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THE FACTORS INFLUENCING OUT OF STATE COMPANIES  
TO ESTABLISH MANUFACTURING FACILITIES  
IN DALLAS COUNTY

THESIS

Presented to the Graduate Council of the  
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## CHAPTER I

### INTRODUCTION

Other things being equal, it is only natural for the manufacturer to build his plant where living conditions are most pleasant and where the greatest contentment to both employees and officials is assured. There is always the danger, however, that "other things being equal" will not first be made certain and that the human element will be given undue weight.<sup>1</sup>

A manufacturer selecting a new plant location must have appropriate factual information available to him if he is to satisfactorily determine when "other things are equal."

The choice of a suitable location may spell the difference between business success and failure. But the businessman himself is not the only one interested in knowing what constitutes a good location for an enterprise of the type he operates. Banks, utility companies, transportation companies, and community leaders also have a stake in plant location and can make good use of an understanding of the site requirements of different types of industries.<sup>2</sup>

Some indication of the vital need for reliable factual locational data for use by industrial development groups is found in the replies of 220 such groups in a survey. "Three fourths of the areas replying ranked failure to analyze their own qualifications as the most serious mistake made by regional development groups."<sup>3</sup>

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<sup>1</sup>W. Gerald Holmes, Plant Location (New York, 1930), p. 10.

<sup>2</sup>Edgar M. Hoover, The Location of Economic Activity (New York, 1948), p. 1.

<sup>3</sup>U.S. Department of Commerce, Area Development Bulletin, (Washington, April-May 1956), p. 4.

Many communities publish some type of data for the specific purpose of attracting new industry to the area. It is essential that the industrial development group realize that "promotional efforts are most effective when based on solid facts. Published material must convey to the reader a true picture of the community and the industrial district".<sup>4</sup>

An obvious source of factual locational data is the manufacturing firm that has recently located in the area. An analysis of the factors that influenced the firm to select a particular location in preference to all others is valuable data for the community and prospective manufacturers searching for a suitable site. Regardless of the obvious value of these data, few communities have made it available. Occasionally an industrial development group will publish a brochure containing one or more case histories of new plants in their area; however, it is unusual to find a group that offers a complete analysis of the locational factors that influenced plants to locate in the area.

Why is an important locational data source within the community often neglected? Perhaps, many communities anticipate difficulty in obtaining information from the new firms. Apparently, a prevalent reason for failure to actively

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<sup>4</sup>U. S. Department of Commerce, Organized Industrial Districts: A Tool for Community Development, (Washington, 1954). p. 6.

research new firms is widespread belief among community leaders that they know the factors that influence industry to locate in their area. When this belief is based on adequate research, it is justified; however, economic and social growth in a community result in subtle changes which affect the community's atmosphere.

Aside from the obvious advantage of having factual material available for presentation to an industrial prospect, the community equipped with a thorough analysis of the new plants in the area is better able to seek industry compatible with the local industrial complex. A factual knowledge of the community's unique advantages is essential if desirable plants are to be attracted.

#### Statement of the Problem

The purpose of this study was to collect and analyze locational data on all branch manufacturing plants established in Dallas County in 1954, 1955, and 1956; these data were acquired through personal interviews in 1957. For comparative purposes the same data on branch plants established in 1959 were obtained in 1960. The following elements of the locational process were determined and analyzed:

1. origin and character of the new plants; specifically, location of home office, types of products, size and location of the plant in Dallas.



2. locational process, including company personnel assigned the task of locating a suitable site and local agencies assisting in the locational process.

3. reasons for establishing the branch plant.

4. factors that influenced management to locate the plant in Dallas in preference to any other location.

A second interview was held in 1960 with the branch plants established in 1954, 1955, and 1956 to determine their current status. Data were obtained on the current number of employees, products being manufactured, customers being served, and advantages and disadvantages of Dallas as a plant site, based on several years operating experience.

#### Delimitations

The study was confined to manufacturing plants established in Dallas County in 1954, 1955, 1956, and 1959. Expansion of the manufacturing facilities of companies already located in Dallas was not considered a new establishment unless the company headquarters were located outside of Dallas and the expansion created a new autonomous manufacturing plant.

#### Definition of Terms

The terms manufacturer, manufacturing firm, and plant encompass any organization classified under the Standard Industrial Classification System.<sup>5</sup>

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<sup>5</sup>U. S. Department of Commerce, Statistical Abstract of the United States 1956 (Washington, 1956) p. 788.

### Sources of Data

Data were gathered by utilizing a questionnaire<sup>6</sup> during a thorough interview with key personnel of each plant.

Study of available literature yielded background information and procedures.

### Procedures

After careful delineation of the area to be studied, a survey was completed of the available literature in the North Texas State College Library, Southern Methodist University Fondren Memorial Library, and the Dallas Public Library. The interview questionnaire was compiled after the literature research was completed.

A list of all companies that appeared to be within the boundaries of the study was obtained from the files of the Dallas Chamber of Commerce. Telephone or personal calls qualified twenty-one companies for the study.

Personal interviews with one or more persons were conducted in each plant. In most instances the initial contact was made with the highest ranking individual in the Dallas plant. In several companies, however, a lower ranking executive offered a more complete history of the plant establishment. The interviewees were assured at the beginning of the interview that the company name would not be divulged and were urged to comment fully on each question.

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<sup>6</sup> See Appendix, p. 41.

### Related Studies

Plant location is the subject of several texts and articles, however little has been written on plant location in Texas. Literature research revealed three related studies.

A doctoral thesis presented to the University of Wisconsin by McKnight, entitled "Manufacturing in Dallas . . . A Study of Effects,"<sup>7</sup> enumerates the many factors that are affected by manufacturing.

In 1954 Paine, Research Economist at the Texas Engineering Experiment Station, conducted a survey<sup>8</sup> to evaluate plant location factors in Texas. The survey indicated that market, labor, and raw materials have been important factors in attracting industry to Texas locations, especially in recent years. The 424 respondent firms also indicated that such factors as transportation, availability of a site, distribution, climate, and industrial fuel were influential.

Under the auspices of the Bureau of Business Research at the University of Texas, Escott found that 122 manufacturers responding to a mail survey,<sup>9</sup> claimed the expanding Southwest market and the potential growth of the area as the most important factors in choosing Texas as a location.

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<sup>7</sup> Tom Lee McKnight, "Manufacturing in Dallas . . . A Study of Effects," unpublished doctoral thesis, Department of Geography, University of Wisconsin, Madison, Wisconsin, 1955.

<sup>8</sup> L. S. Paine, An Evaluation of Plant Location Factors in Texas (College Station, Texas, 1954).

<sup>9</sup> Florence Escott, Why 122 Manufacturers Located Plants in Texas (Austin, Texas, 1954).

The related studies provided terminology and techniques; however, specific data from these studies can not be used since it were obtained primarily from Texas corporations rather than branch plants of out-of-state manufacturers.

## CHAPTER II

### CHARACTERISTICS AND ORIGIN OF THE PLANTS

A company will often establish a branch plant in an area where similar producers have successfully located. Production economies and other benefits are derived from selecting an area with existing raw material suppliers, experienced labor, and established transportation facilities for the product being manufactured. Industrial development groups need a clear picture of the types of manufacturers that consider their area a desirable location and where these companies may be found.

Dallas has attracted a number of branch manufacturing plants in recent years; nineteen of the twenty-one plants interviewed for this study are branches of out-of-state companies; the other two plants were relocated in Dallas from an out-of-state location.

#### Characteristics of the Plants

The plants are characterized in this chapter by a description of their products, areas of distribution, markets, size, date of establishment, and location in Dallas.

#### Principal Products

The character of the plants can be partially defined by reference to the products they manufacture; Table I is a list

of the principal products of each plant. The products vary widely; however, two types of manufacturing, chemicals and printing, are predominant. Four plants manufacture chemical

TABLE I  
PRINCIPAL PRODUCTS

Products	Number of Companies
Chemicals . . . . .	4
Printed Matter . . . . .	3
Fabricated Metal Parts . . . . .	2
Miscellaneous . . . . .	12

compounds and four other plants blend or use chemical processing in the manufacture of their products. Three plants produce some type of printed matter. The other plants manufacture diverse products ranging from peanut butter to Christmas tree lights.

#### Distribution of the Product

The products of three of the plants are distributed nationally. Four plants sell their products only in the Southwest; the products of fourteen other plants are sold primarily in the Southwest, with only a small volume of sales in other areas.

#### Market for the Finished Product

Fourteen plants sell to the industrial market; eight plants furnish products to retailers and wholesalers for resale

to the consumer market. The Dallas plant operations reflect the differences in these two markets. For example, the industrial products plant usually manufactures to customer specifications or begins production only after purchase orders are received. In contrast, plants supplying products to the consumer market normally perform product design and begin quantity production in anticipation of orders. In Figure 1, the specific customers served by the plants are shown.

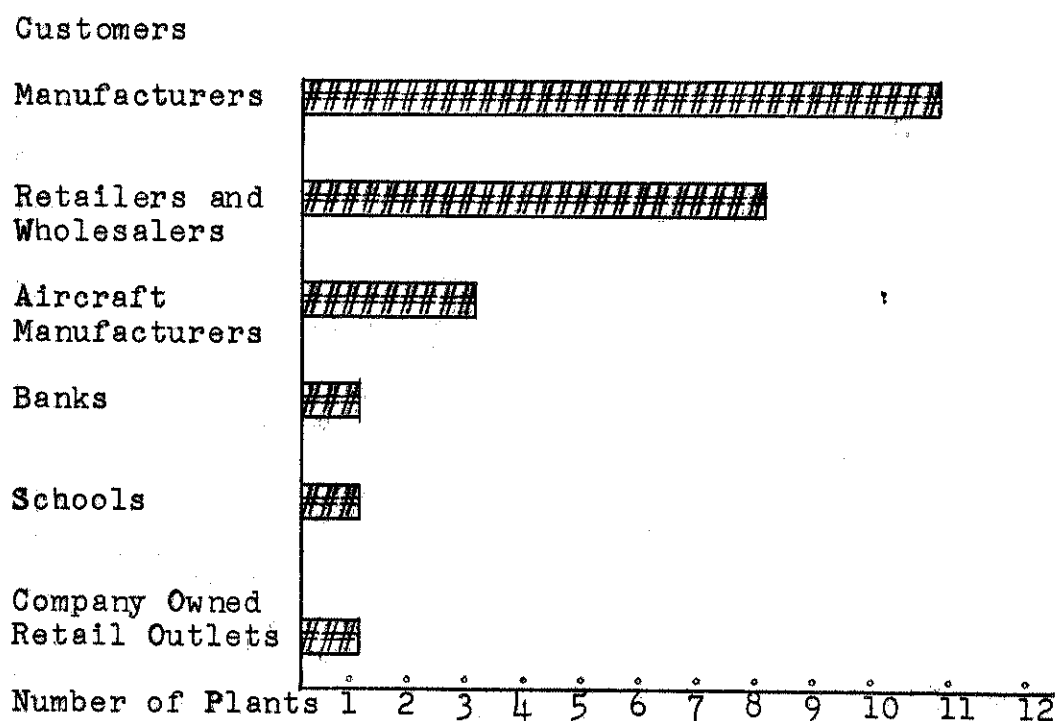


Fig. 1--The number of plants serving various types of customers.

Three of the plants sell the major portion of their output to the aircraft industry and are dependent on Dallas-Ft. Worth airframe manufacturers.

Number of Employees

An indication of the size of the plants is given in Table II. The average employment in the plants during the first three months of operation ranged from four to seventy-five persons..

TABLE II  
NUMBER OF EMPLOYEES PER COMPANY

Employees	Companies
1-10 . . . . .	6
11-20. . . . .	8
21-40. . . . .	4
60-75. . . . .	3

The employment of fourteen of the plants was twenty persons or less; the other seven plants employed from twenty-one to seventy-five persons. The average plant employment was twenty-three persons.

There were no outright transfers of large groups of employees from the parent company to any of the branch plants. All companies reported that only a few key employees were transferred to Dallas; the remainder of the plant personnel were hired in Dallas and trained as necessary. The plants surveyed for this study have furnished employment for over four hundred Dallasites.

Date of Establishment in Dallas

Table III is a tabulation of the date manufacturing operations were initiated in Dallas. Six plants were established



in 1954, seven each in 1955 and 1956, and one in 1959. The Dallas Chamber of Commerce reported a total of eighty-five new manufacturing plants in 1954, ninety-nine in 1955, seventy in 1956, and one-hundred-five in 1959; these totals include the twenty-one plants established in Dallas by out-of-state companies.

TABLE III  
DATE OF ESTABLISHMENT IN DALLAS

Month	Year			
	1954	1955	1956	1959
January	XX	. .	. .	. .
February	X	. .	. .	. .
March	. .	X	X	. .
April	. .	X	X	. .
May	. .	X	X	. .
June	. .	X	XX	. .
July	. .	X	X	X
August	. .	X	. .	. .
September	X	X	. .	. .
October	. .	. .	. .	. .
November	X	. .	. .	. .
December	. .	. .	X	. .

Although the number of new plants opening in Dallas in 1959 was the highest recorded in over ten years, only one out-of-state company established a new plant in the city.

Increased competition from other area development groups is, perhaps, the most significant factor in the 1959 decline in the number of branch plants established in Dallas. In recent years, many of the smaller cities near Dallas have organized aggressive industrial development groups backed with favorable financial and tax incentives and a willing, though often unskilled local labor force. Dallas' competition

in industrial development is not limited to Texas groups; under pressure of increased unemployment or simply through public enthusiasm, a multitude of development groups have been created across the country.

#### Site Location in Dallas

The location of the plants is shown in Figure 2. Fifteen plants selected locations in planned industrial districts; six were established in unplanned areas.

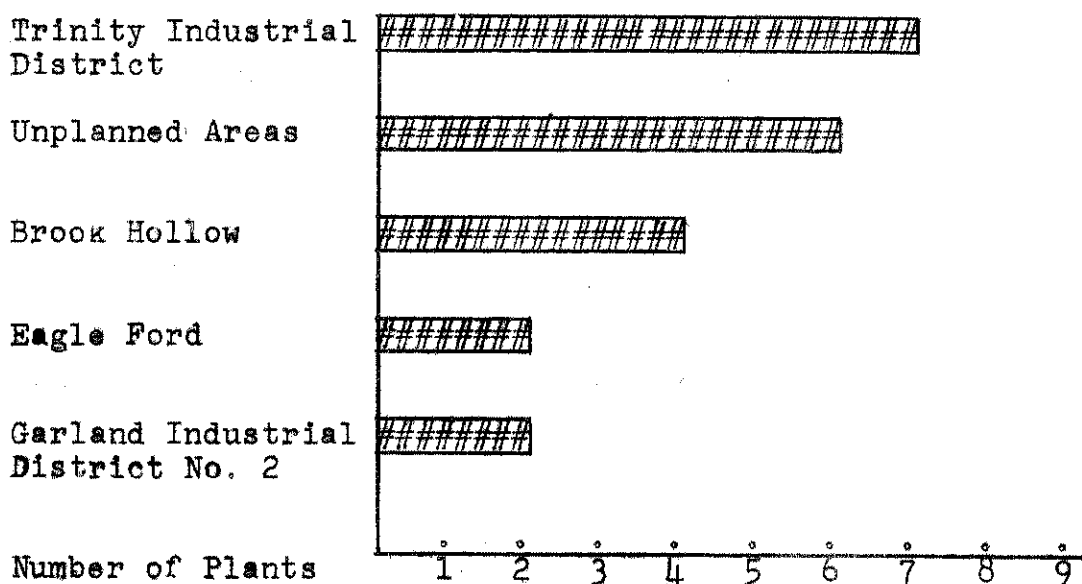


Fig. 2--The plant site in Dallas.

The companies establishing branch plants in Dallas' planned industrial districts decreased their costs of site analysis since the industrial district developers provide solutions to such problems as transportation facilities, adequate parking area, and zoning restrictions. Since the majority of the plants were small and did not require special production facilities, planned industrial district sites were chosen as the least expensive, minimum risk site.

### Origin of the Plants

The location of the parent companies and their reasons for creating the branch plants are analyzed to provide definition of the origin of the plants.

#### Reasons for Establishment of the Branch Plants

Each firm was asked to state the parent company's basic reasons for establishing a branch manufacturing facility. The two relocated companies were asked to state their motives in changing their plant location. The reasons for establishing the branch plants are presented in Table IV; each company is identified by the product it manufactures.

TABLE IV

#### REASONS FOR ESTABLISHING EACH PLANT IDENTIFIED BY ITS PRODUCT

Type of Product	Reason for Establishment
Patent Medicines. . . . .	.Old plant destroyed by fire
Tools and Dies. . . . .	.To avoid labor union restrictions
Industrial Chemicals. . . . .	.Increased demand in the Southwest market area for the company's products.
Furniture . . . . .	.Increased demand in the Southwest market area for the company's products and to facilitate expansion into the Southwest market area.
Metal Electronic Chassis. . . . .	.Increased national demand for the products

TABLE IV - continued

Christmas Tree Lights and Decorations. . . . .	.To increase service to existing customers in the Southwest market area.
Springs. . . . .	.To facilitate expansion into the Southwest market area.
Truck and Auto Tire Retreading . . . . .	.Increased demand in the Southwest market area for the company's pro- ducts and to increase service to customers in the Southwest market area.
Milk Packaging Machinery. . . . .	.Increased demand in the Southwest market area for the company's pro- ducts and to increase service to existing customers in the South- west market area.
Automotive Paint . . . . .	.Increased demand in the Southwest market area for the company's pro- ducts and to lower trans- portation costs.
Adhesive Products. . . . .	.To increase service to existing customers in the Southwest market area and to lower trans- portion costs.
Chemical Solvents. . . . .	.To facilitate expansion into the Southwest market area to lower transportation costs.
Printers of Psychological Tests. . . . .	.To meet an increased demand in the Southwest market area for the pro- ducts, to increase serv- ice to existing customers in the Southwest market area and to lower trans- portation costs.

TABLE IV - continued

Aluminum Window Screens. . . . .	.To meet an increased demand in the Southwest market area for the products and to increase service to existing customers in Southwest market area.
Peanut Butter. . . . .	.To lower transportation costs.
Numbered Tickets, Coupon Books, Etc. . . . .	.To facilitate expansion into the Southwest market area.
Brake Shoe Linings. . . . .	.To meet an increased demand in the Southwest market area for the company's products, to increase service to the existing customer in the Southwest market area and lower transportation costs.
Chemical Fertilizers. . . . .	.To increase service to existing customers in the Southwest market area and to lower transportation costs.
Insecticides . . . . .	.To lower transportation costs.
Bank Checks. . . . .	.To overcome expansion limitations in original location and to facilitate expansion into the Southwest market area.
Caulking Material. . . . .	.To meet an increased demand in the Southwest market area for the company's products.

The parent companies' stated reasons for creating a branch plant were actually their site selection criteria; the advantages

of each prospective site were weighed against these criteria. The companies motives for establishing the plants assume a definite pattern in Figure 4.

Reason for Establishment

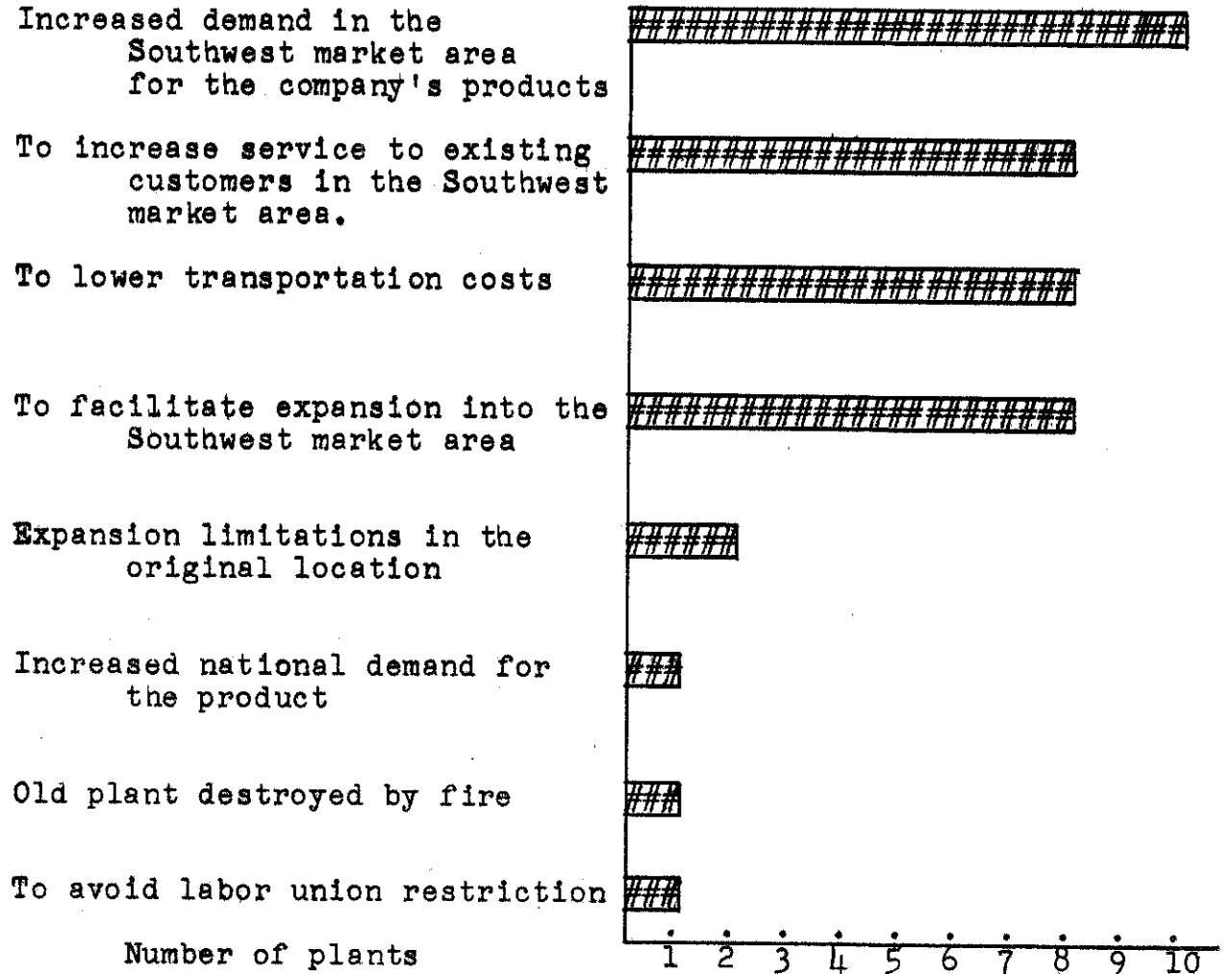


Fig. 3--The reasons for establishment.

A significant number of plants was established because of the demand for their products in the Southwest created a need for better service, including faster delivery. Other plants were established to facilitate exploitation of the Southwest market area.

Only one plant was established to overcome labor union restrictions at the parent company location. The absence of mention of labor union problems indicates that less emphasis is placed on this factor when establishing a branch plant than is commonly believed.

Location of Parent Company or Original Site

The location of the parent companies of the branch plants and the original site of the two relocated plants are shown in Figure 3. The two plants relocated in Dallas were originally operated in Illinois and Wisconsin.

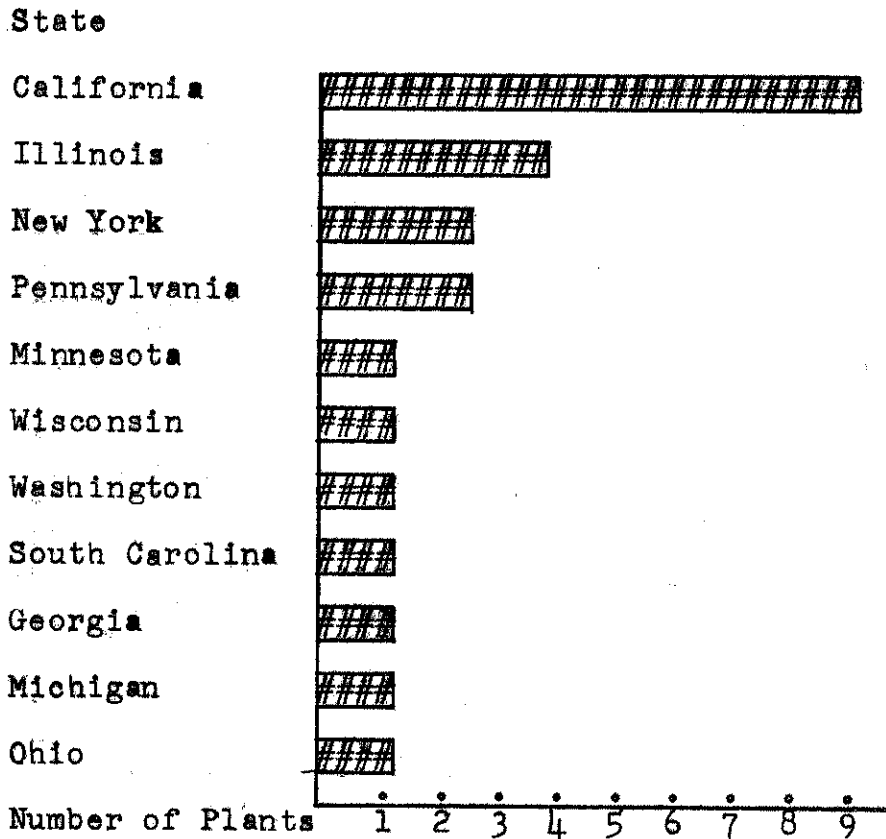


Fig. 4--Location of parent company or original site.

Analysis of the origin of the twenty-one plants by geographical area shows that the West contributed eight plants, the East four plants, and the South two plants. The areas contributing the greatest number of branch plants, the West and the Midwest, have experienced the greatest industrial expansion in recent years. The East, which contributed four plants, has seen a decline in industrial activity with many of its large manufacturers completely relocating in other sections of the country. The South, which contributed the smallest number of plants, has experienced only a minor increase in industrial activity. There appears to be definite correlation between the degree of industrial activity in an area and the number of branch plants contributed by that area to other sections of the country; this is not surprising since a company would not normally establish a branch plant unless it was experiencing growth.

If branch plants of the type characterized earlier in this chapter are to be attracted to Dallas, the area development group would probably achieve greatest success by concentrating its promotional efforts in the West and Midwest. The East offers a substantial reward for area development groups since many large companies in that area are completely relocating or transferring large portions of their manufacturing activity to other sections of the country. The South has recently experienced an increase in industrial activity; however, competition from newly awakened area development groups in the South limits the number of branch plants that originate from that area.



### CHAPTER III

#### THE LOCATIONAL PROCESS

Companies normally follow three steps in selecting a location for a branch plant. First, company personnel are assigned the task of selecting the location; then outside agencies are asked to advise on matters associated with site location; finally a key person in the company renders the decision to locate at a particular site. The plants in this study indicated they followed this pattern.

#### Company Personnel Responsible for Site Selection

Table V is a tabulation, by title, of company personnel who actively engaged in the search for a suitable plant site.

TABLE V

#### PERSONNEL RESPONSIBLE FOR SITE SELECTION

Personnel by Title	Number of Companies
President . . . . .	10
Owner . . . . .	4
Regional Manager . . . . .	1
Divisional General Manager . . . . .	1
Traffic Manager and Vice President . . . . .	1
Executive Vice President . . . . .	1
Real Estate Department . . . . .	1
Salesman and Service Manager . . . . .	1
Vice President . . . . .	1

Selection of a factory site holds great responsibility since the success of the new plant may depend on its physical location. The president or owner of fourteen of the smaller companies conducted the search for a suitable location. The larger companies assigned the task of finding a plant site to a vice president or manager.

#### Agencies Assisting in the Locational Process

Sixteen companies sought assistance from outside agencies before selecting a location. Figure 5 is a presentation of the number of companies that utilized outside assistance and the agency used.

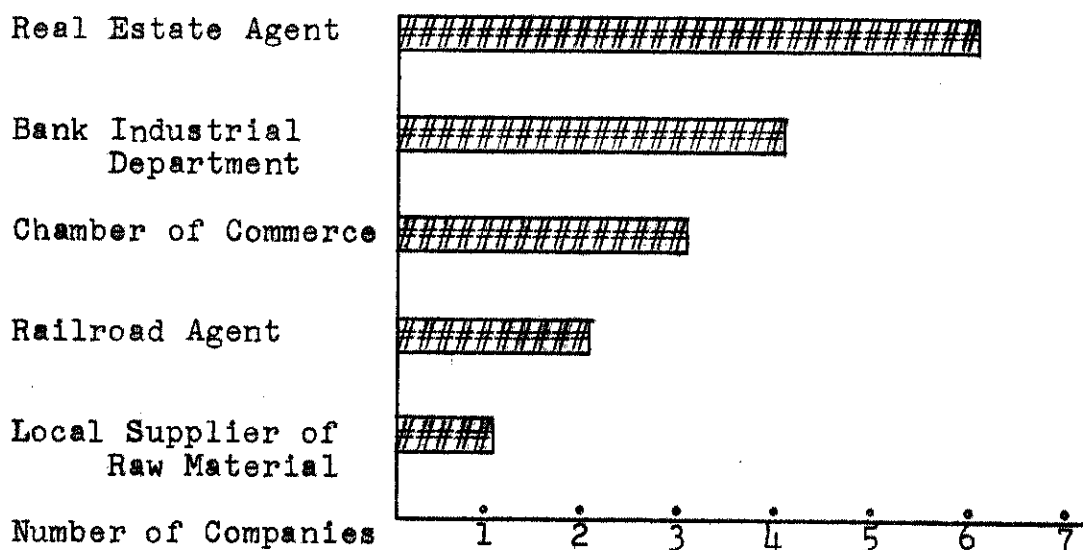


Fig. 5--Agencies assisting in the locational process.

The seven companies using the services provided by Dallas banks and the Dallas Chamber of Commerce were very complimentary toward these two agencies. One company was given assistance by a Dallas-based supplier of raw materials; as a result, the new factory was located near the supplier's plant.

**Personnel Rendering the Final Site Selection Decision**

Figure 6 is a presentation by title of the personnel who rendered the final decision to locate the plant in Dallas. The importance of selecting the optimum plant site is reflected in the titles of the persons making the final decision.

**Personnel by Title**

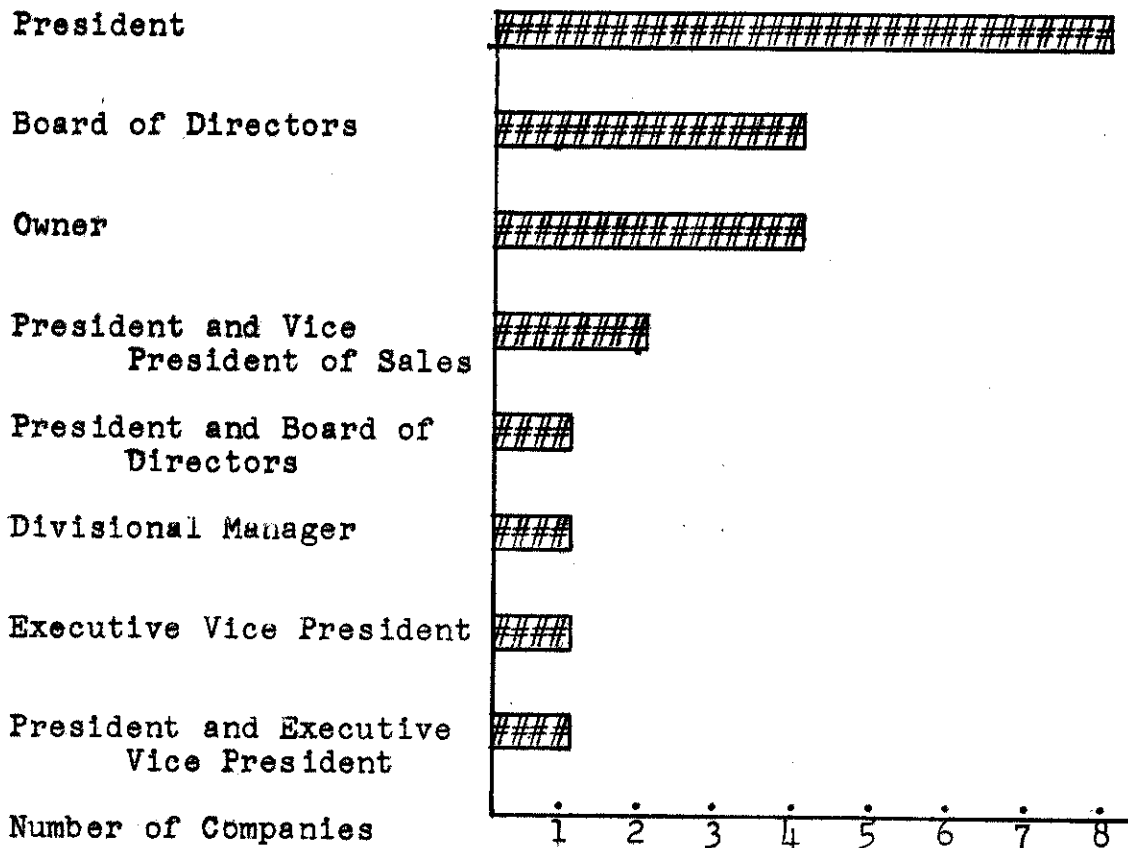


Fig. 6--Personnel rendering the final site selection decision.

The area development group wishing to reach site selection decision-makers through advertising or presentations must direct their appeals to top management.

## CHAPTER V

### FACTORS INFLUENCING COMPANIES TO SELECT DALLAS AS A PLANT SITE

The effectiveness of an area development group is greatest when its personal selling efforts and advertising are based on a knowledge of the factors which have previously motivated companies to establish branch plants in their city. The plants interviewed for this study were asked to specify why they chose Dallas as a plant site in preference to any other city.

#### Dallas Locational Factors

Table VI is a tabulation of the three most important factors influencing each company to select Dallas as a plant site. The number of first, second, and third place mentions of each locational factor is shown. The last column in Table VI is a numerical value representing the relative importance of each locational factor. The relative importance of the locational factors was established by assigning a value to each of the positions of mention. A factor mentioned by a company as being the most influential received a value of three, a second place mention a value of two, and a third place mention a value of one.

TABLE VI  
 THREE FACTORS WHICH INFLUENCED EACH  
 COMPANY TO SELECT DALLAS  
 AS A PLANT SITE

Locational Factor	Number of Mentions			Relative Weight
	1st	2nd	3rd	
Geographic Center of Distribution for the Southwest Market Area	11	5	3	45
Growth of the Dallas Metro- politan Area Market	3	6	2	23
Transportation Facilities Large Customer Located in Dallas	1	3	5	14
Personal Choice of Management	1	2	..	7
Availability of Labor	1	..	2	5
Availability of Public Warehousing Facilities	..	2	..	4
Favorable Climate	1	..	..	3
Postal Zone Headquarters	..	1	1	3
Availability of Capital	1	..	..	3
Company Owned Building Available in Dallas	1	..	..	3
Favorable Wage Rates	..	1	..	2
Best Location for Distri- bution to a National Market	..	..	2	2
Food Distribution Center	..	1	..	2
Availability of Raw Material	..	..	1	1
Favorable Labor Relations	..	..	1	1
Company's Largest Retail Outlet is in Dallas	..	..	1	1
Market Data Received from the Chamber of Commerce	..	..	1	1
Sales Office Already in Dallas	..	..	1	1
Favorable Site Costs	..	..	1	1

### Why Dallas Was Selected as the Plant Site

Full insight into why Dallas was selected as the plant site is provided by analyzing the locational factors listed in Table VI in relation to the parent companies' reasons for establishing the plants, shown in Figure 4.

The majority of the companies selected Dallas because it is the geographic center of distribution for the Southwest market area; this locational advantage satisfies the four main criteria established by the parent companies. By locating the branch plant in the center of its distribution area, the company can provide better service to Southwest area customers, decrease transportation costs, and meet the increased demand for its products.

Half of the companies selected Dallas because of its potential growth as a metropolitan area market; this locational factor particularly appealed to the firms expanding into the Southwest market for the first time. Placing their branch plant near one of the largest segments of its potential market offered some assurance of success.

The third most influential locational factor, the transportation facilities available in Dallas, was important to many of the companies since they utilize motor freight service as the primary mode of shipment for their products. The number of trucking companies in Dallas has created sufficient competition to assure the plants of excellent motor freight service at a low cost.

The companies' desire to gain a competitive advantage in the Southwest market by increasing service and by reducing costs is satisfied by Dallas' geographical location, its transportation facilities, and its own sales potential as a metropolitan area.

Consideration of the Locational Factor  
Ranked First by Each Company

The locational factor specified by each company as the most important merits individual consideration. The factors mentioned above influenced the majority of the companies to select Dallas; however, six companies specified as the most influential, a factor not directly related to Dallas' geographical location, market potential, or transportation facilities.

One company selected Dallas because it owned a building which was suitable for the manufacture of its product; this economic consideration outweighed all other factors. The availability of low cost public warehousing facilities in Dallas was the primary factor influencing one company, which produces seasonal merchandise, to select Dallas. One of the plants ships most of its output by parcel post and chose Dallas because it is a postal zone headquarters. The largest customer of one of the plants is located in Dallas; the need to provide better service to this customer was the primary reason Dallas was chosen. Dallas was selected by one company simply because it was the personal choice of the management. The necessary capital for financing one of the branch plants was made available by a Dallas bank on the condition that Dallas be the site.

Locational Factors Influencing Four  
Chemical Manufacturers to Choose Dallas

Tabulation of the locational factors influencing the chemical manufacturers to select Dallas indicates that they are in accord on why Dallas was chosen as a plant site. In Table VI the first, second, and third place locational factors specified by the chemical manufacturers are shown.

TABLE VII

LOCATIONAL FACTORS INFLUENCING CHEMICAL  
COMPANIES TO SELECT DALLAS AS A SITE

Locational Factor	Number of Mentions			Relative Weight
	1st	2nd	3rd	
Geographic Center of Distribution for the Southwest Market Area	2	2	..	10
Large Customer Located in Dallas	1	2	..	7
Transportation Facilities	..	1	3	5
Growth Potential of the Dallas Area	1	..	1	4

All four chemical plants were established in Dallas to take advantage of its geographical location and its transportation facilities. The transportation and handling of bulk chemicals is costly and the chemical manufacturer who is located an unreasonable distance from his customer is usually faced with severe price competition.

Large Dallas customers demanding better service and greater production capacity, influenced three of the chemical manufacturers to select Dallas. Two of the companies chose Dallas because of the growth potential of the market for chemical



products in the Dallas metropolitan area. The strength of the chemical market in the Southwest, particularly in Dallas, is indicated by the above factors and the number of chemical plants established in Dallas.

Locational Factors Influencing Three  
Printing Manufacturers to Choose Dallas

Two of the three printing plants furnish the largest portion of their output to banks and insurance companies. Dallas, as the banking and insurance center of the Southwest, offers these plants a heavy concentration of potential customers. Dallas' industrial and commercial expansion has created a large market potential for printers of business forms and similar printed matter.

## CHAPTER V

### STATUS IN 1961 OF THE BRANCH PLANTS ESTABLISHED IN 1954, 1955, AND 1956

In January 1961 the twenty plants established in 1954, 1955, and 1956 were interviewed a second time to determine their status after five to seven years' operation in Dallas. It was found that three of the twenty branch plants no longer exist. One plant was relocated in another city to take advantage of larger quarters owned by the company. Expansion was limited in the Dallas location; investigation by the company indicated that the move would be more economical than leasing or constructing a new plant in Dallas. The branch furniture plant was closed because the company's sales volume in the Southwest was too low to justify the operation. The facilities and equipment of the spring manufacturer were sold to a group of Dallas investors who established a new Texas corporation; plant operations were continued and a number of new products added.

#### Current Number of Employees

An increase or decrease in the number of employees is one indication of a company's success. Employment in the seventeen plants still in operation ranges from two to one-hundred-seventy-five persons. The number of employees per company in

January, 1961, is shown in Table VIII. Thirteen of the plants employed less than twenty persons in 1957; currently, only eight of the plants have less than twenty employees. Five plants now employ from twenty-one to forty persons and five plants have forty-one to sixty employees. One plant employs one-hundred-seventy-five persons; in 1957 this company employed thirty persons.

TABLE VIII  
NUMBER OF EMPLOYEES PER COMPANY IN 1961

Employees	Companies
1-10 . . . . .	3
11-20. . . . .	5
21-40. . . . .	5
41-60. . . . .	3
175. . . . .	1

Seventeen of the plants established in 1954, 1955, and 1956 are still in operation; average total employment in these plants increased from nineteen persons in 1957 to thirty-two persons in 1961.

#### Market for the Finished Product

All plants still in operation report a minimum sales increase since 1957 of thirty per cent; many of the plants experienced even greater sales growth.

The plants are serving the same classes of customer in 1961 as they were in 1957; however, all report a large increase in the number of customers. The Southwest market, served by

the majority of the plants, has expanded at a rate well above the national average; many new companies have been established and firms already in the Southwest have grown rapidly. The growth of the plants can be attributed generally to the expansion of the Southwest market area and the resulting increased sales opportunities.

#### Type of Product Manufactured in 1961

The companies were asked to specify any products they currently manufacture that they did not manufacture in 1957. Four of the seventeen plants manufacture the same products; nine plants manufacture the same type of products, but offer a greater variety within their product line. Four plants manufacture new products; however these are closely related to the products they manufactured in 1957. For example, the manufacturer of aluminum window screens is now producing aluminum doors and the producer of numbered tickets and coupon books now manufactures tabulating cards for business machines.

#### Advantages and Disadvantages of Operating A Branch Plant in Dallas

The plants were asked to state any factors that had proven to be unexpected advantages or disadvantages of being located in Dallas. Table IX is a listing of the advantages and disadvantages of Dallas as a plant site and the number of times each factor was mentioned.

TABLE IX

ADVANTAGES AND DISADVANTAGES OF DALLAS AS A PLANT SITE

Factor	Number of Mentions	
	Advantage	Disadvantage
Dallas' Geographical Location	10	.
Truck Service	8	.
Business Activity in the Southwest	5	.
Availability of Raw Material	3	.
Mail Service	2	.
Quality of the Labor	1	.
Rail Service	1	.
Competition	..	2
Wage Rates	...	1
Availability of Labor	..	1
Power Costs	..	1
Transportation Rates	..	1
Lack of Public Transportation	..	1

Figure 7 shows a comparison, based on the frequency of mention, of the advantages of Dallas as a plant site. Over half of the companies rated Dallas' geographical location and its truck service as unexpected advantages in both the 1957 and 1961 interviews; this is an indication of the strength of these two Dallas area advantages.

Factor

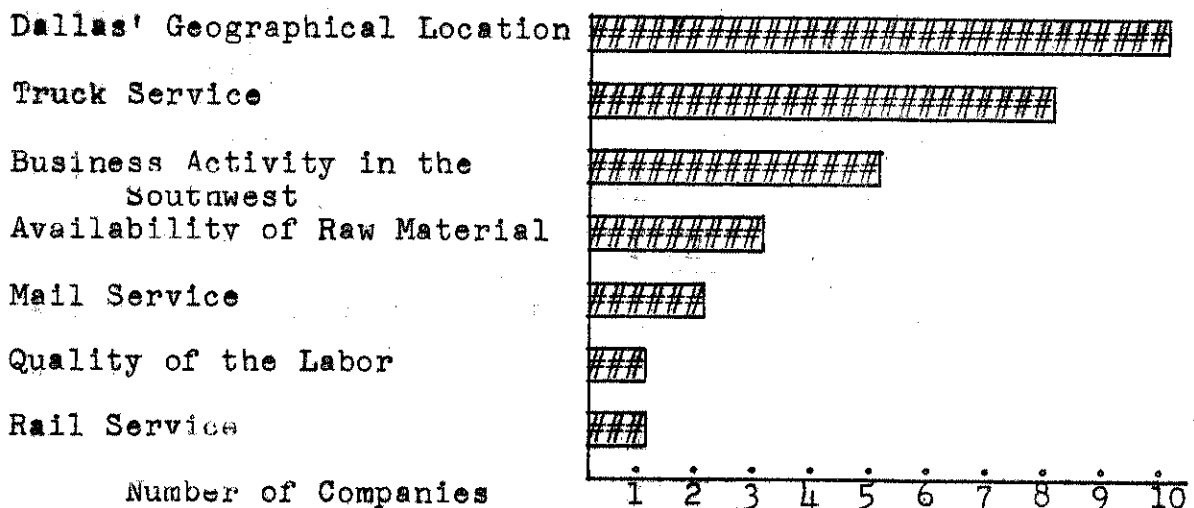


Fig. 7--Advantages of Dallas as a plant site.

Business activity in the Southwest, specified as an unexpected advantage by five companies during the 1961 interviews, was not mentioned in 1957; the plants have enjoyed a healthy business climate resulting from the dynamic expansion of the Southwest.

The disadvantages of Dallas as a plant location are illustrated in Figure 8 which is a comparison of these factors based on the frequency of mention.

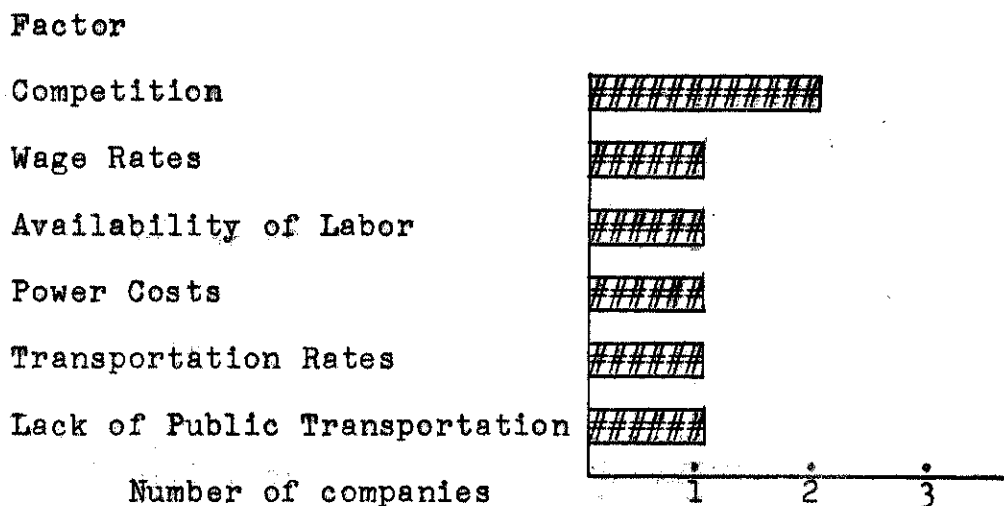


Fig. 8--Disadvantages of Dallas as a plant site.

Competition was specified as a disadvantage by five companies in the 1957 interviews; only two companies mentioned competition as a disadvantage in the 1961 interviews.

Perhaps the most significant factor, is the small number of disadvantages specified by the companies. The interviewees were urged to comment fully; however with the exception of the items shown in Figure 8, all companies were very satisfied with Dallas as the location for their plant.

## CHAPTER VI

### SUMMARY AND CONCLUSIONS

The purpose of this study was to determine the factors influencing out-of-state companies to establish manufacturing facilities in Dallas County. In 1957 interviews were held with management personnel of all plants moved to Dallas from out-of-state or established in Dallas as a branch plant during the years 1954, 1955, and 1956. Data were obtained on the character of the plants, their origin, and reasons for establishment, the locational process, and the specific factors influencing selection of Dallas as the site in preference to any other location. For comparative purposes the same data were obtained in 1960 on branch plants established in Dallas in the year 1959.

Another purpose of this study was to determine if the plants established in 1954, 1955, and 1956 have experienced growth or decline; these companies were interviewed for a second time in 1960. During the second interview, data were secured on the current number of employees, the market being served, the products being manufactured, and the advantages and disadvantages of Dallas as a plant location based on several years' operating experience.

### Summary

Dallas was selected as a plant site by twenty-one out-of-state companies during 1954, 1955, 1956, and 1959. Two of the companies completely relocated in Dallas; the other nineteen established branch plants in Dallas. By 1961, three of the plants were no longer in operation.

### Products and Markets

A wide variety of products is manufactured by the plants, with chemicals and printed matter predominant. Since 1957, the majority of the plants has expanded their original product lines and four plants are now manufacturing new products.

Two thirds of the plants sell their products to the industrial market and one third sell to retailers and wholesalers for resale to the consumer market; this ratio has not changed since 1957, although all companies now serve many more customers. Distribution is primarily in the Southwest, although four plants distribute nationally.

All plants report minimum sales increase since 1957 of thirty per cent; many plants experienced even greater sales growth.

### Employment

Average plant employment during the first three months of operation was twenty-three persons; by January 1961 average employment was thirty-two persons. Only a few key employees were transferred to Dallas; the plants have hired over four hundred Dallasites.



### Date of Establishment in Dallas

Six plants were established in Dallas in 1954, seven each in 1955, and 1956, and one in 1959.

### Site Location in Dallas

Fifteen plants selected locations in planned industrial districts; six were established in scattered unplanned industrial areas.

### Reasons for Establishment of the Plants

The plants were established primarily to meet an increased demand for the companies' products in the Southwest, to provide better service to existing customers in the Southwest, to lower transportation costs, and to facilitate exploitation of the Southwest market area.

### Location of the Parent Company or Original Plant Site

The parent companies of eight plants are located in the West. Seven plants, including the two relocated companies, are from the Midwest. The East contributed four plants and the South two plants.

### The Locational Process

The president or owner of fourteen of the smaller companies actively engaged in the search for a suitable plant site; the larger companies assigned this task to a vice president or manager. Sixteen companies sought assistance from outside agencies before selecting a location. The final site selection

decision was rendered by the board of directors, owner, or president of all but two of the companies in this study.

### Dallas Locational Factors

The most important locational factors influencing companies to select Dallas as a plant site are Dallas' geographical location, its sales potential as a metropolitan area, and its transportation facilities. The chemical manufacturers chose Dallas for the above reasons and to better serve a large Dallas customer. The printing plants were established in Dallas to exploit the city's sales potential and the Southwest market area.

### Advantages and Disadvantages of Dallas as a Plant Site

Over half the companies rated Dallas' geographical location and its truck service as unexpected advantages. Five companies specified, as an unexpected advantage, business activity in the Southwest. Few disadvantages were reported.

### Conclusions

The conclusions, although stated as relating to all out-of-state companies establishing plants in Dallas, are based on a sample limited to the twenty-one plants established in Dallas in 1954, 1955, 1956, and 1959. The following statements, within the limitation of the sample, are decisive and are verified by the data presented in this study.

The plants established in Dallas from out-of-state are primarily light manufacturers with an average employment of less than thirty-five persons. A wide variety of industrial

and consumer products are manufactured with production of chemicals, blending of chemicals, or chemical processing occurring in three fourths of the plants. Distribution of the finished product is primarily in the Southwest, although a few plants distribute nationally.

The majority of the plants select sites in Dallas' planned industrial districts; these areas provide the plants, which are generally small, adequate facilities with the least capital investment.

The search for a suitable plant site and the final selection decision is a responsibility of the top management, not readily delegated, since the success of the new plant may depend on its physical location.

Many companies who establish branch plants in Dallas have sold their products in the Southwest market area and found sufficient demand to make a branch plant feasible. In addition, to be competitive with plants already established in the Southwest, these companies are compelled to provide better service and to reduce transportation costs.

Some companies establish branch plants to facilitate exploitation of the Southwest market area; these companies, realizing the market potential of the area, attempt to gain a competitive advantage by offering local service and lower costs.

Dallas offers several advantages as a plant site to companies in either of the above situations. Dallas is located near the center of the Southwest market area, which permits efficient service and lower transportation costs. The sales

potential of the Dallas metropolitan area is great enough, that some companies have selected Dallas primarily because of this factor. A third advantage, particularly important to light manufacturing plants, is the availability in Dallas of excellent transportation facilities, especially motor freight.

The strength of the chemicals market in the Southwest, coupled with Dallas' geographical location and transportation facilities, has attracted a number of chemical manufacturers. Chemical companies, serving the Southwest, reduce typically high handling and transportation charges and obtain a local market for their products by selecting Dallas.

Dallas offers manufacturers of business forms and other printed matter a heavy concentration of potential customers. Dallas banks, insurance companies, and other commercial users of printed matter are expanding rapidly.

The majority of plants established in Dallas from out-of-state have achieved notable success with healthy increases in sales and a proportional increase in the number of employees. The plants owe their growth to increased sales opportunities provided by the rapid expansion of the Southwest market area.

Areas which have experienced heavy industrial expansion in recent years, such as the West and Midwest, contribute the greatest number of plants to the Southwest. Companies in these areas often establish branch plants to foster sales growth in distant markets.

The decline in the number of branch plants established in Dallas is the result of increased competition from small town

area development groups around Dallas and throughout the Southwest. Several steps need to be taken by Dallas area development groups if the downward trend is to be reversed.

#### Recommendations

The following suggestions, based on the findings of this study, are offered to Dallas area development groups:

1. Advertisements and personal presentations should be directed, wherever possible, to top management of companies experiencing expansion. The West and Midwest probably offer the greatest potential. Chemical and printing companies will find a number of advantages in Dallas.

2. Publicize the key advantages of Dallas; its geographical location in relation to the Southwest market area, its transportation facilities, and its own sales potential as a metropolitan area. Stress the dynamicism of the Southwest market.

APPENDIX

QUESTIONNAIRE USED DURING THE INTERVIEW

A two page questionnaire was used during the interview with key personnel in each plant. The questionnaire included the following questions:

Characteristics

1. When did this plant begin operations in Dallas \_\_\_\_\_?
2. What is the average number of employees \_\_\_\_\_? (date) \_\_\_\_\_
3. What products are being manufactured?
4. What type of manufacturing is conducted in this plant?
5. Who are your customers?
6. What is the location in Dallas?

Origin

1. What is the origin of this plant? Branch of an out-of-state company \_\_\_\_\_? Branch of a Texas Company \_\_\_\_\_? Relocation \_\_\_\_\_?
2. If a branch, where is parent company located? If not a branch, where was plant originally located? \_\_\_\_\_
3. For what reason or reasons was this plant established?
  - a. To meet an increased general demand for the products \_\_\_\_\_
  - b. To meet an increased regional demand for the products \_\_\_\_\_
  - c. To offer new products . . . . . \_\_\_\_\_
  - d. To increase service to the customer . . . . . \_\_\_\_\_
  - e. To lower labor costs . . . . . \_\_\_\_\_
  - f. To lower material costs . . . . . \_\_\_\_\_
  - g. To lower transportation costs . . . . . \_\_\_\_\_
  - h. To overcome expansion limitations at original site. \_\_\_\_\_
  - i. To expand into new markets . . . . . \_\_\_\_\_
  - j. Other (specify) \_\_\_\_\_

Locational Process

1. Who in the company actively engaged in selecting a site? (title) \_\_\_\_\_
2. Who in the company made the final decision to locate in Dallas? (title) \_\_\_\_\_
3. Did any agency or person outside the company assist in locating the plant?
  - a. Railroad agent \_\_\_\_\_
  - b. Power company agent \_\_\_\_\_
  - c. Management Consultant \_\_\_\_\_
  - d. Chamber of Commerce \_\_\_\_\_
  - e. Bank Industrial Dept. \_\_\_\_\_
  - f. Real Estate Agent \_\_\_\_\_
  - g. Other \_\_\_\_\_
  - h. Other \_\_\_\_\_

Factors Influencing Selection of Dallas as a Plant Site

Which factors influenced the selection of Dallas as a plant site in preference to any other location. Indicate by the numerals 1,2, and 3 in that order of importance the three most influencing factors.

- Best location for serving a national market
- Best location for serving the Southwest regional market
- Best location for expansion into a new market area
- Availability of labor
- Favorable wage rates
- Availability of raw materials
- Availability of transportation facilities
- Availability of public warehousing facilities
- Living conditions
- Favorable Climate
- Favorable fuel rates
- Favorable power rates
- Favorable tax structure
- Favorable labor relations
- Favorable geographic location in relation to market area
- Availability of technical advisors and consultants
- Others (specify)

Advantages and Disadvantages of Locating a Plant in Dallas

Which of the following factors have proven, beyond the expectations of the company when it selected Dallas, to be advantages or disadvantages?

Advantage      Disadvantage

- |                          |                          |                               |
|--------------------------|--------------------------|-------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | Market area being served      |
| <input type="checkbox"/> | <input type="checkbox"/> | Competition                   |
| <input type="checkbox"/> | <input type="checkbox"/> | Availability of labor         |
| <input type="checkbox"/> | <input type="checkbox"/> | Wage rates                    |
| <input type="checkbox"/> | <input type="checkbox"/> | Quality of labor              |
| <input type="checkbox"/> | <input type="checkbox"/> | Availability of raw materials |
| <input type="checkbox"/> | <input type="checkbox"/> | Building                      |
| <input type="checkbox"/> | <input type="checkbox"/> | Site                          |
| <input type="checkbox"/> | <input type="checkbox"/> | Telephone service             |
| <input type="checkbox"/> | <input type="checkbox"/> | Wire service                  |
| <input type="checkbox"/> | <input type="checkbox"/> | Truck service                 |
| <input type="checkbox"/> | <input type="checkbox"/> | Rail service                  |
| <input type="checkbox"/> | <input type="checkbox"/> | Air service                   |
| <input type="checkbox"/> | <input type="checkbox"/> | Mail service                  |
| <input type="checkbox"/> | <input type="checkbox"/> | Living conditions             |
| <input type="checkbox"/> | <input type="checkbox"/> | Climate                       |
| <input type="checkbox"/> | <input type="checkbox"/> | Tax structure                 |
| <input type="checkbox"/> | <input type="checkbox"/> | Fuel costs                    |
| <input type="checkbox"/> | <input type="checkbox"/> | Power costs                   |
| <input type="checkbox"/> | <input type="checkbox"/> | Fuel service                  |
| <input type="checkbox"/> | <input type="checkbox"/> | Power service                 |
| <input type="checkbox"/> | <input type="checkbox"/> | Labor relations               |
| <input type="checkbox"/> | <input type="checkbox"/> | Water supply                  |
| <input type="checkbox"/> | <input type="checkbox"/> | Others (specify) _____        |

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