

Bloomington's Industrial Labor-Shed

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Introduction

This is a study of an industrial labor-shed. Just as the term watershed is defined as the area from which a stream receives its water, so also the term labor-shed can be used to indicate the region from which a particular industry or city acquires its source of labor. The objective of this paper is thus to analyze the size, shape, and composition of one industrial labor-shed in particular; that of Bloomington, Indiana. Labor-shed analysis is important not just because it directs attention to the distances traveled by some people to work, but also because it is one of several major indicators of the amount of influence exerted by the city on its surrounding region. In any sort of regional or city planning, labor-shed studies become invaluable as a necessary preliminary for sound zoning practices, the establishment of outlying service centers, and the handling of a host of traffic problems. It is hoped that other studies, similar to this, will be made of the industrial labor-sheds of other Indiana cities. Then through comparison, perhaps some broad principles regarding labor-shed size, shape, and composition may be evolved.

Methodology

In order to achieve the objective set forth in the introduction, it is both unnecessary and impractical to take into account the nearly 100 industries on the Bloomington Chamber of Commerce industrial list. Rather, only the three largest industries—Radio Corporation of America, Sarks Tarzian, and Westinghouse—are considered on the basis that these three, excluding the 26 stone firms that are scattered throughout the county, account for approximately 56 per cent of Bloomington's industrial labor force. In addition to these three industries, Indiana University is included in this study and considered as an industry because it is the biggest employment establishment in the city. The major role played by the university in the economy of Bloomington is at once obvious if one considers that the some 5,000 persons working at the university are bringing money into the city. However, in this treatment only the 3,033 salaried employees will be considered, for practically all the other employees are students working part-time. The addition of Indiana University's salaried employees brings the total to 8,463 workers or about 90 per cent of Bloomington's total industrial labor force, excluding again the stone firms. Mapping the distribution of 90 per cent of the labor force is considered sufficient to allow an accurate identification of Bloomington's industrial labor-shed.

One of the objectives is to determine with some accuracy the limits of the labor-shed. Consequently, it is essential to find where the workers live. Three alternative methods of obtaining information regarding the workers' residences are available: (1) license plates can be checked at industrial parking lots and addresses obtained from license plate directories, (2) one may conduct interviews at the industrial location, or (3) residences can be located by securing a list of employees and their home addresses from each industry. The third method of obtaining home ad-

dresses is utilized here because this procedure, unlike the first two, is not only less time consuming, but is also open to considerably less error.

The employees of Bloomington's major industries are broken down into three groups on the basis of their home location with respect to Bloomington. Bloomington city employees are those which live inside Bloomington's city limits, Bloomington rural employees are those which live in Bloomington's rural areas, and non-Bloomington employees are those which live outside of the rural areas of Bloomington.

Proportionate circles are used in this paper to represent the non-Bloomington class of workers. Figures one through three illustrate the proportionate circle method of showing distributions. A black circle near the center in each of the first three figures symbolizes the number of Bloomington city and Bloomington rural persons working in the major industries. A pie graph located in the lower left-hand corner of each of these figures shows the percentage of Bloomington city, Bloomington rural, and non-Bloomington employees.

Electronic Industries

The electronics industries have an average labor force totaling 5,430 employees, or about 65 per cent of the total number of workers employed

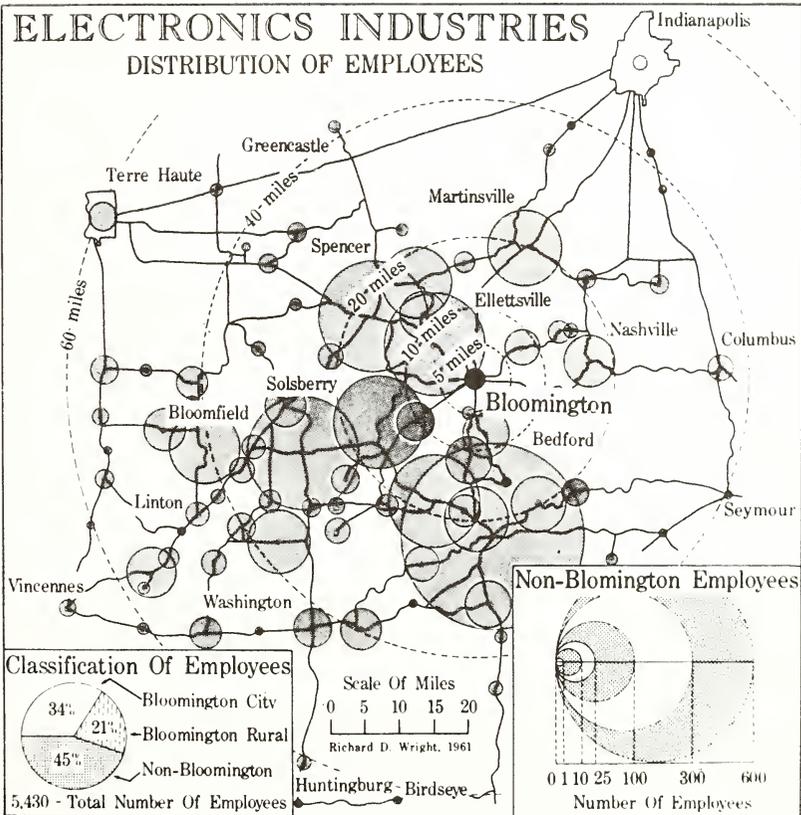


Figure 1

in Bloomington's major industries (Figure 1). An unusually high percentage of the labor force resides outside of the political city. Twenty-one per cent of the workers live in the city's rural areas while an additional 45 per cent live outside of the Bloomington area. Thus a total of 66 per cent of the labor force lives outside of the city limits.

The largest concentration of non-Bloomington workers is found in the Bedford area 30 miles to the south (Figure 1). Large numbers of workers also come from the Bloomfield, Ellettsville, and Spencer areas. The large number of employees commuting from the northwest, west, southwest, and south probably is a result of the lack of employment opportunities in these mining and agricultural areas. The paucity of economic activity is further indicated by the fact that many of these counties have been losing population for 60 years. On the other hand, only a few people engaged at the electronics industries live east and northeast of Bloomington. Columbus probably siphons off much of the labor force east of Bloomington; while to the northeast, much of the labor is drawn to industrial Indianapolis. Then too, poor roads leading into Bloomington from the east, though much better in recent months, have also lessened the number of persons willing to commute from this area because of the greater time distance. In addition, immediately to the northeast and east, there are relatively few population concentrations from which to draw labor.

The longest straight-line distance journeyed by workers commuting to the electronics industries is nearly 70 miles; traveled by employees living at Vincennes, Huntingburg, and Birdseye. However, as Figure 1 illustrates, there are very few commuters residing outside of a 40-mile radius of Bloomington.

Indiana University

A total of 3,033 salaried employees work on the Bloomington campus. This number accounts for about 35 per cent of the labor force of Bloomington's major economic establishments (Figure 2).

The distribution of Indiana University's labor force, as shown in Figure 2, differs from that of the electronics industries in that: (1) a much higher per cent of its employees live within the city limits of Bloomington, (2) the non-Bloomington class of employees have a less wider distribution range, and (3) the directional distribution of the non-Bloomington class of workers is dissimilar.

Seventeen per cent of the workers live in the rural districts of Bloomington, while only six per cent live outside of the Bloomington area. Thus only 23 per cent of the employees at Indiana University reside outside of the city limits as compared to the figure of 66 per cent exhibited by the electronics industries. University personnel thus prefer to live within a few minutes driving distance of work.

The farthest straight-line distance traversed by a university employee is about 65 miles from Vincennes. In addition, workers also commute from Brazil and Terre Haute. For the most part, however, most university personnel live within a 30-mile radius of Bloomington.

Unlike the electronics industries, Indiana University has a large number of commuting employees who live to the east of Bloomington, principally in the Unionville and Nashville areas. In addition to these two

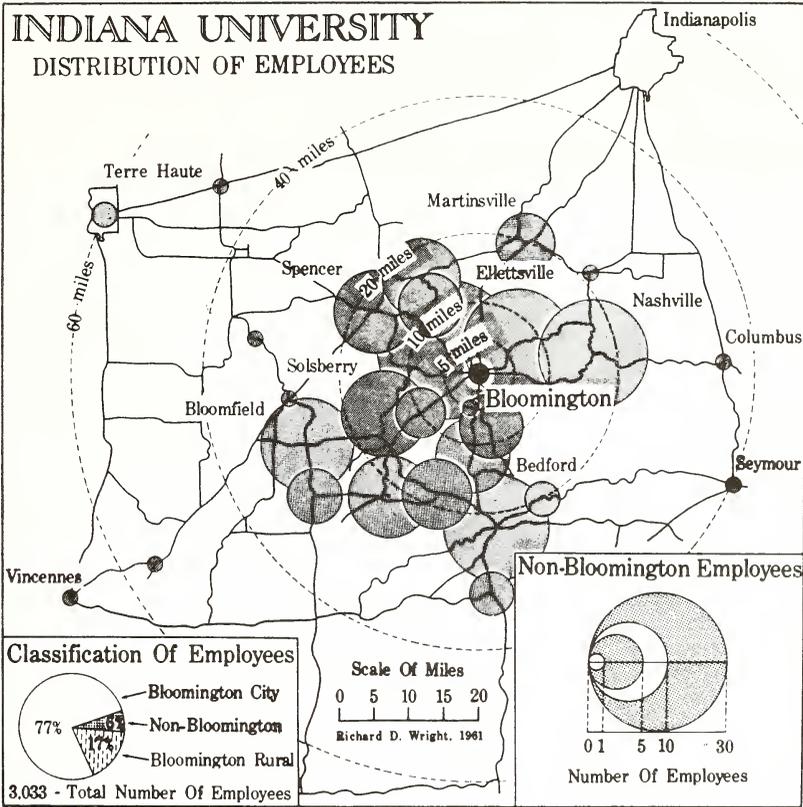


Figure 2

areas, relatively large concentrations of commuters are also found in the Ellettsville, Bloomfield, and Bedford areas.

The Total Industrial Labor-Shed

Figure three is a composite map of the first two. It represents, for all practical purposes, Bloomington's industrial labor-shed. The composition of the labor-shed, as revealed in the pie graph shows that less than one-half of the 8,463 workers live within the political city, while 20 and 31 per cent, respectively, are classified as Bloomington rural and non-Bloomington.

The largest concentrations of workers are found northwest, west, and south of Bloomington within a 40-mile radius. The Bedford area predominates as the single largest contributor of labor to Bloomington's industries. Again it is obvious that few workers commute to Bloomington from the east.

Bloomington's industrial labor-shed is asymmetrically oriented with respect to the city. The northern and eastern borders extend to a distance of 45 to 40 miles respectively; while the southern and western reaches of the boundary extend to a distance of 60 to 70 miles. A large number of

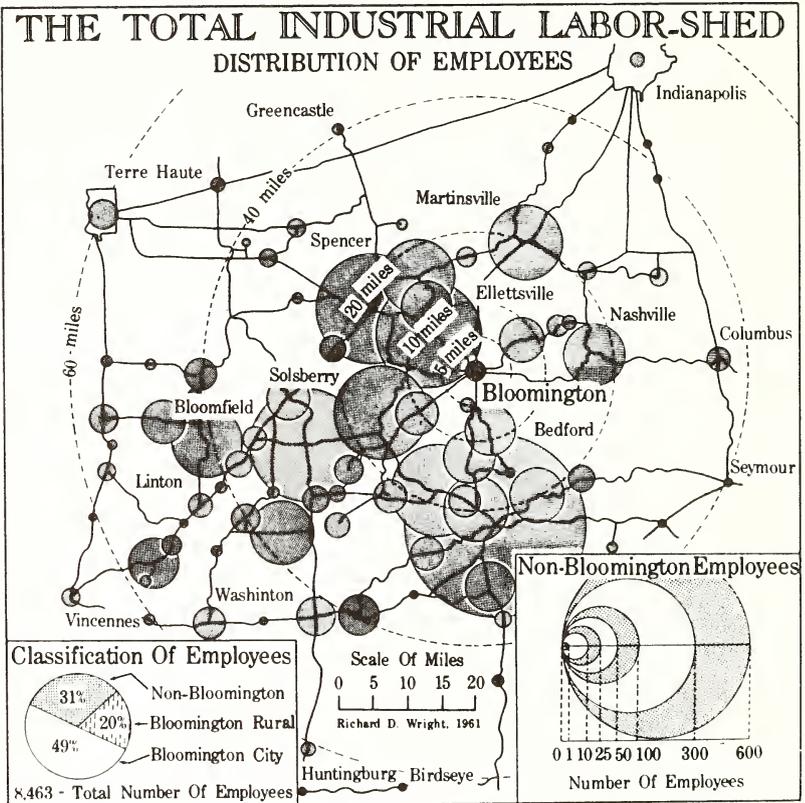


Figure 3

population centers, better transportation routes with shorter time distances, and a declining local economic activity combine to make those regions to the northwest, west, and south of Bloomington good areas from which to draw a labor supply. Conversely, the regions to the east and northeast of Bloomington supply only a small percentage of the labor force, principally because they are areas characterized by a relatively small number of population centers and poorer transportation routes leading into Bloomington. Columbus and Indianapolis apparently succeed in drawing off most of the labor force east and northeast of Bloomington except, of course, for the university employees.

The Labor-Shed, Studied on a County Basis

Perhaps a better idea of the influence of Bloomington on the economies of Monroe County and the surrounding counties may be gotten by comparing the county industrial labor force with the number of persons in the county that are employed in Bloomington's major industries. In this way it is possible to assess the influence of Bloomington, industrial-wise, on Monroe County and the surrounding counties. Looking at Bloomington's labor-shed from this viewpoint, several interesting conclusions may be

drawn. Figure 4 shows that Monroe County, with a figure of 63 per cent, has the highest percentage of its industrial labor force working in the major industries of Bloomington. Greene County, though contributing fewer workers than Lawrence County; nevertheless, has a higher percentage of its labor force engaged by Bloomington industry. Owen, Lawrence, and Brown counties all have a large proportion of their industrial labor force working in Bloomington.

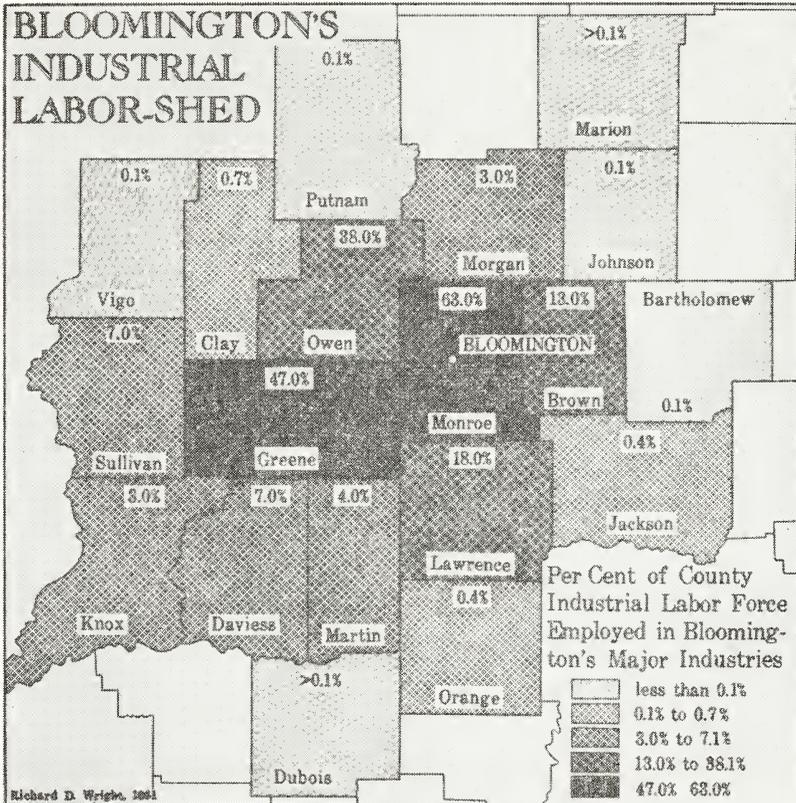


Figure 4

Bloomington's industrial labor-shed, as shown in Figure 4, is strongly oriented to the west and southwest. The per cent of the county labor force working in Bloomington remains relatively high—three to seven per cent—50 miles west and southwest of Bloomington in Knox and Sullivan counties. However, the percentage of county labor force employed in Bloomington drops quickly to 0.4 per cent or less in Putnam, Marion, Johnson, Bartholomew, Jackson, and Orange counties. The westward and southwestward orientation of Bloomington's labor-shed is also indicated by the fact that Knox and Sullivan counties, located 50 miles from Bloomington, contribute 68 and 51 workers, respectively, to the major industries; while Brown County, immediately east of Monroe County, contributes only 72 workers. Thus one can see that the influence of Bloomington's major

industries extends much farther west and southwest than in any other direction. Figure 4 also clearly indicates the influence of the labor-sheds of Terre Haute and Greencastle to the northwest, Columbus to the east, Seymour to the southeast, and Indianapolis to the north. These cities have reduced the size of Bloomington's labor-shed in these directions by drawing off much of the labor.

Though not indicated in any of the maps, the orientation, size, and shape of Bloomington's labor-shed is also affected by the components of its composition; that is, the people who work in the major industries. Among the many human factors which exert an influence on the labor-shed, probably the most important is the sex composition of the workers. The wide distribution of commuting workers to the northwest, west, and south of Bloomington is at least partially explained by the fact that over one-half of the industrial labor force is composed of women. There does not seem to be as strong a desire to move close to the place of work where the wife is employed as there is to move near to the husband's place of employment. Many of the men, if unemployed, go back to part-time farming, while their wives work at such places as Radio Corporation of America, Sarkes-Tarzian, and Indiana University.

Conclusions and Suggestions for Additional Research

Slightly more than half of the workers in Bloomington's major industries live outside of the city limits. Thus, there is probably a considerable amount of money made in Bloomington, but spent in other communities. However this assumption is open to some doubt, and should be field checked by interview if its validity is to be established.

Though only the general characteristics of Bloomington's industrial labor-shed are presented here; there are a number of other rewarding studies which can be pursued simply by using the same type of industrial employee address lists that were used to achieve the results of this paper. For example, it would be well worthwhile to study and compare the labor-sheds of other Indiana cities. This is one way of measuring the sphere of influence of cities. Another worthwhile study, using employee address lists, can be made by correlating the journey-to-work pattern with selected social and economic conditions. These and many other similar projects using employee address lists are recommended for further study.