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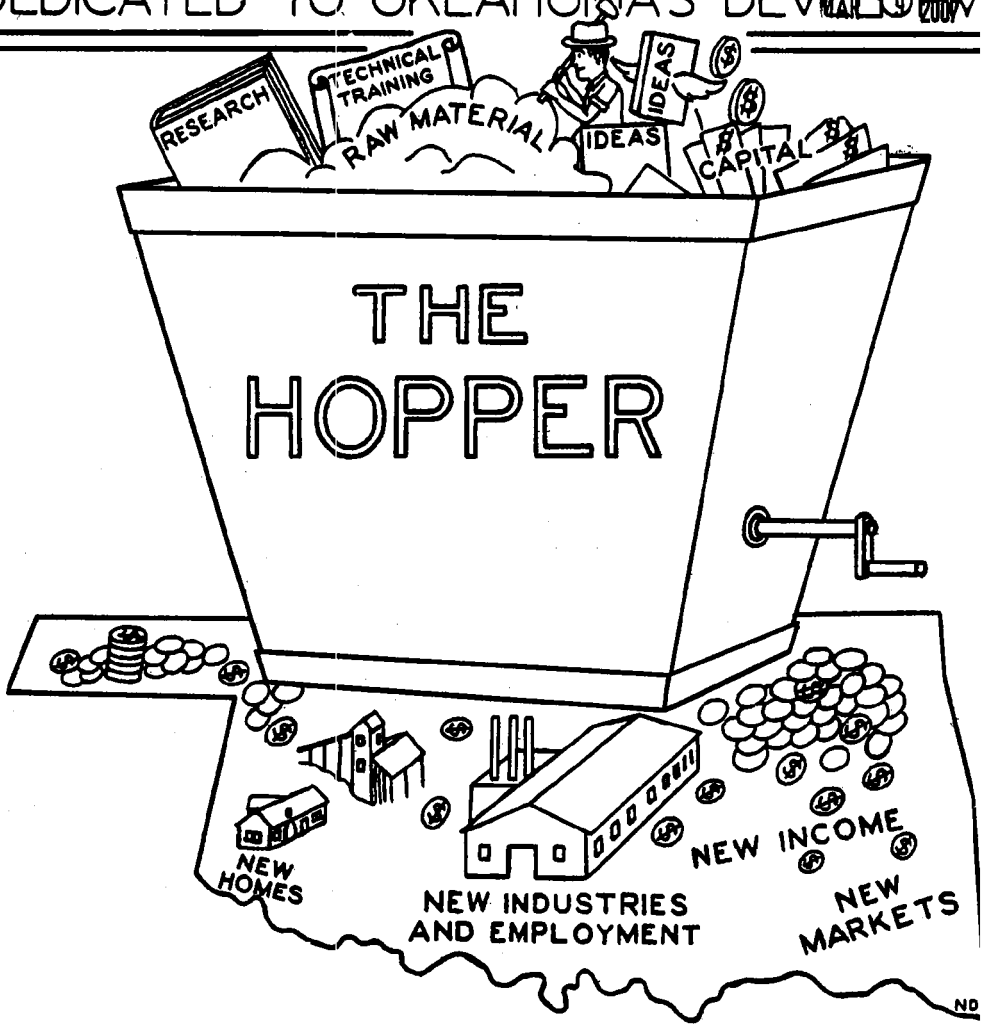

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FACTORS AFFECTING THE LOCATION OF INDUSTRIES

by
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During the war years the Middle West showed itself fully capable of being a large scale industrial producer. Vast acreages of plant capacity were erected with miraculous speed on sites which had a short time before been grazing land and wheat fields. Hundreds of large and small industrial plants were built, productive capacities of existing plants were greatly enlarged, and many thousands of workers were trained to operate machines.

One of the things that astounded the industrial people from the coasts and from the previously recognized industrial centers was the ability of our workers here in the Middle West to fit in the operation of technical industrial machinery and equipment. This we of course recognize as perfectly natural because our men and even our women in Oklahoma and the Middle West grow up with a natural understanding of machinery and their mechanics. Certainly we understand that a young man who has spent his boyhood days on a farm has the fundamental and working knowledge of machinery that is an estimable asset to him when he walks up to a lathe or any other type of industrial equipment.

When these plants' installed machinery began to hum, the results of the production and assembly lines as we all well know far exceeded anyone's expectations, and the products from these plants in Oklahoma and her surrounding territory in the Middle West were sped to the ends of the world for our armies and our Allies. We watched lines of giant planes, produced and assembled here in the interior, roar away on flights to England, to the Continent, Egypt, the Philippines, Australia, China, and the East, and we were made definitely aware of two

things--the ability of this territory industrially and the beckoning of new world horizons for the distribution of our peacetime products. In the postwar reconversion of our industrial plants and the enlargements and extensions of those plants, this lesson has not been and must not be forgotten.

In this specific connection concerning established industries, we all well know that many Oklahoma oil well supply firms, which in prewar days developed their products almost exclusively for the local domestic market, are now literally doing business around the world. Their products are as common in Arabia, Iran and other petroleum producing Middle East centers as they are here in the center of the oil developing country. And so our challenge today is primarily to make known to industry that here in the Middle West is the land of opportunity for industrial development; that the plants can be properly constructed and properly manned with a minimum of some of the standard difficulties experienced in recent years in the so-called industrial centers, including, if you please, in that category a minimun of so-called labor troubles.

In addition there are the benefits of a central location to the raw materials and resources and certainly the central location which has proved of such great benefit to the distribution problems of the end product, including even the ability to distribute to the world-wide market.

The most noteworthy over-all trends in location in the United States have been in the direction of equalization of the inter-regional distributions of industry and population equalization in the degree of industrialization of various regions, greater concentration of population in urban areas, and suburbanization of both population and manufacturing. The placing of new war industry facilities brought manufacturing development for the first

time into many areas, but its permanent effect depends on the adaptability of the various kinds of war plants to postwar use.

As specific evidence of industrial operations to show that we are not just talking and letting our imagination get away from us, we would refer you to the preliminary industrial reports of the Bureau of the Census of the U. S. Department of Commerce on the 1947 Census of Manufactures. This report gives some very interesting and conclusive comparisons concerning manufacturing establishments, the comparison being with the year 1939. The State of Oklahoma had in 1939, 1,530 manufacturing establishments. In 1947 there were 1,749 manufacturing establishments.

I would call your attention to a challenging result, that with that increase in the number of manufacturing plants, the State of Oklahoma dropped in National ranking from 27th place to 32nd. In 1939 the 1,530 plants employed an average of 28,000 people, whereas in 1947 the 1,749 plants employed an average of 44,000 people. Yet with the increase in these figures the State of Oklahoma during that period dropped in National ranking from 25th position to 36th position. The value added (computed by subtracting the cost of materials and supplies from the value of the shipments) show for 1939, 120 million and for 1947, 341 million. The state ranking in this instance advancing from 33rd position in 1939 to 32nd position in 1947. Thus, we say that industrial accomplishments and ability in the State of Oklahoma are definitely positive factors in the economy of the State. As we review and think about all of the benefits of industrial development within our various communities, it is important that we not lose sight of the fact that the benifits of the location of an industrial plant within any community must be first analyzed and measured by the ability of that particular community.

Diversification is one of the strongest points of area and community development, for diversification of industry generally offers fuller and more regular use of the resources of an area while keeping its economy flexible for necessary locational adjustments. These and other possible benefits of diversification may justify some sacrifice of the economies of geographical specialization. But this, like many other points, covers such a wide phase of consideration that it is impossible to go into it in detail. I refer you to an analysis covering suggestions for diversifying industry which was prepared by Van Buren Stanbury, Area Development Representative of the San Francisco Regional Office of the U. S. Department of Commerce.

I refer you also to come specific publications developed by the Department of Commerce dealing particularly with the subject that we have under consideration here today. They are the "Check List" to help you introduce your new industrial products, designated as Economic Series No. 53, the Preliminary Industry Report of the 1947 Census of Manufactures, giving the summary statistics for states and for major industry groups, and a similar Preliminary Report giving the summary statistics for selected local areas in Oklahoma, and another of the same series giving the summary statistics for major cities. Also we have an "Outline for Making Surveys" covering commercial, industrial, community, regional, and local surveys. This publication is Economic Series No. 34.

Our Basic Information Sources, is a research publication developed by the Area Development Division entitled "Community Development." Another similar publication is entitled "Plant Location." Our Economic (Small Business) Series No. 47, is a guide for local industrial promotion, our Basic Industrial Location Factors, is a guide for evaluating an area's resources for industrial development, identified as Industrial Series No. 74. Our Indus-

trial Series No. 72 entitled "Industrial Uses of Selected Minerals," is a guide list of industrial uses of mineral resources, and our Industrial Series No. 69 entitled "Industrial Uses of Selected Timber Species", is a guide list of industrial uses of various timber species and forest waste material. Also we have a publication in the files, "Industrial Location & National Resources" for $1.50.

I am sure that your examination will disclose that these materials contain some very valuable information upon development programs.

Services of the Department of Commerce are varied. Inquiries may relate to domestic production, distribution, marketing, transportation or construction, and questions on world trade--trade lists, export-import statistics, etc. We have publications available from: The Census Bureau, Civil Aeronautics Administration, Coast and Geodetic Survey, Froeign Trade Zones Board, National Bureau of Standards, Office of Business Economics, Office of Domestic Commerce, Office of International Trade, Office of Small Business, Office of Technical Services, Patent Office, and the Weather Bureau.

I want to particularly mention our special series of some 40-odd books on establishing and operating various businesses.

In considering industrial development on a broad scale, we of course know that there are requirements that must be met--labor supply, transportation, water and other utility requirements, housing, etc. Thus, industrial planning and expansion require coordinated and unified study to the end that the proper type of plant will be sought for a particular type of community. The first logical step in planning any type of a development program is to take an inventory of the resources of the community, and also to take an inventory of the liabilities and problems that would be brought to a

community by any specific industrial development. List on each side of the ledger each of the assets and the requirements in the order of their relative importance. Planning should then proceed as nearly as possible in accordance with these listings.

In seeking the location for an industrial plant within our community, we must of course first be cognizant of that industry's viewpoint and objectives that they would require and desire in their plant location, which generally would be classified as the most profitable choice for carrying on their operations not only for the time being but in the foreseeable future. They would naturally aim in this objective at picking a place that would bring together the necessary factors of production, notably those factors that are the most difficult to move, and to do this with the minimum of transportation costs and to obtain the lowest possible internal plant production costs.

The location factors are numerous and some of them complex. There are a great variety of materials and processes. As previously mentioned, a location problem involves an analysis of all of the production, distribution and organizational factors inherent and necessary in industrial operations.

But in the great majority of plant locations the major factor involved is either markets, materials or labor. In most typical cases only one of these factors is judged by the firm as of dominating importance. In some cases two of the factors may be of roughly equal importance, but the company usually initiates its investigation of a favorable location on the basis of one factor and then modifies the preliminary judgment as much as is necessary to allow for the other factor. The labor factor can perhaps be more easily analyzed, but I would offer the observation that its consideration is perhaps of more importance to the community seeking an industrial plant location than it is to the

industry itself. The community should be extremely careful that they do not develop upon themselves an employment requirement that they cannot properly meet. A failure to properly analyze this factor can go far beyond the effect that it would have upon the economy of the community to the extent that it can affect the morals and the general welfare of the community now and in the years to come.

In recent years the most important location factor attracting plants to the newer industrial sections of the country appears to have been the market. This, of course, definitely predominates when the finished products are perishable. When this condition has to be met, the producer will look for a location near the center of the market or with satisfactory transportation service throughout the market territory. An example of this item is the production of soft drinks. Raw materials are shipped to the plant in bulk and carry lower freight rates than do the bottled products, therefore a market location is called for. This conclusion is strengthened by the need for quick service to the customers.

In manufacturing, four industries seem to have the most intimate locational adjustment to the general consumer market, as judged by the fact that they each operate in more than a third of the 3000-odd counties of the United States. They are newspaper plants, bakeries, artificial-ice plants, and soft-drink bottling plants. All four products are sold in small quantities for immediate consumption; the first three are highly perishable, and the last is very bulky in relation to transported materials.

Raw materials are often of primary importance in plant location. In cases where the selection of a satisfactory site is based primarily on natural influences, one of three situations is likely to exist--(1) either there is a great reduction of bulk of materials in the manufacturing process; for

example, as in smelting ores, (2) the freight rates on raw materials are relatively higher than those on finished products; for example, sulphuric acid as compared to fertilizers, or (3) the raw material is difficult or expensive to move because it is perishable; for example--milk.

I am sure that most of you are familiar with examples of these materials-oriented industries, especially of plants which consume large amounts of materials in making a finished product weighing a fraction of the required raw material.

After a satisfactory region has been selected, the selection based primarily on the major location factor, the industry will then as a rule test a number of likely sites in that region in terms of their ability to supply the secondary factors. These may of course include markets, labor or materials, depending upon which factor is dominant. In normal times there may be several qualified communities within a region which today we will refer to as within the State of Oklahoma from which an industry could choose a site. But during periods of high business activity and scarcity, the actual decision sometines hinges upon the availability of an existing established factory building, which in a good many instances in the post-war years has led to a considerable shift in the locality which otherwise would have been selected. Sometimes of course industries have modified their requirements in site selection, influenced by the amount of assistance that could be obtained from local groups in obtaining a site and speeding up construction and getting into operation.

With respect to incentives and community efforts, it should be emphasized that the influence on plant location is exercized on the selection of a specific site within the satisfactory zone, and it should be remembered that the better companies--companies that the community should desire--will be

those that will avoid gifts of any kind as an incentive, and those that will make their location decision strictly upon the basis of estimated business results over the life of the expected investment in plant and equipment. Naturally, the local civic and business environment will be a consideration that will influence the final decision. Thus, an attractively governed community will be preferred over a less attractive neighbor located in the same general zone. Many examples of this situation occur particularly where a large professional staff is involved.

The intensity of the thought of industrial development in Oklahoma is recognized not only by the results of the analysis of industrial foundations that were compiled by the Industrial Department of the Tulsa Chamber of Commerce in January of this year, but also by the fact that "Business Week" in its issue of April 9, 1949, carried a very complete article concerning this survey and its results.

One of the observations noted which I feel I should call to your attention was the fact that studies had revealed that 10 manufacturing jobs will maintain about 8 service jobs in a typical industrial city, and that manufacturing-payroll money will create business to the extent of 2½ to 3¼ times the size of the payrolls themselves.

And so we may conclude by considering briefly the contributions that can be made by properly organized planning and industrial development groups. We believe that recent experience suggests the following fields of activity where state or regional planning and development groups can exercize a useful function in determining the types of industry for which the state or region has local advantages. In addition to studies of the usual local requirements, this calls for an analysis of the major trends within the industries, particularly with respect to decentralization, size of plants, kinds of materials, use of physical and chemical processes.

As the experience in other states indicates, these studies can be of real help to country and city planning agencies. One of the major tasks of these local bodies is to determine the types of industries which the local community needs in order to make productive use of available resources, notably materials and labor. Then with the background information and advice of the broader planning group, these local agencies may be in a better position to evaluate the opportunity for obtaining the needed activities.

The broader planning group can also render an invaluable service in eliminating unnecessary and sometimes expensive competition that develops between local communities. Under a proper board guiding hand the development efforts of the smaller community can be properly guided.

In conclusion, the kind of assistance businessmen want and will use in working on a location decision consists in large part of the information on local facilities, services, and other resources. More specifically, the local group should obtain accurate data on the local labor force, transportation services, available sites and buildings, and cost of fuel and power, supply of local raw materials the cost of these materials, products and industrial services available locally, outside sources of products consumed locally, and the degree of local competition within an industry.

Any prospective concern will want to make the most objective analysis it can of the many economic engineering problems it will face in its new location. Once the location is selected, it will welcome the help of local promotional and planning groups in establishing itself and achieving smooth working arrangements with the other interests in the community.