



Montgomery County Government

FEASIBILITY OF ASSIGNING SPECIALTIES OR COMBINING THE EXECUTIVE BRANCH AND MONTGOMERY COUNTY PUBLIC SCHOOLS PRINT SHOPS

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I. EXECUTIVE SUMMARY

This report describes the equipment, staffing, and operations of the Executive Branch and Montgomery County Public Schools (MCPS) print shops and examines the feasibility of assigning a specific printing process to one of the print shops as a specialty, or of combining the two operations. Combining options considered in the report include co-location of the two agencies' print shops (physical combining), and/or transfer of responsibility for all printing operations to one agency (organizational combining). In addition, preliminary analyses of outsourcing options are included in the report as an expansion of the original scope of the study.

In the OPTIONS FOR CHANGE Chapter (beginning on page 11), OLO examines the feasibility of four options for changes to the MCPS and/or Executive Branch printing operations. The first four sections of the Chapter contain discussion and analyses of the following scenarios: specialization of printing processes; physically combining the two agency print shops; organizationally combining printing operations; and outsourcing. The final section contains a summary of the major advantages and disadvantages associated with the various options for change that were examined by OLO.

OLO may become cognizant of issues or subjects during the course of a project that, although secondary to the original scope of the study, merit discussion as part of the report. The RELATED MATTERS Chapter (beginning on page 32) contains information on three subjects that OLO considered sufficiently important to discuss in the report.

Conclusions are included as appropriate throughout the report and can be found immediately following discussion of an option for change or related matter. The SUMMARY OF CONCLUSIONS Chapter (beginning on page 36) contains a recount of all the conclusions drawn by OLO throughout the report, and is arranged according to the sequence in which the matters were presented within the report.

OLO's recommendations begin on page 38, and are arranged within the same section titles used in the report when discussing an option for change or a related matter. The OLO recommendations can be easily cross-referenced by the section titles to locate the applicable conclusions in the SUMMARY OF CONCLUSIONS Chapter.

The report contains one or more recommendations for each of the four options for change discussed within the report. Of the four options examined, OLO found that co-location of the two agencies' printing operations at the existing MCPS print shop site on Stonestreet to be the most feasible in terms of ease of implementation. Within the report, OLO is recommending that administrators of the Executive Branch and Montgomery County Public Schools (MCPS) form an action team to develop a plan for physically combining the two agencies' printing operations. A joint response from the Executive Branch and MCPS proposes that the two agencies also work with corporate partners from the printing industry to examine emerging technologies, and develop a long-term strategy to alter traditional print shop operations and modernize equipment. OLO endorses the proposal to conduct an extensive public/private partnership review of County print shop equipment, staffing, and operations. (See AGENCY COMMENTS Chapter (beginning on page 41).

As a related matter, OLO is recommending that MCPS and the Executive Branch review its high volume publications for possible conversion to web press printing and determine whether an in-house capability would be cost effective. Alternatively, publications produced via web press technology and contracted for by the various County agencies should be reviewed to determine whether a combined contract award would result in cost savings.

For County agencies that do not have in-house standards or guidelines for production of publications, OLO recommends following the Interagency Public Information Working Group criteria (Guidelines for Government Publications), and applying the relevant guidelines to all planned publications, including those produced by private vendors as part of public relations or other contracts.

As another related matter, OLO is recommending that the Print Shop Manager in the Executive Branch be relieved of responsibility for 16 self-service photocopiers that are located in and exclusively used by specific Executive departments and offices, and responsibility for the copiers be transferred to the individual departments.

II. AUTHORITY, SCOPE, METHODOLOGY, AND ACKNOWLEDGEMENT

A. Authority

Council Resolution No. 12-1202, FY 1994 Work Program of the Office of Legislative Oversight, adopted July 13, 1993.

B. Scope

The Executive Branch of County government and Montgomery County Public Schools (MCPS) each staff internal printing operations to provide in-house printing, reproduction, and binding services to its departments and offices. In addition to the primary print shops of the two agencies, each operates an auxiliary reproduction unit to provide on-site services to a group of the agencies' offices with major reproduction volumes. This OLO study focuses on the primary or main print shops of the Executive Branch and MCPS.

The report describes the equipment, staffing, and operations of the Executive Branch and the MCPS print shops and examines the feasibility of combining the primary print shops of the two agencies. Alternatively, the report considers the possibility of assigning one or more printing processes as a specialty of either the Executive Branch or MCPS primary print shop. In addition, the report includes an assessment of existing equipment and staffing of each print shop; examines scenarios for realignment of staffing, equipment, and printing processes; and identifies additional costs or savings that may result from implementing a specific scenario.

C. Methodology

This project was conducted by Joan M. Pedersen and assisted by Linda S. Kovner, Public Administration Intern. Research activities included:

- Review of written policies, procedures, and guidelines controlling print shop operations for MCPS and the Executive Branch.
- Review of budgets, revenues, staffing, and expenditures for MCPS and Executive Branch print shop operations.
- Interviews with Council support staff; management and staff of Executive departments/offices (Office of Management and Budget and Department of Facilities and Services); and MCPS administrators and staff.
- Tours of the print shop operations of the Executive Branch and MCPS and of a private sector print shop.
- Surveys of Executive Branch and MCPS personnel in a sampling of departments, offices, and public schools to gather information on the level of service received from the in-house print shops.

D. Acknowledgements

The Office of Legislative Oversight (OLO) acknowledges the prompt and courteous cooperation received from the Executive Branch and MCPS. The print shop administrators and facilities management staff of both organizations contributed significantly toward the successful completion of this project.

III. DESCRIPTION OF THE EXECUTIVE BRANCH AND MCPS PRINT SHOP OPERATIONS

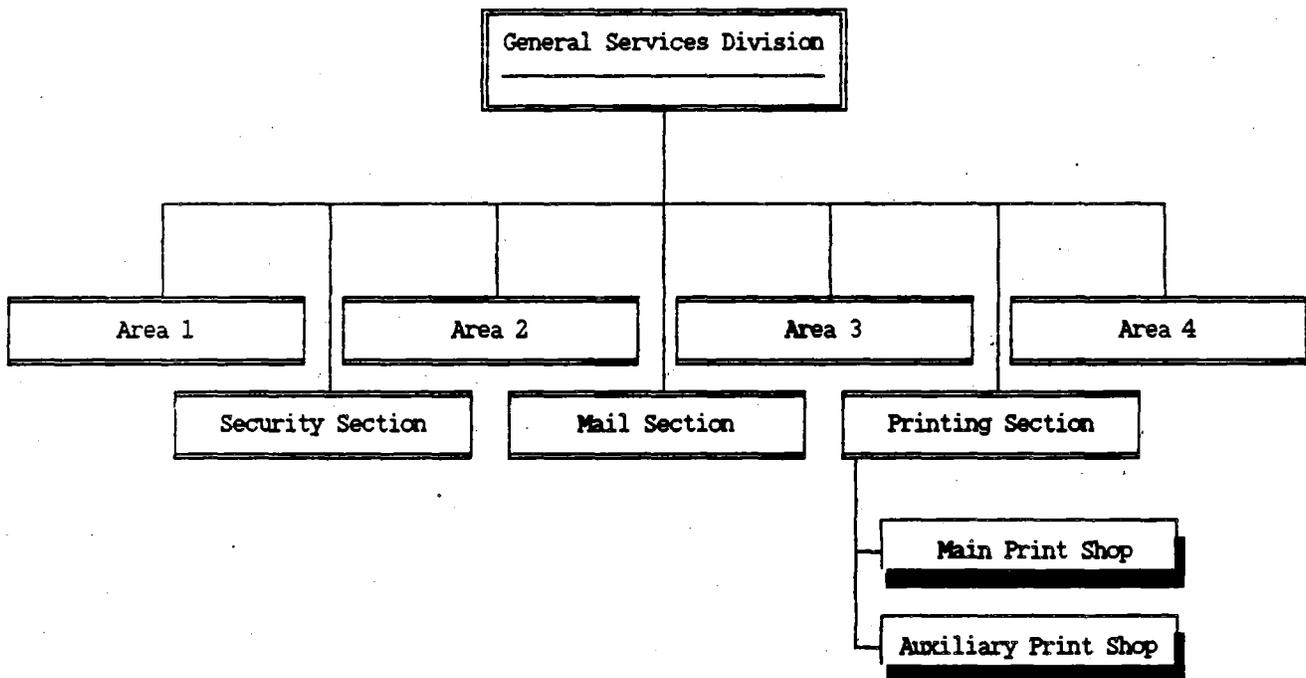
This chapter describes the organization, responsibilities, staffing, funding, physical resources, workloads, and service provided by the Executive Branch and MCPS print shops. The chapter also includes discussion of the equipment and printing capabilities of the print shop operations.

A. Executive Branch Print Shop

1. Organization: The Executive Branch Printing Section is organizationally located within the General Services Division of the Department of Facilities and Services. To more adequately serve the printing and duplicating needs of offices and departments, the Printing Section operates a main print shop and an auxiliary reproduction unit. Chart 1 shows the organizational placement for Executive Branch printing and duplicating activities.

Chart 1

Montgomery County Government
Organizational Placement of Printing and Reproduction Services
Within the Department of Facilities and Services



Source: FY94 Approved
Personnel Complement

2. **Location:** The main print shop is physically located on the terrace level (ground floor) of the Judicial Center at 50 Courthouse Square, and the auxiliary reproduction unit is located in the basement level of the Stella B. Werner Council Office Building at 100 Maryland Avenue (both locations are in Rockville).

3. **Responsibilities:** The Printing Section's auxiliary reproduction unit provides photocopying services needed by the departments and offices located in the Council Office Building (COB). The main print shop provides printing and reproduction services to all other offices and departments of the Executive Branch, and produces publications and documents that cannot be handled by the auxiliary reproduction unit. The print shop also provides printing services for fees to the Employees Credit Union and the Circuit Court. Revenues for printing services provided to these and other outside customers have totaled \$185,854 for the five year period FY89 through FY93, for an average of \$37,170 annually.

4. **Physical Resources:** Space occupied by the main print shop is approximately 7,100 square feet, including office, supply, and storage areas. The Mail Services Section (about 1,550 square feet) is located adjacent to the main print shop, and could be moved to accommodate expansion of the print shop, should the need arise. The Mail Services space is already equipped with reinforced floors and commercial grade electrical outlets that would accommodate print shop equipment.

5. **Print Shop Equipment:** The main print shop area houses six medium to high speed offset printing presses, four medium to high speed copy machines, one engineering print reproduction system, and a variety of folding, cutting, drilling, stapling, and binding equipment. (See full listing of Executive Branch equipment for the main print shop at ATTACHMENT A and descriptions of the equipment capabilities at ATTACHMENT B.) In addition, the auxiliary print shop operates one medium speed and one high speed copy machine and a stitcher machine for stapling documents.

The photocopy machines can produce copies of standard size pages in black ink (rather than color). Each of the printing presses can accommodate one color ink at a time, and must be cleaned thoroughly prior to using a different color. Providing additional colors in a document is more staff intensive, time consuming, and thus expensive, because each page of a document must again be passed through one of the printing presses to apply each additional color.

6. **Staffing:** Staffing levels for the Print Shop Section are determined and recommended by the Print Shop Manager in accordance with current turn-around times for print jobs, recent average backlog experience, and estimated future workload. The Printing Section is currently authorized a total of 18 full-time positions, and all positions are filled.* Seventeen positions are assigned to the Judicial Center location and one position is used to operate the auxiliary reproduction unit in the COB. Table 1 depicts the positions approved for FY94 for the Executive Branch Printing Section.

* As of January 1, 1994.

Table 1

Montgomery County Government
 Department of Facilities and Services
 Printing Section Positions for FY94

Position	Grade Assigned	Salary Range For Grade	# of Positions Approved FY94
Print Shop Manager	22	\$30,979-\$51,276	1
Principal Administrative Aide	13	\$20,822-\$33,289	1
Printer I	15	\$22,592-\$36,534	12
Printer II	16	\$23,559-\$38,280	3
Typesetter	16	\$23,559-\$38,280	1
Total full-time positions:			18

Sources: Montgomery County Government FY94 Approved Personnel Complement
 Montgomery County Government FY94 General Salary Schedule

The Print Shop Section is striving to provide efficient and high quality services to its customers during FY94 with a streamlined staff complement. The Section has been downsized by five positions in the last two fiscal years: two Printer II positions, one Printer I, one Typesetter, and one Micrographics Technician position. The positions were identified for deletion due to a number of factors:

- Since FY91, the Print Shop has experienced a 20 percent decrease in demand for printing services by departments and offices, and the trend is expected to continue indefinitely.
- The Print Shop acquired higher speed copy machines with more advanced capabilities, such as double sided copying and the ability to collate and staple or bind documents in a single operation.
- Since FY91, Print Shop staff have been re-evaluating printing requests, and when possible converting jobs to high speed copy application instead of full printing methods.
- In FY92, the Print Shop discontinued its micrographic operations (conversion of engineering prints, tracings, and drawings to film negatives) because of extremely low demand for the services.
- Many Executive Branch departments are now using either Word Perfect or desktop publishing applications to produce final documents that are suitable for printing or photocopying without the need for typesetting services.

7. **Funding:** The Printing Section is funded indirectly through the budgets of the various departments and offices. The operation is accounted for as an internal service fund, whereby the costs for printing and duplicating services are "charged back" to the department or office that requested the services. Under this chargeback system, appropriations are made as part of each department's operating expense budget in a special category entitled "Central Duplicating Services".

Throughout the year, expenditures are charged against the various departmental appropriations for printing and duplicating services in accordance with an approved printing services rate schedule. Each year, the Print Shop Manager calculates rates for the various services offered and includes the rate schedule as part of the Section's submission for budget consideration. During the year, printing requests are costed out and journal entries prepared to charge the various offices and departments. Table 2 below shows a five year expenditure history for the Executive Branch printing operation, and includes the combined history of the main print shop and the auxiliary reproduction unit.

Table 2

**Montgomery County Government
Department of Facilities and Services
History of Printing Section Expenditures**

	Actual FY90 \$	Actual FY91 \$	Actual FY92 \$	Actual FY93 \$	Budget FY94 \$
Printing Section	1,983,965	1,806,610	1,661,124	1,714,758	1,635,120
Workyears	23.0	23.0	23.0	21.0	18.0

Source: Department of Facilities and Services Print Shop Manager

Note: Expenditures shown in Table 2 represent the cost of printing operations, whereas the expenditures charged back to offices and departments may differ.

8. **Workload:** As mentioned previously, since FY91, there has been a 20 percent decrease in annual demand by Executive Branch departments and offices for print shop services. The day-to-day workload of the print shop is fairly stable throughout the year since there are few legislatively mandated priority printing jobs that must be accommodated. The busy times of the year occur near the end of July, when the property tax rate schedules need to be typeset and printed; mid-December to mid-January, when the Executive's recommended Capital Improvements Program is compiled and printed; and mid-February to mid-March, when the recommended operating budget document must be completed.

9. **Service:** Generally, an office or department may expect a turn-around time of from two to five days for printing services. However, delays due to backlogs occur throughout the year because departments often submit printing requisitions and request priority turn-around. The Print Shop Manager determines the priority status of various print jobs, and is striving to maintain high productivity for the Section and establish a reputation with departments for quality output and quick turn-around time for its customers.

10. **Customer Satisfaction:** As part of this study, OLO prepared a survey form and requested the Executive and Legislative Branches to distribute the form to its various offices and departments. The survey was designed to gather information from a representative sample of customers on the level of service provided by the Executive Branch primary print shop, including: the adequacy of turn-around time, product quality, courtesy extended to customers, and conformance of the product to expectations. In addition, the survey requested the customer to provide an overall rating and include any comments or suggestions on Executive Branch printing services. Table 3 shows survey results for the Executive Branch print shop. (A copy of the survey form is included in this report at ATTACHMENT C.)

Table 3

**Results of Customer Survey
on Executive Branch Print Shop Services**

<u>Category</u>	<u>Number of Responses by Grade Awarded</u>				
	<u>Excellent</u>	<u>Good</u>	<u>Average</u>	<u>Fair</u>	<u>Poor</u>
Adequacy of Turn-Around Time	25	11	0	0	0
Quality of Documents Produced	26	10	0	0	0
Courtesy Extended to Customers	29	7	0	0	0
Conformance of Product To Expectations	27	9	0	0	0
Overall Rating	30	5	1	0	0

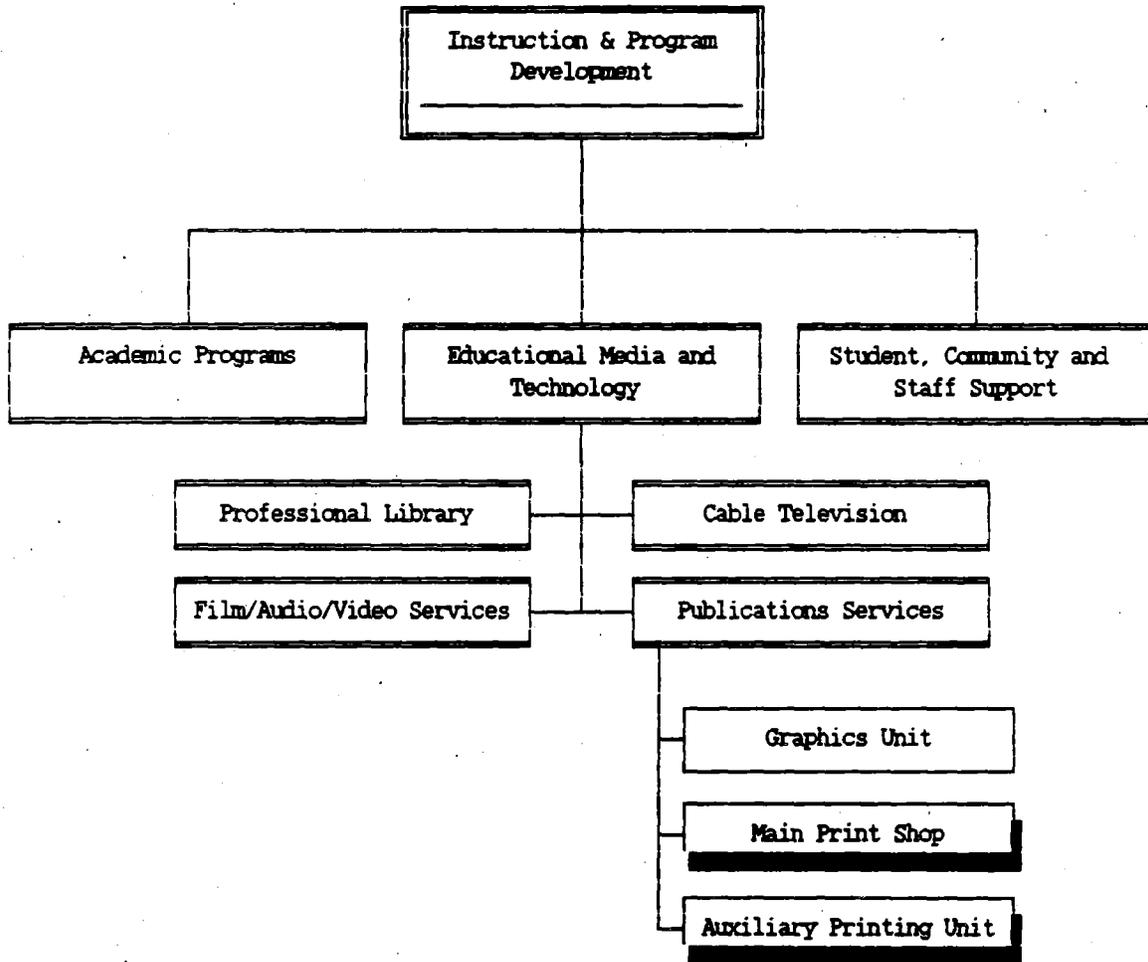
Each of the grades was assigned a numerical value of from one to five, with one being the lowest (Poor) and five being the highest (Excellent). Under this system, the average grade awarded by the 36 respondents to this survey was 4.76, and the majority of comments offered by customers praised the Executive Branch print shop for its outstanding product and the courtesy extended to its customers.

B. Montgomery County Public Schools Print Shop

1. **Organization:** For MCPS, graphics and printing operations are handled by the Publications Services unit which is organizationally located within the Department of Educational Media and Technology under the responsibility of the Associate Superintendent for Instruction and Program Development. To more adequately serve the printing and duplicating needs of the school system, Publications Services operates a main print shop and an auxiliary reproduction unit. Chart 2 shows the organizational placement for MCPS printing and duplicating activities.

Chart 2

Montgomery County Public Schools
Organizational Placement of Printing and Reproduction Services
Within the Department of Educational Media and Technology



Source: FY94 Approved
Personnel Complement

2. **Location:** The MCPS main print shop is located at 660 North Stonestreet (Lincoln Center), and the auxiliary central duplicating facility is located in the basement of the Carver Educational Services Center at 850 Hungerford Drive (both locations are in Rockville).

3. **Responsibilities:** The MCPS auxiliary reproduction unit provides short-run, fast turn-around duplicating or photocopying services to the departments and offices located at the Carver Educational Services Center. The main print shop provides printing and reproduction services to the various schools, and produces more complex publications and documents that cannot be handled by the auxiliary reproduction unit.

4. **Physical Resources:** The MCPS main print shop occupies about 9,000 square feet, including office, supply, and storage areas. This is approximately 64 percent of the space in the MCPS "J" Building located in the Lincoln Center on Stonestreet. Other occupants and uses of the building space include: MCPS energy management unit offices, security unit offices, space used for training of facilities support personnel, and storage of architectural plans. Realignment of the existing print shop area and reconfiguration of other uses of space in the building could provide additional space for use by the print shop, should expansion become necessary.

5. **Print Shop Equipment:** The main print shop area houses seven medium to high speed offset printing presses (including a small web press) and a variety of folding, cutting, drilling, stapling, and binding equipment. (See full listing of MCPS main print shop equipment at ATTACHMENT D and descriptions of the equipment capabilities at ATTACHMENT E.) In addition, the auxiliary reproduction unit operates two high speed copy machines located at the Carver Educational Services Center.

Five of the main print shop's printing presses can accommodate one color ink in a single pass. Providing additional colors on these presses is more time consuming and expensive because each page of a document must be passed again through a printing press to apply each additional color, and the press must be cleaned thoroughly before a different color can be used in the same press. Two other presses, the Hoshimoto and the web press, can print two colors with a single pass through the machine. With these machines, two different colors can be applied to one side of a sheet of paper as it passes through the press, or one color can be applied to each side of a sheet simultaneously.

6. **Staffing:** Staffing levels for print shop operations are determined and recommended by the Publications Services Supervisor in accordance with anticipated workload, shop and equipment capacities, and backlog. Excluding time devoted by the Publications Services Supervisor, the printing and reproduction operation is currently authorized a total of 15 full-time positions, all of which are filled.* Thirteen of the positions are assigned to the Stonestreet location and two positions are used to operate the auxiliary reproduction unit at the Carver Educational Center. Table 4 depicts the positions approved for FY94 and assigned to MCPS printing and reproduction operations.

* As of January 1, 1994.

Table 4

**Montgomery County Public Schools
Publications Services
FY94 Positions for Printing Operations**

Position	Grade Assigned	Salary Range For Grade	# of Positions Approved FY94
Printing Supervisor	20	\$31,803-\$52,370	1
Lithographic Platemaker/Stripper	16	\$26,187-\$43,052	2
Lithographic Camera Operator	16	\$26,187-\$43,052	1
Printing Equipment Operator I	14	\$23,982-\$39,079	2
Printing Equipment Operator II	16	\$26,187-\$43,052	4
Binding Equipment Operator I	11	\$21,216-\$33,782	2
Binding Equipment Operator II	14	\$23,982-\$39,079	1
Central Reproduction Assistant	10	\$20,363-\$32,217	2
Total full-time positions:			15

NOTE:

In addition to the positions shown in the table, the Publications Services Supervisor devotes approximately 50 percent of his time to printing operations.

Sources: Montgomery County Public Schools FY94 Operating Budget
Montgomery County Public Schools Salary Schedules as adjusted for longevity increases.

The Publications Services Supervisor is working to provide efficient and high quality services to customers through realignment of the workforce and adjustment of individual duties. During FY93, a policy of cross-training on various pieces of printing equipment was put into effect as an important step toward creating a well-rounded print shop workforce. Whenever possible, MCPS is also interested in obtaining efficiencies through acquisition of state of the art equipment which is less labor intensive. For the FY95 budget, the Board of Education has approved and requested of the County Council that two positions be eliminated and two positions be realigned to a higher grade. The positions recommended for deletion are: one Lithographic Platemaker/Stripper and one Binding Equipment Operator. The positions recommended for realignment are the two Central Reproduction Assistants, which would become Printing Equipment Operator I positions. MCPS believes realignment of these positions will broaden printing management options by allowing for rotation of these positions between the auxiliary and main print shops, as needed. As part of this proposal, updated printing equipment would be acquired.

7. **Funding:** Unlike the Executive Branch, the school system does not use a chargeback system to fund its printing operations, but has a centralized budget to control graphics, printing, and duplicating expenditures. Table 5 shows a five year expenditure history for MCPS printing and duplicating operations. The chart includes the combined history of both the main print shop and the auxiliary reproduction unit, but excludes personnel costs for the Publications Services Supervisor position.

Table 5

**Montgomery County Public Schools
Publications Services
History of Printing Unit Expenditures**

	Actual FY90 \$	Actual FY91 \$	Actual FY92 \$	Actual FY93 \$	Budget FY94 \$
Printing Services	1,161,623	1,229,441	1,043,858	1,157,063	1,152,346
Workyears	17.0	15.0	15.0	15.0	15.0

Source: Montgomery County Public Schools

8. **Workload:** The print shop produces school related documents, such as tests and curriculum materials; documents to meet state educational reporting requirements; and budget and other informational publications. Since FY90, MCPS departments, offices, and schools have increased demand for print shop services by 40 percent.

The day to day workload of the print shop is fairly stable throughout the year since there are few legislatively mandated priority printing jobs that must be accommodated. Peak periods generally occur before the school year begins and during budget preparation. The busy times of the year occur in August, when the school year begins; mid-October, when the Superintendent's requested Capital Improvements Program is printed; and mid-December, when the requested operating budget document must be completed.

9. **Service:** Generally, an office or department may expect a turn-around time of from two to five days for printing services. However, delays due to backlogs occur throughout the year because offices often submit printing jobs and request priority turn-around. The Publications Services Supervisor determines the priority status of printing requests, and often discusses scheduling with the various offices.

10. **Customer Satisfaction:** As with the Executive Branch, OLO requested the school system to distribute a survey form to its various offices and departments, and to include a representative number of schools in the distribution. The survey was designed to gather information from a sample of MCPS print shop customers on the level of service provided, including: the adequacy of turn-around time, product quality, courtesy extended to customers, and conformance of the product to expectations. In addition, the survey requested the customer to provide an overall rating and include any comments or suggestions on MCPS printing services. Table 6 shows survey results for the MCPS print shop. (A copy of the survey form is included in this report at ATTACHMENT C.)

Table 6

**Results of Customer Survey
on MCPS Print Shop Services**

<u>Category</u>	<u>Number of Responses by Grade Awarded</u>				
	<u>Excellent</u>	<u>Good</u>	<u>Average</u>	<u>Fair</u>	<u>Poor</u>
Adequacy of Turn-Around Time	32	2	0	0	0
Quality of Documents Produced	31	3	0	0	0
Courtesy Extended to Customers	32	2	0	0	0
Conformance of Product To Expectations	33	1	0	0	0
Overall Rating	33	1	0	0	0

Each of the grades was assigned a numerical value of from one to five, with one being the lowest (Poor) and five being the highest (Excellent). The average grade awarded by the 34 respondents to this survey was 4.95, and the majority of comments offered by customers praised the MCPS print shop for its outstanding product and the courtesy extended to its customers.

IV. OPTIONS FOR CHANGE

In this Chapter, OLO identifies and examines the feasibility of various options for changes to the MCPS and/or Executive Branch print shop operations. Four options for change are discussed and followed by a section that summarizes the major advantages and disadvantages associated with the various options. The Chapter is arranged as follows:

- A. Assign Specialties to the Agencies
- B. Physically Combine the Print Shops
- C. Organizationally Combine the Print Shops
- D. Outsource Print Shop Operations
- E. Advantages/Disadvantages of Options

(NOTE: The original scope of the feasibility study was to examine combining the print shops or assigning specialties. However, both agencies' print shops are predominately staffed with employees having many years of seniority with the County, and after discussion with County administrators, OLO agreed to review outsourcing as an option.)

A. Assign Specialties to the Agencies

Under the specialty scenario, distinct printing processes that are currently being performed by both agencies would be identified and assigned for exclusive production by one agency. As part of this scenario, duplicative equipment would be identified and either disposed of or moved to the agency performing the specialization. Assigning specialties would permit optimal use of any unique skills or resources but would require inter-agency cooperation.

OLO requested the print shop administrators to assist in determining whether any printing activities would be appropriate for specialization. As part of this exercise, the various processes and capabilities particular to each printing operation were identified, as shown in Table 7.

Table 7

**Printing and Photocopying Services Available
Through MCPS and Executive Branch Print Shop Operations**

<u>Process</u>	<u>MCPS Shop</u>	<u>Executive Shop</u>
*Typesetting	Graphics shop	Main print shop
Platemaking	Main print shop	Some capability
Printing (one color press)	Main print shop	Main print shop
Printing (two color press)	Main print shop	No special press for this
Printing (two-sided)	Main print shop	No special press for this
Photocopying	Auxiliary	Main shop and Auxiliary
*Engineer prints (reproduction)	Construction	Main print shop
Perfect Binding	Main print shop	Main print shop
Plastic Binding	No capability	Main print shop
Cutting	Main print shop	Main print shop
Collating	Main print shop	Main print shop
Numbering in sequence	No capability	Main shop to acquire
Drilling (hole punching)	Main print shop	Main print shop
Padding (notepads, etc)	Main print shop	Main print shop
Folding	Main print shop	Main print shop
Stitching (stapling)	Main print shop	Main print shop
Jogging	Main print shop	Main print shop

* MCPS does not have typesetting equipment in its print shop since the Graphics Unit uses desk top publishing software to create any camera-ready copy needed for printing or photocopying. In addition, the MCPS Construction Unit has equipment and is responsible for reproduction of engineering prints.

Front-End and Follow-On Activities

Of the processes shown in Table 7, typesetting and platemaking are front-end activities that are sometimes performed prior to photocopying or printing, whereas collating, drilling, folding, stitching, jogging, padding, and binding are generally follow-on or finishing activities that may be performed after printing or photocopying has been completed. None of the finishing activities are particularly favorable candidates for specialization because partially completed jobs would need to be packed and transported to a second location for final processing. Any efficiencies in staff time gained from specializing these activities in one location would be more than offset by additional costs for staff time required to package and transport the partially completed jobs to the second location for final processing.

It appears that specialization of the finishing activities would not generate positive benefits since concentration of the activities in one location may create unintended side effects and negatively impact turn-around time. The need to package and transport partially finished jobs would divert resources from other printing activities, and upon arrival at the second location, each finishing job would have to compete for priority among the jobs on hand and in process at the second location.

Activities Requiring Special Skills or Expertise

In addition to processes or activities common to both print shops, a special skill or expertise is sometimes required to operate the equipment necessary to perform some of the front-end activities. Front-end activities identified as requiring special skills offered through the MCPS print shop include the production of lithographic negatives and lithographic stripping and platemaking. These services are used for creating plates and masters that are then used in the printing presses to produce high quality impressions.

A photographic paper master is generally created and used for short printing runs of up to 1,000 copies, while a plastic polyester master is created for use when more than 1,000 copies are needed. These types of masters are not reusable, and are disposed of after use. A metal plate is used mainly for the highest quality printing jobs where 5,000 to 10,000 copies are needed, and the master can be kept on hand for future reprints.

The Executive Branch print shop creates its own photographic paper or plastic polyester masters and often uses contracted services (\$35,000 in FY94) whenever metal plates are needed. Since MCPS is equipped with the capability to provide these platemaking services, the Executive Branch Print Shop Manager has suggested redirecting the work to the MCPS print shop. Thus, the MCPS print shop would be the specialty unit for providing this service for both agencies.

The Executive Branch identified typesetting as a special skill or expertise available through its print shop. These services are used for making last minute corrections to text before printing, applying various formats and type styles to condense lengthy documents to fewer pages, and creating camera ready copy suitable for printing or photocopying. MCPS accomplishes these activities through desktop publishing software in its graphics unit and does not have need for typesetting services.

Engineering Print Reproduction and Numbering in Sequence

Other processes performed by one or both agencies identified as distinct activities are engineering print reproduction and numbering of documents in sequence. These are specific processes that can be accomplished without requiring follow-on activities and are likely candidates for specialization.

Numbering in sequence is generally applied to forms or documents for the purposes of internal control and tracking of assets. Neither main print shop operation currently has the equipment to provide this service, but the Executive Branch print shop will acquire such equipment during FY94.

MCPS currently uses contracted services whenever sequential numbering is needed for forms or documents. Since the Executive Branch print shop will be equipped with the capability to provide these numbering services, the MCPS Publications Services Supervisor has suggested redirecting the work to the Executive Branch print shop. Thus, the Executive Branch print shop would be the specialty unit for providing this service for both agencies.

Although the Executive Branch print shop prepares engineering print reproductions on behalf of the agency's offices and departments, the MCPS print shop does not offer this service. At MCPS, engineering print reproduction equipment is located within the construction unit of the facilities management activity and engineering prints are copied by unit personnel as needed. However, when a large number of copies are needed for bidding purposes, private print shops are used. This work may amount to as much as \$50,000 in one year, and could be diverted to the Executive Branch as the designated printing unit to provide this service for both agencies.

Photocopying and Printing Activities

Photocopying and printing are the remaining processes to be considered for specialization. MCPS has already achieved specialization between its photocopying and printing processes within its agency by separating the activities between two different locations. All printing and binding services are conducted at the Stonestreet location and all high-speed photocopying is performed at the auxiliary reproduction unit in the Carver Educational Services Center. Therefore, specialization of the high-speed photocopying process within one agency would not generate any additional efficiencies for either print shop operation.

Both agency printing presses can print in one color or two colors and produce two-sided documents on various size papers. The MCPS print shop is equipped with the capability to perform any of these processes in a single pass through a printing press, whereas the Executive Branch produces two-color and two-sided documents by two passes through a printing press.

Both print shop operations efficiently handle the standard sizes of paper (8 1/2 by 11 and 11 by 14). In addition, the capabilities of the printing presses at each main print shop were found to handle sizes of paper specific to the needs of the particular agency. MCPS consciously designs its documents with a view toward optimal utilization of its print shop equipment, so there is no demand for the extended capabilities that may be available through the Executive Branch print shop. As a result, the inventory of presses located at the two print shops are somewhat diversified in capability, and there is little duplication of equipment.

The MCPS print shop has two printing presses that could be used for more efficient production of Executive Branch documents (two-color printing in one pass and two-sided printing in one pass). With only two presses having these capabilities, there is minimal opportunity for MCPS to accept extra work from the Executive Branch print shop. While there may be some opportunity for redirecting MCPS single-color and single-sided printing jobs to the Executive Branch print shop, it is questionable whether complete specialization of the any of the printing press processes would produce significant efficiencies for either agency.

Conclusion

- There is limited opportunity for assigning specialties to either the MCPS or Executive Branch print shops for printing or binding processes. However, specialization of numbering in sequence and engineering print reproductions at the Executive Branch print shop and metal platemaking at the MCPS print shop could save the County approximately \$85,000 annually, and should be further pursued.

B. Physically Combine the Print Shops

Since the MCPS and Executive Branch print shops may be combined physically without being combined organizationally, the two possibilities will be discussed in separate sections of this report. This section of the report concentrates on issues related to physical combining, and the next section contains discussion of organizational combining.

Under the physical combining concept, equipment and personnel of both the Executive Branch and MCPS primary print shops would be brought together in one location. Organizational changes would not necessarily be required, and full responsibility for employees could remain within the respective agencies. Responsibility for acquiring supplies, and the maintenance, repair, and replacement of equipment could either remain within the respective agencies or could be shared. If physical combining is pursued without organizational combining, current supervision and operation of the auxiliary printing units at the Carver Educational Center and the Council Office Building would remain unchanged.

Personnel Issues

If the two primary print shops are physically combined at one location, but remain organizationally separate, personnel from both agencies would simply be co-located at a common site. Both the MCPS printing group and the Executive Branch printing group would continue to operate within the personnel rules and regulations particular to their respective agencies.

Although each group would work independently, some opportunities would undoubtedly arise to encourage cooperation between the two agencies. Because the equipment of one agency either duplicates or compliments the equipment of the other agency, each independent printing operation could sometimes benefit from the availability of the additional equipment or personnel resources of the other group.

For instance, printing is generally performed at a much higher rate than binding, stapling and other finishing processes, so the availability of additional finishing equipment may help relieve bottlenecks in workflow. At times it may also be agreed that one agency could use the personnel resources of the other organization for a high-priority rush printing job, in lieu of authorizing overtime. Thus, both agencies would stand to benefit from cooperating in scheduling of equipment usage and establishing workflow priorities.

Working Arrangements

Currently each agency's primary print shop operates five days per week, Monday through Friday. Some employees of the Executive Branch print shop work flex hours so the print shop is actually operating from 7:30 a.m. through 5:00 p.m. each day. All employees in the MCPS printing group work one set shift that begins at 7:30 a.m. and ends at 4:00 p.m. each day. Employees of the two print shops do not currently operate under flex-week arrangements. If combined, the current days and hours of operation could be maintained or the workdays and/or workhours of one or both agencies could be adjusted to better utilize personnel resources and combined equipment.

Adjustments in workdays or workhours would benefit both agencies since there would be scheduled times when each agency would have the combined printing and finishing equipment available for exclusive use. In addition, the agencies could enter cooperative agreements where overlapping workdays/workhours would provide opportunities for "borrowing" personnel resources to assist with timely completion of rush printing jobs.

If the work week for one or both printing operations were modified to include a weekend day, then printing services would not be available one day during the agency's normal Monday through Friday work week when the rest of the agency would be open. If this modified work week were combined with an extended work day (i.e. ten hour shifts, four days per week), then printing services would not be available two days during the normal work week for the rest of the agency.

The unavailability of printing services on one or two days during the Monday through Friday work week would inconvenience both agencies' offices and departments and possibly offset any efficiencies in turn-around time gained from having exclusive access to combined equipment or from "borrowing" personnel. Establishing a modified work week would require current print shop employees to adjust their personal schedules, since they are not normally required to work on weekend days. Moreover, imposing an extended workday may prove undesirable because of physical demands associated with the duties required of print shop employees.

Another possibility would be a working arrangement whereby one agency operates a Monday through Friday day shift and the second agency operates a separate evening shift. However, this arrangement may not be the most financially viable or efficient option for staffing a combined printing operation. Although both agencies would benefit from the availability of additional equipment, there would be no opportunities for "borrowing" personnel resources when needed.

While the Lincoln Center location has some security procedures in place, the site is somewhat isolated and may require placement of enhanced security measures to support an evening shift. Additional costs would also be incurred for shift differential pay ranging from \$.50 to \$1.10 per hour for those employees working the evening shift. (Differential pay for MCPS employees is calculated as five percent of the hourly wage for shifts that begin after 2:00 p.m.; and for the Executive Branch, the differential is \$.75 additional pay per hour for shifts that begin after 3:30 p.m.).

Use of overlapping workhours for the two shifts would be a more flexible alternative. For instance, the first shift could begin as early as 6:00 a.m., with the second shift beginning three to four hours later. Thus, the second shift would end no later than 7:00 p.m., so shift differential pay would not be incurred by either agency, and enhanced security may not be an issue since the last shift would end in the early evening.

With this arrangement, both agencies would have the combined printing and finishing equipment available for exclusive use during a three to four hour period of time each day. Also, during the periods of workforce overlap, the agencies would be able to schedule the work cooperatively as needed to utilize the combined workforce most efficiently.

Space Issues

As mentioned previously in this report, the Executive Branch primary print shop occupies approximately 7,100 square feet in the Judicial Center in Rockville. The MCPS primary print shop occupies approximately 9,000 square feet in the Lincoln Center complex in Rockville.

If the Executive Branch print shop were to be moved from its current location, an auxiliary printing unit should remain at the Judicial Center site to provide fast turn-around photocopying service to the many adjacent Executive Branch and Circuit Court offices. If the photocopiers were to remain at the current site, and the printing presses and finishing equipment were moved to a new location, approximately 3,500 square feet would be needed to accommodate the equipment that would be moved.

If the MCPS print shop were to be moved from its current location, new space equivalent to the current 9,000 square feet would be required to house the MCPS equipment. All high-speed photocopying is already performed at a different location, and there would be no need to retain any printing capability at the Lincoln Center complex.

It is not likely that the two print shops could be combined at the Judicial Center location. Physical expansion of the Executive Branch primary print shop area would be limited to the 1,550 square feet of space currently occupied by the Mail Services Section. This limited additional space would not be adequate to house the equipment to be moved from the MCPS print shop.

However, the building in which the MCPS primary print shop is located could possibly be reconfigured or expanded to accommodate a combined print shop operation. The building is approximately 14,000 square feet and, aside from the print shop, currently houses the energy management unit, security offices, a training unit for facilities management personnel, and storage for architectural and engineering drawings. It may be possible to relocate some of these functions and reconfigure existing space to allow for expansion of the current print shop area that would accommodate a combined print shop. If necessary, the building could be expanded without disruption to the site.

The remaining and least desirable option for co-locating the Executive Branch and MCPS printing operations would be to move equipment of both print shops to a third site that would be relatively convenient to both agencies. Space required for this option would be 12,500 square feet (3,500 square feet for Executive Branch equipment and 9,000 square feet for MCPS equipment). This option would be the least financially desirable because the County would need to rent space to house the combined print shop, whereas space is already owned at the Judicial Center and Stonestreet locations.

Equipment Issues

Under the physical combining concept, most printing and finishing equipment of the Executive Branch would be co-located with MCPS print shop equipment, either at the MCPS Lincoln Center site or at a yet unidentified location. Since equipment of one agency either duplicates or compliments the equipment of the other agency, each operation should benefit from the availability of the additional equipment. For those equipment pieces identified as duplicative, the printing operations administrators should collaborate to determine which equipment should be retained to improve efficiency for both agencies, and whether any equipment should be declared surplus.

The ideal arrangement would provide for both agencies to have the combined printing and finishing equipment available for exclusive use during a portion of each work day. Responsibility for acquiring supplies, and the maintenance, repair, and replacement of equipment may remain within the respective agencies or may be shared.

Cooperative use of the equipment is less likely if spending authority for repair and replacement of equipment is budgeted within the separate agencies. The advanced age of much of the equipment, when combined with shared use, could create disagreements over responsibility for repair costs. In addition, since both operations would be using all the printing and finishing equipment at times, the administrators of both agencies should collaborate to determine the most appropriate acquisitions when equipment is to be replaced.

Creation of a Non-Departmental Account (NDA) may provide the appropriate vehicle to serve as a centralized fund for repair and replacement of the combined print shop equipment and discourage print shop employees from adopting a parochial attitude toward use and ownership of the equipment. Under this scenario, Executive Branch and MCPS print shop administrators would be required to jointly participate in decisions relating to combined equipment needs and exercise shared authority to expend funds from the NDA account.

Accounting for Executive Branch printing services is accomplished through a chargeback system where the costs of printing and central duplicating services are budgeted within each office or department. When departments use printing services, the print shop staff prepares journal entries to "chargeback" the cost of the printing services against the appropriations of the various user departments. Equipment repair and replacement costs are factored into the calculations to arrive at chargeback rates for the various printing services, and use of a shared account to fund equipment repair and replacement costs would complicate the continued use of the chargeback system.

Currently, the Principal Administrative Aide position assigned to the Executive Branch printing operation is almost exclusively devoted to managing the chargeback system and preparing the journal entries. The Financial Accounting Management Information Systems (FAMIS) upgrades that are planned for the County may eventually be used to automatically charge back printing services to the various offices and departments. However, if the chargeback system is to be continued, the process should be totally reengineered to use the on-line FAMIS capabilities to full advantage.

While focus on reengineering the chargeback system may be recognized as important, resources may not be available for the next two or three years to concentrate on review of the process. Until such time as adequate resources can be channeled to design a printing chargeback system that utilizes the on-line capabilities of the upgraded FAMIS, consideration should be given to suspending the chargeback system and centrally budgeting for printing services. If printing services are centrally budgeted, the position currently handling the chargebacks would no longer be needed in the printing section and could be redeployed to another section or division within the Department of Facilities and Services.

Cost-Benefit Analysis

This section of the report identifies and summarizes any costs or cost savings that may result from co-locating the MCPS and Executive Branch primary print shops at a single location. Costs shown have been estimated within parameters of the following assumptions:

1. The two possibilities for sites are: expansion of the Lincoln Center space currently occupied by the MCPS print shop, or rental of space sufficient to house a combined print shop.
2. If either the Lincoln Center location or rented space were to be selected for a combined print shop operation, the Executive Branch would continue to occupy approximately half of the existing space at the Judicial Center as an auxiliary high-speed photocopying unit.
3. The County could save approximately \$85,000 by using the combined equipment for in-house numbering in sequence, platemaking, and engineering print reproduction. Savings represent work that is currently provided by outside vendors (for more details, refer to the section, Assign Specialties to Agencies, beginning on page 12 of this report).

If printing operations were co-located at a common site, there would be one-time costs associated with moving and rearranging equipment, and expanding the existing space (if a County-owned site is selected). If other than County-owned space were selected, then annual rental costs would be incurred. Aside from these considerations, some other annual operating costs may be incurred or savings realized from co-locating the print shop equipment and personnel. These amounts are estimated as follows:

One-Time Costs

	Site of Co-Location	
	Lincoln Center	Leased Space
General moving and rearranging of equipment	\$1,000-\$1,500	\$2,500-\$3,500
Moving, rearranging, and setting up for equipment that requires special handling	\$1,500-\$4,500	\$4,500-\$6,500
Upgrade electrical access and/or add outlets	\$5,000	Unknown
Reinforce concrete flooring	\$5,000	Unknown
Renovate to accommodate expansion of existing print shop space	Unknown	N/A
OR - expand building (approximately 2,000 sq. ft. at \$60 to \$80 per sq. ft.)	\$120,000 to \$160,000	N/A

Annual Operating Costs (Savings)

	Executive Branch Budget	MCPS Budget
Lease space for combined print shop operation if non-County-owned site is selected. (Assumes the Executive Branch would occupy 3,500 sq. ft. and MCPS 9,000 sq. ft. at \$9-\$12 per sq. ft.)	\$31,500-\$42,000	\$81,000-\$108,000
Rental cost for offices possibly displaced by expansion of existing County-owned space for combined print shop use. (Assumes 3,500 sq. ft. of office space displaced at \$16-\$20 sq. ft.).	N/A	\$56,000-\$70,000
Pay differential if Executive Branch were to operate an evening shift beginning after 3:30 p.m. or MCPS were to operate an evening shift beginning after 2:30 p.m.	\$14,000	\$29,000
Eliminate use of outside vendors for platemaking, numbering in sequence, and engineering print reproduction services.	(\$35,000)	(\$50,000)
Reduce Executive Branch overtime costs by about half if overlapping shifts are instituted.	(\$5,000)	N/A
Eliminate position that manages the Executive Branch printing chargeback system (assumes incumbent could be placed in a vacant position elsewhere in the agency).	(\$38,000)	N/A
Possible transfer of Typesetter position to Graphics Section [would result in cost savings to the department but not the County overall unless placed in a vacant position].	[\$39,000]	N/A

Other Benefits

Some benefits that may be derived from combining the Executive Branch and MCPS print shops at a single location would be measured in terms of efficiency or turn-around time, rather than dollars. For instance, overlapping shifts would allow for "borrowing" of personnel, which may someday translate into smaller workforce requirements or faster turn-around for completion of printing requests. Due to combining, duplicate equipment may be designated as surplus (either sold or retained for backup purposes), and therefore never replaced.

Conclusions

- It appears that both the Executive Branch and MCPS would derive benefits from co-locating their primary print shop operations. Two Monday through Friday overlapping shifts would provide periods of time each day when the combined equipment would be available for exclusive use by each agency. Thus, each agency would benefit from the enhanced production possibilities and efficiencies due to the availability of additional equipment. In addition, rush printing jobs may be more manageable within normal work hours because "borrowing" of personnel would be possible during periods of workforce overlap.
- There is space owned by the school system and centrally located in Rockville that may be sufficient to accommodate a combined print shop operation, whereas adequate space is not available adjacent to the Executive Branch print shop in the Judicial Center. Co-locating the Executive Branch printing operation with the MCPS print shop in the MCPS-owned space would vacate approximately 3,500 square feet of prime space in the Judicial Center, which could then be used for other purposes.
- If combined, a method should be devised whereby both agencies would participate in equipment repair and replacement decisions. A Non-Departmental Account may be an appropriate mechanism to centralize funding for these joint decisions.
- Centralized budgeting for printing equipment repairs and replacements for the two agencies would complicate the chargeback system that is currently employed by the Executive Branch to account for printing services. Management of this chargeback system is labor intensive and the process should be reengineered to use the on-line processing capabilities of the upgraded Financial Accounting Management Information System (FAMIS) that is planned for installation during FY95. Until such time as the process can be studied and reengineered, consideration should be given to suspending the printing chargeback system and establishing a centralized budget for printing services.

C. Organizationally Combine the Print Shops

The primary print shops of both the Executive Branch and MCPS are staffed by mature workforces in years of service. Tables 8 and 9 at pages and 22a and 22b show the current print shop positions and years of service for incumbents of each agency. For the Executive Branch, the years of service range from 5.1 to 27.5, with 17.1 years as an average. For MCPS, the range is 16.1 to 28.1, with 23.0 years on average. The maturity of the two workforces may present opportunities for organizationally combining the two printing operations to achieve personnel and equipment efficiencies.

Table 8

Executive Branch Print Shop Operation
Positions and Years of Service
As of January 1, 1994

<u>Starting Date</u>	<u>Years</u>	<u>Position</u>
22-June-66	27.5	Print Shop Manager
05-Sept-78	15.3	Principal Administrative Aide
14-May-90	3.6	Typesetter
14-Oct-68	25.2	Printer II
23-Nov-70	23.1	Printer II
13-Nov-72	21.1	Printer II
03-Aug-70	23.4	Printer I
16-Aug-71	22.4	Printer I
26-Oct-72	21.2	Printer I
18-Dec-73	20.1	Printer I
11-Feb-75	18.9	Printer I
23-Nov-77	16.1	Printer I
03-Jan-78	16.0	Printer I
*09-Apr-79	14.7	Printer I
06-Aug-79	14.4	Printer I
04-Sept-79	14.3	Printer I
14-Nov-88	5.1	Printer I
21-Nov-88	5.1	Printer I

* Position assigned to the auxiliary photocopying unit located in the Council Office Building.

Source: Executive Branch Department of Personnel.

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Table 9

MCPS Print Shop Operation
Positions and Years of Service
As of January 1, 1994

<u>Starting Date</u>	<u>Years</u>	<u>Position</u>
01-July-66	27.5	Supervising Printer
15-Nov-65	28.1	Lithographic Camera Operator
02-Oct-67	26.3	Lithographic Platemaker/Stripper
26-Aug-66	25.4	Lithographic Platemaker/Stripper
12-Aug-68	25.4	Printing Equipment Operator II
16-Sept-68	25.3	Printing Equipment Operator II
17-Apr-72	21.7	Printing Equipment Operator II
04-Mar-74	19.8	Printing Equipment Operator II
03-Sept-74	19.3	Printing Equipment Operator I
13-Nov-77	16.1	Printing Equipment Operator I
29-Jan-75	18.9	Bindery Equipment Operator II
27-Aug-68	25.4	Bindery Equipment Operator I
27-Aug-73	20.4	Bindery Equipment Operator I
*19-Jan-78	16.0	Central Reproduction Assistant
*23-Jan-83	10.9	Central Reproduction Assistant

* Positions assigned to the auxiliary photocopying unit located at the MCPS Carver Educational Services Center.

Source: Montgomery County Public Schools, Publications Services.

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Under the organizational combining concept, either the Executive Branch or MCPS would be responsible for an enlarged print shop operation that would service both agencies. This would entail the transfer of responsibility for employees and equipment from one agency to the other. The scenario may also include physical combining or reconfiguration of the existing primary print shops. However, high-speed photocopying services should be continued by the Executive Branch at the Judicial Center and the Council Office Building locations and by MCPS at the Carver Educational Services Center to accommodate the fast turn-around printing needs of the many offices and departments adjacent to the locations.

Organizational Considerations

Both MCPS and the Executive Branch already have printing operations management in place: as part of the Publications Services unit in MCPS and as the Printing Section in the Executive Branch. Either MCPS or the Executive Branch could organizationally accommodate management of printing services for both agencies without adding administrative or support staff. However, it is unlikely that cost savings or operating efficiencies would be derived unless the personnel and equipment were also co-located or combined into a single operation.

Executive Branch as Receiving Agency. The MCPS Publications Services Supervisor manages both a graphics unit and the MCPS printing operations. Responsibilities assigned to this position include determining priorities and routing of printing requests to the primary print shop and the central duplicating unit (high-speed photocopying). If printing services were centralized within the Executive Branch, then sufficient personnel to operate the photocopying unit should be retained by MCPS at the Carver Educational Services Center (currently two positions). In addition, the Publications Services Supervisor position should be retained by MCPS to supervise the central duplicating and graphics units and to determine priorities and routing for printing requests.

However, the personnel (13 positions) and all equipment located in the MCPS primary print shop would be considered for transfer to the Executive Branch. Of these positions, it is not likely that the Printing Supervisor position would be needed by the receiving agency. The Executive Branch already has a Print Shop Manager position that could adequately supervise an expanded printing operation on behalf of the two agencies.

MCPS as Receiving Agency. The Executive Branch print shop manager supervises the agency's primary print shop and an auxiliary photocopying unit in the Council Office Building, and is responsible for setting printing priorities. If printing operations were combined within MCPS, then sufficient personnel to operate high-speed photocopying units should be retained by the Executive Branch at the Judicial Center (approximately five positions) and the Council Office Building (currently one position). In addition, the Print Shop Manager position should be retained by the Executive Branch to manage the two photocopying units and to determine priorities and routing for printing requests.

Eleven Executive Branch positions would remain eligible for transfer to a centralized MCPS printing operation. However, two of the Executive Branch positions should be re-evaluated to determine whether there would be a need for the positions within the MCPS organizational and accounting structures. The two positions are: Principal Administrative Aide (PAA) and Typesetter I.

Accounting for the Executive Branch printing operation is currently managed as a chargeback system, while accounting for MCPS printing services is centrally budgeted. Unless MCPS were to institute a printing chargeback system, the PAA position whose time is primarily devoted to managing the Executive Branch printing chargeback system would not be needed within MCPS as the receiving agency. Under this assumption, the Executive Branch printing chargeback system would be discontinued and the PAA position would be redeployed either within the Department of Facilities and Services or to another department of the agency.

In addition, the Executive Branch would need to examine whether to keep or transfer its Typesetter I position and associated equipment. MCPS creates camera-ready copy within its graphics unit through desktop publishing software and does not have need for typesetting equipment. Thus, the Typesetter I position and associated equipment should be retained by the Executive Branch and assigned either to the auxiliary duplicating unit at the Judicial Center or to the Graphics Section within the Office of Public Information.

Reductions--In--Force

The preceding discussion has included an assessment of positions that may be retained by either MCPS or the Executive Branch if responsibility for printing services were to be centralized within one of the two agencies. References have also been made to positions eligible for transfer to the receiving agency. However, there is currently no mechanism for transferring positions between County agencies, and these "transfers" would technically require abolishing the positions in one agency and creating like positions in the receiving agency.

Each agency would have the option to place incumbents of abolished positions into equivalent vacancies within the agency. However, there would be few opportunities for redeploying most incumbents within an agency because of the specialized work experience of printers, bindery operators, and platemakers.

In most instances, like positions would be created within the receiving agency and a plan could be pre-arranged whereby the receiving agency would accept the current incumbents into the comparable positions. This option could be made available to those employees that do not choose to retire; because of the mature workforce of the two agencies, full or early retirement would clearly be an option for many of the incumbents if terminated from County employment.

There are certain circumstances enumerated in collective bargaining agreements and current personnel regulations of both agencies that allow terminated employees to retire early with an enhanced benefit, even if re-employed in the same or similar capacity by the receiving agency. For those employees that would not have the years of service necessary to retire early, there would be guaranteed employment either as redeployed within the current agency or in the printing operations within the receiving agency.

If the Executive Branch were to be the receiving agency, 12 new positions would be created in that agency and 13 MCPS positions would need to be abolished (two positions would be retained by MCPS to operate the photocopying unit). If MCPS were to be the receiving agency, nine new positions would be created in that agency and nine Executive Branch positions would need to be abolished (seven positions would be retained by the Executive Branch to manage and operate the auxiliary photocopying units, another position could also be retained for the photocopying unit or redeployed to the graphics unit, and one position would be redeployed). These dispositions are summarized as follows:

Executive Branch as Receiving Agency

<u>Current MCPS Position</u>	<u>Comparable Executive Branch Position</u>
1 Supervising Printer	None - MCPS to abolish and redeploy
1 Litho Camera Operator	Create new class for 1 position
2 Litho Platemaker/Stripper	Create new class for 2 positions
4 Printing Equip Operator II	Add 4 Printer II positions
2 Printing Equip Operator I	Add 2 Printer I positions
1 Bindery Equip Operator II	Add 1 Printer II position
2 Bindery Equip Operator I	Add 2 Printer I positions
2 Central Reproduction Asst	N/A - Positions needed by MCPS

15 positions total

Summary of disposition:
 13 positions abolished
 2 positions retained

12 positions created

MCPS as Receiving Agency

<u>Current Executive Branch Position</u>	<u>Comparable MCPS Position</u>
1 Print Shop Manager	N/A - Position needed by Executive Branch
1 Principal Admin Aide	None- Executive Branch to redeploy
1 Typesetter I	None- Executive Branch to retain or redeploy
3 Printer II	Add 3 Printing Equip Operator II positions
12 Printer I	Add 6 Printing Equip Operator I positions
	6 positions needed by Executive Branch

18 positions total

Summary of disposition:
 9 positions abolished
 9 positions retained

9 positions created

By mid-FY95, 50 percent of the existing workforce of the Executive Branch printing operations will have twenty or more years of service with the County. For the MCPS printing operations, 54 percent will have 25 or more years of service. Consolidation of printing operations personnel within either agency could result in as few as five, or as many as seven employees that would be eligible to select early retirement. When employees are terminated and choose early retirement, the Executive Branch is responsible for paying the applicable early retirement penalties into the pension fund on behalf of the employees. The estimated cost to the County for five early retirements would be \$850,000.

MCPS does not pay early retirement penalties on behalf of its employees. However, there is an early retirement program in place that compensates employees from 20 to 60 percent of final salary, depending on the number of years the employee retires early. In addition, MCPS continues its medical plan contributions for a period of time. The cost to MCPS for the early retirement benefits and medical plan payments would be approximately \$150,000 to be paid out over five years.

Phase-In

The main print shop operations of the Executive Branch and MCPS could be organizationally combined within either agency through attrition. As vacancies occur due to retirements or normal turnover, the positions would be abolished in one agency and created in the receiving agency. With this plan, reductions-in-force and early retirements would not occur and the County would not be liable for retirement incentives or pension fund contributions for penalties.

Equipment could be immediately transferred to the receiving agency in order to establish a centralized printing facility. However, managerial responsibility for personnel would be transferred over time. Careful coordination between the two agencies would be necessary to ensure a smooth transition.

Working Arrangements, Space Issues, and Use of Equipment

Working arrangements, space issues, and equipment were fully discussed in the previous section of this report (Combining Physically). Most of that discussion is also applicable under an organizational combining. Aside from issues of optimal use of personnel and equipment through shift assignments, the donating agency should be ensured of a working arrangement where a team of staff is designated to handle their printing needs. This team would be responsible for producing any high priority or confidential documents needed by the donating agency.

Possible working arrangements include:

A single eight-hour shift for all employees where a priority team is established to concentrate on the rush printing jobs and/or confidential documents of the donating agency, or

Two separate shifts (daytime and evening) with each assigned responsibility for fulfilling the printing needs of one of the agencies, or

Two overlapping shifts where each shift is assigned responsibility for fulfilling the printing needs of one of the agencies, and personnel can be "borrowed" to assist with rush printing requests.

Conclusions

- Either agency has the management capability to operate a centralized print shop to service the needs of both agencies.
- If organizationally combined, each agency should maintain and manage auxiliary photocopying units at the Carver Educational Services Center, Judicial Center, and Council Office Building.
- Currently, no provisions exist to allow for transferring of positions between County agencies, and several employees would be eligible for early retirement benefits if terminated by the donating agency, even though like positions would be available to them in the receiving agency.
- Organizational combining as a single action is estimated to cost either the Executive Branch \$850,000 in early retirement penalties or MCPS \$150,000 in retirement incentives, whereas a phase-in approach could be accomplished as attrition permits to lessen or avoid these costs.
- If printing operations are centrally managed by one agency, the donating agency should be assured printing staff dedicated to handle its rush printing jobs and confidential documents.

D. Outsource Print Shop Operations

Another possibility for the two agencies to obtain printing services for offices and departments would be through contracting with private vendors. There are two possibilities for outsourcing print shop operations: either contract with one or more private companies to provide printing services to the County, or contract for management and staffing of County facilities using the County-owned equipment.

If printing services for the Executive Branch were contracted out, then as many as nine positions would need to be abolished. If printing services for MCPS were contracted out, then 13 positions would be eliminated from that agency. (See full discussion of the need to retain or abolish positions on pages 22-25 of the previous section, Combine Print Shops Organizationally).

For one or the other agency, a range of from five to seven employees currently occupying positions may select early retirement benefits if terminated from County employment. These benefits would cost the Executive

Branch about \$850,000 dollars in early retirement penalties or MCPS about \$150,000 in retirement bonuses and continued medical plan payments. If printing services were contracted out by both agencies, then as many as 22 positions would need to be abolished at an estimated combined cost to the County of \$1.0 million for penalties, enhanced benefits, and medical plan payments (based on an estimate of 12 employees choosing early retirement upon termination from County employment).

Contracting for Printing Services

The assumptions of this scenario are that the Executive Branch and/or MCPS would continue to provide in-house photocopying services, but contract for other printing needs. The contracting agency would vacate unneeded space, sell its inventory of printing equipment, and abolish positions not needed for the auxiliary photocopying operations. Conversion to contracting with private vendors for these printing services would result in as many as nine positions being abolished in the Executive Branch and/or 13 positions in MCPS.

There are at least a dozen printing companies in proximity to the downtown Rockville area that may have sufficient equipment and capacity to service the printing needs of one or both agencies. This number of printing companies should promote sufficient bidding competition to ensure economical prices for printing services contracts. While it may be most preferable to deal with a single printing company, multiple vendors may be needed to ensure rapid turn-around response. However, the logistics and transportation costs associated with the pickup and delivery of printing jobs would need to be further explored if multiple vendors were to be considered.

If the County were to institute a policy of contracting for printing services, neither physical nor organizational combining of the print shops would be necessary, and contracting could easily be phased-in by one or both agencies. Although employee turn-over rates are low for each agency, positions could be abolished as they become vacant and additional printing jobs diverted to private providers.

As equipment falls into disuse, it could be sold and space would be freed for other uses by the Executive Branch and/or MCPS. However, if employees were not replaced, printing equipment were sold, and vacated space converted to other uses, an in-house printing capability could not be easily re-established. Thus, the County would become entirely reliant upon the private sector to provide adequate and timely printing services.

Contracting for Management of County Operations

Under this scenario, County printing equipment and locations would be managed and operated by a private provider on behalf of the Executive Branch and/or MCPS. The contractor would staff the existing print shops at the Judicial Center and Stonestreet locations, and the auxiliary photocopying units at the Carver Educational Services Center and the Council Office Building. Alternatively, the main print shops of the two agencies could first be combined physically at the Stonestreet location (leaving an auxiliary photocopying facility at the Judicial Center). Then the centralized printing

facility and three auxiliary photocopying locations would be staffed with contracted employees. Responsibility for equipment maintenance costs and replacements could also be passed to the contractor, either by selling the equipment as part of the contract or through a phase-in approach.

Contracting with the private sector often reduces a government's financial burden because starting salaries are sometimes lower in the private sector, and benefit packages are less generous than in government operations. This generally holds true for the private sector printing industry in this area, where vacation, sick leave, and retirement packages are less generous than for County employees, and annual salaries range from \$16,800 to \$45,000* for printing equipment operators versus the County government range of \$21,216 to \$43,042.

Phase-in of contract management for County printing facilities would be difficult to accomplish in either agency without reductions-in-force because of low employee turn-over rates. An immediate conversion to contract management to provide all printing and photocopying services would mean abolishing 17 of the existing 18 positions in the Executive Branch (assuming the Principal Administrative Aide position could be redeployed) and/or 15 positions in MCPS, for a possible 32 positions as a combined total.

However, the number of position abolishments would be lower if each agency were to continue with in-house staffing for its high-speed photocopying operations. Eight positions (including the typesetter position) would be retained to staff auxiliary photocopying units for the Executive Branch and two positions for the MCPS central duplicating unit. Thus, nine positions would be abolished in the Executive Branch and/or 13 positions abolished in MCPS, for a possible 22 positions eliminated as the combined total. As estimated earlier in this report, the County would be liable for about \$1.0 million for retirement penalties, special or enhanced benefits, and medical plan payments (based on an estimate of 12 employees choosing early retirement if terminated from County employment).

Conclusions

- Unless phase-in is possible, outsourcing would result in substantial costs to the County for early retirement penalties, special or enhanced benefits, and medical plan payments, and would displace several employees from fairly specialized jobs.
- Phase-in would be possible for either agency to contract with the private sector for printing services. However, the logistics and transportation costs for routing printing orders may be prohibitive if dealing with multiple vendors.
- It is not likely that contracting for management of the Executive Branch or MCPS printing operations could be phased-in without costs to the County for reductions-in-force.

* Based on information received by OLO from six vendors in the Washington Metropolitan area.

E. Advantages/Disadvantages of Options

This section of the report contains a summary of major advantages and disadvantages of the various options for change.

Advantages

Specialty services could be provided by the Executive Branch and MCPS print shops that could together save about \$85,000 for numbering in sequence, platemaking services, and engineering print reproduction.

Combining the print shops at one location would free up space for other uses by one or both agencies.

If all equipment is used by both agencies, some duplicative equipment may be designated as surplus and future replacement costs would be avoided; shared responsibility for equipment repairs and replacements would encourage cooperation.

A one-shift staffing arrangement for a combined (co-located) print shop operation would provide each agency with access to additional equipment and create opportunities for "borrowing" personnel.

Staffing a combined print shop using two separate shifts (day/evening) would guarantee times when all equipment would be available for exclusive use by each agency.

Disadvantages

Although the assigned agency would have the capacity and expertise to provide the service, in-house requests would have priority, and the requesting agency may not always be guaranteed the same turn-around currently obtained from private vendors.

Co-location at a nonCounty-owned site would add costs for leasing; expansion into existing space may displace offices that would then need to rent space elsewhere; one-time costs would be incurred for moving, rearranging, and setting up equipment, and for adding onto or renovating and upgrading expanded space.

Without special arrangements for sharing the cost for equipment repairs and replacements, each agency may assume a parochial view toward owned equipment; sharing of these costs would complicate the Executive Branch chargeback system.

Since each agency would continue to utilize its own equipment/personnel in accordance with its in-house demands and priorities, the additional equipment or personnel of one agency may only occasionally be available for use by the other agency.

The County would be required to pay an hourly shift differential to all employees assigned to work evening hours; additional expenses may be incurred to enhance security if the print shops are co-located at an isolated site; morale may suffer because current employees of one agency would be required to adjust their personal schedules around a new working arrangement.

Advantages

Staffing of a combined print shop using flex-week and/or flex-day arrangements could provide times when all equipment would be available for exclusive use by each agency and create opportunities for "borrowing" of personnel.

Staffing a combined print shop with two overlapping shifts would guarantee times when each agency would have access to all equipment for exclusive use and times when personnel could be "borrowed".

Availability of additional equipment and ability to "borrow" personnel through use of overlapping shifts should reduce Executive Branch overtime expenses.

Having access to additional equipment and "borrowing" of personnel may provide for future efficiencies in positions or turn-around time.

Elimination of the Executive Branch printing chargeback system would allow abolishment of a position and provide greater control over printing expenses through central budgeting.

Organizational combining of the primary print shop units would provide a single cohesive operation; phase-in may be possible in accordance with attrition; the additional equipment and personnel may provide for future efficiencies in positions or turn-around time.

Disadvantages

Print shop hours of operation would no longer coincide with agency working hours, and current turn-around times may not be maintained; extended workdays may be undesirable because the nature of the work is physically demanding; employee morale may suffer with flex-week schedules.

Morale may suffer because existing employees would have to adjust their personal schedules around a new working arrangement.

Most overtime relates to printing of the budget documents and timing for the two agencies overlap somewhat, so full elimination of overtime expenses may not be possible.

An appropriate vacancy may not exist for reassigning the incumbent of the abolished position.

Departments and offices may wish to retain budgetary control over printing expenses.

Without special arrangements, difficulties could arise over priorities and confidentiality issues; since it is not possible to transfer positions between agencies, displaced employees of the donating agency could take advantage of early retirement provisions and create government liability for early retirement penalties, retirement incentives, and continued medical payments; although both agencies have mature print shop workforces, phase-in could be complicated.

Advantages

Outsourcing of printing operations to private vendors could be phased-in as attrition allows. This option could lower agency operating costs, would eventually free up space for other uses, and allow an agency to sell existing equipment and forgo costs for replacements.

Outsourcing for management of print shop operations could lower agency operating costs and allow an agency to sell existing equipment and forgo costs for replacements.

Disadvantages

Multiple vendors may be needed to provide services within current turn-around times but the logistics and transportation costs may be prohibitive; vendors generally charge premiums for priority rush printing jobs; in-house capability could not be quickly re-established and would require locating new space and acquiring new equipment.

This option would require abolishment of several positions, and phase-in would be difficult. Reassignment of displaced personnel within an agency could be difficult because of the specialized nature of current work experience; several employees occupying abolished positions could take advantage of early retirement provisions and create government liability for penalties, retirement incentives, and continued medical payments.

V. RELATED MATTERS

In the course of an OLO study, matters that are not within the specific scope of the subject, but are related and sufficiently important to merit comment, are included in OLO's report. Such matters are discussed in this section.

A. Web Press Printing

Offices and departments of various County agencies contract with outside vendors for printing of many publications. Some publications are outsourced as part of agency public relations contracts; some are contracted because the County does not have the special equipment in-house to print the publications; and some are contracted because the particular agency has no in-house printing capabilities. As noted in the OLO study on publications, all County government offices and departments should be encouraged to use the services of the Executive Branch and MCPS print shops whenever these print shops can provide the printing services in the required turn-around time.

Among the printing jobs that are currently contracted out are a number of publications produced on a web printing press. Web presses can be used to print an array of publications such as newspapers, newsletters, or magazines. The press is considerably faster than a conventional printing press and accepts paper from a large roll rather than a single-feed mechanism. A web press is generally equipped with from two to six print

towers where each tower accommodates one color of ink. When further equipped with special attachments, the press can also perform trimming, numbering, folding, gluing, and/or hole punching in one operation. The major advantages of web press technology are the productivity gains due to the high speed and efficiency of the machine.

During the course of this study, OLO identified numerous publications produced via web press technology at an annual cost of about \$460,000 for the group. Table 10 shows the publications identified by OLO and the approximate annual printing costs. The information in the table is based on the most recent printings of the various publications. Printing costs may differ slightly from year to year due to a number of factors, such as: variations in the number of pages in the master document, number of copies to be printed; and/or a change in the number of printings from one year to another.

Table 10
Schedule of Publications Produced on Web Press

<u>Yearly Publication</u>	<u>Annual Printings</u>	<u>Time Sensitive</u>	<u>Current Turn-around</u>	<u>Annual Cost</u>
County Connection	5	Yes	7 days	\$17,500
Recreation Guide	4	Yes	17 days	66,000
Ride-On Schedules	3	Yes	10 days	33,000
Ride-On Reprints	2-3	Somewhat	10 days	24,000
Business Watch	8	Yes	8 days	6,200
Business View	4	Yes	8 days	1,100
MCPS Adult Classes	4	Yes	4 days	45,000
Home Works	4	No	2-3 days	2,800
Good Cents News	1	No	2-3 days	6,000
College Classes				
Spring/Credit	1	Yes	2 days	47,850
Spring/Non-Credit	1	Yes	2 days	35,280
Summer/Credit	1	Yes	2 days	26,140
Summer/Non-Credit	1	Yes	2 days	26,730
Fall/Credit	1	Yes	2 days	49,690
Fall/Non-Credit	1	Yes	2 days	35,380
Germantown/Evening	2	No	7 days	18,325
Takoma Pk./Evening	2	No	7 days	19,665
Total estimated annual cost				<u>\$460,560</u>

Sources: Various departments and offices of County government agencies.

Since the total annual expenditures for the publications approximate the cost of a medium-sized web press, OLO inquired into the possibility of obtaining such a press for either the Executive Branch or MCPS print shop to provide in-house production of the publications currently contracted out.

Based on the formats of the contracted publications and information obtained from vendors, either a one-half or three-quarter web press with four color capability would be needed for in-house production of the contracted publications. Cost estimates for such a printing press range from \$350,000 to \$500,000, plus 50% of the equipment cost for setup, physical plant upgrades, and contingencies. With an additional \$100,000 included to purchase attachable binding equipment for the press, the total cost estimate for capital outlay and physical plant upgrades would range from \$625,000 to \$850,000. In addition, an operating expense allowance for maintenance and special paper and inks, plus an estimated one and one-half work years of staff time to operate the web press would cost about \$110,000 annually.

If all publications currently contracted out for web press application were produced in-house, the costs to acquire equipment and upgrade the physical plant would be offset in less than three years (after considering the costs for staff). The short payback period and future annual savings of up to \$350,000 (after staffing and operating expenses) indicate that acquisition of a web press would be a wise investment. However, these savings are predicated on the assumption that sufficient projects would be channeled to the in-house print shop.

The more significant County publications in cost and quantity printed on a web press are those produced as class or recreation program schedules. Turn-around required for these publications are generally 2-4 days, and timing for the printings at times conflict. Unless agencies can adjust their printing schedules somewhat, it may not be feasible for an in-house operation to be responsible for providing the entirety of web press services currently acquired through contracts. However, some publications currently produced on the in-house printing presses may be more efficiently printed on a web press to produce cost efficiencies. Further investigation would be required to determine how many and which publications could be directed in-house and to calculate the payback period.

OLO worked with the MCPS and Executive Branch print shop administrators as part of the inquiry into the feasibility of in-house operation of a web press. After review of samples of the various contracted publications, the administrators observed that there is wide variation of format and/or paper sizes for the publications. The MCPS Publications Services Supervisor and Executive Branch Print Shop Manager have agreed to collaborate and recommend three standardized formats for web press publications which may produce cost savings on a combined contract award. The print shop administrators believe cost savings and administrative efficiencies may be achieved by consolidation of formats for the publications and a combined bidding process because one large contract would be bid rather than many small contracts.

Conclusions

- Additional analysis is required to determine whether an in-house web press capability would be cost effective in terms of payback period and future operating efficiencies.

- MCPS and Executive Branch print shop and graphics administrators should collaborate with personnel of the agencies that contract publications produced via web press technology to determine whether a combined contract offering for web press printings would result in cost savings.

B. Public Relations Contracts

During the course of this study, OLO became aware of numerous public relations contracts that include design and production of publications. The Washington Suburban Sanitary Commission sometimes contracts with public relations firms to provide outreach services and produce documents to inform the public on various issues. Examples have included contracts to educate the public about the facilities planning process, pending capital improvements, and sensitivity to the environment.

Various Executive Branch offices and departments also contract with public relations firms on occasion. For example, contracts let by the Department of Environmental Protection include or have included services for development of printed materials for the recycling and refuse collection programs. The Urban Districts also contract with public relations firms to promote economic activity and inform the public on services available within the business districts.

From time to time, documents have been produced through public relations contracts that offended segments of the public. In these instances, citizens objected to the appearance of particular publications and questioned the necessity and cost associated with producing such elaborate documents.

Some County agencies have written standards or guidelines for publication production, and other agencies have common understandings. However, the agency standards/guidelines are not generally provided to contractors, resulting in an inconsistent approach to documents produced through contracts.

Conclusion

- Some County agencies currently follow standards and/or guidelines for producing its in-house publications. However, such standards or guidelines may not have been applied when obtaining publications through public relations contracts.

C. Executive Branch Self-Service Photocopiers

The Print Shop Manager is responsible for 16 self-service photocopying machines that are located in various offices and departments throughout the Executive Branch, and the costs for use of these photocopiers are expensed to the using departments as part of the printing chargeback system. Centralized management of copying machines was established many years ago when two or more offices often shared use of the machines. These machines are now used exclusively by one department or office. (See ATTACHMENT A, page A-2 for a listing of the departments and offices.)

The majority of Executive Branch departments and offices have direct responsibility to obtain and manage photocopying equipment for their own use. Yet 16 machines still fall under the responsibility of a manager outside the using department.

Conclusion

- Although most Executive Branch departments are responsible for acquiring and managing their self-service photocopiers, the Print Shop manager is currently responsible for 16 copiers that are expensed to the using departments through the printing chargeback system.

VI. SUMMARY OF CONCLUSIONS

Conclusions have been drawn as appropriate throughout this report and are located immediately following discussion of various options in Chapter IV, Options for Change, and following issues in Chapter V, Related Matters. The conclusions are summarized here for the convenience of the reader.

The following conclusions are recounted from Chapter IV, Options for Change:

Conclusion from Assign Specialties to the Agencies Section

- There is limited opportunity for assigning specialties to either the MCPS or Executive Branch print shops for printing or binding processes. However, specialization of numbering in sequence and engineering print reproductions at the Executive Branch print shop and metal platemaking at the MCPS print shop could save the County approximately \$85,000 annually, and should be further pursued.

Conclusions from Physically Combine the Print Shops Section

- It appears that both the Executive Branch and MCPS would derive benefits from co-locating their primary print shop operations. Two Monday through Friday overlapping shifts would provide periods of time each day when the combined equipment would be available for exclusive use by each agency. Thus, each agency would benefit from the enhanced production possibilities and efficiencies due to the availability of additional equipment. In addition, rush printing jobs may be more manageable within normal work hours because "borrowing" of personnel would be possible during periods of workforce overlap.
- There is space owned by the school system and centrally located in Rockville that may be sufficient to accommodate a combined print shop operation, whereas adequate space is not available adjacent to the Executive Branch print shop in the Judicial Center. Co-locating the Executive Branch printing operation with the MCPS print shop in the MCPS-owned space would vacate approximately 3,500 square feet of prime space in the Judicial Center, which could then be used for other purposes.

- If combined, a method should be devised whereby both agencies would participate in equipment repair and replacement decisions. A Non-Departmental Account may be an appropriate mechanism to centralize funding for these joint decisions.
- Centralized budgeting for printing equipment repairs and replacements for the two agencies would complicate the chargeback system that is currently employed by the Executive Branch to account for printing services. Management of this chargeback system is labor intensive and the process should be reengineered to use the on-line processing capabilities of the upgraded Financial Accounting Management System (FAMIS) that is planned for installation during FY95. Until such time as the process can be studied and reengineered, serious consideration should be given to suspending the printing chargeback system and establishing a centralized budget for printing services.

Conclusions from Organizationally Combine the Print Shops Section

- Either agency has the management capability to operate a centralized print shop to service the needs of both agencies.
- If organizationally combined, each agency should maintain and manage auxiliary photocopying units at the Carver Educational Services Center, Judicial Center, and Council Office Building.
- Currently, no provisions exist to allow for transferring of positions between County agencies, and several employees would be eligible for early retirement benefits if terminated by the donating agency, even though like positions would be available to them in the receiving agency.
- Organizational combining as a single action is estimated to cost either the Executive Branch \$850,000 in early retirement penalties or MCPS \$150,000 in retirement incentives, whereas a phase-in approach could be accomplished as attrition permits to lessen or avoid these liabilities.
- If printing operations are centrally managed by one agency, the donating agency should be assured dedicated printing staff to handle rush printing jobs and confidential documents.

Conclusions from Outsource Print Shop Operations Section

- Unless phase-in is possible, outsourcing would result in substantial costs to the County for early retirement penalties, special or enhanced benefits, and medical plan payments, and would displace several employees from fairly specialized jobs.
- Phase-in would be possible for either agency to contract with the private sector for printing services. However, the logistics and transportation costs for routing printing orders may be prohibitive if dealing with multiple vendors.

- It is not likely that contracting for management of the Executive Branch or MCPS printing operations could be phased-in without costs to the County for reductions-in-force.

The following conclusions are recounted from Chapter V, Related Matters:

Conclusions from Web Press Printing Section

- Additional analysis is required to determine whether an in-house web press capability would be cost effective in terms of payback period and future operating efficiencies.
- MCPS and Executive Branch print shop and graphics administrators should collaborate with personnel from the various departments and offices of the agencies that contract publications produced via web press technology to determine whether a combined contract offering for web press printings would result in cost savings.

Conclusion from Public Relations Contracts Section

- Some County agencies currently follow standards and/or guidelines for producing its in-house publications. However, such standards or guidelines may not have been applied when obtaining publications through public relations contracts.

Conclusion from Executive Branch Self-Service Photocopiers Section

- Although most Executive Branch departments are responsible for acquiring and managing their self-service photocopiers, the Print Shop manager is currently responsible for 16 copiers that are expensed to the using departments through the printing chargeback system.

VII. RECOMMENDATIONS

Assign Specialties to the Agencies

The County should assign specialization of metal platemaking services to the MCPS print shop operation for possible cost savings of \$35,000 per year, and numbering in sequence and engineering print reproduction services to the Executive Branch print shop for a potential \$50,000 annual cost savings. (The specializing print shop must be able to provide the same service level currently obtained from private vendors).

Physically Combine the Print Shops

The County should further pursue combining the MCPS and Executive Branch primary print shop operations at the MCPS Stonestreet location. An action team comprised of facilities management staff and print shop administrators from both agencies should be established to examine this issue and develop a detailed plan to include consideration of logistics, staffing arrangements, and space utilization.

The Executive Branch should suspend the printing chargeback system until such time as the process can be reengineered to take advantage of the on-line Financial Accounting Management Information System (FAMIS). The position currently assigned to manage and prepare the chargeback entries should be redeployed within the agency for annual savings of \$38,000.

NOTE:

A joint response to this OLO report from the Executive Branch and MCPS (see copy beginning on page 41) proposes that the two agencies also work with corporate partners from the printing industry. This cooperative effort with the private sector would include examination of evolving technologies in printing and photocopying equipment and determination of how best to achieve operating and staffing efficiencies for both agencies. OLO supports this proposal for an extensive public/private partnership review of MCPS and Executive Branch print shop operations.

Organizationally Combine the Print Shops

Because organizational combining may only produce minor benefits as an addition to efficiencies and cost savings to be derived from co-locating the two operations, the County should first concentrate its efforts on pursuing physical co-location of the Executive Branch and MCPS print shop operations.

Outsource Print Shop Operations

Contracting options should not be pursued without in-depth analysis of future costs and/or benefits associated with giving up in-house capability. Since both print shop operations are staffed with mature workforces, operating costs should decline naturally as employees reach retirement eligibility and are replaced with lower paid staff.

Web Press Printing

MCPS and Executive Branch print shop and graphics administrators should collaborate with personnel from the various departments and offices of the agencies that contract publications produced via web press technology to determine whether a combined contract offering for web press printings would result in cost savings.

MCPS and Executive Branch print shop administrators should review high volume publications (in-house or contracted) for possible conversion to web press printing to determine whether an in-house web press capability would be cost effective in terms of payback period and future operating efficiencies.

Public Relations Contracts

County agencies that do not have in-house standards or guidelines for production of publications should follow the Interagency Public Information Working Group criteria (Guidelines for Government Publications) and consistently apply the relevant guidelines to all planned publications, including those produced by private vendors as part of public relations or other contracts.

Executive Branch Self-Service Photocopiers

The Print Shop Manager should be relieved of responsibility for 16 self-service photocopiers that are located in and exclusively used by specific departments and offices throughout the Executive Branch. Individual departments should assume responsibility for the operation and maintenance of the self-service copiers.

VIII. AGENCY COMMENTS ON DRAFT REPORT

On April 20, 1994, OLO circulated a draft of this report to appropriate administrators and staff of the Executive Branch, the County Council, and Montgomery County Public Schools.

Technical corrections received orally or in writing were considered for incorporation into the final report. Written comments received from those choosing to comment on the draft report are included in their entirety starting on page 41.

MONTGOMERY COUNTY PUBLIC SCHOOLS
MONTGOMERY COUNTY GOVERNMENT
Rockville, Maryland 20850

May 18, 1994

MEMORANDUM

To: Andrew Mansinne, Jr., Director
Office of Legislative Oversight

From: Paul L. Vance, Superintendent of Schools
Montgomery County Public Schools
Gene Lynch, Chief Administrative Officer
Montgomery County Government

Subject: OLO Report No. 94-4, Feasibility of Assigning
Specialties or Combining the Executive Branch and
Montgomery County Public Schools Print Shops

We would like to extend our thanks to you for allowing us the opportunity to comment on the above referenced study and to commend Ms. Pederson and Ms. Kovner on their patience and cooperative attitudes during the course of its compilation.

Our initial reaction to the study is that it is an excellent preliminary document from which to further analyze the feasibility of increasing the efficiency of both print shop operations. The document takes a good look at current and past production, staffing, funding and resources, while at the same time outlining long-term future operating proposals.

We concur that we could now look to assigning specific functions as described on page 38, SECTION VII; this is a logical step in maximizing efficiency of the two shops. The numbers quoted as savings can vary greatly, but if it can be determined that the potential for savings exists, we should pursue them.

Secondly, we are not in full concurrence with the conclusion that the County should further pursue the possibility of combining the two main shops (page 39). An in-depth analysis should be done relative to logistics, space planning, costs of relocation, work transport, processes and staffing. The proposed team, again referencing the content on page 39, should be capable of working through those requirements.

May 18, 1994

What concerns us most is what the future might bring. Any relocation or consolidation such as the one being proposed should be based on future requirements. The printing industry is dynamic and in a constant state of change. We should examine where we want to be five to ten years from now rather than look only to short-term benefits. It may not be cost efficient to relocate equipment that has outlived its useful or efficient life instead of planning for longer term replacement with effective state-of-the-art equipment. While looking for efficiency, we must not overlook customer service. By this we do not mean just customer convenience, but service that results in effectiveness.

We propose that the managers of the County Government and MCPS' publications services units work with corporate partners from the printing industry to review trends, state-of-the-art technology, and our operations and then propose options that will truly result in long-term efficiencies. Much of the data required for such a review is readily available, and we feel the efforts of corporate partners working with County Government and MCPS professionals would be of significant benefit.

In conclusion, we see opportunity for improved efficiency and effectiveness in the area of printing services. We feel that the potential for changes in the printing industry and its technologies as well as the implications of our mature work force must be considered in any plan to implement future efficiencies.

Thank you again for the opportunity to respond to the study.

PLV:GL:mww

Executive Branch Print Shop Equipment ListingJudicial Center Location:

<u>Description</u>	<u>Date Acquired</u>
Baum Legend 20 Folder	Mar 93
O & M Folder	May 84
CP Bourg PA Folder	Nov 90
GBC Punch Machine	Sept 62
Challenge Punch Machine	Dec 69
GBC Binder	May 63
GBC Electric Binder	June 72
Sulby Binder	May 75
Standard Bind Fast (Table Top Binder)	Nov 88
AM Multilith Press 1250 (2 units)	Sept 93
AM Multilith Press 1250	Feb 68
AM Multilith Press 2650	June 74
AM Int'l 1250N Multilith Press	June 80
Galaxie 126 Offset Printing Press	Mar 90
Jogger	Feb 71
Pitney Bowes Jogger	Apr 80
Interlake Wire Head Stitcher	May 74
Bourg Dual Head Stitcher	Oct 87
Bostitch Bronco 19AW Wire Stitcher	Nov 90
Multicopy 16 Unit Collator	Nov 85
Bourg Fully Automatic Collator	Nov 86
Press Specialty Envelope Feeder	June 84
Challenge Power Paper Cutter	Apr 88
Challenge Paper Cutter	1989
3M Camera Plate Process System	1982
Nuarc Metal Platemaker	1982
6400 Varsityper Comp Typesetter System	Nov 85
Varsityper Computer Edit Terminal	Dec 87
Damark SMC - 1620 Sealer	Aug 86
Damark STR - 16 Shrink Tunnel	Aug 86
Bourg Stacker	Nov 86
Xerox 5090 Photocopier	Aug 89
Xerox 5090 Photocopier	Dec 90
Xerox 5090 Photocopier	Sept 92
Xerox 5028 Photocopier	Oct 90
Xerox 5080 (Engineer print reproduction)	July 93

COB Location:

<u>Description</u>	<u>Date Acquired</u>
Xerox 9900 Photocopier	June 85
Ricoh 8880 Photocopier	July 93
Bostitch Bronco Wire Stitcher	1992

Self-Service Photocopiers Under Print Shop Management:

<u>Description</u>	<u>Date Acquired</u>	<u>Location</u>
Xerox 5052	Nov 91	Public Services Training Academy
Xerox 5052	Nov 91	Department of Family Resources
Xerox 5052	Nov 91	Office of Management and Budget
Xerox 5052	Nov 91	Department of Transportation
Xerox 5052	Nov 91	Office of Personnel
Xerox 5052 (two units)	Nov 91	Department of Environmental Protection
Xerox 5052	Nov 91	Office of Planning Implementation
Xerox 5052	Nov 91	Office of the County Executive
Xerox 5052	Nov 91	General Services Division
Ricoh 4415	July 93	Silver Spring Government Center
Ricoh 4415	July 93	Zoning and Administrative Hearings
Ricoh 4415	July 93	Wheaton Government Center
Ricoh 4415	July 93	Bethesda Government Center
Ricoh 4421	July 93	General Services Division
Ricoh 4421	July 93	Department of Fire and Rescue Services

Source: Executive Branch Department of Facilities and Services.

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Executive Branch Print Shop Equipment Descriptions

Folding Equipment

O&M Folder. This machine performs either folding, scoring and folding, perforating, or slitting operations. The machine can put as many as four folds in paper as large as 20" by 24" and can produce a folded size as small as 4" by 6". A blunt wheel-like attachment can be affixed for the scoring operation or a sharp wheel-like attachment for perforating or slitting. The machine performs scoring by making creases in heavyweight paper to allow for crisp folds; perforating by inserting small horizontal or vertical cuts in the form of dots or dashes which allow paper to be ripped apart; or slitting of paper into two halves.

Baum Legend 20. This machine performs the same operations as the O & M Folder, but can accommodate paper as large as 18" by 24" and can produce a folded size as small as 4" by 6".

Hole Punching Equipment

GBC Punch Machine. This manual punch press can be adjusted to cut from one to 28 small rectangular holes into stacks of paper. The machine is used to create punched holes in the edge of a document for fastening with plastic spiral binding material, and can accommodate paper lengths ranging from 1" to 17" and a sheet thickness of up to 1/8".

Challenge Punch. A foot-pedal press used to cut from one to three round holes ranging in size of from 1/4" to 1/2" diameter. The machine can accommodate equivalent paper thicknesses of single sheets to cardboard.

Binding Equipment

GBC Binder. This machine is used to insert a strip of plastic binding material into holes punched by the GBC Punch Machine. The binder operator opens the plastic binding material by pulling back a lever, inserts the document with pre-drilled holes, then pushes the lever forward to close the plastic spiral and bind the document.

GBC Electric Binder. This machine is used to automatically insert a strip of plastic binding material into pre-punched holes of a document. The operator inserts the document into the machine and presses a button. The machine opens the plastic binding material, inserts it into the pre-drilled holes, and closes the spiral to bind the document.

Sulby Binder. A hot-melt glue binder which applies glue to the spine of a document (i.e. a budget book) and wraps a cover around the publication. The machine can bind documents ranging in thickness of 1/8" to 2".

Standard Bind Fast. A table-top binder used to make note pads ranging in size from 3" by 5" to 11" by 17". As many as four or five sections of paper and chip boards (cardboard backing) of the desired size are inserted into the machine and vertically fastened together by a clamp. One edge of the stack is then rolled over melted glue. To obtain individual pads, the operator slices the pads between the chip boards.

Printing Presses

Galaxie 126 Offset Printing Press. A single-color offset printing press in which an image is transferred from a plate cylinder to a blanket cylinder and subsequently to the paper. The machine can handle paper sizes ranging from 11" by 14" to 20" by 26", and paper stock weights ranging from 20 pounds (standard copy paper weight) to 110 pounds (index card weight).

AM Multilith 2650 A single-color offset printing press. This press can handle paper sizes ranging from 3" by 5" to 10" by 13". The machine delivers the printed pages to a receiving tray which can hold up to 200 sheets of paper.

AM Multilith Machine. Another single-color offset printing press that can handle paper sizes ranging from 3" by 5" to 10" by 13". The machine delivers the printed pages to a receiving tray which can hold up to 200 sheets of paper.

AM Multilith Machine 1250. These two machines are single-color offset printing presses that can handle paper sizes ranging from 3" by 5" to 10" by 15". This machine also delivers the printed pages to a receiving tray which can hold up to 200 sheets of paper.

AM International 1250 N Multilith. A single-color offset printing press that can handle paper sizes ranging from 3" by 5" to 10" by 15". This machine is equipped with a chain delivery feature that transfers printed pages to the floor, creating a stack as large as 4,000 sheets of paper.

- Specialty Envelope Feeder. This piece of equipment can be attached to an offset printing press and is used to feed envelopes to the press for printing.

Photocopying Machines

Xerox 5080. A copying machine used to reproduce engineering documents. The copier can make full-size, scale-to-scale copies of architectural drawings and blueprints. The most common sizes reproduced are 24" by 36". The machine can also reduce print to 43 percent of original size or enlarge to 205 percent.

Xerox 5090 The Print Shop has three machines that can produce 135 copies per minute and can collate, staple, bind, and perform two-sided (duplex) copying for standard paper sizes of 8 1/2" by 11" or 11" by 14". The machine can also perform single-sided copying for paper sizes up to 11" by 17".

Xerox 5028. This copy machine has a ten-bin sorter and can produce one-sided copies at the rate of 28 copies per minute.

Jogger Equipment

Jogger J321. A table-top jogger used to jiggle a stack of paper back and forth on an incline to straighten the stack prior to cutting or binding. The machine can handle paper sizes ranging from 3" by 5" to 8 1/2" by 14" in quantities as large as 500 sheets or stacks up to 3" thick.

Pitney Bowes Jogger 2002. A floor model jogger that is on wheels and can be easily moved from one location to another. This machine accommodates paper sizes ranging from 3" by 5" to 20" by 26" in quantities as large as 500 sheets or stacks up to 3" thick.

Stitching Equipment

Interlake Wire Head Stitcher. This machine is used to staple documents ranging from 1/4" to 2" in thickness. The operator controls the location of staples by arranging the position of the document and pressing a foot pedal to insert a staple.

Bostitch Bronco Wire Stitcher. This machine operates the same as the Interlake Stitcher, but handles documents ranging from 1/8" to 1" in thickness.

Collating Equipment

Multicopy 16 Unit Collator. This machine has 16 individual stations (bins) from which it can draw printed pages to collate into a document. Each bin can hold up to 200 sheets of standard paper sizes 8 1/2" by 11" or 8 1/2" by 14", and each bin can be individually programmed to be active or inactive in a collating operation. The machine also has the capability to place a single staple in a collated document of up to 35 pages or up to 3/4" of thickness.

Bourg Fully Automatic Collator. This machine has 46 individual stations from which it can draw printed pages to collate into a document. Each bin can hold up to 300 sheets of paper sizes 8 1/2" by 11", 8 1/2" by 14", or 11" by 17". Each bin can be individually programmed to be active or inactive in a collating operation. With one or more attachments, the machine can fold a collated document in half; place one or two staples in a collated document of up to 35 pages or a thickness of 3/4"; or can fold a collated document in half and place staples in the center crease.

- C P Bourg PA Folder. An attachment for the Bourg automatic collator; this unit is used to fold collated documents in half.
- Bourg Stacker. An attachment to the Bourg automatic collator; this unit is used to receive and stack finished documents after collating.
- Bourg Dual Wire Head Stitcher. Another attachment for the Bourg automatic collator; this unit is used to insert either one or two staples into a collated document. The attachment performs single stitching by inserting one staple in the upper left hand corner of a document; side-wire stitching by inserting staples in the upper and lower left-hand edges of a document; or saddle stitching by inserting two staples along the center of a folded document. This attachment can be used individually, or in conjunction with the folder attachment.

Paper Cutting Equipment

Challenge Power Paper Cutter. A computerized automatic paper cutter used to cut stacks of paper ranging in width of from 1 1/2" to 30 1/2". The machine can handle a stack of up to 500 pages in a single operation, and will make as many cuts as the operator programs through a data entry panel.

Challenge Paper Cutter. An automatic paper cutter used to cut stacks of paper up to 500 pages deep in widths ranging from 1 1/2" to 30 1/2". The machine will make as many cuts as it is manually adjusted to make.

Plate Making Equipment

Nuarc Metal PlateMaker. This machine is used to imprint a mercury vapor light image of camera-ready copy onto a metal plate, so the plate may be used in a printing press to transfer the images to paper. The end product is a metal plate produced from negatives which is ready for use in the offset printing presses.

3M Camera Plate Process System. This machine is used to produce photographic masters (images) from camera-ready copy by creating a polyester plate known as a silver master.

Typesetting Equipment

Baber Interface System. This piece of apparatus accepts a floppy disk containing files of text for a print job. The operator can enter keyboard commands into the interface system to convert information contained on the disk into language which is compatible with the print shop system language.

Varityper Image Previewer. This machine is used in conjunction with the Varityper Comp Typesetter. The equipment piece is a screen similar to a PC monitor and sits on the Varityper Computer Edit Terminal. It is used to review the typed copy on the screen after the Baber Interface System has converted the typed copy text into print shop language.

Varityper Comp Edit Terminal. This equipment is used to make edits to proofs before conversion into camera-ready copy. After any necessary edits to the proofs are made, a disk is inserted into the edit terminal which is hooked up to a laser printer. The operator uses the laser printer to run off paper proofs. If the content and the form of the proof are correct, the disk is taken out of this machine and inserted into the Varityper Comp Typesetter which converts the text into camera-ready typeset copy.

Varityper Comp Typesetter. This machine is a digital photo-typesetter which is used for creating a camera-ready copy from a typed text.

Varityper Processor. After the Varityper Comp Typesetter converts the proof text into camera-ready copy form, the processor is used to transfer the information into hard copy form. The interior of the processor contains film and chemicals which interact to produce a resin coated hard copy.

Other

Damark SMC-1620 Sealer-Damark STR-16 Shrink Tunnel. The sealer is used to wrap plastic film around a document or group of documents. When passed through the shrink tunnel, heat is generated which causes the plastic to soften and shrink which makes the plastic tightly wrap around the document.

Auxiliary Print Shop Equipment

Xerox 9900. This copying machine produces 120 copies per minute, enlarges or reduces print, performs single-sided or duplex copying, and collates and staples documents. The copier can handle standard paper sizes of 8 1/2" by 11" and 8 1/2" by 14".

Ricoh 8880. This copying machine can perform enlargement or reduction, single-sided or duplex copying, and collate and staple documents. The copier can produce 80 copies per minute on standard paper sizes of 8 1/2" by 11" and 8 1/2" by 14".

Bostitch Bronco Wire Stitcher. This is a stapling machine that is used to staple documents ranging from 1/8" to 1" in thickness.

Copy Machines Under Print Shop Management
Located Throughout County Government

Xerox 5052. The Print Shop rents ten of these self-service copiers that can enlarge or reduce print, perform single-sided or duplex copying, and collate and staple documents. The copier can produce 50 copies per minute on paper sizes of 8 1/2" by 11" or 8 1/2" by 14".

Ricoh 4415. The Print Shop Manager rents four of these standard self-service copying machines. This copier can reduce or enlarge print and will produce one-sided copies at the rate of 15 copies per minute on paper sizes of 8 1/2" by 11" or 8 1/2" by 14".

Ricoh 4421. The Print Shop rents two of these machines that can perform reduction or enlargement, and single-sided or duplex functions at a rate of 35 copies per minute on paper sizes of 8 1/2" by 11" or 8 1/2" by 14".

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PRINT SHOP CUSTOMER SURVEY

Please rate the following questions from 1 to 5 and circle a single response for each question.

Return the completed form to Linda Kovner, Office of Legislative Oversight, COB Room 509 via interoffice mail. Thank you for your participation.

Overall Rating: On average, how do you rate the overall level of services received from the Print Shop?

1-POOR 2-FAIR 3-AVERAGE 4-GOOD 5-EXCELLENT

Adequacy of Turn-Around Time: Does the Print Shop complete your printing projects within a reasonable time period?

1-POOR 2-FAIR 3-AVERAGE 4-GOOD 5-EXCELLENT

Quality of Documents Produced: How do you rate the quality of documents produced by the Print Shop?

1-POOR 2-FAIR 3-AVERAGE 4-GOOD 5-EXCELLENT

Courtesy Extended to Customers: How do you rate the helpfulness extended to you in response to your inquiries?

1-POOR 2-FAIR 3-AVERAGE 4-GOOD 5-EXCELLENT

Conformance of Product to Expectations: How closely have the completed products received from the Print Shop met your expectations?

1-POOR 2-FAIR 3-AVERAGE 4-GOOD 5-EXCELLENT

In the area below, please write any comments or suggestions you may have regarding printing services:

MCPS Publications Services Equipment Listing**Lincoln Center Location:**

<u>Description</u>	<u>Date Acquired</u>
Brown Camera 29 x 23 Caravel	Oct 69
Carlson Sharpshooter Camera	Jan 88
Carlson Densi-Probe	Jan 88
Film Processor Excel 26	Oct 87
3M Camera Platemaker	Oct 78
NuArc Platemaker	Dec 86
Light Tables (2 units)	Oct 69
3M Viking Plate Processor	Sept 89
RZ Hoshimoto 2CP Press 20 x 26	Nov 88
Harris Press L-125C, 19 x 25 (2 units)	July 71
Didde Apollo Web Press, 11"	Sept 77
Hamada CDA 500 (3 units)	Sept 83
Electro Mechanical Jogger (2 units)	May 71
Harris Seybold Paper Cutter	Aug 70
Challenge Paper Drill	Aug 72
Bostitch Stitcher	Dec 82
MBO Folder	Oct 87
Macey Multibinder	July 69
Borg Collator AGR, 48 Station	Oct 82
Muller Martina Perfect Binder	July 70
Padding Presses (2 units)	Jan 77

Central Duplicating Equipment, Carver Educational Services Center, Room 21:

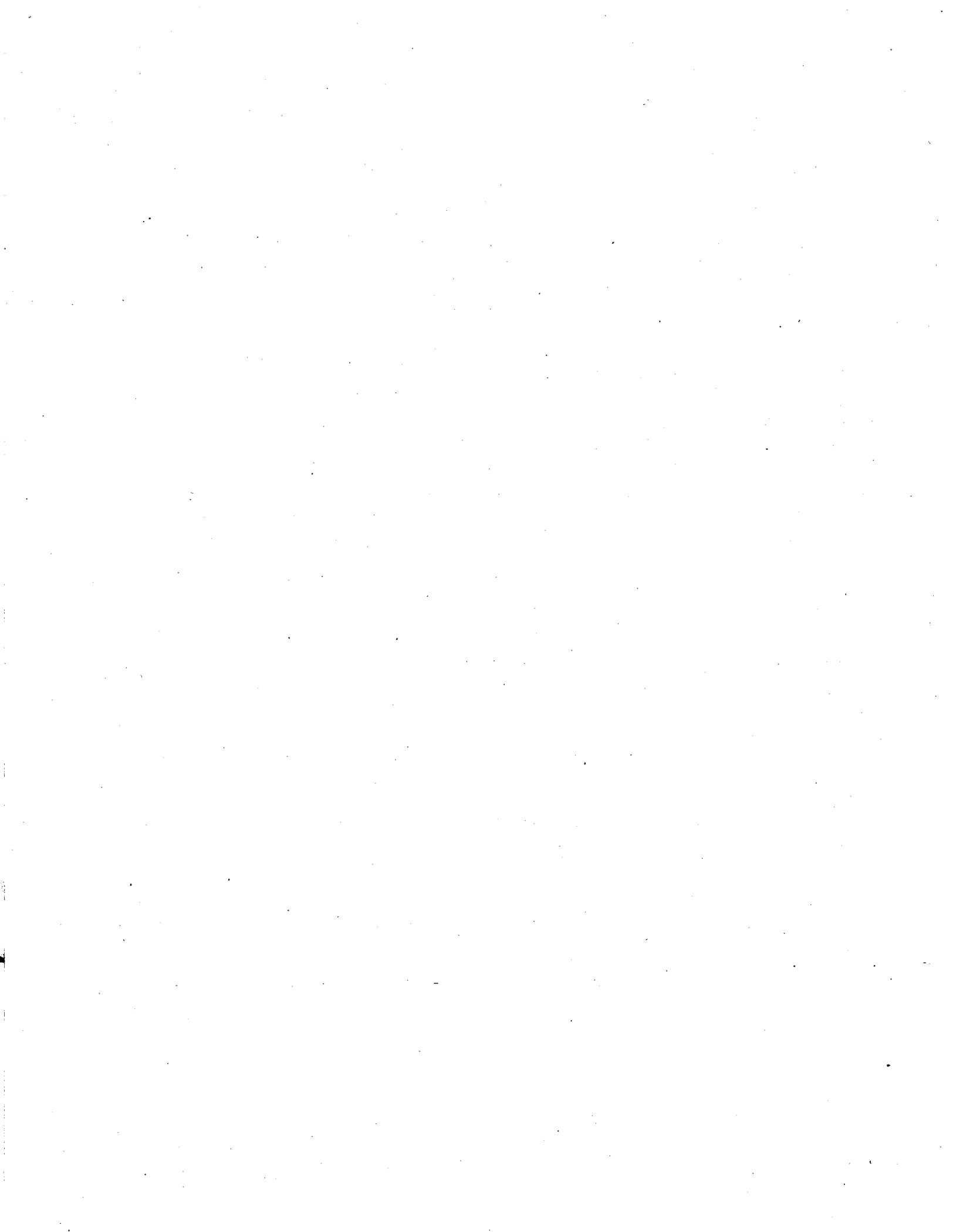
<u>Description</u>	<u>Date Acquired</u>
Xerox 5090 Photocopier	Nov 88
Xerox 5090 Photocopier	Apr 93

Self-Service Photocopiers Under Publications Services Management:

<u>Description</u>	<u>Date Acquired</u>	<u>Location</u>
Xerox 1090	Mar 93	Carver Educational Services Center
Xerox 1090	Mar 93	Carver Educational Services Center
Xerox 1090	Mar 93	Carver Educational Services Center
Xerox 1090	Mar 93	Carver Educational Services Center
Xerox 1090	Sept 88	School Plant Operations, Area 1 Field Office

Source: Montgomery County Public Schools, Publications Services.

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Department of Educational Media and Technology
MONTGOMERY COUNTY PUBLIC SCHOOLS
Rockville, Maryland

December 1, 1993

MEMORANDUM

To: Joan Pederson, Program Evaluator
Office of Legislative Oversight

From: Ken Shields, Supervisor, Publications Services

Subject: Print Shop Equipment Specifications

Pre-press Area

The Brown Camera is a lithographic horizontal, flat-bed camera which can use a maximum of 20" X 24" sheet film. The image area is 19" X 23". The camera can enlarge to 300% of the original and reduce to 24% of the original. The camera shoots reflective art only and the copy board holds art a maximum of 24" X 34" in dimension. Film output further limits specifications on enlargements and reductions.

The Log E Film Processor (Excel 26) processes film from as narrow as 4" to as wide as 26". Film length minimum is 10".

The 3M Brand Camera Plate Processor, MR 412 shoots camera ready art and produces paper "itek" plates. Plate material comes in rolls 9 3/8" X 246". The copy board can hold reflective art 24" X 40". Enlargements can be made up to 150% of original size and reductions 25% of original size. Film output further limits specifications on enlargements and reductions.

A 3M 1124 Plate Developer is used to develop plates after the image has been transferred from film to plate by the NuArc plate flip-top platemaker. The NuArc uses a light source through exposed film and "burns" the image on the plate. The plate is then put through the plate developer to "set" the image. The developer can process plates from 10" X 15" to 20" X 26".

Two light tables for lithographic stripping.

Press Room

There are seven presses in MCPS's print shop, 6 sheet fed, offset presses and 1 web-fed offset press. All presses require cleaning when changing ink color in addition to adjustments for set-up when stock sizes and weights change.

The RZH- Hoshimoto press is the largest in the shop. The press, capable of perfecting (printing two sides of a sheet in one pass), can print 2 colors on 1 side or 1 color on two sides. Maximum sheet size is 19" X 26" with an image area no larger than 18 5/8" X 25 5/8". The minimum sheet size for the RZH is 8 1/2" X 11" for in-line printing and 11" X 17" for perfecting. The RZH can print on stock from 20# to 24pt. when functioning in-line and 20# to 12pt. when perfecting. Gripper margin requirement is 3/8", plate size 21 5/8" X 25 5/8".

The Didde Apollo press is a small web-fed offset press. The press has two ink units and is capable of handling stock 11" in width, 40" in diameter with a core of 3" with an 8 1/2" cut-off. The press can print on web stock from 20# to 70#. The image area is 8 1/8" X 10 1/4".

The two Harris LXX 125 presses are sheet-fed offset presses that can handle a maximum sheet size of 19" X 25" and a minimum sheet size of 8 3/4" X 11". Gripper requirement is 5/16" and image area is 18 1/4" X 25". The Harris presses can print on stock ranging from 16# NCR to 10pt. or 110# index.

The three Hamada CDA 500 presses are small duplicator presses which handle sheet sizes between 3" X 5" and 10" X 14". The image area for the duplicators is 13 5/8" X 10". Stock weights from 15# NCR to 110# index can be run on the Hamada presses. The envelope feeder attachment can feed No. 5 through No. 10 envelopes. The gripper requirement for the duplicators is 3/8".

Bindery

Standard Borg 46 bin collator can collate sheets as small as 8" X 10" and as large as 11 1/4" X 17 1/2". The collator handles stock ranging from 20# to 65# cover. The functions of the Borg collator include collating, saddle-wire-stitching, side stitching and folding.

The Macey Multi-binder is a 9 bin saddle-wire-stitch machine which collates, saddle stitches, folds and face trims booklets. Sheet size capabilities range from 8 1/2" X 11 1/4" to 11" X 17 1/2". Paper stock capabilities include 50# offset through 65# cover.

The Harris Seybold cutter can handle stock 42" X 42".

The Perfect Binder collates, notches, glues and binds perfect bound books. Signature size capabilities include 5" X 8" (smallest) and 9" X 12" (largest). The perfect binder has 6 collating bins and 5 perfect binding bins.

The MBO folder can fold a sheet as small as 4" X 6" and as large as 20" X 26". The folder folds, glues and scores, and has two right angle attachments. Stock selection capabilities include 20# through 65# cover.

Two padding presses which clamp and compress printed forms in order to apply padding glue to the backs.

A Challenge Drill press is equipped with three spindle drill heads that can be used to cut form one to three round holes into documents.

A Bostitch Stitcher-7W is used to staple documents between 1/8" and 1". The stitcher has two heads for either single or double side-stitching.

Two electro-mechanical joggers are used to align paper stock for loading into either printing presses or bindery equipment. Joggers can handle up to 500 sheets of 17 1/2" X 22 1/2".

Central Duplicating (satellite shop)

Two Xerox 5090 copier machines are leased from the Xerox Corporation. These machines can produce 135 copies per minute and can collate, staple and bind. The copiers function in both single-sided and duplex (double sides) capacity. Stock limitations include 8 1/2" x 11", 8 1/2" X 14" and 11" X 17". Paper weight capabilities include 16# to 110# with optimal results at 20#.

Satellite Copiers

Five Xerox 1090 copiers are leased from the Xerox Corporation and installed in four locations at the central office and one location off-site. Paper stock options are limited to 8 1/2" X 11" and 8 1/2" X 14". Paper weight capabilities include 16# to 110# with optimal results at 20#. Single-sided and duplex options are available and copiers copy at 92 copies per minute. Finishing includes stapling and collating.

