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Industrial distribution in the Omaha standard metropolitan statistical area

Donald William Lea

University of Nebraska at Omaha

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INDUSTRIAL DISTRIBUTION IN THE OMAHA
STANDARD METROPOLITAN STATISTICAL AREA

A Thesis

Presented to the
Department of Geography and Geology
and the
Faculty of the College of Graduate Studies
University of Omaha

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts

by
Donald William Lea
July 1968
Accepted for the faculty of the College of Graduate studies of the University of Omaha, in partial fulfillment of the requirements for the degree Master of Arts.

Chairman Department

Graduate Committee

Representative, Graduate Faculty
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INTRODUCTION

Urban geographers have long been interested in various aspects of industrial location and distribution in the urban community. The pattern and structure of urban industrial development has been the subject of many empirical studies. However, these studies have tended to concentrate on the larger metropolitan centers, and are generally based on such indices as, invested capital, or value added in the manufacturing process. Since basic data for these indices are not available for the smaller urban centers, other indices will be used in this study. These are, relative location and distribution of industrial establishments, number and size of industrial establishments, number of employees, and location quotient.

Industrial studies relating to the smaller urban centers have largely been done by local agencies who have an interest in specific industrial patterns within the community. These studies tend to focus on certain industries, industrial locations, or individual industrial sites, and not on the overall industrial pattern and structure of the urban complex. For example, the Omaha Metropolitan Utilities District Area Land Use Inventory has extensive comprehensive information on potential and developed industrial tracts in the Omaha - Council Bluffs urban area. This information, though largely unpublished, is very useful for industrial planning purposes, and offers up to date information for industries interested in locating in the Omaha - Council Bluffs area.

Comprehensive plans, on the other hand, are usually only concerned with land use within the corporate limits of the community, for example, although there is considerable land zoned for industrial use adjacent to the suburban community of Papillion that section of the comprehensive plan dealing with industry considers only the industrial land within the corporate limits. Much of the geographical literature concerned with industrial location considers only a certain section of an urban area, or a specific type of industry.\(^1\) Thus, although these studies serve a useful purpose, they are of limited value to the geographer interested in

the areal distribution within the entire urban complex. Therefore, the purpose of this study is to ascertain the areal distribution within the Omaha Standard Metropolitan Statistical Area (SMSA)\(^1\) and to determine if the industrial pattern fits into established patterns of other urban centers.

The scope of this study is to locate and map the distribution of industrial establishments in the Omaha Standard Metropolitan Statistical Area (Figure 1). This necessitates the use of industrial categories. The Standard Industrial Classification (SIC)\(^2\) is used to place the various industrial establishments into major industrial groups, and to have a standard base for comparison purposes. An analysis of the general distribution and structure of industry will be made to determine the overall industrial pattern of the Omaha SMSA. Certain aspects of industry in the SMSA will be compared with the overall national average to ascertain how the Omaha SMSA compares with the industrial structure of

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\(^1\)The Federal Committee on Standard Metropolitan Statistical Areas of the Bureau of the Budget defines Standard Metropolitan Statistical Areas as: "... integrated economic and social units with a large volume of daily travel and communication between the central city (having 50,000 or more population) and outlying parts of the area. Each area (except in New England) consists of one or more whole counties. An area may contain not only highly industrial counties but also adjoining counties which, though primarily residential in character, contribute significantly to the industrial counties' labor force and are socially and economically integrated with the central city."

The Omaha Standard Metropolitan Statistical Area comprises Douglas and Sarpy counties in Nebraska and Pottawattamie County, Iowa.

\(^2\)The Standard Industrial Classification (SIC) divides all activities into broad industrial divisions. It further subdivides each division into two digit major industrial groups, then into three digit industrial groups, and finally into four digit detailed industries. Only the two digit major industrial groups will be used in this study. For further details on this classification, see Standard Industrial Classification Manual.
the nation. Industrial distribution varies greatly throughout the United States. Therefore, a comparison will be made with six other SKSA's in the north central region of the United States to determine if the structure of the Omaha SKSA fits into the general industrial structure of the region.

The Standard Metropolitan Statistical Area (SKSA) is an integrated social and economic geographical unit for which reliable and meaningful statistical data have been compiled. The SKSA is the basic geographical unit used by the Bureau of the Census for compiling information, including data on manufacturing, on approximately 220 major urban areas. On the whole the Omaha SKSA is a meaningful and realistic study area for a geographical study of the industrial pattern of the Omaha - Council Bluffs area.

The problem necessitated the collection of data from a number of published and unpublished sources, such as, comprehensive plans, zoning maps, Omaha Chamber of Commerce studies, Metropolitan Utilities District files, maps and files of the various city planning departments within the SKSA, and records of the Northwestern Bell Telephone Company. Supplementary information was obtained by extensive field observations. Statistical data used for comparison purposes were obtained from the 1963 Census of Manufactures\(^1\) and the 1960 Census of Population.\(^2\) Background information was obtained from published geographical studies on the


industrial pattern and structure of urban areas. In addition to books on the subject, numerous articles have been published in geographical journals, including: Economic Geography, Annals of the Association of American Geographers, Geographical Review, and The Professional Geographer.

Chapter one focuses on the industrial pattern of the Omaha SMSA in order to determine where industry is located, and in general, why it is located in a particular area. The amount and location of land zoned for industrial purposes will be investigated to determine the relationship and effect of zoning on the industrial pattern in the Omaha SMSA. The number and size of industrial establishments, number of employees, and location quotient will be determined for each SIC category and compared with the national average to understand how the SMSA fits into the national pattern.

The second chapter will be devoted to a general comparison between the Omaha SMSA and six other SMSA's in the north central United States. Data on number and size of industrial establishments, number of employees, and location quotient for each SIC category will be compiled and synthesized for each SMSA. Then, a comparative analysis will be made between the Omaha SMSA and the six SMSA's to determine how the structure of the Omaha SMSA compares with other SMSA's in the north central region of the United States.

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1The Standard Metropolitan Statistical Areas used for comparison purposes are: Des Moines, Kansas City, Lincoln, Minneapolis - St. Paul, St. Joseph, and Sioux City.
In chapter three the findings will be summarized and general conclusions on the structure and pattern in the Omaha SMSA formulated.

Hence, the purpose of this paper is to determine the distribution of industrial establishments in the Omaha SMSA and to ascertain if the industrial structure and pattern fits into the established patterns of other urban centers. Also, certain aspects of the industrial structure will be compared with the overall national structure, and with six SMSA's in the north central region of the United States to determine how the Omaha SMSA fits into the national and regional industrial pattern.
CHAPTER ONE

INDUSTRIAL DISTRIBUTION IN THE OMAHA
STANDARD METROPOLITAN STATISTICAL AREA

GENERAL DISTRIBUTION

The purpose of this chapter is to show the location and distribution pattern of industrial establishments and land zoned for industrial purposes in the Omaha Standard Metropolitan Statistical Area (SMSA). Also, certain indices of industrial development (such as, average number of employees per industrial establishment, number of industrial establishments per 10,000 population, and location quotient) for each Standard Industrial Classification (SIC) category are compared with the national averages in order to determine how the industrial structure of the Omaha SMSA compares with the overall industrial structure of the United States.

The location of each industrial establishment in the Omaha - Council Bluffs urban area is shown for each SIC group in Figures 4 through 22. In many instances the number of industrial establishments in each group does not agree with the statistical data shown in Tables II through X. The data shown on the maps are current to January, 1968, whereas, the data shown in the tables, and used for comparison purposes with other SMSA's, were taken from the 1963 Census of Manufactures, which is the latest reliable data available.
Some form of manufacturing takes place in parts of ninety-four land survey sections out of a total of 1,533 square miles in the Omaha SMSA (Figure 2). Industry is located in sixty-eight sections in Douglas County, of which only five are outside of the Omaha urban area. Industrial establishments are located in eight sections in Sarpy County, only two of which are contiguous with the Omaha urban area. Pottawattamie County has a total of twenty sections that have industrial firms, eight of which are outside of the Council Bluffs urban area. The thirteen sections outside of the Omaha - Council Bluffs urban area have a total of thirty-nine industrial establishments (0.6 per cent of the total in the

\[1\] Manufacturing is the mechanical or chemical transformation of inorganic or organic substances into new products. The assembly of component parts of products is also considered to be manufacturing if the resulting product is neither a structure nor other fixed improvement. These activities are usually carried on in plants, factories, or mills, which characteristically use power-driven machines and materials-handling equipment. For further details regarding definition of industry, see Standard Industrial Classification Manual.

\[2\] Over a large part of the United States the basic subdivision of land follows a system of survey adopted in 1785. By this system land is described in relation to a network of north-south and east-west lines. These include selected meridians, which are called principal meridians, and base lines. Their use has the effect of dividing the land into essentially rectangular blocks. The location of these blocks is indicated by numbered townships and ranges. The ranges are north-south strips of land six miles wide, numbered east and west from the nearest or most convenient principal meridian. The ranges are divided into townships by east-west lines at intervals of six miles. Thus, a range consists of a north-south tier of townships, each of which are six miles square. Each township is divided into thirty-six sections, each one mile square. The sections are numbered consecutively, beginning with section 1 at the northeastern corner of the township, and ending in the southeastern corner with section 36.

Figures 2 through 22 are divided into ranges and townships, and further subdivided into sections. This land survey system offers a standard method for determining location, and will be used in this study to explain the general location of industrial establishments.
OMAHA S.M.S.A.
NUMBER OF INDUSTRIAL ESTABLISHMENTS
(BY SECTION)

Figure 2
SMSA), most of which are small firms that have little effect of the industrial base of the SMSA. Therefore, these establishments are not shown on the maps in this chapter, nor are they considered in the analysis of industrial distribution in the Omaha - Council Bluffs urban area. They are, however, represented in the statistical data.

The downtown area of Omaha (Section 22, Township 15 North, Range 13 East)\(^1\) and adjacent sections have the greatest concentration of industrial establishments in the Omaha SMSA (Figure 2). A secondary concentration is located in South Omaha. This concentration is centered on the stockyards complex (Sec. 4, T. 14N., R. 13E.). A minor industrial concentration is centered on the downtown area of Council Bluffs (Sec. 36, T. 75N., R. 44W.).

The heaviest concentration of industrial establishments in and around the downtown area of Omaha may be characterized as light industry.\(^2\) The concentration of light industry in this area is typical of

\(^1\) Hereafter written as: Sec. 22, T. 15N., R. 13E.

\(^2\) Light industry is the term applied to industrial establishments that are relatively free of nuisance qualities such as offensive odors, undue noise, smoke, or dirt. Such establishments commonly use comparatively light-weight machines, and consume small quantities of raw materials. Heavy industry, on the other hand, often has severe nuisance qualities, emitting smoke, dust, noise, or unpleasant odors. Heavy industrial establishments commonly use bulky machinery and consume large quantities of raw materials. Accordingly, heavy industry is often located along major transportation routes.
many urban centers. Studies by Fred,¹ Bartholomew,² and Reinemann³ show that light industry is typically centered on the Central Business District (CBD). Much on the industry in this area, which Reinemann calls the "Inner Zone," is ancillary to the activities of the downtown area and is therefore located in close proximity to it.

In Omaha, the section immediately north of the downtown area has the greatest number of industrial establishments. They are centered around the marshalling yards of the Union Pacific Railroad, and include many firms which require rail transportation for the receipt of raw materials and for shipment of finished products. This section, plus the downtown section, constitute the industrial core of the study area with twenty-nine percent of the industrial establishments in the Omaha SMSA (Figure 2).⁴

There is a very marked decrease in the number of industrial establishments per section outward from the downtown industrial core area. Industry is not spread evenly around the core area, but tends to follow the major communication routes: major arterial streets and railroads. The sections extending north-south and east-west from the


⁴Hereafter referred to as the downtown industrial core area.
downtown section have a relatively high number of industrial establishments. The ten sections extending east-west from the downtown section of Omaha have 23.4 per cent of the industrial establishments in the SMSA, while the ten sections extending north-south have 28.7 per cent. Thus, these twenty sections coupled with the downtown section have 66.3 per cent of the industrial establishments in the SMSA.

Figure 2 shows a secondary industrial core area in South Omaha. This area, centered on the Omaha stockyards, is the site of the largest meat packing complex in the United States. There is a concentration of industrial firms extending westward nine miles from this secondary core area. This represents ten sections, including the stockyards section, which accounts for ten percent of the industrial firms in the SMSA. In the western seven sections of this strip of concentration are located a number of industrial parks that contain some of the largest industrial establishments in the SMSA, including the Western Electric plant which is the largest single industrial employer in the SMSA.

Although industrial establishments are spread out along major routes of communication, there has not been a major migration to the suburbs by industrial firms. Manufacturing in the Omaha SMSA is much less suburbanized than in a majority of SMSA's in the United States. In most cases population is about eight percentage points more suburbanized than manufacturing, but in the case of Omaha it is twenty-four per cent.¹

Residential development in the suburbs preceded industry by about twenty
years. This has brought about a resistance and a barrier to suburban
industrial expansion in the Omaha area. Perhaps this is why now industry
has found it convenient to locate within the city limits.¹

The Omaha SMSA has about fifty square miles of land zoned for
industrial use. This constitutes approximately three per cent of the
total land area of the SMSA (Figure 3). Of this total, Douglas County
has thirty-three per cent, Sarpy County forty-nine per cent, and
Pottawattamie County eighteen per cent. Approximately ninety-one per
cent of the land zoned for industrial purposes in Douglas County is
located within the city limits of Omaha. Council Bluffs has seventy-
nine per cent of the total land zoned for industrial use in Pottawattamie
County. Land zoned for industrial purposes comprises twenty-nine per
cent of the total area within the corporate limits of Omaha and thirty-
six per cent in Council Bluffs. For cities the size of Omaha, an average
of about eight per cent of the land area is normally used for industrial
purposes. For cities the size of Council Bluffs, the average is about
six per cent.²

A large percentage of the land zoned for industrial use in Omaha
and Council Bluffs is used for other purposes, nevertheless there is con-
siderable land available for industrial development. Thus, the availabil-
ity of land within the corporate limits of Omaha and Council Bluffs, and

¹Kitagawa, Manufacturing Activities, p. 104.
²Bartholomew, Land Use, p. 71.
OMAHA S.M.S.A.
LAND ZONED FOR INDUSTRIAL USE

Figure 3
the general lack of suitably zoned land in the suburban areas\(^1\) may be
temporary major factors in the below average industrial migration to the
suburban areas. Other factors, such as, geographical inertia and centri-
pital forces,\(^2\) no doubt also play an important part in keeping industry
centered in and around the downtown area of Omaha.

An important factor in industrial location is transportation
facilities. The Omaha SMSA is served by one of the finest transportation
networks in the midwest. The SMSA is served by nine major railroads and
ranks as the fourth largest rail center in the United States.\(^3\) The con-
centration of railroad facilities in the downtown industrial core area ap-
pears to be a major factor for the heavy concentration of industrial
establishments in this area. Since the Interstate highway system has
not been completed in the Omaha - Council Bluffs area, the 140 trucking
firms serving the Omaha - Council Bluffs urban area must rely to a great
extent upon five 2-lane U. S. highways that converge on the Omaha area.
River transportation, which offers an inexpensive method of transporting

\(^1\)Omaha has legal jurisdiction, for zoning purposes, over an area
in Douglas County, three miles beyond the corporate limits of Omaha,
however, only a few small tracts of land in this area have been zoned for
industrial use. The industrial zoned areas in Sarpy County come under
the legal jurisdiction of Sarpy County. Thus, while over ten per cent
of the county is zoned for industrial use, it is so zoned to fit the
needs of Sarpy County and not the industrial need of Omaha.

\(^2\)Charles C. Colby, "Centrifugal and Centripetal Forces in Urban

\(^3\)Lawrence A. Danton, *Factors Influencing the Development of Omaha*
(Omaha: Omaha Urban Area Research Project, University of Omaha, 1967),
p. 17.
industrial products to national and world markets is not extensively used by industry in the Omaha SMSA. In 1966, only 3,144 tons of manufactured goods were shipped downriver from the Omaha SMSA.\(^1\) Limited air freight service is available from Eppley airfield which is served by five airlines, two of which are national carriers. While there might be some deficiencies, the overall transportation network is adequate to meet the current and foreseeable needs of industry in the Omaha SMSA.

Although industry is important to the economic base of the Omaha SMSA, the area is far below the national average in industrial development. The location quotient\(^2\) for the Omaha SMSA is only 0.59 (national average 1.00), which indicates the SMSA has only slightly more than one-half of its share of industry.

Industry in the Omaha SMSA, though below the national average, is sufficiently diversified to warrant a general analysis of the major industrial groups. The Standard Industrial Classification\(^3\) will be used to classify the industrial establishments in the Omaha SMSA. This classification offers a convenient and standard method for classifying industry into twenty-one major groups (Table I).

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\(^1\)Source: U. S. Army Corps of Engineers, Missouri River Division.

\(^2\)Location quotient measures the degree to which a specific region, in this case the Omaha SMSA, has more or less than its share of industry. A location quotient of 1.00 means that a region has neither more nor less than its share of industry. A quotient over 1.00 indicates a high concentration of industry. A quotient of less than 1.00 indicates industry is less developed than the national average. Location quotient shows relative concentration only.

\(^3\)Only the two digit major industrial groups will be used in this study. For further details on this classification, see Standard Industrial Classification Manual.
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<td>19</td>
<td>Ordnance and Accessories&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>20</td>
<td>Food and Kindred Products</td>
</tr>
<tr>
<td>21</td>
<td>Tobacco Manufactures&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>22</td>
<td>Textile Mill Products</td>
</tr>
<tr>
<td>23</td>
<td>Apparel and Other Finished Products Made from Fabrics and Similar Materials</td>
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<td>Lumber and Wood Products, Except Furniture</td>
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<td>Transportation Equipment</td>
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</tr>
<tr>
<td>39</td>
<td>Miscellaneous Manufacturing</td>
</tr>
</tbody>
</table>

*aNone in the Omaha SMSA*
There are more industrial establishments in this group than in any other single group in the Omaha SMSA. The 132 firms in this group constitute about twenty-three per cent of all the industrial establishments in the SMSA, and employ about forty-four per cent of the industrial work force.

The firms in this group are concentrated in two major core areas (Figure 4). The area of greatest concentration is centered on the downtown area of Omaha. A second core area is centered on the stockyards area in South Omaha. In terms of industrial employment this second core area probably surpasses the downtown area as the most important industrial area in the SMSA. There are several minor concentrations outside of the two core areas. One of these minor areas of concentration is located in southwest Omaha (Sec. 1, T. 14N., R. 12E.), which is the site of a large industrial district. Other minor areas of concentration are located in Council Bluffs (Sec. 36, T. 75N., R. 44W.) and in central Omaha (Sec. 17, T. 35N., R. 13E.). In addition to the major and minor areas of concentration, individual establishments are scattered throughout the Omaha - Council Bluffs urban area.

Many of the industrial establishments in this group have an intermetropolitan market area. This is especially true of the larger firms in the stockyards area. However, the bulk of the establishments are orientated toward the intrametropolitan market area. The downtown core area appears to have an intrametropolitan orientation, which is
typical of food processing industries in metropolitan areas.

Nearly forty-four per cent of the industrial firms in this group have less than twenty employees; thirty-seven per cent have 20 to 99 employees; eight per cent have 100 to 249 employees; and eleven per cent have over 250 employees. The extensive meat packing complex in South Omaha is the major reason for the unusually high percentage of firms with over 250 employees, and helps explain why establishments in this major industrial group employ nearly forty-four per cent of the industrial work force. The average number of employees per establishment is 116 compared to the national average of forty-four.

This major industrial group (Food Products) has a location quotient of 4.50, far above the 1.00 national average. The number of establishments per 10,000 population is 2.83 for the SMSA. This compares with a national average of 2.08. Thus, while the number of establishments is only slightly above the national average, the average number of employees per establishment is far above the national average. This further points out the significance of the large meat packing plants in South Omaha as a major industrial employer in the Omaha SMSA.

TEXTILE MILL PRODUCTS

(Major Industrial Group 22)

The two industrial establishments in this group are not significantly important to the industrial base of the Omaha SMSA. The two firms, one in Omaha and one in Council Bluffs (Figure 5), are both

OMAHA - COUNCIL BLUFFS
AND VICINITY

Textile Mill Products

Figure 5
relatively small establishments, employing less than one-tenth of one percent of the industrial work force.

The textile industry, one of the most concentrated of all industrial groups, is almost exclusively located along the Atlantic Seaboard, with only a small scattering of establishments found elsewhere in the United States. The industry is traditionally orientated toward the large eastern market.

APPAREL AND OTHER FINISHED PRODUCTS MADE FROM FABRICS AND SIMILAR MATERIALS
(Major Industrial Group 23)

The core area of industrial establishments in this group is the downtown area of Omaha (Figure 6). A few other establishments are scattered throughout the Omaha - Council Bluffs urban area. Firms in this group constitute about three per cent of the total number of industrial establishments in the SMSA, and employ about two per cent of the industrial work force. Most of the firms are small with eighty-five per cent employing less than twenty persons. However, the average number of employees per establishment is forty-three, which compares favorably with the national average of forty-four.

The establishments in this group appear to be largely intra-metropolitan market orientated. With the exception of the core area, the establishments appear to have a random location with perhaps a tendency

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OMAHA - COUNCIL BLUFFS AND VICINITY
Apparel and Other Finished Products Made from Fabrics and Similar Materials

Figure 6
to locate along major lines of communication. Centripetal forces, such as site attraction, functional convenience, and functional prestige, are likely factors in the determination to concentrate in the downtown area.¹

The SMSA has a location quotient of 0.27, which is well below the national average of 1.00. The number of establishments per 10,000 population is 0.35, also well below the national average of 1.58.

LUMBER AND WOOD PRODUCTS, EXCEPT FURNITURE

(Major Industrial Group 24)

Industrial establishments in this group show a strong tendency to be located near major transportation arteries, especially rail transportation routes (Figure 7). There is no clearly defined core area, however, the greatest concentration is in and around the railroad marshalling yards area north of the downtown section of Omaha. It is interesting to note that there are no establishments in this group with a waterfront location, possibly indicating that inbound raw materials are not normally received from areas served by water transport.

This group has about four per cent of the industrial establishments in the Omaha SMSA. These firms employ less than one per cent of the industrial work force of the SMSA. Most of the establishments are small with about seventy-four per cent having less than twenty employees; an average of thirteen employees per establishment, compared with a national average of sixteen.

The location quotient for the Omaha SMSA is 0.27, well below the national average. The number of establishments per 10,000 population is 0.52, far below the national average of 2.01. The SMSA share of industry in this group is considerably below normal for an SMSA of this size.

OMAHA-COUNCIL BLUFFS AND VICINITY

Lumber and Wood Products, Except Furniture

Figure 7
Furniture and Fixtures
(Major Industrial Group 25)

Firms manufacturing furniture and fixtures are loosely concentrated in and around the downtown section of Omaha (Figure 8). There appears to be a general tendency for these firms to locate along or near major lines of communication. Many establishments appear to be railroad orientated, possibly indicating an intermetropolitan market area.

About five per cent of the industrial establishments in the Omaha SMSA belong to this industrial group, and they employ nearly three per cent of the industrial workers. Firms employing less than twenty persons outnumber all others with nearly sixty-one per cent of the total. Those with from 20 to 99 workers are a distant second with about twenty-nine per cent, while the remaining establishments are in the 100-249 employee category. The average number of employees per establishment is thirty-five, which compares favorably with a national average of thirty-six.

The furniture and fixtures group is one of the few industrial groups in the SMSA to have a location quotient greater than the national average. A location quotient of 1.27 is surprisingly high for a midwest SMSA. The number of establishments per 10,000 population is 0.62, which is only slightly above the national average of 0.58.
OMAHA - COUNCIL BLUFFS AND VICINITY

Furniture and Fixtures

CONTROLLED ACCESS AND OTHER DUAL HIGHWAYS
PRINCIPAL THROUGH ROADS
RURAL ROADS
CORPORATE LIMITS
STATE BOUNDARY
■ INDUSTRIAL LOCATION

Figure 8
PAPER AND ALLIED PRODUCTS

(Major Industrial Group 26)

Several plants manufacturing paper and allied products are located in the downtown Omaha industrial core area. The rest of the firms in this group are widely dispersed throughout the Omaha - Council Bluffs urban area (Figure 9). Nearly all of the firms are located near major communication routes.

This group, with less than two per cent of the industrial firms in the SMSA, employs about two per cent of the industrial workers. Establishments with less than twenty employees account for only ten per cent of the total, while sixty per cent are in the 20-99 employee category. Thirty per cent employ over one hundred persons. The average number of employees per establishment is eighty-three. The national average is ninety-seven employees per establishment.

The location quotient is 0.68, somewhat below the national average of 1.00. The number of establishments per 10,000 population is also below the national average. The SMSA has 0.22 firms per 10,000 population compared with a national average of 0.31.
This industrial group has the second highest number of establishments of any group in the Omaha SMSA. The firms in this group are heavily concentrated in the downtown section of Omaha (Figure 10). Minor concentrations are evident in the downtown areas of South Omaha, Council Bluffs, and in some neighborhood commercial areas. The downtown concentration appears to be typical of firms in this group. These firms are typically customer orientated. Most of the establishments are small with an intrametropolitan market area.¹

The 113 firms in this group constitute over nineteen per cent of the industrial establishments in the SMSA, although, they employ only about seven per cent of the industrial work force. Small establishments with less than twenty employees make up nearly eighty-two per cent of the total number in this group, however, the remaining eighteen per cent have a sufficient number of employees to bring the average number of employees per establishment to twenty-three. This compares favorably with the national average of twenty-four.

The location quotient for this group is 1.37, somewhat above the national average of 1.00. The number of establishments per 10,000 population is 2.47, also well above the national average of 2.12.

¹Pred, "Intrametropolitan Manufacturing," p. 175.
Industrial firms in this group have a typical random pattern with a tendency to concentrate in the downtown core area of Omaha. (Figure 11).¹ Virtually all of the firms outside of the downtown section are railroad orientated, which is typical of industries requiring bulk materials.²

These establishments account for nearly seven per cent of the industrial firms, and employ about three per cent of the industrial workers in the SMSA. The majority of establishments are small with nearly seventy per cent having less than twenty employees. Firms in the 20-99 employee category make up twenty-three per cent of the total. The remaining firms have over 100 employees. The average number of employees per establishment is twenty-nine, compared to the national average of sixty-one. Thus, the firms in the Omaha SMSA are much smaller than the national average.

The SMSA, with a location quotient of 0.76, has less than its share of industry in this group. There are 0.66 firms per 10,000 population, which is virtually the same as the 0.67 national average.

¹Pred, “Intrametropolitan Manufacturing,” p. 177.
²Bartholomew, Land Use, p. 63.
Figure 11

OMAHA - COUNCIL BLUFFS AND VICINITY

Chemicals and Allied Products
PETROLEUM REFINING AND RELATED INDUSTRIES
(Major Industrial Group 29)

The firms in this group are strongly orientated toward railroad transportation facilities (Figure 12), with largely an intrametropolitan market area. They constitute less than one per cent of the total number of firms in the SMSA, and employ about three tenths of one per cent of the work force. All of these firms employ less than fifty workers and sixty-two per cent have fewer than twenty employees. The average per firm is twenty-one compared with a national average of 130.

With a location quotient of 0.27, the Omaha SMSA is far below the national average for this industrial group. Although, the 0.09 establishments per 10,000 population compares very favorably with the national average of 0.10. The low national average indicates there are relatively few establishments in the United States, however, the average employment per firm is several times the national average. Thus, while there is a national trend for the firms in this group to be large with a considerable number of employees, the firms in the Omaha SMSA are generally small with a small number of employees.

RUBBER AND PLASTIC PRODUCTS
(Major Industrial Group 30)

Rubber and plastic products establishments have a random location pattern with a strong tendency to be railroad orientated (Figure 13), possibly indicating an intermetropolitan, as well as an intrametropolitan, market area.
OMAHA - COUNCIL BLUFFS AND VICINITY

Rubber and Plastic Products

Figure 13
Only about one per cent of the industrial firms in the SMSA are in this group. They employ less than one per cent of the industrial work force. Most of the firms are small with over eighty-five per cent employing fewer than fifty workers. The average is about twenty-five per establishment. The national average for this group is seventy-two employees per establishment.

The SMSA has a location quotient of only 0.32 for this group. The number of firms per 10,000 population is 0.15, also below the national average of 0.32 per 10,000 population.

LEATHER AND LEATHER PRODUCTS
(Major Industrial Group 31)

The few firms in this industrial group are largely located in the downtown areas of Omaha and Council Bluffs (Figure 14). These establishments do not significantly contribute to the industrial base of the Omaha SMSA. They constitute only one half of one per cent of the industrial establishments and employ only about two tenths of one per cent of the industrial work force. The average number of employees per establishment is about eighty-two; the same as the national average.

The location quotient is 0.12, which, except for industrial group 22, is the lowest of any industrial group in the SMSA. The number of firms per 10,000 population is only 0.04, while the national average is 0.22.

Virtually all of the manufacturing in this group takes place in the northeastern part of the United States, with the highest concentration being in New England and New York City. There are only a very few
OMAHA - COUNCIL BLUFFS
AND VICINITY

Leather and Leather Products

Figure 14
minor areas of production in the western half of the United States.¹

This industrial group is heavily market orientated since it is cheaper to ship the raw material than the finished product. Thus, the bulk of the industry is located near the major market, which is the populous northeast section of the United States.

STONT, CLAY, AND GLASS PRODUCTS
(Major Industrial Group 32)

Though with a general peripheral location, the firms in this group appear to be strongly railroad orientated (Figure 15). The establishments are widely scattered throughout the SMSA with only a single minor concentration in the eastern section of Ralston and an adjacent section of Omaha (Sec. 11 and 12, T. 14N., R. 12E.).

These firms, which account for less than six per cent of the industrial firms in the SMSA, vary greatly in size and number of employees. The majority of firms—seventy per cent, have less than twenty employees, while twenty-seven per cent are in the 20-99 employee category. The remaining three per cent have over 100 employees. The average number of employees per establishment is about twenty-two, while the national average is about thirty-six.

With a location quotient of 0.62, the SMSA has somewhat below the national average for this group. The number of establishments per 10,000 population is 0.72, which is sixteen points below the 0.88 national average.

¹Alexander, Economic Geography, p. 321.
Primary metals industries are most heavily concentrated around the periphery of the downtown area of Omaha (Figure 16). The nature of the materials used by this industrial group necessitates a site location near rail facilities.\(^1\) Centrifugal forces\(^2\) frequently make it more desirable for these industries to locate outside of the central city, however, this has not been the case in the Omaha - Council Bluffs area. The close proximity of many firms in this group to the industrial core area may be due in part, to the extensive rail network in this area.

Industries in this group, with less than two per cent of the firms in the SMSA, employ about eight per cent of the industrial workers. Only eleven per cent of the firms have less than twenty employees, while over forty-five per cent have 20-99 employees, twenty-two per cent have 100-249 employees. The remaining twenty-two per cent have over 250 employees. The average number of employees per establishment is 172, the same as the national average.

The Omaha SMSA with a location quotient of 0.65, has less than its relative share of industry in the primary metals group. The number of establishments per 10,000 population is 0.20 compared to national average of 0.36.

\(^1\)Bartholomew, Land Use, p. 63.
\(^2\)Colby, "Centrifugal and Centripetal Forces," pp. 4-8.
OMAHA - COUNCIL BLUFFS
AND VICINITY

Primary Metal Industries
FABRICATED METAL PRODUCTS, EXCEPT ORDNANCE,
MACHINERY, AND TRANSPORTATION EQUIPMENT

(Major Industrial Group 34)

Firms in this industrial group are scattered throughout the Omaha – Council Bluffs urban area with a general concentration in and around the downtown core area (Figure 17). The firms which have a random location are possibly local market industries that receive raw materials from local sources, and do not require major transportation facilities.

This group, the fourth largest in the SMSA, has over eight percent of the total number of establishments, and employs six percent of the industrial work force. Most of the firms are small with seventy percent employing less than twenty workers. A further twenty percent have 20-99 employees. The remaining ten percent have over 100 employees. Plants in this group employ an average of forty-two workers each. The national average for this group is thirty-eight industrial workers per establishment.

With a location quotient of 0.92 the Omaha SMSA is only slightly below the national average for this group. The number of firms per 10,000 population is 1.09 compared with a national average of 1.50.

MACHINERY, EXCEPT ELECTRICAL

(Major Industrial Group 35)

Machinery firms, while scattered throughout the Omaha – Council Bluffs urban area, tend to be centered on the downtown Omaha industrial
Figure 17

OMAHA - COUNCIL BLUFFS
AND VICINITY

Fabricated Metal Products,
Except Ordnance, Machinery,
and Transportation Equipment

Figure 17
core area (Figure 18). There is also a tight clustering of firms in an industrial tract near the northern boundary of the Omaha urban area (Sec. 28, T. 16N., R. 131.). This area currently has rail facilities, and the proposed route of Interstate 280 is along the northern edge of the area, with an interchange planned for this site. State highway 36 affords a direct route to Interstate 29, in Iowa, via the Mormon Bridge across the Missouri River. The firms outside of the downtown core area appear to be strongly railroad orientated, possibly indicating an intermetropolitan market area for a number of these establishments.

The firms in this group account for about ten per cent of the firms in the SMSA, and employ about five per cent of the industrial workforce. Firms are predominately small with nearly seventy-seven per cent employing less than twenty workers, while an additional seventeen per cent are in the 20-99 employee category. The remaining six per cent are relatively large establishments with a sufficient number of employees to bring the SMSA average to twenty-eight employees per establishment, however, this is well below the national average of thirty-six employees per establishment.

Although this group has the third largest number of firms the location quotient is only 0.56, indicating the SMSA is well below the national average in this industrial group. The number of firms per 10,000 population is 1.31, the third highest in the SMSA, however, this is below the 1.87 national average.
The greatest concentration of electrical machinery establishments is in the downtown Omaha industrial core area (Figure 19), however, the most important area, from the standpoint of employment, is in southwest Omaha (Sec. 6, T. 14N., R. 12E.). This area is the site of the vast Western Electric plant, which has more employees than all the rest of the firms in this group. Firms outside of the core area appear to have a strong railroad orientation, and at least one, Western Electric, has an intermetropolitan market area. With the exception of Western Electric, the firms in this industrial group are relatively small - fifty per cent have less than twenty employees, and nearly forty-two per cent have 20-99 employees. This group, with two per cent of the firms in the SMSA, employ about three per cent of the industrial workforce.

Despite the large employment at the Western Electric plant, the Omaha SMSA has a location quotient of only 0.41, which is well below the national average of 1.00. The SMSA, with 1.31 firms per 10,000 population, is also below the national average of 1.37 establishments per 10,000 population.

TRANSPORTATION EQUIPMENT

(Major Industrial Group 37)

Transportation equipment establishments have a random location pattern in the Omaha - Council Bluffs urban area (Figure 20). There is
OMAHA - COUNCIL BLUFFS AND VICINITY

Electrical Machinery, Equipment, and Supplies
OMAHA - COUNCIL BLUFFS
AND VICINITY

Transportation Equipment
no significant core area. Nearly all of the firms have less than 100 employees, with nearly fifty-four per cent having less than twenty employees, and almost thirty-nine per cent with 20-99 employees. The remaining establishments have over 250 employees. The average number of employees per establishment is fifty-eight while the national average is 222.

The location quotient for the Omaha SMSA is a low 0.24. The number of establishments per 10,000 population is 0.28, somewhat lower than the 0.40 national average.

PROFESSIONAL, SCIENTIFIC AND CONTROLLING INSTRUMENTS;
PHOTOGRAPHIC AND OPTICAL GOODS; WATCHES, CLOCKS
(Major Industrial Group 38)

This group of establishments is heavily concentrated in the downtown area of Omaha (Figure 21). Individual firms outside of the downtown industrial core area appear to have a random location. All of the firms in this group have less than 100 employees, with sixty per cent having less than twenty. The average number of employees per establishment is twenty-six, well below the national average of seventy-seven.

The Omaha SMSA, with a location quotient of 0.20, is far below the national average in this industrial group. The number of establishments per 10,000 population is 0.11, while the national average is 0.22.
OMAHA - COUNCIL BLUFFS
AND VICINITY

Professional, Scientific, and
Controlling Instruments, Photographic
and Optical Goods; Watches, Clocks

Figure 21
MISCELLANEOUS MANUFACTURING
(Major Industrial Group 39)

The core area for industrial establishments in this group is in the downtown section of Omaha (Figure 22). A smaller area of concentration is located north of the downtown section, along and north of Cuming Street. There is a scattering of firms throughout the Omaha - Council Bluffs urban area with a random location pattern. This group of firms appear to be largely intrametropolitan market orientated.

Miscellaneous manufacturing accounts for approximately six per cent of the firms in the SMSA. Most of these establishments have a relatively small number of employees. Nearly seventy-six per cent have less than twenty employees. Twenty-one per cent are in the 50-99 employee category, while the remaining three per cent have over 250 employees. The average number of employees per firm is forty-one, while the national average is twenty-seven.

With a location quotient of 1.63 the Omaha SMSA has more than the normal share of industry in this group. The number of establishments per 10,000 population is 0.72 while the national average is 0.82.

SUMMARY

Industry in the Omaha Standard Metropolitan Statistical Area (SMSA) is concentrated in the Omaha - Council Bluffs urban area. The greatest concentration of industrial establishments is in and around the downtown area of Omaha with a secondary core area located in South Omaha (Figure 2). Intrametropolitan market orientated industries appear to be
OMAHA - COUNCIL BLUFFS AND VICINITY

Miscellaneous Manufacturing

Figure 22
heavily concentrated in the downtown industrial core area. Inter-
metropolitan market - orientated industries appear to focus on railroad
facilities. Little land has been developed for industrial use outside of
the corporate limits of Omaha and Council Bluffs. Thus, industry in the
Omaha SMSA is largely a central city function. Three major industrial
groups\(^1\) have over fifty per cent of the industrial establishments in the
SMSA. Nearly two-thirds of the industrial establishments have less than
twenty employees. Industry is less developed than the national average
with the SMSA having only about sixty per cent of its relative share of
industry.

\(^1\)Food and Kindred Products; Printing, Publishing, and Allied
Products; and Machinery, Except Electrical.
CHAPTER TWO

A COMPARATIVE ANALYSIS OF SELECTED
STANDARD METROPOLITAN STATISTICAL AREAS

GENERAL

The initial chapter dealt with location, distribution, employee structure, location quotient, and other factors of the industrial structure and pattern of the Omaha Standard Metropolitan Statistical Area (SMSA). However, in order to put industrial structure and pattern into a meaningful perspective, it is necessary to understand how the Omaha SMSA compares with general industrial structure and pattern of other SMSA's. Therefore, in this chapter a general comparative analysis will be made with other SMSA's in the north central United States.

The industrial structure and pattern of the Omaha SMSA will be compared with six other SMSA's in the Missouri valley region. Figure 23 shows the location of these SMSA's which are: Kansas City, St. Joseph, Lincoln, Des Moines, Sioux City, and Minneapolis-St. Paul. The particular SMSA's were chosen for comparison purposes because: 1) they have a similar physical, social, and economic environment; 2) they are in close proximity to the Omaha SMSA; 3) their size brackets the Omaha SMSA, four are smaller and two are larger; 4) their size is such that a meaningful comparison is possible; and 5) they have a similar physical relationship with major U. S. market areas. The SMSA's vary in size from 411 to 2,555
STANDARD METROPOLITAN STATISTICAL AREAS

Source: 1963 Census of Manufacturers

Figure 23
square miles. The population (1960) range is from 90,581 to 1,482,030. The number of industrial establishments (1963) ranges from 107 to 2,589, and the industrial work force (1963) varies from 7,484 to 163,820 (Table II).

The availability of sufficient, accurate, and comparable data was a prime factor in determining the types of comparison to be made. The basic data used were taken from the 1963 Census of Manufactures. Unfortunately, only limited data are available for SMSA's with an industrial work force of less than 40,000. The five smallest SMSA's, including Omaha, have less than 40,000 in the industrial work force (Table II). Nevertheless, there are sufficient data available to make a meaningful, if limited, comparison of the industrial structure and pattern of the SMSA's.

Comparative data on each of the seven SMSA's are shown in Tables II through X. Tables IV through X have been arranged so there is a natural progression from left to right. The smallest SMSA, in terms of population, is on the left and the largest on the right. Thus, the various sized SMSA's can be easily and quickly compared. Much of the

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TABLE II

POPULATION, SIZE, NUMBER OF INDUSTRIAL ESTABLISHMENTS, AND NUMBER OF INDUSTRIAL WORKERS FOR SELECTED STANDARD METROPOLITAN STATISTICAL AREAS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Joseph</td>
<td>90,581</td>
<td>411</td>
<td>107</td>
<td>11.79</td>
<td>10,479</td>
</tr>
<tr>
<td>Sioux City</td>
<td>120,017</td>
<td>1,126</td>
<td>171</td>
<td>14.23</td>
<td>7,484</td>
</tr>
<tr>
<td>Lincoln</td>
<td>136,220</td>
<td>845</td>
<td>162</td>
<td>11.86</td>
<td>9,063</td>
</tr>
<tr>
<td>Des Moines</td>
<td>266,315</td>
<td>494</td>
<td>378</td>
<td>14.16</td>
<td>21,621</td>
</tr>
<tr>
<td>Omaha</td>
<td>4,578,873</td>
<td>1,553</td>
<td>592</td>
<td>13.03</td>
<td>35,082</td>
</tr>
<tr>
<td>Kansas City</td>
<td>1,226,677</td>
<td>2,554</td>
<td>1,677</td>
<td>13.62</td>
<td>111,104</td>
</tr>
<tr>
<td>Minneapolis - St. Paul</td>
<td>1,482,030</td>
<td>2,111</td>
<td>2,589</td>
<td>17.42</td>
<td>163,820</td>
</tr>
</tbody>
</table>
data presented in the tables requires no explanation, therefore, a descriptive analysis of these data is deemed unnecessary. However, a brief descriptive analysis will be made for the following comparative data:

1. Number of industrial establishments.
2. Number of industrial establishments by employee categories.
3. Number of industrial establishments per 10,000 population.
4. Location quotients.

NUMBER OF INDUSTRIAL ESTABLISHMENTS

Table III shows the number and per cent of industrial establishments in each major industrial group of each SMSA. The actual number of establishments varies greatly between SMSA's, however, the per cent of establishments in each major industrial group tends to follow a general pattern. The smaller SMSA's tend to have a very high percentage of industrial establishments in one or two major industrial groups. Whereas in the larger SMSA's, with a more diversified industrial base, no single industrial group has an abnormally high percentage of establishments. For example, the two largest SMSA's Minneapolis-St. Paul and Kansas City, have only about ten per cent in major industrial group 20,¹ whereas, the two smallest SMSA's St. Joseph and Sioux City, have approximately thirty per cent of their establishments in this industrial group.

Some SMSA's, regardless of size, have an unusually high or low

¹Food and Kindred Products.
### TABLE III

**TOTAL NUMBER OF INDUSTRIAL ESTABLISHMENTS**

<table>
<thead>
<tr>
<th>Major Industrial Group</th>
<th>Standard Metropolitan Statistical Area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>St. Joseph</td>
</tr>
<tr>
<td>20</td>
<td>32 (29.9)</td>
</tr>
<tr>
<td>22</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>23</td>
<td>6 (5.6)</td>
</tr>
<tr>
<td>24</td>
<td>6 (5.6)</td>
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<tr>
<td>25</td>
<td>1 (0.9)</td>
</tr>
<tr>
<td>26</td>
<td>4 (3.7)</td>
</tr>
<tr>
<td>27</td>
<td>16 (14.9)</td>
</tr>
<tr>
<td>28</td>
<td>8 (7.5)</td>
</tr>
<tr>
<td>29</td>
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<td>30</td>
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<td>31</td>
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<tr>
<td>32</td>
<td>7 (6.5)</td>
</tr>
<tr>
<td>33</td>
<td>2 (1.9)</td>
</tr>
<tr>
<td>34</td>
<td>7 (6.5)</td>
</tr>
<tr>
<td>35</td>
<td>6 (5.6)</td>
</tr>
<tr>
<td>36</td>
<td>2 (1.9)</td>
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<tr>
<td>37</td>
<td>3 (2.8)</td>
</tr>
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</table>
TABLE III--Continued

<table>
<thead>
<tr>
<th>Major Industrial Group</th>
<th>St. Joseph</th>
<th>Sioux City</th>
<th>Lincoln</th>
<th>Des Moines</th>
<th>Omaha</th>
<th>Kansas City</th>
<th>Minneapolis - St. Paul</th>
</tr>
</thead>
<tbody>
<tr>
<td>38</td>
<td>2 (1.9)</td>
<td>1 (0.6)</td>
<td>5 (3.0)</td>
<td>9 (2.4)</td>
<td>5 (0.9)</td>
<td>24 (1.4)</td>
<td>49 (1.9)</td>
</tr>
<tr>
<td>39</td>
<td>5 (4.7)</td>
<td>10 (5.9)</td>
<td>9 (5.5)</td>
<td>24 (6.3)</td>
<td>33 (5.6)</td>
<td>76 (4.5)</td>
<td>132 (5.2)</td>
</tr>
<tr>
<td>Total</td>
<td>107</td>
<td>171</td>
<td>162</td>
<td>378</td>
<td>592</td>
<td>1677</td>
<td>2589</td>
</tr>
</tbody>
</table>

*Figures in parenthesis indicate the percentage of establishments in each major industrial group.*
percentage of establishments in a certain major industrial group. For example, the Omaha SMSA has an unusually high percentage of establishments in industrial group 20, which is due, at least in part, to the large number of meat packing plants in Omaha. The Lincoln SMSA, on the other hand, has an above average number of establishments in industrial group 27. The state government is located in the Lincoln SMSA, thus, the increased need for printing and publishing facilities. There are then a number of possible factors that can greatly influence the number and type of industrial establishments that may be located in a Standard Metropolitan Statistical Area.

NUMBER OF INDUSTRIAL ESTABLISHMENTS

BY EMPLOYEE CATEGORIES

In most cases, the majority of industrial establishments have less than twenty employees. The number of establishments varies greatly. However, the percentage of firms with less than twenty employees is remarkably uniform for all of the SMSA's, except St. Joseph, the smallest SMSA. Table IV shows that about two-thirds of the establishments in the top six SMSA's employ less than twenty persons. The percentage uniformity is also evident in the larger employee categories, again, with the exception of St. Joseph. The St. Joseph SMSA is possibly not representative due to the relatively small number of industrial establishments in the SMSA. The addition of reduction of only a few establishments

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1 Printing, Publishing, and Allied Industries.
### Table IV

**Number of Industrial Establishments by Employment Category**

<table>
<thead>
<tr>
<th>Number of Employees</th>
<th>St. Joseph</th>
<th>Sioux City</th>
<th>Lincoln</th>
<th>Des Moines</th>
<th>Omaha</th>
<th>Kansas City</th>
<th>Minneapolis - St. Paul</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-19</td>
<td>53 (49.5)</td>
<td>114 (66.7)</td>
<td>105 (64.8)</td>
<td>254 (68.0)</td>
<td>377 (63.7)</td>
<td>1083 (64.5)</td>
<td>1634 (63.1)</td>
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<tr>
<td>20-99</td>
<td>30 (28.1)</td>
<td>40 (23.4)</td>
<td>41 (25.3)</td>
<td>87 (23.0)</td>
<td>157 (26.5)</td>
<td>416 (24.8)</td>
<td>710 (27.4)</td>
</tr>
<tr>
<td>100-249</td>
<td>12 (11.2)</td>
<td>10 (5.8)</td>
<td>7 (4.3)</td>
<td>22 (5.8)</td>
<td>30 (5.1)</td>
<td>110 (6.6)</td>
<td>169 (6.6)</td>
</tr>
<tr>
<td>250 or more</td>
<td>12 (11.2)</td>
<td>7 (4.1)</td>
<td>9 (5.6)</td>
<td>12 (3.2)</td>
<td>28 (4.7)</td>
<td>68 (4.1)</td>
<td>76 (2.9)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>107</td>
<td>171</td>
<td>162</td>
<td>378</td>
<td>592</td>
<td>1677</td>
<td>2589</td>
</tr>
</tbody>
</table>

*Figures in parenthesis indicate the percentage of establishments in each employment category.*
can have a great effect on percentage figures, and indicates the great influence which a small number of establishments can exert on the industrial base of smaller urban centers.

Although the percentage of industrial establishments in each employee category is relatively uniform, there is great variance between major industrial groups. Tables V through VIII show that certain industrial groups tend to dominate the industrial structure. However, the dominant group, or groups, are not always the same in each SMSA. For example, in the Sioux City SMSA major industrial group 20 has nearly one-fourth of the establishments with less than twenty employees (Table 5), whereas, in the Minneapolis-St. Paul SMSA only 7.7 per cent of the establishments are in this group. On the other hand, establishments in major industrial group 35¹ account for 17.9 per cent of the firms with less than twenty employees in the Minneapolis-St. Paul SMSA, and only 8.8 per cent in the Sioux City SMSA. The dominance of the industrial structure by a relatively few types of industry is more evident in the smaller SMSA's. In the larger SMSA's the industrial base is usually more diversified, thus, the dominance by a few industrial groups is less pronounced.

¹Machinery, Except Electrical.
TABLE V

NUMBER OF INDUSTRIAL ESTABLISHMENTS \(^a\)
WITH 1-19 EMPLOYEES

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<th>Major Industrial Group</th>
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<th>Des Moines</th>
<th>Omaha</th>
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\(^a\) Data from U.S. Census Bureau, 1960 Census of Manufactures.
TABLE V--Continued

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<td>1084</td>
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*Figures in parenthesis indicate the percentage of establishments in each major industrial group.*
### TABLE VI

**NUMBER OF INDUSTRIAL ESTABLISHMENTS**

**WITH 20-99 EMPLOYEES**

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<th>Minneapolis - St. Paul</th>
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**TABLE VI--Continued**

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<th>Sioux City</th>
<th>Lincoln</th>
<th>Des Moines</th>
<th>Omaha</th>
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*Figures in parenthesis indicate the percentage of establishments in each major industrial group.*
### TABLE VII

**NUMBER OF INDUSTRIAL ESTABLISHMENTS WITH 100-249 EMPLOYEES**

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<td>Lincoln</td>
<td>Des Moines</td>
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<td>Kansas City</td>
<td>Minneapolis - St. Paul</td>
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*Figures in parenthesis indicate the percentage of establishments in each major industrial group.*
TABLE VIII

NUMBER OF INDUSTRIAL ESTABLISHMENTS
WITH 250 OR MORE EMPLOYEES

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<tr>
<td>Total</td>
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*aFigures in parenthesis indicate the percentage of establishments in each major industrial group.*
Table IX shows that when the number of establishments per 10,000 population is either significantly above or below the national average in either a large or small SMSA, an inverse relationship exists between large and small SMSA's. That is, when the number of establishments in a major industrial group is above or below average in a large SMSA the opposite will occur in the small SMSA's. From Table IX it is readily apparent, for example, that major industrial group 20 (Food Processing) is well above the national average in the smaller SMSA's, whereas, in the larger SMSA's this group, though well represented, is below the national average. On the other hand, industrial group 34 is represented by an above average number of establishments in the larger SMSA's and a below average number of establishments in the smaller SMSA's.

When either a small or large SMSA has near the national average number of establishments per 10,000 population there is a tendency for all SMSA's to be near the national average. For example, the number of establishments in major industrial group 37 (Transportation Equipment) varies from 0.22 to 0.50 per 10,000 population, with the maximum deviation from the national average of only 0.18. Thus, the SMSA's in the north central region have their approximate share of industrial establishments in this industrial group.

1 Fabricated Metal Products, Except Ordnance, Machinery, and Transportation Equipment.
<table>
<thead>
<tr>
<th>Major Industrial Group</th>
<th>St. Joseph</th>
<th>Sioux City</th>
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<th>Omaha</th>
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<td>0.17</td>
<td>0.29</td>
<td>0.26</td>
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<td>Major Industrial Group</td>
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<td>39</td>
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<td>0.72</td>
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<td>11.86</td>
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<td>13.03</td>
<td>13.62</td>
<td>17.42</td>
<td>17.03</td>
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</table>
The location quotient measures the degree to which an SMSA has more or less than its share of industry. A location quotient of 1.00 means that an SMSA has neither more nor less than its share of industry. A quotient of less than 1.00 indicates industry is less well developed than the national average, whereas, a quotient greater than 1.00 indicates a high concentration of industry. Location quotient shows relative concentration only.

Table X shows that location quotient is useful in determining the degree of diversification of industry in an SMSA. A large number of industrial groups with a location quotient near 1.00 would tend to indicate a diversified industrial base. On the other hand, an SMSA with only a few industrial groups near 1.00 would probably have an industrial structure dominated by a few industries. Frequently the dominant industries have an unusually high location quotient, indicating a high percentage of the industrial work force is employed in these industries. Sioux City and St. Joseph are examples of SMSA's with an unusually high location quotient in a single industrial group. These two SMSA's have over five times their proportionate share of industries in major industrial group 20 (Food Processing). The large location quotient indicates that food processing is the dominant industry in the Sioux City and St. Joseph SMSA's.

<table>
<thead>
<tr>
<th>Major Industrial Group</th>
<th>St. Joseph</th>
<th>Sioux City</th>
<th>Lincoln</th>
<th>Des Moines</th>
<th>Omaha</th>
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<td>Major Industrial Group</td>
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<td>0.59</td>
<td>0.59</td>
<td>0.80</td>
<td>0.83</td>
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</table>

*Location quotient of less than 0.50 not shown.*
The location quotient is also useful in determining the overall relative share of industry in an SMSA. Table X shows that the north central region has less than its share of industry. The location quotients range from a low 0.44 for the Lincoln SMSA to 0.83 for the Minneapolis-St. Paul SMSA. Thus, all of the SMSA's are well below the 1.00 national average. In general, the larger SMSA's tend to have a larger relative share of industry and a more diversified industrial base than smaller SMSA's. However, there are exceptions.
SUMMARY

In general, the larger the Standard Metropolitan Statistical Area (SMSA) the more diversified the industrial base. Smaller SMSA's tend to be dominated by a few industrial groups. The number and type of industrial establishments vary greatly between SMSA's, however, the percentage of firms in each employee category is remarkably uniform. The number of industrial establishments per 10,000 population varies considerably with the Omaha SMSA slightly below the regional average. The location quotient for each of the SMSA's is relatively low, indicating the north central region's share of industry is less than the national average. In general, the overall industrial base of the Omaha SMSA compares favorably with other SMSA's in the north central region of the United States.
CHAPTER THREE

SUMMARY AND CONCLUSIONS

The principal objectives of this study were to determine the areal distribution of industrial establishments in the Omaha Standard Metropolitan Statistical Area (SMSA) and to ascertain if the industrial pattern and structure is similar to established patterns of other urban centers. Chapter one dealt with the location of industrial establishments in the Omaha SMSA. Also, certain aspects of the industrial structure were compared with national averages. Chapter two was devoted to a comparative analysis of certain aspects of industry in the Omaha SMSA and six other SMSA's in the north central region of the United States. In this chapter the findings are summarized and general conclusions formulated.

The industrial structure and pattern of the Omaha SMSA focuses on the Omaha - Council Bluffs urban area, which has over ninety-nine per cent of the industrial establishments in the SMSA. Within the urban area concentrations of industry are apparent (Figure 2). The greatest concentration of industry is in and around the downtown area of Omaha. Secondary industrial core areas are evident in the downtown area of Council Bluffs, Ralston, and, most noteworthy, the stockyards area of South Omaha.

The heavy concentration of industrial establishments in the downtown Omaha core area appears to be typical of central cities. Studies
by Pred, Reinemann, Bartholomew, and others show that, although there are numerous disadvantages to a downtown location, certain types of industrial establishments, such as, job-printing and food processing, prefer to locate near the core of the city. These establishments are typically intrametropolitan market-orientated light industries, however, heavy industry, represented largely by old established firms, is often found near the periphery of the downtown area.

Linear patterns of industrial concentration extend outward from the major industrial core area, and westward from the secondary core area in South Omaha. However, the much written and talked about mass migration of industry to suburban areas is not as evident in the Omaha SMSA. Industry remains largely a central city function.

Industrial zoning has tended to keep industrial establishments out of suburban areas in the Omaha SMSA. Although Omaha has jurisdiction, for zoning purposes, over an area three miles beyond the city limits in Douglas County, little land has been zoned for industrial use outside of the city limits (Figure 3). Many types of industry prefer, or require, peripheral locations. Murphy list sixteen possible reasons why


industrial establishments may desire suburban locations. However, at present there are few suitable peripheral industrial sites available.\footnote{Omaha Industrial Foundation Number 1 and 2, located in parts of Secs. 1-4, T. 14N., R. 12E., are the only major industrial tracts that have been fully developed in the peripheral area of Omaha to date.}

The size of industrial establishments in the Omaha SMSA compares favorably with surrounding SMSA's (Table IV). Nearly two-thirds of the firms have less than twenty employees, which is characteristics of SMSA's in the north central region of the United States. Table IV shows that a reasonable uniformity exists in all employee categories. For example, about twenty-five per cent of the industrial establishments in each SMSA are in the 20-99 employee category. The average number of employees per establishment ranges from forty-four in the Sioux City SMSA to ninety-eight in the St. Joseph SMSA. The SMSA's in the north central region, with the exception of Sioux City, have a higher number of employees per establishment than the national average of fifty-three per establishment.

The number of industrial establishments vary from 107 in the St. Joseph SMSA to 2,589 in the Minneapolis - St. Paul SMSA. Thus, the Minneapolis-St. Paul SMSA has nearly twenty-five times the number of industrial establishments located in the St. Joseph SMSA. However, when the population of the SMSA is considered the disparity between SMSA's is greatly reduced. The number of industrial establishments per 10,000 population ranges from 11.79 in the St. Joseph SMSA to 17.42 in the Minneapolis-St. Paul SMSA (Table II). The national average is 17.03
industrial establishments per 10,000 population, consequently, all of
the SMSA's in the north central region, with the exception of
Minneapolis-St. Paul, have a below average number of establishments. On
the other hand, as mentioned above, most of the SMSA's in the north
central region have a higher average number of employees per establish­
ment. Thus, while the average number of establishments tend to be below
average, the number of employees per establishment is generally above
average, indicating the average industrial establishment in the north
central region is larger than the national average.

The Omaha SMSA does not have a strong, diversified, industrial
base. The food processing industrial group tends to dominate the
industrial structure with nearly twenty-three per cent of the industrial
establishments in the SMSA (Table III). This group of establishments
employs about forty-four per cent of the industrial work force. Thus,
not only does the SMSA have a large number of establishments in the food
processing group, but also the average size of establishments is well
above the average of the SMSA's considered in the study. This is due,
at least in part, to the large meat packing complex in South Omaha.
Table X shows that the Omaha SMSA has more than its share of industry in
four industrial groups,¹ and is generally far below the national average
in the remaining major industrial groups. Thus, while most of the major
industrial groups are represented in the Omaha SMSA the relative share in
industry in each group fluctuates greatly, indicating the industrial base

¹Food and Kindred Products; Furniture and Fixtures; Printing,
Publishing, and Allied Industries; and Miscellaneous Manufacturing.
is not strongly diversified. A study by Rodgers\(^1\) on the industrial diversification in the United States shows that the Omaha SMSA ranks in the middle group in industrial diversification. That is, the Omaha SMSA has neither a strongly diversified nor a heavily specialized industrial base.

The location quotient is useful in determining the degree of industrial diversification in an SMSA, and in determining the overall share of industry. In general, the larger the SMSA the more diversified the industrial base, however, variations from the general pattern are not uncommon. Table X shows that the Minneapolis-St. Paul and Kansas City SMSA’s, which are larger than the Omaha SMSA, have more industrial groups with a location quotient near 1.00 than do other SMSA’s in the north central region, indicating a more diversified industrial base.\(^2\) On the other hand, the Omaha SMSA has a more diversified industrial base than the smaller SMSA’s in the north central region.

Although SMSA’s in the north central region have location quotients greater than 1.00 in a few industrial groups, the overall location quotient is below the national average of 1.00. Table X shows that the overall location quotient ranges from 0.44 to 0.83, indicating the industrial structure of the region is less well developed than the

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\(^2\) Rodgers' study, using different criteria, also shows that the Kansas City and Minneapolis-St. Paul SMSA’s are more diversified than the Omaha SMSA (Rodgers, "Industrial Diversification," pp. 16-30).
overall national industrial structure. The Omaha SMSA, with a location quotient of 0.59, has only about six-tenths of its relative share of industry.

To summarize, over ninety-nine per cent of the industrial establishments in the Omaha SMSA are located in the Omaha - Council Bluffs urban area and are centered on the downtown area of Omaha. The general lack of suitable land zoned for industrial use in peripheral areas has possibly been a major factor in keeping industry in the SMSA largely a central city function. The location pattern of industry in the SMSA appears to be similar to other urban centers reported in geographical literature. The size and number of industrial establishments compares favorably with other SMSA's in the north central region of the United States. The Omaha SMSA does not have a strong diversified industrial base, but considering the size of the SMSA it compares favorably with other SMSA's in the region. The SMSA has less than its proportionate share of industry which is characteristic of SMSA's in the north central region.

In conclusion, the Omaha SMSA appears to have considerable potential for increased industrial development, provided suitable industrial sites are made available and proper use is made of existing transportation facilities. At present, it appears the industrial potential of the Omaha SMSA is not being fully exploited.
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**ARTICLES**


PAMPHLETS


MAPS


Omaha and Vicinity. 1:21,120. Street Plan Map. Omaha: City Planning Department, 1968.


