

Office Layout Planning

Following this page you will find a copy of the booklet *Office Layout Planning* by Richard Muther and Lee Hales. This booklet was written in 1977 as an adaptation of an even earlier work, *Simplified Systematic Layout Planning*, first published in 1962.

Widely distributed by the National Office Products Association, the booklet's purpose was to help furniture dealers and interiors planners do a better job of laying out open plan office space. During the mid-1970s, millions of square feet of new and renovated office space were converted from traditional "bull pen" and private office configurations into various forms of semi-private, partitioned cubicles. Today, we take these cubicles for granted. But at the time of their introduction they presented significant challenges to office space planners.

The systematic planning procedure described in the booklet remains current and is the best way to develop an effective office layout. Dated aspects of the booklet are as follows:

1. The example predates universal computer usage. Job titles (such as clerk typist) are quaint by current standards. "Word processing" and "memory typewriters" were the extent of electronic technology in the workplace. Today's plans must accommodate wired and wireless networks, computers, monitors, and often printers in every workstation.
2. The electrical section of the pre-printed Equipment Survey Form (# 167) does not recognize modern usage of computers, printers, scanners, etc. and their associated electrical and wiring needs. Planners can use Form 167 as a guide or starting point, but should add this missing equipment when re-creating this form as a spreadsheet.
3. The discussion of office environments and furnishing concepts in Section 3 is largely moot, at least in North America. Until the late 1970s, the panel cubicle (first introduced in the mid-1960s by The Herman Miller Company) competed with a radically different form of open plan office called the Office Landscape (or Bürolandschaft, as it was named by its German developers).

Office Landscape installations used free-standing privacy screens and planters, extra distance, and white noise to achieve visual and speech privacy in the absence of private walled offices. Walled offices were "verboten" even for executives. Banks of file cabinets were not permitted since their hard vertical surfaces reflected sound. Instead, central file rooms were provided. All but a few "working files" were to be kept in the central file room and dispatched on demand to the workplace.

Office Landscape requires more floor space. This extra real estate cost and its demanding "rules" regarding private offices, file rooms, etc. caused it to lose favor to the more dense and utilitarian cubicle that dominates today.

4. No mention is made of computer graphics software such as Visio, PowerPoint, and AutoCAD for preparing the layout itself. Such tools were not available in 1977.

5. Some of the Working Forms at the rear of the booklet are available on-line in electronic form, most notably the triangular Relationship Chart, Form 130, and an Evaluating Alternatives form similar to the Form 171 provided here. These can be obtained from our website at:

www.hpcinc.com/rma.html

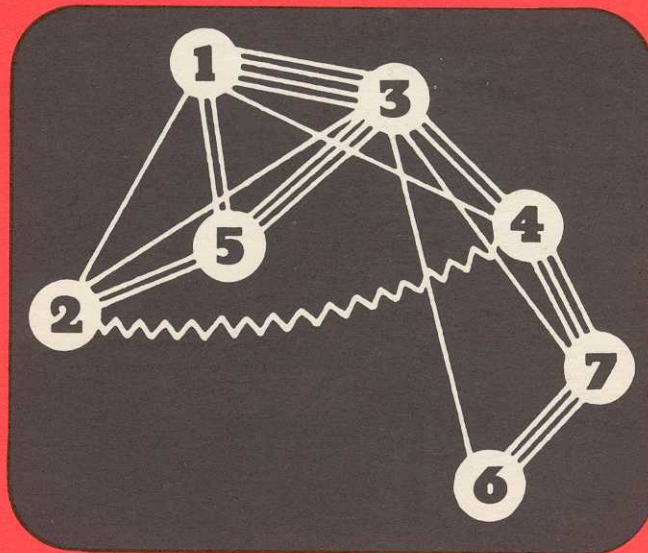
For an illustration of Simplified Systematic Layout Planning (SLP) applied to production and service area layouts, see the booklet:

Simplified Systematic Layout Planning, by Richard Muther and John D. Wheeler
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To learn more about our other planning methods, visit our website at:
www.hpcinc.com/rma.html, or contact us at:

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Office Layout Planning



A manual based on a simplified version of
Systematic Layout Planning

Acknowledgment

Much of this manual is a direct adaptation of the booklet *Simplified Systematic Layout Planning* by Richard Muther and John D. Wheeler, and published by Management and Industrial Research Publications in 1962.

That booklet itself is a short-form version of the full Systematic Layout Planning methodology, developed by Richard Muther and published in 1961 as *Systematic Layout Planning*. A second edition was published in 1973 by Cahners Books International, Inc., Boston.

By special permission, National Office Products Association has arranged to have the above sources extracted and converted into a manual specifically for planning small office areas.

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Office Layout Planning

A manual based on a simplified version of
Systematic Layout Planning

by

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and

Lee Hales

Richard Muther & Associates, Inc.

Consultants in Facilities and Space Planning

Kansas City, Missouri

Published by: Management and Industrial Research Publications
P.O. Box 7133, Kansas City, Missouri 64113, U.S.A.

Foreword

Never in the history of commerce has the attention of top management been more sharply focused on the function of the office. Why? The cost of support facilities offered by the office has increased rapidly. In the face of lack of techniques for measuring productivity, the growing need for sophisticated management information systems, the growing report requirements of government, and the resulting almost unmanageable growth in clerical employment, executives are assigning office cost control top priority.

What is an office? One office products dealer organization in group discussion spent over two hours searching for a precise definition. Their conclusion was that an office is a COMMUNICATIONS CENTER. A stimulus from the outside such as a phone call, an incoming order or a purchase invoice automatically triggers a response which consists of a number of specific actions which may involve one person or many persons . . . one department or many departments. The end result is outgoing . . . a letter, a document, a shipment and along the way certain data is extracted for present or future processing and then stored.

A whole host of new products and processes have been developed to make this communications center more cost effective: word processing equipment and procedures, microfilm, microfiche, computers with decentralized information displays, mechanized files, facsimile transmission by wire . . . and in office furnishings, modular work stations.

Much of this equipment is sold to fit into the present scheme of procedures with changes in related procedures occurring only when an actual interface situation exists. Rarely is an office literally created from scratch. As a result, system gets laid on system and people are moved about to relate to the equipment and that portion of the work flow directly related to the application.

There is a missing ingredient which may hinder making optimum use of new equipment and procedures to cut costs and improve productivity. It is space planning . . . organizing the location of people, equipment and departments in the best relation to each other to improve communication, eliminate distractions, curtail travel.

Space planners are self taught. Office function and space planning are rarely included in the curriculums of design schools. We have been searching for a method, simple and teachable, that an office products dealer can use with confidence to plan offices that function . . . and make proposals that can be presented in a manner that the efficiency benefits can be demonstrated to the prospective customer in terms that he can understand and will accept.

We feel that we have found what we have been looking for in the methodology developed by Richard Muther. His "Systematic Layout Planning" has been used with outstanding results in hundreds of plants and offices. This text covers a "simplified" version of the method and is primarily for use on small office spaces up to about 3,000 square feet. Once the techniques are mastered, those interested may elect to continue their studies and procure advanced texts which describe SLP in full as it would be used in larger planning projects.

Ralph Terry, Director
Office & Contract Furnishing Division
National Office Products Association

Introduction

This manual is divided into four sections:

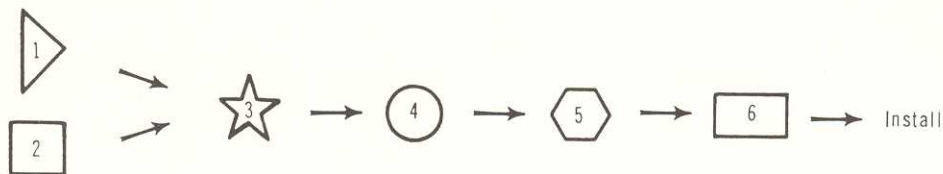
1. The six steps of Simplified Systematic Layout Planning page 1-1
2. Techniques for gathering data and applying Simplified SLP page 2-1
3. Guidelines for selecting office environments and furnishings page 3-1
4. A set of working forms for use in planning projects page 4-1

Simplified Systematic Layout Planning is a six-step procedure to follow when laying out an area. These steps are a simplification of Systematic Layout Planning (SLP), a technique developed for layout planners and widely used by facilities planners and industrial engineers.

Simplified SLP is best suited to small office areas up to approximately 3,000 square feet or approximately 300 square meters. It can also be used in auxiliary, laboratory and support areas up to 5,000 square feet (500 sq.m.). Larger areas and those having multiple floors or other complications should be planned with the full SLP procedure.

For departmental, branch or small office areas, Simplified SLP can be of great value: saving time, encouraging participation and permitting effective delegation of layout planning responsibility.

The pattern of Simplified Systematic Layout Planning can be shown schematically as follows:



1 CHART THE RELATIONSHIPS

- a. Identify the activities, functions, or building features.
- b. List activities on a Relationship Chart.
- c. Assign "closeness" values to each pair of activities and code "reasons" therefor.



2 ESTABLISH SPACE REQUIREMENTS

- a. Prepare an Activities Area and Features Sheet.
- b. Determine the area required for each activity.
- c. Mark physical features and configuration requirements.



3 DIAGRAM THE ACTIVITIES ARRANGEMENT

- a. Diagram pairs of activities on the basis of relationship ratings.
- b. Re-arrange activities into final Activity Relationship diagram.
- c. Indicate required floor space on the diagram.



4 ARRANGE SPACE FOR EACH ACTIVITY

- a. Join the space required for each activity with the relationship diagram.
- b. Adjust and rearrange to integrate all modifying considerations.



5 EVALUATE ALTERNATIVE LAYOUTS

- a. Visualize the most likely arrangements.
- b. Establish specific objectives of the layout.
- c. Weigh the various factors.
- d. Rate each alternative arrangement.
- e. Select the most suitable arrangement.



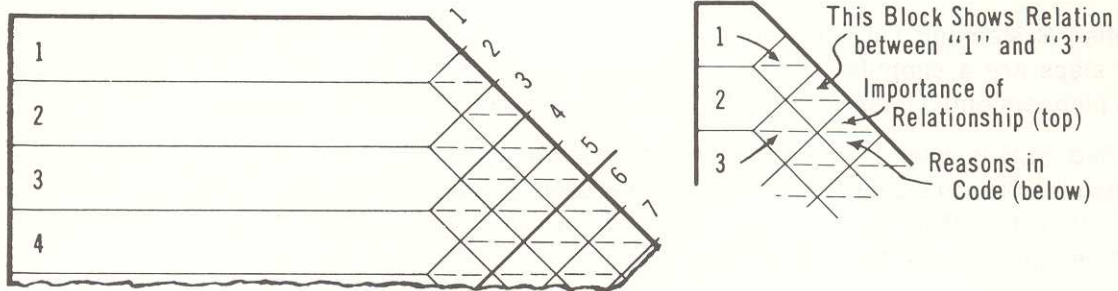
6 DETAIL THE SELECTED LAYOUT PLAN

- a. Show detail of each piece of equipment and major utilities.

STEP 1. Chart the Relationships

Basically, every layout planning project—large or small—rests on three fundamentals: **Relationships** among various functions or activity areas; **Space** for each activity-area, in amount, kind, and shape; and **Adjustment** of these into a layout plan.

Establishing the relationships involves relating each function, activity-area, or major building feature of the particular contemplated layout to every other activity-area by a closeness-desired rating. Determining and recording these relationships is a basic first step in Simplified SLP.



In charting relationships, each activity-area is listed on a relationship chart (above). Each activity-area line slopes away at 45 degrees—down and up. Where down-sloping line 1 intersects up-sloping line 3, record the desired (or required) relation between Activity 1 and Activity 3.

A line entry on the relationship chart might be:

1. a person identified by name, title, or job function;
2. a group of people performing the same function and thereby having the same relationship with other activities;
3. a support area to which other activities may have a relationship, such as central files or reception;
4. a building feature, natural condition or piece of equipment to which other activities may have a relationship, such as an entrance way, north window light, a copy machine.

A vowel-letter rating scale is used to record the closeness desired between each pair of activity-areas—using the upper half of the particular intersected box (or square).

The lower half of the box is used to record the reason(s) for the closeness. Each reason is given a number and the various reasons support each closeness-desired decision by one or more reason-code numbers.

"Closeness" Rating

Value	CLOSENESS	No. of Ratings
A	Absolutely Necessary	
E	Especially Important	
I	Important	
O	Ordinary Closeness OK	
U	Unimportant	
X	Not desirable	

Reasons behind the "Closeness" Value

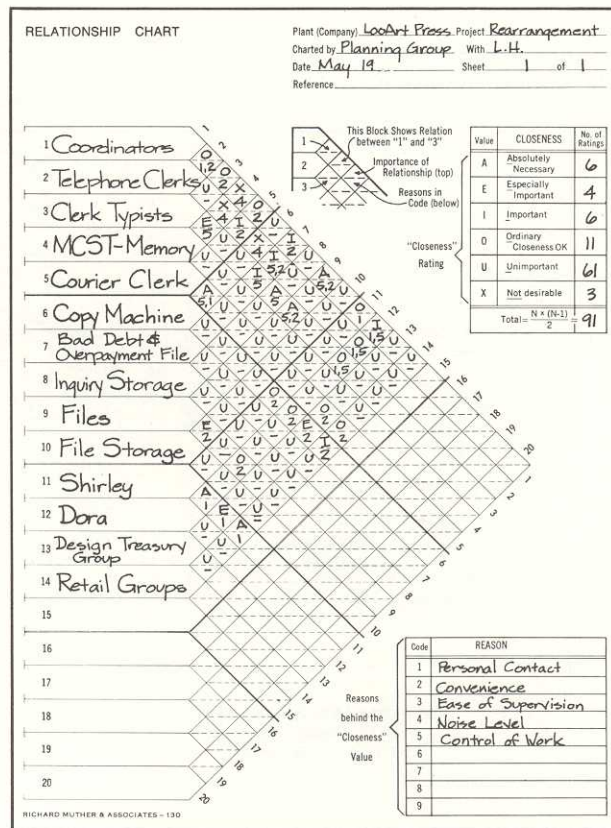
Code	REASON
1	
2	
3	
4	
5	
6	
7	
8	
9	

STEP 1: Chart the Relationships — continued

The relationship chart is a simple and effective device to help organize a host of decisions into usable form.

In the office layout example at the right, there are 91 separate decisions recording how each activity relates to the others. The relationship chart relieves you of having to keep in mind all these decisions and the reasons for them.

1. Complete the heading on the working form.
2. Identify all activities involved and list them on a relationship chart, one on each line.
3. Determine and record in the upper half of the appropriate diamond-shaped block a closeness rating for each activity relative to every other activity.
4. Record a reason-code number in the lower half of each block in which a rating other than "U" is recorded.
5. Explain each reason code used with appropriate entry in the reason box.



For example, in the relationship chart above, Coordinators (Activity 1) relates to Files (Activity 9) in the block where down-sloping line 1 intersects up-sloping line 9. The relationship between these two is "A" or closeness Absolutely necessary. The reasons are "5 and 2" or control of work and convenience.

The relationships can be established in several ways: a) by the layout planner if he or she is really familiar with the desired workings of the area(s) involved; b) by group discussion between the planner and one to three key supervisors; c) by face-to-face questioning of each person involved in the area(s) being laid out; or d) by questionnaire to be filled out by all or selected individuals. A questionnaire form is discussed later in this booklet.

The relationship chart also serves as a convenient check sheet that helps you avoid overlooking any relationship that should be included—you are indeed forced to fill-in each block. One of its less obvious advantages is the opportunity it provides to involve people in planning the layout of the areas in which they will be working. Additionally, each relationship (other than "U") must be supported by reasons, so people have little cause to feel the layout planner is simply pushing them around. And, it helps them understand that any office layout is a best combination of many interacting relationships.

STEP 2: Establish Space Requirements

CUSTOMER SERVICE SUMMARY
OFFICE LAYOUT REQUIREMENTS DATA

Company LOOART PRESS By LH With DK Date MAY 19
 Location 2ND FLOOR - SOUTH Space Assigned 4800 SQ. FT. Sheet 1 of 1

Present Plan for year +2 YES.

Room or Area Number	Identification		Space Req'd				Furniture and Equipment Required										Description	Size in INCHES	Special Utilities or Requirements (Describe)									
	Personal Name or Work Group. (List each individual -- arranged by work group -- or list name of work group or function. If individual's name is used, check appropriate columns; if working group, enter numbers.)	Job Title or Description	Male	Female	Type of Space*	Net Area**	Regular Furniture and Equipment													Other Furniture and Equipment								
							Primary Desk/Table	Drafting Table	Size in INCHES	Second Desk/Table	Typing Rm./Stand	Exec. Return	48" PANELS	Desk Chair/Stool	Side/Conf. Chair	24" PANELS				Conventional File	Lateral File	Storage Cabinet	Shelving (PANEL HUNG)	Telephone Lamp	Elec. Mach. on Stand	Number	Special Utilities or Requirements (Describe)	
1	COORDINATORS	SAME	10	0	725	10	30x48	10																				
2	TELEPHONE CLERKS	SAME	5	0	325	1	30x60	2																	4	TEL. CARRELS	48x30x60	
3	CLERK TYPISTS	SAME	12	0	760	14	30x48	14																				
4	MOST - MEMORY	OPERATOR	1	0	70	2	30x48																					
5	COURIER CLERK	SAME	1	0	45	1	30x48																					
6	COPY MACHINE				25																							
7	BAD DEBT &																											
	OVERPAYMENT FILE				35	1	30x60																					
8	INQUIRY STORAGE				45																							
9	FILES	CLERKS	2	0	300	3	30x48																					
10	FILE STORAGE				45																							
11	SHIRLEY	SUPERVISOR	1	E	135	2	30x48	2																				
12	DORA	SR. COORD.	1	E	105	1	30x60	1																				
13	DESIGN TREAS. GROUP	VARIOUS	3	0	265	3																						
14	RETAIL GROUPS	VARIOUS	11	0	940	11	30x48	4	9																			
Totals			47		3820	44			2028	2144	9	27	26	9	98	3336	10											

NOTE: SEE FURNITURE & EQUIPMENT SURVEY FORMS FOR DETAILED BACK-UP AND MOVE NUMBERS ON THIS FURNITURE & EQUIPMENT.

*Type of Space: P-Private E-Semi-Private Enclosure O-Open or Semi-Open S-Service or Special Areas G-General areas not specifically assigned (Shared areas not considered service or spl.)

**Net Area: Excludes stairways, restrooms, central corridors, etc. (except where specifically listed), but includes working and access area or apportioned share thereof.

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Next, we list the same activities as in Step 1. Then we calculate and record the amount of space and the furniture and equipment required to support each activity (Figure above).

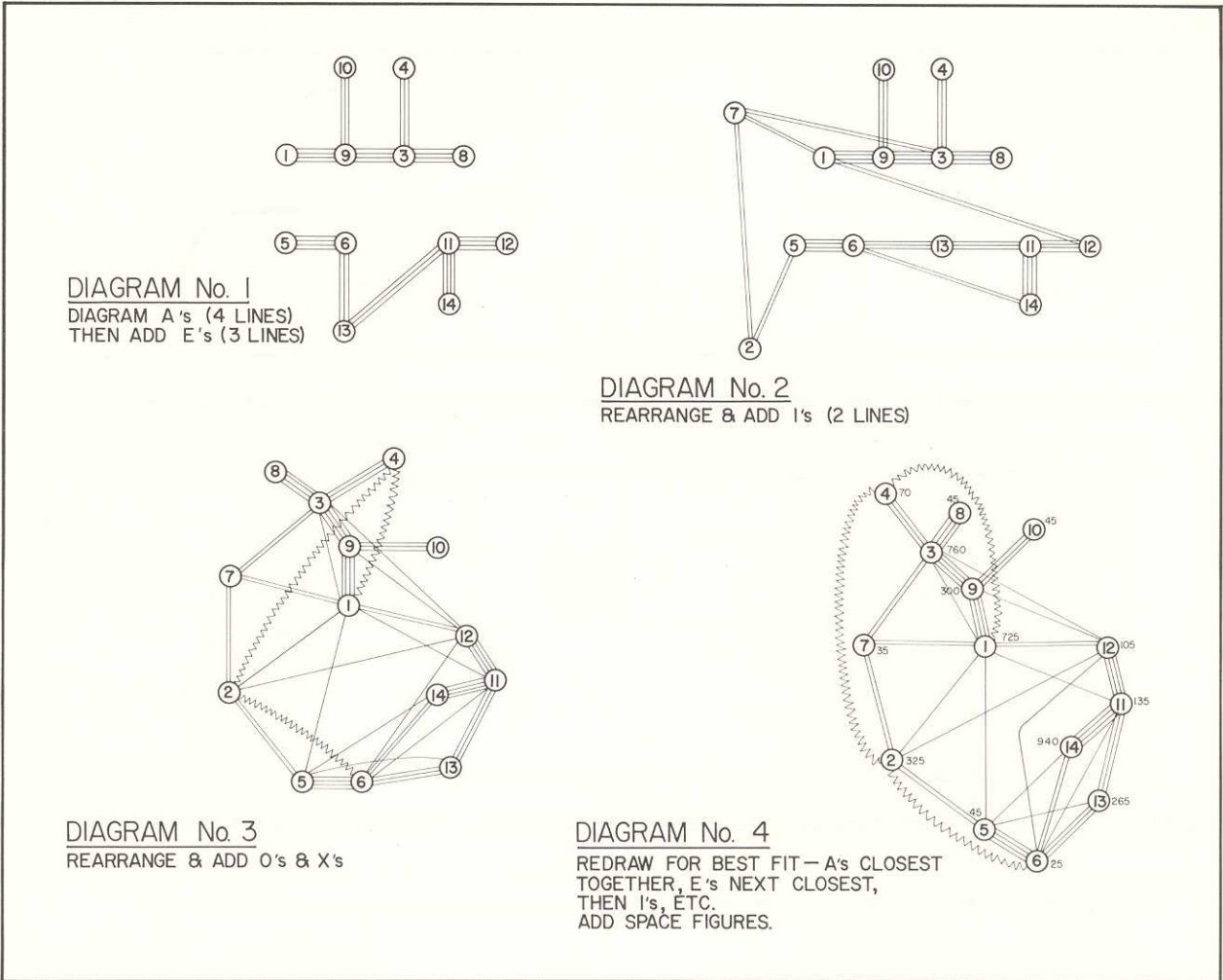
Requirements can be established in several ways. One is to determine the space now used for each activity; then apply a factor for effectiveness of present utilization, and another factor for any projected change(s) in the level of operations to be supported.

Another way is to develop space, furniture and equipment standards for typical work stations, groups of positions, or job categories. Recognize that the type of furniture used can influence the space required. Panel-mounted furniture systems, for example, often take less floor space but provide less work surface than other types of furniture.

In some instances, space is set by measuring each piece of equipment, allowing for operator's work area, access and maintenance areas. Then calculate the total area required to house the equipment. If the shape or overall dimensions of an area are critical, then a rough layout may be useful to establish proper requirements. Measuring and rough layout are most useful when establishing space for canteens, computer rooms, reproduction centers and the like, where relatively major equipment and installation costs are involved.

Forms for recording furniture and equipment requirements are discussed later in this booklet.

STEP 3: Diagram Activity Relationships

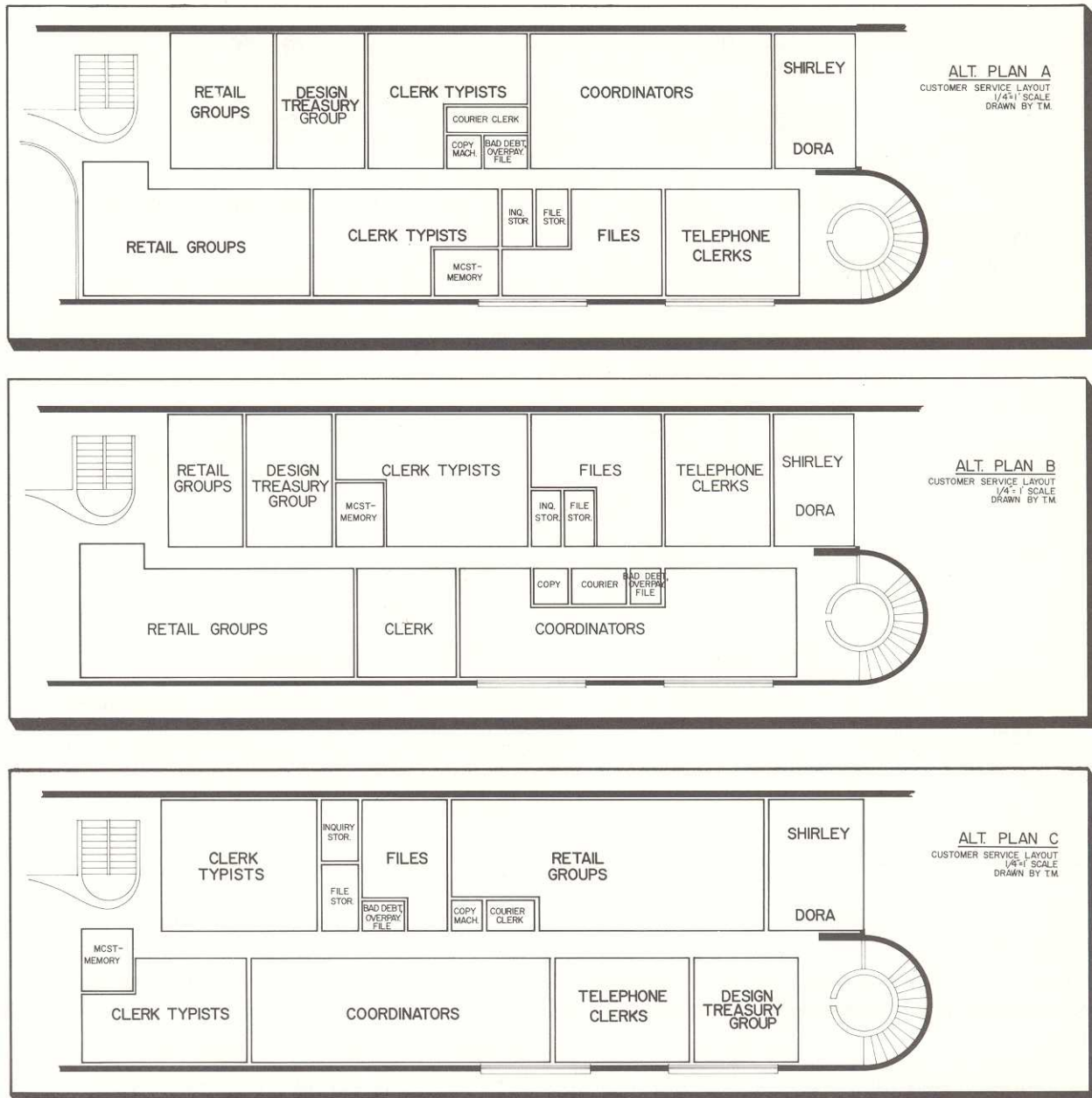


So far, we have merely recorded and tabulated data. We will now use these data to develop an arrangement of activities. We do this by preparing an activity relationship diagram (Figure above). Numbered circles are used to represent the activities. Circles are connected to one another by parallel lines corresponding to the closeness rating values recorded in Step 1 on the Relationship Chart.

The highest rated relationships (A's) are represented by four connecting lines; the next highest (E's) by three lines; and so on, through the "O's" with one line. Unimportant (U) relationships are not diagrammed. A zigzag line is used to show "X" relationships. For comparison, think of elastic bands pulling the activities together and a compressed spring pushing activities away.

The goal is to place the activity pairs with the highest closeness ratings nearest each other, and those with lower closeness ratings progressively further away. The resulting diagram is the basis of subsequent steps and must be carefully constructed. Always diagram the "A's" or four-line relationships first, then add the "E's", followed by the "I's" and "O's". Add "X's" last. Several diagrams — each a redrawing of the activities already diagrammed, with the next "level" of closeness-desired ratings added — are customarily required to develop the final best-fit diagram. That is, re-draw the "A's", or the "A's" and "E's", if they do not seem to fit well, before adding the "I's", in a sequence of progressively refined and more inclusive diagrams. When you are finished, mark the space requirements from Step 2 beside each circle.

STEP 4: Draw Space Relationship Layouts



The temptation in office layout planning is to jump prematurely into placing furniture and equipment. But no matter how well you arrange these details, you cannot get maximum operating effectiveness if overall work-group or departmental positions are improperly located with respect to each other.

Concentrate on making good overall or block layouts (as in the Figure above) using the diagram from Step 3 as a direct guide. Several workable layouts will become apparent, each adjusted in a different way to accommodate utilities, building features, personnel matters, aesthetics and the like.

Make your layout on grid or cross-section paper to a given scale. And don't stop with one layout. You cannot tell how well or how poorly it will perform without comparing it to other alternatives. Three or four alternative layouts will usually be sufficient. We find it very quick to draw alternative layouts to scale on sheets of tracing paper on which is lightly printed a rectangular grid.

STEP 5: Evaluate Alternative Arrangements

Objective evaluation can help you identify the best layout alternative and smooth the inevitable ruffled feathers of those whose desires could not be completely satisfied.

A simple listing of pros and cons usually does not dig deep enough and gives little recognition to the differing importance of various factors. Cost comparisons often result in a stand-off. SLP uses a weighted-factor approach which makes objectives explicit. And it allows those who are affected to participate in selecting the basic layout plan.

First, enter the data at the top of the form. Then, identify each plan. Next, list the objectives to be achieved or the factors or considerations on which the plans will be compared. Assign weight values to the relative importance of each factor or consideration — starting with 10 for the most important. The factors and assigned weights should be established in discussions with the managers and supervisors in the areas involved.

Next, rate the effectiveness of each alternative layout on each factor or consideration, again using the vowel-letter ratings (A, E, I, O and U) in descending order. Here, the workers in the areas involved can themselves actually participate in the ratings.

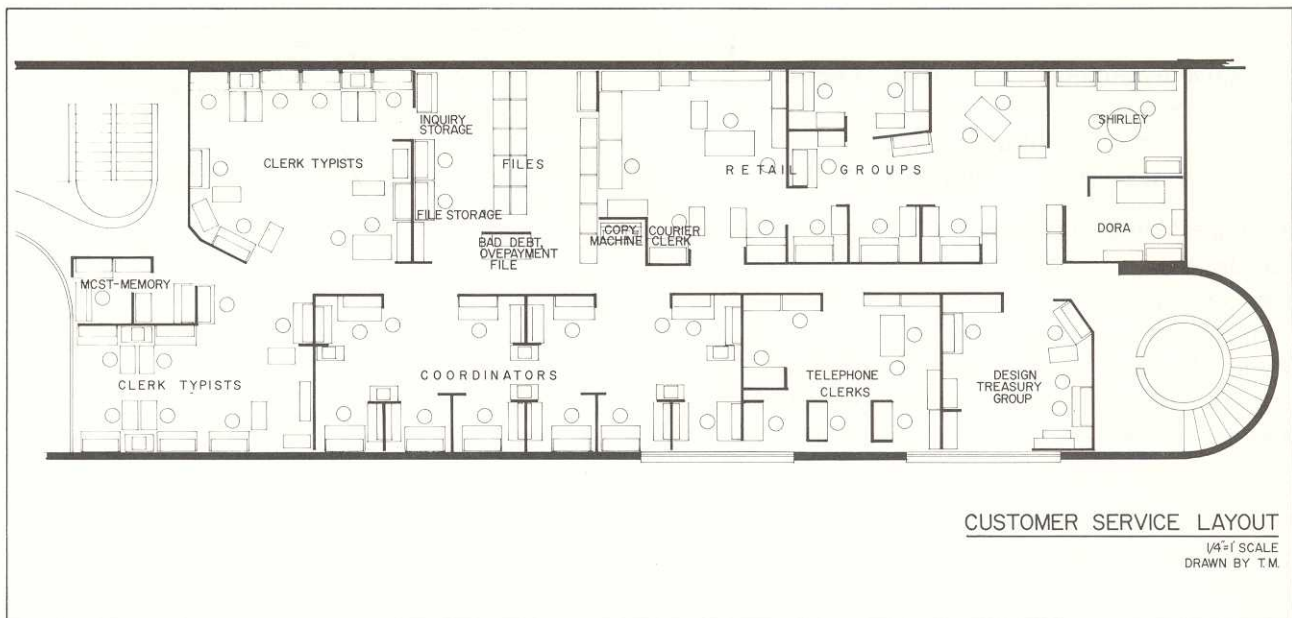
After all plans have been rated on all factors or considerations, convert the vowel-letter ratings to numerical values (A=4, E=3, I=2, O=1, and U=0). Multiply numerical values by the appropriate weight and down-total the extended, weighted ratings for each alternative layout. The highest total should indicate the best layout.

If two plans score almost the same, you can re-evaluate with more factors, other people, or revisions to the plans themselves that may eliminate some weak points.

EVALUATING ALTERNATIVES							
Plant/Area	Customer Service	Project	Rearrangement	Date	May 19		
Description of Alternatives:		A. Telephone Clerks Stay As Is					
		B. Telephone Clerks Next to Shirley & Dora. Retail Groups Next to Shirley & Dora.					
D.		E.					
Weight set by		LH & DK		Ratings by		Planning Group, LH. Tally by DK	
FACTOR/CONSIDERATION	WT.	RATINGS AND WEIGHTED RATINGS					COMMENTS
		A	B	C	D	E	
1 Easy Supervision	10	E 30	I 20	A 40			
2 Minimum Noise Problems	7	E 21	A 28	A 28			
3 Convenience To Stairs	5	O 5	O 5	O 5			
4 Easy Circulation	7	A 28	E 21	A 28			
5 Easy Future Rearrangement	2	A 8	A 8	A 8			
6 Easy Installation	2	A 8	O 2	E 6			
7							
8							
9							
10							
11							
12							
13							
14							
TOTALS		100	84	115			
NOTES Rating Scale: A=4 points; E=3 points; I=2 points; O=1 point.							
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Evaluating Description	Letter/Value
Almost Perfect Results (Excellent)	A / 4
Especially Good Results (Very Good)	E / 3
Important Results (Good)	I / 2
Ordinary Results (Fair)	O / 1
Unimportant Results (Poor)	U / 0
Not Acceptable Results (Not Satisfactory)	X / ?

STEP 6: Detail the Selected Layout Plan



In this final step, all the previous work pays off. Specific pieces of furniture and equipment can now be laid out with complete assurance that the overall arrangement will be effective.

In big layouts, in order to show the details, the scale of the planning sheet changes at this step. These details can be drawn on tracing paper or arranged as two dimensional templates on a grid-backed sheet. Three dimensional models are seldom justified for small office layout planning.

As a practical matter, some adjustment from the selected block plan will be necessary to accommodate final positions of furnishing and utilities. Once completed, the detailed plan can be reproduced and used to guide architects, designers, contractors, maintenance crews and others involved in installation activities.

Simplified SLP—Six Simple Steps to Small Office Layouts

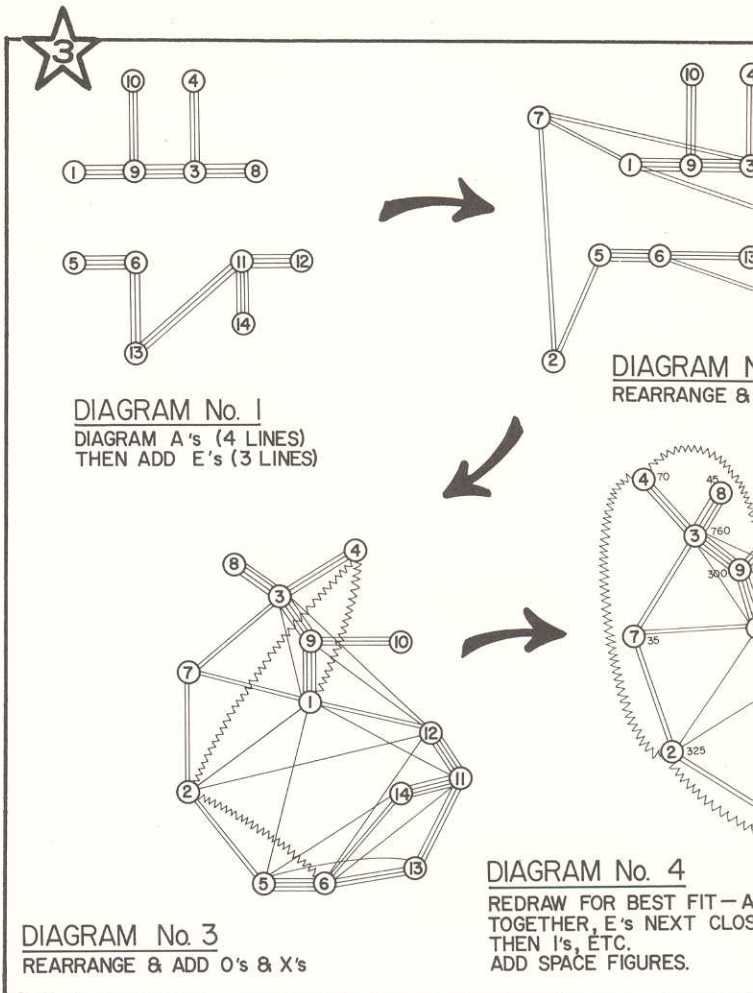
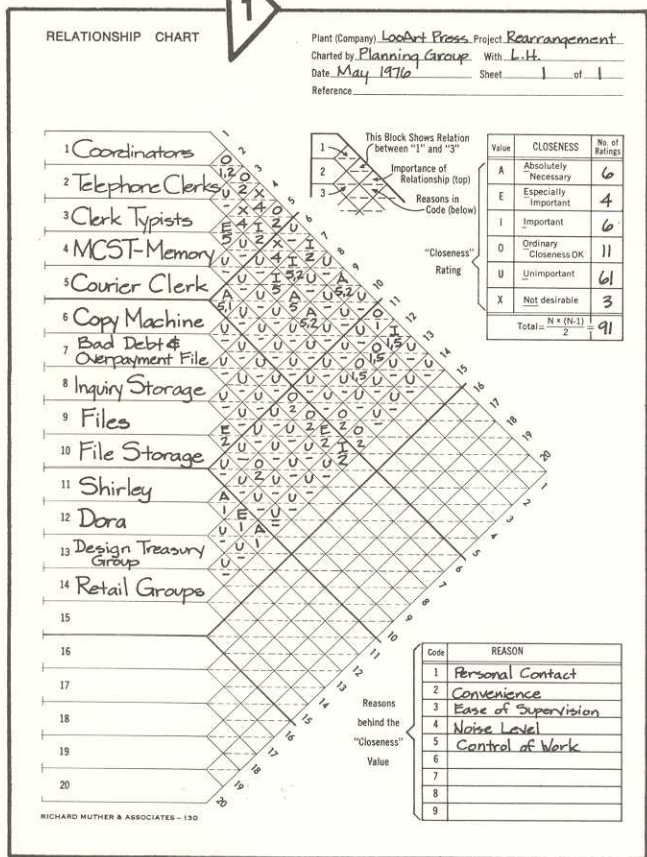
In Steps 1 and 2, we identified the necessary activities, rated their relationships to each other and determined the amount and kind of space each required.

In Steps 3 and 4, we transformed this into a best-fit diagram, added the space amounts to the diagram, and determined a number of alternative layout solutions.

In Step 5, we evaluated the alternative layouts considered most workable.

Then in Step 6, we detailed the selected plan into a working drawing that showed all equipment and furniture in place.

This completes the Simplified S.L.P. procedure. Now we will be able to turn our plans over to the installers and/or movers to physically place the actual equipment, or to others who may need to do more work to dress-up the space or adjust other details to our layout plan. The six steps are summarized in pictorial form on the next page.



CUSTOMER SERVICE SUMMARY

OFFICE LAYOUT REQUIREMENTS DATA

Company LOOFART PRESS By LH With DK Date MAY 76
 Location 2ND FLOOR - SOUTH Space Assigned 4800 SQ. FT. Sheet 1 of 1

Room or Area Number	Personal Name or Work Group (List each individual - arranged by work group - or list name of work group or function. If individual's name is used, check appropriate columns, if working group, enter numbers.)	JOB TITLE or Description	Space Req'd		Furniture and Equipment Required														
			Male	Female	Regular Furniture and Equipment	Other Furniture and Equipment	Size in INCHES	Quantity	Size in INCHES	Quantity	Size in INCHES	Quantity	Special Utilities (ELECTRICAL)						
1	COORDINATORS	SAME	10	0	225	10	30x48	10	14	10	2	20	10x10	6					
2	TELEPHONE CLERKS	SAME	5	0	325	1	30x60	2	6	2	1	2	2	5	5	4	TEL. CARRIERS	48x30x60	
3	CLERK - TYPISTS	SAME	12	0	760	14	30x48	1	14	1	1	2	15	4	2	4	2	AUTO. TYPEWRITERS	
4	MCST - MEMORY	OPERATOR	1	0	10	2	30x48												
5	COURIER CLERK	SAME	1	0	45	1	30x48												
6	COPY MACHINE			0	25												1	PHOTOCOPIER	48x30x34
7	BAD DEBT & OVERPAYMENT FILE			4	35	1													
8	INQUIRY STORAGE			0	45		30x60												
9	FILES	CLERKS	2	0	300	3	30x48												
10	FILE STORAGE			0	45														
11	SHIRLEY	SUPERVISOR	1	E	135	2	30x48	2									1	ROUND CONF. TABLE	48" DIA.
12	DORA	SR. COOD.	1	E	105	1	30x60	1											
13	DESIGN TREAS. GROUP	VARIOUS	3	0	245	3	30x48	4	3	5	1	2	14	3	2				
14	RETAIL GROUPS	VARIOUS	11	0	930	11	30x48	4	9	11	1	5	3	9	7	5	1	WALL DISPLAY RACK	96x12x60
Totals			47		3820	45			2428	2244	9	24	9	58	33	10			

NOTE: SEE FURNITURE & EQUIPMENT SURVEY FORMS FOR DETAILED BACK-UP AND MODEL NUMBERS ON THIS FURNITURE & EQUIPMENT.

* Type of Space: P-Private E-Semi-Private Enclosure O-Open or Semi-Open S-Service or Special Area G-General areas not specifically assigned (Shared areas not considered service or special.)

** (Net Area): Excludes stairways, restrooms, central corridors, etc. (except where specifically listed), but includes working and access area or appurtenant share thereof.

ALLOW! 25% OR 950 SQ. FT. FOR CIRCULATION

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 B. Telephone Clerks Next to Shirley & Dora Retail Groups Next to Shirley

D. _____ E. _____

Weight set by LH & DK Ratings by Planning Group, LH Tally by DK

FACTOR/CONSIDERATION	WT.	RATINGS AND WEIGHTED RATINGS				
		A	B	C	D	E
1 Easy Supervision	10	E 30	I 20	A 40		
2 Minimum Noise Problems	7	E 21	A 28	A 28		
3 Convenience To Stairs	5	O 5	O 5	O 5		
4 Easy Circulation	7	A 28	E 21	A 28		
5 Easy Future Rearrangement	2	A 8	A 8	A 8		
6 Easy Installation	2	A 8	O 2	E 6		
7						
8						
9						
10						
11						
12						
13						
14						
TOTALS		100	84	115		

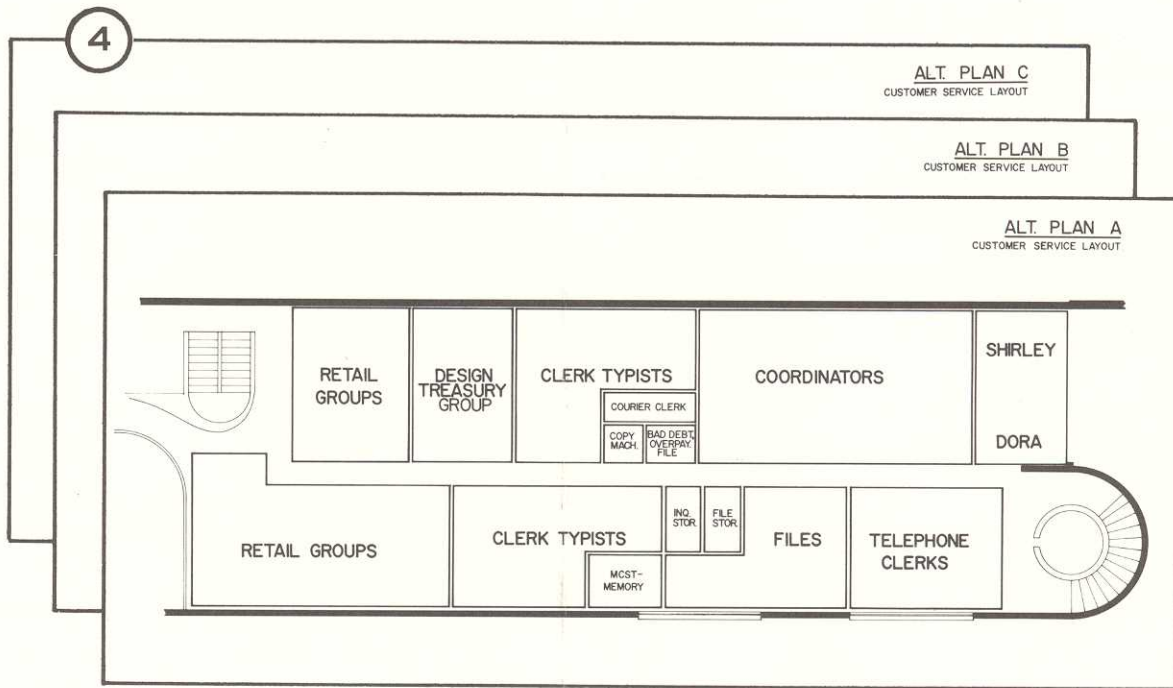
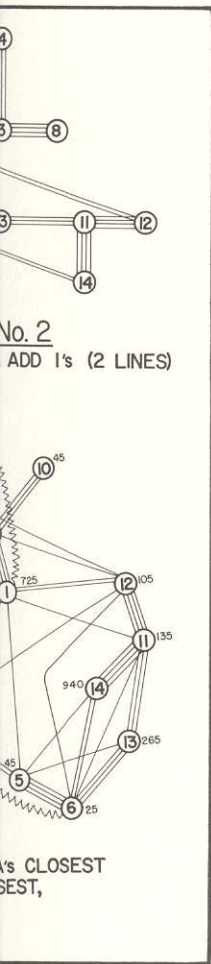
NOTES: Rating Scale: A = 4 points; E = 3 points; I = 2 points; O = 1 point.

SIMPLIFIED SYSTEMATIC LAYOUT PLANNING...

PLANNING AN OFFICE REARRANGEMENT

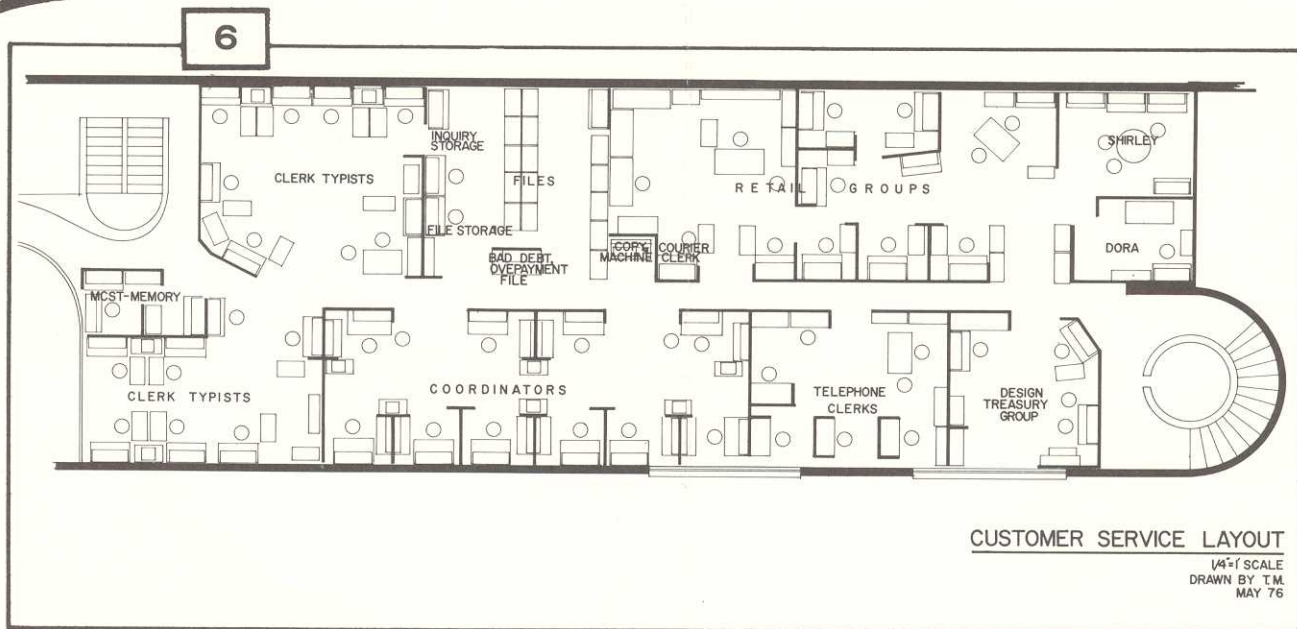
Simplified SLP's easy-to-note symbols include:

1. **Triangle**—triangular-shaped relationship chart.
2. **Square**—square feet and physical features.
3. **Star**—diagram connecting activities at different points.
4. **Circle**—round and round to adjust the layout diagrammed.
5. **Hexagon**—examine from **all sides**; evaluate all factors.
6. **Rectangle**—layout plan on **sheet of paper** or building print.



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COMMENTS



SECTION TWO

Gathering Data

When applying Simplified SLP, you will need data on relationships, space, furniture and equipment. To establish relationships, the planner will usually have to interview or survey representatives of each activity involved. Space, furniture and equipment data can be gathered separately and independently by touring each activity, although here, too, interviews or questionnaires can be of great value.

Management may be reluctant to have interviews conducted. Objections may be based on a desire to avoid premature speculation about new furnishings and surroundings. Or there may be objections to the time required for employees to be interviewed or fill out a questionnaire.

An effort should be made to convince management of the need to have people involved. A plan based on incomplete or inaccurate data will be of poor quality. The people closest to the work have the most knowledge of physical requirements and day-to-day relationships between activities. Data should usually come from them as well as from management.

The questionnaire or interview process can identify many prejudices, inefficiencies, and changing relationships that may need attention before rearranging the physical facilities.

Perhaps the greatest benefit of having everyone involved is the effect on morale. Basically, people want to be part of the organization, want to do well, to contribute ideas for improvement. Most of all, they want to know that management cares about them. Considering a new office plan offers management a rare opportunity to improve employee attitudes about themselves, their work and the company.

The Relationship Survey

The form illustrated here is used to record the closeness desired and reasons for closeness between activity-areas. It can be used to guide interviews or as a questionnaire. If used as a questionnaire, the form should be sent with a cover letter or memo explaining the project and the method of responding.

There should be one survey form for each activity-area. When the forms are completed, there will be two ratings for each relationship or pair of related areas, each rating supported with its reason(s). The planner should check for discrepancies in the ratings. Do the file clerks and the clerk typists, for example, both rate themselves "A" to each other, or does one group say the rating is "E" or perhaps even "O"? If there is a disagreement, it must be resolved.

RELATIONSHIP SURVEY

Date: MAY 19 Sheet 3 of 12
By: LH With DK
ACTIVITY-AREA: CLERK TYPISTS Period Covered: NOW to +2 YRS.
Sub-Area or Individual: _____ Space Assigned: 760 SQ. FT. NET
Location: 2nd FLOOR - SOUTH

Note the activity-area, sub-area or individual given above. Use the vowel-letter ratings below to rate the degree of closeness desired between this activity-area and the others listed at the bottom of this page. Ratings should represent closeness desired in an ideal situation. For each rating other than U (Unimportant) give one or more reasons using the code numbers below. Most ratings should be U's and O's. There should be very few E's and perhaps only one or even no A's. Make ratings for the period above.

CLOSENESS DESIRED RATINGS		REASONS FOR CLOSENESS	
A - Absolutely Necessary	CUSTOMER SERVICE EXAMPLES	1. Flow of material/paperwork	
E - Especially Important	COURIER CLERK - COPY MACHINE	2. Personal contact required	
I - Important	FILES - FILE STORAGE	3. Ease of supervision	
O - Ordinary Closeness OK	COORDINATORS - BAD DEBT FILE	4. Use same records	
U - Unimportant	SHIRLEY - BAD DEBT FILE	5. Use same personnel	
X - Not Desirable	RETAIL GROUPS - DORA	6. Use same equipment	
	TELEPHONE CLERKS - COPY MACHINE	7. Use same utilities	
		8. Reception of visitors	
		9. Visitor convenience	
		10. Employee convenience	
		11. Light, natural conditions	
		12. Noise, hazard, dirt	
		13. CONTROL OF WORK	
		14.	

NO.	ACTIVITY-AREA	Rating (Letter)	Reason (Number)
1	COORDINATORS	O	10
2	TELEPHONE CLERKS	U	-
3	SHIRLEY	-	-
4	MCST - MEMORY	E	13
5	COURIER CLERK	U	-
6	COPY MACHINE	U	-
7	BAD DEBT & OVERSIGHT FILE	E	13
8	INQUIRY STORAGE	A	13
9	FILES	A	13, 10
10	FILE STORAGE	U	-
11	SHIRLEY	U	-
12	DORA	U	2, 13
13	DESIGN TREASURY GROUP	U	-
14	RETAIL GROUPS	U	-

Notes: @ CODE NUMBERS WILL BE CHANGED WHEN POSTING TO RELATIONSHIP CHART: 10 SHOWN AS 2; 13 AS 5; 2 AS 1.

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Gathering Data

The Relationship Survey — continued

There is often a tendency to over-assign “A” ratings. If ratings are made properly, “A’s” will amount to about 2 to 5% of the total potential number of relationship boxes. “E” ratings will constitute 3 to 10%, “I’s” between 5 and 15%, and “O’s” from 10 to 25%. “U’s” will make up over half the ratings. The number of “X” ratings will usually be very small.

It is helpful to establish some typical relationships before making the survey—ones that are obvious and generally recognized to all concerned as “A’s”, “E’s”, “I’s” and so forth. These can be explained to respondents in the interview or in the cover letter that accompanies the questionnaire. This leads to fewer misunderstandings and discrepancies to be resolved.

Once all the survey forms have been completed and the discrepancies resolved, the ratings and reason code numbers are posed on the triangular Relationship Chart explained earlier in this booklet.

The Space Survey

Office space is most conveniently broken into three categories: 1. work stations; 2. support; and 3. main circulation.

Work station space includes private offices, desk areas or other work places assigned to specific individuals.

There are two types of support space in most offices. The first is special, work station support typically dedicated to specific work groups. Such space includes file areas, data processing equipment areas, copying, reference stations and the like. The other type of support space is of general nature and includes rest rooms, vending areas, reception areas, building equipment rooms and the like.

Main circulation covers hallways, stairs, elevator shafts and major aisles between activity-areas. It is also convenient to include building losses in this category—losses to walls, partitions and the like. It is not unusual for main circulation and building losses to consume 20 to 25% of gross building space.

The Space Survey form illustrated here can be used in two ways. It can be used as a worksheet to record space in use during a walk-through survey. In this case, there would be one form for each activity-area. The form can also be used as a summary of space in use or required, with one line devoted to each activity-area. Either way, once the space survey is complete, the information can also be posed in summary form on the Office Layout Requirements Data form illustrated earlier in this booklet.

SPACE SURVEY

ACTIVITY-AREA CLERK TYPISTS

Company LOOART PRESS
 Date MAY 11 Sheet 3 of 14
 By LH With -
 Present Plan for year -
 Space Assigned 586 SQ. FT. NET.

Sub-Area or Individual SUMMARY

Location 2ND FLOOR - SOUTH

WORKSTATIONS List by type or activity	Total Area Incl. Internal Aisles	Min. Width of Area	No. of Sta's. in Area	Space per Station	Type of Space Code*	SUPPORT List by type or activity	Total Area Incl. Internal Aisles	Min. Width of Area	Type of Space Code*	CIRCULATION Main Aisles & Building Losses	Total Area Used or Req'd.	TOTAL SPACE Workstation, Support, and Circulation
a	b	c	d	e	f	g	h	j	k	l	m	b + h + m
CLERK TYPISTS	ROUGH MEASUREMENT											
ELMA	5x7 = 35 SQ. FT.				O	ROUTING TABLE	7x6 = 42 SQ. FT.	6'	O	ACCESS IS FROM 2 ND FLOOR CENTER AISLE; ALLOCATE 1/2 OF 3' WIDE AISLE FOR DISTANCE OF 40'	SAY 60 SQ. FT. (C)	
MARY K.	= 35 SQ. FT.					FILES (2)	6x6 = 36	6'	O			
JOAN	= 35					STORAGE CABINET	4x5 = 20	5'	O			
CAROL	= 35											
JANET	5x5 = 25											
MARY S.	= 25											
MARGIE	5x7 = 35											
BOBBIE	5x9 = 45											
DOLLY	6x10 = 60											
BETTY	= 60											
MAXINE	5x7 = 35											
SUB-TOTAL	425											
SENIOR COORDINATOR	(b)											
BEVERLY	7x9 = 63				E							
TOTAL	488					TOTAL	98			TOTAL	60	646 SQ. FT.

Notes (a) THIS AREA MUCH TOO CROWDED. DOLLY & BETTY OK AT 60 SQ. FT. OTHERS UNACCEPTABLE; CAN'T GET IN AND OUT OF WORK PLACES.
 (b) BEV NEEDS ABOUT 90 SQ. FT.
 (c) CENTER AISLE SHOULD BE 5 FT. WIDE.

* Type of Space Code: P-Private, E-Semi-Private Enclosure, O-Open or Semi-Open, S-Service or Special Areas (attach sketch); G-General areas not assigned

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SPACE SURVEY

ACTIVITY-AREA CUSTOMER SERVICE

Company LOOART PRESS
 Date MAY 11 Sheet 1 of 1
 By LH With DK
 Present Plan for year +2 YRS.
 Space Assigned 4800

Sub-Area or Individual SUMMARY

Location 2ND FLOOR SOUTH

WORKSTATIONS List by type or activity	Total Area Incl. Internal Aisles	Min. Width of Area	No. of Sta's. in Area	Space per Station	Type of Space Code*	SUPPORT List by type or activity	Total Area Incl. Internal Aisles	Min. Width of Area	Type of Space Code*	CIRCULATION Main Aisles & Building Losses	Total Area Used or Req'd.	TOTAL SPACE Workstation, Support, and Circulation
a	b	c	d	e	f	g	h	j	k	l	m	b + h + m
COORDINATORS	655 SQ. FT.	8	10	66	O	COORD.	70 SQ. FT.	6	O	COORD.	180	905 SQ. FT.
TEL. CLERKS	240	8	5	48	O	TEL. CLERK	85	6	O	TEL. CLERK	80	405
CLERK TYPISTS	580	8	12	48	O	CLERK TYPISTS	180	6	O	CLERK TYPISTS	190	960
MOST-MEMORY	70	7	2	35	O	MOST-MEMORY	0	-	-	MOST-MEMORY	20	90
COURIER CLERK	45	5	1	45	O	COURIER CLERK	0	-	-	COURIER CLERK	10	55
COPY MACHINE	0	-	-	-	-	COPY MACHINE	25	5	G	COPY MACHINE	5	30
BAD DEBT & OVERPAYMENT FILE	0	-	-	-	-	BAD DEBT & OVERPAYMENT FILE	35	5	G	BAD DEBT & OVERPAYMENT FILE	10	45
INQUIRY STORAGE	0	-	-	-	-	INQUIRY STG.	45	5	O	INQUIRY STG.	10	55
FILES	90	5	2	45	G	FILES	210	5	G	FILES	75	375
FILE STORAGE	0	-	-	-	-	FILE STORAGE	45	5	O	FILE STG.	10	55
SHIRLEY	135	8	1	135	E	SHIRLEY	0	-	-	SHIRLEY	35	170
DORA	105	8	1	105	E	DORA	0	-	-	DORA	25	130
DESIGN TREASURY	195	8	3	65	O	DES. TREAS.	70	6	O	DES. TREAS.	65	330
RETAIL GROUPS	630	8	11	57	O	RETAIL GROUPS	310	6	O	RETAIL GROUPS	235	1175
TOTAL	2745	-	48	57	-	TOTAL	1075	-	-	TOTAL	930	4770

Notes (a) CIRCULATION ALLOCATED AT 25% OF WORKSTATION AND SUPPORT.

* Type of Space Code: P-Private, E-Semi-Private Enclosure, O-Open or Semi-Open, S-Service or Special Areas (attach sketch); G-General areas not assigned

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Gathering Data

The Furniture Survey

The form illustrated here is used to record the furniture in use in the areas being planned. It is usually necessary, sooner or later, to identify the furnishings used by each individual. This can be done easily while making the space survey. One form will be completed for each work station or support area. The same form can then be used to summarize for the whole activity-area. Or, the most important furnishing information can be posted on the Office Layout Requirements Data form illustrated earlier.

The Furniture Survey form can also be used to establish the need for new furnishings, to manage a move to new quarters, or to inventory what is on hand if a master list does not exist.

The Equipment Survey

This form is used in conjunction with the Furniture survey form. One is completed for each work station or support area. A summary is made using the same form or the Office Layout Requirements Data form illustrated earlier.

FURNITURE SURVEY
 Company: LOGART PRESS Sheet: 36 of 46
 By: LJA With: MK Date: MAY 19
 Present Plan for year
 Space Assigned: 35 SQ. FT.
 Location: 2nd FLOOR - SOUTH (NW CORNER)
 Sub-Area or Individual: MARY KENT

ACTIVITY: CLERK TYPISTS
 ACTIVITY AREA: CLERK TYPISTS
 Job Description: TYPE LETTERS AND FORMS RELATED TO LARGE, SPECIAL ORDERS, LOST ORDERS, CUSTOMER COMPLAINTS, ETC. REFER TO HISTORICAL INFORMATION ON MICROFICHE.
 Males: L. Handed R. Handed None
 Females: L. Handed R. Handed None
 Man-days per mo. out of office: NONE
 Working operating hours or period of use: 8AM - 4:30 PM

Enter checks, numbers or descriptions as appropriate. Make notes in unused part of form or on back.	Quantity	Size in inches			Model No., Asset No., Move No., Condition, Material, or other info.	Number of drawers			Materials normally in use on work surface - EDP Reports, Letters, Books, Order Forms, Ledgers, Etc. Also see Equipment Survey form.
		Left	Right	Front		Height	Panel	Box-Type	
DESKS / TABLES									
Primary Desk/Table	1	48	30	29	1603-D-4	1	-	1	LETTERS, FORMS, FILE FOLDERS
Secondary Desk/Table									
Typing Return/Stand	1	30	18	24	1603-D-5	-	-	-	
Executive Return									
Drafting Table									
CRT STAND	1	30	24	26	1603-D-6	-	-	-	(SHARED WITH JOAN)
PANELS / SCREENS									
TAN METAL (SUPPORTS PRIMARY SURFACE AND SHELF ABOVE)	1	48	-	60	1603-P-2				
TAN METAL	1	24	-	60	1603-P-3				
STORAGE / FILES									
Conventional Letter									
Conventional Legal									
Lateral Letter									
Lateral Legal									
Filepod									
Check/EDP									
Flat/Map/Plan									
Cabinet									
Shelving (<u>CHANGE ON 48" PANEL</u>)	1	40	13	45	1603-S-2	-	1	NO	NO
Credenza									
Boxes/Cartons									
CHAIRS / SEATING									
Desk Chair	1				1603-C-2				
Steno Chair									
Side Chair									
Drafting Stool									
MEETINGS / PRIVACY									
Persons per Meeting									
Mgs. per Day									
Duration									
Confidential Activities									
Discussions?								Yes	No
Papers?								Yes	No
Private office?								Yes	No
Semi-private space?								Yes	No

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EQUIPMENT SURVEY
 Company: LOGART PRESS Sheet: 36 of 46
 By: LJA With: MK Date: MAY 19
 Present Plan for year
 Space Assigned: 35 SQ. FT.
 Location: 2nd FLOOR - SOUTH (NW CORNER)
 Sub-Area or Individual: MARY KENT

ACTIVITY: CLERK TYPISTS
 ACTIVITY AREA: CLERK TYPISTS

Enter checks, numbers or descriptions as appropriate. Make notes in space below. Also see Furniture Survey form.

Equipment Location	Quantity	Model No., Asset No., Move No., Condition, Amperage, Voltage, or other info.	Shared with: (Person(s), Group(s), etc.)	Equipment Location									
				On Floor	On Desk/Table	On Shelf	On Cabinet	In Drawer	In Cabinet	In Closet	Locked	On Wall	
ELECTRICAL (a)													
Electric Typewriter	1	5	1603-E-5										
Automatic Typewriter													
Teletypewriter													
Key punch/Keyboard													
Cathode Ray Tube CRT	1	2	1603-E-6	JOAN									
Photocopier													
Teletypewriter													
Dictation/Recording Machine													
Calculator (ADDING MACHINE) (b)	1	3	1603-E-8										
Lamp	1	6	1603-E-6										
Telephone													
Portable Heater (400W - MAR)	1	4	1603-E-9	JOAN									
Water Cooler	1	4	1603-E-10	JOAN									
NON-ELECTRICAL													
Card File	2	-	CARTON 2										
In-Out Tray	1	-	1603-N-3										
Stapler	1	-	CARTON 2										
Pencil Sharpener													
Calendar (ON PANEL)	1	-	CARTON 2										
Easel (for flip sheet or display)													
Chalkboard													
Projection Screen													
Map Display													

Notes: (a) NOT ENOUGH OUTLETS NEAR BY. UNSAFE EXTENSION AND TELEPHONE CORDS ON FLOOR AROUND DESK AND CHAIR.
 (b) NOISE, MECHANICAL-TYPE, VIBRATES ADJACENT SURFACES IN PRESENT PANEL ARRANGEMENT.

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SECTION THREE

Office Environments and Furnishings Concepts

For discussion and planning purposes, office environments can be classified into the three types described below, based primarily on the furnishings they use. An in-depth analysis should precede any change from one type to another. The type of environment to be installed in each activity-area must be known before the layout project begins since the furnishings will have a significant effect on space requirements and final furniture arrangements. The three major types of office environments are: conventional private and open grid, landscape, and panel furniture.

Conventional Private and Open Grid

Mostly open with some private one-man offices and some large partitioned offices typically shared by 2-6 workers. Furniture styles vary. Arrangements are rectilinear.

Landscape

No private offices. Usually large open spaces with strategically placed conference rooms and break areas. All furniture is free standing, usually designed with minimal vertical surface area. Curved screens are used for acoustical and visual control but not to support furniture. Arrangements are often irregular.

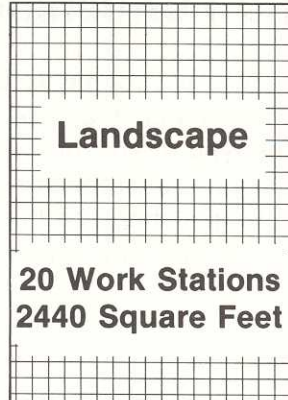
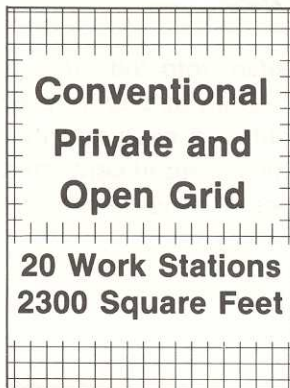
Panel Furniture

Mostly open, but often with some private offices. Most work surfaces and storage equipment are mounted on hinged, inter-connecting panels. Arrangements are often irregular.

As can be seen on the next page, space per work station can vary by 15 to 20% among the three types of office environments. Note also how the amount of work surface, shelves and file storage also vary. The illustration is not meant to be conclusive, but does represent the different results provided by various combinations of furnishings and arrangements.

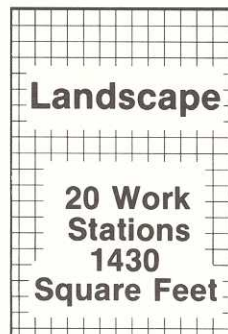
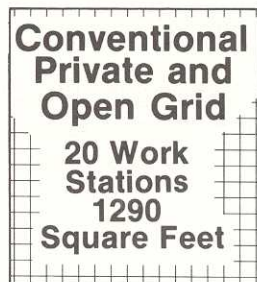
Office Environments and Furnishings Concept

Professional Work Area Space Comparison



Sq. Ft./Station	115	Sq. Ft./Station	120	Sq. Ft./Station	95
Work Surface (Sq. In.)	3600	Work Surface (Sq. In.)	3000	Work Surface (Sq. In.)	3000
Shelves & Files (In.)	210	Shelves & Files (In.)	215	Shelves & Files (In.)	240
2, 3, & 6-Man Rooms		No Partitions		No Partitions	
8 Ft. of Wall/Station		.75 Curved Screens/Station		12.5 Ft. of Panel/Station	
Desk with Box & Pencil Drawer		Desk with Box & Pencil Drawer		Freestanding Work Tables	
Lateral File Cabinets		File Carts		Panel-Mounted Files & Shelves	
		Freestanding Files & Shelves			

Clerical Work Area Space Comparison



Sq. Ft./Station	65	Sq. Ft./Station	70	Sq. Ft./Station	60
Work Surface (Sq. In.)	1800	Work Surface (Sq. In.)	1800	Work Surface (Sq. In.)	1200
Shelves & Files (In.)	125	Shelves & Files (In.)	115	Shelves & Files (In.)	145
No Partitions		No Partitions		No Partitions	
Desk with Box & Pencil Drawer		Desk with Box & Pencil Drawer		All Work Surfaces Panel-Mounted	
Lateral File Cabinets		File Carts		A Few Freestanding Files	
No Shelves (File Tops Only)		Freestanding Files & Shelves		Most Shelves & Files	
		.5 Curved Screens/Station		Panel-Mounted	
				6 Ft. of Panel/Station	

General conclusions may differ with different furnishings and layout assumptions — and of course will differ in detail with every layout arrangement.

Office Environments and Furnishings Concepts

Each office environment or furnishing concept has its appropriate use and place in the office layout. They are not mutually exclusive and can exist side by side or even in mixtures if planned properly. Experience shows that the following conditions favor each type.

Conditions Favoring Conventional Private and Open Grid Environments

1. Area is small—1000-4000 square feet
2. Space is already partitioned
3. Workplace privacy and security is essential (private offices)
4. Workplace privacy is unimportant (open grid)
5. Workplace filing is essential
6. Work surfaces need to be large
7. Visual supervision is essential (open grid)
8. Hierarchy and status are to be stressed
9. Organizational change is infrequent
10. Cost reduction is essential in heating, ventilation and air conditioning (open grid)

Conditions Favoring Landscape Environments

1. Area is large—over 10,000 square feet
2. Space is already open
3. Workplace privacy is important but not essential
4. Workplace filing is to be discouraged
5. Work surfaces need to be large
6. Visual supervision is important but should not be obvious
7. Hierarchy and status are to be minimized
8. Organizational change is rapid
9. Cost reduction is essential in heating, ventilation and air conditioning
10. Attitudes are negative about an existing conventional environment

Conditions Favoring Panel Furniture Environments

1. Area is small or large
2. Space is partitioned and/or open
3. Space conservation (10-15%) is critical
4. Workplace privacy is important but not essential
5. Workplace filing and storage are essential
6. Work surfaces need not be large
7. Visual supervision is unnecessary
8. Private offices will be used for those above supervisory levels
9. Organizational change is frequent but not rapid
10. Attitudes are negative about an existing conventional environment

SECTION FOUR

Working Forms

Following this sheet are fresh copies of the forms used when applying Simplified SLP to small office areas. These may be removed and/or reproduced and put to use when solving your next layout-planning problem. A sample sheet of cross-section tracing paper with non-reproducing grid is also included.

You may reproduce copies of these forms for your own use, provided you recognize their original source and hold their use within the copyright restrictions covering this booklet.

The working forms include those both for making the layout plan and for gathering the data used in planning.

When **making the layout**, three basic forms are required: Relationship Chart, Step 1; Office Layout Requirements Data, Step 2; and Evaluating Alternatives, Step 5. For the steps not using a specific form (Step 3, 4, and 6) any normally available paper will do. Step 3 needs only blank sheets of paper. Steps 4 and 6 can be drawn on almost any cross-section grid paper. However, time will often be saved by using tracing paper on which a cross-section grid has been lightly printed. This conserves effort in preparing alternative layouts in Step 4 and in developing Step 6 from the selected alternative layout. Moreover, tracing paper permits you to lay the sheet down directly over a set of building plans or a floor plan sketch.

When **gathering the data**, the Relationship Survey backs up Step 1; the Space Survey, Furniture Survey, and Equipment Survey back up Step 2. Note that each form provides room on it for additional headings or entries not specifically printed. Other supportive documents may of course be used on particular projects.

A clear plastic ruler with graduations of $\frac{1}{8}$ and $\frac{1}{4}$ inches (or $\frac{1}{2}$ and 1 centimeter) is a very helpful tool in layout planning—especially if it also contains die-cut process-chart symbols. Such a ruler, with the relationship-charting and alternative-evaluation conventions imprinted thereon, is available from the publishers. So also are additional copies of the working forms.

In short, all that you need to make many layouts with Simplified SLP are sheets of grid paper, a ruler and a small circle template of cardboard or plastic to make activity circles in the Step 3 diagram. The rest can be done using plain paper and the working forms in this booklet.

Each of the forms is explained in the text. Each is listed below in the order of appearance as noted in the Page Number column. However, for ease of finding any form in this section from the text example, they are assembled in numerical sequence by Form Number.

Page Number	Form Number	Form Title
1-2	130	Relationship Chart
1-3	151	Office Layout Requirements Data
1-6	171	Evaluating Alternatives
2-1	129	Relationship Survey
2-3	165	Space Survey
2-4	166	Furniture Survey
2-4	167	Equipment Survey
—	—	Tracing paper with fade-out grid

RELATIONSHIP SURVEY

Date _____ Sheet _____ of _____
 By _____ With _____
 Period Covered _____ to _____
 Space Assigned _____
 Location _____

ACTIVITY-AREA _____

Sub-Area or Individual _____

Note the activity-area, sub-area or individual given above. Use the vowel-letter ratings below to rate the degree of closeness desired between this activity-area and the others listed at the bottom of this page. Ratings should represent closeness desired in an ideal situation. For each rating other than U (Unimportant) give one or more reasons using the code numbers below. Most ratings should be U's and O's. There should be very few E's and perhaps only one or even no A's. Make ratings for the period above.

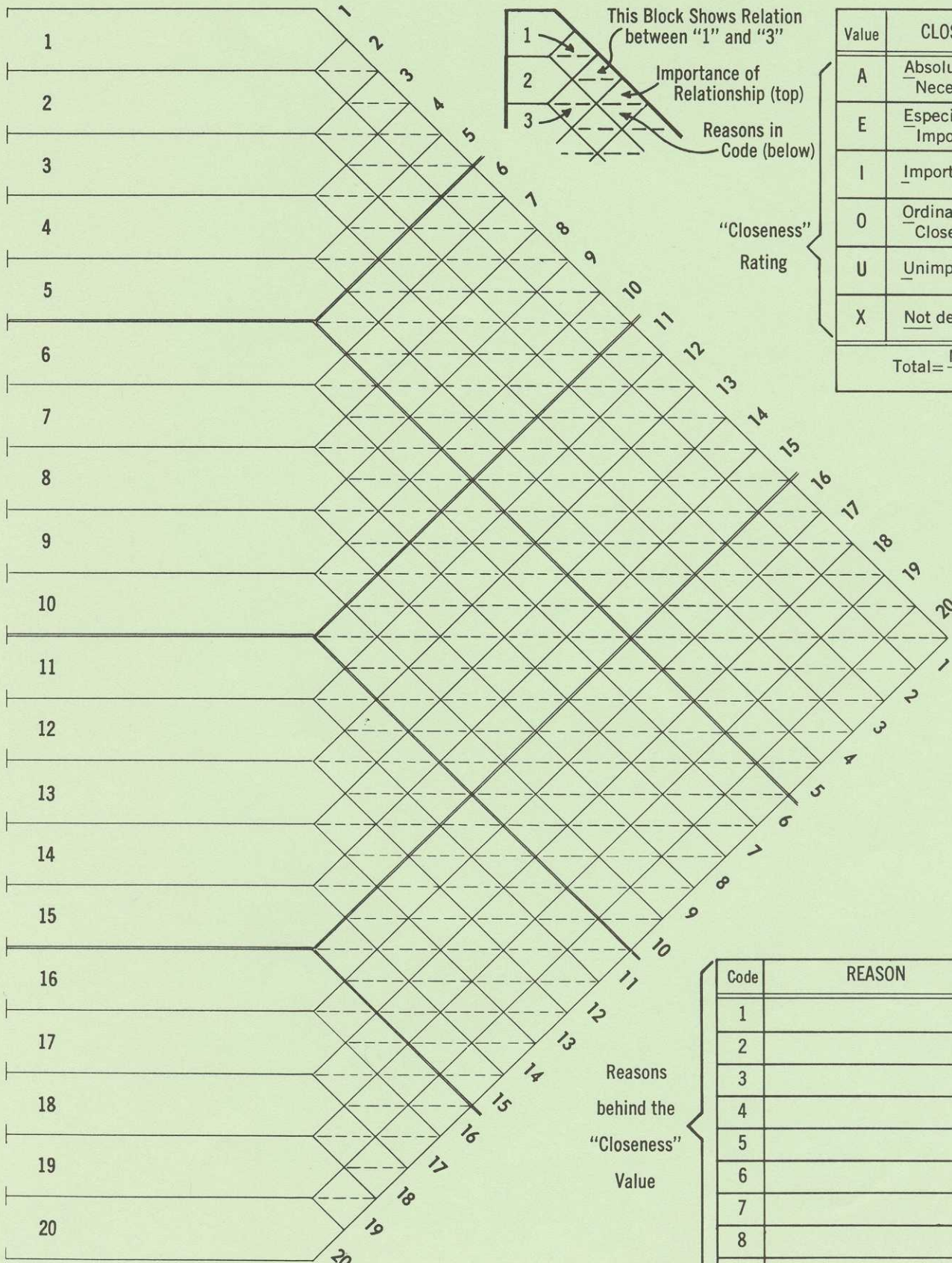
CLOSENESS DESIRED RATINGS	REASONS FOR CLOSENESS
A - Absolutely Necessary _____	1. Flow of material/paperwork
E - Especially Important _____	2. Personal contact required
I - Important _____	3. Ease of supervision
O - Ordinary Closeness OK _____	4. Use same records
U - Unimportant _____	5. Use same personnel
X - Not Desirable _____	6. Use same equipment
	7. Use same utilities
	8. Reception of visitors
	9. Visitor convenience
	10. Employee convenience
	11. Light, natural conditions
	12. Noise, hazard, dirt
	13. _____
	14. _____

NO.	ACTIVITY-AREA	Rating (Letter)	Reason (Number)

Notes: _____

RELATIONSHIP CHART

Plant (Company) _____ Project _____
 Charted by _____ With _____
 Date _____ Sheet _____ of _____
 Reference _____



Value	CLOSENESS	No. of Ratings
A	Absolutely Necessary	
E	Especially Important	
I	Important	
O	Ordinary Closeness OK	
U	Unimportant	
X	Not desirable	
Total = $\frac{N \times (N-1)}{2}$		

Code	REASON
1	
2	
3	
4	
5	
6	
7	
8	
9	

SPACE SURVEY

Company _____ Sheet _____ of _____
 Date _____ With _____
 By Present Plan for year _____
 _____ Space Assigned _____

ACTIVITY-AREA _____

Sub-Area or Individual _____ Location _____

WORKSTATIONS List by type or activity a	Total Area Incl. Internal Aisles b	Min. Width of Area c	No. of Sta's. in Area d	Space per Station e	Type of Space Code* f	SUPPORT List by type or activity g	Total Area Incl. Internal Aisles h	Min. Width of Area j	Type of Space Code* k	CIRCULATION Main Aisles & Building Losses l	Total Area Used or Req'd. m	TOTAL SPACE Workstation, Support, and Circulation b + h + m

Notes: _____

FURNITURE SURVEY

Company _____ Sheet ____ of ____

By _____ With _____ Date _____

ACTIVITY-AREA _____

Present Plan for year _____

Sub-Area or Individual _____

Space Assigned _____

Location _____

ACTIVITY / JOB DESCRIPTION

Male(s)	L. Handed	R. Handed	Man-days per mo. out of office
Female(s)	L. Handed	R. Handed	Working/operating hours or period of use

Enter checks, numbers or descriptions as appropriate. Make notes in unused part of form or on back	Quantity	Size in _____			Model No., Asset No., Move No., Condition, Material, or other info.	Number of drawers			Materials normally in use on work surface: EDP Reports, Letters, Books, Order Forms, Ledgers, Etc. (Also see Equipment Survey form)
		Left - Right	Front - Back	Height		Pencil	Box-Type	File	
DESKS / TABLES									
Primary Desk/Table									
Secondary Desk/Table									
Typing Return/Stand									
Executive Return									
Drafting Table									
PANELS / SCREENS									
									Primary Contents: Letters, Reports, Supplies, Equipment, Forms, Etc.
STORAGE / FILES									
Conventional Letter									
Conventional Legal									
Lateral Letter									
Lateral Legal									
Fireproof									
Check/EDP									
Flat/Map/Plan									
Cabinet									
Shelving									
Credenza									
Boxes/Cartons									
CHAIRS / SEATING									MEETINGS / PRIVACY
Desk Chair									Persons per Meeting
Steno Chair									Mtgs. per Day
Side Chair									Duration
Drafting Stool									Confidential Activities:
									Discussions? Yes No
									Papers? Yes No
									Private office? Yes No
									Semi-private space? Yes No

EQUIPMENT SURVEY

Company _____ Sheet _____ of _____
 By _____ With _____ Date _____
 Present Plan for year _____
 Space Assigned _____
 Location _____

ACTIVITY-AREA _____

Sub-Area or Individual _____

Enter checks, numbers or descriptions as appropriate. Make notes in space below. Also see Furniture Survey form.	Equipment Location										Quantity	Hours used per Day per Machine	Model No., Asset No., Move No., Condition, Amperage, Voltage, or other info.	Shared with: Person(s), Group(s), etc. Identify, using initials or no.
	On Floor	On Stand	On Desk/Table	On Shelf	On Cabinet	In Drawer	In Cabinet	In Closet	Locked	On Wall				
ELECTRICAL														
Electric Typewriter														
Automatic Typewriter														
Teletypewriter														
Keypunch/Keyboard														
Cathode Ray Tube CRT														
Photocopier														
Telecopier														
Dictation/Recording Machine														
Calculator														
Lamp														
Telephone														
Portable Heater														
Water Cooler														
NON-ELECTRICAL														
Card File														
In-Out Tray														
Stapler														
Pencil Sharpener														
Calendar														
Easel (for flip sheet or display)														
Chalkboard														
Projection Screen														
Map/Display														
Notes:														

EVALUATING ALTERNATIVES

Plant/Area _____ Project _____ Date _____

Description of Alternatives: A. _____

B. _____ C. _____

D. _____ E. _____

Weight set by _____ Ratings by _____ Tally by _____

FACTOR/CONSIDERATION	WT.	RATINGS AND WEIGHTED RATINGS					COMMENTS
		A	B	C	D	E	
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
TOTALS							

NOTES
