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Eased on a year of inquiry and consultation, this report of the Suburban Maryland Project confirms the feasibility of cooperative technical service functions for the four public library systems of suburban Maryland. It is recommended that the proposed Library Service Center be assigned the ordering, acquisition, cataloging, preparation for book catalog input, and processing operations for the library systems. A variety of methods for handling the Center's work were explored and the methods responsive to the systems' needs are recommended and described. Topics covered include: legal considerations, organization of the Center, personnel and staff, space requests, scope of the Center's operation, cost estimates, financing the Center, and prospects for expansion of operations. Appendixes include proposed legislation to provide for establishment of cooperative library service centers, a compilation of data on current practices in technical services sections, and excerpts from "Cooperative Processing Center--System Outline," Heliodyne Corporation, June, 1968. (JB)

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A LIBRARY SERVICE CENTER FOR SUBURBAN MARYLAND COUNTY LIBRARY SYSTEMS,

Anne Arundel, Baltimore, Montgomery, Prince George's

An Establishment Proposal

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BALTIMORE 1968

**U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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FOREWORD

Since late in 1966, the public library systems of suburban Maryland have been exploring the probability of establishing a cooperative service center as a logical move in more effective use of manpower and funds. The four systems have grown at a phenomenal rate in this decade. The size and scope of their internal operations have had to keep pace with the demand for service, and a significant portion of this expansion internally is in areas where work is duplicated in all of the systems.

In 1967 Theodore Hines and Richard Pfefferle completed a study, Feasibility of a Cooperative Processing Center for Anne Arundel, Baltimore, Montgomery and Prince George's Counties in Maryland, which confirmed the four systems' appraisal that it would be feasible and desirable to handle cooperatively their order, acquisition, catalog and processing functions.

The report of the Suburban Maryland Library Project is the result of a year of inquiry and consultation which reinforces the concept and specifies the steps required to bring the proposal to fruition.

In the perspective of centralized operations among library systems in the United States, the proposed Center offers an opportunity to demonstrate, even at the outset, a reconciliation of diverse practices and sophisticated operations at a level unmatched in any other part of the country. As the program develops, it should become a true showcase for comprehensive, efficient library operations and a landmark in future development.

Baltimore
July 1968

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LEGAL CONSIDERATIONS

The proposed Library Service Center must function within a clearly defined legal framework. The Maryland statutes which govern public library systems in the State do not specifically provide for an organization such as the one proposed in this report. Although the Maryland Library Association has proposed legislation which would permit establishment of regional public library affiliations, and although the concept of regional association is widely accepted by the library profession, the regional activities in the State are currently performed either on the basis of contracts between autonomous county library systems or by agreements made by the systems under provisions of the State Plan for Use of Federal Library Services and Construction Act funds.

The Maryland Annotated Code does provide in Section 186, 2 (d) of Chapter 16, Article 77, that:

"(2) The board of library trustees in any County shall have powers and duties as to finances, as follows...

"(d) To enter into contracts for any library service, with any other library or with any governmental unit."

In 1960, the State Superintendent of Schools, requested the Attorney General to clarify the legal status of the Southern Maryland Regional Library Association, a cooperative organization established by contract by the Boards of Trustees of the Calvert, Charles and St. Mary's County Libraries to provide central administrative and professional services for the three counties. This Association was established in the late 1950s under the authority of the statute cited above. In process of its operation, certain questions, e.g., exemption from State and Federal taxes, had arisen.

In response to the request, the Attorney General's office stated in a letter dated November 16, 1960:

"We have reviewed...the contract now existing between the three counties... You have asked whether this association so formed may assume a legal identity, and if so, would it thereafter acquire such of the rights and duties as may be granted it by the respective member counties?"

"Under this provision of Chapter 16 of Article 77 of the Code, the operation of county library systems is entrusted to boards of library trustees. Among the powers and duties of such boards, enumerated in Section 186 is 2(d): 'To enter into contracts for any library service, with any other library or with any governmental unit.' We find that such provision does authorize the respective counties to mutually agree by contract between themselves, to establish a joint association to function for the benefit of all. The association so created is therefore a legal entity, possessing and exercising such powers, duties and rights as may be delegated to it by the founding boards. Without enumerating all of the powers and duties, we refer to those set out in Section 186. In fiscal affairs it may be necessary to have the separate boards in each county report individually to the county commissioners of its own county. However, after appropriations are received by each board, that board may in turn contribute its share to the association..."

It is this Project's opinion that the statement of the Attorney General's office in regard to the Southern Maryland Regional Library Association applies to the establishment of the proposed cooperative Library Service Center. Informal discussion with the Deputy State Superintendent of Schools' office indicates that the State Department of Education would take the view that the law and the interpretation apply to the proposed Center.

It is only reasonable to note that there are certain disadvantages to establishing and operating the Center under this legal authority. In order to meet requirements for many provisions of the laws governing public library systems, e.g., staff participation in the State Teachers' Retirement system, eligibility to receive State or Federal funds, the Center must be established as a unit of one of the cooperating library systems. This means that one of the systems would be the parent organization of the Center, would act as its legal agent, assume the same fiscal and other responsibilities for the Center as it does for the operation of its library system. It is implicit in this arrangement that one of the cooperating library systems assumes the major responsibility for the Center's operation, an inference that would perhaps raise some questions about equity for the other three systems.

It is equally reasonable to cite the experience of other cooperative library activities which have operated under contractual arrangements in which one of the cooperating library systems is the legal agent.

The Southern Maryland Regional Library Association operates under the direction of a board of trustees which is composed of the Presidents of the Boards of the three cooperating systems. Certain personnel and financial functions are performed and recorded in the name of the Charles County Library in order to meet legal requirements. In practice, the Association operates actively as a unit separate from any of the three library systems, but certain paper transactions are channelled through the Charles County Library. This arrangement has not, in almost ten years of existence, created a situation or even an atmosphere in which there is either suspicion or evidence of dominance of the Charles County Library; nor is there evidence that the Charles County Library has been required to make a contribution to the Association's operation in excess of what is required of all systems under the contract's terms.

In the organization of the Eastern Shore Book Processing Center, the Wicomico County Free Library is the contracting agent for performance of order, catalog and processing service for eighteen Maryland county library systems. In this arrangement, cooperative aspects are informal and the actual operation and direction of the service is under the Administrator of the Wicomico library. Decisions on specifications for cataloging and processing are made by the Administrators of member county library systems and operational decisions are made jointly by the Processing Center Director and the Administrator of the Wicomico library. In this organization, the Wicomico County Free Library contracts with libraries to perform a service much as a commercial processing firm contracts to sell its services. Although the Eastern Shore center is not an organization exactly comparable with the proposed suburban Center, it is relevant that even with centralized control by one unit, the Eastern Shore Book Processing Center has been responsive to the changing needs of the libraries it serves and that the contracting members have not expressed opposition to or reservations about the type of organization.

The first option for establishment of the proposed Center then is to organize under a contract between the four library systems. The provisions of this contract should carefully state the intent, obligations, rights and responsibilities of contracting systems, and definition of the powers and duties assigned to the Center. It should also specify the makeup of the Center's governing board, the organization and functions of the Center and the financial basis and fiscal accountability.

A board of directors should be appointed to set general operational policies for the Center. The administrators of the four cooperating library systems should be board members. In the event that a five-member board is more desirable, a representative of the Division of Library Extension of the State Department of Education could be appointed.

A representative of each system's board of trustees could be designated as a Center board member. Since the functions to be performed by the Center are administrative in nature and are currently under the direct supervision of the library administrators, it is not inappropriate that the administrators be responsible for setting the Center's policies.

Each library system should have an equal number of representatives on the Center's board.

Organizational and other matters which should be specified in the contract are discussed in other parts of the report.

The second option for organization of the Center is to provide specific legal basis through new legislation. The Project retained the services of a qualified legal firm to examine the statutes and to suggest a new framework for the organization. Appendix A contains the draft of a bill which would provide for the establishment of cooperative library service centers. The bill provides for organization as a nonstock nonprofit corporation.

Enactment of this or similar legislation will provide a more satisfactory legal setting for the proposed Center than the contract method. However, it is clear that a Center can be established under present legal authority. Enactment of new legislation will give a specific base for the Center and for possible other organizations among the State's libraries.

ORGANIZATION OF THE CENTER

Organization of the Center should follow the lines dictated by the separate operations performed. Obviously, the chain of administrative responsibility starts and ends with the Administrator. The executive team will consist of the Administrator, the Chief Librarian and the Chief of Data Processing.

Essentially the Center's functions can be divided into four major components: 1) Administration, 2) Library Services, 3) Data Processing, and 4) Business Management.

The Administrative Services Section, under the Administrator, is responsible for overall management with specific responsibility for a) implementation of the personnel program, b) coordination of activities, c) budget preparation, d) negotiations with vendors and other contractors, e) reporting to the Board of Directors, and f) other duties consonant with the management function.

The Library Services Section is responsible for those activities which have to do with ordering, receiving, cataloging, processing and shipping books. These activities are under the direction of the Chief Librarian. They are divided into four sub-sections: a) Cataloging, b) Processing, c) Order/Acquisition, and d) Shipping and Receiving. The activities of these sub-sections are the familiar ones of standard library technical services operation and are indicated on the chart of organization by function (Table 1). The Chief Librarian will handle order/acquisition activities. The Chief Cataloger will manage cataloging activities. The Supervisor of Processing will manage processing and shipping and receiving. The clerical staff in these sections will be assigned to various tasks depending upon the flow of work.

The Data Processing Section, under the Chief of Data Processing, implements the general functions of the Center and translates its activities into electronic data processing terms. It is responsible for preparation of EDP programs, and manufacture and storage of those records and products which are used in the order/acquisition, cataloging, processing, financial and other functions.

The Business Management Section, directed by the Business Manager, is responsible for the ongoing financial operations -- paying billing, accounting, payroll and other financial record keeping -- and

for inventory of supplies. Supervision of the maintenance staff is included in this office.

The top management group is small and has clearly defined responsibilities. The Administrator, Chief Librarian and Chief of Data Processing with the Business Manager must maintain close liaison to ensure efficient functioning of the Center.

**ORGANIZATION CHART (by function)
SUBURBAN MARYLAND LIBRARY SERVICE CENTER**

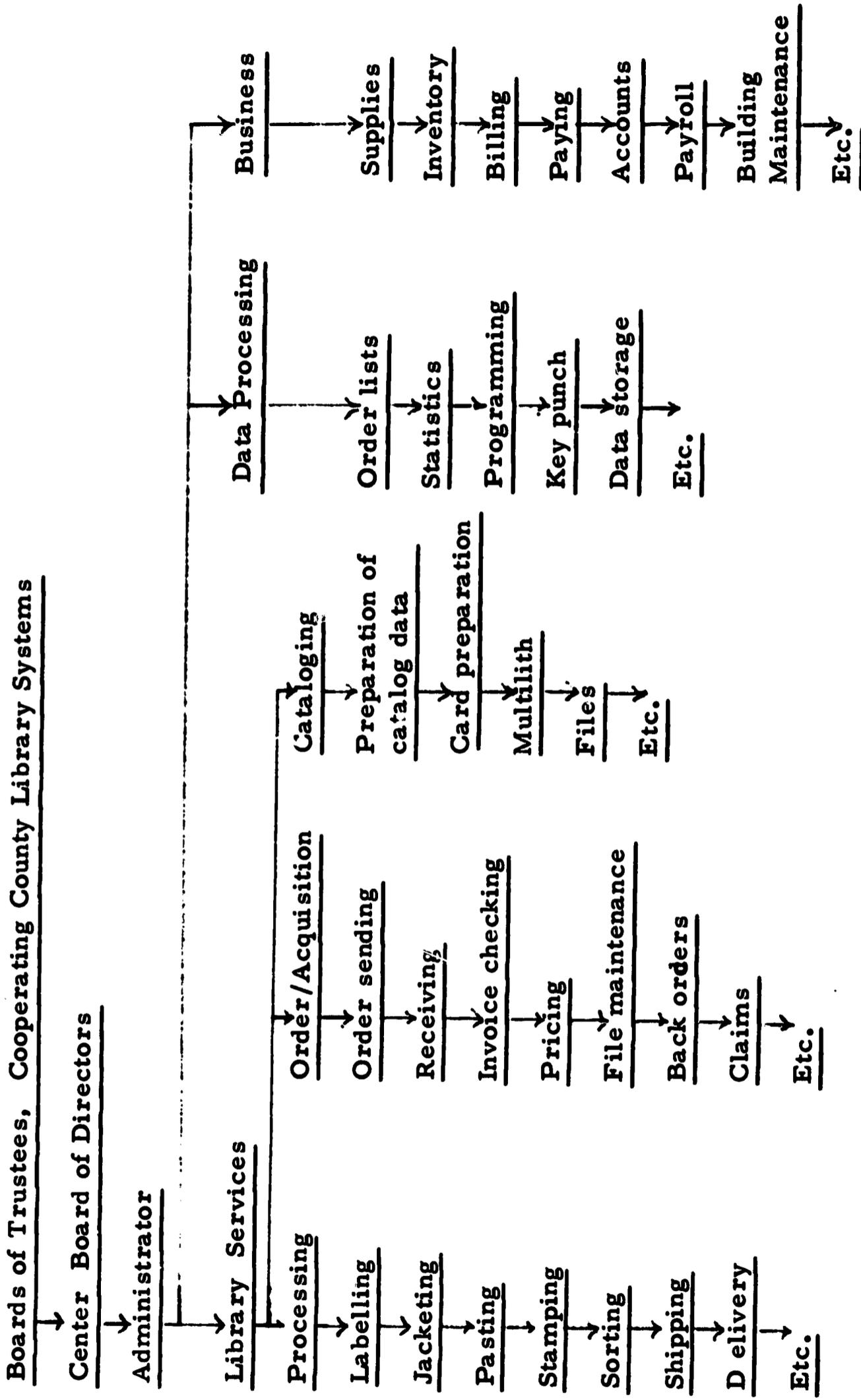


Table 1

PERSONNEL AND STAFF

The Center staff will be composed of a small core of professional and administrative personnel, a slightly larger number of skilled clerical personnel and a majority of unskilled workers who will be trained on the job. The number of professional/administrative personnel will remain relatively stable regardless of the Center's volume of business. Increased volume will affect the size of the clerical and unskilled staff.

For a full year of operation at the volume projected for 1969-1970, a staff of forty-four will be needed. The positions and suggested salary scales are listed here. It is assumed that positions will be filled, insofar as possible, at the lower end of the ranges. Using the bottom of the range, total personnel costs will be \$244,200. Slightly over forty percent of personnel costs are in the Professional/Administrative category.

Professional/Administrative Staff

<u>Position</u>	<u>Salary Range</u>
1 Administrator	\$ 18,000 - 24,000
1 Chief Librarian	13,500 - 18,000
1 Chief of Data Processing	13,500 - 18,000
1 Chief Cataloger	11,000 - 13,500
4 Catalogers	8,500 - 11,000
1 Business Manager	8,000 - 10,500
1 EDP Programmer	8,000 - 10,500
1 Supervisor of Processing	6,500 - 8,000

Clerical Staff

3 Bookkeepers	4,200 - 5,300
2 Secretaries	4,800 - 6,000
2 EDP assistants	4,000 - 5,000
4 Key punch operators	4,200 - 5,400
4 Clerk-typists	4,000 - 4,800
1 Multilith operator	5,500 - 6,750

Semi-skilled Staff

11 Clerks (full-time)	\$ 3,700 - 4,500
3 Clerks (part-time, FTE)	3,500 - 3,500
1 Driver	4,000 - 5,000
2 Maintenance men	4,000 - 5,000

Following are descriptions and minimum requirements for Center positions:

Administrator

Education and Experience: Baccalaureate degree and Master's degree in library science or equivalent. Ten years successful appropriate experience including five years in administrative capacity and familiarity with acquisitions, cataloging and processing operations.

Description of tasks: Responsible for organization and control of all operations under the direction of the Board of Directors; responsible for evaluation of Center performance, reporting to Board of Directors, liaison with member libraries, for budget preparation and fiscal control, for administration of personnel program, for arrangements with vendors and contractors.

Chief Librarian

Education and Experience: Baccalaureate degree and Master's degree in library science or equivalent. Seven years successful appropriate experience including three years in administrative capacity and familiarity with acquisitions, cataloging and processing operations.

Description of tasks: Supervision and coordination of acquisition, order, cataloging and processing operations under direction of the Administrator; responsible for coordinating flow of work, assignment of tasks and personnel in these operations; for placement of orders and service relations with vendors; for reporting to Administrator and for liaison with Chief of Data Processing.

Chief of Data Processing

Education and experience: Baccalaureate degree and appropriate training in electronic data processing or equivalent. Five years experience including systems analysis, programming and EDP system operation.

Description of tasks: Organization, supervision and control of electronic data processing operations under direction of Administrator; systems analysis, maintenance of records, programming, preparation of system input and output records and documents; communication and coordination of work with Chief Librarian and Business Manager; service relations with EDP equipment suppliers; reporting to Administrator; evaluation of system's function.

Chief Cataloger

Education and experience: Baccalaureate degree and Master's degree in library science or equivalent. Seven years successful appropriate experience including five years in cataloging and familiarity with Dewey and LC classification systems.

Description of tasks: Supervision of catalog section under direction of Chief Librarian; cataloging operations including preparation of data, maintenance of files, reports, evaluation.

Cataloger

Education and experience: Baccalaureate degree and Master's degree in library science or equivalent. Four years successful appropriate experience. (One cataloger position requires experience with Library of Congress classification system.)

Description of tasks: Under direction of Chief Cataloger, original cataloging, preparation of work sheets, verification of data, record keeping and supervision of file maintenance.

Business Manager

Education and Experience: Graduation from business college or equivalent. Six years appropriate successful experience including two years as manager of accounts and business operations.

Description of tasks: Under the supervision of the Administrator, responsible for organization and control of accounts; preparation of fiscal and budget data; supervision of billing, paying and receiving; financial record keeping; reporting to Administrator; supervision of business office staff, assignment of duties, evaluation of performance.

EDP Programmer

Education and experience: High school diploma and completion of appropriate electronic data processing training. Two years successful experience in electronic data processing programming.

Description of tasks: Under supervision of Chief of Data Processing, prepares programs and related technical tasks in maintenance and operation of EDP system.

For all other positions, it is desirable that personnel shall have completed high school education. Specialized training requirements are necessary for certain positions, e.g., keypunch operator, multilith operator, bookkeeper.

On the job training of personnel in the processing, shipping and receiving units and, to some extent, the cataloging unit, must be performed before the Center begins operations. It is anticipated that the training performed can be accomplished in a one to two week period after equipment is positioned and supplies are acquired.

The staffing estimate is based on a forty-hour work week, ten days annual sick leave, vacation allowances of two weeks for clerical, four weeks for professional and certain administrative personnel. The estimate does not include a percentage allowance for unfilled positions.

Regulations for personnel, stating benefits and responsibilities, should be based on a consensus of prevailing practices in the four cooperating library systems. Formulation of a personnel policy should be a first order of business in establishing the Center.

In the event that the Center is established by contract, personnel regulations of the system which acts as agent for Center operation will apply to Center employees.

SPACE REQUIREMENTS

It is estimated that the Center will require 15,000 square feet of usable floor space to perform its functions. The amount of space needed is determined by the total number of books handled and the number of personnel needed to perform the work. The estimate is based on an anticipated volume of 400,000 books annually. Fifteen thousand square feet of space will be adequate to handle at least 500,000 volumes per annum.

Space allocation, which includes passageways, is estimated as follows:

Shelving (for books in process)	2,000
Storage (supplies)	1,000
Processing section	2,700
Catalog section (including files)	2,200
Offices (including staff lounge and conference room)	1,200
Printing section	400
Data processing section	1,800
Shipping and receiving	2,300
Business office	900
Miscellaneous (toilets, foyer, etc.)	500

Approximately 15,000 books will be in the Center at any point in time in the various stages of the process. Daily production will maintain a level of 1,500 books per day.

Since the Center operation is in large part an assembly line process, the one-half to two-thirds of the space needed for these sections should be partition-free to allow for free flow of materials and for ease in readjustment of space. The remainder should be office-type space. Certain special requirements (wiring for extra power capacity, false floor) should be met when electronic data processing equipment is installed in-house. Special consideration must also be given for housing equipment which operates at a high noise level, e.g., offset printer.

It is desirable that space occupied be on a single level. Parking for 50-60 vehicles is needed. Space should be air-conditioned, lighted to 70 foot candles and should meet all safety requirements (sprinkler system, adequate exits.) A loading dock is required.

LOCATION

It is assumed that a site in one of the four cooperating counties will be selected for the Center. In this metropolitan area, there is no single spot which is most desirable for the Center so long as it is accessible to a labor supply of full- and part-time clerical personnel, to adequate roads, and to restaurants and other facilities necessary for staff satisfaction. Other considerations, e.g., distance from the four systems' headquarters, proximity to data processing equipment service, should be taken into account, but are of secondary importance.

The Center should be located within either the Baltimore or Washington metropolitan areas since these locations provide the largest available labor supply. It is not necessary that the Center occupy quarters in a large shopping center or industrial park. The primary consideration is to find a building which meets space and other requirements at the most reasonable price.

In the area are many vacant buildings which could meet the Center's requirements for space and location. The most desirable space available will probably be a building once used as a supermarket. Partitionless space of this type is easily converted to the Center's requirements at a minimum cost.

Rental costs will depend on the terms of the lease (duration, improvements required on the property, etc.). At current rates it is estimated that the annual rental cost per square foot of space will range from a low of \$1.50 to a maximum of \$3.00, or annual rental of \$22,500 to \$45,000.

At an unspecified future date, it will be desirable to construct a building for the Center operation.

SCOPE OF THE CENTER'S OPERATION

The Center should be assigned those library operations usually described as the Technical Services of public library systems, including order and acquisition and the financial record-keeping for these functions, specifically,

- Preparation of order lists
- Compilation and transmission of orders
- Dealings with book vendors and other suppliers
- Receipt of books
- Cataloging
- Processing (preparation of books for library use)
- Preparation of book catalog input
- Shipping
- Billing
- Paying and receiving and allied financial operations
- Delivery of books to member libraries
- Management of the Center

Central to the economical performance of these tasks is a computer and the subsidiary equipment which prepares input for the various EDP programs. The recommendations for the EDP installation are made in another section of the report.

A variety of methods of handling the Center's work and of specifications for the product have been explored. The following sections describe the methods responsive to the four systems' needs and an attempt to relate them to the economical use of the work force, the computer and other machinery.

ORDER PROCEDURES

The objectives in designing a cooperative system of ordering materials are to provide rapid delivery of the materials needed by the libraries, to improve current procedures by elimination of tasks for the individual systems. The Center's concerns with economy and efficiency are secondary to those of the libraries and where the two conflict, it has been the four systems' administrators recommendations which have been followed. It is the view of the Project that first priority is given to improvement of library service and that the Center's functions must serve that end.

The order procedures are designed to accommodate the four major functions of the library systems' order/acquisition programs:

- 1) Pre-publication and currently published materials
- 2) Added copies and rush orders
- 3) Comprehensive collection maintenance
- 4) Collections for new outlets

(No attempt has been made to provide for out-of-print materials, although this need was discussed. It seems reasonable at this point in the planning, that individual systems should acquire out-of-print materials through a local program. In any event, the need for out-of-print titles is a negligible percentage of the total acquisition program in the four systems.

(Such materials as those in foreign languages, published abroad, audio-visual, maps, etc., will be handled, generally, in special order lists, not on the current basis.)

Insofar as possible, orders will be initiated on the basis of computer-produced lists. Lists are the most effective device for coordinating orders and for starting the chain of assembly-line procedures which effect economies in the Center operation. In addition to this, the list device provides a number of opportunities for revision and improvement of book selection practices and order record-keeping both at system headquarters and in branches.

In the course of the Project, the administrators of the four systems expressed concern about the effectiveness of their current book selection practices. The cost, in time and transportation of

staff to headquarters for examination of books, the emphasis on current publications as against collection building, the effectiveness of these practices in assembling useful collections for actual and potential patron needs--these concerns are being examined in the four systems. The central production of order lists will provide a method for consolidated book selection experiments both with current publications and with maintenance of sections of the collections.

The order lists for current adult books will be based on the Virginia Kirkus service and Library Journal's book reviews. Since Kirkus provides the most complete listing of titles in advance of publication, the pre-publication list will be based on Kirkus. It is difficult to anticipate the extent to which this list will be used for ordering since Kirkus provides, usually, the first reviews of books, and copies of the books are not available for examination when Kirkus is received. However, this list will provide the opportunity for the systems to order early those items likely to be in demand upon publication and this need seems still to be an important one in public service.

The list based on Kirkus, which is published twice each month, will be used as the initial entry of input for the computer system. All adult titles will be listed in the order in which Kirkus lists them. The Center will print lists for each order account or for the headquarters selection unit, as required. It is anticipated that Kirkus order lists will be in the hands of each outlet within 24-48 hours of mail receipt of the list.

Several options are open for form of the list--tear-apart, punch cards, duplicate. Regardless of the form, the list received by the ordering outlet will provide a clear index to the specific Kirkus list, space to indicate numbers of copies ordered, order account and a copy of the completed order for local record. Presumably the data on the list could be as compact as: list sequence numbers, LC numbers, authors' last names and prices. Each ordering agency will have access to the Kirkus publication.

The second list for ordering current books will be based on the Library Journal reviews. Its form will be as nearly identical as possible to the Kirkus-based list. This form may list either complete or selected adult titles from each LJ issue. It will eventually duplicate most titles from each Kirkus-based list. This general listing form offers two occasions to order current trade books.

The LJ-based list will be printed twice each month, scheduled between the Kirkus-based lists.

Current children's books will be ordered monthly or every two months from lists compiled by the Coordinators of Children's Services of the four systems. Collection maintenance lists for children's books will be scheduled in regular sequence with replacements of adult materials.

The third approach to current materials will be acquisition of copies of books on reserve, in demand, and other rush orders. Since it appears that books in these categories tend to be needed in all systems at the same time, it is desirable to provide the opportunity to order these titles for all systems when one indicates a need. It would be worth testing the hypothesis in the Center's operation.

A consolidated list of titles which each system needs on a "rush" basis can be issued weekly, or as a supplement to each LJ- and Kirkus-based list. No restrictions will be made as to type of materials or date of publication. This will serve as an indication to all systems of the nature of area-wide demands, and will provide prompt response to pressing needs.

(In the event that this listing procedure for "rush" materials is superfluous in practice, a simple method for acceptance of individual order from each system will be prepared. A basic method for receipt of individual orders will be devised to handle acquisition of collections for new outlets. This program can be used without modification for "rush" orders.)

The lists used for order of materials for collection maintenance purposes will permit an orderly survey of holdings in all subject areas and of types of materials on a schedule to be determined. Each of the four cooperating systems currently provide their outlets opportunities to order from retrospective lists in subject areas on an annual or other basis. Cooperatively it will be possible to develop a comprehensive collection replacement program with little duplication of effort and greater depth and precision than is currently done. Each system could be responsible for development of basic replacement lists in certain subject areas (by Dewey class) for use by the four systems. Committees representing all systems might be assigned to special areas of interest or type of materials.

Lists by type of material will be developed and distributed as needed. Conceivably this category could include maps, government documents, paperback books, recordings and tapes, filmstrips and slides, microfilm, pamphlets and others.

Other maintenance collection lists would include reference books, standing orders for yearbooks, annuals and similar periodicals, titles which appear on reading lists (the various Notable Books, State-distributed), titles in General Literature and Essay Index supplements, current topics, Maryland materials and others.

Orders for collections for new outlets will be handled on an individual basis. Since each of the systems has had extensive current experience with assembling initial collections of various sizes, it will be possible to create and maintain at a minimum expense, a basic collection order on magnetic tape. Such a magnetic tape record would reduce the title selection process to a matter of computer time and work schedules in the Center.

ORDER FILES

The Center will produce a variety of records for books ordered. Within the Center will be a master file, on magnetic tape and probably on cards, which is created at the time purchase orders are sent. From this initial record, printouts of outstanding orders will be made either by library system or by outlet, as necessary. These printouts will be made every two weeks or semi-monthly and will be updated to reflect total outstanding orders on each subsequent printout. This record should eliminate the need for maintaining outstanding-order files in each outlet.

At the time books are received, the master file will be updated. Net price and changes from the initial input will be entered in the record. The record at this point becomes the basis for billing. If desired, the printout of outstanding orders can indicate the "received" status.

When books are cataloged, processed and delivered, the record is given to the Business Office. It appears that punched cards will be needed to coordinate internal operations in order to maintain control of records and to ensure accuracy in billing. The punch card file will be maintained sequentially within the purchase order number.

CATALOGING

Present cataloging requirements of the four systems differ in some particulars, but essentially the data entered in the catalog record at some point is the basic, traditional information: author, title, publisher, date, Dewey class and tracings.

In the four systems, hard 3x5 card copy is required for some file--central shelf-list, branch shelf-list, authority. The systems currently (or in the near future will) require catalog information in machine-readable form. The data processing solution to this need for parallel operations, i.e., card and book catalog, is explored in another section of the report.

The source for the bulk of catalog information will be Library of Congress MARC tapes. (The MARC Project, which the Library of Congress instituted as a pilot for establishing MAchine-Readable Copy of the standard LC catalog card, is now an on-going program and will provide catalog data in a standardized form. Currently it is recording only monographs in the English language. Its files now contain some 40,000 titles and the data base is being expanded rapidly. The MARC program has been adopted by the major Federal government libraries and provides a national standard for computer catalog data and tapes are available to libraries on a subscription basis.) The problem with MARC tapes promises to be the same one public libraries have faced with subscriptions to Library of Congress proof sheets: many titles are not listed simultaneous with publication or with announcement of pre-publication. This results in a higher percentage of original cataloging in a local library than would be required if LC data were received earlier.

Since the experience with MARC data is so limited at this time, it is difficult to estimate its actual utility in the proposed Center. The experience with LC printed catalog cards is some index to the performance of Library of Congress in this regard. There seems to be little question that MARC provides the basis for economical centralized processing, just as the LC card has provided it for existing processing centers. The major studies on centralized processing in New York State by two independent consulting firms, made for the State's public library systems and for the State University of New York, consider MARC essential to their proposed large-scale operations.

Stated in an oversimplified manner, one can use MARC tapes to locate a title simply by keying the LC catalog card number and when the match is made, the complete catalog data is extracted for local computer use with no further manual functions. Eliminated are all manual operations from initial search of catalogs through processes of verification of accuracy of reproduced data. MARC makes it possible for a miniscule staff of catalogers to handle thousands of titles monthly.

The LC card (or MARC) data can be used by all four library systems. Only the Prince George's system requires it at this time, but, as noted above, the other three systems require a major portion of the LC data for some use in their inventory control or cataloging operations. Baltimore County needs catalog cards for authority and shelf-list files. Anne Arundel and Montgomery need modified LC data for their shelf-list files and for book catalog input. There is no disadvantage to having complete LC data on the cards used for these purposes in the four systems.

The major variation in data need is for the input for Baltimore County's book catalog. Since the Baltimore County book catalog is essentially a finding list, rather than a traditional library catalog, it requires minimum data in the body of its entries. This requirement does not pose a major problem for preparation of BCPL catalog input. It will require a program which extracts only the needed information from the full record; but unique programs will be required to produce catalog input for each of the systems' book catalogs under present conditions. The prospect for the four systems in production of book catalogs in the years ahead is that they will find it economically advantageous to adopt uniform criteria and printout.

All systems use the 17th edition of Dewey for classification, and generally accept LC's Dewey classifications when available. Montgomery and Baltimore counties limit the length of Dewey numbers to five places after the decimal point. Prince George's limits to five with rare exceptions, e.g., Maryland materials. Anne Arundel's policy is to keep numbers as short as possible. All systems keep classification numbers as short as possible for juvenile collections. All systems use "B" for individual biography except Anne Arundel which uses "921". Fiction is not classified or spine marked. Only Montgomery County uses the Cutter number.

All systems use Library of Congress subject headings except Anne Arundel which uses Sears. All systems modify the LC schedules in certain regards, especially for juvenile materials.

For the most part, the four systems accept LC for author entries. Practice varies in use of pseudonyms: Montgomery uses title page form in most cases; Prince George's accept LC; Baltimore County uses pseudonyms for fiction, real name for non-fiction with cross-reference; Anne Arundel uses pseudonyms with cross-reference. All systems modify certain LC author forms, e.g., Homerus to Homer, Russian names to Anglicized forms.

Other variations occur in these cases:

Joint authors: Prince George's accept LC data; Montgomery uses both for two authors, and author "and others" for three or more; Baltimore uses no joint authors.

Editor: Baltimore uses "sparingly"; others use.

Illustrator: Used largely with children's books or to distinguish editions.

Title: Prince George's accepts LC; Baltimore and Anne Arundel use short title, unless sub-title makes the short title intelligible; Montgomery uses the title page with some exceptions.

Publisher: Baltimore does not use in Book catalog.

Place: Baltimore and Montgomery do not use; Anne Arundel and Prince George's use only for foreign or obscure publisher.

Edition: Prince George's, Montgomery, Baltimore note second edition or later; Anne Arundel notes first edition for all non-fiction.

Date: Copyright date used by all systems.

Each system has modifications to both the Dewey classes and subject headings recorded either in authority files, addenda or inserts to official copies.

One major variation in practice in book catalog content is the use of location symbols. Both Prince George's and Montgomery counties believe that the book catalog should tell users which titles are held in

all outlets. Baltimore and Anne Arundel counties used location symbols in first editions of their book catalogs and dropped them in subsequent editions, largely because maintenance of the data was time-consuming and expensive, and that data added bulk to the catalog and increased printing costs. Both Anne Arundel and Baltimore counties believe that location data is not essential. Baltimore County developed certain statistical data which could be interpreted to indicate that absence of location symbols increases use of intra-system loan.

These differing views of the purpose and use of the book catalog in public libraries might have been a major stumbling block in establishment of a cooperative center a few years ago. Because the capabilities of the computers now manufactured are so great, programs which will extract only the data required will answer the separate needs of the four systems from a common data base. It is probable that full information including location and number of copies will be input to the record in the event that at some future date each system may use the information for inventory control if not for book catalog printout.

Acceptance of standard practices which represent variations to certain current operations will have to be made in order to use the Library of Congress data, for example, use of pseudonyms. No attempt has been made to reconcile current practices because the final MARC program was not available until late in May 1968 and it seemed an inappropriate exploration until a decision to proceed with the Center's establishment was reached.

It should be repeated that the overriding concern is acceptance of LC data on MARC tapes. If all systems accept this base for catalog information, other adjustments of individual practices are minor.

PROCESSING

Requirements for processed books in the four systems are so similar that only two major variations must be accommodated: the need for a punched circulation card in Prince George's County, and addition of Cutter numbers to Montgomery County identification.

A number of options exist for preparing books for circulation because of the potential use of the computer, the offset press and manual stamping in a variety of combinations. Until further system and cost analysis is actually carried on, it is impossible to make a firm commitment to a precise program. However, the methods of producing the materials needed in processing do not affect the requirements of the operation.

Because the four systems need 3x5 catalog cards for some file purpose, it is clear that the offset press will provide the most economical reproduction of large multiples of identical cards. This inexpensive record, the 3x5 card, should be used for as many functions as it can usefully serve.

Books delivered from the Center to each outlet in the four systems should meet the following specifications:

- Plastic jacket attached to covers of books
- Spine label affixed under plastic jacket
- Book pocket affixed
- Book card and shelf-list card inserted in pocket
- System identification stamp on top and bottom edges
- Identification number in book.

The tables in Appendix B indicate current requirements and practices. The uniform system describe here is based on agreement of the four systems. Modifications may be necessary if the computer printout is used extensively, but such changes will not require adjustment of local circulation or other procedures.

Book Card and Pocket

The book card and pocket will be 3x5 catalog cards, duplicates of the main entry catalog card for the title, listing call number, author, title, tracings, etc.

One card will be strip-pasted to the book on the sides and bottom (to form a pocket) in the lower left corner of the inside back endpaper. (It has been suggested that pockets be pasted on the inside front endpaper since this is a more desirable location and is recommended practice. This would be a change for the four systems but it is worth further consideration.)

In the pocket will be inserted a book card which is an identical copy of the pocket-card. One shelf-list card, which includes the inventory record, will be included for each title shipped.

A central shelf-list card will be furnished for each system headquarters indicating holdings by branch for new titles and for titles new to any branch collection.

Separate shelf-list cards will be provided for titles with more than one location symbol, e.g., reference, Maryland.

Pocket and book cards will carry branch, system and book identification symbols and numbers.

Spine Labels

Spine labels will be the standard pressure-sensitive label used by the systems currently. Content of the label will duplicate the call number as it appears on the shelf-list card. Labels will be used on all books including those without dust jackets, excepting adult fiction.

Plastic Jackets

The paper-lined, single-fold plastic jacket will be pasted to the covers of books.

Ownership and other markings

The top and bottom edges of books will be rubber-stamped with system and branch identification. (This practice will ease the work in sorting of returned books in the increasing use of intra- and inter-system loan.) Either numerical or alphabetical symbols may be used for branch identification.

All books will be stamped with identification number on the title page. The identification number will be unique to each volume processed. It is anticipated that separate blocks of numbers of ten digits will be assigned to each system.

Cutter numbers

Montgomery County will furnish the Center with Cutter numbers for their books. This procedure will involve the following steps:

- 1) The Center furnishes Montgomery County classification numbers for titles ordered;
- 2) Montgomery County supplies Cutter numbers to Center;
- 3) Cutter numbers are keypunched and input to computer record.

When the Cutter number becomes a part of the data base, the programs written for Montgomery County will automatically produce the Cutter numbers as a part of the printout for labels and for the record for book catalog input.

Punched circulation card

Punched circulation cards for Prince George's County books can be simply produced from the data input to the computer records. The only problem in providing this additional service is not in performing it, but in pro-rating cost. Since it is a well-defined procedure, this should not be difficult to determine.

Shipping

Processed books will be delivered to each ordering outlet by the Center's truck at least once a week. It is probable that deliveries to the larger outlets and headquarters will be required two or three times per week. One truck can manage a weekly schedule to all outlets and headquarters delivery twice a week.

It is also probable that, as schedules are worked out, delivery to some outlets may be made by coordination of the Center's delivery service with the intra-system routes.

DATA PROCESSING

The electronic data processing equipment for the Center will be required to handle both new and old programs for the four systems. The coordination of three separate automated operations in the Montgomery, Prince George's and Baltimore county libraries, establishment of new operations for all four systems, and the current state of a totally automated system in Prince George's County set the initial limits of the proposed Center operation. The objectives at the outset are to provide the data needed for on-going EDP activities in what may be termed a transitional phase.

A brief description of the current programs may help set the stage.

1) Baltimore County produces a book catalog and scheduled supplements by contract with a commercial data processing agency which uses its EDP equipment with an upper and lower case chain. Baltimore County's responsibilities in preparing input data are to provide copy to the contractor. The contractor performs all keypunching, filing, printing and other services in producing the catalog. The book catalog record is stored on magnetic tape.

2) Montgomery County initially produced its book catalog by using County tab card equipment. The catalog was offset-printed on a one-to-one reproduction ratio. Since October of 1967 additions to holdings are recorded on magnetic tape and editorial work is underway for eventual magnetic tape storage of the entire file. The catalog is printed in upper case and is still printed by offset, although its size is reduced by two-thirds from earlier editions by reduction in print size and reformatting.

Montgomery's responsibility for preparation of book catalog data includes keypunching and verification of input and printing and binding of the volumes.

3) Anne Arundel's book catalog is produced by a sequential camera by contract with a commercial firm and does not involve an EDP program.

4) Prince George's County started over three years ago to prepare for automating as many of its internal operations as could be suitably adapted to computer handling. It is not an exaggeration to state that the automated system contemplated in Prince George's County will be the most advanced in any public library system in the United States.

This system will perform all of the functions assigned to the proposed Center. In addition it will handle circulation control (including charging and discharging, reserves, overdues) in an on-line mode twelve hours a day. It will produce book catalogs and statistics, control inventory and perform numerous other administrative tasks.

The system is possible through access to the County's RCA Spectra 70 computer which was acquired in 1967. System analysis and design are largely complete and programming work has been in progress since 1967. The file of holdings is currently being recorded on punched tape. The first stage of the program is expected to be operational before the end of 1968 and the total program within two years.

It is obvious that all systems have made sizeable investments in their automated programs. The administrators of the systems agree that until the Prince George's system is fully operational that the four will continue their current book catalog production programs using data produced by the Center as input. It is clear that the Prince George's system will offer to the other three libraries a new base of expanded operations at some future date.

To explore the data processing requirements of the Center, the Project retained the services of Heliodyne Corporation. (Appendix C contains excerpts from their report.) Their study did not design a working system for the Center; rather, it determined that the current automated functions of the four systems could be coordinated in an economical manner, a way in which no system's current investment would be jeopardized. It is no longer a question of whether EDP equipment can handle a program so large as the one proposed; it is whether it is desirable. This state is in no small part due to the early decision of the Montgomery and Baltimore County systems to produce book catalogs as vanguard experiments which have demonstrated the feasibility and worth of book catalogs.

The problem that faces the proposed Center is unlike any other in an actual or proposed project in the United States today. Because the three largest systems have already committed their cataloging records to three varying methods of data processing, the Center will not start a new program entirely, but will produce basic data which is compatible with the established operations and which can serve three masters to the satisfaction of each. In a sense, this is a remodelling job rather than new construction.

The Heliodyne Corporation based its studies on interviews with appropriate staff members in each system, knowledge of current programs and the limitations set by the Project. The conclusions of Heliodyne are basically that the data base of LC MARC information is convertible to the needs of the four systems and that programs can be prepared to extract and format this information at a reasonable cost. They further recommend that any Center programs (EDP) be based on the work already accomplished in the Prince George's County preparation since it is exactly suitable to the needs of the Center in most regards.

This independent study was made in the interest of an equitable analysis of current automated procedures in the four systems and its recommendations bear out the general assumptions of the original Project proposal in regard to data processing.

It should be noted that the system design in Appendix C is incomplete and in a sense hypothetical, for example, a) to coordinate with the Prince George's system, it will be desirable to produce a punched paper tape record rather than a punched card; b) an assumption that vendors will be largely publishers is baseless, etc. What the design demonstrates is that the points of variance exist and that they can be accommodated in an overall design.

The following recommendations are made regarding data processing for the proposed Center:

1. The Center should lease time on EDP equipment from a computer service agency rather than lease its own equipment at the outset. Until the equipment produces book catalogs, it will be underutilized and too expensive to justify. An estimated eight hours of computer time @ \$100 per hour will be needed weekly.

2. The basis of the Center EDP programs should be the programs of the Prince George's library system now being developed and implemented. Adaptation of the Prince George's programs (which in some cases means only an expansion and not modification) will provide for the Center's needs and for the needs of the other three systems. The cost of producing original programs for the other systems would be at least three times that of the proposed adaptation. Furthermore, original programming would be a needless duplication of the Prince George's work.

3. A third generation computer of the IBM 360 series or RCA Spectra 70 type will be needed to manage the Center's programs. The possibility exists that time will be available on the Prince George's computer to handle the work of the Center. In this event, the Center would contract with the County for use of its equipment. RCA and IBM equipment are compatible and translation of data from one to the other is not impractical.

4. Adaptation of programs for the Center's use should be performed by contract with an EDP service agency. Center data processing personnel should be hired before the programming work begins.

(When EDP equipment is needed in-house, it is estimated that rental costs will be approximately \$180,000 per annum.)

Book catalog programs for the Prince George's system are written to use the photon method of conversion of tape to print. Use of this device in the Center's programs will provide the opportunity for the other systems to use this method of catalog reproduction.

The question has been raised regarding the value of the Center to the Prince George's County operation since it will have complete EDP capacity and functioning programs in its own system. It seems clear that the County's benefits will be:

a) the Center would perform its functions for the County-- from initiation of orders through preparation of book catalog input--at a cost perhaps one-half of the current rate;

b) the County may realize income from the Center for use of EDP equipment and its programs.

In the long range it may well be that the Prince George's EDP library operation may become the basis for a State-wide automated system.

Use of Prince George's EDP capabilities does not mean a permanent commitment to the manufacturer of the equipment used.

Current developments in these regards should be noted:

1. At least one wholesale book jobber has automated its inventory and has capability for accepting machine-readable orders via telephone line transmission. That the Center should find this service advantageous for a number of reasons is obvious.

2. Inter-library communication, for access to collections indexed on magnetic tape, will be possible in the near future. Use of MARC format will provide reciprocal accessibility to Center records.

It should also be noted that in the event that any of the systems should convert from Dewey to Library of Congress classification, the data for conversion is stored in the Center record and the computer can be used to accomplish this end with despatch and at an affordable cost.

COST ESTIMATES

The cost of operating the proposed Center is based on current prices and prevailing wages and salaries. Figures are given for the first full year of operation and for the establishment phase.

Establishment costs

Once the decision is made to establish a Center and the contract is drawn and executed, it will take approximately nine months after the Director of the Center is hired to prepare for operation. During this make-ready phase, it is desirable that one of the library systems provide office space for a small cadre of staff for a period of six months.

The major costs during this period will be for equipment and salaries. The total estimated amount will be \$182,075 which is broken down as follows:

Salaries

Director (9 months)	\$ 15,000	
Chief Librarian (8 months)	9,000	
Chief of Data Processing (8 months)	9,000	
Chief Cataloger (6 months)	5,500	
EDP Programmer (6 months)	4,000	
Secretary (9 months)	3,600	
Partial staff (1-3 months)	<u>15,650</u>	
		\$60,250

Equipment

Desks, tables, chairs, shelving, files	18,025
Typewriters, staff lounge, lockers	7,200
Offset printer, master processor	9,000
Miscellaneous machines (rent & purchase)	14,600
Truck	3,000
Book trucks	1,000
Conveyor system	3,000
Other (fire extinguishers, coat-racks, etc.)	2,000

Other

Building rental (3 months)	10,000
Data processing contract	25,000
Office and processing supplies	10,000
Bibliographic tools	12,000
Travel	3,500
Postage and telephone	500
Services	1,000
Contingency	<u>2,000</u>
Total	\$ 182,075

Annual operating costs

Costs for rental of suitable space range from \$2.00 to \$3.50 per square foot per year, depending on location, age of building and other factors. Using a median figure of \$22.75 per square foot, rental of 13,000-15,000 square feet will be \$35,750-\$41,250.

Estimated cost of rental of EDP equipment time is \$100 per hour. Based on eight hours per week, the annual cost is \$41,600.

For a staff of forty-four, estimated annual salaries and wages are \$244,200 using the bottom of the range in the salary scale, and exclusive of employer contributions to employee benefits. These costs will depend on which library system is the Center's parent organization and its program of employee benefits. Since the State pays the employer's share of retirement and OASI programs, only health insurance, sick leave and other minor benefits are involved in the Center's budget.

Based on an estimated volume of 400,000 books to be handled in 1969-1970, cost of all forms and other office and processing supplies will be approximately \$120,000. This figure is based on 30¢ per volume processed which includes all forms used in the ordering and EDP operation.

Costs for all other items may vary by as much as fifty percent, but should not vary more than twenty percent from the estimated total. The "Services" item includes contracts for equipment maintenance.

Costs for first year of operation of Center

Building rental	\$ 41,250
EDP time rental	41,600
Salaries and wages	244,200
Forms, office and processing supplies	120,000
Insurance	3,000
Utilities	4,000
Travel	4,000
Postage and telephone	2,000
Equipment (purchase and rental)	17,000
Vehicle maintenance	2,000
Bibliographic tools	4,000
Services	3,000
Contingency	<u>5,000</u>
Total	\$ 491,050

Comparison of Center costs with current operating costs

Comparison of the cost of the proposed Center's operations with current costs for operations now performed by each of the four systems is inexact in some particulars. The comparisons made here seem relevant and useful in assessing probable adjustments when the Center is established.

Rental for space is not a budget item in the four library systems. However, the space now used for cataloging and processing in the four systems is 9,000 square feet (Anne Arundel, 1,000; Baltimore, 1,800; Prince George's, 2,700; Montgomery, 3,500.) Plans for cataloging and processing space in new buildings in Baltimore, Montgomery and Prince George's counties call for 8,500 additional square feet. It is estimated that a minimum of eighty percent of current and additional space used for these operations can be released for other uses when the Center is operational. At \$2.75 per square foot, eighty percent of 14,800 square feet equals \$32,560 per annum.

Salaries for cataloging and processing operations in the four systems in 1968 are approximately \$502,000 (Anne Arundel, \$50,000; Baltimore, \$120,000; Prince George's, \$200,000; Montgomery, \$112,000.) It is estimated that within one year after the Center is operational, the complement of technical services personnel in each system may be reduced by eighty percent.

Local expenditures for processing and office supplies are now between 14¢ and 17¢ per volume processed. This amount would be subtracted from local budgets.

Local expenditures for other listed budget items would be reduced in varying amounts in the four systems.

The Center operation will provide input for the book catalogs of Anne Arundel, Baltimore and Montgomery counties in machine-readable form, a product currently produced either in the system or by contract. This could represent a substantial saving in all three systems.

FINANCING THE CENTER OPERATION

Financing the Center on a cooperative basis calls for acceptable measurements for pro-ration of costs. There seems no more desirable method available than the volume of business performed for each of the four systems. Since this volume can be measured both in number of volumes processed and number of titles ordered, two alternatives are proposed. The first is based on a percentage of number of volumes processed, the second on a percentage of both volumes processed and titles ordered, using a median percentage figure.

In the twelve-month period ending May 31, 1968, the four systems added 389,773 volumes to their collections:

<u>County</u>	<u>Volumes added</u>	<u>Titles added</u>
Anne Arundel	34,823	4,612
Baltimore	134,828	12,898
Montgomery	116,538	6,463
Prince George's	<u>103,584</u>	<u>9,794</u>
Total	389,773	33,767

These totals, translated into percentages, equal:

<u>County</u>	<u>% volumes</u>	<u>% titles</u>	<u>Average</u>
Anne Arundel	9.0	14	11.5
Baltimore	34.5	38	36.25
Montgomery	30.0	19	24.5
Prince George's	<u>25.5</u>	<u>29</u>	<u>27.75</u>
Total	100.00	100	100.00

Using the above percentages against the total estimated costs for the first year of operation, the following amounts are derived:

Pro-ration of costs by number of volumes processed:

Anne Arundel (9%)	\$ 44,194.50
Baltimore (34.5%)	169,412.25
Montgomery (30%)	147,315.00
Prince George's (26.5%)	130,128.25

Pro-ration by number of volumes processed and titles ordered:

Anne Arundel (14%)	\$	68,747.00
Baltimore (36.25%)		178,006.00
Montgomery (24.5%)		120,307.00
Prince George's (27.75%)		136,664.00

A percentage pro-ration based on the latest annual figures for volumes and/or titles added should be used as a basis for financing the first year of the Center's operation. Subsequent pro-ration should be based on statistical evidence and cost figures produced in the course of operating the Center.

The lead time necessary to organize and establish the Center's operation is non-productive in terms of books acquired and processed for the library systems. Funds used for establishment will not be offset by a reduction in local expenditures.

It would not be inappropriate for some portion of the cost of establishment and operation of the Center to be borne by federal Library Services and Construction Act funds. A proposal for a grant of federal funds for establishment of a Center could be devised to meet the requirements, regulations and objectives of the Maryland State Plan for the use of Library Services and Construction Act funds, Title I. Request for a grant of \$125,000 for establishment purposes is requested. Subsequent requests for participation of federal funds in costs of on-going operations should be assessed in light of future developments.

The investment of local funds in establishing the Center should be pro-rated on a basis which relates in some manner to the size of the operations of the systems involved. Prince George's County Memorial Library should not be expected to contribute funds since its EDP programs, which will be used as a basis for the Center's data processing functions, represent a contribution well in excess of the funds required of the other three systems to establish the Center. Based on approximate percentages of fifteen for Anne Arundel, thirty-five for Montgomery and fifty for Baltimore, as an example, local investments would be approximately \$8,600 for Anne Arundel, \$20,000 for Montgomery and \$28,500 for Baltimore.

PROSPECTS FOR EXPANSION OF OPERATIONS

From the initial Hines and Pfefferle study, implications for expansion of the scope of the Center's operation have been suggested. It is tempting to project an operation ten years hence which becomes the heart and brain of a State-wide system. More realistically, it appears that at least these further dimensions could be contemplated in the near future:

1. Preparation of book catalog output for the four systems;
2. Service to other library systems in the State and the area, e.g.,

All services of the Center could be sold to the Enoch Pratt Free Library and the other public library systems in the State (which would involve an amalgamation of the Eastern Shore Book Processing Center with the proposed Center.)

Public and private school systems, community colleges and institutions of higher education could be served with full or partial services;

3. Regional catalog production or special catalogs.

All of these additional programs are based on the initial operations of ordering, acquisition, cataloging and processing.

In the continuing search for excellence of service, the eventuality that other functions, now considered primarily local responsibilities, might be centralized should not be overlooked. For example, it is conceivable that a central book selection staff for all the suburban systems or for all the public library systems in the State, excepting those research collections of the Enoch Pratt Free Library, could provide a service of greater depth and acuity than any present operation can. Such centralization might also apply for public relations and publicity. Perhaps certain financial operations could be centralized with advantage.

It is not outside the realm of possibility that a Center could operate the circulation control programs of a group of library systems, perhaps even the entire State.

Any expansion or augmentation of service is dependent upon the success of the contained operation proposed. Clearly the first step beyond the initial program will be to fulfill the service requirements of the four cooperating systems.

The Center's success is dependent upon feet planted squarely in the present; it would be a failure if it failed to keep an eye on the future.

APPENDIX A

**Proposed Legislation to Provide for Establishment of
Cooperative Library Service Centers**

AN ACT to repeal and re-enact with amendments Section 186, Paragraph (1) (e) and Paragraph (2) (d) and to add a new Section 186A to Article 77 of the Annotated Code of Maryland (1957 and 1967 Supplement), title "Public Education", subtitle "Chapter 16. Public Libraries", said new Section 186A to follow immediately after Section 186 of said article, to provide for establishment of cooperative library service centers, and for the right of public libraries to contract and deal with the same.

SECTION 1. Be it enacted by the General Assembly of Maryland that Section 186, Paragraph (1) (e) and Paragraph (2) (d) be and they are hereby repealed and re-enacted to read as follows:

186. Same - Powers and duties generally:

(1) The board of library trustees in any county shall have the following general powers and duties:***

(e) To develop library services throughout the county, by such means as stations, branch libraries, (and) bookmobiles(;), and participation in or contracts with a co-operative library service center.

*** (2) The board of library trustees in any county shall have powers and duties as to finances, as follows:***

(d) To enter into contracts for any library service, with any other library, (or) with any governmental unit, or with any co-operative library service center.

SECTION 2. Be it further enacted by the General Assembly of Maryland that a new Section 186A be and it is hereby added to Article 77 of the Annotated Code of Maryland (1957 Edition and 1967 Supplement), title "Public Education", subtitle "Chapter 16. Public Libraries", subheading "Cooperative Library Service Centers", to follow immediately after Section 186 thereof, and to read as follows:

186A. Co-operative Library Service Centers.

(a) Any two or more counties, acting through their respective boards of library trustees may establish a co-operative library service center for the purpose of providing service operations for its member county libraries.

(b) Such centers shall be organized as a nonprofit nonstock corporation pursuant to Article 23, Section 132, et seq. of the Annotated Code of Maryland, for such purposes as its Articles of Incorporation shall state and eith such powers vested in its trustees or directors as as its Articles of Incorporation or its Bylaws shall state, not inconsistent with the applicable provision of this subtitle, with special regard for the powers and duties set forth in Section 186 for individual boards of library trustees, to the extent that such powers and duties are applicable.

(c) A co-operative library service center and its employees, where applicable, shall be subject to and entitled to the benefits of the following provisions of this subtitle: Teachers' Retirement System (\$190); Library Fund (\$191); Annual Audit (\$192); Annual Report of the Board

(§193); Gifts and Donations (§194); and Exemption from Taxation
(§197).

SECTION 3. And be it further enacted, that this Act shall take effect on June 30, 196-.

APPENDIX B

**Compilation of Data on Current Practices in Technical
Services Sections**

REQUIREMENTS FOR PROCESSED BOOKS, 1967

Public library systems of Anne Arundel, Baltimore, Montgomery
and Prince George's counties, Maryland

	Mont	PG	Balt	AA
BOOK CARDS				
Not used		x		
Not used for entire collection	x			
Not used for reference books	x	x	x	
Standard 3x5	x		x	
Duplicate shelf list card				x
Contents:				
Author, title, price, Call number	x		x	x
Other location symbols:				
Young adult				x
Juvenile	x			x
Quarto				x
Mystery, western, short story	x			x
Maryland				x
Accession number			x	
Copy number	x			x
BOOK POCKETS				
Duplicate shelf list card	x			x
Standard commercial		x	x	
Location:				
Back endpaper	x	x	x	x
Inside back cover				x
Lower left corner of page	x			
Upper left corner of page		x	x	x
Center of page				x
Contents:				
Author, title, call number	x	x	x	x
Price	x	x	x	
Other location symbols:				
Young adult		x		x
Juvenile	x	x		x
Quarto		x		x
Mystery, western, short story	x	x		x
Maryland		x		x
Miscellaneous		x		
Accession number			x	
Copy number	x	x		x
Branch identification	x	x	x	x
System identification	x			x

B-2 REQUIREMENTS FOR PROCESSED BOOKS

	Mont	PG	Balt	AA
PLASTIC JACKETS				
Paper liner, single fold	x	x	x	x
Paste to book	x	x	x	
Tape to book				x
System label under plastic			x	
SPINE MARKINGS				
Books with dust jackets:				
Pressure-sensitive label	x	x	x	x
Standard typewriter type	x	x		
Bulletin typewriter type		x	x	x
Books without dust jackets:				
Stylus-marked	x	x		x
Ink-marked			x	
IDENTIFICATION MARKS				
Rubber stamps:				
Library System:				
Top edge of book	x	x		x
Bottom edge of book				x
Title page			x	
Inside endpaper, front				x
Secret page				x
Branch:				
Inside endpaper, back	x			
Title page			x	
Identification number:				
Page after verso title page			x	
Pencil:				
Call number, verso title page		x *	x	
Branch:				
Inside endpaper, front			x	
Verso title page			x	

*in the system's first copy only

FILES MAINTAINED, TECHNICAL PROCESSING SECTIONS

Public library systems in Anne Arundel, Baltimore, Montgomery and Prince George's counties, Maryland

	Mont	PG	Balt	AA
AUTHORITY				
Name		x		
Name, juvenile				x
Name, adult				x
Subject		x		
Series		x		
HOLDINGS				
Traditional shelf list*		x		x
Shelf list, titles held only	x			
Author, title, added entry		x		
Subject, title, added entry			x	
Author, titles held			x	
Classed (reference interfiled)			x	
Last copy (titles in book catalog)			x	
BOOK CATALOG FILES				
Access number			x	
New titles	x		x	x
Main entry (control)	x			
PHONO RECORDS				
Composer	x		x	
Dictionary catalog		x	x	
Shelf list			x	x
Label (manufacturer and record number)			x	

*all titles in shelf order

STATISTICS RECORDED, TECHNICAL PROCESSING SECTIONS

Public library systems of Anne Arundel, Baltimore, Montgomery
and Prince George's counties, Maryland

	Mont	PG	Balt	AA
Total volumes, System	x	x	x	x
Total volumes, branches	x	x	x	x
Volumes added:				
Total	x	x	x	x
Adult fiction	x	x	x	x
Adult non-fiction	x	x	x	
Adult n-f by Dewey class				x
Juvenile	x		x	
Juvenile fiction		x		x
Juvenile non-fiction		x		
Juvenile n-f by Dewey class				x
Young adult fiction				x
Young adult n-f by class				x
Volumes withdrawn	x	x	x	x
New titles added	x	x	x	x
Phone records, total	x	x	x	x
Phone records added	x	x	x	x
Uncataloged paperbacks	x	x	x	x
Gifts added		x	x	
Transfers	x	x	x	
Titles recataloged		x		
Number of books ordered		x		
Number of books received		x		
Personal orders		x		
Canceled orders		x		
Foreign language collection	x	x		

TECHNICAL SERVICES PERSONNEL, 1967

in full-time equivalents, public library systems in Anne Arundel, Baltimore, Montgomery, Prince George's counties, Maryland.

Includes personnel who perform all processes from assembling orders through sorting for distribution to branches. In some systems personnel reported are not in technical services sections.

	Mont	PG	Balt	AA
Professional	4.25	10	3	1.5
Para-professional	1	1	1	1
Clerical	<u>12.75</u>	<u>34.5</u>	<u>18.25</u>	<u>10.6</u>
Total	18	45.5	22.25	13.1

POSITIONS

Professional				
Coordinator, Tech. Serv.	.25	1	1	.
Head of Processing	1			.5
Assistant coordinator		1	1	
Cataloger	2	6	1	1
Data processing		1		
Book catalog revision	1			
Order/Acquisition		1		
Para-professional				
Professional Assistant	1			
Research Library Aide		1		
Library Aide			1	
Clerical				
Supervisors		4	2	2
Clerk-typists	4.25	11.5	12	7.6
Secretary		1		
Key punch operator	2			
Mimeograph operator		1		
File clerks		2		
Financial clerk			1	
Clerks	6.5	13	3.25	1
Menders		2		

APPENDIX C

Extracts from

"Cooperative Processing Center -- System Outline."

Heliodyne Corporation, June 1968

EXCERPTS FROM
"COOPERATIVE PROCESSING CENTER -- SYSTEM OUTLINE.
Heliodyne Corporation, June 1968

OUTLINE OF A PROPOSED SYSTEM

In devising even a tentative system outline, certain assumptions are necessary. This is true of the outline shown on the following pages no less than for any other. Some of these assumptions are the following.

Probably the most basic decision is that of whether the cooperative processing center should provide only purchasing services or should proceed with the cataloging operation as well. In the present case, we have assumed that the cataloging service would also be provided, since this would seem to represent a relatively straightforward addition to the purchasing operation, and since the availability of the Library of Congress cataloging data in machine-readable forms will greatly reduce the human effort involved in providing such services.

There is one exception to this, however, and this is the Prince George's County system. For Prince George's County, we have made provisions only for the purchasing of materials and the supplying of input data to their cataloging system.

Another important consideration in system design is the choice of data processing equipment. There are many considerations in making such a choice other than the rather obvious (and frequently over-worked) one of relative machine efficiencies.

To being with, the availability of the equipment used is a concern. If the task is of sufficient magnitude to warrant the dedication of data processing equipment exclusively to it, then the choices are less complicated. For in such a case, external factors, such as the cost per hour and priority scheduling problems will not vary over long periods of time.

On the other hand, if, as is likely in the case of the cooperative processing center, the equipment to be utilized is rented by the hour from a service bureau, many variables are introduced. There is some likelihood that the rates charged will vary with time. Also, it is possible that the service bureau will elect to install new equipment in place of the old. And there is always the problem of the relative priorities between customers and their jobs.

As a result, it would appear to be good strategy, when using service bureaus, to select an equipment configuration that is relatively common, so as to allow for alternatives in difficult situations. In this way, one may be in the position of being able to shop around for the best combination of price and priority, and can readily shift the operation permanently in the event of equipment replacement.

Thus, it would appear advisable, in the present service bureau market, to select a tape-oriented IBM System/360, Model 30 configuration, preferably one with disc packs. In addition, the configuration should be large enough to permit the use of COBOL as the programming language, since this provides additional insurance against the day when the System/360 will no longer be so plentiful.

Admittedly, neither the equipment nor the programming language represents the ultimate in present efficiency. However, the magnitude of the problems presented by some other choices, and the costs of making adjustments at a later time are likely to far exceed the relatively small loss of efficiency involved in the recommended selections.

The system outlined, it should be noted, utilizes six tape drives for the various data files. While this is not a very large number, many 360-30 systems do not have so many available. However, this problem can easily be avoided by simply mixing several output files on one reel, and separating them in a subsequent operation, or, alternatively, by separating some of the program functions into separate programs so as to require fewer inputs and/or outputs.

As to the matter of utilizing the Library of Congress' Project MARC magnetic tapes, it would seem to be a matter of prime importance to do so. The Project MARC tapes will be relatively inexpensive, and will contain cataloging information normally supplied on Library of Congress catalog cards. This cataloging is an accepted standard in most parts of the United States, and is difficult to improve on. It contains information that far exceeds the realistic needs of the average county public library system, and only appears marginal when applied to certain libraries that are usually classed as Special Libraries, such as those supporting substantial research projects in some particular subject specialty.

The use of MARC tapes would result in the creation of catalogs that are both adequate and compatible. And while the element of compatibility may not at present seem important, all of the trends in recent years point to the development of a great deal of communication

between libraries in the future. This communication, it would appear, will not take place strictly within jurisdictional boundaries. Thus, assuring compatibility of data seems to be a wise sub-goal of any development.

In any case, if acceptable to all of the county library systems, the MARC tape information does indeed represent a least-cost method for cataloging newly-published materials. It is nearly a foregone conclusion that the MARC data should be used.

This is not to say that all of the MARC tape information will be included in the cataloging provided the county library systems. Needless to say, the information that is not needed or not wanted need not be included in materials supplied through the center, such as catalog cards, book-catalog masters, and so forth. Nevertheless, since all that is needed is available, the use of these tapes will provide the broad basis of input information needed to satisfy the needs of the several systems.

It may be found that the principal difficulty in the use of the MARC tapes will be their relative late availability. However, since this same consideration will trouble a great proportion of the users, it is reasonable to assume that the Library of Congress will, at some point, take steps to see that the tapes are produced on a more current basis. In the meantime, it seems feasible to enter those titles that are wanted quickly into the system(s) as skeleton-cataloged entries, that is entries that are only partially cataloged, with all information taken directly from the title pages themselves. The final cataloging would be automatically done when the MARC tape was delivered. During the interim period, the partial records could serve the purposes of circulation and book ordering.

Based on the assumption that a system is to be developed to provide direct outputs of products to Montgomery, Baltimore and Anne Arundel Counties, and input data into the Prince George's County system, a series of flow charts depicting a possible system design are shown in figures 1 through 6. The following is a narrative description of the operation of the system shown.

Beginning with documents shown at the top of Figure 1 as "Source Information," the initial input data are key punched into punch cards. The source information may be in one of several forms. That is, it may be information extracted from a publication on new works, or it may be information taken directly from the title pages of sample

volumes delivered by a publisher or jobber. The information to be extracted from these items for use in the purchasing operation is such data as the Library of Congress card number (for later use in cataloging), the author's name, the title, the publisher's name, the list price and discount price, and the batch, sequence and card numbers needed by the system to maintain control of the item prior to cataloging.

The entry of this information may be made by a clerk, since this will not represent a cataloging operation, but merely the collection of sufficient information to allow for purchasing. Indeed, this operation could be greatly simplified, if the Project MARC tapes were to be made available early enough to allow for their use in preparation of purchase-selection lists. For in this case, it would be possible to enter only the Library of Congress card number, to generate the required lists. Nevertheless, it appears that, until such time as the MARC tape production becomes current, we will have to make the choice between either stroking some additional information, or ordering materials at a later time than is desired.

The purchased cards produced by this operation are next put onto magnetic tape, during which operation any cards containing overt detectable errors will be listed on the printer. These card images are sorted into sequence by sequence (item) number and card number within the item.

Once the card images have been put into order, this tape is used to create lists of available materials for each county and/or branch depending on the instructions given the program by a set of county/branch cards. During this process, any errors detected will be listed on the printer. The program produces two separate output tapes, one consisting of a single compact record for each item, and the other containing such a record for each branch and/or county for which a purchase list is to be produced.

The latter tape is next sorted by county/branch designator, and within each by sequence number. This sorted tape is then used to print order lists for each organization for which one is to be produced.

In the event that a separate listing is wanted for each branch, the branch name and code will be printed on the top of the list, and a space will be available for writing in the numbers of items wanted by the branch. In those cases in which a single list is to be used by all branches within a county system, each title listed will be followed by a listing of all branch codes and a space in which each may insert the numbers of items wanted. In both cases, allowance must be made for

circulating and non-circulating copies. These order lists, in whatever form produced, will be sent to the appropriate county system or branch for use in making selections, after which they will be returned to the center for use in ordering materials.

Once the order lists have been returned to the center, the ordering process begins. The order lists are first used to key stroke the numbers (only the batch/item number, branch designator and number ordered are punched) of each book wanted by each branch/county into punched cards. The information on these cards is then put onto magnetic tape and sorted into batch and item number sequence. The resultant sorted tape is then used as input to a program which has as its other input the tape produced earlier containing a single compact record for each title to be processed.

The output from this program is similar in format to the compact input title tape, except that to these data will be added the numbers of copies wanted by each ordering organization. This tape, then contains all of the information needed for book ordering, except for the name of the vendor and his address.

In addition, since vendors will probably be used on the basis of publisher, the tape is sorted into order by publisher. Finally, the sorted tape is used as input to print purchase order program which performs two functions. The first, and most obvious of these is to print the purchase orders to each vendor, on the basis of publisher, using a vendor file containing vendor's names and addresses, each occurring once for the publisher concerned. The other function performed is the production of an on-order tape. This tape will carry all of the original input data, plus an indication of the vendor from whom the materials were ordered, the date and number of the purchase order, and the number of the item within the purchase order.

The on-order tape produced is next merged with the currently existing on-order file, to create an up-to-date complete on-order file on tape. This on-order file is used in two ways. It is used to produce on-order lists, and to process incoming materials.

The method for producing on-order lists, is to produce a separate record of each item for each organization to receive such a list, either county and/or branch. This tape is then sorted by organization to receive such a list, either county and/or branch, and printed with totals being added and printed at the end of the list (number of volumes, numbers of titles and dollar amounts.)

The processing of incoming materials is simplified by the use of the on-order file, in that the only information required from the receiving process is the purchase order number, item number, and number of volumes received, all of which is key stroked into punched cards. When these cards have been put onto magnetic tape, and sorted into sequence by purchase order number and by item number within each purchase order, they may be run against the on-order file, which is already in this same sequence, and those items received may thus be removed from the on-order list for further processing. In addition, any items cancelled will be removed for separate processing, and the items remaining on-order will be placed on another tape for retention as the on-order file.

The items received, which have been removed from the on-order file, are next sorted into sequence by Library of Congress card number, if included. This sorted tape is then used to extract items from the MARC tape containing the appropriate cataloging records.

Although it may be expected that the MARC tape file will grow to a substantial size with the passage of time, it should be noted that this file will be sequenced by Library of Congress card number. Thus, the necessity of passing large numbers of reels of tape during each run can be eliminated by having the computer record the Library of Congress card number at the beginning of each batch to be processed (lowest number), and also recording the number of the first record on each tape reel in the file. This will allow us to process only those reels of tape at the end of the file that contain items of interest. Therefore, the size of the entire file will have little bearing on the processing time for each run.

The only remaining problem with the growth of large files will then be the number of reels of tape required to store such files. And, since reels of magnetic tape cost something on the order of fifty dollars each, this is a consideration which should not be completely ignored, particularly in view of the common practice of retaining three copies (i. e., generations) of each tape file. For this reason, provision must be made for deleting from the file at least those old records for which no copies have been purchased. This may be put into the catalog data selection program as an optional use feature, dependent on the insertion of a control card.

When the received items are run against the MARC tape file, several operations will be performed. To begin with, items which are matched by records on the MARC tape will have all of their ap-

plicable catalog data placed on an output tape for further processing. In addition, the updated MARC tape will be flagged to indicate that the particular item does have copies extant in the system. Those items that are not found on the MARC tape, either because they have no Library of Congress card numbers, or because the Library of Congress numbers do not appear on the MARC tape, are written out on a separate tape and listed on a print-out. These items may then either be cataloged separately, recirculated and tried against subsequent MARC tapes, or have Library of Congress card numbers inserted into them for accurate matching of the MARC tape.

During this same operation, any changes to the previously cataloged items are made. The tape used for this purpose results from a chain of operations that begins with the key stroking of the changes into punched cards, followed by card-to-tape and validity checking operations, and a sorting into Library of Congress card number sequence.

The tape of items matched against the MARC tape file is used for several subsequent purposes, and is termed the process tape. This tape carries a large amount of information on each title matched, in addition to the normal cataloging information, and is thus useful for a number of functions.

One of these functions is that of generating accurate statements of accounts for the various counties and their respective branch libraries. To accomplish this, the process tape, along with a tape indicating the cancellations, is first put through an exploding process, wherein every item is written onto an output tape once for each county/branch for which copies have been ordered. These records then are sorted by county/branch to produce an input tape to an accounts file update program.

This update program produces both an updated accounts file, which is then used to produce statements for the counties and/or to each branch library. Since the exploded version of the on-order tape is also used as an input to this program it is also possible to show what monies have been encumbered.

Another function for which the process tape is used is to produce entries and updates for the book catalogs of the several library systems. In order to accomplish this, each record on the process tape, be it a new entry or a change to an old one, is put through an explosion program, which produces a separate record for each entry in

each catalog to be processed. The resulting tape is then sorted by catalog, and within each catalog, by the filing element, such as author's name, title, subject, etc. These records in sequence are then used to update the catalog tapes, and, in the process, to produce catalog supplements, if so desired. It should be noted that the catalog tape entries will each carry its date of input, so that the catalog supplements may be selected both from the input tape and the records already in the master catalog tape so as to encompass any period desired.

The other primary use of the process tape is, naturally enough, the production of all normal cataloging materials. These are the various 3" x 5" cards, and the spine label. These will be produced in the same order, be they cards for the subject file, author file, or what have you. This is done because the cards will be sent with the books they represent, and will thus be subject to manual checking at the time of shipment. If desired, of course, modifications may be made to the system to cause these cards to be printed in sequence by branch, by file, and by filing element.

The program producing these items in the present design can also be used to produce the reformatted tape input to the Prince George's County Library System.

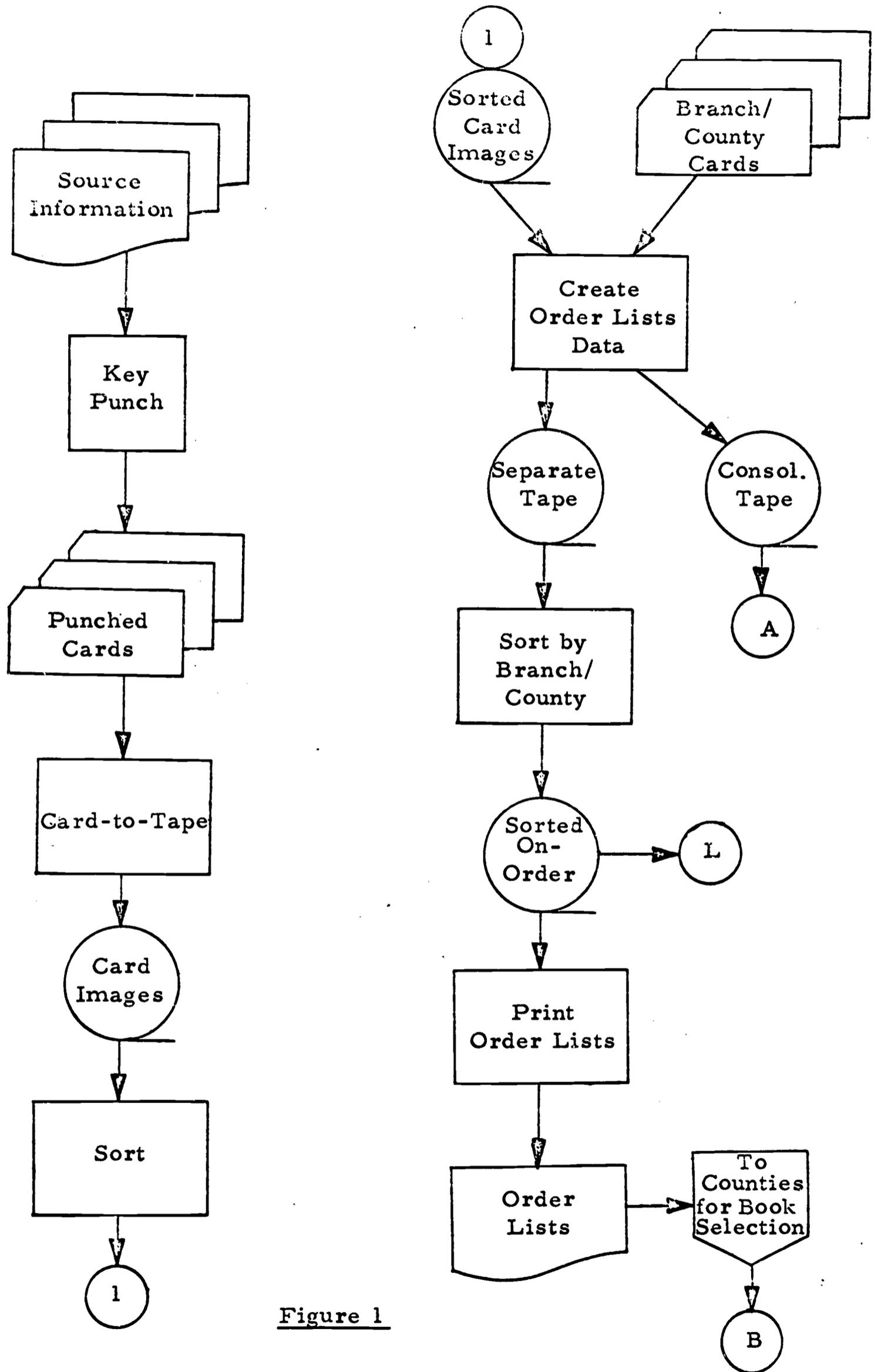


Figure 1

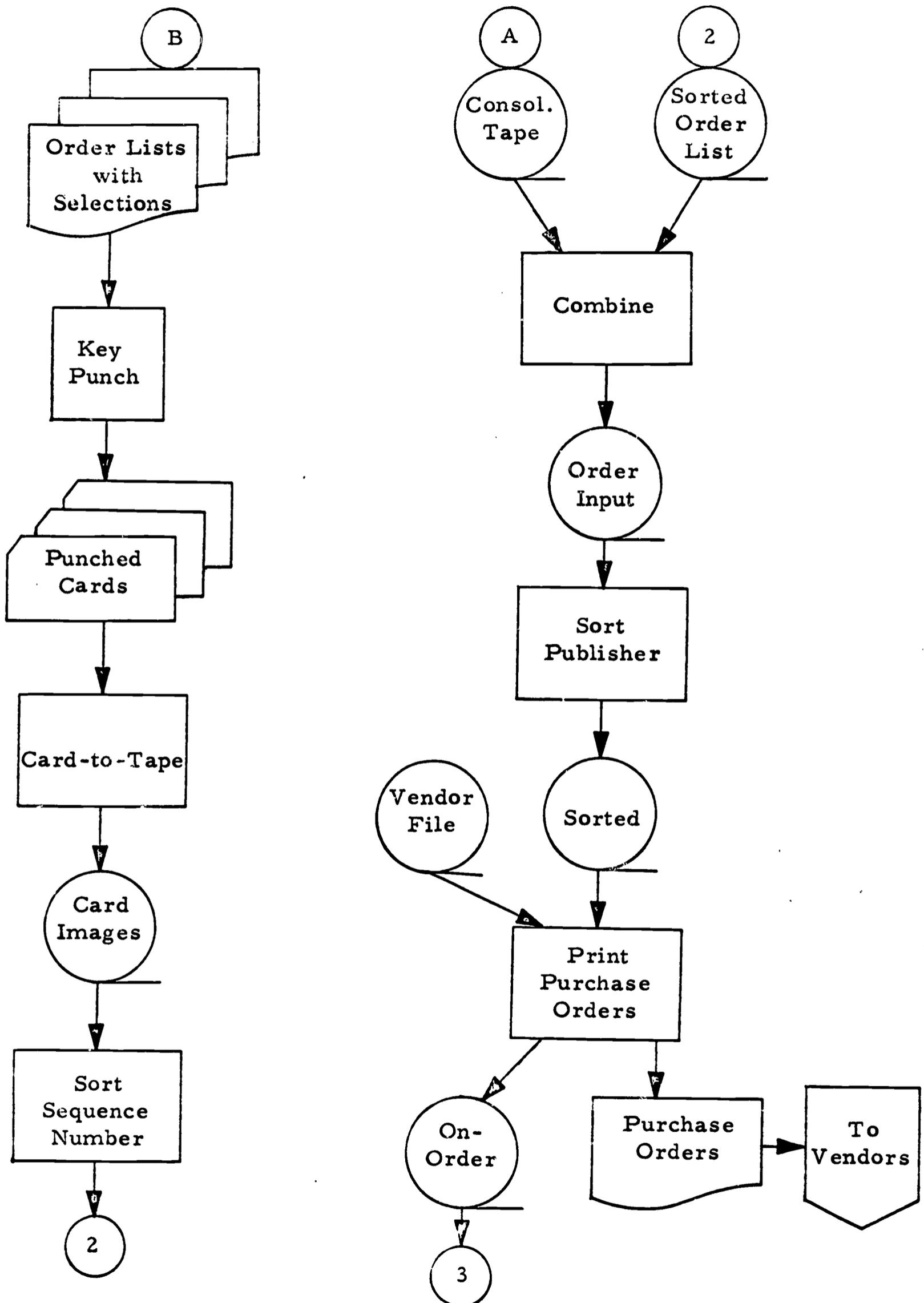


Figure 2

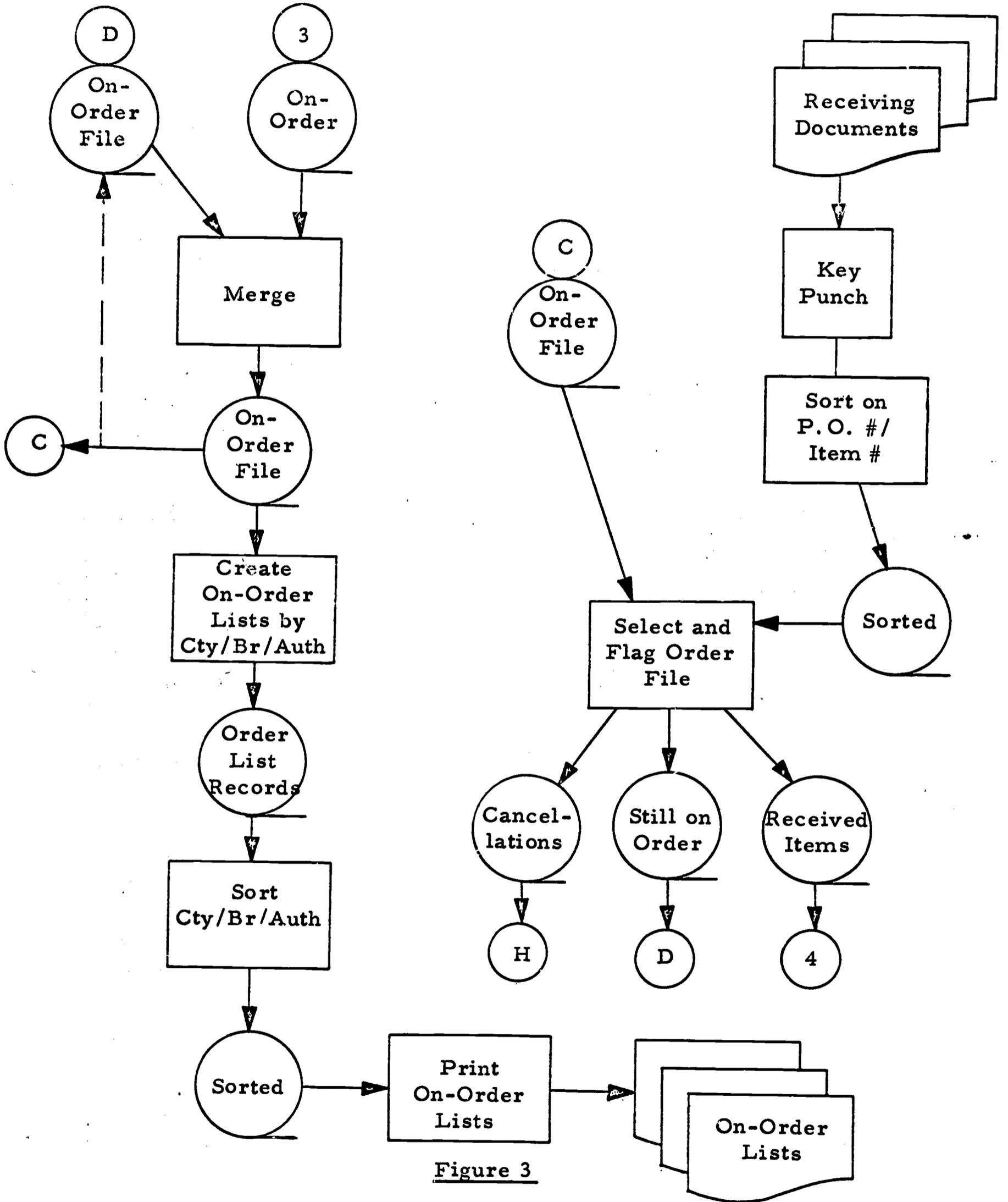


Figure 3

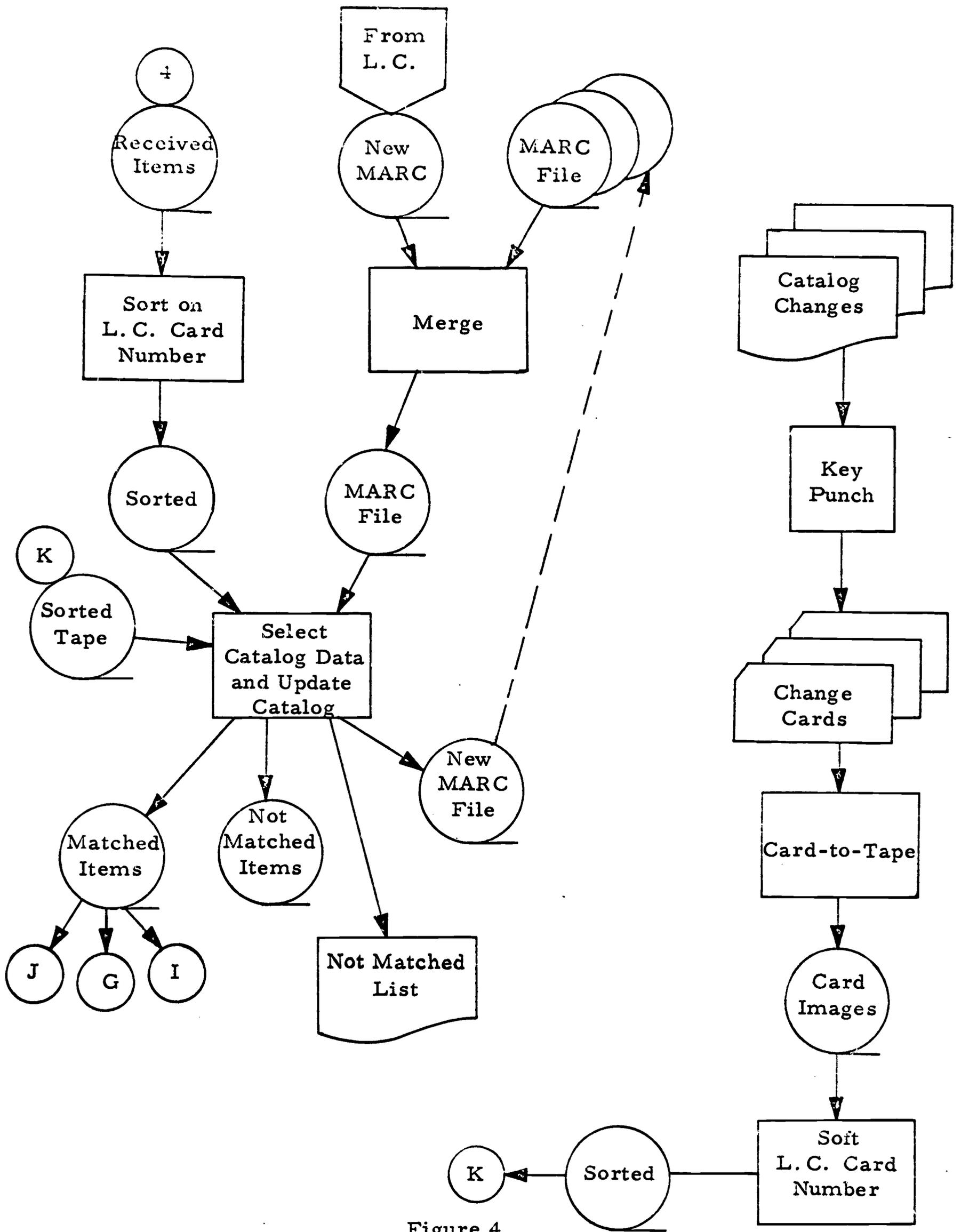


Figure 4

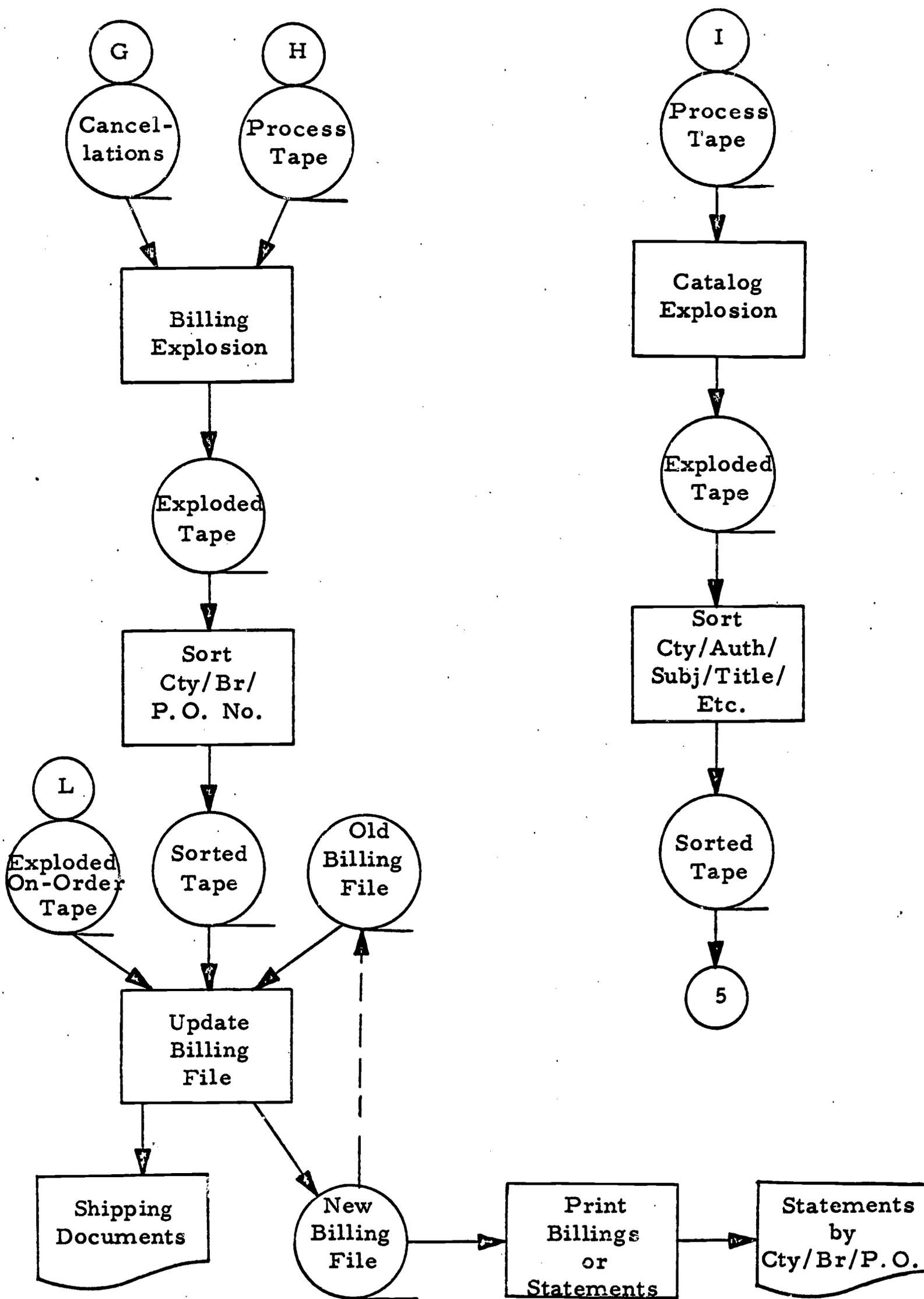


Figure 5

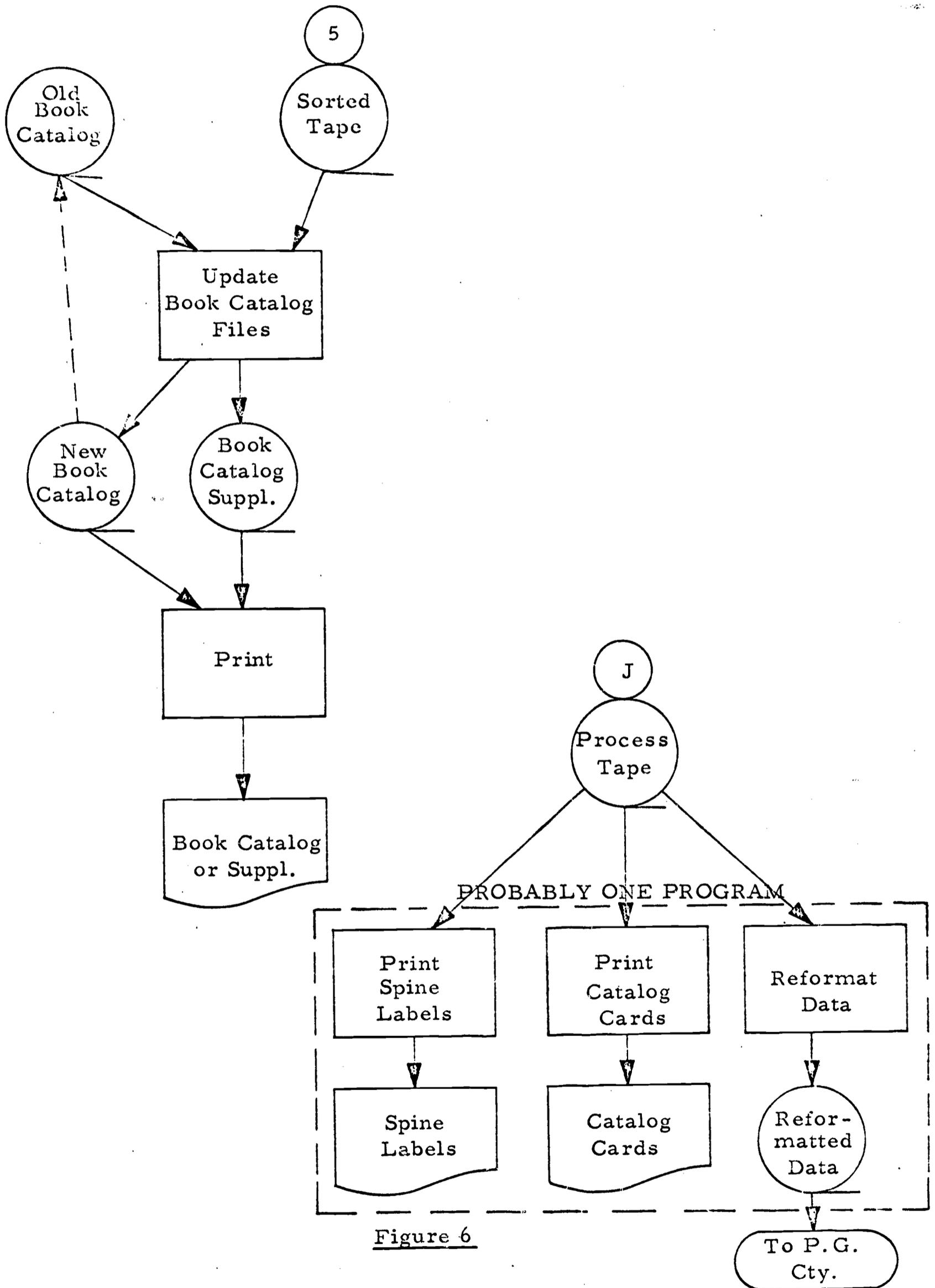


Figure 6

This report and the activities of the Suburban Maryland Library Project were financed by a grant of Library Services and Construction Act: Title I funds to the Anne Arundel, Baltimore, Montgomery and Prince George's county library systems under a proposal approved by the Maryland State Department of Education.