staff member was assigned to train each test site's monitors regarding their duties. These staff mem-bers were in daily personal contact with the test site monitors during the first week of the evaluation and were in daily telephonic contact with the sites during the three weeks of data collection which followed. In addition, the staff members visited each test site at the end of the data collection period to conduct a debriefing of the test site monitors.

A random sample of respondents were preselected at the North High School and Centennial High School sites. At the Mesa College site, Grand Junction High School students were randomly selected while students from the college were allowed to "drop-in" in response to school announcements of the system's availability. In addition, a group from the local Work Release Program and from the Virginia Neal Blue (VNB) Women's Resource Center were not ran-domly selected. At the University of Southern Colorado, students were

9.3

allowed to "drop-in". In addition, several sections of a Professions
Class were required to use the system while VNB clients and Vocational Re-
habilitation Program clients were also allowed to "drop-in".

Each subject was scheduled for a one-hour appointment to use the system.
Appointment notices were provided to subjects at each site (see Attachment 1).
Each subject was requested to fill out Part I of the evaluation before using
the system (see Appendix II-J). Each subject used the system from 45 to 50
minutes after which they were asked to complete Part II of the evaluation
form (Appendix II-J).

Data collected was reduced to punch cards and computer processed
through a contract with Dr. Gene Glass, Professor, Laboratory of Educational
Research, University of Colorado. However, results reported herein are the
sole responsibility of the author.

The equipment used at all sites consisted of an ITT Data Speed 40 CRT
and an attached Line-printer leased from Mountain Bell Telephone Company.
A Mountain Bell representative provided training to the COCIS staff members
and the test site monitor(s) at all sites.

RESULTS

A. BACKGROUND VARIABLES

Five hundred seventy-nine (579) subjects completed usable questionnaires
from the following user groups: North High School students (100), Mesa
College and Grand Junction High School students (114), Virginia Neal Blue
(VNB) Center clients (16), Vocational Rehabilitation clients (25), Work Re-
lease Program clients (14), University of Southern Colorado (USC) students
(205), and Centennial High School students (105).

Forty-six (46) percent were male.

Thirty-two (32) percent were Spanish, 3 percent were Native Americans,
2 percent were Black, less than 1 percent were Oriental, and 56 percent were
white. Six (6) percent preferred not to identify their ethnic group.

Concerning the residence of the respondents, 51 percent reported urban,
21 percent reported suburban and 27 percent reported rural.

When asked about the income of the family, 20 percent reported less
than $5,000. 24 percent reported an income between $5,000 and $10,000, 23
percent between $10,000 and $15,000, 17 percent reported $15,000 and above,
and 15 percent preferred not to answer. Feedback from test site monitors

indicated that many students had only vague ideas about the income levels of their parents. Therefore, definite conclusions regarding the relationship between various outcome variables measured in this study and socioeconomic level (as represented by family income) cannot be definitely drawn.

Table 1 contains the frequencies of career plans reported. The largest single group was college-bound.

TABLE 1

Career Plan	Frequency	Percentage
College	221	40
Community College	30	5
Vocational Technical School	41	7
Apprenticeship	34	6
Full-time job	77	14
Military	18	3
Homemaker	2	1
Other	41	7
No Plans	91	16

The participants were questioned about their interest in using the system. Twenty (20) percent said, "I don't know what I can go into after I leave high school. I need more information to help me decide." Thirty-four (34) percent said, "I don't know what I can go into after I leave high school. I need more information to help me decide." Thirty-four (34) percent said, "I think I know what job I want to get into, but I need more information to be sure." Sixteen (16) percent said, "I know what I want to do. I need to know how to prepare for that job." Six (6) percent said, "I want to know about colleges, vocational schools or apprenticeship training programs." Fifteen (15) percent said, "To use the computer terminal because I thought it would be interesting." Eight (8) percent listed "other reasons".

The respondents grade in school and estimate of academic achievement were requested. Table 2 contains the frequencies and percentages in each grade.

TABLE 2

Grade in School	Frequency	Percentage
Ninth Grade	15	3
Tenth Grade	73	13
Eleventh Grade	117	20
Twelfth Grade	101	18
College Freshman	10	
College Sophomore	11	
College Junior	55	10
College Senior	32	6

Two (2) percent of the participants reported having "below average",
31 percent "average" and 48 percent "above average" grades. This measure
of academic achievement yielded an extremely skewed distribution in favor
of students earning "above average" grades. Therefore, the differential
impact of COCIS on students with different levels of academic achievement
cannot be concluded with maximum confidence.

Two-way cross tabulation of background variables failed to reveal
any interesting interactions. With the exception of family income and aca-
demic achievement, it can be concluded that COCIS does not have a signi-
ficantly different impact upon persons of different sex, ethnic background,
area of residence, career plans, reasons for using the system or grade in
school.

B. OUTCOME VARIABLES

Ease of Use. Of the respondents as a whole, 52 percent said using the
system was very easy, 39 percent said it was easy, 8 percent said it was
part easy and part difficult. The ease of use did not vary among sites,
nor user type (student, VNB, or institutions), locale, reason for using the
system, future plans, ethnic group, sex or age. Those with the highest
parent income more often reported COCIS very easy to use. Those with below-
average grades less often reported ease of use.

The respondents were asked about the difficulty they encountered in
reading the COCIS material. Only 1 percent reported "I had difficulty
with some of the words." The overwhelming majority reported no trouble in
understanding the words. When this question was cross tabulated with back-
ground variables only age and reported grades showed important relation-
ships. There was a slight tendency for those reporting below-average
grades to also report difficulty in the COCIS readability. The youngest
and the oldest age categories also reported relatively greater difficulty.

Quantity and Quality of Information. Forty-four (44) percent of all
respondents reported that they got all the information needed. Twenty (20)
percent wanted more information about occupations. Fourteen (14) percent
wanted more information about self. Ten (10) percent wanted more informa-
tion about colleges. Few significant and intelligible relationships with
background variables were discovered. VNB respondents reported more need.

96

for information about self. Work release program clients and community college aspirants reported greater need for information about colleges.

Concerning the quality of the information, 5 percent reported that the information they received was poor. Fifty-six (56) percent indicated the information received was excellent. A relatively greater proportion of the highest and lowest age categories rated the information of poor quality. Table 3 contains the breakdowns on information quality by user groups.

TABLE 3

Site	Percent indicating "Poor Quality" Information	Percent indicating Excellent Quality of Information
North High Students	1.0%	58%
Mesa College (includes Mesa Students and Grand Junction High Students)	8.4	64.5
VNB Clients	6.3	81.3
Voc Rehab Clients	4.3	73.9
Work Release Program Clients	-0-	64.3
USC Students	4.5	57.1
Centennial High Students	5.8	43.7

Willingness to Pay. Nine (9) percent of the respondents indicated they would not be willing to pay. No significant relationships between willingness to pay and the background variables were discovered.

TABLE 4

Amount	Frequency	Percentage
$ 1.00	64	12%
2.00	78	14
3.00	73	13
4.00	43	8
5.00	146	27
7.50	25	5
10.00	51	9
Over $10.00	17	3

Number of Occupations Suggested by QUEST. On the final QUEST questionnaire received, the respondents reported the following numbers: Less than 1 percent received more than 20 occupational titles; 45 percent received between 10 and 20; 14 percent received between 5 and 9; 20 percent received

between 1 and 4; those reporting no occupations constituted 1 percent.
There were some differences among the sites on this question. VNB and
work release clients received relatively more occupations than other user
groups. Based upon feedback from test site monitors, final QUEST lists
were rarely arrived at completely independently. That is, site monitors
were available and were often asked to assist a subject in structuring
the final QUEST list. Therefore, this question does not answer the question
of how many occupations subjects received without monitor assistance.

The following question was posed: "Did the occupations you received
on your QUEST questionnaire list give you occupations about which you have
not thought?" Seventeen (17) percent answered, "Yes, but I'm not inter-
ested in any of them." Sixty-nine (69) percent answered, "Yes, and it
was helpful." Fourteen (14) percent answered, "No, I've thought about
most of them already."

Change in Occupational Choice. Both before and after using COCIS
the clients were asked to indicate 3 occupations which interested them.
These two items were compared and the number of new occupations (after
COCIS use) were tallied. Changes in rank of the same occupation were not
counted as true changes for this analysis. Twenty-nine (29) percent of
the respondents demonstrated no changes in the occupations considered
following COCIS use. Twenty-four (24) percent showed one change. Twenty-
five (25) percent showed two changes. Twenty-one (21) percent showed
three changes. No significant relationships between occupational prefer-
ences and the background variables were discovered.

Certainty of Occupational Choice. The following question was asked:
"At this time (after you have used the Career Information System), how
certain are you that you will enter the occupation you listed as your
first choice...?" Twenty-six (26) percent reported they were "very certain".
Forty-three (43) percent said "certain". Twenty-nine (29) percent said
"uncertain". Two (2) percent said they were "very uncertain". Relatively
more clients who had originally said, "I know what I want to do -- I need
to know how to prepare for that job", also reported they were "very certain"
after COCIS. The converse was true for those who had originally reported
"I don't know what I can do..." as their interest in using COCIS.

A comparison was made between the above question of certainty (after COCIS) with the similar question asked before the clients had used the system. After COCIS, 25 percent were more certain than they had been before. Sixteen (16) percent became less certain. Fifty-eight (58) percent showed no change in level of certainty. Some interpretable relationships were found between the "change in certainty" and various user groups, as shown in Table 5.

TABLE 5

Site	More Certain	Less Certain	No Change
North High Students	34%	20%	46%
Mesa College and Grand Junction High Students	24	14	61
VNB Clients	20	20	60
Voc Rehab Clients	52	26	22
Work Release Program Clients	14	7	79
USC Students	19	18	64
Centennial High Students	28	12	60

Other Materials and COCIS. The clients were asked whether they had used other career information materials. Table 6 contains the frequency of use of each type of material by all respondents. Materials referred to were those which students were more likely to have used in their schools.

TABLE 6

Information Source	Frequency	Percentage
Occupational Outlook Handbook (OOH)	142	25%
Dictionary of Occupational Titles (DOT)	85	15
Vocational Information for Education and Work (VIEW)	69	12
Other materials	39	7
"I haven't used any other materials"	237	58

Results indicated that those who earlier said, "I know what I want to do - I need to know how to prepare for that job" were also more likely to have used these materials than were respondents as a whole. Those respondents aspiring to apprenticeship programs were less likely to have used them. Other than these relationships, use of other career materials did not vary with background variables.

A comparison between COCIS and the materials listed in Table 6 was requested. Table 7 contains the response items and percentage of responses.

TABLE 7

Item	Percentage Response
I found much more information I need in the COCIS System	31
I found more information I need in the COCIS system	26
I found about the same information in the COCIS System as in the materials I previously used	5
The other materials gave m more information that I needed	6
I didn't use the other materials	37

The respondents were asked which means of getting career information they would rather use. Only two (2) percent favored the "materials I'd already used." Fifty-three (53) percent favored use of only the COCIS system. Forty-five (45) percent favored use of COCIS with the other materials. No interpretable relationships with ckground variables were uncovered.

Discussion of Career Plans. The ticipants were asked the following question: "After using the system, to om do you plan to talk about your career plans?" Forty-nine (49) percent said they would talk to a parent, 18 percent to teachers, 49 percent to counselors, 35 percent to friends, 10 percent to "others". Eleven (11) percent indicated they would talk to "no one. This varied in predictable ways according to type of client and test site; for example, because non-students lacked access to counselors and older clients lacked access to parents percentages who indicated they would talk with those people were lower. A breakdown by user groups of responses for each discussion category is provided in Table 8.

TABLE 8

Site	Talk w/ Parents	Talk w/ Teachers	Talk w/ Counselors	Talk w/ Friends	Talk w/ No one
North High Students	64%	18%	59%	32%	1%
Mesa College and Grand Junction High Students	57	29	49	42	15
VNB Clients	13	0	60	33	7
Voc Rehab clients	32.	0	86	23	0
Work Release Program Students	7	0	36	29	29
USC Students	32	19	43	41	14
Centennial High Students	69	12	43	25	9

SUMMARY OF FINDINGS

Ninety-one (91) percent of the respondents rated COCIS either very easy or easy to use. Only four percent said that they had difficulty under-standing the words us···d in the system commands or occupational descriptions. We suspect that the presence of the test site monitors may have influenced to some extent the responses obtained to the question on reading difficulty. However, these results would indicate that, in general, the reading level is not too high for a high percentage of potential users.

Concerning the quantity of information provided by COCIS, 44 percent indicated that the system provided all the information they needed. How-ever, 20 percent wanted more information about occupations than was pro-vided. With regard to the quality of information received, 56 percent rated the information of excellent quality whereas only 5 percent rated the in-formation as poor quality.

Sixty-five (65) percent of the respondents said they would be willing to pay at least $3.00 for use of the system for a period of one hour. An-other 28% said they would pay at least $1.00 for use of the system. Only 9 percent said they would not be willing to pay for use of COCIS.

A major objective of the QUEST questionnaire is to provide those in process of career exploration some new occupations to consider which seems to match the user's personal preferences and abilities. Sixty-nine (69) percent of the respondents reported that they received occupational titles in their QUEST list which they had not previously considered and which they felt were helpful to them.

Data collected on changes in occupational choice and in certainty of occupational choice are subject to various interpretations. Generally, these data were collected to determine the magnitude of change and extent of certainty which might be expected when users are exposed to a career information system.

Information was requested on the extent of use of other career informa-tion materials. Surprisingly, 58 percent reported that they had not used other materials other than the COCIS system as part of this evaluation. Not surprisingly, the largest percentage of use (25) was attributed to the Occupational Outlook Handbook. Fifty-seven (57) percent of the respondents

reported that they found more information they needed in COCIS than in the other materials they had used. Fifty-three (53) percent favored use of COCIS (standing alone) as their preferred method of getting career information. Another 45 percent favored use of COCIS in conjunction with use of other materials.

Previous studies in the Oregon CIS have indicated that use of the CIS generated further discussions of career plans with parents, counselors, teachers and others. This study served to further confirm these findings. Forty-nine (49, percent said they would talk with parents, 49 percent to counselors, 18 percent to teachers and 45 percent to friends and others.

This report constitutes a summary of significant findings. The computer-generated Chi Square contingency tables for all comparisons referred to in this paper are available in the COCIS library, Willard Administrative Center, University of Colorado, Boulder, Colorado. They are available for further inspection for those interested.

Student's Name

You have been chosen to take part in a special experiment in career
exploration. We are testing a computerized vocational information
system in your area and want to know what students, like you, think
about it. We would like you to use the system and give us your
honest reactions.

    *** The computer terminal is located at:_____

    *** Your time to use the terminal is: _____ at _____
                                     (Date)   (Time)

Please be prompt so everyone has a full hour on the terminal. Someone
will be there to answer any questions and show you how to use the terminal.

IMPORTANT: If for some reason you cannot use the terminal at the time
scheduled or do not wish to take part in this experiment, please see
_____. You are not required to take part in this
experiment.

Thank you for your cooperation! We hope you will enjoy using the system!

              The Staff of the Colorado Career Information System

PROPOSAL FOR CO-VIEW/COCIS INTERFACE

I. Objective

To supply Coloradans with quality, localized career information and related support services on a cost recovery basis.

II. Assumptions

A. That a common data base of occupational and educational information presented in a compatible format be used for the microfiche, print and computer delivery modes.

B. That a universal pricing policy apply for all delivery modes and that this price be separate from the cost of delivery equipment and materials.

C. That statewide career information development, marketing and training for all delivery modes can be most efficiently coordinated by a centralized organization.

III. Transitional Steps

A. Cooperative Development of Needlesort Deck by January 1, 1977

1. Establish common base oc occupations and code numbers
2. Finalize artwork for cards (includes logo)
3. Order card decks, needles and containers
4. Contract for printing of cards
5. Determine attribute coding for each occupation
6. Notch individual cards
7. Collage and assemble
8. Develop instruction booklet for use
9. Develop an in-service training program

B. Cooperative Marketing of Needlesort Deck (beginning December 1976)

1. Inventory current VIEW use by personal visit and telephone survey
2. Explain and promote needlesort/print and needlesort/microfiche options to VIEW users (through newsletters, in-service training sessions, regional counselor group meetings and individual school contact)
3. Present and demonstrate to non-VIEW users
4. Contract for services

C. Cooperative Development of Microfiche Cards

1. Determine format and content (including artwork)
2. Develop modified copy if required (may entail a new computer program)
3. Produce microfiche cards
4. Assemble and package
5. Distribute to contracted users

D. Common Pricing for Cost Recovery

1. VIEW continue as a complimentary service until June 30, 1977
2. COCIS market the computer-based system and print/needlesort version on a per user cost recovery basis as independent product offering from September 1, 1976 through August 3, 1977
3. All three delivery modes be offered by a single organizational entity in accordance with the uniform COCIS per user cost formula effective September 1, 1977

E. Centralized Administration

1. Co-VIEW and COCIS maintain separate staffs, budgets and locations through June 30, 1977
2. Effective July 1, 1977 the Board oc Community Colleges and Occupational, Education authorize COCIS to serve as the developer and deliverer of information and services for the microfiche system.
3. Funds previously allocated for Co-VIEW operations be transferred to COCIS effective July 1, 1977
4. Co-VIEW personnel be retained as member(s) of the COCIS staff to assume a mutually agreed upon set of duties and responsibilities
5. A Boulder or Greeley location serve as the operations base for continuing microfiche efforts

106

Demonstrations

1. State of Colorado Career Education Conference, 10/16-17, 1975.
2. Poudre Valley School District officials, 10/22/75
3. Colorado Sprin School District, 10/29/75.
4. Guidance Fair sponsored by State Department of Education, 11/19/75.
5. Colorado Council for Vocational Education, 11/21/75.
6. Human Resources Committee, Boulder Chamber of Commerce, 12/3/75.
7. Joint Conference of Colorado Association of School Boards and
   School Executives, 12/7-9, 1975.
8. Jefferson County School District High School Counselors, 12/12/75.
9. Mid-Year Education Conference, 1/30/76.
10. Community College Deans and counselors, 2/4/76.
11. Employment Service and WIN representatives, 2/6/76.
12. Denver Public Schools career counselors and administrators, 2/12/76.
13. Jefferson County Schools counselors and administrators, 2/13/76.
14. Boulder Valley Schools counselors, 2/18/76.
15. University of Colorado UMC, 2/19/76.
16. Career EXPLO Fair, 3/5-11, 1976.
17. Colorado School Counselors Association, 3/12/76.
18. Boulder Valley School Board President, 3/29/76.
19. Berthoud High School counselors, 4/1/76.
20. Boulder Public Library staff, 4/5/76.
21. Colorado Springs Public Schools, District #1, counseling, career
    education and computing administrators, 4/6/76.
22. Denver Public Schools, North High School personnel and district
    administrators, 4/9/76.
23. Adams State College Counseling Administration Class, 4/9/76.
24. Pre-Retirement Planning Institute of Colorado, program
    administrators, 4/15/76.
25. Ray Garvey, COCIS Board of Directors member from State Department
    of Social Services, 4/15/76.
26. Singer Corporation, Career Development Center, Denver project admini-
    strators and national Education Division representatives, 5/4/76.
27. Denver Income Maintenance Experiment, Special Project Counseling
    Center, counselors, 5/4/76.
28. Denver Metropolitan Educational Opportunity Center, counselor, 5/6/76.
29. Singer Corporation (see #26), 5/11/76.
30. Denver Urban Coalition's Action 76 Conference on Employment 5/20/76.
31. Jefferson County Public Schools, district career education
    staff, 5/24/76.
32. Department of Labor, Labor Market Information Project, national
    and regional representatives, 5/26/76.
33. Boulder Manpower, job development staff, 6/2/76.
34. Colorado Jobs for Progress, Southestern Colorado Area Coordinator
    6/16/76.
35. Denver Metropolitan Area WIN office, staff specialists, 6/21/76.
36. Colorado University Career Education Class, 6/24/76.
37. Colorado State University Career Counseling Class, 7/20/76.
38. Colorado State University Career Counseling Class, 7/28/76.

107

39. Colorado State University, Workshop on Job Development and Placement,
       Vocational Education Dept., 7/20/76.
40. Colorado State University, Workshop Group in Career Education and
       Counseling, Dept. of Education, 7/28/76.
41. Rocky Mountain College Placement Association, 8/5/76.
42. COCIS Board of Directors, orientation meeting, 8/27/76.
43. Boulder Valley Schools, Special Committee, 9/8/76.
44. Ron Kelton, COCIS Board of Directors member, State Department
       of Education, 9/8/76.
45. Mapleton and Highland High School Counselors, 9/14/76.
46. Department of Institutions at Buena Vista, 9/27/76.

CAREER INFORMATION	Accessing Strategies to the Information	• Occupational Descriptions • Occupational Bibliographies • Preparation Statements • Programs of Education and 　　　　　　　　　　　Training • Additional Information as 　　　　　　　　　　Developed
SERVICES & MATERIALS		• Annually updated labor market statistics • In-Service Training and workshops • User Guides and Coordinators Handbook • Technical Equipment Troubleshooting • Continued Information Expansion to Meet 　　　　　　　　　Specific User Needs

By Computer	By Print and Needlesort	By Microfiche and Needlesort
• Fingertip Access • Swift Retrieval • Continuously 　　　Updated • Provides print 　　　copy • A motivating 　　　experience	• Highly Portable • Excellent for 　small group and 　classroom use • An insightful 　learning tool	• Can utilize exist 　ing equipment • Provides printed 　　　copy • An insightful 　learning tool
September 1976 Availability	January 1977 Availability	September 1977 Availability

Colorado Career Information System
Preliminary Income Projections

FY 1977-78

COCIS will require $100,000 income receipts and commitments by September 30, 1977. At $1.50 per user this represents a paid user base of 66,667. Be : estimates indicate the number of total users served by educational and governmental institutions in Colorado to be 717,000 as itemized below.

Secondary Schools	300,000
Colleges & Universities	145,200
Employment Service	205,000
Manpower	3,600
WIN	31,700
Vocational Rehabilitation	20,800
Corrections	1,800
Supervised Legal Offenders	8,900
	717,000

FY 1978-79

COCIS will require $175,000 income receipts and commitments by September 30, 1978. Assuming that one third of the users qualify for the lower $1.00 per user rate. This represents approximately 120,000 paid users.

FY 1979-80

If one half the users qualify for the lower rate, a 200,000 paid user base would be required to raise the needed $250,000 revenue commitment by September 30, 1979

Self Sufficiency

A paid user base of 240,000 Coloradans is the target goal for the $300,000 self supporting level assuming that one half the users qualify for the lower group rate of $1.00 per user.

111

Proposed Target Populations

General Groupings: - Schools - Public and Private (2 groups)

Junior High School
Senior High School
Community College
Four-Year College, University

- Agencies

Employment Service.
Vocational Rehabilitation
WIN
Manpower
Institutions: Correctional
Youth Services
Mental Health
Public Libraries
Community Agencies.

- Private Sector

Geographical Groupings: urban
rural
suburban

Sociological Groupings: st████
un██████ed
career changers
disadvantaged - socio-economic
women
veterans
minorities: Chicano
Black
American Indian

Priority Groupings of COCIS Populations

Note: <u>Urban and Rural</u> populations, by general agreement, include the
largest majority of disadvantaged, minorities, and women in need
of occupational information.

<u>Priority I</u> - Highest Priority

- Service as many as possible, as soon as possible
- majo effort of project in long run, almost exclusive
  effort in short run

  - <u>Urban and rural students</u> - found in
    Public Schools: Junior High School
    Senior High School
    Voc-Tech
    Community Colleges

  - <u>Urban and rural unemployed, career changers</u> -
    found in the Agencies: Manpower
    Voc Rehab
    WIN
    Institutions

<u>Priority II</u> - Moderate Priority

- system made available by end of last grant year
- some effort after Priority I population is at 2/3 of
  state level with 80% service capacity

  - <u>Suburban students</u> - found in
    Public Schools: Junior High School
    Senior High School

  - <u>Urban, Rural and Suburban students</u> -
    found in Four-Year Colleges and Universities

  - <u>Urban, Rural and Suburban unemployed</u> -
    found in these agencies: Employment services
    Veterans
    Institutions

<u>Priority III</u> - Lowest Priority

- only if they approach us
- only if time from other priorities permits

  - <u>Urban, rural and suburban students</u> - found in Private Schools

  - <u>general populations</u> - serviced by Public Libraries
    Communi. agencies

  Private Sector

Appendix III-F

Colorado Career Information System

Second Year Marketing Timetable

Time	Administrative Center (Educational)	Regional Centers (Educational) & Agency

FALL	1. Public Secondary Schools (LMR II)
	  a. Denver
	  b. Suburban
		1. Establish Pueblo Center and Begin Public Secondary Schools Marketing (LMR IV)

WINTER	2. Public Secondary Schools (LMR I & III)
	  a. Urban & rural
	  b. Suburban
		2. Institutions
		3. Manpower
		4. Employment Service
		5. Establish Grand Junction Center and Begin Public Secondary Schools Marketing

SPRING	3. Community Colleges (LMR I, II, III)
	  a. Urban and Rural
	  b. Suburban
	
	4. Colleges and Universities (LMR's I, II, & III)
	  a. Urban and Rural
	  b. Suburban
		6. Social Services
		7. Community Colleges (LMR's IV & V)
		
		8. Colleges & Universities (LMR's IV & V)

SUMMER	5. Rural Remote Locations of Above for (LMR's I, II, & III)	9. Community Agencies (All LMR's)

Colorado Career Information System

Cost Guidelines

Consortium Cost Formula

Subscribing organizations will be charged an annual fee for each user to be serviced by COCIS in accordance with the following schedule:

$1.50 per user up to 4000
$1.00 per user after 4000

Consortium Cost Policy

1. A minimum payment for 100 users is required for the needlesort/ printout version and 500 users for the computer version.

2. The number of charged users will be negotiated based upon planned organizational use and will typically be less than the total organizational population (i.e. 2/3 of the students in a secondary school).

3. Group contracting will be allowed to assist organizations in reducing individual consortium costs.

4. Per user charges may be raised or lowered as dictated by the number of statewide paying users.

Delivery Mode Costs

1. The cost of materials or equipment required to physically deliver the information to the school or agency site represents a separate, additional charge.

2. COCIS shall serve as an equipment and service coordinator for computer-ized and microfiche delivery by supplying factual information regarding equipment performance requirements and local vendor contacts. COCIS will not lease or sell computer terminals, computer time, microfiche readers, etc.

3. COCIS will produce and sell for profit the non-computerized delivery materials including:

- Needlesort Card Decks
- Photo Offset Booklets of Printouts
- Microfiche Cards

Pricing is to be established when exact cost figures are known.

Proposed User Handbook follows

EXPLORATION HANDBOOK

CAREERS

COLORADO CAREER INFORMATION SYSTEM

120

What is the Colorado Career Information System?

Colorado residents now have a unique tool to assist them in choosing rewarding careers. COCIS (pronounced CO-SIS) will serve as a statewide clearinghouse of occupational and educational information.

Students, job seekers, career changers and counselors alike can now benefit from an easy to use, up to date library of career information previously unavailable or scattered about in dozens of publications or government agencies. A special staff of researchers continually compile current facts and figures about occupations right here in Colorado.

The career information comes to you in two ways: by computer or by printout books and needlesort cards. Both allow you to explore occupations based upon your individual characteristics and information needs.

Whether you are about to begin an insightful stroll down the printed path or take a computerized cruise into the world of career, you are sure to find your journey fun, informative and rewarding. You can save a lot of time and effort too!

The Colorado Career Information System does not, however, have information about actual job openings. If you are looking for a job right now, you will need to get help elsewhere.

GETTING READY

This Career Exploration Handbook is your master guide to all the
information in the Colorado Career Information System. It contains
important code words and numbers which you can use to request informa-
tion from the computer.

Before you start let's do some preparing. There are two paths you
may take which lead to different kinds of career information. The
right path for you depends upon how sure you are about your occupa-
tional plans.

Choose QUEST PATH if you are undecided about which occupations to
explore. See the first box below for more details.

Choose INFORMATION PATH if you have a particular occupation or
career topic in mind. To learn more see the second box below.

ONCE YOU HAVE SELECTED A PATH, TURN TO THE COLOR KEYED SECTION
OF THIS HANDBOOK TO FIND OUT MORE ABOUT THE INFORMATION YOU WANT.
THEN TURN TO THE OTHER SIDE OF THIS PAGE FOR GENERAL INSTRUCTIONS
TO HELP YOU ENTER YOUR REQUEST FOR INFORMATION ON THE COMPUTER
TERMINAL. DIRECTIONS FOR CROSSING FROM ONE PATH TO ANOTHER ARE
ALSO PROVIDED.

QUEST PATH   WHITE PAGES

You can get a list of job titles to explore based on your answers
to a questionnaire. Turn to the QUEST pages of this Handbook and
circle your answers to the questions. You will then be ready to type
in the circled code words on the computer terminal.

INFORMATION PATH

This Path divides into four branches. Select the branch you want
and turn to the color keyed section of this Handbook. When you
have found the code word and number for the information you want
you are ready to type them in on the computer terminal.

OCCUPATIONS   GOLD PAGES

You can learn about job duties, Colorado salaries and employment
prospects, how to prepare for an occupation and where to get more
information.

PROGRAMS OF STUDY AND TRAINING   YELLOW PAGE

Included are details about a variety of Colorado vocational, tech-
nical, community college, college and apprenticeship training
programs.

JOB SEARCH SKILLS   TAN PAGE

This branch offers many job hunting hints useful in developing
skills which can help you better present yourself to a prospective
employer.

WOMEN   TAN PAGE

A questionnaire, interviews and special readings will help you
better understand the role of women in the working world.

GENERAL INSTRUCTIONS

Now that you have chosen a COCIS Path and looked up the code words and numbers you want, you are ready to sit down at the computer terminal.

The computer termin. is a tool you use to ask for and receive information stored in a computer. The terminal is connected by telephone lines to a computer serving your area.

The keyboard of the computer terminal is arranged just like a regular typewriter. To request information from the computer all you do is type in the code word and numbers that you have selected and then press the return key.

REMEMBER TO PRESS THE RETURN KEY TO SEND YOUR MESSAGE TO THE COMPUTER AFTER TYPING IN EACH REQUEST.

TO START

Three easy steps will get you ready to type in the code words and numbers you have chosen.

STEP	TYPE IN	WHEN YOU WANT TO:
1	HELLO	Start or go to the beginning of COCIS
2	"Your Name"	Let the computer know who you are
3	QUEST	Enter your responses to the questionnaire
	or	
	INFO	Get information about occupations, education or other special career topics

(To CROSS FROM ONE PATH TO ANOTHER AT ANY TIME TYPE QUEST or INFO)

FOR HELP AND SHORTCUTS

If you have some trouble while you're using COCIS or would like to learn about some tricks to speed up your journey, these pointers may come in handy.

TYPE IN:	WHEN YOU WANT TO:
HELP	Get help with what to do next

HOLD DOWN:	
the CTRL key and press U	Cancel your message before it is sent (if you change your mind or make a mistake)
the CTRL key and press O	Stop a printout of information (this allows you to go on to your next information request)

WHEN YOU'RE DONE

After each time that you use COCIS we would like to find out your reactions. You will be asked to enter your responses to a few questions. Your answers will help us to make the Colorado Career Information System better as time goes on.

TYPE IN:	WHEN YOU WANT TO:
BYE	Stop using COCIS and answer the questions.

123

Pages 3 through 8 of appendix III-I (containing the QUEST questionnaire
developed at the University of Oregon) are copyrighted and therefore
not available. They are not included in the pagination

OCCUPATIONS

There are 234 occupations in the Colorado Career Information System. They
cover over 90% of the employed workers in Colorado.

The information for each occupation is thoroughly reviewed at least once
each year. As new information becomes available it can immediately be
entered into the computer and delivered to you.

There are four types of occupational information you can request from the
computer. Choose from the four code words below, then type it in followed
by the number of the occupation that interests you. An alphabetical listing
of occupational titles begins on the next page.

The GENERAL INSTRUCTIONS section of this handbook will help you once you have
chosen a code word and an occupational number.

TYPE IN	FOR
DESC (OCC. NO.)	A description of duties, list of specialty and related work areas, aptitudes, work setting, hiring requirements and the current Colorado employment level, wage range, and future outlook. (For example, DESC 1614)
PREP (OCC. NO.)	Skills, licensing requirements and special tips to help you prepare for an occupation. (For example, PREP 1614)
BIB (OCC. NO.)	A bibliography of books, pamphlets, organizations and other sources of information about the occupation. (For example, BIB 1614)
ATTR (OCC. NO.)	A list of occupational attributes based on the 24 item QUEST questionnaire. (For example, ATTR 1614)

OCCUPATIONAL CLUSTERS

Many occupations have something in common which allows them to be grouped
into occupational clusters. These clusters can be helpful to let you see
how occupations are alike and how they are different. If you have an oc-
cupation in mind and would like to find out about some similar kinds of
work, you can type in DESC and the occupational cluster number.

1100	Administrative	4700	Graphic Arts
1400	Clerical	5400	Metal Working
1600	Bookkeeping - Accounting	5600	Electricity and Electronics
2100	Social Research and Planning	5900	Other Production
2300	Engineering and Design	6100	Transportation
2600	Laboratory	7100	Stock Control
3100	Mechanical	7400	Sales
3400	Building Maintenance	7800	Food Service
4100	Agriculture and Forestry	8100	Health Service
4200	Construction	8400	Social Service
4300	Food Products	9400	Protective Service
4400	Textile and Apparel	9800	Art and Entertainment
4500	Timber Products		

OCCUPATIONAL INDEX

1144	Executives, Business	5624	Line Installers-Repairers
3159	Farm Equipment Mechanics	1636	Loan Officers
4166	Farm Hands	6172	Locomotive Engineers and Firers
4164	Farmers and Farm Managers	5472	Machine Tool Operators
4168	Farm Workers, Seasonal	5464	Machinists
9426	Firefighters	7122	Mail Carriers
4126	Fish and Wildlife Specialists	7414	Manufacturing Salespersons
7856	Flight Attendants	7112	Material Handlers
4276	Floor Covering Installers	2332	Mathematicians and Statisticians
4146	Floral Designers	4326	Meat Cutters
4124	Foresters	23546	Mechanical Engineers
4128	Forestry Aides	3116	Mechanics, Aircraft
6158	Fork Lift Operators	3112	Mechanics, Automobile
5426	Foundry Workers	3114	Mechanics, Diesel and Heavy Equipment
2174	Freelance Writers	3159	Mechanics, Farm Equipment
8182	Funeral Directors	3146	Mechanics, Heating and Cooling System
4126	Game Wardens	3118	Mechanics, Small Engine
1418	General Office Clerks	2654	Medical Technologists
26261	Geologists	1456	Messengers
4248	Glaziers	5422	Metal Working Patternmakers
4144	Groundskeepers and Gardeners	23547	Metallurgical Engineers
9476	Guards	9436	Military Enlisted Occupations
5982	Handcrafters	1172	Military Officers
1134	Health Service Administrators	3142	Millwrights
8126	Health Therapists	23548	Mining Engineers
3146	Heating and Cooling System Mechanics	9842	Models
6152	Heavy Equipment Operators	5424	Molders
8166	Hospital Attendants	8182	Morticians
1132	Hotel and Motel Managers	7124	Newspaper Carriers
3169	Household Appliance Repairers	8166	Nurse Aides and Orderlies
3456	Houseworkers, General	8164	Nurses, Licensed Practical
23545	Industrial Engineers	8162	Nurses, Registered
3144	Industrial Machinery Repairers	1692	Office Machine Operators
6158	Industrial Truck Operators	3164	Office Machine Repairers
1156	Inspectors, Building	1411	Office Managers
2672	Inspectors, Quality Control	3126	Oilers
3186	Instrument Repairers	6154	Operating Engineers
4256	Insulation Workers	2644	Opticians
7416	Insurance Salespersons	8115	Optometrists
2366	Interior Designers and Decorators	8166	Orderlies and Nurse Aides
1182	Interpreters and Translators	7126	Packers and Wrappers
3455	Janitors	4242	Painters
3184	Jewelers	8433	Paralegals
1688	Keypunch Operators	9480	Parking Lot Attendants
7884	Kitchen Helpers	5422	Patternmakers, Metal Working
2656	Laboratory Testers	9866	Performing Artists
4286	Laborers, Construction	1186	Personnel Managers
9414	Law Enforcement Officers	5912	Petroleum Drilling Workers
8432	Lawyers	23549	Petroleum Engineers
8433	Legal Assistants (Paralegals)	5914	Petroleum Processing Occupations
7164	Librarians	8124	Pharmacists
7166	Library Assistants	4734	Photographers
8164	Licensed Practical Nurses	2624	Physical Scientists

OCCUPATIONAL INDEX

PROGRAMS

The computer contains information about 85 kinds of educational and training programs. Some,like medicine, secretarial studies, architecture, auto and diesel mechanics and apprenticeships are intended primarily to prepare for careers. Others, like biology and theatre and drama have other objectives.

The programs may range from a few weeks to several years. Schools from throughout Colorado are included which represent both practical training and classroom academics.

The educational program information can tell you about:

- Purpose and occupational objectives
- Typical coursework and areas of specialization
- Colorado schools that offer training
- Related occupations and educational programs

This information will help you understand what is included in a specific program of study. It will give you an idea of program requirements and Colorado educational opportunities.

TYPE IN:	WHEN YOU WANT TO:
PROG (PROG. NO.)	Find out about courses, degrees, and schools for a particular program of study.

You may choose from the alphabetical list of programs on the following page. Be sure to use the special three digit program number. The four or five digit occupational numbers will not get you educational program information.

129

PROGRAM INDEX

JOB SEARCH SKILLS

Finding a good job is often a job in itself.· Sound job hunting skills
are always important, but they are a special advantage today when many
jobs are scarce.

To help sharpen your own job hunting behavior:

TYPE IN:	WHEN YOU WANT TO:
JSS and the Question Number	Get an informative answer
(For Example: JSS3)	about a specific job search
	skill

Helpful hints and guidelines are available to help you
answer the following questions:

1. What kind of job should I seek?
2. What are some sources of job information?
3. How do I write a resume?
4. How do I fill out a job application form?
5. How do I prepare for a job interview?
6. How do I act in an interview?

WOMEN

More and more women are entering the labor force and finding better
and more challenging jobs than ever before.

Still there are many things about the working woman which are unique
or frequently misunderstood. To learn more about the world of women
who work

TYPE IN:	WHEN YOU WANT TO:
WOMEN and the Topic Number	Learn about a specific aspect
(For Example: WOMEN 2)	of women who work

You have the following topics from which to choose:

1. A true or false questionnaire about employment
   myths and job barriers
2. Interviews with women employed in both traditional
   and non-traditional occupations
3. A list of books and other readings about women
4. A list of Colorado resources which offer special
   services to women.

131

THE COCIS CONCEPT

THE COLORADO CAREER INFORMATION SYSTEM is a public interagency consortium which provides current labor market and educational information in usable forms to individuals, schools and social agencies. The purpose is to improve career choices and training opportunities.

Colorado is one of eight states to earn federal funds to pioneer the development and delivery of current, locally relevant career information.

Relying upon federal support only in its initial years of development, program maturity will witness COCIS carrying its own weight as a non-profit, self-supporting organization. In this way COCIS will stand directly accountable to those schools and agencies .it serves and to those who share the program cost as consortium members.

The Colorado Career Information System also supplies specialized training and consultation to subscribing organizations in the use of COCIS information in counseling and instructional programs.

For more information on becoming a COCIS consortium member, please contact:

CAREERS
COLORADO CAREER INFORMATION SYSTEM
WILLARD ADMINISTRATIVE CENTER · UNIVERSITY OF COLORADO · BOULDER, COLORADO 80309 · (303) 492-8832

132

Contract No.:_____

Customer:_____

_____

_____

TERMS AND CONDITIONS

COMPUTER DELIVERY OF CAREER INFORMATION, SUPPORT SERVICES, CONSULTING, AND DOCUMENTATION

Upon execution of this Agreement by an authorized TENTIME representative, TENTIME agrees to provide Computer Timesharing Services, Support Services, Consulting, and Documentation on the basis of and on the terms and conditions set forth in the Agreement and the Schedules attached hereto.

Customer agrees to pay all charges for services as defined in Schedule A and any Federal, State, or local taxes imposed on the resources and services provided.

TENTIME   CUSTOMER_____

_____

Signature_____   Signature_____

Name_____   Name_____

Title_____   Title_____

Date_____   Date_____

ACKNOWLEDGEMENT _____ (Date)

COLORADO CAREER INFORMATION SYSTEM

BY:_____

_____

133

1. SCOPE OF AGREEMENT

The terms of this Agreement shall govern the provision by TENTIME of Computer Delivery of the Colorado Career Information System, Support Services, Consulting, and Documentation.

Support Services and Consulting require as an addition to this Agreement, a Schedule B defining work to be done and including but not limited to, the responsibilities of Customer and TENTIME, delivery schedules, ownership of work product, and minimum charges for all TENTIME services not included in Schedule A.

2. PAYMENT

Payment of all charges for Computer Delivery of Career Information must be made within thirty (30) days of initiation of service.

3. LEGAL FEES

Should TENTIME be required to commence legal action and/or seek the services of an attorney to collect any payment due hereunder, Customer agrees to pay attorney fees and the costs incurred by TENTIME in connection therewith.

4. DOCUMENTATION AND PROPRIETARY SOFTWARE

Documentation and proprietary software provided by TENTIME are furnished pursuant to a limited license grant. Customer use of this documentation and proprietary software is limited to use in connection with TENTIME-provided re-sources and services. Customer license for this use shall expire on termi-nation of the provision of services by TENTIME. Customer agrees that the doc-umentation and proprietary software provided by TENTIME may contain confidential information and agrees not to disclose to any third party the content thereof without the written consent of TENTIME.

5. WARRANTY AND LIMITATION OF REMEDY

TENTIME warrants that documentation furnished hereunder has been prepared and compiled with reasonable care, and that services furnished hereunder shall, under normal use, be provided in a workmanlike manner. TENTIME's liability under this warranty is limited as follows: (a) in the case of documentation, the warranty is limited to the obligation to replace (with similar documentation free from the error or deficiency in question) with reasonable promptness such documenta-tion; (b) in the case of services, the warranty is limited to the obligation to correct any errors in the service attributable solely to TENTIME without additional charge to the customer.

TENTIME shall have no liability under this warranty unless written notice of said warranty claim describing the alleged error or deficien upon which said claim is made is submitted by the Customer to TENTIME as fol s: (i) in the case of documentation, such claim must be submitted within thirty (30) days following receipt of documentation; (ii) in the case of se ices, such notice must be submitted within thirty (30) days after performance of a service by TENTIME. Any replacement or correction of documentation or services by TENTIME pursuant hereto shall not extend the period of this warranty. Any modification to documentation or services made by anyone other than TENTIME shall cancel this warranty as to such documentation or services.

134

THE AFORESAID WARRANTY AND TENTIME'S OBLIGATIONS AND LIABILITIES THEREUNDER
ARE IN LIEU OF, AND CUSTOMER HEREBY WAIVES, ALL OTHER GUARANTEES AND WARRANTIES
AND ALL OBLIGATIONS AND LIABILITIES THEREUNDER, EXPRESS OR IMPLIED, ARISING BY
LAW OR OTHERWISE, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF FITNESS
FOR A PARTICULAR PURPOSE OR OF MERCHANTABILITY, AND ALL OBLIGATIONS AND LIABILITIES
WITH RESPECT TO LOSS OF USE, REVENUE, OR PROFIT, OR INDIRECT OR CONSEQUENTIAL
DAMAGES. CUSTOMER AGREES HAT THE OBLIGATIONS OF TENTIME AS SET FORTH HEREIN
SHALL CONSTITUTE THE SOLE REMEDY FOR A CLAIM RELATING TO DOCUMENTATION OR SERVICES
PROVIDED HEREUNDER.

- 6. DELAYS
TENTIME shall not be liable or deemed in default for any delay or failure in
performance of this Agreement resulting directly or indirectly from any cause
* beyond the control of TENTIME.

7. THIRD PARTY LIABILITY
The purchaser agrees to indemnify and hold TENTIME harmless from and against all
losses, costs, expenses, damages, and liabilities, including reasonable attorney's
fees, which TENTIME may suffer or be required to pay arising out of injuries to
persons (including death) or damage to property resulting from or pertaining to
the furnishing of timesharing services, support services, consulting services,
and the use of documentation furnished hereunder other than that caused by the
negligence or willful misconduct of TENTIME, its agents, employees, or servants.

8. GENERAL
(a) Governing Law. This Agreement shall be construed and the legal relations be-
tween the parties hereto determined in accordance with the laws of the State of
Colorado.
(b) Waiver. The waiver of one breach or default hereunder shall not constitute
the waiver of any subsequent breach or default.
(c) Assignment. This Agreement shall be binding upon and shall inure solely to
the benefit of the parties hereto and their respective successors in interest and
(to the extent specified in the assignment) assignees, and not for the benefit
of any other person or legal entity. The customer, however, shall not assign
this Agreement without first obtaining the prior written consent of TENTIME,
. which consent shall not be unreasonably withheld.
(d) Term of Agreement. This Agreement shall be in effect from the date of sig-
nature through the remainder of the Calendar year, or as amended and/or extended
under the provisions contained in Schedule A.
(e) Discrimination and Affirmative Action. TENTIME agrees to comply with the
letter and spirit of the Colorado Antidiscrimination Act of 1957, as amended,
and other applicable laws respecting discrimination and unfair employment prac-
-tices. TENTIME will not discriminate against any employee or applicant for
employment because of race, creed, color, national origin, sex, marital status,
religion, ancestry, mental or physical handicap, or age.
.(f) Entire Agreement. This Agreement and the attachments hereto r-present the .
entire agreement between the parties and supersede all existing contracts or
agreements previously executed between said parties, with respect to the subject
matter hereof. This Agreement, and each provision and schedule hereof, may be
modified only in writing duly executed by both parties. In the event the customer
issues a purchase order or other instrument covering the services or documentation

herein specified, it is understood and agreed that such purchase order or other instrument is for the customer's use and purposes only and shall in no way affect any of the terms and conditions of this Agreement.

9. DEFINITIONS

(a) <u>Computer Delivery of Career Information</u>. Access to Colorado Career Information System license software through dial-up asynchronous telephone lines.

(b) <u>Consulting Services</u>. Services performed by TENTIME Systems and/or Applications Consultants. Services include, but are not limited to, special studies, systems design and analysis, programming and program development, system conversion, planning and evaluation, documentation, and customer training.

(c) <u>Documentation</u>. All manuals and materials accrued, prepared, or compiled by TENTIME and furnished to customers in connection with the purchase by customer of timesharing services.

(d) <u>Proprietary Software</u>. Programs developed by TENTIME or those programs for which TENTIME has secured right of use.

(e) <u>Support Services</u>. Services which include but are not limited to media conversion, plotting services, punching services, user orientation, and user access assistance.

(f) <u>Terminal Time</u>. Time measured in minutes between initiation of the computer connection and the breaking of the connection.

(g) <u>Timesharing Services</u>. Access to computer and computer resources as defined in Schedule A and/or subsequent schedules attached to and made a part of this Agreement.

130

TERMS AND CONDITIONS

COMPUTER DELIVERY OF CAREER INFORMATION,
SUPPORT SERVICES, CONSULTING, AND DOCUMENTATION

SCHEDULE A

This schedule is attached to and made a part of the contract, Number _____,

between TENTIME COMPANY and _____

dated as of _____, 19____.

Computerized Delivery of Career Information

Access to the Colorado Career Information System is through local Denver Metro area dial-up telephone lines.

Access to information is on a scheduled basis from 7:00 A.M. to 5:00 P.M. week-days, major holidays excepted. Access at other times is by special arrangement with COCIS.

Use of the Colorado Career Information System is by measured subscription which provides for up to one hundred thousand (100,000) lines of output per terminal per month. Charges for additional usage are on an incremental line basis.

Additional Terminals

Customer may elect to add additional terminals for Career Information Services. Estimated installation times will be provided on a case by case basis.

General Timesharing Usage

Computer resource usage for applications other than COCIS is available and requires as an addition to this Agreement, a separate schedule defining charges for computer resources and support services.

Cost of Service (For 1976 and 1977)

Per Terminal Installation Charge
(One time charge per terminal) $ 60.00

Delivery of COCIS per month per
terminal for yearly subscription $200.00
service

Additional lines of output
(per one thousand (1000) lines) $ 1.00

For contract period _____ 19____ through _____ 19____,
for service provided for _____ ( ) terminals, total cost,
excluding any charges for additional lines of output, is $_____.

137

This AGREEMENT is entered into this _____ day of
_____, 197___, by and between _____
_____
_____,
hereinafter referred to as the "USER" of the system, and
COLORADO CAREER INFORMATION SYSTEM, hereinafter referred to
as "COCIS", the developer of the system under various license
agreements and grants.

It is understood by and between the parties hereto
that the purpose of this agreement is to provide USER with
a computerized career information system, to be operated
expressly for the sole use of the USER at the following
locations: _____
_____
_____
for the period of _____ to _____.

Upon payment to COCIS by USER of the following
consideration _____
_____
_____

COCIS agrees to:

1. Supply such books, pamphlets, manuals, lists,
   documentation and materials as are necessary to
   utilize the system in such quantity as needed or
   to grant permission to the USER to reproduce
   exactly such materials in such quantity.

2. Conduct at least one in-service training session
   for the coordinator and other designated key
   personnel and supply appropriate materials for
   same.

3. Assist coordinator and other designated key
   personnel in planning in-service training for
   clientele of USER.

138

4. Serve as an advisor and consultant on the proper and effective use of the System.

5. Make every reasonable effort to maintain and update the data banks and files on the computer system which delivers the system to the USER.

6. Authorize the designated computer services to execute the system (run on the computer) for the USER.

7. Act as liaison and advisor, when requested to do so, between USER and the designated Computer Services.

USER agrees to:

1. Appoint a coordinator who will:

   a. Distribute materials to local user sites.

   b. See that a local coordinator is designated for each site where the system is used.

   c. Jointly plan and execute in-service training and other activities with COCIS staff.

   d. Promote the implementation of the system into ongoing counseling and guidance activities.

   e. Be available for consultation with COCIS staff.

2. Operate the system only from the Computer Service designated by COCIS.

3. Comply with standard of use attached.

4. Participate in such evaluations as may be deemed necessary by COCIS and to expediently submit such forms and reports as may be supplied by COCIS.

5. Allow staff members of COCIS to observe, inspect, photograph, record (publicize) etc. the operation of the system and to inspect and copy any records or data collected by the user or pertains to the operation of the system.

6. Refrain from alteration of any materials provided by COCIS without written permission; refrain from violation of any copyrighted material provided or contained in the imposition of any charge to any of its clientele for the use of the system or any material supplied by COCIS.

7. Refrain from the disclosure of information obtained from
    the system to any third parties.

It is further mutually understood and agreed by and between
the parties that:

1. This agreement may not be assigned by USER and that USER
    shall not sell, lease, loan, copy or otherwise share
    this system, or any portion thereof, with any third party
    without prior written approval of COCIS; except that the
    system may be operated occasionally for a third party
    for demonstration purposes only.

2. The system is intended to be solely a program of information
    and as an aid to career decision making on the part of
    the clientele of the USER. To this end, COCIS will make
    every reasonable effort to maintain t.e files, programs,
    data banks and other materials in such manner that they
    reflect and incorporate accurate and current information,
    but that COCIS does not guarantee the accuracy thereof,
    or assume any responsibility for the utilization thereof
    by the clientele of USER.

3. COCIS does not assume any responsibility for the execution
    and delivery of the system – same being the responsibility
    of _____

    _____

4. COCIS reserves the right to temporarily suspend execution
    of the system by notifying the Computer Service and the
    USER in writing.

5. Either party may cancel this contract by giving 30 days
    written notice. Immediately upon cancellation USER will
    promptly return all materials supplied by COCIS.

6. This agreement shall constitute the whole agreement
    between the parties and shall not be modified, waived
    or discharged except as provided hereinabove and in writing

140

duly signed by the authorized representative of each
party. This agreement supercedes all proposals, oral
or written, and all other prior communications between
the parties relating hereto. Any waiver by either party
of any requirement of this agreement shall not constitute
a waiver of any other requirement of this agreement nor
of the same requirement on a separate occasion. The USER
acknowledges that it has read this agreement and agrees
to be bound by its terms.

_____

_____
                         (USER)

          By_____

        Title_____

ATTEST:

_____

                    COLORADO CAREER INFORMATION SYSTEM (COCIS)

          By_____

ATTEST:

_____

COCIS/COMPUTER SERVICE

This AGREEMENT is entered into this _____ day of

_____, 197___, by and between the COLORADO CAREER

INFORMATION SYSTEM, hereinafter referred to as "COCIS" and

_____

_____,

hereinafter referred to as the "COMPUTER SERVICE".

It is understood by and between the parties hereto that the
purpose of this agreement is to enable and authorize the COMPUTER
SERVICE to execute and deliver a computerized career information
system, developed by COCIS under various license agreements and
grants, to _____

_____,

hereinafter referred to as "USER".

DEFINITIONS: For the purposes of this agreement the following
definitions will apply:

a. "System" is the total collection of information, data,
   programs, instructions, and other input which are loaded
   into and maintained in a computer. System shall be
   considered as consisting of two parts, (1) data-banks,
   and (2) programs. It is recognized that these two parts
   are not necessarily physically separable in the computer.

b. "Data-banks" shall be considered in the usual sense of
   common computer terminology and shall consist of all
   data, files, and other information for which substitu-
   tion of character for character would not affect the exe-
   cution or running of the system.

c. "Programs" shall consist of those commands, languages and
   input which are essential for the execution of the
   system by the computer and which do not qualify as
   data-banks.

In CONSIDERATION of the mutual promises and agreements herein
contained, the parties agree as follows:

COCIS agrees to:

1. Supply Computer Service with computer program, data-banks,
   files, documentation, necessary tapes, object decks, and
   other materials, not including computer equipment or hardware,
   for Computer Service to load and execute the system.

2. Provide technical assistance of a temporary nature to aid
   in the loading and de-bugging of the system.

3. To permit Computer Service to make minor changes in the
   program, machine or compiler languages so as to allow the
   system to execute efficiently on a particular computer
   configuration provided such changes and alterations preserve
   the execution of the System exactly and completely as set by
   the standard maintained by COCIS and available to Computer
   Service.

COMPUTER SERVICE agrees to:

1. Execute or cause to be executed the System for the sole and
   exclusive use of the USER. Not to execute system for any
   third party without express permission by COCIS except that
   Computer Service may execute or run system for purpose of
   maintenance or inspection by their own personnel. The times
   and quality of execution of the system to be jointly agreed
   upon between USER and COMPUTER SERVICE.

2. Allow COCIS, or its designated agent, to monitor, inspect and
   oversee the execution of the System at any time.

3. Allow COCIS or its authorized representative to update, alter,
   add, delete, or otherwise edit any or all of the data-banks
   at any time, or cause such to be done, and to refrain from
   any changes, additions, alterations and deletions, or otherwise
   edit any character in the data-banks, without prior written
   permission of COCIS.

COCIS/COMPUTER SERVICE

4. To maintain such accounting records of System use as shall
   be agreed upon and to allow COCIS to inspect, record, re-
   produce and publish such records.

5. To maintain reasonable internal security to prevent unauthorized
   users access to the system or the data-banks.

6. To refrain from disclosure of the contents of data-banks to
   any third party, recognizing that said data-banks may contain
   information of a confidential nature.

7. Suspend service and execution of System to any USER immediately
   upon written request of COCIS.

8. Immediately upon termination or cancellation of this agreement
   to return all tapes, manuals, documentation, object decks and
   other materials supplied by COCIS and to purge, erase, delete
   or otherwise do away with all programs, files, data-banks
   and other computer-stored pieces of the system.

9. Not to reproduce by print, magnetic, electric, optical, or
   any other means any tapes, object decks, manuals, documentation,
   materials or computer-stored programs, files or data-banks
   pertaining to the system except by written permission of
   COCIS.

Either party may cancel this agreement upon 60 days written
notice.

This agreement shall constitute the whole agreement between
the parties and shall not be modified, waived or discharged except as
provided hereinabove and in writing duly signed by the authorized
representative of each party. This agreement supersedes all proposals,
oral or written, and all other prior communications between the parties
relating hereto. Any waiver by either party of any requirement of

144