"Bringing in the Sheaves"

Effective Community Industrial Development Programs

John R. Fernstrom
BRINGING IN THE SHEAVES

Effective Community Industrial Development Programs

John R. Fernstrom
Program Leader, Economic Development
Community Resource Development Staff
Extension Service
U.S. Department of Agriculture
Washington, D.C.

First printing October 1974
Second printing February 1976
Third Printing June 1977
Fourth Printing August 1979

The statements, findings, conclusions, recommendations, and other data in this publication are solely those of the author and do not necessarily reflect the views of the Extension Service or the U.S. Department of Agriculture.

For sale by the Oregon State University Extension Service.
PREFACE

Businessmen repeatedly have said that one of the major problems in locating new industrial plants outside metropolitan areas is finding smaller communities with people who can “talk business with businessmen.” This does not have to be so. People in small communities can talk business just as well as those in big cities if they know the ins and outs of “The Great Industrial Development Game.”

This book is intended to be a text for a self-study course for rural industrial development programs, as well as serving as an industrial development handbook. It is hoped that the book will be a problem-solving reference and a guide for communities who want to expand their economic base.

Although much rationale for industrial development is provided, this book begins with the premise that the community has arrived at a consensus to engage in a responsible effort to sustain or improve the economic base of the area through industrialization. This is a tenuous assumption in many respects. Communitywide desire for economic growth must be established and sustained. The rationale should help in this respect.

This book does not delve deeply into the techniques of leadership identification, motivation, or organizational structure for industrial development programs. There is extensive literature available on these topics, as well as on identifying community problems and aspirations. It provides some understanding of the thinking and processes a businessman must go through as he searches for a profitable location for new industrial or commercial facilities — what businessmen look for and what they avoid when locating a new plant. A knowledgeable and factual approach, an understanding of the goals of both the community and industry, and the establishment of a basis for mutual compatibility are evidence of a businesslike community program. If a community is to develop a successful program to induce industry to locate in its area, those responsible for the program must understand and be able to exploit the situations under which management decides to build new facilities.

The book is divided into Part I: Understanding Industrial Development, and Part II: Practicing Industrial Development. The two parts are both complementary and interdependent. Understanding a process is a prerequisite for using the process.

If this approach to understanding and implementing seems overly long for the part-time practitioners in a community industrial development effort, please remember that the decision to locate a new manufacturing or commercial facility in any community is momentous. The wrong choice may affect more than the profitability of the enterprise. Both the business and the community can squander thousands of dollars if an industry locates improperly. There is also a loss when an industry fails to locate in an otherwise desirable community because those who represent the community are not properly prepared.
There is much work to be done before a community is ready to talk business in an industrial development effort. This book is more than a checklist of things to consider in establishing a program to seek industry. It is a guide for practicing industrial development. It attempts to convey an understanding of why things happen and how you can use this knowledge to make things happen in your community industrial development program.

By and large, the book is directed to something called the “community” industrial development organization. This can be any kind of organization under the community umbrella; e.g., a committee for industrial development, or a committee with perhaps a paid industrial developer who needs community backup and understanding to do his job.

A community approach has been used in this book when every inclination of the author would be to subscribe to an area, multicounty, or whatever size agglomeration is required to assemble the resources adequate for an effective industrial development program. However, the community approach is valid, even in area programs operated by professionals, because, ultimately, an industrial location decision gets down to a place where a plant is located and becomes someone’s neighbor. At that point, even the professional is lost if the community has not done its homework.

The book was prepared at the request of the Western Region Community Development Committee of the Cooperative Extension Service of the 13 states of the Western Extension Region. A text was necessary to support their desire to establish a self-study industrial development course for Extension workers, USDA personnel, and lay community leaders. In the course of events, the book has come to be designed for national use. Supporting course materials will be available from those State Extension Services which may desire to offer industrial development courses within their respective states.

This book was designed for self-study to be carried out over a period of time. A certain amount of repetition may be noted when reading the book in a continuous fashion. This should not reduce the overall effectiveness of the book since repetitious presentation of material is a universal technique to facilitate learning.

While this book does not necessarily reflect the official position or views of the U.S. Department of Agriculture or the Extension Service, it is an attempt to respond to the educational needs for rural America that have been expressed by those who represent the Department. It is hoped that some of the objectives of this book will meet educational needs for economic development programs in rural areas through:

1. The development of material that will identify areas of needed emphasis in rural economic development programs.

2. The organization of methodologies in economic development that are applicable to rural America as distinct from those designed for urban America, or for the society as a whole.

3. Finding means to reach and motivate rural leaders in order to energize their capacity for developmental initiative and action.

4. Generating volunteer groups that can be associated with an identified social, economic, or leadership need related to rural development.
5. Encouraging educational institutions to bring to bear a broader spectrum of student and faculty capabilities on the problems that beset the smaller communities as they contemplate development programs.
ACKNOWLEDGEMENTS

My thanks go to the members of the Western Region Community Development Committee for their many helpful suggestions, and to the Oregon State University Extension Service for editing, publishing, and distributing this book. I am especially grateful to Donald L. Nelson of the USDA Extension Staff. His editorial assistance and advice have helped to make it clearer for the reader.

One of the most difficult tasks in a community development program is to find a way to measure the benefits and impact of new industry upon a community. The collaboration of Ron Shaffer, University of Wisconsin — Extension, in preparing Chapter 13 (which deals with that subject) is greatly appreciated. In Chapter 7, I have relied heavily on a paper by Kenneth Koch of Louisiana State University, and in Chapter 20 upon a study by Richard Schermerhorn now at the University of Idaho.

Connie Bendit, my secretary, has done yeoman work in the typing of the many drafts and deserves the highest praise for her help. Ferol Lacey and Renee Thomas graciously assisted when Connie was absent.

Finally, thank you to my wife and family who almost understood my use of annual leave to write this book. They previously had believed that “to take leave” meant something other than “Bringing in the Sheaves.”

J.R.F.
June 1973
CONTENTS

Preface ................................................................. iii

PART I  Understanding Industrial Development .................. 3

Chapter

1. Concepts of Economic Growth ................................. 5

   The Nature of Economic Growth ............................ 5
   The Importance of Economic Growth ........................ 6
   Public Demands Upon the Domestic Economy ............. 7
   The Role of Industry in the United States Economy ...... 7
   Importance of Industry to the Community ................ 7
   The Multiplier Effect of New Industry .................... 7
   The Process of Economic Growth ............................ 9

2. Problems of Economic Organizations .......................... 11

   Resource-Population Problems .............................. 11
   Institutional Problems ..................................... 11
   The International System in Theory ....................... 12
   The International System in Practice ..................... 12
   The Changing World Economy ............................... 13
   The Promise of Increased Productivity ................... 16

3. The Interrelated Economic Sectors ............................ 19

   The Agricultural Sector ................................... 19
   The Natural Resources Sector ............................ 20
   The Manufacturing Sector ................................. 21
   The Services Sector ....................................... 22

4. Structure of a Local Economy ................................. 25

   Economic Base Theory .................................... 25
   Economic Base Analysis .................................. 25
   Growth Indicators of an Economic Base .................. 27
5. **Industrial Location Theory** ............................................. 29
   - The von Thunen Theory .................................................. 29
   - The Weber Theory .......................................................... 30
   - Fredrich Hall .............................................................. 32
   - Edgar Hoover ............................................................. 33
   - The Real World ............................................................ 34

6. **The Location Factors** ................................................... 37
   - The Role of Raw Materials .............................................. 37
   - Role of Transportation .................................................. 40
   - The Role of Markets ..................................................... 42
   - Role of Labor .............................................................. 43
   - The Role of Capital ....................................................... 45
   - The Role of Industrial Energy ......................................... 47
   - The Role of Water ........................................................ 48
   - The Role of Climate ...................................................... 50
   - The Role of Ecology ..................................................... 51
   - The Role of Community Factors ....................................... 52
   - The Role of Site Factors ............................................... 56
   - The Dynamics of Industry Interdependence ......................... 57
   - Chance and Outside Intervention .................................... 63
   - Conclusion to Chapter 6 ................................................. 65

PART II **Practicing Industrial Development** .................................. 70

7. **Leadership and Motivation for Development** ........................... 75
   - Survey Methodology ...................................................... 75
   - The Town Hall Meeting .................................................. 77
   - The Study Action Committee ............................................ 78

8. **Community Industrial Development Strategy** .......................... 81
   - The Community Industrial Development Corporation ............... 81
   - Developing Strategies .................................................. 82
   - Outline for Development Strategies ................................ 83

9. **The Management Decision to Build New Facilities** ..................... 87
   - The New Enterprise ....................................................... 88
   - Relocations .............................................................. 89
   - Branch Plants ........................................................... 89

10. **Goals in Industrial Facility Planning** .................................. 91
    - Location Advantages ................................................... 91
    - Orientation of Plants ................................................ 92

11. **How Industry Conducts the Plant Facility Search** ...................... 95
    - Industry Evaluates and Compares ................................... 96
    - Local Sources of Information ....................................... 96
The Prospect Meeting ......................................................... 152
Prospect Wooing ............................................................ 153
Use Available Help .......................................................... 153

19. Knowing Your Prospect .................................................. 155

Financial Management ..................................................... 155
Goals of a Financial Plan .................................................. 156
The Financial Statement .................................................... 157

20. Is It a Feasible Project? .................................................. 161

Techniques of Feasibility Analysis ...................................... 161
Factors Directly Influencing Economic Feasibility ................ 162

21. Help and Success ......................................................... 166

Forming a Supporting Industrial Development Team ............... 167
What To Do With Success .................................................. 168
Making the Best Use of the New Plant .............................. 169
The Role of Industry Relations ............................................ 170

APPENDICES .................................................................................. 174

I. The Labor Survey .............................................................. 175
II. Format of a Community Inventory (Georgia) ..................... 179
III. A Sample Impact Study ................................................... 183
IV. Industrial Site Identification Methodology ...................... 192
V. Available Industrial Site (Maryland) ................................. 204
VI. Available Industrial Building (Maryland) ......................... 206
VII. Plant Requirements Checklist ........................................ 208
VIII. A Feasibility Study Sample ........................................... 210

BIBLIOGRAPHY ......................................................................... 213
Part I

UNDERSTANDING INDUSTRIAL DEVELOPMENT
Without an understanding of the concepts of economic growth, or of the operations and problems of economic systems and organizations, it is difficult to analyze current activity and make projections about future economic opportunities. This is particularly true in this era of “day-to-day” economics.

The popular presentation of economic information that is most likely to command the attention of the members of a community industrial development group is mainly related to the current status of the national economy. Monthly unemployment rates, current rate of inflation, balance of trade, value of the dollar, rate of government spending, today’s prime interest rate, or the consumer price index constitute the arena which seems to govern national economic decisions.

The import of national decisions to adjust or balance these immediate economic concerns requires evaluation by both those who would locate industrial facilities and by communities with industrial development programs. Several examples will illustrate the immediate dilemma. In the international arena – will a devaluation of the dollar reduce the competitive advantage of a foreign location, compared to a U.S. location? In periods of frequent adjustments in the national economy there will be concern about the rate of interest when business needs money for a new plant. Will tax credits, a government method to stimulate investment, be available or will government suspend them at a time critical to new plant financial planning? The community must examine its place within the full spectrum in which the economic system operates if it is to have a sound plan for its own economic future.

To understand industrial development is to attempt to bring a degree of order to the many inherent variables in the distribution of industry and economic activity. Since individuals’ decisions have been involved in establishing the present distribution of industry, is it possible to find a precise order, model or formula to account for the past, or future selection of the absolute “best” locations in which to conduct industrial activity? In light of the present “state of the art,” the answer is: No. It becomes, therefore, a task of analysis and evaluation of the factors that are interrelated and interdependent and ultimately weighed by experience to produce the best judgment.

Part One identifies the elements of economic growth and their interaction as a prelude to the effective practice of industrial development programs by community groups. First there is a discussion of the concept of the economic growth processes (Chapter 1).

Chapter 2 presents the economic system in theory and practice and illustrates some of the problems generated by “real world” practices that affect the local decision process. The decline of the dominant U.S. position in terms of the world percentage of wealth and manufacturing production is evident. Understanding these ramifications will provide insight for the conduct of industrial development prospecting activities within communities.

Chapter 3 discusses the role of the economic sub-systems of Agriculture, Natural Resources, Manufacturing and Services in a total economy. Chapter 4 discusses the structure of a local economy, industrial location theory, and the factors of industrial location are examined in Chapters 5 and 6. The objective in Chapter 6 is to show the influence of the various factors of location and how they are considered by new industrial facility planners, and at the same time show how the factors relate to a community industrial development program strategy.
1. CONCEPTS OF ECONOMIC GROWTH

The world around us is a complex socio-economic landscape. It is not a static, fixed or determined landscape. Rather it is dynamic and must be studied in motion and without full understanding or certainty of its changing nature.

The complexity of the socio-economic landscape is a reflection of various social and economic systems that are interrelated and interdependent, but not necessarily predictable. Since it is not possible to be aware of all of the consequences of the interaction of the socio-economic factors, it is not possible to know all of the alternatives when we make an economic decision. We attempt to find a course of action that is expected to attain selected economic goals and appears at the time to be the best course of action. These decisions are made within the limits of knowledge of the decision maker.

A community industrial development program is one facet in our total socio-economic environment. To understand the complexities of community industrial development programs requires a knowledge of the nature and problems of economic growth.

The Nature of Economic Growth

Economic growth can be defined most simply and directly as the expansion of a governmental entity's capability to produce the goods and services its people want. The productive capacity of an economy depends basically on the quantity and quality of its resources, natural and human, as well as on its level of technological attainment. Economic growth involves the process of expanding and improving these as determinants of productive capacity.¹

Although the most fundamental definition of economic growth must be in terms of the economy's potential for the production of goods (material things) and services, this is not a sufficient definition. Productive capacity is obviously crucially important to the concept of economic growth, but actual growth depends not only upon changes in the economy's potential for production, but also upon the extent to which that capacity can be utilized. Economic growth involves, in other words, an increase over time in the actual output of goods and services as well as an increase in the economy's capability to produce goods and services.

Popular interest in the phenomenon of economic growth stems in large part from a concern with human welfare. There is no universally acceptable set of criteria for measuring "welfare." However, there is probably general agreement that material welfare (or well-being) is, in the last analysis, a matter of the availability of goods and services to a society. A rising level of material well-being for any society requires an expansion in its output of useful and economically valuable goods and services. There is an alternative, and reliance upon it is common in many rural areas. Where farm sizes have increased and outmigration has reduced the pressure on the local economy, per capita incomes have increased without increases in productivity or the overall rate of economic growth. If population grows at a faster rate than either output or capacity, no improvement in the average standard of material well-being on a per capita basis is possible.

If we are interested in economic growth because of its significance for our material well-being, then what counts is not just an increase in capacity and output per se, but output per capita. What is important from a social standpoint is a growing availability of goods and services per person. The most meaningful measure of economic growth in a society in terms of well-being would be the level of real output per capita.

Most economists and statisticians measure economic growth by comparing data pertaining to real gross

national product per capita (GNP) or gross national income per capita over a given period of time. (Table I) However, increases in a nation's total output of goods and services do not necessarily imply that the individual's standard of living has improved; an expansion of total output may involve investment goods and public goods that do not contribute directly to the material well-being of the individual — for example, military "hardware" in the form of tanks, rockets, or planes as compared to schools or highways. Real consumption outlays per person would be a better measure of growth from a material welfare standpoint if such a measure were statistically feasible. But difficulties with respect to what should be properly included in "real consumption" make this impractical. We are therefore thrown back upon some measure of real output or income per capita as the most reliable standard for national economic growth, and we must understand the limitations of such measurements when developing an understanding of smaller economies.

The Importance of Economic Growth

What is the significance of economic growth for the American economy? The answer to this question largely depends upon the nature of the tasks that confront our economy. Economic growth in the sense of an expanding output of material goods and services is not an end in itself, but only a means to more basic ends. A comprehensive study of the American economy by a Congressional committee asserts that the fundamental purpose of economic growth is to increase the welfare of the nation's people.\(^2\) An increasing potential for production serves this purpose in two principal ways: It leads to growth in the amount of goods and services available to the consumer for private use, and it provides the necessary resources to permit government at all levels to


### Table 1.1
Gross national product selected years, 1929-71

<table>
<thead>
<tr>
<th>Year</th>
<th>Total gross national product</th>
</tr>
</thead>
<tbody>
<tr>
<td>1929</td>
<td>103.1</td>
</tr>
<tr>
<td>1930</td>
<td>90.4</td>
</tr>
<tr>
<td>1935</td>
<td>72.2</td>
</tr>
<tr>
<td>1940</td>
<td>99.7</td>
</tr>
<tr>
<td>1945</td>
<td>211.9</td>
</tr>
<tr>
<td>1950</td>
<td>284.8</td>
</tr>
<tr>
<td>1955</td>
<td>398.0</td>
</tr>
<tr>
<td>1960</td>
<td>503.7</td>
</tr>
<tr>
<td>1965</td>
<td>684.9</td>
</tr>
<tr>
<td>1970</td>
<td>974.1</td>
</tr>
<tr>
<td>1971</td>
<td>1,046.8</td>
</tr>
</tbody>
</table>

discharge its ever-increasing responsibilities without adversely affecting private consumption standards. Let us explore these facets of economic growth in more detail.

The material standard of living of the American people is the highest in the world, and we continue to expect upward movement in our standard of living. For this to be realized, economic growth is necessary. Economic growth is even more urgent in view of the increasing number of tasks imposed on government in our society. In recent decades the area of public responsibility has been growing in scope and importance. Without expansion of our productive capacities, we would not have been able to meet the variety of critical challenges which have required more and more resources for public as distinct from private use.

Public Demands Upon the Domestic Economy

There are a number of areas within our domestic economy which continuously demand more and more resources. We are continually confronted with increasing demands for resources for higher education and social services. Scientific research is another area of our society which requires increased public outlays. Government has been the chief supplier of resources and funds for research. Other areas of public responsibility which will require more resources in the future involve the continued improvement in both the quantity and quality of health services, including medical research; resolving the economic and social problems of the central portions of many of our cities and balancing economic growth in nonmetropolitan areas; the 42,500 mile interstate highway system is 4/5ths completed, but there are growing demands for mass transit systems, as well as the need for continued improvement and development of outdoor recreational areas for a population with increasing amounts of leisure. These are but a few of the tasks which governments at all levels in our society face and which demand continued economic growth if they are to be resolved.

The Role of Industry in the U.S. Economy

Whether expressed in terms of employment, value added, share of national income, or wages paid, figures for manufacturing tend to underestimate the importance of industry: locally, regionally, and nationally. The share of national income generated by manufacturing has remained at approximately 30 percent between 1950 and 1970. It actually declined slightly, yet manufacturing remains by far the largest single source of national income in the American economy.

Manufacturing is the largest sector of national employment. In 1971 about 20 percent of the wage and salary workers were in manufacturing, 18.6 million of 70.7 million employed in nonagricultural establishments.

The particular appeal of industry, as opposed to commercial or retail activity as a local revenue stimulant, is that industry can often — at least theoretically — be attracted from outside and provide a new source of taxable resources for the community. Equally successful could be efforts to stimulate homegrown industrial growth, but it is often overlooked because the magnitude of the increase in jobs or of tax revenue does not appear dramatic enough in the initial stages of a new industry. In contrast to industry, commercial expansion is usually limited by the buying power of a region.

Importance of Industry to the Community

Despite the fact that manufacturing employment has been growing at a lower rate than many other activities in the American economy, the United States is still essentially an industrial nation. The relative importance of industrial activity within an area, whether a local community or the entire nation, can be measured in a variety of ways. The most commonly employed measure is the number of employees.

The role of industry in the economy may also be measured by one or more of several monetary means: wages paid to employees, profits, gross receipts or sales, and value added. Value added is particularly significant for manufacturing, and is regarded for most purposes as the best dollar measure for comparing the relative economic importance of manufacturing activity among different industries or among different geographical areas. Value added by manufacture is derived for a manufacturing establishment or industry group by subtracting goods costs (raw materials, parts, components, supplies, fuels, goods purchased for resale, and contract work) from the value of the product shipped.

Most frequently, employment is used as a measure of relative importance and growth. In the following discussions, we will stress employment because the opportunities for employment are more relevant to the goals of a community’s industrial development program.

The Multiplier Effect of New Industry

While it is by no means restricted to industrial expansion, there is a multiplier effect which is often felt in a local community when new employment or income
TABLE 1.2

Wage and salary workers in nonagricultural establishments, selected years 1929-71

(All employees; thousands of persons)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total wage and salary workers</th>
<th>Manufacturing</th>
<th>Mining</th>
<th>Construction</th>
<th>Public utilities</th>
<th>Wholesale and retail trade</th>
<th>Finance, insurance, and real estate</th>
<th>Government</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Federal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>State</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>local</td>
</tr>
<tr>
<td>1929</td>
<td>31,339</td>
<td>10,702</td>
<td>1,087</td>
<td>1,497</td>
<td>3,916</td>
<td>-6,123</td>
<td>1,509</td>
<td>3,440</td>
</tr>
<tr>
<td>1930</td>
<td>29,424</td>
<td>9,562</td>
<td>1,009</td>
<td>1,372</td>
<td>3,685</td>
<td>5,797</td>
<td>1,475</td>
<td>3,376</td>
</tr>
<tr>
<td>1935</td>
<td>27,053</td>
<td>9,069</td>
<td>897</td>
<td>912</td>
<td>2,786</td>
<td>5,431</td>
<td>1,335</td>
<td>3,142</td>
</tr>
<tr>
<td>1940</td>
<td>32,376</td>
<td>10,985</td>
<td>925</td>
<td>1,294</td>
<td>3,038</td>
<td>6,750</td>
<td>1,502</td>
<td>3,681</td>
</tr>
<tr>
<td>1945</td>
<td>40,394</td>
<td>15,524</td>
<td>836</td>
<td>1,132</td>
<td>3,906</td>
<td>7,314</td>
<td>1,497</td>
<td>4,241</td>
</tr>
<tr>
<td>1950</td>
<td>45,222</td>
<td>15,241</td>
<td>901</td>
<td>2,333</td>
<td>4,034</td>
<td>9,386</td>
<td>1,919</td>
<td>5,382</td>
</tr>
<tr>
<td>1955</td>
<td>50,675</td>
<td>16,882</td>
<td>792</td>
<td>2,802</td>
<td>4,141</td>
<td>10,535</td>
<td>2,335</td>
<td>6,274</td>
</tr>
<tr>
<td>1960</td>
<td>54,234</td>
<td>16,796</td>
<td>712</td>
<td>2,885</td>
<td>4,004</td>
<td>11,391</td>
<td>2,669</td>
<td>7,423</td>
</tr>
<tr>
<td>1965</td>
<td>60,815</td>
<td>18,062</td>
<td>632</td>
<td>3,186</td>
<td>4,036</td>
<td>12,716</td>
<td>3,023</td>
<td>9,087</td>
</tr>
<tr>
<td>1970</td>
<td>70,616</td>
<td>19,369</td>
<td>622</td>
<td>3,345</td>
<td>4,504</td>
<td>14,922</td>
<td>3,690</td>
<td>11,630</td>
</tr>
</tbody>
</table>

Source: Economic Report of the President, transmitted to the Congress January 1972, p. 226

is injected. It has been demonstrated in studies of actual experience throughout the United States that an external stimulus in the form of new or expanded industry is likely to induce additional growth in commercial and service trade activity.

Typically, business firms in a community tend to specialize in the production of goods and services, some of which are sold locally, and the rest of which are "exported" outside its borders. Manufacturing firms generally exhibit the highest degree of specialization and are the largest exporters in the community. However, any economic activity that delivers its product or services outside the local economy may create a multiplier effect; commercial tourism, a corporate headquarters, major distribution centers, and government installations other than local.

As the community's export markets grow, its export firms will increase their purchases of goods and services produced locally. So, too, will their workers, who increase in both number and income. Thus, the income in the export sector in turn produces or causes an increase in the demand for local business and other services. The total impact on the community's economy is greater than the increase in exports which stimulated the increased economic activity. This effect is often called the "economic base multiplier," (See Ch. 4), because in this context the potential growth of a community is viewed as being dependent upon export activities.

A new industry which purchases a considerable amount of its supplies within the community will multiply the direct effect of wage and salary payments. This is the income multiplier. Such expansion will tend to increase activity in supplying industries, or even to attract other industries dependent on the new firm. This further increases consumer expenditures. As a consequence, income and sales taxes may increase with expanded business. The effect of new investment by an industry has led some authorities to suggest that a local income multiplier of approximately two times the original investment exists. This means that a new plant with a $500,000 annual payroll may be expected to cause a total increase in local incomes of $1,000,000.
The impact of industrial investment in a community and the surrounding area is important to many people. It means increased incomes to those families who obtain either direct or indirectly-related jobs. For the area affected, it means a stronger tax base from which to provide services.

The Process of Economic Growth

The process of economic growth has to do with the means by which a nation, a region, or a community expands its productive capacity and distributes the benefits. There are four basic determinants of economic growth. These are the quantity and quality of (1) the human resources, i.e. management and labor; (2) the natural resources; (3) the real capital resources; and (4) the level of technological attainment of the society. As a practical matter, it is difficult to separate technology from the resources themselves, for the quality of the latter is a reflection of a society’s level of technological attainment.

In addition to the four basic determinants of the economy’s productive capacity, there are other kinds of factors that enter either directly or indirectly into the growth process. There are variables both economic and noneconomic of the physical and cultural environment that lie behind the basic determinants. These may account for — or determine — changes in the supply of labor, the level of technology, the supply of capital, and the like. There are other variables that constitute the socio-economic structure of a society, within which the processes of economic growth must function. Among these variables are the underlying competitive nature of an economy, the distribution of income and wealth, the pattern of consumer tastes, or dominant forms of business organization. Factors of an essentially institutional character, such as political stability, may affect the economic growth process. Political stability is important nationally and locally. Not all small towns are very stable due to local politics. All of these variables can be crucially important and enter into the determination of the level at which a national or local economy will operate. They are part of the growth process, because economic growth is not just a matter of a changing productive capacity, but involves, as well, the utilization of that capacity. Each factor as applied can be equally important to our understanding of the process of economic growth.

Selected References


2. PROBLEMS OF ECONOMIC ORGANIZATIONS

Economic theory seeks to understand and explain the process by which growth takes place in a society, first, by identifying the variables which are believed to be strategically significant as determinants of economic growth and, second, by attempting to ascertain the manner in which these variables are related in a functional sense both to one another and to other variables.

While theories of economic growth seek to devise an optimal economic pattern and a course of action for reaching that goal, real world interplay nearly always prevents achievement of the optimal pattern.

World Changes and the U.S. Economy

Our economy produces about $350 billion in manufactured goods annually. We import less than 10 percent of that amount. Nonetheless, those who would stimulate industrial growth face real problems. The success of a community industrial development effort is measured in terms of “How many new plants did you get and how many jobs did you create?” On the average, our economy produces about 2 million new jobs each year.

About 150,000 to 200,000 of the jobs are new manufacturing jobs. These jobs go to expansions in existing plants as well as new plants: Probably less than 1,000 sizable new plants are established in any year. This is a small figure to work with when we look at the number of communities seeking industry. It becomes even smaller when we look at the trends in the United States and world economies. Manufacturing employment has been the largest category of employment in our past growth, but no one is predicting that manufacturing will hold this position into the end of this decade. Currently about one-fourth of our national employment is in manufacturing.

Resource-Population Problems

Malfunctioning of a total economic system is evidenced by lack of equilibrium between the growth of population and the availability of resources. In order for economic growth to benefit the individual or a geographic area, resources must be available at rates faster than population growth, or resources must be used more efficiently. Unfortunately, resources are not evenly distributed geographically nor are they evenly distributed with respect to need.

The problem is one of increasing per capita productivity. It can be achieved in only three basic ways: (1) by utilizing new technology or substitute resources, (2) by reducing the rate of pressure (natural population increase) on resources, or (3) some combination of the two.

The ultimate goal is to produce a surplus of goods within a defined geographic area which by “export” may provide the means to accumulate capital. Capital can be supplied to increase both goods available for consumption and goods for further capital formation, thus contributing to an upward spiral of economic growth.

As capital is formed it not only can be used as instrumental capital (for “goods to produce more goods,” i.e., machinery and equipment) but it may take the form of “social capital” to provide the infrastructure upon which economic growth may thrive.

Institutional Problems

The problems of population-resource ratios are only part of the economic problems related to a locality, State, region, or nation. The institutional problems related to political and community groupings interject artificial boundaries and nonrational institutions into
world or local economic systems. There is great probability that the economic goals of separate institutions result in a sub-optimum economic system. An examination of the international system in theory and practice as economists understand it, reveals the dilemmas facing national entities in economic interactions. It is the difference between the application of theory and institutional practice that has produced international economic problems. We can gain insight into local economic problems by studying international economic problems. The problems of international trade have their parallels in interregional trade, where, in effect, local products compete with "foreign" substitutes.

The International System in Theory

From the standpoint of a rational nation, the theory holds that the prime purpose of foreign trade is to obtain from abroad goods and services which are either unobtainable or more expensive at home. The consumer's interest — his real income and standard of living — is dominant and the function of exports is to pay for the imports which the nation has collectively determined he needs for well-being and security.

In the pursuit of this goal, each nation finds, within the internal possibilities open to it, a comparative advantage in the production of some goods and services rather than others. If all countries produce those things which they are most efficient at producing, the world's wealth will be maximized by the international specialization of labor and exchange of products. Presumably the only limits on this exchange are set by the possible security danger for a nation in overdependence on foreign sources of strategic supplies. Thus the international system is almost immediately thwarted by defense needs, just as protection for all the domestic industries which are not competitive in the world would make international trade pointless.

In theory the unavoidable internal adjustment process from relatively inefficient industries to industries with a comparative advantage is smooth, mobile and a politically palatable process. Throughout the world capital and goods will move freely. Each country meets its domestic growth and employment objectives with domestic fiscal and monetary adjustment policies and, if these prove insufficient, of prompt and adequate changes in each country's exchange rates. Since there is no unnecessary building of reserves, each country is equally likely to devalue or revalue — whichever is consistent with the "universal" goal of equilibrium.

The International System in Practice

In practice most of the problems that have arisen in the world economy are not problems of theory. They are problems of national attitudes, and practices which thwart the operations of the international adjustment process. For example, balance of trade and payments surpluses assume a virtuous quality, largely because of the stimulative effect on domestic employment and production, and the countries in deficit are seen as sinners.

Changes in exchange rates are seen as painful evidence of the failure of political and economic policies. The surplus nations resist because their successful, and obviously important exporters wish to keep their markets and jobs. These strong exporting interests representing industry, agriculture and labor are politically stronger constituencies than the consumer.

Thus, in the United States, given the unacceptably high level (above 4 percent) of unemployment in recent years, we can understand the pressures in the trade off between more domestic jobs and lower consumer prices. The legitimate and increasingly urgent problems of internal adjustment of industry, labor, and agriculture deserve far more positive and comprehensive action — the over-simplified free trade rhetoric tends to dismiss the problem, and restrictive trade action compounds it.

The problem of domestic adjustment has come to mean more than this, however. Due to (1) the greater economic interdependence of nations, (2) increased mobility of capital and technology, and (3) lower transportation cost, many nations now have greatly increased capacity to rapidly and competitively invade markets. Today, pressures for adjustment in particular domestic industries come faster and harder than anything experienced in earlier years. In the United States in recent years, these pressures have been magnified by the state of our internal economy and a failure of the rate of productivity to meet competition. The rising pace of change poses adjustment problems which simply cannot be ignored if we are to successfully increase job opportunities in nonmetropolitan areas.
The Changing World Economy

Changes taking place in the world economy and their effect upon the United States in the current decade will present the greatest challenge yet to national industrial growth.

The first responses from American industry to rising foreign competition express the need for increased domestic productivity. But many businessmen say that the manufacture of products with low value and high labor input should be carried on where labor is cheapest. This leads to the location of labor-intensive plants outside the United States. The easy and currently most popular approach has been to have somebody in Asia make the product rather than tackle the problems associated with acquiring new capital, new machinery, developing techniques for increasing productivity, and fighting over new work rules. Domestic industry has also responded to the recent profit squeeze and inflation by continuing to use inefficient machinery to avoid capital expenditures that would increase productivity. U.S. firms locate in foreign countries primarily to seek employees for the labor-intensive industries. In the process U.S. industries are bypassing the nation's non-metropolitan labor force which is rural America's major attraction. U.S. industrial developers will have to compete more and more with foreign locations. Understanding the processes that lead to foreign location is rapidly becoming a first priority need for U.S. industrial development practitioners.

What are the realities for our nation's industrial growth? The world economy is changing and the United States' position in it has changed. How do these changes affect the priorities and the goals of the industrial development practitioners who seek a share of new industrial growth for the area they serve?

The United States continues to be the world's most advanced economy but the gap with the rest of the developed world is narrowing. In 1950, the U.S. Gross National Product (GNP) accounted for 40 percent of the gross world output. In 1970 it was only about 30 percent. GNP or expenditure, where used as a measure of our economy, represents the total national output of goods and services at current market prices. In 1972 the U.S. GNP was $1.046 trillion, the first trillion dollar economy; nevertheless the percentage of the GNP attributed to manufacturing declined. The narrowing of the gap between national economies is beneficial internationally and should afford trade opportunities for the United States. However, export figures for U.S. industrial products, many of which are not competitively priced, belie the presence of an opportunity for increasing U.S. industrial production.

U.S. Trade

In the 1960's our exports grew at rates that were only a half to a third as much as most of our principal trading partners. Comparing rates of export growth in the 1960-69 decade, the results are not encouraging. During this period, U.S. exports of manufactured goods increased by 110 percent, but those of West Germany doubled, and Japanese exports rose by 400 percent. Of the other industrial countries of the world, only the United Kingdom exports, as well as GNP, showed less growth than ours.

The United States' relative trade position has been declining. This change is not simply a matter of differences in rates of growth. It implies that there are structural changes in the capability of the economies of other nations; changes not just in the labor-intensive industries, but also in the high technology industries as well. Japan has compiled a list of labor-intensive "throw away industries" which no longer receive government support. The European Community of Nations (Common Market Nations) is the largest trading area in the world. It already exceeds the United States in steel production. The United States' share of the world's automobile market is smaller than it was only a few years ago. In 1970 we imported 96 percent of the magnetic tape recorders and 100 percent of the 35 mm still cameras sold in this country.

It is obvious that important structural changes are taking place in the U.S. economy itself. Our foreign trade is larger than any other single nation although agricultural products make up the largest sector. Foreign trade has grown faster in the past decade than our economy as a whole. Our exports have risen from 11.6 percent to 13 percent of our total manufacturing production but our imports have grown faster. There is a current gap of almost a billion dollars between our exports of manufactured products in favor of those we import.

Investment Rates

Although our GNP grows rapidly, we need to know more about what is being done with the GNP to sustain manufacturing growth. One critical factor in our economic growth is the national rate of investment. The rate of investment (including housing) in the United States is 18 percent of our GNP. In comparison, the
Japanese rate of investment has been 39 percent of its total GNP, very little of which was housing.

Current investment in plant and equipment in the United States averages about 10 percent of the GNP. The Japanese currently are investing 20 percent of their GNP in plant and equipment. In fact, Canada, France and West Germany are investing nearly twice as much of their GNP in new plants and equipment as the United States. A low rate of investment in plant and equipment reflects upon the U.S. rate of productivity and the competitiveness of U.S. industry.

One example of the United States’ situation related to investment in new plants was reported in a recent survey within the cement industry where the imports are increasing. The survey revealed that of 169 plants in operation at the start of 1971, all or part of the capacity of 36 plants was 40 years old or older. The industry average was 19 years. In 1970, the year previous, eight other plants were closed down to remove outmoded capacity. More plants are expected to close because the expense of adding pollution control will not justify additional investment in less productive plants.

U.S. industry emphasizes the use of efficient machinery to overcome high labor cost. Yet 15 percent of the manufacturing facilities operated by large U.S. companies was technologically obsolete at the end of 1970 and a substantial portion of the other 85 percent was not competitive in the face of rising labor costs.³

The manufacturing sector has utilized its capacity at a relatively low level in recent years. This has been reflected in the rate of spending for plant and equipment which reached its ebb in 1971. Current capital outlays are increasing, but at a rate below the growth rate of the economy as a whole. This obviously means that the coming years will be slow years for finding industrial prospects. Spending for equipment rather than plant is an unusually high proportion of current business investment. Presently this is largely a reflection on industry’s response toward meeting pollution requirements and the need to increase productivity through modernization. The Federal job development tax credit on purchases of equipment is also operating as a continuing incentive for equipment purchases. While jobs are created in the production of equipment, the application of the equipment may tend to be concentrated in existing facilities with limited creation of new jobs.⁴

³Business Week, Sept. 9, 1972, p. 88.

Growth in Capability

In 1970 U.S. manufacturing profits were at the lowest level in more than 30 years. Earnings are an important determination of business investment and a decade of low profit has slowed the rate at which new technology has been developed as the rate of establishment of new plants and purchases of equipment.

There have been some important changes in production and technological capability in the world that affect the industry searches conducted by communities. Two major components of our industrial base are steel and autos, the automobile industry being steel’s largest customer. The United States’ share of world production of motor vehicles fell from 76 percent in 1950 to 31 percent in 1970. For example, domestic production in 1970 was 6,550,000 passenger cars, down 2 million from the previous five-year average. In the previous five years the percentage of imports to the United States market increased from 5.6 percent in 1965 to 23.5 percent — over 2 million cars were imported in 1970. Nineteen seventy was a recession year. Following the low production rate of 1970, the number of passenger cars produced in the following three years has reached an all time high (9.8 million in 1973). However, the role of imports as a percent of the market has remained the same. Japanese production of raw steel is now over 93 million tons compared to 137 million tons in the United States. Economic projections suggest that by the mid-70’s Japan may exceed the United States in raw steel output and perhaps be the world leader. This is happening while the United States and the Union of Soviet Socialist Republics are running neck and neck with the USSR surpassing the United States for the first time in 1971.

Japan’s economic growth is accomplished largely according to a national plan. In 1955 light industry accounted for 50 percent of the total industrial output. Today, heavy and chemical industries constitute 70 percent of Japanese production.

Technological capability is another dimension of overall industrial strength. Other countries are making major progress in overcoming the so-called “technological gap.” U.S. patent applications as one indicator have increased only slightly in the past 10 years but foreign applications have doubled and now represent 40 percent of the total (104,000 applications in 1971).

Today the intensity of foreign competition has become a significant factor in determining the extent of obsolescence in many sectors of American industry. For
example, National Steel Corporation announced in 1972 that it would build the first continuous steel cold-rolling mill in the country to increase production of sheet steel by 50 percent. At that time the only other such mill was in Japan. The Japanese countered and announced another steel-making innovation by installing a continuous annealing line for cold-rolled sheet. The new installation reduces annealing time by 90 percent. The basic oxygen furnace produces most of today's steel because of its high rate of productivity. It was developed in West Germany.

Another method of increasing foreign technological capability is the acquisition of technology and management expertise through royalty and management agreements. In 1971, Japanese royalty and management payments abroad were $720 million, more than half of which was paid to the United States. While this helps the U.S. balance of payments, it also may constitute an export of jobs and erodes the U.S. base for industrial growth.5

Finally, in considering where technology is developed and how it is used, we must recognize the rapidly growing importance of that large organizer of wealth and capital transfers, the multinational corporation. Much is said and little is publicly known about the interlocking effects of these corporations on U.S. jobs, trade, and the balance of payments, and the effects on the economies of other countries. It is widely asserted that these corporations are "job exporters," but exports of multinational corporations have increased and these exports account for more than a quarter of U.S. manufactured exports. We must seek better understanding of what actually takes place, and better means for comprehending the trade, investment and technology transfer effects of these enterprises in relation to the location of economic activity. As an example of the comparative strength of multinational corporations and a national entity: Four multinational companies — Royal Dutch Shell, Unilever, Philips Lamp, and AKZO — all headquartered in Holland, boast combined sales that exceed Holland's $31 billion gross national product.6

Related, but not in all cases, is the "twin plant program" or Mexico's Border Industrialization Program. Starting from an insignificant position in 1965, Mexico became, by 1970, the world's foremost assembler of U.S. made components for reexport to the U.S. market. In 1965, Mexico accounted for less than two percent of the total value of U.S. components reexported to the United States, whereas by 1970 almost one-third of these repatriated components came from Mexico. Towards the end of 1971, 330 U.S. firms were involved in Mexican border industrialization, giving employment to approximately 40,000 persons.7

Goods vs. Services

In considering the future prospects for industrial growth, long-term data show that the United States is becoming an economy with a high proportion of its output in services. Goods are becoming a lesser factor in our total economic output, and employment has been shifting to service occupations.

In 1970, services made up about 40 percent of our output, but these services employed about 60 percent of the labor force. This trend raises some important questions about the future structure of our economy. Increasing productivity in services is much more difficult than in manufacturing. Some economists predict and view with equanimity the United States' international future as a "mature creditor" — engaged largely in services, drawing income from foreign investments, and importing more goods than it exports. For rural communities this could mean fewer opportunities to augment their economic base through industrial development programs. Many others are disturbed by this trend, particularly if we consider the slow rate of economic growth in the United Kingdom as an outcome of holding a mature creditor role. Those concerned ask: To what extent is the position of a mature creditor in our national interest? How dependent can a country be on services and goods produced by others and still be a world power? Will investment income grow sufficiently to make it possible to have balance-of-payments equilibrium with significant trade deficits? More positively, what kind of economy and, in particular, manufacturing capability do we want for the United States in the 1970's and 1980's? The answers to these questions will have a profound effect upon the locational decisions of U.S. industry. Certainly, U.S. industry will grow in this decade but it is the location of that growth, the rate of that growth, and the economic sectors of that growth which are the concerns of the smaller community seeking industry to improve or sustain its economic base. In most instances, services are a product of the interaction of the local, national and the international economies. The need for services within a defined geographic area is related to a productive local market.


The stability of an economic base is usually related to the “production of goods,” or the extension of “services” outside the local market area if that is possible.

The Promise of Increased Productivity

Two major conclusions emerge from a long, careful look at productivity, the changing U.S. economy, and the factors affecting it. Levels of productivity in the United States are still the highest in the world despite cyclical ups and downs. With the notable exception of a few industries the record shows a continuing uptrend.

There is potential for even greater gains in the future, but they will not come automatically. To convert that potential into realized gains, management must put into practice the new ideas that technology is feeding it, draw on the behavioral sciences to devise new incentives for its workers, and organize to increase its own effectiveness. Recent labor agreements show that labor is realizing that it cannot demand higher wages and more stimulating work and still cling to restrictive job practices and work rules.

The American worker today produces $100 worth of goods while his German counterpart is producing $74 worth and a Japanese worker is producing $56. But impressive as the past U.S. record has been, the rate of productivity is not high enough today to keep most American products competitive. The average gain of 3.2 percent a year in industrial output per manhour over the past decade will not support wage increases of 8 to 10 percent. Certainly not without a sharp reduction in the size of the labor force.

Similarly, U.S. producers cannot expect to hold their share of the market when productivity increases at a rate of 3.2 percent and international competitors are increasing at rates up to 6 percent (the Common Market) and 11 percent (Japan).

Plant by plant, industry by industry, management must appraise the new methods and new machinery that technology is offering and adopt those that promise to raise efficiency levels. It must find ways to meet the mounting objections of labor to work that is dull and repetitive. And it must find ways to upgrade and control its own performance.

To keep pace with the growth in productivity by foreign competitors will be the challenge to U.S. industry in the coming years. The competitive and productivity advantage in steel is rapidly falling to Japan which now has eight of the world’s ten largest blast furnaces.8

Future Areas of U.S. Growth

As the United States adjusts to foreign competition and other external economic forces, the industrial development practitioner will have a smaller and smaller list of so-called “growth industries” to seek out as potential new plant locators. The Hudson Institute has listed industries in which they see the United States having a declining comparative advantage in the coming years and those in which we will be able to continue to have the comparative advantage.

Other national economies probably have a comparative advantage in:

1. Mass market consumer electronics
2. Conventional ships (including super large ships)
3. Steel, other basic metals
4. Motor vehicles, parts
5. Some petrochemicals
6. Low and medium priced textiles (natural and synthetic)
7. Most machine tools, expensive but conventional components, etc.
8. Simple aeronautics
9. Bicycles, toys, motor scooters and motorcycles
10. Low-priced shoes and staple, mass-produced clothing
11. Typewriters, simpler office machines
12. Sewing machines
13. Chinaware, silver, cookware
14. Some consumer kitchen appliances

8Business Week, Sept. 9, 1972.
15. Ordinary and most precision optical equipment and cameras

The United States will probably have a comparative advantage in:

1. Services — human and organization (e.g., technical skills, managerial capability, systems design and systems implementation, etc.)

2. Investment (in having or getting capital and in the tactics and strategy of using capital)

3. Other knowledge and knowledge related, publishing and training industries

4. Advanced technology (big airplanes, big computers, complex electronics, high quality scientific, nuclear power, construction, and other technological equipment)

5. In many cases advanced agriculture (corn, wheat, soybean, poultry)

6. In many cases raw materials in forest production, coal, iron ore

7. Specialized, proprietary, and/or esoteric or fashionable consumer goods, children’s clothes, soft drinks, bourbon, and high value sports clothes

8. Some heavy industry and petrochemicals — particularly those which are capital or technology intensive — or which can be made so

9. Perhaps large construction jobs, oil exploration, prospecting, computerized analysis of major projects

10. Pop and mass culture and entertainment

The industries listed in these tables are broad categories and at the same time those listed as lacking comparative advantage are not necessarily precluded from consideration in an industrial development program. For example, while steel is indicated as a declining industry in terms of national growth, as long as there is an adequate supply of raw material or of scrap generated in the economy, there may be a competitive advantage for strategically located steel plants. Or as long as tariffs can be maintained, labor-intensive industries can prevail, even in otherwise uneconomic situations.

The potential for creating new plants in those industries expected to prosper in the U.S. economy presents a challenge: a challenge to industry to create a productive plant in a competitive domestic location, and a challenge to rural communities, seeking to enlarge upon their existing economic base, to provide an environment in which future industrial plants can prosper.

Selected References


3. THE INTERRELATED ECONOMIC SECTORS

For the purposes of analysis and understanding it is possible to separate the many interrelated and interdependent economic factors into sectors or systems that can be identified as having interrelated elements representing a values system, a socio-cultural system, a political system, as well as an economic system. The economic sectors are:

1. Agriculture
2. Natural Resources
3. Manufacturing
4. Services

It is important to consider the role of each in a community economic development program. Agriculture and use of natural resources are essential as providers of raw material to industry. The practice of agriculture and the exploitation of resources in many cases have been the initial source of capital for industrial growth as well. Manufacturing, along with agriculture and resource utilization produce the base upon which the services sector expands.

The Agricultural Sector

Agriculture is a basic economic activity which produces the food and fiber needs of people. It is influenced by a set of interrelated elements of nature, culture and economics which include the farm or farm area, and which have certain attributes or characteristics like plowing, planting and harvesting a range of crops or animals.

Agricultural activity can be subdivided into subsistence farming or various levels of commercial farming — ranging from marginal and part time to corporate farming — each with a different economic response. Commercial agriculture as an "export" activity competes within a market context. As in other industries, demand for product, competition from suppliers in different geographic areas, and competition for use of the land, labor, and capital determine the growth of the agricultural sector. Through competition, farms in an export or commercial economy are interlinked. Because of the economic interdependence of farms, in such a situation the operation of each is a function not only of its own climate, but indirectly of the climate of other farms and other areas.

Agricultural activity is distinguished by a close dependence on the natural environment. While man is limited in his agricultural practices by his relationship to the physical environment, he tries various ways to overcome his dependence. To control climate, or rather to offset climatic extremes, he employs technology which has created irrigation, greenhouses, smudge pots, and cloud-seeding. Soil productivity is increased by using fertilizers. Other sectors of the socio-economic system have aided the control of the life processes of plants and animals through improved breeding, through the development of hybrids, through efforts to control pests and weeds, and through the development and manufacture of machinery and equipment to facilitate crop production.

These activities have so increased the production of agriculture that in only 20 years the number of farm workers has dropped from 7.2 million to 3.5 million — from 12.2 percent to 4.4 percent of the labor force. Thus fewer workers are producing 20 percent more and the value of production per worker in constant dollars has risen from $2,700 in 1950 to $6,600 in 1970. Increases in the efficiency of agricultural production has greatly benefited commercial agriculture. But it has left behind the thousands of unemployed or underemployed, who have been forced to migrate, or where remaining in rural areas, produce the debilitating effect on the rural economy that is the main target of rural economic development programs.

The process of commercial agriculture is synonymous with the export concept of the economic base


The development of capital by the creation and trade of an agricultural surplus contributes to the general economic development of an area. This capital provides funds for the purchase of manufactured goods which stimulate the manufacturing sector. In a free enterprise system, this capital also can be transferred in the form of private savings or through taxation. Taxes, because they frequently exceed the cost of services offered to the agricultural sector, and savings are transferred through lending or direct investment.

The nature of the interrelationships between agricultural development and the other economic sectors, particularly industry, is unresolved. In studies to determine developmental priorities, industrialization typically has been emphasized as the means for successful economic development. Most studies have assumed that the industrial sector would pull the agricultural sector to higher levels of development. Agriculture was considered largely passive in the developmental process compared to industrial growth.

Increased emphasis should be placed on developmental policies that exploit interrelationships between the industrial and agricultural sectors so as to promote mutual and simultaneous development. There is not a best blend of agricultural development and industry for all areas. The relative emphasis given to each should vary according to resources available and the ultimate potential for development of a particular area.

The Natural Resources Sector

The natural resources sector includes sources of energy, minerals, lumbering, fishing, and the attributes of the environment that are conducive to recreation. Resource as a concept is something useful to man in the production of goods and services. Resource is not just the physical fact of having coal, iron ore, or a fertile soil. Resources in themselves are quite passive; the understanding of their possibilities, the will to use them and the application of capital and technology, are the means by which that passive factor becomes important to man. The possession of resources is permissive rather than deterministic.

Resources exist as physical facts, and physical factors control the presence or absence of a potential resource in any geographic area. To be useful, man must be aware of their existence. In any one area an inventory of resources as physical facts will be governed or constrained by the motivations of man and how he perceives and uses the resources.

Resources, therefore, are part of a social/technical/economic complex. Their exploitation is governed by the cultural evaluation of materials; by the technical means at hand; by the organization of the economy; by the volume and rhythm of production in the society; and by the demand for the resource. What is a resource to one human group may be of no conceivable use to another. The amount of a resource that is used may differ, too, according to the level of organization or price relationships. There are three basic factors for resource use:

1. A human group that knows how to utilize the physical material,
2. A suitable concentration of that physical material, and
3. A means of access.

To be useful, it must be possible for a resource finally to appear, transformed, in some product or products which are desired and used. There must be outlets from producers to consumers; there must be facilities to transport and store; and there must be economic means to convert the resource.

There are two major distinctions between natural resources. There are natural resources termed renewable and those that are nonrenewable. For example, trees, or falling water as a source of energy are renewable; whereas, most minerals and fuels — iron ore or coal — are not renewable. Scarcity of a nonrenewable resource contributes greatly to its value and the uses to which it may be put. No single nation has a full complement of
renewable or nonrenewable natural resources, and world trade in these commodities is important. Where more than one major producing area of a resource is involved, there can be a high degree of competition as well.

The exploitation of a local resource is not always a viable strategy in a local economic development program. The use of a natural resource is most often dependent upon factors outside the local economy. A resource counts for nothing until it becomes economically feasible for exploitation. A current illustration is the intensive activity in coal mining in Wyoming and Montana. The presence and the low sulphur qualities of this coal have been known for a long time, but high transportation cost to major coal consuming areas has precluded other than local use. With the application of pollution controls the use of low sulphur "pollutionless" coal reduces control costs and the Eastern market can now bear the higher transport costs.

The Manufacturing Sector

The main objective of examination of the manufacturing sector is to present an image of order arising out of seeming chaos and complexity. The main concept is, therefore, that of a global system of manufacturing establishments initiated by human decisions and linked by continuous flows of people, goods, money and information. For centuries, industrial transformation was conducted at the home of the consumer, with specialization and supply outside the household growing very slowly. The specialization of large numbers of people in export or exchange economies carrying out these transformational activities is a phenomenon of the last 200 years. Manufacturing thus covers a wide range of activities, from handicraft and cottage industries to the smelting and refining of ores, and to the assembly of complex electronic equipment or giant aircraft. Each type of manufacturing activity varies in inputs of materials, labor and capital, varies in the sources from which it draws these. In turn, each is required to produce particular outputs for purchase in particular markets and geographic areas. The locational pattern and the impact on the landscape varies from industrial group to industrial group with the variations of inputs, sources, and outputs. Within each group the influencing factors vary and multiply in number again. Each branch of a group is liable to be affected by even more diverse variables, as scales of production change and scales of management change from the cottage to the multi-plant industry and to the multi-industry firm. Other variables that can affect the patterns of manufacturing are time, technological change, change in resource evaluation, quantitative and qualitative economic growth in size of regions, nations and international groupings, and market changes.

The system encompasses, then, all activities where man assembles raw materials at an establishment (household, workshop, or factory), where their usefulness is increased, and these products are shipped to the consumer. The focal point of this activity is the place of transformation, the factory, which serves as a link between raw materials and consumption. The interaction of this system focuses on the site or location of the factory.

The dissection of the locational procedures followed by entrepreneurs is difficult, as noted already for agriculture. The economic needs of factories differ from industry to industry, and vary with the size of the individual firm. Managerial attitudes to location also differ widely; in some cases managers have taken a rational view and have estimated carefully within the limits of their locational abilities, while others have given very little thought to the problem. Existing locations are also not necessarily the most favorable in terms of present location strategy; in older industrial areas the original reasons for location may be lost in the past, and a new set of relationships may have arisen. Irrespective of why specific locations have been chosen, the choices over a period of time have led to a concentration of manufacturing in areas or belts. While it is historically true that industrial growth has tended toward concentration in the United States, there has been demonstrated a more recent trend toward decentralization.

In most theoretical discussions, it is assumed that entrepreneurs strive to maximize their profits by making thoroughly rational locational decisions. This assumption is open to question, and empirical investigation has shown that non-economic or personal motives of entrepreneurs have exerted considerable influence on location decisions. As can be expected, some of these motives are difficult to systematize, but at the same time this apparent irrational action of industry affords the opportunity for informed development groups to influence a location decision. This factor combined with influence of the factors that have produced decentralization are the opening wedge for a community to substantially strengthen its economic base within the constraints of national economic growth rates.

In many communities the arguments for manufacturing or agricultural development are opinions. An

argument in favor of industrialization is frequently viewed as an argument against agricultural development and vice versa. Although it is true that industry, agriculture and natural resources development may compete for some of the same resources, an argument in favor of one need not be an argument against the other because of the interrelationships that exist.

Not all arguments for industrial development are logically defensible and some are based on erroneous assumptions. Some of these arguments are more appropriately considered to be emotional or passionate appeals favoring industrialization, for example, mothers who expect their children to stay home when industry brings jobs to an area.

Some of the most common arguments presented in favor of industrialization are:

1. The high correlation between increased per capita income and the proportion of the labor force employed in nonagricultural activities.

2. A compelling and logical reason for industrialization in many areas is the prospect of outside money coming in to allow imports of manufactured goods and creating local services.

3. Industrialization also is cited as a means to raise the productivity of the labor force.

4. Related to the productivity argument is the notion that industrialization will create new jobs and result in employment for unemployed members of the labor force. While this is frequently used as an argument in favor of industrialization, the number of jobs created may not be sufficient to absorb the natural increase in the labor force. This requires a continuous industrial development effort.

5. Another view holds industrialization to be crucial to development because it stimulates the whole area economy. Establishment of an industry will generate a demand for local inputs which previously did not exist.

6. A second type of stimulus also has been cited as an argument in favor of industrialization: The increased income from new industries leads to increased demand for consumer goods. These, in turn, result in expanded markets and, hence, provide additional profitable investment opportunities.

7. Greater income from industrialization is proposed to have an additional positive feature. The volume of savings is expected to be larger with higher income levels. Hence, additional investments should become progressively easier if, as is often assumed, the saving rate rises with high per capita incomes.

8. Industrialization also is promoted for political purposes. Two reasons are frequently cited. First, in the interest of national security, a certain amount of self-sufficiency in manufactured and capital goods production may be desirable. Second, many States or areas have a strong desire to reverse economic patterns based on export of primary products and import of consumer goods for local consumption. Thus, many politicians place heavy emphasis in their campaign plans on both the practical and emotional appeal of industrialization and job creation.

Not all the above arguments are valid in all circumstances. Taken together, they can provide a rationale for industrial development programs. They do point out some beneficial things that can happen if a community makes the decision that industrial development is desirable.

There are many economic, sociological, political, and historical factors that interact to make industrialization attractive as a policy. It does not, however, make industry an imperative for every community. Each has alternative choices — some good, some bad — and there will be rural areas that will continue to find specialization in traditional and primary production to be profitable.

The Services Sector

Rather than being linked via their inputs and outputs, local services activities typically are indirectly interrelated through the behavior of their customers. There are exceptions such as, perhaps, the financial subsystem.

Each service establishment has a minimum size, a minimum amount of sales, below which it cannot operate. Given a sufficient amount of purchasing power, the location is then governed to varying degrees by
accessibility to this purchasing power, or by the consumers' perception of that accessibility. Retail and services activity is overwhelmingly market oriented, but the important factor is accessibility to a particular set of customers who might be expected to buy at that particular site location at the place most convenient to those people when they are in the mood to make a purchase. This location might be accessible by foot or car, might be near home or work, with a group of similar stores or by itself.

The services system is not static. An economic base at any one time is in various stages of development, particularly when the rate of economic/population growth is considered. Some centers will be at various stages of maturity, others will be in decline. The open-ended system which represents the growth system and the services subsystem is undergoing the effects of physical, economic, and social changes. The transportation pattern is modified by these changes, and those changes in turn affect the services subsystem, and vice versa. These changes are reflected in changed patterns of accessibility and changed land values. Mobility to and within an area is reflected in changing patterns of consumer tastes and demands. Thus the services sector is in a constant state of flux.

As has already been noted, services now make up about 40 percent of our output and about 60 percent of the work force. Although there has been phenomenal growth in the services sector, the services revolution has seriously debilitated the property tax base. Services have replaced relatively capital-intensive production (manufacturing) with labor-intensive production (finance, insurance, real estate, etc.). The average amount of taxable capital per worker is much lower in services than manufacturing.

These businesses utilize the services of all types of professional and skilled people. Meanwhile, the unskilled residents still do not have jobs, yet their needs for municipal services are as high as ever. The shift from goods to services does not get them jobs or improve the tax base necessary to finance the local services.

Economic changes of this type can leave a local government with the same fiscal problems it had before. If a town wants the type of economic development which will improve its property tax base, it clearly must focus on capital-intensive companies rather than service organizations, or the sources of its revenues (e.g., fees and wage taxes) must be adjusted to its new economic base.

Since the goals of community industrial development programs are to create basic jobs and generate increased tax revenue, they must consider the implication of nonbasic growth in their communities. Many economists lean toward the pessimistic view. Leon Greenberg, former staff director of the National Commission on Productivity, has said that the "continuing shift of resources to a service economy" is likely to have "a negative impact on potential future growth" of American productivity. Over the next 10 years, he said, the shift "is likely to have a 0.2% reduction effect on the rate of productivity growth." This could mean an annual loss in GNP of $30 billion by 1980, and an accumulated loss to the economy of $120 billion of output during the decade of the 1970's. Any decline in the national GNP will necessarily be reflected in many communities, too.

On the surface, recent economic statistics appear to support a pessimistic forecast. Services now account for half the country's gross national product, though they employ about two-thirds of the labor force. Output per man-hour for this part of the nation's work force is 30 percent to 50 percent less than for workers who turn out factory and farm products, according to a study by the Chase Manhattan Bank. Beyond such statistics, simple logic appears to support those who despair of a real improvement in productivity in the services sector. In many service activities the traditional methods of improving productivity — upgrading labor, adding capital, and raising efficiency — often seem to be barred. This, along with the high dependence in rural areas upon the other economic sectors to support the services sector may also bar dramatic economic growth.

Conclusion

Understanding the role, either existing or potential, of the various economic sectors in an area economy is paramount to the development of any strategy for the economic development of an area. It is the level and mix of the various economic factors that are the basis for economic growth programs.

Local economic growth can depend upon the presence and development of the environment or natural resources such as land, water, minerals, climate or scenery (tourism). Within the various economic sectors the resources can generate primary export industries such as mining, agriculture, tourism and manufacturing.

In turn, these may produce secondary or tertiary employment in local retailing and services.

Economic growth can also be generated by internal forces other than the presence of basic resources. Among such sources of economic growth are technology, specialization, division of labor, economies of scale, and well-developed community services and facilities. Many of the most dynamic new industries incur relatively low transportation cost and require small quantities of natural resources. The fundamental requirement is often skilled labor, a technological base and the amenities attractive to the labor force can become a prime locational consideration. The technology-oriented electronics industries of California and New England are examples.

The requirements for growth are not predetermined by environment. Growth can occur in any area or region and depends largely on the will of local people to create the kind of environment that attracts capital and labor. Much of the effort is likely to be geared toward attracting export industries from outside local economies.

Today, growth in rural areas is less tied to natural resources and is more dependent on markets, on technology and on availability, attitudes, and skills of rural people—and in community ingenuity in improving the economic base of the area to either attract outside industry or by developing new industry locally. The entire process is at the same time dependent upon what the American consumer wishes, or will be convinced he wishes, to consume.

Selected References


4. STRUCTURE OF A LOCAL ECONOMY

Economic Base Theory

The term economic base can be applied to a town, an area, a region, State, or nation. For example, a town's economic base consists of the activities that support the livelihood of its inhabitants. Economic base theory involves making a distinction between those economic activities producing goods and services for the town itself and those producing for an external market. Fundamental to the explanation of economic base theory is the role of the multiplier effect of new economic activity discussed on page 5. The basic activities are those that produce for export, while those that serve the local market are termed nonbasic. The term nonbasic is not applied because the activity involved is not necessary in sustaining the town, but because it feeds on money that has been brought in by the basic component. In effect the community exports in order to import. Sales made by local factories or tourist income from outside the local economy are examples of the basic component. Sales from a grocery store to local residents would represent nonbasic activity. To understand a town's economic functioning we need to know what sustains it or makes it grow. The economic base is one concept that can lead to understanding lack of growth or determining growth potential of a town.

We can distinguish three manifestations of the productive process, and thus of types of activities that can support communities:

1. Extractive — agriculture, mining, forestry and fishing.
2. Processing — largely manufacturing.
3. Distributive — transportation of goods, wholesaling, retailing, services and government.

To each correspond distinctive types of communities. Agricultural service centers, mining towns, fishing settlements are extractive based. Steel, textile, automobile, or shipbuilding towns illustrate the processing. Ports and railroad centers or county seat towns exemplify a much longer list of distributive towns. Each community is a cluster of activities, an agglomeration of residences, and a set of local services for the residents. In turn, the kinds of jobs provided — manual, blue-collar, white-collar — determine the social character and consumption patterns of the area.

Economic Base Analysis

Much can be learned about areas and communities by merely looking at the markets which they serve. Communities produce for several different markets. A number of firms and individuals in the community produce for the local market. That is, products and services of their labor are used by other firms and businesses within the community or by residents of the community. Other firms and individuals produce for a wider market.

Production moving out of the community to some distant market is referred to as a basic economic activity and serves export markets. A military base within the community is considered a basic economic activity. A
community that serves as a trade center for several other smaller communities considers that portion of its trade going to other communities as a basic economic activity.

Production for export markets by any given community or area is the result, in part, of certain locational attributes of that community. Resource availability, closeness to markets, sometimes skills and ideas determine those products in which a community has a comparative advantage relative to other communities. External demand for these products becomes an important determinant of community growth. Technology also affects a community’s production for export markets. Some products produced by communities become technologically obsolete, e.g. harness making and buggy manufacturing. Other communities are affected by technology through substantial changes in production processes such as occurs in agriculture when the need for farm labor is diminished.

Many decisions by private businesses and community leaders are based on general levels of economic growth or decline of communities. If the community is to grow, sufficient public investment must occur to provide the amount of services desired at some future time period. If growth is not to occur, cost of replacement of depreciated or obsolete public investment in some community services must be weighed against public cost of obtaining those services elsewhere.

Components of an Economic Base Study

Three major components of an economic base study can be identified. First is to structure the local economy by means of classifying firms into industry groupings and identify those markets which are served by the groupings. Second is to interrelate the various markets and estimate their interdependence. Finally, it is necessary to analyze basic markets which form the economic base for expected changes and relate these changes back to community growth or decline.

All firms and businesses produce for a market. The money received from sales minus the costs for material and service inputs equals net income. Since wage earners and businessmen are part of the service inputs, markets from which income can be derived represent sources of income and sources of employment for the economic base.

Two broad types of markets have been identified: 1) local and 2) export markets. Local markets represent purchases by business firms for current production; purchases by households; local government purchases; or purchases for long term capital improvements. Export markets represent sources of demand that are external to the community and include exports and Federal government purchases. Each business in the community can be classified as serving, one or both, local and export markets.

Data Requirements for Economic Base Determination

Data availability is a major consideration in the type of economic base analysis to be performed for an area. In attempting to make an economic base analysis combining similar firms into distinct industry groups with the corresponding weighted distribution of gross receipts to their various markets gives a concise picture of the structure of a local economy to which a multiplier can be applied to produce a numerical result. However, primary data by which to develop a precise multiplier are not always available.

In the almost total absence of precise figures in small communities it is possible to use estimates. Rough estimates of industry sales by major markets may be made for small regions (county or city) by someone knowledgeable about the local economic structure. While this method is inferior to using actual figures from firms, estimated results can provide insights regarding a community’s economic base that would not be perceived otherwise.

Alternatively, employment multipliers estimated for other areas may be used if certain minimum conditions are common to the two regions. First, size of the two regions needs to be comparable in terms of population and geography. Second, the size and structure of cities and trade centers should be somewhat comparable. For instance, do the regions have the same number and size of trade centers and are they similarly distributed across the region? Third, are regions comparable distances from larger trade centers? Fourth, are regions structurally similar in terms of industry groupings such as agriculture, mining or manufacturing?

Growth or decline of a small region is highly dependent on what happens to its basic economic activities. An economic base study in itself does not determine whether a region grows or declines but it separates the different markets and presents the industry structure and for some studies, the interindustry structure. Elements of growth or decline are hence easier to discern. It also provides a framework for making economic projections. In turn, projections form the basis for community services planning.
Growth Indicators of an Economic Base

Economic base studies require much basic information, time and money. The following descriptions of the characteristics of an area’s economic base are indicators of a high degree of economic growth, and potential for future growth. They are adapted from Nation’s Business. Understanding the relationship of these characteristics to the economic base of a community can enable a community to move ahead with its planning until an economic base study can be made:

Characteristics of Community
Potential for Growth

1. Employment prospects in export industries with good potential are particularly important because they bring income into the community which can in turn be spent strengthening and expanding the local economy.

2. A diversified industrial base makes a small economy less sensitive to changes in the demand for the products of one or a few industries. An area with a diversified base is less likely to experience shocks to the local economy which result from production cutbacks in a major industry group.

3. Absence of concentration of employment in durable goods manufacturing because purchases can generally be postponed for longer periods of time. Durable goods are products such as automobiles, refrigerators, and stoves, in contrast to nondurables such as food, clothing or housewares. The durables tend to be more sensitive to changes in the national level of economic activity. Therefore, less concentration in the durable goods manufacturing industries is considered an economic asset. However, it should be noted that a community with a high concentration in durable goods employment should not rule out the location of more durable goods industries, rather they should stimulate their efforts toward greater diversification.

4. Lack of concentration of employment in one large firm since the local economy would be particularly sensitive to changes in the demand for the products of the firm and the employer may seek to discourage new firms entering the area.

“Company towns” may also suffer from lack of general community spirit and activity if the company seeks political control.

5. Where industry requires a variety of skills, opportunities for employment advancement within the local area are better. A hierarchy of positions in a particular field makes it possible for workers to advance as they learn new skills. If opportunity for advancement exists, it is less likely that the local economy will be characterized by underemployment since workers can advance as they develop skills.

6. Opportunities for manpower training in the local area helps to insure that local people will be upgraded and can qualify for better jobs as they become available in the area.

7. Employment opportunities for skilled and professional workers provide a source of higher income for the community. It also improves future prospects for the community to retain those citizens who have been educated at community expense.

8. The larger the numerical size of a labor market area the more attractive the area generally is for industry. It is more likely that a worker can find the job which fits his preference. The larger the number of new entrants to the labor force each year, the more attractive to area firms. Larger labor market size also introduces the possibility of accommodating a wider range of industries, businesses and services.

9. Employment opportunities for both men and women are needed to avoid high unemployment rates and attract husband and wife teams seeking work. In many industries male and female employment opportunities are not balanced. There will be too many jobs for one and not enough jobs for the other. If the concentration of employment is female, the area will probably be characterized by low income levels.

10. A low proportion of seasonal employment is highly desirable. Industries which employ workers for only a certain time of the year, unless accompanied by other industries which employ the same workers in the off-season, make seasonal unemployment and the inability to earn a minimum annual wage more likely.

The Modifying Characteristics of Growth

A local economy is not based entirely on the relationships between the demand for, and the supply of, local labor. It is also based on characteristics of the local area which facilitate the best match between workers' skills and employers' needs. Three additional modifying characteristics of a strong economic base are suggested:

1. An adequate transportation system. The smooth functioning of a labor market rests on the workers' opportunities for transportation to and from the place of work.

2. Nondiscrimination in employment opportunities which reduces the likelihood of underemployment because of such discrimination, and thus contributes to the overall economic health of the area.

3. Good local information on job availability and unemployed workers decreases the likelihood of unemployment because of lack of knowledge.

Characteristics which pertain to the probable economic potential of a community which seeks to grow are also relevant to one which chooses only to make efforts to maintain a stable level of economic activity. Changes in technology and consumer tastes combine with changes in local labor, land, and capital resources require adjustment in the local economy if the area is to maintain its economic base.

Given the variety of economic and noneconomic forces that are affecting any area, at any point in time and over time, it is unlikely that any one labor market will ever have all of the characteristics of economic growth identified above. However, such a comprehensive list does suggest alternatives which development leaders might explore if economic improvements are deemed to be important.

If the labor market of a particular area is characterized by a number of the conditions described, it is relatively strong when compared nationally. This state of economic strength is reflected in favorable trends in three statistics, low rates of unemployment and underemployment combined with a high level of personal income. The terms "low rate" and "high level" mean low or high relative to the rates or levels prevailing in areas in the nation as a whole over a comparable period. For an area to be deemed healthy these three types of statistics should prevail over a period of several years. In an area where economic health is improving, the trend in these statistics over several years should be favorable.

Growth, in and of itself, is not the basic ingredient of economic strength. In developing an area economic strategy, the strategist must look to a broad spectrum of objectives and establish priorities, many of which may not appear to directly involve growth. Diversity of enterprises, opportunities for a multiplicity of types of employment, advancement within various hierarchies, freedom from bias and similar factors may be essential, particularly if the youth are to be retained in the community. Training opportunities, adequate transportation, supporting governmental assistance, and similar factors may be vital to the employment of the population which is unemployed or underemployed. In short, the criteria of growth potential specified above are reflections of the strength of an area's economic base. These criteria can be utilized in analyzing any given area to identify the area's economic problems, its needs, and to design a strategy and establish priorities for achieving the goal of a strong economic base.

Selected References


5. INDUSTRIAL LOCATION THEORY

The distribution and location of manufacturing is a major question facing industry. It is also a question that faces the nation. The location and well being of certain defense-related industries is part of our national security policy. Restraints have been placed upon industry to protect the environment and there is a growing national consensus to establish a national growth policy and land use policy which would assure rational and "balanced" economic growth. Industry not only must seek manufacturing sites at the point of lowest cost and highest profit, but it must also consider the influences or implications of national policies and public opinion upon a location decision.

Location theory attempts to produce a degree of order in the locational process. The most obvious basis for explaining the distribution of economic activity and people is geography and the disposition of natural resources. With any knowledge of climate and crop requirements, it is better to grow oranges in Florida and wheat in Kansas, rather than the other way around.

Simple and direct relationships to natural resources or to obvious natural transport routes do not take us very far in accounting for most locations of industrial activity. Such straightforward searching can give no convincing explanation for the development or concentration of the automobile or electrical industries. Chance and subtle economic factors, in interplay with transportation, raw materials, and markets, play an important part in shaping the locational patterns of industry.

Development of Industrial Location Theory

A location theory is an attempt to account in a consistent logical way for the distribution and location of economic activity and for the manner in which the variable facets of economic activity are interrelated. Except for the discussion of the work of von Thunen, in this section we are concerned with industrial location only, rather than the entire spectrum of economic activity. Discussion of contributions to location theory is limited to those that might be considered historical landmarks in the evolution of location theory. Further, most of the important terms used in industrial location parlance today are introduced in these selected works.

The principles of industrial location are based upon the broader field of "location theory" that has been in the process of development for over a century. Location theory is concerned with the influence of space on the organization of economic activities. This discipline attempts to find measures for the interplay of the factors of production.

The von Thunen Theory

One of the earliest scholars in location theory was Johann Heinrich von Thunen of Germany. He was both a scholar and a farm operator. In 1826, he introduced his major work, Der Isoliert Staat, (The Isolated State), in which he explored the economic forces that affect the prices of agricultural products, and the relationship of these laws to the pattern of land uses. He began his analysis by presuming that the geographical distribution of agricultural production was directly related to the competition among alternative uses (crops, forest products, livestock, etc.) for any single plot of land. It was assumed that a central city located on a homogeneous plain purchased the agricultural produce. Included was the assumption that labor and capital were not mobile.

Distance from the central marketplace was found to be the prime determinant of land use patterns. Land near the city tended to be used for the most intensive agricultural production, such as dairying and garden vegetables. As distances increased from the center, transportation costs increased, land prices declined because less intensive uses could be supported. Thus concentric rings, dominated by the different economic
activities, developed around a city. Von Thunen’s explanation of location was based on increasing transportation cost radiating outward from a central city. In situations where the homogeneous plain might be crossed by a navigable river, it was allowed that the concentric rings would be modified by the availability of lower water transport costs. (See Figure 2, Location of Economic Activity, von Thunen.)

Because of the demand and attendant value of these crops, the transport cost could be met.

Zone 4. This would be the area for livestock raising. Marketed products would be of two types: livestock, which could be driven to market, hence cutting transport costs almost to zero; and cheese, which is not highly perishable, and which is valuable enough to be able to stand rather high transport costs.

Zone 5. The outer zone would be the area of hunting and furring, or production of high value mineral products that could tolerate the transport cost.

In von Thunen’s approach, distance from markets determines location of economic activity. There is still much validity concerning the role of transport cost in the determination of any economic activity today. The pioneering work stands as the beginning of “standortslehre” (field of economic theory). Its weakness is that of its time. No longer is it possible to observe a simple homogeneous plain devoted to agriculture and the exploitation of natural resources, though it does bring us to the conclusion that economic advantages tend to determine the location of economic activity; i.e., location of industry. The work of von Thunen established that the role of transport cost is a factor of location that cannot be discounted. Prior to von Thunen’s work, location theory was based largely on assumptions that failed to take into account space dimension and the effect of distance.

On the basis of transport cost, von Thunen postulated that the following zones of economic activity would develop around the city:

Zone 1. The land nearest the market would be used to produce perishable items, principally milk and vegetables. These activities would be concentrated in the inner zone because of the slowness of transportation and the absence of food-preserving techniques such as refrigeration or canning.

Zone 2. The inhabitants of the second concentric zone would specialize in producing wood, with firewood in much greater demand than lumber. (In von Thunen’s day, firewood was the main type of fuel, and the heating of houses provided the main market for fuel.) The firewood, bulky but of relatively low value, could not bear high costs for transportation.

Zone 3. This area would tend to be devoted mainly to grains and other basic food or fiber crops.

The Weber Theory

Nearly 100 years after von Thunen’s writings, another German economist, Alfred Weber, offered in his famous *Theory of the Location of Industry*, an explanation of industrial location based upon minimization of labor costs, transportation costs, and materials cost. A firm is expected to locate at the least cost point. Weber postulated that varying combinations of transportation costs would lead plants to locate (1) near the point of consumption, (2) near the source of raw materials, or (3) at intermediate points. The location ultimately selected depends on which cost is most important to the type of process in question.

In arriving at the least cost point, Weber made several assumptions that do not reflect real world situations today. Weber assumed that there were several fixed labor locations, and that labor was immobile and in unlimited supply at a given wage rate; that each producer had an unlimited market; that other assumptions and simpli-
fications were made as needed, such as disregarding differ-
ences in land costs, certain institutional factors like
interest rates, insurance, the level of taxation, and a uni-
formity of culture and of economic and political sys-
tems.

Transport costs were viewed as the determining
factor in plant location. Costs were not considered di-
rectly, but as a function of weight to be carried and dis-
tance to be covered, the least-transport-cost location
being the point at which the total ton-miles involved in
getting materials to a place of production and the fin-
ished product to the market is at a minimum.

What happens to a raw material in processing is the
determinant feature in arriving at transport cost. To il-
lustrate the relative locational pull various raw materials
might exert, Weber classified them as:

1. Weight-losing raw materials
2. Pure raw materials
3. Ubiquitous raw materials

Some raw materials lose bulk, i.e., weight, in proc-
essing. Weight-losing raw materials tend to pull a plant
toward raw material sources. For example, smelters near
copper mines or coal when used as a fuel are completely
weight losing.

Pure raw materials are those that do not lose
weight or bulk in processing. If the pure raw material is
localized in a specific place, then a plant can locate
either at the source of raw materials or the market, thus
accommodating some other cost factor. An example of a
pure raw material might be rubber either natural or
synthetic. There is an interesting distinction between
natural and synthetic rubber. The use of natural rubber
in industry is essentially a processing enterprise, only
synthetic rubber is actually manufactured. Coal is virtu-
ally a pure raw material when burned in a by-product
coke oven.

If a raw material is ubiquitous (found everywhere)
then a plant would locate at the market since at that
point lowest transport cost would prevail on both ma-
terial and product. Air and water are generally ubi-
quitous materials; water in beverages or beer is an
example and beverage plants and breweries are usually
market oriented.

Weber argued further that if labor cost savings are
greater than added transportation costs, then the in-
dustry would tend to locate closer to the labor supply.
Conversely to the extent that increased automation re-
duces the amount of labor required, industry tends to
change its orientation from labor to transportation.

To this point Weber does not fully explain the
optimum place for the location of a plant. To cover the
many plant location factors that are missing, Weber
added some general location factors which he regarded
as either concentrating (“agglomerating”) or decenter-
lizing (“degglomerating”) forces. An agglomerating force
or “clustering tendency” results from the fact that one
type of production tends to be concentrated in one
place. Production costs are decreased as a result. Indus-
trial services expand to meet the needs of the domi-
nant industry, and a complex is created that attracts still
other industries requiring the same services. Agglomera-
tion is also related to the term “external economies of
scale.” Today, national concentrations of an industry are
difficult to explain except historically. As the regional
markets have expanded, decentralization has occurred in
almost every industry sector. For example, Rochester,
New York, was once the center of optical goods and
men’s suit manufacture. Today neither are the exclusive
province of Rochester.

On the other hand there is evidence of the exist-
ence of agglomerative forces in the American economy.
A Fortune survey of plant location activities of the na-
tion’s largest industrial companies noted: “When a new
plant is built by a large company, a number of satellite
plants usually follow to provide components, and service
businesses of all kinds, ranging from banking to trans-
portation, from recreation to education, are established
to support the central plant.”

Degglomerating forces are factors that detract from
otherwise favorable locational advantages. These are
termed “external diseconomies of scale.” High land
prices resulting from increased demand as industry
expands in an area illustrates degglomerating forces.
Another example could be plant obsolescence in the
dominant industry.

Since its publication 60 years ago, Alfred Weber’s
theory has been subjected to many reviews. His assump-
tions have been attacked, particularly those relating to
the dominant role attributed to transportation rates, ag-
glomeration, and the abstractions related to his identifi-
cation of markets.

13“A Fortune Survey on Locating Plants, Warehouses, and
Despite criticisms, Weber’s approach has much to commend it. Weber said his book was expected to be a beginning and not an end, and as a beginning to modern industrial location theory it has proved very valuable indeed. Most later workers in the field have gained something from Weber; a number of his concepts and analytical techniques have been the basis for the extension of the ideas of others in the field of industrial location theory.

Fredrich Hall

In the midst of the early search for theories and formulas to explain and establish measurements for the location of economic activity, Fredrich Hall proposed a list of factors to account for the distribution and location of industry. While some factors, as Hall proposed them, were measurable, in the main the application of the factors for understanding location choices required an empirical approach.

In the Census of Manufacturers, 1900, Hall included “A List of Location Factors,” a fundamental list of localization and location factors. These, along with an explanation, were:

1. Nearness to raw materials. Examples in 1900 were relationship of paper manufacture to source of wood pulp, or shoe production to imports of leather through Boston.

2. Nearness to market. Like nearness to raw materials, this factor implies lowest transport cost.

3. Water power. This was a strong location factor before the steam engine and electric motors. Importance of sites for water wheels accounts for “fall line” location of industry in eastern U. S.

4. Favorable climate. Examples were in textiles where high humidity is a requirement for production of cotton textiles. Air conditioning now modifies the role of climate, at least to the point where cost becomes excessive.

5. Labor supply. Labor then was more anchored than today when people not only commute many miles, but also move from region to region.

6. Supply of capital. Capital was concentrated in investment centers and tended to be invested where the investment could be watched.

7. Momentum of an early start. Historical accident may account for an industry start. Then there is a tendency for other plants to also locate. Continued growth produces a skilled labor supply and creates distribution facilities (Weber’s agglomeration).

The U.S. Department of Commerce

From Hall’s basic list, additions have been made continuously.

In 1947 the Area Development Division of the U.S. Department of Commerce presented a list of “Basic Industrial Location Factors.” It was to be used as a guide for evaluating an area’s resources for industrial development. The purpose of this publication was to aid local, State, and regional industrial development groups or committees logically to assemble and present their area’s industrial advantages.

The basic location factors, identified by the Department of Commerce as those which, nationwide, usually govern the evaluation of industrial plant locations, were identified as:

1. Location of production materials
2. Labor
3. Sites
4. Industrial fuel
5. Transportation facilities
6. Market
7. Distribution facilities
8. Power
9. Water
10. Living conditions
11. Laws and regulations
12. Tax structure
13. Climate

In addition to the 13 basic factors, the study indicated another factor to be the summation of the relationships between (5) transportation facilities, (6) market and (7) distribution facilities which was called “favorable competitive position.”

Today, identification of the role of a list of the various location factors as they relate to a particular area is basic to most community and area industrial development programs. Until a model can be produced that a community development group can understand and is workable, there is the requirement for a community to attempt to understand the role of the factors that con-
tribute to the location of industrial activity, and how their community relates to the location factors.

Edgar Hoover

Hoover follows Weber's explanation fairly closely at first by saying that, in the absence of difference in labor costs (production), the best location will be at one of the three points of minimum transportation cost established by Weber.

Hoover has explained industrial location essentially in terms of minimizing transfer costs and production costs. Transfer costs include procurement and distribution costs, the cost of maintaining large inventories, and any loss of business that results from reduced service and customer dissatisfaction because the plant is distant from the market.

Hoover emphasized that transportation costs are not necessarily proportional to distance. They also depend on the form of transportation and rates involved. For example, water transport of bulky materials over long distance is the cheapest form of transport; transportation via railroads tends to be more economical for long hauls compared to truck transportation. Trucks with relatively low terminal costs are more economical for short hauls. Freight rate charges and their peculiarities are a major factor in location. For example, railroads generally charge more for finished products than for bulky raw materials. This tends to draw manufacturing closer to the market.

There is a relationship that Hoover considers between the value of the goods and transportation charges. If the transport charge is small compared to the total cost of the delivered article, the goods are capable of bearing a high transfer cost, as in the case of high-value, low-weight goods, i.e. small electronic parts.

Whatever the conditions or rates, industry responds to transfer costs by seeking to reduce them. They can be reduced by selecting a point with best access to market and raw material source. Because both are by their nature likely to exert a pull in opposite directions, a balance must be set up concerning the relative advantage of one point over the other. Thus Hoover introduced the terms "orientation to raw materials," "orientation to market," and "location at intermedial points," i.e., footloose industries.

To determine best location, Hoover employs a diagram in which transport costs are plotted in terms of procurement cost and distribution cost. In viewing such a diagram the cost line with the steepest gradient indicates whether industry should be located near raw materials or market, or could be considered footloose.

Fig. Gradients of procurement cost and distribution cost per unit of product for processing locations along a route between a source of material and market. In the case of intermediate orientation, or footloose industry gradients would be nearly even intersecting at midpoint on the Miles Scale.

The moderating factor introduced by Hoover involves production or processing costs. He contends that the producer will strive for that combination which results in the least cost location. This combination includes consideration of land rents, wages, tax rates, interest rates, and the like. Accordingly, high land value may be offset by low processing and marketing costs at a given location. Similarly, low land values may compensate for higher processing costs. Therefore, selecting an industrial location involves a choice among sites that have different combinations of production and transfer costs. The advantages and disadvantages are weighed against the respective rate charges, as well as against each other.

The Real World

Criticism of early location theory is that it dealt mostly with costs as a product of spatial differences and slighted those factors not readily measurable. Today, geographers and economists are constructing models and trying to find exponents to fit the real life situation. This does not mean that theorizing is a waste of time. Theories will ultimately produce the best place to locate (on the basis of inputs into a model), but we continue to find that the plant location decision makers do not always choose whatever may be deemed the best place as derived from a model. Currently models are more accepted as measuring a location “after the fact” than for making an industrial location decision.

The earlier explanations of industrial locational activity have also been criticized on the grounds that site selection involves more than merely finding a location that minimizes transportation, production, raw material and wage costs. Maximum profit is involved, which includes a comparison of costs of the location, demand or income factors, and personal factors.

A firm seeking to maximize profit (and it is assumed that the typical firm does so) may choose a certain location to gain a competitive advantage over other firms. For example, an intermediate supplier of components to a major customer may choose an otherwise uneconomic location to protect a market. Even if the selected location is not the least cost location, it may still be the most profitable location. Both cost and demand factors are involved. Melvin Greenhut is one of the leading exponents of the maximizing profit approach. He argues that the more competitive the market, the more industry will be inclined to seek and adjust to the maximum profit location. The location selected will then also depend on such demand factors as: 15

1. Elasticity of product demand (its responsiveness to price changes)
2. Location of competitors
3. Importance of proximity to customers
4. Importance of direct contacts with customers
5. Extent of the market area
6. Relative competitiveness of the industry

Cost factors still include land prices, labor and management costs, community facilities, housing availability, State labor laws, cost of materials and equipment, and costs of transportation all exert their influence on location choices. Personal considerations represent an additional locational force included in Greenhut's profit maximization approach. They are most often strong operative forces in the case of firms in which an owner or future manager is personally involved in selecting plant locations.

The forces involved in any real life location decision include both cost factors and demand factors, as well as the probability of personal factors. The location presumably selected on a rational economic basis is the one that is intended to contribute most to the net profit of the operation of the plant in the long run. The next chapter will examine the various factors that enter into a location decision and attempt to evaluate their role and to become aware of many nuances of the factors that influence industrial locations. Since there are no definitive models to determine the “best” industrial location, we will depend on the location factor approach proposed by Fredrich Hall. Portions of each theory, however, do apply to specific situations in the real world and help to understand the locational behavior of firms. In effect, we will attempt to blend the measurable and the non-measurable location factors to establish a base of knowledge to serve the purposes of a community industrial development program.

Selected References


6. THE LOCATION FACTORS

Although it may appear simple for the businessman to make location decisions, it is only because he has a long-term, day-to-day experience with the requirements and locational factors of his business. In reality, a systematic analysis for a plant location is generally made in terms of a number of plant location factors. This is particularly true when larger firms are involved. The number and definition of factors that can affect plant locations vary but they can run into the hundreds. A breakdown of the major categories for location factors usually include an examination of the role of:

- Raw materials
- Transportation
- Markets
- Labor
- Capital
- Industrial energy
- Water
- Climate
- Ecology
- Community factors
- Site Factors
- Natural resources

The role of these factors in a location analysis will vary widely from one industry to another. Since the industrial environment is highly dynamic, their importance will also vary within a particular industry and from one time to another.

While the above may be considered as the factors of immediate consideration in an analysis of a location, other influences, such as historical chance, technology, or the interdependence of various industry sectors also may be reflected in a location decision.

The location factors are interrelated and interdependent and must be weighed together when industry makes location decisions. The desired result usually requires a compromise, but a compromise that offers flexibility in the firm's location choice. Some of these factors are measurable as costs to the business. A satisfactory balance which brings profit may be attainable in many different places. Other factors are not measurable perhaps until a new plant starts operation. Subjective judgments concerning the non-measurable factors enter and shape the final decision — a decision that can be influenced by preconceived notions, personal desires and community salesmanship. For the community to influence these decisions, they must know how the businessman evaluates the role of the location factors as they may relate to a particular business.

ROLE OF RAW MATERIALS

It may be facetious to say that all manufacturing industries require some raw material. However, this is in fact the industrial process — to convert or transform raw materials into goods. The processing of a basic raw material into several intermediate products which in turn become a raw material for other industries is a characteristic of the manufacturing process. Under some economic and physical conditions, supplies of raw materials exert a dominant influence on location. This is particularly true where they are of an extractive origin and are not distributed evenly over the earth's surface. Materials as a primary factor in location are those that are characterized as weight losing. Raw materials exert a secondary influence as a location factor where the influence of the location of a plant is more dependent upon labor supply or in the case of market-oriented products.

Supply

Although in recent years raw materials have been less important than labor and markets in attracting new industry to rural areas, many new plants continue to be established in rural areas because of the local availability of agricultural products, forest resources, minerals, natural gas, petroleum and water power.

Natural resources, where they act as a primary location factor, have drawn industry to the rural areas because of competitive advantages over other areas. These advantages are of the following types:

1. Lower cost resources, e.g., low-cost electric energy or natural gas
2. Materials closest to the market, e.g., phosphate rock

3. Materials available in larger quantity, notably in terms of reserves for the future, e.g., pulpwood

4. Materials that can be developed at low costs and in adequate quantities, e.g., the agricultural products on which meat packing and the dairy industry are dependent

5. Lower cost materials made usable by technological achievements, e.g., cruder wood pulps for newsprint

Ubiquitous Raw Materials

Some materials of manufacture can be found everywhere. Such materials, where part of the manufacturing process, may be air, water or some forms of fuel. For example, the modern iron and steel industry uses more oxygen than any other industry. When ubiquitous raw materials are a major component of the manufacturing process, they may contribute strongly to the locational decision. For example, the addition of water to a product usually is a weight-adding process and tends to pull location toward markets. It requires much advertising to convince the public of the need for some special quality in water to produce a product that can return the cost of shipping water. There is a tendency to regard ubiquitous kinds of raw materials as universally available at nearly the same costs. This is not always the case, for example, the cost of water can vary considerably depending on both quality and quantity.

Substitutability of Materials or Products

It is possible to vary most industrial processes so as to use relatively less of a given material where it is expensive and more where it is cheap. Thus the proportions of materials required are not, in fact, constant but vary according to the relative delivered prices of the respective materials at different production locations.

In many industries, also, it is possible and profitable to vary the proportions or the quality of products to get the products which can be sold more profitably. Oil refineries, for instance, can vary their yields of various grades of refined products or paper plants can vary the composition of pulpwod in response to changes in relative demand and price. Flexibility, the ability to substitute in the proportions of materials and products, affords some processing industries a greater choice of locations than they would have if specifications and proportions were rigid.

Perhaps nowhere else is the role of substitutability more thoroughly demonstrated than in the utilization of plastics as a wood and metal substitute, synthetic rubbers for natural fibers, or synthetic rubber for natural rubber. Innovations such as these have created many so-called "footloose industries" no longer tied to one raw material source.

The possibility of using substitute materials can strongly affect the decision of whether or not to locate near the source of a given material. In the past the consideration weighed in the choice of location for a steel-making plant, for example, was that either pig iron or scrap could form the main charge into the open-hearth furnace. But today's major production of steel comes from the faster operating basic oxygen furnace. Unlike the open-hearth process, its charge must be between 65% and 80% molten pig iron; therefore, most basic oxygen furnaces are built near blast furnaces to directly receive the molten iron.

Changes in technology can reorient the relative pull of a raw material. In steel manufacture, before the development of the by-product coke oven, coal was a high-weight-losing raw material and tended to dictate location of the industry near the coal fields. Extraction of the coal tars, etc., from coal has mitigated against the weight-losing character of coal and permitted market orientation of much steel production.

The Locational Influence of Raw Materials

The degree of attraction exercised by materials varies widely according to the materials themselves, the processes that use them and the techniques available in distribution and utilization. Not all manufacturing enterprises draw directly upon the products of extractive industries (mining, agriculture and forestry) for their essential supplies. Many utilize the products of another industry or process as their "raw material," and the conditions of supply naturally differ greatly from those under which raw materials from the extractive industries are obtained. Industries rarely use only one material. More commonly they draw upon a number, for each of which the conditions of supply may differ, thus introducing a considerable complexity into the picture. For example, the end product of a plant making timing devices would be a timer. But the timer is a raw material for a plant producing stoves and ovens.
The extent to which the raw material has power to attract industry to its source will vary according to the material in question and the process that makes it useful. There are several straightforward cases to understand. Does the raw material while undergoing processing lose a great deal of weight or bulk? Is the material perishable? What is its value per unit of weight? Is it possible for the process to use another material as a substitute for the one currently favored? How many materials are used and in what proportions? The role of raw material assembly in location decisions will depend to a significant extent upon the answers to these questions.

**Weight-Losing Raw Materials**

If the material loses greatly in weight or bulk in manufacture, the industry will be attracted to the source of production to avoid transport costs on useless weight and bulk. The manufacture of beet sugar is an example, for the weight of the raw sugar extracted in a sugar beet factory is only one-eighth of the weight of the materials (beets, coal and lime) used. Sugar beet refineries are most often located in close proximity to their main raw materials. This simple proposition can be affected by other considerations, notably the structure of freight rate charges (which most often favor the transport of bulky raw materials over finished products), or by the possibility of a by-product arising out of the process, the use of which may affect the location decision by increasing the value of the raw material for the initial processor.

The degree of perishability of material is important in assessing the strength of its attraction for manufacturing industry, for a perishable material, or one that travels badly, will naturally attract to itself the processes using it. Sugar beets again are an example, because the sugar content declines rapidly between the harvest and processing. Fruit and vegetable canning and preserving generally are found near the sources of supply, as are milk processing industries.

The value of the raw material per ton will also be significant, for a material of high value, such as wool, can bear a higher cost of transport than a material of low value per unit of weight like copper ore. Transport costs will add less, proportionately to the cost of a higher value material than to one of lower value in spite of the fact that railways and other forms of transport normally charge higher freight rates on more expensive than on less expensive commodities.

The pull of the materials will depend on the number of materials involved and their relative importance. The attraction of one material in one direction may be countered by the pull of another in a different direction, and in general, as the number of materials used increases, the influence of any one will decline, unless it is one that loses much weight. The iron and steel industries, again, use several important raw materials, and raw material-oriented locations based on access to coal, to ore, or to scrap can be found. Many modern industries — radio, television and electrical industries are good examples— use numerous materials or components. None are significantly weight-losing or perishable, and they are required in relatively regular quantities. Beyond actual availability in such industries materials exert little, if any, influence on the location decision.

**Transportation**

Transportation is the connecting link among the various source situations that increase or decrease the attraction of industry. The cost or difficulty of movement can prevent the free flow of materials to where they might ideally be required. Where transport facilities are not highly developed, material supply considerations exert a greater influence in location decisions.

**Raw Material Costs**

The expenditure incurred in acquiring materials involves both the cost of extraction or production and the cost of transport to a processing point. The cost of extracting a mineral, or of a component, will affect location choice only if there are significant variations in the price at several sources. The case for such variations is being reduced or eliminated, sometimes by agreements within the supplying industry. There is also the tendency for large corporations (in steel and automobiles, for example) to extend their ownership to include major sources of material so that the supply and price are completely within their control. In many instances the cost of materials at source can be ignored as an influence on plant location where a company is highly integrated and controls the source of its raw material. However, transport costs will still be a vital matter not only in selecting the location for the factory but also in deciding between alternative sources of raw materials and components.

Where the manufacturer has to obtain materials from suppliers, it is the pricing policy of the supplier that is important. If a uniform delivered price situation prevails, as is often the case today, the cost of the material to the manufacturer will of course be the same anywhere. The effect of raw material price as an influence on the choice of plant location will not be great.

Where uniform delivered prices are not established, transport cost again becomes a dominant location factor.
Historically, the location of steel plants was greatly affected by pricing policy to the consumers. When Pittsburgh emerged as the center of the steel industry, the steel industry set the price of steel at “Pittsburgh Plus” whatever the transport charge to the customer. When a steel plant at Gary, Indiana, sold steel in Chicago, it sold it at the same cost as if it had been shipped from Pittsburgh. Until ended by the Interstate Commerce Commission, the steel companies rather effectively were able to discount any relative pull the market for steel would have exerted upon the location of steel plants. There have been many such attempts to thwart the strong role of transportation cost. However, in today’s highly competitive industrial environment, the variations in the cost of production are close compared to those that may arise out of transportation cost. The difference between profit and loss may very well be found in the cost of transportation in securing raw material and final distribution of a product.

ROLE OF TRANSPORTATION

We have already noted that most of the approaches to location theory have been related to the role of transport cost, in part probably because most of the aspects of transportation cost are measurable. However, lowest transport cost may not necessarily coincide with lowest total costs, particularly where high labor cost may be involved. Total transport cost is composed of the total incoming and outgoing freight bill.

In the field of transportation, new technology and changing cost patterns have tended to improve the advantages of certain areas. The development of truck transportation, which has had a revolutionary impact on transport costs, has tended to promote the decentralization of industry. For instance, the relative decline in the cost of short hauls and large lots has helped the Southeast and the West in their industrialization. The National Interstate Highway System has put practically all of rural America on “Main Street, USA.” In addition to cost differentials, trucks are also able to offer speed and service not always available from railroads or water carriers. Furthermore, they can offer it at origins and destinations that have no rail service at all, though normally a firm will seek a choice of route and method of transport.

Other developments in transportation have opened more distant markets to producers. These include the development of “piggy back” and “seatrain” services, the growth of air freight, extension of the waterway system and pipelines. These developments tend to reduce the cost or improve the service on long hauls as against short hauls, countering the advantages of the truck. In some instances they also reduce the differences between regions by broadening the locational choice of a producer to serve stated markets.

An examination of the raw material supply patterns of industry indicates that the traditional role of geography has altered (i.e., distance equals rising cost). In the first place, the raw materials of more and more industries are now drawn from manufactured sources rather than natural ones. The former are more widely distributed than the latter. Second, the reduction of tariffs and the gradual freeing of foreign trade have opened up foreign sources that can provide materials at port facilities at competitive costs. The location of traditional raw material-oriented plants in response to market factors, even within industries that have traditionally been resource based, has become possible.

Finally, technological growth has permitted the development of resources in areas where those resources were previously uneconomic. Where the best deposits of ore or stands of timber have already been used, remaining sources are more widespread and do not have as strong a location pull as the prime sources had. Through the use of improved processing methods, the economics of remaining sources have tended to be equalized. What is really implied by this is that the factors that dictated locations in the past are not necessarily relevant to future location determination.

Cost vs. Service

It is well to emphasize that wise selection of a plant location requires the attainment of two transportation objectives — low cost and satisfactory service.

Where transportation costs are of major significance and competition among producers is active, a concern will try to minimize these costs by locating its operations where the total costs of assembling materials and delivering completed products are at a minimum. If concerns use different sources of materials and aim at somewhat different markets, competition may be less direct and the pressure on transport costs somewhat reduced. Yet transport costs must be kept down or competitors will be able to widen their market territory. In industries where there is little price competition, including the situation where the product can be differentiated in one way or another from similar products, the concern may locate its plants primarily with respect to assembly costs and handle the problem of delivery costs by adjusting the price to the final consumer. In such semi-competitive industries, there may be less pres-
sure to select a location where assembly costs are at a minimum, since the company does not face possible loss of sales or profit by locating at a point more convenient to the management.

Reducing Transport Cost

Opportunities for industry to reduce transport costs are primarily of three types: (1) a decrease in the transportation movement, (2) using lower rates, and (3) a saving on service.

1. Decrease in transportation movement. In locating a plant, the total volume of freight movement can be reduced by holding down the weight and volume of materials and goods and by cutting the length of haul.

2. Using lower rates. Reduced movement of more expensive commodities — another means of reducing transport costs — is accomplished by taking advantage of customary rate differentials. In most industries the transportation costs on finished products are higher than those on raw materials. These higher rates result mainly from the increased value of the product per unit of weight, an increase in space required per unit of weight, or an increase in fragility. Under such circumstances, the plant is pulled toward the center of the market; or if most of the materials come from one direction, the balance of the forces so far as transportation is concerned is likely to be between sources of materials and the center of the market.

Availability of water transportation may be an important element in plant location where large quantities of low value materials have to be moved at low per ton costs. Often the range of access can be widened only by using water transportation. Thus, a wood pulp plant can afford to obtain timber from a much greater distance whenever water transportation is available. Also the location is strengthened by the larger potential supply area. Moreover, when a plant has to obtain materials from a given source, and is to be located within a market area, it will give preference to locations on waterways if it is feasible to move parts and supplies by that means.

3. Transportation services. The aspects of transportation service which are of significance to plant location decisions include special facilities, frequency of service, convenience of service, and time in transit. Savings can be achieved in services available that may be significant to the location decision. For example, special handling devices that permit expeditious loading and unloading of materials or products can provide savings. There are other examples, i.e., once-a-week service in or out might require larger storage space and/or increase inventory costs significantly.

The quality and dependability of transportation service are, sometimes of greater importance in the location of a plant than the achievement of the lowest possible transportation costs. In many cases the location of plants is conditioned upon the availability of regular shipments within certain time limits. By and large, the two major transportation objectives are not inconsistent with each other. In most instances, transportation costs can be minimized and satisfactory service obtained.

The role of air transportation for both executives and cargo cannot be overlooked. Executives are making extensive use of company-owned aircraft, and are more frequently recognizing the value of the corporate airplane in paring executive travel time. Business flying already accounts for almost half of the miles flown by general aviation aircraft, and its fleet includes two-thirds of the 14,500 multi-engine planes registered in the general aviation category. Business flying will step steadily ahead in coming years. After all, a community like Wolf Point, Montana, can argue that it is now only 5 hours and 15 minutes by air from New York. Further, if the Wright Brothers had invented the airplane before the blizzard of '98, that may have been the only time that planes were "stacked up" over Wolf Point.

Conclusion

Transportation plays a critical case by case role in plant location. Freight rates and traffic services set the framework within which a concern solves the problem of selecting the best place for the assembly of materials and the distribution to the market. The physical characteristics of a manufacturing process and the transportation aspects will often determine whether a plant is market or material oriented. Changes in freight rates, particularly in rate differentials between materials and finished products, and changes in availability of service may in time considerably alter the geographical pattern in an industry. Readjustments such as these move in the direction of strengthening the ability of nonmetropolitan manufacturers to reach national markets. Busi-
nesses are more and more aware of the flexibility they have in making location decisions when they recognize the transportation changes that affect their business. Community development groups that can perceive these changes can also take advantage of this situation. The way they seek industrial prospects that will best fit their community is a reflection of their understanding of not only the role of transportation, but all of the location factors.

THE ROLE OF MARKETS

The decision to build a new plant is occasioned by the belief that the product to be manufactured can be sold. Industrialization patterns in the United States reflect this in the way the location of industry matches the centers of population and expanding settlement. Market-oriented industries initially were highly concentrated in the Northeast and on the Atlantic seaboard. As the United States center of population has shifted westward, manufacturing has followed. Raw-material-oriented industries were located at the best source of those raw materials, which in many cases was the West or South. As cost of manufacturing increased in the traditional centers, many of the labor-intensive industries sought location in the South, where labor was abundant, lower cost, not affected by union activity, and promised higher productivity.

Older market relationships have been changing and major new regional markets have developed within the United States. Slowly at first, but accelerating since World War II, these changes are lessening the comparative advantage that certain regions have traditionally enjoyed because of population concentrations. Nevertheless, there are still important differences in market factors, and these are likely to persist in relation to the national and regional population centers. Markets are the dominant factor in many industries. Probably more than one-half of the products manufactured in the metropolitan area around New York City are consumed within the area.

It is important to differentiate between consumer markets, which are generally related to population and income patterns, and industrial markets, which are related to centers of manufacturing or specific industry. There are important differences in the geographical distribution of consumer and industrial markets, although these differences are not as great as before major regional markets were developed.

Consumer Markets

If a manufacturer requires a market with an assured minimum volume of sales, his choice of location may be restricted to cities of a given size, and his decision may also be strongly influenced by the location of competitors and their likely reaction to his entry into the industry. All of these and many other considerations are relevant to the effect of the nature of consumer markets on plant location.

The second way the market can influence plant location is through its effect on costs. Finished products have to be transported to the consumer, and where incoming cost is substantial, additional high distribution cost may reduce profits substantially. Proximity to a concentrated market, or a central location if customers are dispersed, can thus be an advantage to some firms. The nature of the market and its geographical distribution will affect a manufacturer’s profits both through his costs and through the price he can obtain for his product.

Consumer markets are still highly concentrated. Half the retail sales in the United States are made in an area extending from Boston to St. Louis. Some States in this area have a density of market several hundred times as high as some States outside the area in spite of the growing markets of other parts of the country.

That this situation is changing is obvious from the higher population growth rates of Western and Southern States. However, much of this growth has, up to now, been concentrated in oasis-like areas in the West, such as Southern California, around Phoenix, and parts of Texas. In between, there are vast areas of very sparse consumer market, which adversely affects the market strength of these growth areas.

For many industries a growing regional market will be attractive for new or branch plants. The South, with growing income levels and a sizable population, has developed a recognizable market for consumer goods. This, plus proximity to Northern markets, has greatly influenced Southern industrial growth.

Industrial Markets

Industrial markets have been highly concentrated. About two-thirds of all manufacturing employment is still in the Northeast. These markets have traditionally been concentrated by industry groups in certain regions or even one city. For instance, the automobile industry
has been concentrated in and around Detroit, the rubber industry in Akron, optical goods in Rochester.

The tendency of consumer markets to disperse has been followed by a similar tendency for industry to broaden its locational patterns. Along with the dispersal of consumer markets and construction of new plants to supply it, there has been a broadening of the industrial market. Suppliers of products to the consumer goods industries have sought new locations near their customers. This can be a source of other new plant locations and should be considered when any new plant locates in a community.

Conclusion

Since the product manufactured must be sold, the market considerably influences location decisions. Many businessmen consider the attraction of the market to be so strong that they may regard a location central to the market as the “norm.” Location other than market induced would need to be explained by cost advantages that would outweigh the attractions of the market. Local development groups representing communities that may not appear to meet the norm the businessman has in his mind must develop a rationale for the cost advantages that would prevail for a location in their community; e.g., lower labor cost or market shifts might balance favorably against transportation cost.

Communities understanding the role of markets could apply this understanding in their efforts to contact those market-oriented industries they believe have the most potential for their area. For example, communities in California could seek the industries whose markets are expanding on the West Coast and whose plants are located elsewhere, and vice versa.

ROLE OF LABOR

A supply of labor is basic to the transformation of raw materials into finished goods, and the wages paid for that labor vary significantly among regions. Wage differences as high as 25 percent between developed urban areas are not uncommon. Differences between urban and rural areas are even more striking.

Labor Supply

Though a supply of labor is fundamental, the importance of labor in location decisions varies widely from industry to industry. In some of the “footloose” industries, where transfer costs do not play a leading part, labor considerations are by no means paramount. In many industries, however, geographical differences in labor costs are significant in the location decision. Even where labor is not a factor of high importance, few firms will be indifferent to labor considerations.

A firm will normally wish to find an adequate pool of the kinds of labor it requires in a prospective location. By locating in an area with a labor pool, the employer can also find the essential amenities such as housing, water supply, sanitation services, schools, public transport services and so on. There are many reasons why industry seeks a location where the labor force is already in place. Probably the most compelling reason is that few firms can afford to pay the cost of moving large numbers of people. In special circumstances where a bulky raw material must be processed at or near its source, construction in a new location may precede the existence of the necessary labor supply. From an economic point of view this is extravagant, and is justified only by special circumstances.

Labor cost variations are not entirely, or even mainly, a question of differing wage levels. High wage rates are not in themselves disadvantageous. Of equal or greater importance are such factors as labor attitudes, turnover rates, fringe benefits, absenteeism, and the possibility of having to compete with other firms in the vicinity for available labor. All these factors directly affect productivity. Where worker-management relations have become strained or there is a history of labor conflict, the environment may not be attractive to firms seeking a new location. One of the most difficult tasks a community industrial committee may have to do is produce a “new image” of its labor force if there is a history of labor conflict in the area.

Labor attitudes are naturally reflected in many ways, but most significantly in productivity. In old established industries, for example, the question of the proper amount of work that each individual should undertake is apt to develop. An increase in “work load” is often strongly opposed even when productivity needs to be increased for a plant to remain competitive. Where a technical advance makes it possible for one man to look after several machines, employees may refuse to accept a change in the previous work assignment. Such opposition to innovation is, of course, not a new thing in human affairs, and probably it often contributes to the decisions of management to build new plants.

The size of town can also affect labor costs, and not only because of the wage differential between large and small centers. Although a large town possesses many advantages, some firms favor smaller centers where they
can maintain certain other labor cost advantages apart from the slightly lower wage level. Such added advantages include a lower rate of labor turnover (fewer alternative jobs are available), lower rates of absenteeism and generally favorable labor attitudes. At the same time, because of size of a labor force, there may be less freedom in recruiting workers and terminating their employment than in a large center.

The Area Labor Force

The most important job of a community industrial development team is to identify the area labor force. Labor supply considerations include more than the physical existence of labor. Type of labor, its age and sex structure, and the level of industrial skills are also important. Male and female labor is usually in "joint supply," that is, where there is one there will be the other also. Thus an area with industries employing a large percentage of males may well be a favorable place to establish an industry employing mainly female labor or the reverse. If the employment base for an area is to grow it must obviously attract new sources of employment, and/or encourage present sources to expand. To do this the area must be able to convince new firms and existing firms that the necessary physical resources can be obtained in the area at acceptable cost and must also make the numbers in the area labor force known.

The first look at figures for the labor force may reveal the contradiction that, in areas where the community can see evidence of high unemployment and underemployment, both industrial and political representatives may report that the labor market is "tight," citing an official unemployment rate of approximately 4-6 percent.

A belief that a tight labor market exists has costly implications for the growth of the town. If the belief is true, the town's advantages for outside industry are low. Even if it is not true, the town's ability to attract outside industry will be reduced because of discouraging answers to inquiry from prospective firms.

Several explanations for the belief that a tight labor market exists can be given. Firms may be reporting true experience but are using misleading terms. Based on the firm's past experiences, the firm is being forced to hire lower quality workers than in earlier years when it was the only industry and getting the cream of the labor force. The cream of the labor surplus is gone; therefore the labor market is considered to be "tightening." Saying that "the market is tight" implies that workers can't be found even if a new firm coming into the area pays higher wages or is willing to absorb greater training and supervision costs. For that matter, the new firm may only require an unskilled labor force. Also, it is sometimes to an existing firm's advantage to understate the available labor force, in order to protect its labor pool. State Employment Services may understate unemployment (and the potential labor force), thus leading to the impression that a tight labor market exists. They can do this in several ways: only those who register as unemployed and seeking work are recorded; agricultural workers are not included; official labor market area boundaries are not always comparable to commuting distances. Furthermore, many underemployed workers are unrecorded. They could become full participants in the labor force if the opportunity was presented. Small farmers or housewives are not counted as available for employment by official agencies. This potential can be summarized in four categories: underemployment, unemployment according to the local employment office estimate, non-participants, and those not counted.

The rural labor force can grow in several ways: replacement rates are higher in rural than urban areas; non-residents of the area migrate in; the boundaries are extended, perhaps through a better information system or a transportation improvement; the participation rate rises, for instance through the entrance into the work force of housewives or other non-registered residents; through natural population increase (excess of births over deaths); or outmigration declines; and surveys have demonstrated many former residents of an area will return when jobs are available.

An additional option is open to better-paying employers: underemployment in rural areas is pervasive. For an industrial employer, the underemployed represent perhaps the largest segment of the labor force available for employment without producing labor costs in excess of those prevailing in the manufacturing industries. When industry comes into a small community, it does not exploit "our labor supply" in so far as the people being employed are concerned. Prevailing wages in the manufacturing sector are generally higher than most categories of employment previously existing in rural areas.

All of the kinds of people discussed are part of the area labor force. If they are not included in labor force figures presented to industrial prospects, the community is seriously shortchanging itself. Often the only way a community can obtain adequate labor force information is to conduct its own survey. (Appendix I presents a labor survey form.)
Labor Market Boundaries

The labor market has geographic boundaries, and these boundaries are measurable in two ways. First, what size area do new firm managers believe they are capable of drawing labor from? Second, what size area are firms presently drawing their labor from, in terms of commuting patterns? Distances people will commute are generally related to their wages. Generally men will commute greater distances than women. For example, an industry that pays a higher than minimum wage will normally expect to attract labor from a greater distance than a minimum wage industry. Existing wage levels are indicative of the area in which a new firm will actually try to recruit. They also indicate the area which a community should identify to industry prospects who are studying a prospective labor market. The larger the perceived area, the larger the geographic area on which firms are likely to have an impact in the labor market, and the greater the assets of the labor force, the more the town has to bargain with when seeking new industry.

The town with a population of 516 whose labor survey reports 74 people available for full time work, when there are more than 40,000 people in the county which is classified as an area of substantial unemployment (an actual case) has missed the boat completely. Businessmen who have experienced high labor turnover rates (as much as 10 to 1 in some urban areas) would not give the time of day to such a community even if they were only hiring 10 people.

Conclusion

Supply and cost of labor are dominant factors in the labor-intensive industries, i.e., textiles, shoes, electronics, small appliances, etc. All are highly competitive industries, and many have opted for foreign locations in response to competition (Chapter 2). When a labor-intensive industry, in fact any industry, looks for a new plant location, it seeks a labor force in place. Therefore, a community needs to know about the size, attitude, skills and availability of the labor force. Communities that have adequate labor information have an advantage over others that have not done their homework. They are in a position to benefit from the advantages that are inherent in all nonmetropolitan locations.

The primary advantage of rural labor and the goal of industry in seeking it, is not so much lower hourly rates, but higher productivity. These combined facts are being profitably discovered by a growing number of manufacturers of labor-intensive products even when a trade-off has been made against transportation costs.

In the smaller towns and open country, the number of people tends to exceed the number of available jobs; each year farmers are producing more food with fewer laborers. Farm jobs still mean hard work for long hours, and relatively low and irregular pay. Similarly, small town retail and service jobs offer limited opportunity. But jobs in industry offer relatively high and regular pay. Therefore, industry usually has its choice of workers in rural labor markets.

In the city the situation is reversed. White-collar jobs are usually plentiful. They confer social prestige, and many of them actually pay better than do most factory jobs in labor-intensive industries. In the city industry may get the remainder of the labor market. There is a vast difference in the production and quality achieved with leftovers and with the pick of the market — even if wage rates and working conditions are identical.

There are forces, both regional, and rural vs. urban labor, that tend to narrow differences. They include union organization and collective bargaining (particularly at the national level), Federal minimum wage laws, and the migration of industry itself. When industry moves into an area, it increases employment. If other plants later locate in the area, the demand for labor may put an upward pressure on wages. This may reduce the local or regional differential that previously existed, but on a national scale the differential will prevail longer. From the viewpoint of the community, as long as wages are not out of control, the attendant increase in per capita income is most desirable.

The trend toward equalization of local and regional wage differences is also true to some degree in labor availability. Skills that at one time were highly concentrated in traditional industry centers have become available in many other areas as the result of population migration. The attractiveness of living conditions in the nonmetropolitan areas has been so strong that significant numbers of highly skilled people have been willing to work in rural areas at lower pay differentials, providing there is an opportunity to use their specialty.

THE ROLE OF CAPITAL

The need for capital can affect the location of industry and the costs and methods of production. The availability of capital varies regionally and with considerable differences in the degree of mobility. The availability or nonavailability of capital has geographical distribution which can influence the location of economic activity. Geographical variations in the price of
Capital are not necessarily related to variations in the price of labor. Whichever is the cheaper may be used by skillful management to offset the disadvantage imposed by the factor with the higher cost.

There are two kinds of capital required for industry, fixed capital for goods or equipment and working capital. The two are closely connected, for the objective of securing working capital is to procure equipment, working inventories, and to cover other initial overhead costs. But there is a significant difference between the two. Capital equipment in place is relatively immobile, and this is especially true of the heavy equipment which is basic to many industrial processes. The value of fixed equipment lies in its capacity for output or as scrap. Heavy investments in fixed capital are not willingly "written off" until a useful term of life has been served. In contrast, working capital is much more mobile, though degree of mobility depends on a variety of considerations.

Capital is a commodity which, like any other commodity, has to be bought. The quantity available for any particular use depends, other things being equal, on the price offered. Normally there are many possible outlets for investment capital and any proposed use must compete for it at the prevailing prices (i.e., the rate of interest), with due consideration for the security of the investment and the certainty of returns. In the money centers "risk" or venture capital for the promotion of new enterprises or the development of a growing area can be more readily available. The movement of a number of smaller aircraft manufacturers to Texas, Oklahoma and Kansas is attributed to the readiness of local oil financiers to put up the necessary money. Capital can be highly mobile internally, but in many rural areas the processes for facilitating capital movement are not perfected. Much depends on the local economy, the growth prospects and the governmental stability of an area where investment is proposed.

Even where money may be available, it is generally extremely difficult to secure the venture risk capital necessary to get a new enterprise started. The reason is that venture capital is characterized by any or all of the following: Investment in something new with high risk balanced by high potential reward, "seed" or start-up money, undersecured investment, or investment motivated by the prospect of capital gains.

A firm usually experiences three situations based upon the firm's strength when it attempts to secure venture capital. Initially the source of money is the entrepreneur's own resources or those of his relatives and acquaintances. This financing is characteristically high risk financing in view of the uncertainty which surrounds a new venture and the lack of predictability of success of the product or of management for the venture. The starting of a new firm could probably be characterized as the "When a fellow needs a friend" phase. A well-organized, informed and enlightened community development group could be such a friend. A prospective entrepreneur needs a friend at this point because access to "organized" venture capital sources is practically excluded from him.

Organized sources of venture capital are really to be considered institutionalized rather than just organized. Venture capital is concentrated in the larger financial centers and displays a reluctance to engage in small venture financing. Often reluctance is rationalized on the basis that most enterprises start out so small that the dollar requirements are not great enough to interest organized venture capital sources, and further, that the processes for appraisal of a venture proposal are costly and time consuming in proportion to the initial capital required. There are exceptions, of course, where the entrepreneur has an idea with substantial potential and has done his homework thoroughly.

Entrance into the second phase of financing to become interesting to venture capital sources depends upon a responsible track record. This does not mean that the problems are ended for a new enterprise. At this stage the effectiveness of the local network of sources of venture capital is the factor that limits availability of money. Availability of finances at this point may be limited by lack of knowledge and lack of responsiveness of capital sources primarily on the basis of geography. Even when venture capital is available at this stage, it may be costly to the extent that it may limit the firm's financial ability to succeed.

The third phase usually begins at the point where organized sources of financial capital become available to small firms even in nonmetropolitan areas. It is at this point that the firm is able to sell stock. At this phase entrepreneurs usually have gained a knowledge of sources of capital, have established reputations in the business and financial community and their financial planning reflects good management. New money becomes available but an entrepreneur must give up a part of his ownership and control to obtain venture capital for expansion. He may still seek financial assistance from a community.

Only by a freer flow of capital to rural economies can they hope to improve their ability to respond to the
financing needs of industry. Some of the essential capital inflow can, and does, come in the form of government loans and grants. This particular flow often is affected more by political than by economic considerations. Such assistance is a vital element in economic development programs, but is not always accompanied by consistent economic reasoning. On the other hand, the private investor distributes his capital for strictly economic motives. He needs to feel some security in his investment, an expectation of acceptable returns and freedom from the fear of mismanagement which might lead even to loss of his assets without recompense. Unfortunately he can often get no reliable assurance on these points and the mobility of capital is again impaired.

The risks entailed by investments in business and industry are not so great as to warrant the conservatism of many local banking institutions. This is clearly shown by the willingness of banks in larger cities to finance projects, after local banks have refused. Most business and industry expansions in rural areas continue to be financed by nonlocal institutions.

The problem is not that insufficient capital is available in smaller cities for development, but rather that capital which is available is not used for such development and is invested outside the area. As much as anything, a lack of experience with industrial type loans causes banks to shy away from them. The actual situation — available but unused capital — suggests that with a little effort to develop some expertise it might be possible to make capital available locally and greatly increase the effectiveness of smaller communities being considered as locations for industry.

Financial Assistance to Industry

In seeking to promote the industrial development of an area and to overcome the obstacles to capital supplies in rural areas, local and State agencies have offered financial incentives as a means of offsetting real or fancied comparative disadvantages. These schemes as incentives usually constitute a reduction in interest rates paid for the use of capital. The capital is made available through loans or lease-purchase arrangements. These incentives have been intended, by reducing the cost of capital, to increase the potential profitability of locating industry in a particular area; or, as is sometimes the case, to make a new venture possible where it might otherwise fail to reach the operational stage.

There are three major classes of such incentives:

1. Loans from local business development corporations
2. Federal or State loan and loan guarantee programs
3. Municipal and industrial bond financing programs

Programs that provide capital through low cost loans, loan guarantees, or industrial development bonds, are more attractive to smaller firms than to larger ones. Generally, the smaller the firm, the higher the interest cost charged from conventional credit sources if credit is available at all. Thus, smaller firms obtain a much larger interest subsidy. Since some small and medium size firms, as well as new firms, cannot get capital at all from conventional sources, the value to them is great. Because it may often be the search for capital that brings an industrial prospect to a community, the community must understand what the capital requirements are and how they are to be met in any proposal that comes before the community.

THE ROLE OF INDUSTRIAL ENERGY

Energy is a crucial location factor for relatively few industries. The cost of energy has primacy in the production of basic chemicals, primary aluminum, and electric furnace operations for ferroalloys and some refractory metals. It has greater-than-average importance for pulp and paper, malleable and ductile iron castings, the rolling of nonferrous mill products, meat packing and steel production.

The theoretical economist tends to measure the cost of energy as a percentage of total manufacturing costs. In contrast, the businessman thinks of absolute costs and cost differences. To put the matter another way, a difference in cost of $2,000 a year for electric power can have far greater significance for him than the percentage this represents of his total manufacturing costs. In this respect he is much like the housewife who drives 10 miles to save 3 cents on a can of corn. A community with low energy costs often exploits this situation just like the supermarket. In doing so, the community should not allow itself to get in the position of fostering an otherwise uneconomic situation.

Energy Sources

The demand for, and form of, energy used by any given industry will vary according to the requirements of the processes involved and the cost of procuring supplies. Energy is demanded in different forms by different industries. In some the main demand is for heat, as in smelting or in most food processing. In others it is
needed mainly to provide a force to drive machinery or to move materials and products. In yet others it is required for chemical and electrolytic processes. In meeting energy requirements, an industry may be able to choose among alternative sources.

Additional flexibility in fuel choice which correspondingly may lower fuel cost is afforded by recognition of the dual role of some energy sources that are also raw material sources. One of the best examples is the use of the by-product coke oven in steel making. Coal is transformed into coke to fuel the blast furnace and the gases are passed through the coke by-product plant and become the raw materials of the coal tar chemical industry. Petroleum, too, has the dual role of a fuel and a source of raw materials, as in synthetic rubber or plastics.

The possibility of substituting one source of energy for another in many industries has been important in bringing about changes in the location of industry. Technological advances have progressively altered the conditions of demand for energy, permitting the growth of new industries in new locations by the substitution of one energy source for another. Where economies were to be gained by such substitution, changes have occurred in the patterns of industrial location. For example, in Texas natural gas is used to generate electricity for aluminum refining and in the Pacific Northwest electricity for aluminum refineries comes from waterpower.

On the supply side, there are important variations in availability of energy over space and over time. The unequal distribution of energy resources across the nation, and the variations in quality, accessibility and general costs of exploitation of known resources, cause differences between areas in the costs or actual availability of energy. The current shortages in many areas of both electricity and natural gas have been responsible for some recent industry shifts. The continued availability of natural gas in Oklahoma and a supply of sand for the manufacture of glass have been especially attractive to the glass industry and several major plants have been built.

The transportability of an energy source plays a major part in deciding whether or not a known resource can be exploited, and which of several possible sources of energy will actually be used in any given location. It is well established that energy supply and costs can vary widely as between regions and can have an important effect on location decisions in certain industries. New technical advance permits economical transmission of electric power over increasing distance but there are still great differences in cost of electric power, both locally and regionally.

There are three broad categories of industry based on the possible role of energy supplies in the location decision. The first category contains many industries in which fuel and power costs are of relatively little importance in location — providing general supply conditions are adequate and reliable, as they are in most advanced economies. In these industries the quantities used are relatively small, or, if considerable, access to markets or to raw materials is of much greater significance.

At the opposite end of the scale there are the relatively few processes where energy supplies remain a dominant consideration in location. However, it is the case in the use of electricity for producing carbon electrodes or in the primary aluminum industry, as well as in other electrometallurgical and electrochemical processes.

Between the two extremes is an entire range of processes in which fuel and power costs influence the location choice in varying degrees, depending on the strength of other costs of production. Because of the advances in supply, transport and use of energy, the influence of fuel and power supplies on this middle group of industries has declined greatly and is still declining.

THE ROLE OF WATER

Water is without doubt the most used raw material in industry. Water is a requirement of all industrial plants and a vital raw material in many. It may be incorporated into a product or be used in processing, in steam raising, in cooling, and for normal sanitary use. The increasing thirst of modern industry makes the satisfaction of water requirements a serious matter in location decisions.

Water Supply

There are several variable factors industry considers in assessing the importance of water in location decisions. The main concerns related to water supply are the quantity and quality of the available resources. The quantity of water available varies from area to area and seasonally within a given area. The number of possible locations for industrial enterprise in a given region may be severely restricted by areawide or seasonal water shortages. This is especially a problem for those industries with heavy water requirements. For a community this is also a problem because heavy water users frequently are the basis of an industrial economy.
The source of a water supply for industry may be either surface or underground in origin. Surface water is generally considered inferior, containing dissolved oxygen, organic matter and other impurities. Underground water is thus preferred where quality requirements must be met despite possibly higher fixed and operating costs incurred in using it. In the industrial areas of the United States, surface water is more widely obtainable in the quantities required and 75 percent of U.S. industrial demands are met from surface sources. Only a small fraction of all water used is actually consumed, i.e., incorporated into the product or lost to evaporation. Ultimately none is lost in the course of the hydrologic cycle. Much of the vast quantity used for cooling or producing steam can be used again and again. This is important because in the United States almost 75 percent of the total industrial water requirement is for cooling.

Clearly there are enormous variations between industries in the quantity of water needed. Users in the older industrial areas of the United States, where water is considered abundant and cheap, have had little incentive to incur extra expense in using it efficiently. However, most large users circulate water, using it several times, decreasing their water cost by reducing total intake requirements. The total water required by industry in the United States would be almost doubled if no water was recirculated.

Water Quality

Water quality whether of a surface or underground origin varies from area to area. The importance of water quality is not just confined to its use in products for human consumption. Specific qualities in water are required for many manufacturing processes, notably in textile production and dyeing. Water quality can be upgraded by various treatments. Industry may consider this to be an unwarranted addition to total development and operating costs of a plant that could be avoided by selecting a different location. Often, simple deficiencies or undesirable properties can be countered by simple and inexpensive treatment. A community should know the quality of its water - both its potential and limitations - in an industrial program. Even good water may be spoiled locally by improper waste disposal that may charge the water with organisms and other impurities too expensive to remove. An industry that requires pure water or special qualities will also examine the methods of liquid effluent disposal in the vicinity of a prospective location.

Waste Water Disposal

Water and waste disposal tend to loom as key cost factors when there is heavy use of water for consumptive and processing purposes. This is certainly true for pulp and paper, textile dyeing and finishing, the production of caustic soda and chlorine, rolling mill operations, poultry processing and various branches of the steel industry.

There are many industries which discharge concentrated organic wastes in their sewage. If such strong wastes are discharged into the sewers of the community, they may overwhelm the treatment capacity of the treatment plant. If discharged directly to a stream, a serious pollution problem will be created, with resultant enforcement action by pollution control authorities. Therefore, many industries treat their own wastes. The anaerobic lagoon is one treatment process that is particularly suited to strong organic wastes from industries such as meat packing plants, animal feed lots, rendering plants, petroleum wastes, and poultry producing plants.

The purpose of the anaerobic lagoon is the destruction and stabilization of organic matter, not water purification. They can be used very effectively as primary treatment units to reduce the organic loading on secondary treatment units, or the loading on a municipal treatment plant if the lagoon effluent is then discharged into the public sewer system.

The cost of lagoon disposal systems have several implications when industry is making location decisions. A lagoon system may require excessive land acquisition and result in higher development costs. In a built-up or "impacted" area they are often a limiting factor in deciding whether an industry can expand at an existing site. Whenever industrial waste treatment by lagoon comes up, there may be thorny ecological questions raised. To resolve them may require more time and money than an industry wants to spend.

With stricter Federal and State standards now in effect, an increasing number of industries which normally consider treating their own wastes will be looking for community situations where public sewage disposal systems can take over. Or, industry will look for open-space locations where they will only be responsible for treating their own portion of pollution. For a community to be attractive to industry, it must have procedures well established for waste water disposal. The
long held assumption that pollution is a necessary accompaniment to industrial growth has been challenged. A well-thought out plan for proper waste disposal is the real accompaniment to industry growth today.

**Conclusion**

Water for industrial use is generally regarded as a cheap commodity. And, indeed, it has to be, given its use in such vast quantities. The actual water and disposal costs incurred will vary widely according to location and site, reflecting, for example, the presence or absence of a local system, the need for additional purification or re-cycling, the costs of pumping and storing and the necessity of treating waste effluents. Water costs form a low proportion of total production costs in industry as a whole. But this is primarily because industry has in fact located where water is supplied cheaply. No firm could lightly consider an operation in an area where water was difficult to obtain and abnormally expensive.

The charges for water utilities tend toward uniformity from region to region in response to physical availability or transmission cost, but there can be as much as 100 percent differences in cost between places 20 miles apart. Differences between location inside or outside city limits can also vary to the same degree. As location decision making process narrows, and cost differential between sites become more equal, such considerations as utility costs loom larger. A community with low cost water, however, should not expect a prospect to be overwhelmed by such cost in relation to transportation or labor cost. Among industries the proportion of water costs and sewerage to total costs will naturally vary according to particular requirements and conditions of supply. A cost for these services that is permissible in one industry may be far in excess of what another industry can afford.

Water availability alone has rarely been the determining factor in bringing industry to an area. Lack of a sufficient developed supply has rarely been a factor in impeding industrial development when all the remaining desirable factors sought by an industry were otherwise available. But there are hundreds of communities that believe otherwise. They have very nearly institutionalized the phrase “If we only had a water and sewer system, we would have industry.”

This does not mean that availability of water and its cost will not be important in future plant location decisions. In fact, in the Eastern States where 90 percent of the available water resources have already been allocated to municipal and industrial uses, industries are faced with severe water shortages. However, considering the availability of various methods for conserving and re-using water, the development in techniques of treating sea and sewage waters for industrial uses, and the possibility of raising the price of water for industrial use to a level which will prevent waste, except under extreme conditions lack of water should not seriously impede future industrial development in any region.

In the West where about 90 percent of water use is for irrigation, industrial development will not be hampered by a shortage of water. In fact, all industries, including heavy-water using industries will be able to bid water away from agricultural uses when needed by purchasing farm land and water rights. There are at present a number of existing locations, even in the East, where industries, dependent upon underground water, have purchased farms adjacent to factories to protect the underground water supply for industrial use.

**THE ROLE OF CLIMATE**

Climate, which is the average of the weather, generally exerts its influences on a regional basis. An industrial locator has the choice of exploiting desirable climatic features or learning to live without them.

The direct relation of climate to agriculture and tourism is evident. Climate, especially extremes of heat or cold and shortages of water, has an obvious effect on many industries. As Hall pointed out, cotton textile mills require high humidity to facilitate spinning. In the opposite situation aluminum pistons who located in Utah for entirely different reasons found that low humidity was a helpful factor in avoiding gas pockets in his castings. To some extent climate will be reflected in costs in intangible as well as measurable ways. Indirectly it can affect productivity and worker recruitment. Directly it can affect heating and/or cooling costs and construction costs.

In some industries the location decision is directly affected by climatic considerations. For example, in processing the production of agriculture climate affects the type and productivity of crops and will therefore affect the location of industries engaged in preserving vegetable and fruit products. Another example, airplane production and final assembly or space products tests are concentrating in milder climates that permit outdoor equipment storage, year around flying and outdoor work. In addition, mild winters produce lower heating costs, an important factor where production areas cover millions of square feet of floor space. There is a tendency to over-attribute the location of the aircraft in-
dustry on the Pacific Coast to climate. In reality the ex-
ceptional experimental and design skills carried a few
Western producers through the depression era. Firms like
Boeing and Douglas had sufficient skills and resources to
receive major military aircraft orders arising out of the
build up for World War II.

Since other location factors with a stronger influ-
ence on cost of production usually dominate the loca-
tion decision, the “ideal” climate is not always obtain-
able. To produce an optimum climate for production
within the plant, the response is to weigh combined
heating and cooling costs along with overall construction
costs against a location where nature may provide the
ideal climate.

Excesses in heat or cold can affect production
costs in terms of days lost by snow or days lost because
of excessive humidity. An intangible aspect is that areas
favored climatically are attractive to people. Since what
is favored climatically reflects individual preferences, the
climatic choices are varied in the United States and
many times the entrepreneur has the option of following
the climatic preferences of the mild winter seashore ad-
vocate or the winter sports enthusiast.

The attractiveness of climate goes far to explain
the growth of some areas over others but there must also
be stronger economic reasons than climate to sustain
economic growth related to attractive climate. Climate is
also reflected in the habits and requirements of con-
sumers and thus affects the markets of consumer goods
for various industries — for example, production of
snowmobiles in the colder areas or dune buggies at the
seashore. Although climate is most often a low order
consideration, it may nevertheless tip the balance be-
tween two or more locations equally attractive in rela-
tion to production costs.

**Climate and Pollution**

Specific features of climate have become ex-
tremely important today, and atmospheric pollution has
become the number one climatic problem in the nation.
There are many areas in the country where a combina-
tion of weather conditions produces either nightly or
prolonged inversions — warm air overlying a blanket of
cold air — that are in effect pollution traps. Topography
is a major factor of inversion in hill and mountain
regions. California, Arizona, Montana and Appalachia
are all highly susceptible to inversion conditions.

When the slopes and mountaintops become cool at
night, cold dense air flows into adjacent valleys or
basins, producing a strong inversion or air blanket which
acts as a buffer and prevents the pollution from mixing
vertically and being dispersed. Even the hot gases from
smokestacks cannot rise above the inversion because
they cool too quickly.

The problem is compounded by the fact that
basins tend to trap the air and the ridges and valleys re-
strict horizontal dispersion. Since the wind tends to
carry the pollution along the valleys like gas through a
pipe, concentration of pollutants may be almost as great
20 miles down the valley as it is near the source.

The net result is that, with long cold nights and
relatively light winds, a valley or a basin becomes a bat-
tub filled with cold air. If factories, mills and power
plants are built in the valley bottoms, the bathtub is
filled with cold polluted air which has no place to go.
The apparent solution is dispersion. The dispersion of
pollutants from industrial sources can be improved by
locating plants where the natural air flow will spread the
pollutants, and by building taller stacks to vent the emis-
sions at a higher level in the atmosphere.

Industry must recognize the importance of loca-
ting plants where the pollutants they produce can be
widely dispersed. Horizontal dispersion alone is not the
real answer. In terms of solving a major pollution prob-
lem, it helps little to build a plant in a location where
the wind will carry the pollution into the next county
rather than letting it asphyxiate the local citizens. The
basic solution is to reduce dangerous emissions as pollu-
tion control laws require. Adherence to pollution con-
trol requirements and selecting locations which insure
maximum dispersion can make real improvements in
regional and national air problems. Part of the reduction
of industry cost of pollution will be to select a site that
will offer maximum dispersion. Selection of sites for the
dispersion potential will accelerate the decentrahzation
trend in industrial location that now brings industry to
rural areas.

**THE ROLE OF ECOLOGY**

It has taken centuries for man to pollute the earth
to the present extent. The Phoenicians were the most
skilled cloth dyers in antiquity. The coloring matter for
the dye, Tyrian purple, was secured from the blood of
two species of shellfish (murex) found in the eastern
Mediterranean. Strabo, the Greek geographer, relates
that odor from the dyeing industry made the City of
Tyre unpleasant as a place of residence in the first cen-
tury, A.D.
One of the most pressing problems facing plant locators today is that of maintaining economic growth while at the same time improving, or at least not disrupting, environmental conditions. Environmental expenditures generally increase costs without a corresponding increase in plant output.

The Federal and State governments have enacted and are enforcing many laws and regulations to protect the environment. The environment vs. productivity trade-off reflects added costs but not necessarily added benefits to the business.

Many companies, of course, have long been modifying their processes to minimize waste, not necessarily in the name of pollution control but simply as a way to boost productivity. But they bothered to make such changes only when the payoff justified the cost. Now, because they are faced with the prospect of building costly treatment plants, the economics of industrial processing have shifted sharply. Recovery and recycling techniques that once seemed costly now are attractive. More and more, industry is discovering once-hidden payoffs. Hercules, Inc., spent $750,000 for a recycling system that not only reduced pollution into the Mississippi River by 90 percent but also saves the company $250,000 a year in material and water costs. U.S. Steel and Armco Steel have developed a more economical pollution-free process known as direct reduction to replace the dirty coke oven and blast furnace. And Dow Chemical has even gone as far as to claim that it can completely offset the cost of pollution control by process changes and recycling techniques.

Not every environmental investment will save money, of course, but enough examples exist to show that the added costs can be significantly offset. Nor is everyone so optimistic that technology will respond fast enough to the new environmental imperative. But several broad trends that promise to boost productivity are discernible:

— Pollution control will accelerate the trend to ever-larger industrial units. Large plants capable of achieving economies of scale in pollution control will tend to replace smaller plants. Fragmented industries, such as cement, food processing, and iron foundries may amalgamate in larger units.

— Companies will tend to form collective waste-disposal systems for water pollution control. Small plants will seek to route their effluents to large municipal treatment plants built with Federal subsidy. Others will form authorities to build and operate industrial treatment facilities.

— Industry will pair plants with mutual needs on the theory that one plant’s waste is another’s raw material. Thus, power plants that expel waste heat could be sited near facilities that need heat, chemical plants that use sulfur can go near utilities that trap sulfur dioxide, and cement plants could be built near sources of fly ash trapped from coal-burning plants.

As industry seeking new plant sites responds to the need for increased dispersion of plants, there will be more opportunities for smaller communities seeking industry. New plants can represent an opportunity for the community if it knows the toleration for pollutants or the limitation the environment imposes. Full community understanding of the ecological trade-offs that may be necessary along with wise planning can minimize the environmental impact of new industry, thus reducing the possibility that environmental objections may stymie industrial development programs.

**THE ROLE OF COMMUNITY FACTORS**

New industrial facility planning begins with a survey of an area or region, but the site search may commence in a community. Most sites, even if situated in an open field, relate to some community.

Included in the place selected must be a favorable combination of all the factors that contribute to the location decision. This is the “package” that industry evaluates. In the process of attrition involved in the weighing of both measurable and unmeasurable factors, several likely communities will evolve for final consideration.

Sooner or later there must be a specific decision upon a site for a new plant. This is a long-term decision. It usually involves paying interest or making lease-purchase payments for many years. A well-studied choice and consideration of the future of an area, as well as the present, is essential before a facility planner makes a final decision.

The attributes of communities as a location factor can be described best in terms of community leadership and attitude, taxes, inducements, facilities, services, and amenities. Despite the importance of the role of community, it does not diminish the need for the area or regional surveys. In many communities an inclusion of area resources may be the only way to garner the services and amenities being sought by industry. For
example, if one of the industry’s requirements is for a foundry and there is no foundry in town, but in the town 20 miles away there is one, the requirement for all practical purposes can be met. That is, the requirement can be met if the community knows about the foundry. Further, 20 miles across country is closer than a foundry across town in a city of 100,000.

Community Attitude

The industry decision to locate is strongly influenced by the activities of town “representatives” whether they solicit new industry or merely respond to inquiries. The decisions made by these representatives, who can be members of government or semi-official agencies (a local development company or Chamber of Commerce), can affect both the growth of the community and the efficiency of any large public expenditure directed toward this end.

The arrival of an industry in a rural community is inevitably the culmination of a long series of decisions made by both representatives of the community and the management of the locating industry. It is an oversimplification to view this process strictly as an exercise in rational decision making where well-defined interests are carefully weighed on both sides. In the exchange of offers and counteroffers, an agreement is finally reached. There are too many examples contrary to a rational decision-making process from both industries and communities.

The attraction of industry into any community—the functioning of the industry location market and the subsequent relation of the community with industry—is best understood in the framework of a social process. Efforts by a town to attract industry derive ultimately from the attitudes and convictions of a community’s residents who act individually or collectively in harmony with some image of their self interest. However, attitudes cannot always be inferred on a basis of self interest because of a number of other factors which may be equally important in shaping attitudes. Even in the rare case where the attitudes of residents are all uniformly strong and uniformly pro-industry, community action may be incapable of securing the common goal if unprepared or misdirected.

The Formation of Attitudes

Attitudes are clearly a fundamental variable in any explanation of community receptivity to industrialization. Attitudes toward industry vary among individuals and even with the same individual over time. Individual attitudes taken collectively form “community attitude.” Attitude is often cited in industry location literature as an important factor in the final choice of industrialists. Perhaps, more important, individual attitudes are transformed through political leadership into a community’s public policy towards industry, which defines the types and levels of support—the package—a town is prepared to extend in order to attract and maintain industry.

Attitudes about industry or about anything else are the product of psychological, social, economic, and historical factors. One of the most tempting courses to follow is to assert that attitudes emerge from an individual’s concept of his own self interest. However, there are cases where businessmen express attitudes and even take actions which are inconsistent with what, from an objective point of view, seems to be their “apparent” self interest: For example, where retail businessmen oppose industry because they feel wage levels will be raised. A similar situation might occur in selection of a community because of an executive’s self interest, though it might differ substantially from the interest of his firm.

The Nature of Group Action

In addition to individual attitudes, group action is another equally important factor that contributes to a community’s posture concerning industry. Attitudes may in fact be the source of much individual action, but in many cases the ultimate goal of this action requires some form of joint effort.

In many rural communities, the problems of collective action come into sharpest focus in the various efforts of groups to promote or resist new industry. Despite the ambiguity in the use of the self-interest concept and despite the presence of unique circumstances—most typically in the form of strong highly personalized leadership—much of the texture which the interplay of the various interest groups has given to the pattern of industrialization in rural communities can be explained via the “logic of group action.”

Community Leadership

The active attraction of industry, i.e., “salesmanship,” is not universally treated as a major function of local government. The rate at which broader community interests have prevailed upon these bodies often varies according to the general economic health of an area’s
agriculture. There are many examples of towns which could obtain supporting Federal funds and new industry if the leaders with the energy and skill necessary to analyze the town's needs and to "sell" its needs and virtues to industry and to government came forward. A town can rapidly expand its industrial base, even in the absence of glaring comparative advantages to neighboring areas if leaders emerge who can become activist "salesmen." The average businessman, who may be a "supersalesman," is at the same time highly susceptible to good salesmanship.

The leadership in a small town, then, is capable of fostering or impeding growth. Since each group has a different vested interest in the benefits of industrialization, the larger the number of powerful groups in a community, the more difficult it is to reach a consensus on a "progressive" policy. Larger cities do not face as serious a problem in this respect because the power of interest groups seems somehow to be diluted or galvanized by size of the city. There is convincing evidence that the final factor affecting the industrialist's decision on new plant location is his interpretation of the attitudes expressed by people in the community.

Lack of interest, support, and understanding by citizens and taxpayers of some rural communities is a fatal drawback to the success of their industrial development groups. Unless local leaders and the general public feel their best interests are involved in the establishment of industrial plants in their communities, the chances that new industry will be attracted are severely diminished.

Climate of Taxation

It's true that the really crucial factors of industrial location, such as proximity to markets, adequate labor supply, suitable source of raw materials, transportation availability, and the like, make tax considerations insignificant in the initial selection of the most suitable geographic region. But in the next stage of the selection process the choosing of the actual States and communities which appear to provide a desirable environment, adequate governmental services, and low cost taxes may become significant. And in the final screening for a specific location from among the likely choices, tax considerations may achieve a high priority.

The apparent attitude of the citizenry toward business as expressed in the tax structure gives some areas a reputation for high taxes and for placing a relatively high burden upon business. Taxing authorities have many choices. They can tax income or property, shift part of the burden from industry to the consumer or from consumer to industry, simplify tax laws or make them so technical as to create a cost of compliance that exceeds resulting revenue. They can favor new firms over old firms, demand fixed levels of revenue or remain flexible with prosperity and recession.

Analysis of this tax climate or attitude by prospective industry is particularly important at the local level because local taxes often comprise more than half of a manufacturer's total State and local tax bill. Analysis will seek to evaluate the local attitude toward business; to question whether new business is really desired or whether industry is merely considered to be a potential source of tax relief for the citizenry. The local history of tax legislation will be examined to determine both its stability over time and its consistency with current and proposed legislation.

Both real and personal property taxes are affected by wide variations in assessment practices as well as by variations in the nominal rates applied to the assessed valuations. Therefore, any comparisons among otherwise suitable plant sites must take into account the combined effect of the explicit tax rate and the valuation practice. Since local governments autonomously determine both tax rates and assessed valuations, generalities regarding effective tax rates in any particular State are misleading.

Enormous diversity of taxing methods exists for personal property, with some States even prohibiting the taxation of industrial machinery and inventories. Businessmen particularly dislike personal property taxes. The reasons for objection to personal property taxes are apparent when it is recognized that machinery and equipment usually comprise a greater portion of the total assets of industry than does real estate.

There is also a tendency for assessors to assess personal property at a value more closely approximating market value than is usually the case with real estate. There is considerable evidence that the personal property of business is taxed more heavily than comparable property of farmers and households, particularly in rural areas. Businessmen look closely to uncover such practices before making a location decision.

In considering the matter of taxation as it affects the location of industry, industry is not concerned primarily with any one tax, but with the total cost of all taxes. The policies of a locality with reference to basic revenue requirements and the basic method of taxation are the keys in site selection decisions. While many communities have taken a broad and sympathetic attitude
toward business, other communities have tried to tax business to the limit of endurance, regardless of the economics of the situation.

There is no such thing as a static tax picture. What may look like a favorable tax climate in one area, may not look favorable at all if a study is made of the community's economic and fiscal structure or future requirements.

Services

Government services are a prime consideration for industrial planners, and this is especially true in an area where the taxes are low. When low taxes mean poor services, the firm might find it necessary to supply the services itself, and tax-poor service areas might also be very unattractive to employees. Businesses investigating possible sites for plant location make tax and service comparisons on a basis of close analysis of specific locations. The long-run cost of ignoring diversity in State and local taxation and service can far exceed the cost of an investigation performed prior to making an irrevocable location choice.

Police and fire protection often are over-rated by industry locators, and out of proportion to their cost or the potential for loss. Primarily, this is because excessive costs can be avoided and the costs come out of what might otherwise be profit.

Cultural Amenities

The community that is the “best place to live” has the edge when all other measurable factors have been put in perspective. However, “best place to live” is a relative term, and economic factors should be dominant in the location decision.

As factors of location, it follows that the most attractive areas for plant locations will have more of the industrial support facilities as well as social facilities. While not dominant in the location decision, the availability of industrial support facilities and cultural amenities can tip the scales.

Planning and Zoning

An action of local government that reflects community preparation and attitude toward business and industry is the existence of comprehensive plans for orderly growth and development. Out of such plans come zoning provisions. Zoning protects economic investments for industry and others as well. A community plans to meet unexpected change, prevent undesirable change and, most important, accomplish desired change. The businessman expects that planning decisions will establish patterns for years to come.

One of the tools for carrying out comprehensive plans is a soundly conceived zoning ordinance. Zoning ordinances spell out the initial requirements for good community-industry relations. From this foundation a sound working relationship can be established and friction reduced.

Restrictive or regulatory zoning furnishes protection against a decline in property values by keeping the nature of the area from changing and prohibits the use of nearby property in any incompatible manner.

Zoning ordinances, preferably with performance standards, tell the businessman that his facility will be able to operate with the following general assurances if experience really shows ordinances have been upheld:

1. Surrounding properties will ultimately be occupied by like industrial plants or businesses
2. There will be a minimum of congestive traffic mix
3. There will be adequate utilities and sewer and water facilities to serve the site
4. There will be a minimum of causes for friction between the facility and the community
5. The community recognizes the importance and economic relationship of having a balanced community, and is seeking to preserve the balance
6. If there is a need for additional land in the future for expansion, the surrounding land will be available as industrial land. Industrial land for future use is preserved through zoning

For the businessman, a location where planning and zoning functions have been carried out by a community is not necessarily a guarantee of the right location. On the other hand, it is one of the services that he will look for. Lack of planning or zoning means that a site seeker needs to exercise caution and investigate fully the implications of parochialism reflected by a lack of these services.
Exercise of Local Powers

Perhaps the most important economic functions a local government performs are related to the exercise of its regulatory powers. Local decisions on land-use controls can close the door on certain types of developments or create conditions which are particularly attractive to specified types of industries and other business enterprises.

Whatever the ultimate purpose of local government, its achievements almost certainly will be related to the manner in which decisions are made. For example, economic development efforts to become service or white collar centers and only to attract "desirable" industries mainly help the educated and skilled. The increasing concern for clean air and similar environmental factors may improve one aspect of a locality as a place to live but also tend to foreclose on all but "clean" industry. Industries that do not fall into this category are at the same time the ones that would provide employment for the lesser skilled and educated and thus improve the livability of the area for them. A program with such goals is shortsighted and fails to recognize the Federal and State regulations for cleaning up all industry.

Industry looks at the relationship between community potential to attract industry and the nature of regulations and services the area provides. A town whose land-use regulations provide extensive areas for heavy industry, permit small building plots, make provisions for extensive areas of multiple-family dwellings in the immediate vicinity of the industrial areas, are liberal in granting permits for liquor licenses and the establishments which use them, and otherwise make provisions for the needs of a population which, in large part, is comprised of relatively unskilled workers, clearly is seeking manufacturing and other industrial activity. On the other hand, a community which seeks low-density, limited, and restricted commercial-industrial activity obviously is not. The philosophy expressed by the policy-making body of a local government, the unquestioned assumptions upon which its budgets are premised, the types of facilities and services which the residents take for granted, and the levels of crime, unemployment, and social maladjustment which are routinely tolerated, all manifest the relative attractiveness of that community to industry.

THE ROLE OF SITE FACTORS

When making location decisions, many businessmen over-emphasize certain considerations. We have already mentioned costs of electricity, police and fire protection. Another factor is the initial cost of land. Businessmen often seem to forget that this is a one-time charge. In buying a small site (under 10 acres), an additional $1,000 per acre may not be significant when it is amortized over the years that a plant will remain at that site. Businessmen often fail to consider that a lesser-priced property is not a bargain if the costs of operation from that site may be much higher than at a plant built on a better serviced but more expensive property. Recognition of the tendency for businessmen to over-emphasize land costs is important in perfecting the community "sales package."

Most businessmen will not hesitate for a moment in coupling the availability of a good labor situation with an attractive plant site as the two prerequisites to further evaluation of a community. But the average prospect will not "wait out" a situation where a community is selling an unimproved "back 40" for industrial sites. The law of supply and demand operates with a vengeance. The preparation of ready-to-use industrial plant sites is an absolute necessity in today's industrial development programs.

Development of new sites, or the creation of an "industrial park," will not insure that new industry will come to every small community. It will, however, be a big step forward in transforming an average community into a better-than-average one. In many communities actions to prepare land are being taken by private initiative, development corporations, and sometimes local governments. A recent study by the Fantus Company estimated that approximately 15,000 to 20,000 acres per year may be needed to accommodate nonmetropolitan industry on a national basis. The community with ready-to-use sites will without question have the advantage.16

The economic facts make it clear that metropolitan areas are not suited to industries which use large amounts of land. If available in a major urban center at all, it is not uncommon for the cost of a 30-acre site to run as high as $1.5 million. In a small town the same site can be purchased for $60,000 or less. These days an industry acquiring 30 acres is no longer classified as a large user of land. Because land prices are a factor in a location decision and because this is a plus factor for rural areas, every attempt should be made to avoid local speculation in land for industry sites. Speculation can drive

---

industry away. Many communities or local development groups have found it necessary to own or option land to protect the community interest. It is almost pointless to show an industry land that does not have a stated and fixed price.

Actual site requirements of many manufacturing enterprises are often quite exacting, and the lack of the necessary qualities of site can sometimes cause an otherwise promising location to be ruled out. Today, most industrial processes require a large area of level land for single story layout. It may be necessary to be alongside a water artery or railway, which may restrict the number of possible sites in any given locality. Road requirements are even more important to many modern industries, but their absence is generally more easily remedied. A firm may also want ample space for later expansion, thus making its land requirements more difficult to satisfy. Some industrial buildings, with their equipment, impose heavy loads upon their foundations and so the local geology may limit the choice of sites. Other industrial plants may require enormous quantities of water and their thirst can be satisfied only by a location near a river or other body of water. The choice of site is further complicated if the process gives rise to a liquid or solid waste discharge.

The availability of suitable sites may be further restricted by local planning authority activity. Refusal by the planning authority to permit development of a given site may cause the firm concerned to seek a location elsewhere. The same may be true where there is no zoning to protect both the industry and/or adjacent users of the land. For some kinds of manufacturing activity the type of development around a prospective site can be very important. Thus the manufacture of some food products or of high-quality drugs must be carried on under aseptic conditions which demand clean air, and surrounding development needs to be considered from the point of view of air pollution. No modern food or drug firm would be content with a site in the vicinity of a major air polluter.

Industries must consider the price of the land, or conditions of rental, as a location factor, although for large companies these costs are normally small in relation to total costs and are therefore almost negligible as a locating influence. Within a congested industrial center, however, the price of land may well influence the precise distribution of industries of various types. These few points serve to illustrate the importance of the availability of suitable sites in an area considered generally favorable from other points of view.

The availability of public services is a considerable factor in the actual site decision. A prospective manufacturer will be encouraged by the suitable provision of such things as electric power and water supplies, adequate refuse disposal facilities, efficient fire and police services, good highway maintenance, and satisfactory transport services. If a locality has deficiencies in such services, the willingness and ability to remedy them quickly will be important.

Industry knows that water and sewer service can be delivered only where service mains of adequate size and reserve delivery capacity are available. If an attractive locational situation otherwise exists and if the local water or sewer system has sufficient reserve capability, is properly sized and engineered with nearby service mains, a community can be in a contender position. But it must supply credible factual information on the cost and time involved in extending mains to a prospective site. Usually industry can be satisfied when water or sewer utilities can be extended to a site within 45 days after sale of the site and there is confidence that the promises will be kept.

The size of the community affects the attractiveness of a given locality. Some firms prefer a smaller community, where they will be the principal employer. On the other hand many firms prefer a larger community and a less conspicuous role in the community.

The selection of any site by an industry would be incomplete without a careful analysis of the supply and adequacy of essential supporting services to meet its specific needs. Industry wants to know the names and location of foundries and machine shops, heat treating, electrical maintenance and repair shops, industrial distributors, construction material suppliers, engineering department suppliers, stationers and printers, local trucking and warehouse facilities, telephone, air freight, postal service, blueprint service, industrial repair services, air conditioning, heating, and plumbing services and testing laboratories. Equally important for many industries will be the availability of attorneys, and other professional and employment services. All or part of these may be part of an industry’s site requirements. A community must present evidence that such services can be met locally or know the nearest place they can be found.

THE DYNAMICS OF INDUSTRY INTERDEPENDENCE

The analysis of the interdependent relations that may prevail between and within industries has a variety
of applications. A systematic approach involving measurements is referred to as an input-output analysis. It can be used to evaluate an individual firm's sales potential or as a means of examining the implications of broad community or area economic programs. An input-output analysis can trace the purchases of a firm, or within an area, and establish relationships that will permit an understanding of the probable changes in demand for the products within an area or of any given industry that may result from expected changes in other areas, industries, or markets which are seemingly unrelated.

By use of data on the employment required per unit of output, the output requirement from each industry can, in turn, be translated into requirements for employment. In a similar way, supplementary information on capital and capacity might be used to shed light on the possible needs for additional plant and equipment of a firm or within an area.

A simple example helps explain the way input-output can be useful in analyzing changes in industry. Suppose there is an increase in consumer demand for passenger cars. We know that the increased output of the automobile industry will generate a series of increased demands for output of a large number of other industries. There will be increased demand for steel, which in turn will require more chemicals, such as sulfuric acid, more iron ore, limestone, and coal. There will be increased demand for upholstery materials which will require more natural fibers from agriculture and more synthetic fibers from the chemical industry. The chemical industry will also be called upon to supply more plastic and cord and rubber synthetics for the tire industry. These are only a few of the resulting demands occasioned by the single change in consumer requirements. The use of input-output tables permits tracing this complicated and highly intricate chain reaction through our industrial structure and measuring the demands, both direct and indirect, imposed upon each of the industries.

When seeking understanding of the location of industry as related to the interdependency of industry, there are even more subtle relationships than those measurable within the context of input-output. These are the interrelationships produced by a combination of the response of entrepreneurial skills to the competitive nature of industry and the collateral response of technological innovation to the needs of industry.

A lesson in the history of U.S. industrial growth since 1900 will illustrate this point. The purpose is to sharpen the reader's perception of the nature of industrial growth and resultant changes, to be able to anticipate new developments in industry and the opportunities presented, and in order to discover the growing segments of industry. To be able to perceive forthcoming expansion, or contraction of industry for that matter, is one of the keys for a successful industrial development prospecting program.

American Industrial Growth

The growth of American industry since 1900 has been unique in the history of the world. In the relatively short span of 70 years the United States advanced from a predominantly agrarian economy to the largest and most efficient industrial nation on earth and into the present transition period where the services sector of the economy is becoming dominant. No single development or industry has been responsible for this growth. It has been the product of simultaneous and interdependent growth of all of the nation's industries.

Illustrating the interdependence of industrial growth and development since 1900, attention is immediately drawn to the phenomenal growth of the automobile industry which took place between 1893 and the present time. First in the parade of automobile progress was Duryea's horseless carriage of 1893, followed by the curved dash Oldsmobile of 1900, Henry Ford's Model T brought out in 1908, the closed cars of the 1920's, the all steel car of the 1930's, and finally, today's trimmed with chrome and loaded with "extras" models. These remarkable developments tend to center our attention on advances made in the automobile industry without reference to the related developments in other industries. Yet, the progress in automobile manufacture would have been impossible without simultaneous advances in the other industries, such as steel and petroleum. On the other hand, steel and petroleum would not have grown to the proportions they have reached today without the corresponding growth of the automobile to furnish the market for their products. The automobile industry is the largest consumer of steel, taking more than 29% of all steel industry shipments. The automobile industry also consumes approximately 12% of the aluminum production, 9% of copper and alloys, 18% of gray iron, 48% of malleable iron, 51% of the lead, 14% of the nickel, 65% of all kinds of rubber products, and 35% of the zinc.

The steel industry depends heavily on the electrical machinery industry for the motors which enable
some of its mills to turn out steel products at speeds up to one mile a minute. The petroleum industry, which provides the fuel for the automobiles, could not have drilled wells more than three miles deep without durable alloy steel drill pipe, and without the benefit of seamless pipe for casing to support the sides of the well.

Thus it is apparent that industrial progress has been greatly influenced by the growth of interrelated industries rather than individual industries. A significant factor not to be overlooked in the growth of American industry is the growth in population from 75 million in 1900 to 200 million in 1970.

Industry in 1900

A brief look at the industrial status of America in 1900 is in order before discussing the interrelations of the automobile industry with other U.S. industry. In 1900 the electrical industry was in its infancy. Kerosene provided most of the illumination in the homes, and steam or water most of the industrial power.

The petroleum industry, which produced 63 million barrels of crude oil, was concentrated almost entirely in Pennsylvania, Ohio, West Virginia, and Indiana. A small amount of petroleum (about 4 million barrels) came from California (compared with 3.2 billion barrels in 1967). The principal product of the petroleum industry in 1900 was kerosene. Gasoline, which has a lower boiling point than kerosene, came off first in the process of distillation and, since there were very few automobiles, it was a drug on the market. Because of its inflammable qualities it could not be mixed with kerosene and only a small amount of it was used as a cleaning fluid, a dangerous practice. Most gasoline was dumped into the nearest stream.

Only a dare-devil would drive an automobile. There were only four automobiles registered in the entire country in 1895. By 1900, 8000 were registered, but it could not be said definitely that the automobile was here to stay. A significant story on this point comes from a news item printed in 1899. At that time the Army Signal Corps purchased its first automotive power in the form of three trucks. A great deal of publicity attended the event and the Army issued a notice to the press to the effect that each vehicle had been so equipped that it could be pulled by a mule, should it break down mechanically.

In the electrical industry, the first power development of importance was in 1895, when George Westinghouse installed three 5,000 kilowatt generators to be run by the water from Niagara Falls. This capacity of 15,000 kilowatts was increased to 50,000 by 1900, and attracted to Buffalo a number of companies in the chemical industry that required constant, cheap, and abundant electrical power. Another industry that moved to Niagara was aluminum. The company was known at that time as the Pittsburgh Reduction Company and later became the Aluminum Company of America.

There were several other small power installations throughout the Eastern States. However, these were limited for the most part to individual factories and buildings. One example was the use of electricity to run elevators in the Postal Telegraph Building in New York City. However, most of the electricity generated at that time was used for illumination. Yet this, too, was extremely limited as to area. The first Edison station at Pearl Street in New York City served an area of 2,000 square feet and provided current for 5,500 bulbs.

The railroads were among the country's oldest industries in 1900, and had already built close to 200,000 miles of track (the 1966 figure was 211,000 miles). The growth of the railroads since 1900, however, has been in terms of increased traffic and improved facilities and the measure of the railroads' activity is the amount of freight carried.

The steel industry was large by 1900 standards and the United States led the world in steel production. The actual production of steel in this country began in 1865, but very little was turned out for ten years (906,000 tons of iron rails in 1872, as opposed to 94,000 tons of steel rails). Thirteen years later the situation reversed radically, when in 1885, steel rail output reached one million tons, while iron rails fell off to 14,000 tons. In 1900, rails were the steel industry's principal product, although there were other steel products being made, such as tin plate, pipe, nails, wire, and some structural steel.

The table on page 63 shows the production status of the automobile and some related industries in 1900.

The Steel Making Process 1900-1910

Between 1900 and 1910, a basic change took place in the process of steel making. It was the replacement of the Bessemer process, as the principal steel producer, by the open-hearth process. By 1908, out of a production of approximately 15 million tons, more than 8 million were produced in open-hearth and about 7 million by the Bessemer converter. That year the open-hearth passed the Bessemer converter in tonnage output.
The application of electric power to industrial machinery assumed significant proportions in the first decade of the century. In 1899, less than 5% of all industrial power came through the medium of electricity; by 1910, this figure had risen to 25%. One of the first major uses of electric power was in a steel mill at the Edgar Thomson Works of the Carnegie Steel Company in Pittsburgh in 1905. Here, two 1500 horsepower motors were used to drive the light rail mill. In 1907 a 4,000 horsepower motor was installed at the plate mill of the Illinois Steel Company at South Chicago. The largest installation of electric power before 1910 was at the newly built steel plant at Gary, Indiana in 1908, where motors with 24,000 horsepower were installed at the rail mill which ran at double the speed of any existing mill.

Interdependence in Steel, Electrical and Chemical Industries

Shortly after 1900, a development took place which involved the steel industry, the electrical industry, and the chemical industry. It was the production of a steel alloy known as silicon steel. This type of steel, because of its special qualities, replaced the iron core in electric motors, transformers, and generating equipment. Before the development of silicon steel, iron was used almost exclusively as core metal in electrical equipment. It was unsatisfactory because of the fact that it “aged,” that is, soon lost its magnetic qualities.

An Englishman, Sir Robert Hatfield, discovered that a combination of silicon and steel provided metal that maintained its magnetic qualities almost indefinitely. Hatfield made this discovery in the 1880’s, but the development remained in the laboratory stage for almost 20 years, because silicon was a relatively rare and expensive element selling for $100 an ounce. With the harnessing of Niagara Falls for the production of electric power, the chemical industry was able to produce silicon in abundant quantities so that it became commercially available at 10 cents a pound. In 1903, the steel industry began to make silicon steel and roll it into sheets. The chemical, steel, and electrical industries combined to provide a new core metal for electrical equipment that doubled efficiency. It made it possible to produce smaller motors. Without silicon steel the fractional horsepower motors used in household appliances today might never have been a reality.

The Automobile Industry, 1900-1910

In contrast to the steel industry, which was well established in 1900, the automotive industry had its rise in the early years of the present century. The early automobiles were originally handmade in small shops. The pioneers before the turn of the century produced all kinds of cars. They experimented with steam, electricity, and the internal combustion engine as means of power. By 1900, no definite decision had been reached as to which type would ultimately dominate. In that year there were 4,000 cars produced, of which about 1,500 were powered by steam, 1,500 by electricity, and 1,000 by gasoline.

The limitations on the growth of the automobile came from three sources:

1. The roads were extremely poor, there were virtually no paved roads outside the cities, and the amount of pavement in the cities was negligible. Consequently, a mechanical device such as the automobile was subject to various jolts and strains from the deeply rutted roads, and often broke down. Further, the condition of the roads made riding anything but comfortable.

2. The cost of the automobile was high because it was a handmade product. In many cases the price was $4,000 to $5,000 in comparison to a $10 horse and a $40 saddle. A more realistic comparison may be between a car and a $90 horse-drawn Studebaker wagon.

3. Fuel for the operation of the cars was limited in the case of gasoline, and there were difficulties inherent in both the electric and steam-driven vehicles. The principal limitation in steam and electric units was the heavy weight of the engine in relation to the power it produced.

The opening decade of the century witnessed the rise of such personalities as Henry Ford, Ransom Olds of Oldsmobile fame, Henry Leland, David Buick, William Durant, and a number of others.

The first successful automobile manufacturer was Ransom Olds who produced the curved dash Oldsmobile in 1900. He established a plant in 1896 at Lansing, Michigan. However, because of lack of capital and because the rugged streets of Lansing were a decided handicap in demonstrating his cars, he moved to Detroit. In 1899 he built the first factory in the United States for the sole purpose of manufacturing automobiles. Olds laid the factory out so that his automobile was assembled by moving the chassis from station to station, where additional parts were added to the frame. His process was the forerunner of the modern assembly line. The principal difference was that in the Olds system the chassis was pushed from station to station, whereas in the system
developed by Ford and in use today the chassis is moved along an assembly line on a powered conveyor.

In 1908 and 1909, Ford introduced a low-priced car, his famous Model T. From then until 1927 it was the only Ford produced. The year it was introduced, 10,660 Model T’s were sold. In 1914 the cost of a Model T was about $550. By 1927 it was down to $290 for the cheapest model. In 1927 the only thing cheaper was a used car which was then just becoming a marketing problem for the automobile industry.

The Model T was made possible, in part, by the development of an alloy steel, namely, vanadium steel, for which Ford was principally responsible. It all started with an accident. In 1905 at Daytona Beach, Florida, during the trial heats of an automobile race, a French car was wrecked and Henry Ford, who was on the scene, noticed how much smaller and lighter its functioning parts were in comparison with those of the American cars. He had a piece of the steel analyzed and found that it contained vanadium. Like the production of silicon steel, the development of the open-hearth furnace made production of this new alloy steel possible in large quantities. The steel in turn aided the automotive industry because of its lightness and strength.

The Model T was made possible, in part, by the development of an alloy steel, namely, vanadium steel, for which Ford was principally responsible. It all started with an accident. In 1905 at Daytona Beach, Florida, during the trial heats of an automobile race, a French car was wrecked and Henry Ford, who was on the scene, noticed how much smaller and lighter its functioning parts were in comparison with those of the American cars. He had a piece of the steel analyzed and found that it contained vanadium. Like the production of silicon steel, the development of the open-hearth furnace made production of this new alloy steel possible in large quantities. The steel in turn aided the automotive industry because of its lightness and strength.

**Tires and Gasoline, 1910-1920**

During the 1910-20 decade, there were significant developments related to the production of rubber tires. The first automobile tires were an outgrowth of the bicycle tire. They were narrow, about 3 inches in width, as compared to 6 inches or more today; they were extremely hard, with an air pressure of 50 pounds, and they had no tread. The average life of a tire on the roads of 1910 was about 2,500 miles.

In 1912, the Goodyear Rubber Company developed the cord tire. The cord tire had a new structure and was much more resistant to wear and heat. These tires had a road life of about 7,500 miles, almost triple that of their predecessors. Further, they helped to increase automobile sales through an appreciable contribution to smoother riding. At the same time the improved tire helped increase the demand for petroleum products.

In 1913, Dr. William M. Burton of Standard Oil of Indiana completed the development of the first cracking process in the petroleum industry. It was installed at a refinery at Whiting, Indiana, near Chicago. Prior to the development of this process, it was customary to heat the petroleum and take the gasoline off by distillation. To the use of heat, Burton’s process added the application of pressure on the crude oil. The yield of gasoline from crude oil was doubled. Prior to 1913 increases in availability of gasoline were primarily related to the discovery of additional oil sources.

**Automobile Painting and Sheet Steel, 1920-1930**

In the 1920’s there was a significant development in automobile body painting which was of prime importance to the industry. It stemmed from the chemical industry, and had widespread repercussions not only in the 1920-1930 period, but also in the following decade.

In the early 1920’s, from 11 to 15 coats of paint were required on an automobile body before it was completed. Some cars took 22 coats. The paint was slow-drying lacquer and had to be sanded down after each coat, so that about 30 days were required to finish an automobile body. This meant that there were literally acres of storage space filled with automobile bodies in various stages of completion.

In 1923 a lacquer was developed by the du Pont Corporation called “Duco,” which could be sprayed on without difficulty, dried rapidly, and presented an attractive finish. The finished body required five to seven coats. Thus a critical bottleneck in automobile manufacture was broken, for the new lacquer reduced the time for painting automobile bodies from 30 days to three.

An unfortunate development in the use of the lacquer was that it showed up the defects in the surface of the steel sheets. Elimination of the surface defects was the challenge met by the steel industry in the next decade.

The actual production of the auto body was a slow, costly process until the mid-1930’s, for it was not until then that it was made in a manner which could take advantage of mass production and assembly line techniques. Before 1935, the automobile body was basically a wooden frame with steel sheets tacked on to it. Thus the steel was used on the body and not in it. This method made body building slow and costly.

With the growing demand from the automotive industry for steel sheets, the steel industry converted an ever increasing amount of its ingots into sheets. One step in satisfying the demand for sheets was the introduction of an automatic rolling method. The first hot rolled strip
mill was put in operation by the American Rolling Mill Company in 1924.

The severe competition in automobile sales prompted radical alterations in style to give cars greater sales appeal. The trend toward the "streamlined" body began in the late 1920's. Designers recommended more graceful lines. However, the new type body as conceived by the automobile designers could not be made with the kind of sheet steel that was then produced by the steel industry.

The desire to produce the all-steel streamlined body and give customer appeal to the car led to considerable difficulty in the manufacturing process. Torpedo headlights and deeply drawn fenders required metallurgical qualities in the sheet that would permit it to receive a deep impression and not break, tear, or show surface defects. Further, it was desirable that these shapes be stamped out of a single steel sheet if they were to be made and painted with lacquer economically.

To produce a steel which would meet the qualifications of the automotive industry was no easy task. It was necessary for the steel industry to find an entirely different process for rolling sheets. The solution of the problem came about indirectly. Several steel companies were developing a new process of rolling steel for the tin plate used in manufacturing tin cans. It was found that this process could also be used to produce sheets for the automotive industry. The new process, cold reduction, consisted essentially of passing a long strip of cold steel through a series of rolls or stands.

The rolling operation reduces the steel in thickness and extends its length while the width remains constant. Therefore, in order to take up the slack, an increased speed is required on each successive stand. The strip leaves the first stand at a speed of less than 300 feet per minute, and the last stand at more than 4,000 feet per minute. In order that the speeds of successive stands may be properly synchronized, it is necessary for each one to have its own source of power. Electric motors and controls provided the power and regulation necessary in this operation.

Cold reduction gives the sheet a fine smooth surface, and changes the grain structure so that, after reheating (a process called annealing), the steel can withstand the stress of forming and drawing operations without breaking or tearing or showing defects when painted.

The concurrent developments in steel, automobiles and electricity represent fine examples of industrial interdependence. The automotive industry was supplied with a product of the steel industry that could be economically stamped into parts for the body in true mass production style. This mass production cut down the cost of an automobile and also improved its quality. However, it would have been impossible to produce the steel if the mills were not powered by electric motors and regulated by electric controls.

As the cost of cars was reduced by technological improvements, the automotive industry also increased the demand for petroleum. The demand was satisfied along with the cracking process because the steel industry could provide the pipe for well casing and to carry the petroleum to refineries. The movement of oil all along the pipeline system was made possible by the use of electric pumps. By 1930, 800 million barrels of petroleum flowed through a pipeline system of 110,000 miles.

In the early years of the twentieth century poor roads were a definite handicap to the extension and growth of the automobile industry. In 1920 there were some 20,000 miles of concrete roads; by 1930 there were 80,000.

The 60,000 miles of concrete roads that were added to the country's highway system between 1920 and 1930 were, in great part, responsible for the growth of the cement industry in addition to increasing car sales. The cement industry increased its production capacity from 150 million barrels per year in 1920 to 260 million barrels in 1930.

The added mileage of concrete road was also made possible, in part, by steel reinforcement bars. It is quite significant to note that the production of steel concrete reinforcement bars between 1920 and 1929 rose from 250,000 tons to 1.1 million tons. Much of that went into highways as foundations. Approximately 55 tons of steel reinforcement bars were used in every mile of concrete highway.

The steel industry provided the steel for cars and the base for the concrete road which made motoring more comfortable and at the same time expanded the market for automobiles. Interestingly much of the cement used in concrete was made from gas from the steel blast furnaces.

**Industrial Production, 1970**

Today the interrelated automotive, steel and electrical industries continue, albeit somewhat threatened.
The dominant producer of steel is the new basic oxygen furnace and production of sheet steel for autos is being improved by establishing continuous cold rolling and annealing mills. But the dominance of American cars is threatened by competition from abroad, not only in production of cars, but higher use of technology in steel production in some other nations. The problem now is how these interdependent industries still basic to our economy can increase productivity and meet the challenges of the future. Table 6.1 compares the 70-year record of industries working together, and presents a truly remarkable record of technological achievement.

Conclusion

This section has as its purpose the development of an understanding of the interdependence that prevails between industries and the implications of this for community industrial development programs. We have demonstrated the point through the historical examination of some of the relationships between automobiles and related industries in order to establish an experience which can be useful in perceiving current change. By observing the progress and the problems of industries, it is possible to anticipate the impact of new technology. To exploit the opportunities for communities to more precisely and successfully approach industry requires the awareness that comes from a continuous study of the nature and character of industry sectors.

There is a simplified approach to discover what input-output or industry interrelationship studies might reveal that would be useful to communities. Representatives of a local industrial development group might canvass industry already in the area to determine what products local industry now uses that come from outside. They can ask existing industry if they would buy the same products if a firm was located in the area to supply imported products at competitive prices and quality. In many cases this could include savings to firms in transportation cost or contribute to the feasibility of locating a supplier. For example, if an existing apparel firm or group of firms used a large enough quantity of paper boxes, this could be the basis for a local industry. The key question to existing industry is: "What do you use in large enough quantities that would warrant a local fabricator, and that you would buy from, if there was a local supply?"

CHANCE AND OUTSIDE INTERVENTION

After we evaluate the role of the location factors that offer some degree of predictability, such things as the influence of industry interrelationship, and all of the measurable economic consequences, there are plant locations that still cannot be explained. Sometimes the only explanation is "chance" or some entirely external factor such as government policy.

Historical Chance

The first act of historical chance in American industry is related to the place the Mayflower landed. The Pilgrim forefathers were bound to the Virginia Colony to become gentlemen plantation operators, but for an unexplained reason instead landed at Plymouth Rock. Since New England was not suited to plantation crops, the new inhabitants over a period of time turned to the

### TABLE 6.1

SELECTED INDUSTRIAL PRODUCTION 1900 – 1970

<table>
<thead>
<tr>
<th></th>
<th>1900</th>
<th>1970</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Automobiles</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Units Produced</td>
<td>4,000</td>
<td>6,550,000*</td>
</tr>
<tr>
<td>Units Registered</td>
<td>8,000</td>
<td>88,841,000</td>
</tr>
<tr>
<td><strong>Steel</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Million Net Tons</td>
<td>11</td>
<td>131</td>
</tr>
<tr>
<td><strong>Petroleum</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Million Barrels</td>
<td>63</td>
<td>3,371 (1969)</td>
</tr>
<tr>
<td><strong>Electrical</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Billion Kilowatt Hours Generated</td>
<td>6</td>
<td>1,638</td>
</tr>
<tr>
<td><strong>Electricity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percent of Industry Power</td>
<td>5</td>
<td>95</td>
</tr>
</tbody>
</table>

*The year 1970 was a recession year in the production of automobiles. Domestic production of autos in 1972 was 9.3 million.
resources at hand: the sea, the forests, and the power of falling water that could be harnessed in New England's streams. England attempted to suppress colonial manufactures that might be competitive, nevertheless New England did become our first industrial center. For example, beaver hats were exported to England in the Colonial Period to the chagrin of the London haberdashers, and Danbury, Connecticut is still a center for manufacturing men's felt hats. Shipbuilding was important as a Colonial industry as well as having great influence on trade activities. Massachusetts built ships for $24 per ton that would cost $50 a ton in England. By the outbreak of the revolution it is claimed that nearly one third of all British shipping had been built in the colonies.

A few more recent examples of historical accident in location are the automobile factories of Ford at his hometown, Detroit; George Eastman and Kodak at Rochester, or Boeing Aircraft at Seattle. Accident of birth often is combined with the invention of a product or revolutionary process (Ford and the moving assembly line), or invention of machinery.

Sometimes the economic factors can compel a different location than where an original development took place. For example, the Caterpillar Tractor was developed in Stockton, California. The area provided the agrarian impetus for developing the tractor, but the best market for tractors was in the agricultural center of the nation and Peoria, Illinois, rather than Stockton is synonymous with Caterpillar, because of the high transportation cost to the major market.

The factors of chance are related to the role of personal preference. The man who sets up his factory in a particular place because it is close to a good golf course is a celebrated figure in the literature of industrial location, but the number of decisions that have really been influenced by this kind of consideration is questionable. There is a mass of empirical evidence that such matters do enter into the decision-making process at some stage, and that for many plants they may determine the precise choice of location.

We can cite many examples of the role of personal preference. There once was a prospect whose original operation was in New York City. He then discovered that he could write off winters in Florida as a business expense. So he established a plant in Miami. The next phase of his location strategy was to have other operations about a day's drive apart between New York and Miami. In a community at the end of his first day's drive out of New York he played golf and in two weeks he had established a plant there.

In another case an executive of a major firm was directed to find a location for a new plant in a distant market to more efficiently serve that market. The negotiations in that area went well until in a phone conversation one day it was announced that by chance a building that was "just right" was available a few miles from the main plant. The new plant would go there. There was one other advantage. Since the executive was also going to manage the new facility, he wouldn't even have to move from his present home. Such apparently irrational decisions as these can be very frustrating to hard working community industrial development groups.

There have been many studies that have sufficiently demonstrated that personal factors certainly play a role in plant location decisions; however, most executives are careful to say that personal whims were only secondary reasons for the final choice and are made after cost factors are determined to be about equal at all sites in contention.

The main conclusion appears to be that economic factors probably establish an area within which a location will be considered, while personal factors operate at a secondary level in the decision-making process, narrowing the choice to a few communities or perhaps to a single location.

Once chance has intervened and a plant has been built, personal factors as well as the immobility of fixed capital may prevent a relocation, even if this seems desirable on other economic grounds. In addition to leaving familiar surroundings, a move involves an increase in managerial effort while it is planned and undertaken, with some degree of risk and uncertainty as to the outcome. Some manufacturers may simply prefer to stay put, no matter how much an alternative location may seem to be an attractive economic proposition.

The influence of personal considerations and other apparently random factors makes the general explanation of industrial locations even more difficult than it might otherwise be. This is closely connected with the broader problem of interpreting the less than perfect nature of much corporate decision-making in locating industrial plants, especially when it is viewed entirely in a search for increased profits. These are the kind of difficulties that lead some observers to despair of the usefulness of any attempts at theorizing in the field of industrial location, and to fall back on the explanation of
individual cases as the best that scientific endeavor can achieve. This need not be so, but it does reflect the current state of the art.

**Government Policies and New Plant Location**

We have already discussed the role exercised by national governments in overall economic policy (Chapter 2) and State and local governments in taxes, planning and zoning as it affects industrial activity. National and local government policies in some areas can also affect specific plant locations when they wish to achieve certain economic, social or strategic goals.

Governments can encourage firms to locate in areas, usually described as distressed areas, where industrial development is needed, by offering loans, interest rate subsidies, or tax credits as incentives. This is as far as governments in the United States have been willing to go up to the present.

Governments affect industrial location through many laws, as for example those relating to hours of work, minimum wages, safety and health requirements, minimum ages of working force, legal requirements in organization and so on. Such legislation will affect industrial location where there are geographical variations in its application. Variations occur, for example, in the various States. In New England, for example, it was illegal, until comparatively recently, to employ women on night shifts. The less restrictive laws in the South constituted a strong attraction to some firms, especially in the cotton textile industry, where margins are close and expensive machines must be operated more than one shift to obtain an adequate return on investment.

Strategic requirements have caused governments to intervene directly in the location of industrial activity. Thus, in order to insure that important war capacity is available in relevant industries, and to achieve the greatest possible safety in location, governments have influenced investment in, and the location of, such industries. An especially good United States example is to be found in the iron and steel industry. The purpose was to develop iron and steel capacity based on domestic raw material at a point well removed from international frontiers. The U.S. Steel Geneva Plant in Provo, Utah, is the result of the wartime location activity of the U.S. Government. No private firm would have considered developing an iron and steel works at this location without government assistance because of the relatively weak location in relation to markets.

Further, the construction of war plants in a previously nonindustrialized area may well serve to create conditions conducive to the continuance of industrial activity in time of peace. For example, a previously unattractive labor situation may have been modified, the available labor having gained training in basic industrial skills and attitudes at the expense of the government; or the necessary skilled or semi-skilled labor may have been assembled from elsewhere. Alternatively the social capital, houses, roads, schools, hospitals and so on for the assembly of an industrial labor force will in some areas have been provided by the government where little or none existed before. The expensive early stages in the opening up of a raw material resource may have been accomplished by governmental agency too. In the United States the South and West have particularly benefited from the defense industries of World War II that provided a base of plant and equipment for peacetime growth. There was a dual purpose in many wartime locations. In addition to the security of inland locations, there was also a need to locate war plants where people already lived in order to limit massive migration to a few areas of congested defense activity.

As the pressures develop upon government for increasing the social and economic benefits of industrial activities, the role and the desires of government will become increasingly stronger as a factor in influencing the plant location decision. The direction these influences will take still appears to be undecided. Nor has the rationalization for the "inherent goodness" of government's intervention in plant location decisions been established.

**CONCLUSION TO CHAPTER 6**

The relative importance of different location factors varies in space and time as well as between industries and individual firms. At one time or another, industrial location may be dominated by a primary consideration, such as the need for water power in the early stages of the Industrial Revolution in Britain and the eastern part of the United States. Access to supplies of coal was a dominant location factor throughout much of the nineteenth century in the emerging industrial nations of Europe and North America. But at the same time, water power and coal meant nothing to large parts of the world. The manufacturing that existed was almost entirely geared to a local market. In the advanced nations as technology has progressed, sources of energy have become more interchangeable and transportation more efficient. The market and the labor supply, in interplay with a combination of factors, are increasing in their relative importance.
As industrial processes have become more sophisticated, the value added at the plant has tended to increase its importance relative to the value of the raw materials. Improvements in transportation have lessened the cost of distance and, in any case, industry is becoming more dependent on relatively mobile materials drawn from other manufacturing industries. The bulky and highly localized raw materials, so important in earlier stages of industrialization, no longer exert the same pull on plant location. There are exceptions to the general trend. The supply of water still imposes stringent restrictions on locational choice for industries with high water requirements for cooling and processing. The current shortage of natural gas in the United States certainly is causing reorientation among those industries that are major natural gas consumers.

The decrease in the importance of transportation and materials has been accompanied by an increase in the significance of labor supply and the market. Although unionization and national wage legislation tend to reduce spatial variations in wage rates, this is sometimes a slow process, and differences in the skills and reliability of labor still create substantial variations in real labor costs. The growing importance of the market as a factor in industrial location is associated with the desire of the large-scale manufacturer of both consumer goods and industrial components to be near a major concentration of consumers. Some of the external economies usually found in major industrial agglomerations are becoming more mobile geographically. This is not just in labor supply or transportation but also services. Information can now be transmitted very efficiently over long distances with advances in telecommunications and computer technology. A small town can now offer many of the services that a firm could expect to find in a metropolitan area.

As technological advances continue, there will be further changes in the relative importance of the location factors as they relate to different parts of the country. The possibility of changes in the role and importance of various location factors must not be missed. The increasing flexibility of many of the location factors is widening the location choices in many industries. Hence, increasing the possibility of location decisions being made on grounds other than those that have traditionally directed or guided industry, improves the likelihood that a community development group that knows "how to do business with businessmen" will have such an opportunity one day.

Selected References


Part II

PRACTICING

INDUSTRIAL DEVELOPMENT
PART II
PRACTICING INDUSTRIAL DEVELOPMENT

The objective of Part I was to develop a background of information about the economic, social or cultural processes and environmental forces as they may relate to the functioning of industrial development programs. In the main, Part I attempted to advance an understanding of the industrial location process by empirical and deductive means. Starting with an interrelated set of processes and factors, assumptions were made that certain forms of behavior would emerge, and would in turn produce some likely results.

We did not produce a formula for the "quick road" to success for community industrial development programs. In fact the only approach that can be offered is one that requires intensive study and slow, thorough preparation. The only short cut to success may be the factor of luck or chance. Neither have high enough ratios of success in industrial location to justify reliance upon luck.

Part II stresses application of the deductive process as the basis for preparation and follow-through. In fact it is highlighted by the title of Chapter 16, The Great Industrial Development Game. Chapter 16 deals with finding industrial prospects and its process is likened to playing detective. A community must prepare in a manner that it thinks is best for its chances of inducing industry to locate. It will succeed if it prospects intelligently and seeks those industries that appear to "fit" in its community. Finally, it will care for, feed and evaluate prospects and their projects on the basis of apparent feasibility. Part II will attempt to tell how to do these things best by exploring the techniques that have been useful in successful development programs. One caution, however: many of the techniques for success reported by others may have been an innovation at the time, but today they may be used by many communities. This highlights two of the universals of a good industrial development program — be aggressive, be innovative.

Chapter 7 presents a widely used technique for discovering leadership and motivation for industrial development programs. Chapter 8 deals with the need for a community development strategy. Chapters 9, 10, and 11 provide insight into the way businessmen actually set about planning for and locating a new facility. Chapter 12 tells what a community must do to be attractive to industry, and Chapter 13 attempts to provide a method by which an industrial development group can demonstrate to a community how it will gain benefits in the case of a specific industry proposing to locate in the community. In Chapters 14 and 15, inducement strategy for communities is treated, along with problems and needs for financing industrial development projects. Chapter 16 discusses the need for site development and in the accompanying appendix there is presented in a checklist form a method for evaluating industrial sites. As already noted, Chapter 17 explains the mystery of where prospects come from. Chapters 18, 19 and 20 provide the techniques for working with prospects: how to bargain and how to judge the feasibility of prospect proposals. Chapter 21 illustrates one more time that a community does not have to work alone, and how to share success. It establishes the ultimate point at which continuous hard work can be replaced by a few fleeting moments of complacency. Part II describes the steps that constitute the industrial development process. Figure 1 is a systematic presentation of industrial development as a process.

As was stated in the beginning of Part I, the chief aim of working toward an understanding of the concepts of economic growth and the problems of economic systems is to make some contribution to community industrial development policy setting, and community definition of goals and strategy—hopefully, all this with a realistic perspective, and attainable within the limits of the community environment.

Community policy making in the economic area will be aimed at a variety of purposes that may be summarized in general terms. First, as encouraging community growth of a nature sustainable and consistent with various other broad goals and, second as working
PHASE I —
Deciding Whether to Undertake Industrial Development in Your Community

1. Persons in the community who are interested in the process of industrial development decide to learn about the requirements, advantages and disadvantages of such development for their community; contact with possible allies in industrial development made.

2. The initiators make a general analysis of the needs and the resources of the community and area as they relate to industrial development.

3. Identification of persons to take leadership in and to begin working on this undertaking; identification of sources of support for the project and its leaders.

4. Decision is made to develop and conduct a plan to bring industrial development to the community or area or not to go ahead with industrial development activities, at least at this time.

PHASE II —
Preparing to Attract Additional Industry

5. Formal organization set up, including industrial development corporation, research committee and supporting organizations.

6. Research committee carries out detailed research concerning the needs, resources, characteristics and attitudes of the community and area.

7. Specific goals set up in terms of types of industries to seek and desired impact on the community.

8. Organization set up to carry out the functions needed to prepare for contacting industrial prospects; preparation work on these functions is completed.

8a Publicity and educational measures to develop support for industrial development within the community/area.

8b Conduct of fund-raising and financing activities, especially to support site and building procurement.

8c Control established through options and purchases over site(s) and building(s) for lease and/or sale to industries.

8d Consulting of various sources and use of various methods to identify suspects; from the list of suspects, identifying prospects for personal contact.

8e Development of presentations for use with prospects to tell them of the community/area and its attributes.
DEVELOPMENT PROCESS

PHASE III

9. Organize action teams
10. Prospecting
11. Conduct of negotiations
11a. Review of Financial Statements and project feasibility
11b. Secure firm commitment from involved third parties to be able to deliver at proper time on negotiation promises
11c. Prospect makes decision
12. Final negotiations completed
13. Publicity released
14. Community plans for highest economic benefits from new plant
15. Follow-up services to the new company

8f. Continuation and expansion of activities in step 6.
8g. Contacts with industry already in the community to get their assistance, to help them with problems they may have, and also to encourage them to consider expansion.

PHASE III — Working with Industrial Prospects

9. Action teams are organized for working with specific prospects to get them to decide to locate in your community.
10. Prospecting is the work of the action teams in visiting, being visited by, providing additional information to, attempting to sell the community to, and negotiating with the prospect company.
11. Negotiating involves the care and feeding of prospects; getting to know the managerial ability of the prospect and the feasibility of proposed projects.
11b. Secure firm commitment from involved third parties to be able to deliver at proper time on negotiation promises.
11c. Prospect makes the decision to locate or not to locate in your community; if the answer is yes, proceed to step 12; if the answer is no, go back to some previous point in the sequence after an analysis of the reasons for the negative decision.

PHASE IV — Helping the New Industry Get Started

12. Final negotiations between the company and the Industrial Development Organization completed, including the selling or leasing of sites and buildings and other legal matters.
13. Publicity releases concerning the new company are made by the Industrial Development Organization and the new company.
14. Development of community strategy to secure all possible benefits from location of new plant; job training programs and effect of the plant should be explored.
15. Follow-up services to the new company from the Industrial Development Corporation to help it become and remain an integral part of the community.

1 Adapted from Building the Foundations of Industrial Development, Industrial Division, Nebraska Department of Economic Development, Lincoln, Nebraska, 1973.
actively toward meeting major special problems that could thwart the community development effort.

Goals of all the people in the community are the important feature of the successful industrial development program. There are some universals that most people want but they must be made to appear relevant to the whole community to achieve universal acceptance.

Most people want full employment and high and rising standards of living. They want an equitable distribution of income. They want incomes whose worth in real terms will not be jeopardized by sharp price advances. They also seek a balance between group participation and individual freedom. They seek freedom from government, business, or other institutional domination that they believe will discourage individual creative activity and rewards.

To achieve such broad objectives we set up more specific goals such as maximum sustainable growth in output of goods and services within the community. Then we qualify and contradict these goals. We do not really want maximum output at the expense of some sort of imbalance between population and ecology, or land that can be tilled or mined or subdivided. We do not want maximum output at the expense of an intolerable division of time between factory and family life. Nor do we want to work at "monotonous or unchallenging" jobs.

No one set of policies, goals or strategies has the versatility needed to handle the variety of community economic problems to be dealt with by one means or another. Whatever the organizational arrangements for community policy making may be, the need for broad understanding on the part of individuals dealing with highly specialized problems in particular areas will be great. Policies reasonably well adapted to the situation and to each other can best be developed among people of understanding. And such policies can be adopted and then implemented effectively only if many people in the community take an active interest in economic affairs and work to broaden their understanding of economic development and the economic policies that can affect their community.
7. LEADERSHIP AND MOTIVATION FOR DEVELOPMENT

Introduction

The development of a community depends to a large extent on the ingenuity and ability of its local leadership. Leaders can be effectively involved in the decision making process to bring about desired social change and thereby meet the needs and aspirations of the citizens and their communities. This can be accomplished through groups and organizations working cooperatively.

To solve community problems, several ingredients are required. First, community leadership must be identified. Leadership includes people who are acknowledged as being influential leaders in the community, as well as capable people who can be developed into leaders. Second, real problems as identified by citizens must be the target for involvement. Attempts to get involvement in superficial problems without attention to the roots of a problem are meaningless.

The citizen survey technique can be used to determine the influential people and the problems of a community. A survey not only identifies political and lay community leaders, but also provides a method of involving the people who, because of their position or wide range of community activities, are likely to know a great deal about their community. The survey is an attempt to see the community through the eyes of leaders from the various sectors of community life.

There are limitations to the view of an area through the eyes of a cross-section of leaders. Today, it appears a survey cannot be considered a complete view of the community unless it reflects the views and problems of all of the various socio-economic groups in the community. Further, the survey technique works only to the extent that leaders who represent such groups can and will communicate their views.

There are many common concerns in all communities. However, no community can borrow problem solving techniques, but they must determine and acknowledge existence of local problems and initiate programs to meet their own unique kind of needs.

Survey Methodology

Where the survey technique is used, interviewers ask each political and lay leader to list the problems of his community as he sees them. The survey provides the incentive for the community leaders to organize community concerns in their own minds and to do something about them. The resulting list of concerns then must be separated into small manageable projects which can be resolved one by one.

The survey methodology that is used as an example in the remainder of this chapter describes the procedures that have been established for use by the Louisiana Cooperative Extension Service. The vehicle for local action is the Parish (County) Rural Development Committee and the effort is coordinated by Louisiana Cooperative Extension Service at the State level.

The survey method to identify community leaders and problems and then to motivate leaders and the community sufficiently to achieve continuing action and problem resolution is a technique widely used among the Cooperative Extension Services of the various states. There are many leaders and proponents of this method and some are identified in the Selected Bibliography at the end of this chapter. In most instances where the survey technique has been applied, there has been a high degree of involvement of local Extension and U.S. Department of Agriculture personnel in the initial survey team. The initiative that has been demonstrated by these people is not the exclusive province of Extension or USDA. A survey committee can and does consist of all kinds of people who will work at community development.

Selected Bibliography

Parish Rural Development Committees

In Louisiana, rural development committees are usually composed of the local U.S. Department of Agriculture (Soil Conservation Service, Farmers Home Administration, Agricultural Stabilization and Conservation, and the U.S. Forest Service) representatives and parish Extension agents. Other organizations and agencies such as the parish health department, welfare department, other Federal agencies, and concerned citizens representing various segments of the community can also be involved.

Many rural development committees are at a loss as to exactly how to get started. A step by step procedure for effective citizen participation to identify problems, establish priorities, select alternative solutions, plan for action, and implement a plan of action has been developed for parish committees.

Task Force on Resource Development

To provide the impetus to the use of the survey technique, a Task Force on Resource Development has been organized in the State office of the Cooperative Extension Service. On a task force there may be agricultural economists, resource development specialists, recreation specialists and rural sociologists.

A member of the task force serves as coordinator for the parish problem identification survey. He meets with the parish rural development committee to explain the process and to establish detailed procedures for a survey.

The Survey Team

With each member of the parish rural development committee a second person is added to form a team to do the interviewing. This additional participant observer may be a representative of a State or local agency or organization, a member of the Extension staff, or a faculty member of a university or college interested in community development work. The participant observers may spend a day or the entire week working on the survey.

Compiling the Initial Interview List

The USDA members of the parish rural development committee prepare a list of 15-20 names of people who they consider to be the top individuals in the parish, including men, women, black, and white. This is an independent effort with no consultation between members. All members of the Extension staff are asked to submit a list of names.

Four outside people are also invited to make lists. These people are informed that the rural development committee in cooperation with Louisiana State University is going to conduct a problem identification survey, and would like to have a representative list of 15-20 names of people whose good judgment they respect. They would be people who are concerned and knowledgeable about the problems of the parish.

Information Cards

For each name submitted, a card is typed with pertinent information such as name, address, and telephone number. Additional descriptive information may be coded on the cards if so desired. Each time the same name is mentioned, a mark is placed on the card. For each card with at least one mark, or names that have been mentioned two or more times, a duplicate card is made giving only information necessary to locate the person.

A list of governing body and school board members, mayors, the sheriff, the assessor, and other important elected officials is compiled and checked against the cards. A card and duplicates are made for any names not in the file. A courtesy interview will be made for these people if their names have not come up two or more times. One week prior to the survey, duplicate cards are reviewed and the rural development committee begins to make appointments for the survey interviews.

Week of the Survey

Monday — The survey coordinator conducts an orientation meeting for members of the rural development committee, the Extension staff, and participant observers. The background of the survey is explained as well as the role of the interviewer and the participant observer.

Tuesday — A member of the rural development committee and a participant observer form a team to conduct the interviews which have been scheduled by the rural development committee.

The rural development committee member takes the lead in the interview. The interviewer should read the questions from a card to insure the integrity of the survey. The first question is: “Will you indicate some problems or concerns as you see them of Parish?” The participant observer writes the answer on a card.

The interviewer then asks: “Please give us names of individuals whose good judgment you respect and who are concerned about the community — including men and women, black and white.” The word “leader” is not mentioned during the interview.

The person interviewed is told that findings will be compiled and copies available at a “town hall” meeting.

Cards are returned to the secretary, additional names of leaders checked and marks put on the cards for those previously listed. A card is written for any new names.

Wednesday — Those people mentioned three or more times that have not been interviewed are assigned to team members for interview.

Thursday — The coordinator and the parish chairman meet to analyze progress. Any areas of the parish not covered either by geographic or interest area are covered with a courtesy survey. Those people mentioned
four or more times that have not been interviewed are assigned to a team member to make appointments for Friday morning.

Friday — Teams keep appointments previously made and try to contact other people whose names have been suggested. Every attempt is made to complete all interviews within the week.

Summary and Analysis of Interviews

Problems and concerns that have been listed by the people are organized into broad categories such as:

- Agricultural Structure
- Economic Base and Jobs (Business, Industry, Employment)
- Education (General, Vocational, Adult)
- Environment (Pollution and Beautification)
- Government (Organization, Law Enforcement, Taxes)
- Health and Welfare
- Motivation and Leadership
- Public Facilities (Water, Sewer, Transportation, Waste)
- Public Policy
- Recreation
- Social Structure and Relations

The coordinator compiles and analyzes the results and prepares a summary of the findings to be presented at a town meeting.

Town Hall Meeting

Total Community Problem Solving or Specialized Solutions?

At the professional level proposing broad actions for change by expert planners or a team of problem solvers, appears logical and not too difficult to implement. However, due to the nature of social change today, broad action programs involving lay participation are much more difficult. The evidence seems to indicate that significant community change typically takes place as rather narrow, specialized projects. For example, when a committee is organized for industrial development, its "oneness" of purpose can serve as a spearhead for acceleration of an industrial development program. Although less imbalance would likely occur if a broad, many-fronted action program could be carried on, there are reasons why the more segmented approach usually occurs: (1) Any community is limited in its resources, time and energies available at any one time; (2) People tend to be concerned more about specific problems rather than improving on a broad front; (3) The broad approach involves so many complexities that it is difficult for laymen to comprehend without considerable study.

The Meeting

The date for the town hall meeting is set prior to the survey; people learn about the meeting during the interviews. In addition, a letter is mailed to every person interviewed encouraging him or her to attend this meeting.

The chairman of the rural development committee opens the meeting and gives a brief history of rural development in the parish. The coordinator then presents the results of the survey. A motivational talk is given on "Where Do We Go From Here?" outlining the process.

Citizens then get involved by discussing and determining priorities of problems in small groups. They select their own spokesman. They are asked to select the two or three problems they think they as a citizen group can do something about within a reasonable length of time.

After a group is formed and has its priorities, it is suggested the next step is to have a meeting at which authorities on the top two problems can discuss alternatives. A time and place is decided by the citizens for the next meeting.

Organizing for Action

Up to this point, recognition and definition of problems, establishment of a priority of problems and motivation to act will have involved only a small number of people. Now an effort is made to broaden the base of involvement. If other individuals and organizations are to support the cause, they must have the opportunity to become informed and convinced.

After the priority of problems has been established, the next step is to select an organization to study and plan. There are three basic approaches: (1) hire an agency or commercial firm to make a study and recommendations; (2) assign the task to an existing community organization; (3) create a new organization specifically for this problem. Combinations of these methods may be feasible.

If action is the ultimate goal of the problem identification survey, the first approach is not likely to be effective. The importance of incorporating community leaders and other lay citizens into the study planning process is probably due, in part, to our particular form of government in the United States. Lay advisory groups to support official agencies are in widespread use. They serve varying functions such as: (1) a way of getting the layman's point of view structured into official plans; (2) a sounding board by which public officials may test out plans developed by technical specialists; (3) a way of educating the public and gaining public support; (4) a
way of gaining access to certain professional and technical abilities not otherwise available; and (5) a means of getting coordination between loosely structured political factions or other divisions within the community.

To broaden involvement a citizens' subcommittee is formed to further study each priority problem. These committees need someone to call meetings, and keep a record of important points; but there is no need for a formal organization. As they progress, they may need more information, other resource people and an opportunity to report their progress and needs at a town hall meeting of the entire group.

If an established community organization can assume the basic sponsorship while inviting representation or co-sponsorship from other organizations, agencies and groups, the chances for success are greater.

Survey Followup Meetings

The coordinator, the chairman, rural development committee members and spokesmen for discussion groups discuss and select resource people to discuss the two top problems selected at the town hall meeting. These may be local people with a greater insight into the problem, someone from a State agency or organization, or from a university. The important thing is to obtain people who are knowledgeable about the subject, and who will be able to present alternative means of solution, as well as the consequences associated with each alternative.

The meeting process involves the existing power structure. Politicians realize that if they wish to remain in office, they must satisfy most of the citizens. Elected officials have usually recognized the worth of study committees and have cooperated.

At the followup meeting, the chairman introduces other members of the parish rural development committee. If there are many people who have not been at the town hall meeting, he may wish to explain some of the background for the rural development work in the parish.

Survey results are reviewed. The top ten problems as determined by the survey, as well as the top three or four problems singled out at the town hall meeting are emphasized.

The participants need to know more about the entire process and what the rural development committee has in mind. A talk on "game plan" describes in brief detail the rural development process and the steps as visualized by the rural development committee. Each resource person discusses some of the alternate solutions to that particular problem and the advantages and disadvantages of each. Time is allowed for questions from the audience.

The audience is divided into two problem area discussion groups. Participants are asked to go to the group in which they are most interested. A member of the rural development committee is the group discussion leader. He will have been previously oriented as to the objectives and goals for this discussion period. The resource person also meets with the group to discuss the problem in more detail and answer questions.

The main purpose of the group discussion is to decide if the participants wish to continue working on the problem, not on how to solve the problem. They need more information and time before they make the final decision as to which is the best way to handle the problems. After the group decides to continue working on the problem, it selects a chairman and a secretary, so they will have someone to call the next meeting of the action committee, as well as someone to keep a record of important points.

The meeting reconvenes and each group has its newly elected chairman report on what the group has decided, including the time and place of the next meeting. The chairman of the parish rural development committee assigns one member of the committee to be a liaison person for the citizens' group and work closely with them.

The chairman explains that, at some future date, there will be another town hall meeting, at which time a new problem will be inserted into the process. He also points out that although committees had only been established for two problems, if some group wants to work on a smaller community problem, the parish rural development committee will be glad to assist them in any way.

The Study Action Committee

If community services and development are going to be relevant and coordinated with the people of the community, they must be related to them through citizen committees.

Forming a Committee

A committee is a group of people selected from a larger group to study or act upon a particular matter. Effective committees are essential to successful group action. Selection of committee members is crucial. It should not be left to chance.

In forming a committee or group, first consider the types (groups) of people within the community that should be represented on the committee. Several important considerations are:

1. Which groups in the community have an interest in the kind of activity in which the committee will be engaged?
2. Which groups have the knowledge and skill or access to information needed?
3. Which people have access to resources?
4. Are there people who would benefit from working on the committee with more experienced members?
5. Are there groups who might develop a greater sense of belonging or commitment to the community by working on the committee?

6. Is a representative group needed? Representation of different:
   - opinions or points of view
   - organizations or agencies
   - geographic locations
   - ethnic groups
   - age groups
   - economic groups

7. Which groups have not been involved in the past?

After determining the types of people who should make up the committee, the next step is to select individuals. Consider individuals:

1. Who are personally interested in the issue or concern under consideration.
2. Who are or will be affected by the issue.
3. With knowledge applicable to the problem or subject at hand.
4. Who will communicate with others in the community and will continue to do so during the time they are serving on the committee.
5. Who are willing to serve, with commitment.
6. Who are willing to change, if change is necessary.
7. With a positive attitude, and enthusiasm.
8. Who are able to work with others.

After deciding what types of people, knowledge, and skills will be needed by the group, and selecting individuals in the community who can fill these roles, recruit the individual by telling him why he was selected and why his unique combination of knowledge, skills, and interests are vital to the success of the group. Be sincere.

An important contribution of committees, one that is frequently overlooked, is their potential for providing an excellent training ground for new leaders. Community apathy often stems from a feeling that the average citizen has neither the opportunity not the ability to participate in community affairs. Committee involvement can overcome such apathy.

In every community, decisions are made each day. There are people in every community who are making or choosing not to make decisions. The function of the committee involvement process is to improve the quality of the decisions.

If better coordination of the community goals and services is to be obtained, the citizens of influence or the natural leaders must be brought together for the same vigorous study and analysis that they use in their businesses and professions. They likewise must be provided the best knowledge that is available concerning community problems.

### Citizen Decision Making

The process moves from the task force at the State level to the parish rural development committee, then to a citizens' study action committee, but it is the citizens who make the decisions.

The study action committees meet as soon as possible after the parish-wide meeting to discuss and plan how they are going to get some action. This is where the work is done.

The chairman is free to call upon the parish rural development committee for suggestions as well as assistance in obtaining more information upon which to base their decisions. The chairman calls the meetings. The secretary of the committee keeps a set of notes so they will have a record of decisions made and actions taken. The secretary also keeps a list of committee members.

The rural development committee may assist the chairman and secretary by preparing notices of meetings and providing information and assistance. At least one member of the rural development committee tries to meet with the study action committee in order to keep abreast of the progress and keep the rural development committee informed.

Study action committees meet as often as necessary to study, plan and then implement the plan. When more help is needed, they contact the rural development committee so they can set another town hall meeting.

These committees may decide to visit other areas experiencing similar problems. They may invite people who know about the problem to give them more information and discuss possible alternatives.

Committees continue meeting until they have achieved their goal or decide that they cannot accomplish it. Sometimes they have to settle for a partial solution. They report at a town hall meeting. The committee may be dissolved or implementation may be a continuing process such as is the case in an industrial development program.

### Into Industrial Development Action

Once a community has considered the alternatives and decided to move ahead with an industrial development program, the real work begins. Community-wide enthusiasm and understanding are essential ingredients for a successful industrial de-
development program. A survey that identifies the need for an industrial development program provides the framework and the opportunity to create the confidence necessary to bring together community leaders and to direct their resources to the establishment of an industrial development program.

Mutual confidence and trust generated by a study action committee, along with community-wide support, sets the perimeters within which it is possible to develop and implement a strategy for a successful community industrial development program. Chapter 8 identifies the many facets of such a strategy.

Keeping the membership of the community industrial development committee highly motivated is a continuing requirement for a successful program. It is necessary to build into the strategy and structure of a committee the ingredients for success. The way to do this is to make certain that:

1. The benefits derived from the work of the committee are as valuable as possible from the viewpoint of the committee members as well as the community. This may require devising new purposes or objectives from time to time and finding new ways to use the services of the members.

2. Activities and strategy are clearly and obviously related to the purposes of an industrial development committee, everyone must have a job to do, and jobs must clearly be important in the eyes of the members, as well as the community.

3. The structure of the committee will increase the chances of getting additional people involved, and that it does not become a closed operation.

Selected References


8. COMMUNITY INDUSTRIAL DEVELOPMENT STRATEGY

As was pointed out in the preceding chapter, communities usually begin practicing industrial development when a small group of interested citizens gather to talk about the need for industrial jobs in the community. Sometimes it takes a while, but the interested citizens usually come to agreement on the desired goals, the need for a strategy to attain the goals, and a discovery that a program for industrial development involves the entire community, including the surrounding countryside.

From the point of view of those practicing industrial development, the term community development is synonymous. There can be little doubt that communities must develop public facilities and services if industrial growth is to take place. There are always the questions of what type of facilities or services, how large, and where they should be located. How much should be spent without an industry ready to move into the community?

The things industry wants in a community are also the things that most citizens of a community want. Since industry is made up of people, their collective wants in a community are logically similar. Opportunities exist within any community to make that particular community a more desirable place in which to live. This may mean examining and improving present educational facilities, public services, or attitudes towards the establishment of new businesses that may be less than desirable. It is evident that industry looks at a community on the basis of what it has done and not what it says it will do. The past is still the best indication of the future. Therefore, if citizens of a community find their community lacking in particular elements, they must seek out those means by which the appropriate changes can be made.

The Community Industrial Development Corporation

It is good when the initiative and leadership for economic development comes from the area itself. One successful course of leadership for creating jobs has been through the community industrial development corporation. The community corporation is not owned or controlled by any branch of the government — national, state, or local. It is a quasi-public organization owned and managed by an association of local citizens and business interests who are possessed with a concern for the community’s economic health.

The community industrial development corporation had its origin in distressed situations where industry was in trouble or actually closing or moving out, leaving in its wake a burden of unemployment and depressed business. Out of crisis, leading citizens in such areas organized local nonprofit corporations or foundations and raised capital for the purpose of attracting industry into the communities or salvaging industry still there. Sometimes the project has been a single effort in the form of a loan, a gift of capital, or a combination of the two, to a firm. More often, money raised has served as a revolving fund from which financial assistance has been provided to firms on a businesslike loan basis. Many federal and state programs have been designed to support the lending efforts of community industrial development corporations.

The community expects to be rewarded by more employment, more general business, and more and higher incomes that will come from the growth of existing firms and from the development of new industry that can best use the community’s resources and advantages.

Although created originally to offset factory shutdowns or other economic problems, most community industrial development corporations today are organized as an entity for more sophisticated community industrial planning and development programs.

There is a need for a broad economic base to sustain economic growth and to support development programs. Groups of communities comprising a community
economic area can organize areawide industrial development corporations. A single industrial development corporation serves the entire area from which it receives its support. It is not important that each town has its own industrial plants and its own development corporation, provided industry is located within commuting distance. It is where the income is spent, rather than where it is earned, that matters. The commuters will share in the wages and profits generated by industry, and communities in which the commuters live and trade will share in individual expenditures. This is most true where tax jurisdiction is broadly based.

Setting Goals

After organizing a development group, major decisions are required to establish goals which will affect the community's future. In seeking to achieve development goals, it is useful to operate in the context of strategies. Strategies serve two useful functions. First, they provide guidelines for action that offer the maximum opportunity for goal attainment. Second, they aid in relating actions and projects to goals.

There are three levels of goals that can be set – long range, intermediate range, and short range. They should be complementing in that the short range goals should contribute to attainment of the intermediate and long range goals.

No one strategy may necessarily be sufficient to define and develop projects for achieving a given goal, in which case alternative strategies become useful. The development group in the name of and in concurrence with the community must decide what the goals should be, whether they are realistic goals, and their attainability. In setting priorities for the development of programs or projects, the adequacy with which any one program or project fits strategy requirements is weighed. As a practical matter, a newly established development organization may wish to give first priority to a highly visible and attainable short range goal to establish credibility in the community.

The goal for a local development organization is to produce a higher standard of living through a more efficient use of local resources whether they be human or natural resources. The ultimate goal is to produce a surplus of goods or services over and above that needed for local consumption. When this occurs, the formation of capital begins. This "new" (money from outside the local economy) capital can be used to increase both living standards and goods for formation of more capital. On this basis, stable economic growth is achieved.

Developing Strategies

To achieve the long range goal to create a base for stable economic growth, the development of job opportunities through industrial growth is most often the first strategy identified by a community. As the community studies how it might achieve success in arriving at the job development goal, other strategies are developed that appear complementary or are interrelated to the ultimate goals.

The major strategies that usually emerge in the community development program to strengthen the economic base include:20

1. Job Development: creating employment opportunities to generate personal income through wages and salaries.

2. Resource Development: efficient use of resources to generate other forms of personal income.

3. Manpower Development: educate and train local people to increase their earning power.

4. Community Development: improve services, increase efficiency of the local public sector, and enhance the environment and community support for economic development.

5. Management Development: provide leadership institutions, procedures, coordination, planning, research, and promotion to achieve economic growth.

These five major strategies can be broken down into intermediate and short range goals as programs and individual projects are identified. Some can be tackled by an industrial development committee; others will be more manageable by using special subcommittees. Once programs have been identified, individual projects that are the short range goals can be evaluated to determine their prospects for attainment and their estimated benefits and costs and who will carry out specific projects.

An outline for organizing the strategy for achieving community economic goals follows. The purpose of the outline is to illustrate strategies and alterna-

---

tives which are generally common to community development programs. The outline does not necessarily represent the order of importance or usefulness for any particular community. It is intended only as a sample for a community development group to consider in their formation of a strategy to establish and achieve their goals.

Community by community, goal setting and strategy are conditioned by the economic setting and existing industry structure. The area's resources — human, natural, and institutional — are important in producing an environment that will lead to new economic growth. Early recognition of the interrelationship inherent in all these factors will establish advantages and/or barriers that will challenge the goal setters.

Outline for Development Strategies

I. Job Development: creating employment opportunities to generate personal income through wages and salaries.
   A. Upgrade and expand existing employment opportunities.
      1. Identify employment opportunities in growing industries in the area which produces wages sufficient to raise the local income average.
      2. Work with industries which have potential for upgrading or expansion.
      3. Identify new technology which will assist in expansion or upgrading existing industry.
      4. Participate in upgrading and expansion through information dissemination, research, and development funding.
   B. Attract new industry employment opportunities.
      1. Identify major industry sectors and companies that are growing or are expected to grow.
      2. Study location criteria used by companies.
      3. Correlate location criteria with area resources and facilities.
      4. Develop locational information for industry decision making appropriate to the area.
      5. Disseminate results of analysis and information to appropriate industry sectors.
      6. Identify and/or control industrial sites, buildings, or industrial parks.
   C. Establish new employment opportunities (homegrown industry).
      1. Gather information on new products, services, processes, and technology from all available sources.
      2. Identify those which constitute an opportunity and seek local implementation.
      3. Assist new entrepreneurs with potential by performing research and development on marketing, securing venture capital, market analysis and management development.

II. Resource Development: efficient use of natural resources to generate other forms of personal income.
   A. Identify and develop markets for area resources and products.
      1. Identify resources now being exploited.
      2. Determine products with highest potential for developing markets outside the area.
      3. Determine those resources which will contribute most significantly to income generation.
      4. Identify underutilized resources and evaluate potential for future use.
      5. Implement program to bring about earliest and highest use of resources compatible with long range goals.
   B. Develop investment/venture capital resources within the area.
      1. Collect current information on availability of venture capital.
         a. Data on major investment bankers in nation.
         b. Data on all sources of capital in the area.
         c. Criteria used by sources of capital for decisions on investment.
      2. Determine policies of investors operating in the area.
      3. Encourage capital ventures by:
         a. Possible financial support of a development bank.
         b. Obtaining authority to act as a financial agent in state and federal programs.
         c. Attempting to establish bank lending policies to promote local growth.
III. Manpower Development: educate and train local people to increase their earning power.

A. Develop and coordinate educational programs directed toward meeting future needs for employees in professional positions within the area.
   1. Identify current educational level of area population.
   2. Determine capacity and quality of existing post-high school institutions.
   3. Estimate future requirements for various disciplines related to employment development and resources development.
   4. Communicate relevant data to states for incorporation into planning for higher education.
   5. Assist state planners in establishing goals and objectives for higher education.

B. Develop and coordinate training programs directed toward relevant skills for production of future employees in skilled jobs.
   1. Estimate skill requirements based on employment and resources development.
   2. Determine current and projected labor availability and need.
   3. Determine training required to produce required number of skills.
   4. Assist in selection, counseling, testing, and placement of persons trained.

IV. Community Development: improve services and increase efficiency of local public sector and enhance the environment for economic development.

A. Determine existing conditions in such community facilities as housing, health care, water and sewer facilities, public education, etc., as key factors in improving the development base.
   1. Identify relative importance of environmental conditions in industrial location decisions and relate to community attitudes.
   2. Estimate future requirements for community facilities, housing, health care, school facilities, etc.
   3. Identify services that could be operated more efficiently.
   4. Communicate relevant data to responsible agencies for incorporating into investment and other plans.

V. Management Development: to provide leadership, institutions, procedures, coordination, planning, research, and promotion to achieve economic growth.

A. Establish attitudes and institutions to support established goals.
   1. Develop communitywide acceptance of job development programs.
   2. Obtain institutional support for development programs; i.e., equitable taxes, services, and facilities to support programs.
   3. External promotion of area advantages for industrial locations.
   4. Encourage and support area planning programs.
   5. Identify state and federal resources to support and implement community development programs.
   6. Secure funds to operate industrial development organization and obtain professional staff or assistance.

This is not an all-inclusive outline. Orientation in the outline is from the internal factors toward the external factors. This is a reflection of the way a community group would approach its problems. The internal factors are those that the community can most effect. At the same time, the actions of external forces in most cases exercise a dominant influence upon the successful achievement of community goals for job creation. The national economy, as well as the world economy has great influence upon the factors that determine the attraction of new industry along with the success of locally-developed industry. These external factors and the implications of resultant trends must be applied to any development strategy.

Industrial plant locations are and will continue to be based upon economic factors, with maximization of profit as the major objective. However, there are new forces of change that influence the location of industrial developments.

Industry traditionally seeks out a location which combines all location factors so as to give the greatest return. Industry looks for minimum transportation costs with maximum service, reasonable labor costs with satisfactory productivity, inexpensive utilities with reliable service, and pleasant surroundings with a modest cost of living.

Industry searches for a plentiful supply of labor without sacrificing proficiency of skills, an attractive plant site without excessive cost, and a cooperative local
attitude without limitation on its independence. Industry wants a healthy tax structure with low rates, but not so low as to jeopardize normal services.

A favorable combination of these factors is increasingly difficult to find, and new and complicating factors have arisen. The new elements influencing today's location decisions include:

1. Requirements for protection (or improvement) of the environment.

2. Requirements for employment of minority groups, low income, and underemployed.

3. Reliance on automobile commuting by the vast majority of employees.

4. Continuing increases in educational and technical demands on the labor force.

5. Rapidly rising land costs and competition for non-industrial land uses.

6. Impact of rising labor costs to produce more decisions for automation.

7. Supply, quality, and cost of utilities, particularly fuel and power.

8. Insurance cost or availability as centralized facilities have come to represent concentrated risks not readily assumed by insurance companies.

9. Increasing pressure from foreign competition.

10. More costly municipal services with all levels of government levying increased taxes.

11. Continued rail service curtailment or abandonment.

The social influences have become increasingly significant in their impact on the location of economic activity. On all levels of government, policies and the programs that evolve from policies will exert increasing influence upon where economic growth takes place. Most of these programs may be a response to social requirements of governments rather than reflections of pure economic forces.

The point is that any strategy developed by a community should attempt to recognize all of the forces or influences at work that may have bearing on the successful attainment of established goals. Further, strategies developed to reach goals must not be held static. As change takes place that affects strategy, there must be recognition of change and flexibility of actions to meet the challenges or opportunities that change may bring.

Selected References


9. THE MANAGEMENT DECISION TO BUILD NEW FACILITIES

When the community commits itself to an industrial development program, it soon comes to learn that communities do not create industry. They merely create a not-so-unique environment into which it is hoped industry will be attracted. Businessmen who are the managers of industry create new industries. Industry managers then are the target of a community's industrial development program. The leadership of the community program must know how businessmen think — must know how industry makes its decisions, know the goals of industry, and know the factors that affect management's decision over which a community may have little control.

The genesis of a profitable business is expansion. Expansion of production, sales and services usually entails additional expansion of plant and equipment. This must be accomplished within the framework of competition that sets price ceilings and squeezes profit. It takes positive steps if a company is to combat these conditions. The first steps are usually to study the company's products and to institute work simplification procedures and cost reduction through engineering redesign programs to lower costs by increasing productivity.

Part of the management decision for a new plant involves a review of existing plants. Firms must determine whether existing plants are properly located relative to skill requirements, labor supply, transportation costs, raw materials, and other factors that contribute to the expense of production. Some reviews of the company situation may indicate modernization of present production facilities would solve the most pressing problems. This must be weighed against the probability that a new plant with a fresh start may be more profitable.

Planning a new plant may also entail replanning an older plant. For example: A plant in a tight labor market may be using overskilled people on too many jobs. A new branch plant in a rural area may permit fuller use of skills in the old plant on product lines requiring more skill and experience and the labor skill requirements at the new plant could be better met producing other products at lower labor costs. If a community development group has studied the firm it is dealing with, it may be able to suggest this approach if a prospect has expressed concern over the skill levels of the area labor force.

Profits in New vs. Old Plants

The first step for management is to evaluate the probable economics of a new plant versus the known economics of an old one. Raw materials, freight costs, and labor rates for the old plant can be analyzed. Little problem exists in decisionmaking where costs are easily reduced to measurable factors. However, when industry tries to evaluate and compare differences in labor productivity, effectiveness of new management and machinery, the decisionmaking process is much more complex because such items are not susceptible to exacting analysis and comparison until a new plant is in operation.

Industry must make some assumptions on the basis of experience that will be reasonable for the comparison. Industry usually recognizes that old plants are plagued with old machinery with high maintenance cost, old processes and methods, outdated work agreements, and old management policies. Machinery and equipment are kept busy because they are available, not always because they are economical.

When a new plant is built, management has great opportunity to correct the problems of the past. The product cost advantage in a well-organized, well-balanced, well-managed modern plant in the proper business environment strongly influences the decision to build a new plant. All these reasons can be exploited by a community sales team when it talks business with industry. The fact that some new location may have
greater income potential than the one now occupied does not mean that a firm will immediately move. There can be many obstacles to the mobility of persons and productive equipment.

Another important factor is that a firm may be unaware of the superior prospects of a new plant. A well-run industrial development organization can be the first to tell the operator of a firm. He may not have time, means, or inclination to inquire about such opportunities. A move in any event would involve expense, extra effort, and usually some disruption of established trade contacts. The greater economy of the new site may appear to be realizable only in the long run. In that case, the proper timing of a move will be based on a comparison of out-of-pocket costs at the present location with total costs at the new location. He may feel that the firm’s best interests will be served by continued operation at a location that is “obsolete” on a total-cost basis as long as no extensive renewal of capital facilities is needed. A status quo situation may continue to prevail until there is a direct action to cause change, such as a pollution control order.

It is not surprising, then, that locational adjustments by actual migration of industries are normally sluggish. Those who happen to have selected a poor location, or a location that loses its original advantages, may remain there as long as they can stay in business at all. But the location patterns of industries are by no means so haphazard or so sluggish in adjustment to differential advantage as the locations of individual firms. Where there is competition, well-located enterprises will be rewarded and the lives of poorly-located ones will be shortened. Even if new establishments were to be located purely by tossing darts into a map, some semblance of a reasonable pattern will emerge as the result of competition.

A compelling need for a branch plant may occur when a firm discovers that warehouses located in areas of growing markets can reduce transportation cost to these markets. Faster delivery and better service accompanied by an “in-house” sales force usually will expedite market penetration. The establishment of a warehouse can then develop the product demand necessary to support a new production facility. Any location of such a warehouse should be followed up by the community development team.

Another stimulant for locational adjustment occurs when a producer of semi-finished products (“goods to make more goods”) discovers that his customers are establishing branch plants where an economic advantage could fall to a competitor who may be favored by lower production or transportation costs. When such an action occurs, the development team should try to determine what other “dominoes” might fall.

There are 3,000 to 4,000 new manufacturing plant locations each year. Only between 600 and 700 of these new plants cost more than $1 million. The average businessman makes plant location decisions infrequently. He may make numerous price, wage, or sales decisions in the ordinary course of his duties, but statistics show he is only called upon to locate a new plant once or twice. This is an advantage for the well-prepared community, for their representative will often have more location experience than the businessman.

The decision for a plant location generally can be identified as one of three basic types: (1) Part of a plan for a completely new enterprise; (2) A means of improving or saving an existing plant by relocation; or (3) Expansion of a going concern by adding an additional plant (branch plant).

The New Enterprise

The simplest locational situation in many respects occurs when a completely new enterprise is started. However, securing finances, assembling a completely new manufacturing and sales organization, or arranging for sources of supply and raw materials may overshadow the question of where the business should be located.

Most new enterprises begin in a small way, and an entrepreneur may not have the resources to survey a large number of potential locations and select the most advantageous one. In fact, they may give no thought at all to possible alternative locations. Chance is a major factor in the location of new enterprises. However, many communities miss the opportunity of having new enterprises established because they are not prepared to support them.

Most new firms start small, depend on a local or regional market, and are located where the founder and his associates live. The cases of new industries in which there is a careful analysis of the economic factors of location to select an optimum point are probably the exception and not the rule. Thus, the question as to whether the residence of the entrepreneur is an economic location for the firm becomes one of the elements that determine survival rather than a pre-established element. Many small firms probably survive in spite of a less-than-optimal location by accepting lower returns for
management and capital. Some later correct the initial error, and many fail. Some find they are well located as a fortunate happenstance.

The location of new enterprises is not always as random as has been implied. Many new firms are started by men who learned the business working in an established company. If the employee then starts a competitive firm in the same location, the success of his former company would argue that the location must, at least, be adequate.

Relocations

A company having a reasonable degree of business success is unlikely to disrupt its operations to move a plant, but when shortages of labor or raw materials occur, or when a competitor has capitalized on some heretofore unrealized location advantage, a company may be forced into relocating its plant. Despite the public attention that is given when an entire plant is transferred from one location to another, current relocations are a relatively minor part of the national location activity.

Periods of high demand for a product tend to justify using the available capacity in most industries no matter how disadvantaged the facilities may be economically. However, the diseconomies for specific plants arising out of the present application of high pollution standards, which may produce exorbitant costs to rectify, have occasioned a large number of plant closings that may be resolved only by relocations.

Moving a plant involves possible sacrifice of some of the investment in the old site and building, a costly interruption of operations, the loss of trained employees and the additional employee relocation costs and expense of training new workers. The advantages of a new location must be outstanding to produce such a move. The negative social reaction that relocations produce impose upon management important public relations considerations. Emotional factors can prove to be a problem -- a problem to such an extent that the federal programs can not be used to support relocations that will result in a loss of jobs in the closing plant's labor market area. The purpose of federal programs to aid business is to stimulate national economic growth. The relocation of a plant from one place to another is not considered a contribution to national growth. The more acceptable decision might be the replanning of an existing plant in combination with the planning of a new plant. This may be one way for industry to avoid many of the problems that result from disruptive relocations.

Branch Plants

A more common case in plant location decision-making is the decision by an existing firm to establish a branch plant. Such a decision usually arises as the result of company growth. As long as the capacity of a firm is balanced with the share-of-market it commands, expansion is not necessary. When sales growth and future prospects indicate the need for substantial additional production, management has at least two alternatives: To expand in the existing location, or to establish a branch in some other location.

There have been significant geographical shifts in U. S. population and markets in the past two decades. Accordingly, most companies have found that the geographical distribution of their markets varies significantly from that existing at the time the original plant was established. When this market factor is combined with the changes in costs occasioned by shifts in such factors as raw material, labor, transportation, etc., an entirely new optimal location is likely to appear. These circumstances have given rise to extensive branching of companies in most manufacturing industries.

Summary

A knowledge of the reasons for industry to decide to create new plants is important to the community when it attempts to develop its list of industry that may be thinking about new plants. Most community industrial development programs are directed toward satisfying the locational market for branch plants. All communities should have a balanced program for industrial development. Experience in smaller communities has shown this is the arena of greatest action, but also greatest competition.

A decision to build a new plant and establish it at a new location arises out of one or more of the following business situations:

1. An old plant has already achieved its optimum size and a completely new plant would permit greater efficiency and lower costs per unit of output.

2. Economies of product specialization can be realized. Where several different products are produced in the same plant, it is often advantageous to establish individual plants for the several products when increased demand justifies expansion.
3. Greater capacity is needed but newer technologies cannot be integrated with the industrial methods and machinery of the old plant.

4. Supplies of materials, labor, and space are inadequate in existing locations to support increased productive facilities.

5. A smaller business elects to seek funds by establishing a new branch plant through a community industrial development financing program as an alternative to becoming a publicly-owned corporation.

6. Demand in an area being supplied by a distant plant has increased sufficiently to support an economic-sized plant.

7. The risk of complete stoppage of company operations due to human or natural causes can be minimized by increasing the number of plants and by geographically separating them when expansion is warranted.

8. Cost for pollution controls are excessive when compared to cost and economies of a new plant.

Selected References


Planning new plants is a rapidly changing "art." But while the advanced methods of selecting industrial locations are being applied to the evolving field of computer planning, the rational principles of determining the most competitive and profitable choice remain sound, providing all of the elements are considered. If a good choice of location is to be made, each decision requires accounting for a combination of location factors and their influence. The final choice of location implies that a balance has been achieved among those influences contributing to and providing the most economic conditions for production and distribution.

One of the early considerations in arriving at the most economic location is the cost of raw materials. The cost of assembling them at the point of production and the processing of these materials follows. The distribution of a finished product to a market is another cost to be considered. Location will generally not affect either the price paid for raw materials from a given source, or the price received for a finished product, but it directly affects the transfer cost of raw materials to the plant and a finished product to the market. Location can affect the cost of processing. Geographic differences in rates of productiveness of work forces can make production costs in one area different from those in another. The facility planner, in arriving at a location decision, has to balance all the various factors against one another in an endeavor to find the location that will result in the lowest costs.

Not every manufacturer in seeking a location for a new facility makes a thorough investigation of all the relevant conditions before coming to his decision. We have already commented upon decisions that are influenced by such irrelevant matters as proximity of an attractive golf course. Such instances have given rise to much loose thinking on the subject of location, and it may be well to try to put them into proper perspective.

Important as location is, it seldom happens that only one location will do. For a given enterprise, two or more locations — each with a different combination of industrial advantages — may be equally suitable. So, where the final choice is between two such areas, it may be quite reasonable to let the decision be influenced by some personal preference, such as the character of the golf courses. This does, however, imply that the economic factors of the areas have first been assessed and none show any marked superiority.

Location Advantages

When confronted by the location problem, the experienced businessman is likely to undertake two lines of inquiry. First, he will review the business advantages which vary with the location. Secondly, he will apply this general knowledge to his specific problem in order to estimate variations in projected business performance at various locations. In actual practice, businessmen may skip the first step and seek direct approach to the second. In fact, most businessmen tend to emphasize the simplicity of their problem.

The major economic advantages to be achieved by wise location decisions were identified in Chapter 6. They are: securing immobile factors; i.e., factors of production such as water, natural gas, electricity, some minerals, and perishable raw materials; reducing transportation costs, lowering production costs; increasing the supply of raw materials; increasing the demand for the product; and benefiting from the relative economies of decentralization or centralization in the manufacture of a finished product.

In addition to these major advantages, which play a special and dominant role in business location decisions, there are the multitude of other location factors. Those most frequently mentioned by businessmen are: transport services, available buildings and sites, taxes, state and local attitudes toward industry, living conditions, climate, and proximity to capital and management or technical personnel.
Deciding which location factors are most important in a given situation may appear to be a difficult problem. In practice, however, most businessmen find that their familiarity with the industry makes the answer clear. Without any intricate analysis, the shoe manufacturer knows that savings in labor costs are the most important locational advantage for his industry; the heavy machinery producer is immediately aware of the dominant locational importance of transport savings on the finished product; and the pulp and paper manufacturer recognizes that proximity to a source of raw materials as a means of reducing transport costs is crucial to his location problem.

Orientation of Plants

By selecting an area on the basis of the most important location advantages, the businessman does not completely disregard all other factors. Instead, he simplifies his decision by assuming that if he selects the general area in accordance with the biggest single advantage of his type of plant, he will include specific locations which will satisfy the other essential requirements for the plant.

In accordance with the practice of business to “simplify” their location requirements, it is useful to classify the different types of industrial operations according to the factor that most determines the choice of a general area. Three broad categories of industry evolve out of this approach. Community industrial development practitioners can use the same approach to discover whether the businessman they may be talking to really matches their area, or to determine where community prospecting efforts can best be directed. The three categories of orientation are by and large reflections of transportation costs. The terms used for them are:

1. Market-Oriented Industry
   a. Where finished products are perishable or not freely transportable.
   b. Where transport costs are an important part of total delivered costs and the finished product is more expensive to carry than the raw materials required.
   c. Where service, convenience to the customer, or regional loyalty is involved in achieving the desired level of sales.

2. Raw-Material-Oriented Industry
   a. Where the necessary materials are perishable or not freely transportable.
   b. Where transport costs are an important part of total delivered costs and the materials are more expensive to carry than the finished product.
   c. Where it is important to increase the supply of materials.

3. “Footloose Industry”
   a. Where transport costs are an insignificant part of the delivered cost of the finished product and geographical differentials in labor costs exist.
   b. Where wages constitute a high percentage of production costs and where the necessary labor supply is generally available.

Conclusion

Industry facility planners’ main goal in the search for new plant locations is profit potential. Expectation of profit is the legitimate self-interest in any business venture. Since this is the ultimate factor in plant site searches, then communities desiring industry to locate in their area need to recognize this goal. The advice given to industry facility planners by communities should be directed toward achieving this goal.

Selected References


Studies of industry plant location searches indicate that the process varies widely from case to case. The nature of the industry and its products, the characteristics and history of the company, and the attitudes of the executives involved all influence the process. The number, identity, and weight accorded the economic and non-economic factors vary widely. Also, the nature and extent of analysis, the number of alternatives considered, and the role of outside agencies are different from case to case.

It seems clear that location decisionmaking is almost always made by top management, usually by one man. Since locational decisions arise very infrequently, and since they are of such importance that they can significantly affect the long-term profitability of the company, they are properly the concern of the chief executive officer.

It is difficult to gain a true picture of industry's locational process. This is because of the attitudes and behavior of the business executive when he is confronted with questions about a decision after the fact. Some executives will reply to questions with a story useful to the enhancement of the company's image in the community. In other cases, the replies will cite factors that, at the time of location, may have been minor ones. Taxes are a prime example. Taxes appear repeatedly in the literature as a minor factor in location decision-making. However, in interviews with executives after location decisions have been made, taxes are often cited as important, probably because they don't want the taxes raised. A thoughtful review further reveals that the reasons communities give for getting an industry or losing the last prospect indicate that the real reason is more often not the one the community thinks or says it is.

It is well recognized that many non-economic, and even personal, factors enter into the actual decision-making process. To protect the objectivity of a locational analysis and partly because of a lack of skilled staff, firms sometimes use outside consultants. In other cases, state development agencies, utilities, railroads, or chambers of commerce are called upon to provide data and guidance. Where there is a need for confidentiality, many firms do the necessary staff work quietly and do not reveal their early plans to anyone.

There has been an increasing use of the operations research and linear programming techniques and the development of computer-associated mathematical techniques for analyzing locational alternatives. For example, where transportation is a major factor, some companies have used freight costs on inbound and outbound materials and products to develop a mathematical model and then have employed this model to examine alternative locations.

A few companies are experimenting with more comprehensive models that include all the quantifiable factors affecting alternative locations. For instance, one company has built into a computer a simulation of the entire product flow of the company. Estimates of future markets are fed into the computer, on the basis of which the computer assigns the product flow to various processing plants, warehouses, and other facilities to obtain the lowest cost combination. The usefulness of this kind of system in making expansion decisions is obvious.

While such firms certainly are exceptions, a wider and more extensive use of mathematical techniques in locational analysis is certain to develop. Their application will demand more accurate and more complete data from many sources. Their use will set standards within the applicable industries, which through the forces of competition, will have to be adopted by others. To the degree that these methods optimize locational decisions, the industry and the entire economy will gain. But, those communities that have developed data that can be fed into a computer will be in the best position to benefit.
Industry Evaluates and Compares

The decisionmaking processes of industry with respect to locations vary from no explicit analysis at all in some cases to highly sophisticated analyses in others. Whatever approach used, industry does not limit itself to data from one source. It asks the same questions of many people and compares the answers. This is to avoid finding out too late that the realities are quite different from what had been anticipated. Industry obtains facts by talking with business owners who are established in the area they are considering, so existing industry wherever possible should be part of a community development team.

Industry will look ahead, trying to picture the situation ten years from now; trying to determine whether the general area can support their business as it expands. In the case of labor, although a new location may provide the employees needed initially, will it be able to furnish five or six times that many eight or ten years from now when the company has grown? Also, industry must consider whether a site that fills its present needs will allow for future expansions to the plant.

Industry Uses a Score Sheet

As industry considers the factors relevant to a location decision, it is common that they will have a “score sheet” to evaluate sites. A rating sheet, when completed for each site being considered will help evaluate strengths and weaknesses of various sites. It also helps to eliminate the factors which may otherwise appear to be equal in all the sites. Industries using a reference sheet save time and eliminate going back over the voluminous materials accumulated for each area under consideration. Chart 11-1 is a sample of a score sheet.

A plant location is a major decision and results only from an exhaustive study of all the factors involved. Since these factors have different degrees of importance with various companies, they are weighed in relation to their contributions to the total scheme. Total scores are arrived at and can presumably provide a base for a rational decision by industry. The formula expressed by a score sheet is easier to express than it is to apply in practice. Furthermore, plant locations are made on the basis of long-range advantages. Long-range location evaluations are more difficult to make using a score sheet. Communities can also use score sheets to determine where they may stand with a prospect in terms of the needs expressed by a firm.

Community Contacts

Sooner or later a facility planner needs to talk to someone outside the firm about his plans. In many firms, maintaining anonymity with respect to company identity in the first approach to a community is considered advantageous. This is accomplished by merely refraining from revealing company names or by employing someone to conduct the search, such as a lawyer or consultant. Communities should understand and respect industry’s desires during the early contacts. Representatives of State economic development agencies or other organizations with an areawide constituency often are called upon by industries to protect a firm’s anonymity, and because they are with people generally known to a community, it can produce for the industry a more enthusiastic response from a community.

One of the things firms dread the most is the thought of having community representatives call on their receptionist and asking to talk to the president about his inquiry for a new plant site in their town. Branch plant plans, and especially if they become plant relocation rumors, can be costly in terms of public relations, labor turnover and worker morale. Early disclosure of location plans can reduce the competitive advantage of the move. If the name of the company is well known, it can touch off a flurry of real estate speculation which can only drive land prices up.

Local Sources of Information

The most valuable work done by local industrial development groups is the provision of information to industry. We have said that plant location decisions may be made only once in the career of an executive of a small company. If this is the case and he is without the resources of the major concerns who have in-house plant location capabilities, he needs all of the information that can be brought together for his use.

The major role of a local industrial development group is to conduct research and to provide information to industrialists on locational advantages and sites available in their area. Such information saves any industry, large or small, time and money in its own investigations of prospective locations. Many firms can be strongly influenced and led to inquire more closely into the location advantages of a site in an area where its boosters have produced the proper industrial development materials.
<table>
<thead>
<tr>
<th>FACTORS</th>
<th>Rating</th>
<th>Pertinency Factor</th>
<th>Score</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Labor Availability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Labor Climate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Training Facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Raw Materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Market</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Finance Plan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Tax Rates</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Availability and Cost of Utilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Transportation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Rail</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Truck</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Airport</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Water</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Sites:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Topography</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Location</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. General Desirability of Town:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Community Attitude</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Housing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Shopping</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Recreation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Police and Fire Protection</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Amenities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Support Facilities:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Machine shop</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Foundry</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Supplies &amp; parts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Total Score)

Rating:
Poor – 0, Fair – 1, Good – 2, Excellent – 3

Pertinency Factor (Degree of importance to subject industry):
Nominal – 1, Considerable – 2, Great – 3

Score: Multiply Rating by Pertinency Factor to obtain Score

A growing number of manufacturers are searching for increased amounts of local economic data and are evaluating community attitudes toward industry more carefully. The very existence of information and a local development corporation is evidence of a receptive attitude toward manufacturers and a willingness to help them. In a well-prepared community, much of the information industry will need has already been anticipated and is ready in an easily readable form. The information that industry can request from a community may cover a lot of ground. A prepared community group will be able to answer most questions. Even so, it is frequently necessary that additional facts will have to be obtained and sent later. If most of the information has been available, industry understands and will usually accept followup information.

A community will be expected to answer questions about itself, telling industry its assets, as well as liabilities, and the way it intends to overcome any existing problems. Frequently, at an early stage of negotiations, industry will request a special labor survey. A constant stream of labor availability surveys poses a community relations problem for a local development group who soon are accused of calling “wolf” too many times. Actually, a previously-detailed survey as much as two years old should be acceptable for initial meeting unless something dramatic has occurred in the local labor market.

How Long Does It Take?

The plant-locating process is time consuming for both industry and a community, along with the costs that may be involved. Much time and money can be saved where industry has established a well-organized plan.

The average period of time over which a site search extends is probably about two years. However, it can be accomplished much more rapidly if necessary. Communities should be prepared to work at whatever speed industry desires. To illustrate, there is the story about the executive of a major firm who, pleased with the results of a site search, said: “We are beginning to narrow it down. After two years, we are now down to considering only eight states.”

Related to this is the general complaint that comes from communities. Many site seekers drag out their relations with a community, or carry out the proceedings on a “hurry-up-and-wait” basis. When they do make a decision, they expect everything to fall into place within the next 48 hours. Communities need to be prepared for this. However, there can be a serious problem where a community has committed itself to extend a sewer line to a proposed site. They earmark $50,000, then two years later the cost has risen considerably. The community may not have all the money at hand after such a wait. Where a federal or state loan or grant is involved, there may not be much a community can do to speed processing or funding. The well-organized plan may help to avoid this where such a possibility has been pointed out to a prospective industry and an understanding exists.

Industry Steps in Site Selection

The factors involved in selecting the right site for a new manufacturing facility are numerous, and there are many pitfalls and potential mistakes facing the inexperienced community or business. Industry facility planners frequently separate the selection process into four distinct steps. They are:

1. **Determination of the general geographic area for the new facility.**

   Before becoming enmeshed in details of cultural environment, recreational facilities and other intangibles, industry determines the predominant factors influencing costs and selects the approximate geographic area in the country that will be most advantageous with respect to the basic cost factors.

2. **Selection from within this area, 20 to 30 places most likely capable of supporting the new facility.**

   Industry applies the same basic factors determined during Step 1 to each likely place and then adds specific requirements with respect to labor availability, costs and skills, taxes, access to transportation, and proximity to raw materials and markets. The selection process then will be fairly obvious to an industry. It may at this time collect state and local data by mail, or invite a state or regionally-based development agency representative to personally present the initial information to the industry or an intermediary.

3. **Visiting the selected towns.**

   A field visit by industry usually involves spending one or two days in each of the selected towns to collect the information necessary to evaluate and compare one with the other. This may include
using a score sheet which will include the facts and figures affecting, both directly and indirectly, the cost of operating the proposed facility at each place visited.

4. Evaluation and ranking of each of the selected locations.

The development of an operations statement for each location visited, combined with an evaluation of the intangible criteria, is used to provide a systematic ranking of the selected localities. Finally, the top five or six will be revisited before making the final decision of selecting the one best location.

How One Industry Decides To Locate

The following, How One Industry Decides To Locate, has been taken from Appalachia, February 1971. It tells how one company locates its new facilities and serves as a practical summary for Chapter 11. The article was written by Henry H. Lowery, Executive Vice President of Manufacturing, The Kelly Springfield Tire Company.

Each industry has certain critical or basic requirements that are essential to its operation. These weigh heavily in making a decision to locate a new plant.

In the tire industry we make our approach to site location in two phases.

First, we determine through state or other agencies those locations which have certain basic requirements...

Next, we do an in-depth survey of the makeup of the community...

Let me trace the steps taken by Kelly-Springfield in making its most recent decision to locate its fourth manufacturing facility. This culminated on March 26, 1969, with the official announcement that our company would build an ultramodern tire factory nine miles north of Fayetteville, North Carolina.

Our prime goal was to locate in an attractive well-run community where industry was welcome and our people would be happy to make their homes. All of these requirements were worked out ahead of time in precise detail.

A three-man search team went into action early in December 1968. Two months were spent in a search of a nine-state area. Working anonymously, the team made appointments with industrial development officials and representatives of utility companies and railways. Local chambers of commerce, industrial development agencies and utilities companies were not brought into the picture until site choices were made at the state level.

Fayetteville and two other communities were selected as areas to carry on an in-depth study. Our work in Fayetteville was done through the Fayetteville Area Development Corporation, which has done a superb job of welding governmental, social and business elements into a strong organization to attract new industry. All negotiations with local agencies, both private and government, were simple and straightforward and were carried out in a friendly, cooperative atmosphere.

The site chosen comprised about 500 acres, involving a dozen properties. But before any options were obtained, we made sure all site problems could be solved. One of the first was that of a water supply. The site is close enough to the river to make practical a plant water system. Our first idea was to provide water for industrial processing with a plant system and to buy sanitary water from the city.

When the total water requirement was put before the city's Public Works Commission and the county commissioners, however, they presented a plan to link the plant with the municipal system (with the city and county sharing the cost of two miles of new pipeline). The rates quoted were so advantageous that it was decided to rely on the city for the entire water supply — both process and sanitary.

A backup system for process water was deemed important in the event such a system became necessary in the future for reasons of either economy or quantity. Therefore, easements were subsequently obtained for a pipeline route to the river, a pumphouse site and an access road to the pumphouse.

Comparisons also were made between the cost of a plant sewage disposal unit and city estimates for providing that service. The decision went in favor of the municipal system.

The plant site is located between a branch line of the Norfolk & Southern Railway Company and Highway 401. Only minor problems were anticipated with the rail facility, and we received immediate agreement to comply with our requirements. However, Highway 401, which runs in front of the plant site, was inadequate to handle the...
traffic flow. It was a four-lane road from the city as far as a college two miles from the plant site, at which point it dwindled to two lanes. The State Highway Commission assured us that paved access roads to the plant would be engineered and constructed, but district officials said they were not empowered to enlarge the highway. They suggested a meeting with Governor Robert W. Scott. A meeting was arranged, and Governor Scott agreed in less than one hour that widening the highway was necessary. This road was completed last November.

One of our major concerns was the labor market. Many general questions, such as city and county populations, population proximity to metropolitan areas and proportion of male and female employees, could be answered from published material. Other matters, such as the availability of labor and the possibility of prescreening applicants, were investigated at the district office of the employment security commission.

We placed a great deal of importance on interviews with managers of local industries. In these interviews, we tried to determine hiring rates, average hourly earnings and pay scales for craft, top skilled, production and service employees. We determined overtime practices, average weekly workdays, absenteeism and turnover rates. Of great significance were responses regarding the productivity of local employees as compared to work records in other plants.

We also spent time in reviewing the local tax structure. Public records of tax bills paid by resident industries were examined, and managers were asked how they felt about their assessments and the taxes they paid. Investigation of taxes included studies of the community’s problems regarding schools, sewage, water, and other utilities, police and fire protection, and garbage collection.

We looked at the history of local tax levies and tried to learn what major expenditures were anticipated.

Housing, shopping facilities, churches, hospitals and schools received similar close scrutiny. The Fayetteville Technical Institute, which is a part of the North Carolina Vocational Educational Program, was a real asset and was used to help develop training programs.

After all requirements were met, negotiations to buy land were started with property owners. These were conducted by the Fayetteville Area Development Corporation and a member of the North Carolina Division of Commerce and Industry. This job was completed in three weeks.

After the announcement to locate was made on March 26, 1969, construction was started on April 15 and our first tire was produced on December 15 of the same year.

In meeting competition, time is a most important factor (here, start to finish took less than 90 days). A community must be able to make commitments for necessary changes such as roads and utilities, and must be in a position to make commitments for additional requirements if they become necessary. The best way to beat competition in site selection is to give assistance in providing information as needed, to answer accurately all questions, to finalize all requirements for land options as rapidly as possible, to obtain the necessary commitments from the city and state and to work with utilities to see that they make the commitments which are necessary to satisfy the client.

Selected References


12. SELLING A COMMUNITY!

Selling a community means exactly what it says. We have already pointed out the limited potential for new plant locations each year. The number of communities who have “Welcome Industry!” signs hanging out in proportion to the number of new plants each year is enough to eliminate the unprepared or timid community at the start from participation in the national pursuit of industry.

For the community to sell itself, it must know what its assets are, be correcting its liabilities, put its best foot forward, and know how to most effectively present its story to industry. The purpose of this chapter is to build confidence throughout a community and to tell how to win friends and influence people.

Cultural Amenities

One of the great myths of industrial development (a product of the “economies of scale” syndrome) concerns the intangible role of the cultural attributes of rural areas. The myth is that somehow rural areas will be found wanting. Certainly in the smaller towns there is no substitute for the “glamour” of a big city (excitement of people being away from home and family), but glamour is not culture or necessarily synonymous with opportunity or good living. Culture in the cities, like the countryside, is something that is most often discussed over the first martini at a cocktail party. This does not mean that some people may not demand to live in the shadow of an opera house, but the chances are at least 100 to 1 against this. If size of place is a measure of culture and viability, why are most large city symphonies always in some kind of financial crisis?

Another example: Most of Broadway migrates each summer to the “barns” of rural America. Actually, if the television industry is correct, almost everyone everywhere is home watching television every night. Culture is a relative thing to people and talked about like the weather.

Unless a new plant is raw material-oriented, most locators in rural areas will be seeking a labor force in place. Since most of the future employees already live there, the immediate cultural needs of most of the work force are minimized from the viewpoint of an industry. Consider that local people may not be entirely satisfied with their environment, but neither do they leave it if they have a good job. When the local people want more of the better things for their community, they can do it themselves when provided with a steady income by the creation of employment opportunities for them.

This does not mean that a community should not be a good place to live in and to rear children. The major concern expressed by facility planners is to consider the management team and their personal and family requirements. At the start, they will analyze the requirements of those who might be transferred and will avoid a considerable amount of needless searching by establishing the minimum amenities required. Even if “big city” activities such as museums, symphonies, lectures, private clubs, fine restaurants and hotels, professional sports and the like are desired in or near many communities, these needs can be met today. Many facility planners will check the nearby colleges and universities for their cultural and sports programs. There are hundreds of questions industry can ask a community and themselves. Are there special schools for children if needed? Would the wives of management be content to live in an area which they would consider to have limited shopping facilities? Will the glamour of the event of a trip to nearby cities make up for this? Many times it does.

A comparative analysis of big city life against smaller cities and the countryside can be a community’s most convincing argument. Most recent surveys show little interest in living in the city. Non-metropolitan communities need not enter into negotiations with facility planners hampered by a “rural amenities inferiority complex.” At the same time, this means they must know what the amenities of their area are. The statement “this is a great place to live” has no meaning.
An important consideration for the chances of a community is the general appearance and the impression it makes on a person in the first few minutes of a visit. Such impressions are very important because a facility planner charged with making a locational decision may in the final analysis have to choose among several sites all perfectly acceptable on economic grounds. He will wonder how the people back in the home office or main plant and who may be transferred will react to the community he selects. He may bring his wife with him on the final inspection of the community.

His wife will note if the highway approach to the town is attractive or whether it is littered with junky establishments, ugly billboards, and other unsightly features. She will check to see if the downtown area is pleasant; if there are trees; whether or not the stores look prosperous and are well stocked; if the clerks are pleasant, or was the last time one said "thank you" in 1898? She will wonder if there are nice residential areas where an "outsider" would be welcomed and made to feel at home.

There are a number of housing problems that can confront a community in connection with their industrial development activity. Solutions for needs that exist in a community should be worked out before "prospects" are entertained. It can be attested to by many national firms that an "off-the-cuff" offer to arrange temporary housing, such as house trailers, while other housing is being developed is not a solution to lack of housing. Too many management teams have been lost by industry because the housing promised in a community "sales pitch" has not been forthcoming.

To produce housing for new industry, a community must know how to get contractors and financing able to produce a specific quantity of housing on time where it may be needed. A community must plan ahead, know where the water and sewer is coming from, be properly zoned with site layout established, and have a capable contractor on hand if they are to prove that they will be able to fulfill community promises.

When a community begins to appraise itself, it must look at many things and have answers to many potentially-embarrassing questions. Are there slums or run-down areas? Are there decent city parks and libraries? Where can you go for a pleasant Sunday afternoon drive? Is there a good school system? Are there any good restaurants, any good hotels or motels for business visitors and meetings? Is there a college or university? Does the college have academic standing in the study areas that prospective industry employees will be interested in? Will church denominations of the managerial team be present? How about theaters, concerts, lectures, TV reception? Are they available locally or within a reasonable distance? In essence, will management enjoy living there?

There are many stories about the boss' wife making the final location decision. While there may be some exaggerations, there are enough examples to confirm the role of the boss' wife in location decisions, ranging from a wife who "didn't like the town at all" to the wife who thinks it is "too far from the nearest department store." On the other hand, another plant manager's wife may enjoy leading the crusade for more street lights and twice-a-week trash collections.

Towns in the country vary a great deal in terms of aesthetic appearance. Some exude all kinds of "charm," but industry watches out for the town so wrapped up in its charm that its only concern is for the preservation of Main Street as it was when the railroad came through, or Front Street like it was when the town was a major river port. Some towns are already attractive by design or by accident, but there are many communities that have unimaginative, drab, rundown appearances where the most notable feature is some tall object like a smokestack or a water tower and where a fix-up, paint-up campaign can make a real difference when it comes to attracting industry.

The overall social atmosphere of a community is a major matter of concern to those charged with the responsibility of making a locational decision. Industry will want to know what the social atmosphere really is. What are the local traditions and taboos? Who are the minority groups and are they employable within the terms of the community? They will want to know that all of the managerial employees are eligible to get into the country club. Is there a social stratification to buck? Or has the community got into the mainstream of social change? Are there provincial laws or officials that contribute to a general backwardness in the area?

The amenities of an area are an important factor in choosing locations for new plants. At the same time, the values sought vary greatly and all kinds of communities have a chance to be attractive to industry locations. For the new plant that requires highly-qualified people, communities without good schools, training programs, parks, playgrounds, and the other amenities will not be able to qualify when there are other equally-efficient sites that have the amenities to attract professional, technical, and managerial personnel. Amenities include all the com-
munity’s characteristics that make life comfortable, agreeable, and stimulating.

Sometimes a particular community will be eliminated from consideration by lack of desirable features. The wide range of choices available to industry can transform many of the ingredients of amenities into crucial factors even though sometimes the economic factors seem to be strongest. There are the traditional legends about businessmen conveying the impression all businessmen play golf, but industry is usually wary of the well-meaning community guide who believes that primary location factors are well-watered fairways and well-cared-for greens. On the other hand it doesn’t hurt to drive past the country club on the way to an individual site if you plan to make the management of new plants members.

Recreational facilities have value in selecting the right site, but they must be kept in the proper perspective. The important considerations are those that can be measured in dollars and cents on the profit and loss statement. Inadequate cultural amenities contribute strongly to location decisions because decisions are not always made on the basis of strictly economic factors. Almost without exception, those areas that can provide the most in the way of cultural amenities and community livability will have an important competitive edge over other areas.

As the cities become more congested, the quality of urban amenities declines and the demand for non-urban amenities and open space recreation increases. The search for non-urban amenity experiences, compounded with population and income growth, gives an indication of future amenity demands. This force can be exploited by well-prepared industrial development groups. As an example, in one recent year at least seven of Fortune’s “Top 500 Firms” relocated corporate headquarters from New York City to nearby Connecticut. While still within an essentially metropolitan region, they were, in each case, in a more bucolic setting.

Industry Looks at the Community as a Package

It is the way all of the factors of a place are “packaged” that adds up to the selection of a particular community. The community leadership, attitudes, services, community facilities, educational, and recreational opportunities, after an evaluation of their relationship and interdependence, either do or do not add up to a good place to live.

How do you know what your “package” is? There is only one way to find out and that is for the community to systematically study itself. In this chapter, a number of questions have already been asked. There is a great temptation not to include an outline of a community inventory because most outlines of what industry wants to know go on and on. Someone once listed 800 questions. However, an outline of major categories of information that usually constitutes a good inventory has been included (Chart 12-1).

But each community, before it starts an inventory, should check with its state economic development agency. Almost every state has developed a format and guide on how to do an inventory and how to get the information to prepare a uniform community information series for an entire state.

**CHART 12.1**

**Community Inventory Chart**

The following is an outline of the information categories in a community inventory: (Appendix II is a sample of the basic form used in the State of Georgia).

A. Government

1. Form
2. Assessment policies
3. Types of taxes
4. Tax rates
5. Zoning ordinances
6. Building codes
7. Regulations
8. Industrial incentives

B. Local Services

1. Fire protection insurance rates
2. Police protection
3. Crime rate trends
4. Refuse removal

C. Population Characteristics

1. Demographic profile
2. Population trends
<table>
<thead>
<tr>
<th>L. Utilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Electrical power — availability and rates</td>
</tr>
<tr>
<td>2. Gas service — availability and rates</td>
</tr>
<tr>
<td>3. Telephone service — type and rates</td>
</tr>
<tr>
<td>4. Water service — availability, source, usage, rates</td>
</tr>
<tr>
<td>5. Sewer service — adequacy, regulations, charges</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>M. Financial Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Banking services</td>
</tr>
<tr>
<td>a. Loan policies</td>
</tr>
<tr>
<td>b. Asset structures</td>
</tr>
<tr>
<td>c. Degree of interest in financing new ventures</td>
</tr>
<tr>
<td>2. Local investors</td>
</tr>
<tr>
<td>3. State, federal, or local sources of financing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>N. Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Elementary and Secondary school system</td>
</tr>
<tr>
<td>a. Number of schools</td>
</tr>
<tr>
<td>b. Pupil-teacher ratio</td>
</tr>
<tr>
<td>c. Accreditation</td>
</tr>
<tr>
<td>d. Student enrollment</td>
</tr>
<tr>
<td>e. Acceptance of students at colleges</td>
</tr>
<tr>
<td>f. Percentage students at college</td>
</tr>
<tr>
<td>g. Training availability for handicapped children</td>
</tr>
<tr>
<td>2. Vocational schools</td>
</tr>
<tr>
<td>a. Number of schools</td>
</tr>
<tr>
<td>b. Types of training</td>
</tr>
<tr>
<td>c. Number of graduates</td>
</tr>
<tr>
<td>3. Higher education</td>
</tr>
<tr>
<td>a. Availability of universities</td>
</tr>
<tr>
<td>b. Research facilities</td>
</tr>
<tr>
<td>4. Other</td>
</tr>
<tr>
<td>a. Adult education</td>
</tr>
<tr>
<td>b. Testing services</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>O. Labor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Labor profile (education, age, skills, etc.)</td>
</tr>
<tr>
<td>2. Availability of labor (types, location, seasonal)</td>
</tr>
<tr>
<td>3. Unions</td>
</tr>
<tr>
<td>4. Transportation for commuters</td>
</tr>
<tr>
<td>5. Wage scales</td>
</tr>
<tr>
<td>6. Employee turnover rate-absenteeism</td>
</tr>
<tr>
<td>7. Unemployed</td>
</tr>
<tr>
<td>8. Labor relations history</td>
</tr>
<tr>
<td>9. Labor practices (vacations, holidays, etc.)</td>
</tr>
<tr>
<td>10. Labor legislation</td>
</tr>
<tr>
<td>11. State and local taxes applied to labor</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>P. Transportation (rail, truck, water, air, pipelines)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Types available — freight and passenger</td>
</tr>
<tr>
<td>2. Adequacy of facilities</td>
</tr>
</tbody>
</table>
Conclusion

When the community has done its homework, filled in its inventory, but more importantly knows why it prepared an inventory and studies the implications for the community's industrial development program, then (and only then) can the community say it is prepared to "talk business with businessmen."

Selected References


Ohio, State of, Community Development Series (8), "How to Prepare a Community Survey," Series 2. Economic Research Division, Development Department, Columbus, Ohio.


Much has already been said about the advantages of an industrial component to the economic base of a community. (Chapter 4) The clincher would be if we could present a formula that would measure the impact of a new industry on the economic, social, and environmental structure of the community. However, there is no simple formula to combine the impact that industry can have on all these factors. This chapter will discuss the evaluation of one of these factors — economic impact.

Advantages to the Community

Communities essentially view industrialization as a means to generate a stream of income which will be earned by the local factors of production — labor and land — once they are employed either by the new industry or by the existing employers because of the multiplier effect. The benefits to the community need not be strictly pecuniary. To the extent that jobs also bring greater social and political stability — whether by keeping people's time occupied, giving people a sense of pride and identity, maintaining their contact with reality, or simply making them acceptable to the rest of society — industry may bring social gains to a town in addition to the streams of income generated.

A partial list of benefits accruing to a community because of new industry includes:

1. Increased land rents accruing from the new demand for industrial, commercial, and residential sites.

2. Increased income for the labor force, both directly through wage payments by the new industry and indirectly through the multiplier effects of those payments.

3. Increased direct tax revenue to the political subdivision, although this may be offset by inducements that may have been offered or by additional expenditures for the political subdivision.

4. Psychological/social/political benefits derived from finding work (and thus pride).

Measuring the Impact of New Industry

This chapter describes a model, or procedure to measure the impact (cost and benefits) of industry upon a community, county, or any area configuration that may be involved in an industrial location project. This chapter draws heavily on a study of industrial impact in Oklahoma.

The general objective of the Oklahoma study was to measure the magnitude and identify the economic impact of increased industrial activity on various community sectors. The rural communities in Oklahoma received substantial net economic benefits from the new industries. Various assumptions about time, resource use and resource mobility affected the magnitude and incidence of industrial impact. The major portion of the community net gains was in the private sector. The municipal government and school district experienced only small net changes in their fiscal base from industrialization, implying that new industry may not necessarily be a tax bonanza for rural areas. Although the results of the study apply to the economic and governmental structure of eastern Oklahoma, the procedure may be extended to other areas of the nation.

The procedure used for measured impact is labeled the "net gain to the community" model. The model essentially utilizes partial budgeting to determine the...
changes that occur in a community from industrialization. The changes in the community are measured from two perspectives. The first perspective is the benefits and costs resulting from the location or expansion of an industrial plant. The second perspective is how these benefits and costs are distributed across the community.

The benefits and costs of industrialization can be subdivided into two types: Primary (direct) and secondary (indirect and induced). The direct changes are the persons hired by the new plant, the wages paid by the new plant, taxes from the plant and new residents, and expenditures for services to the plant, new residents, and new students. The indirect and induced effects are measured by multipliers. The multipliers reflect the fact that the additional employment or income from a new industrial plant causes predictable changes in the rest of the economy. The indirect changes may be thought of as additional income to local merchants and their employees resulting from purchases by the plant and consumption spending by plant workers. The induced effects are a result of a change in local consumption due to more people and/or more income in the household sector. The employment multipliers are defined in a similar manner and measure the indirect and induced employment changes resulting from the employment at the new plant. The employment multiplier estimates the additional sales and service jobs resulting from increased trade for local merchants.

Estimating multipliers is the most difficult part of using this procedure. Interim guidelines for selecting multipliers have recently been reported by the Economic Research Service of the U. S. Department of Agriculture.\(^{24}\) They are based on the size of the county labor force, which reflects the relative complexity of the economy; that is, the larger the labor force, the more complex the economy. The more complex the economy, the less is the reduction in secondary rounds of expenditures and the larger will be the multiplier. The accompanying table presents relationships between county employment levels and employment multipliers.

The multipliers in the table above can be used to estimate the economic impacts that might result from the location of an industry. Selection of appropriate multipliers within the above guidelines must be determined on the basis of knowledge of the area. The table clearly points out that county multipliers vary directly with the range of economic activity in the county. The same reasoning applies when estimating the multiplier effect on the community (where the plant is located in a county).

All of the plant’s payroll is not spent locally because some workers buy goods and services elsewhere. Workers buy goods and services elsewhere because they live in another community and/or cannot find desired consumer goods and services locally. Also, state and federal income taxes, social security taxes, and private retirement programs reduce the amount of spendable income available to the workers. The workers’ impact depends on the amount of take-home pay spent in the community which is largely contingent on the ability of the community to 1) supply local labor for the plant and 2) provide an adequate range of consumer goods and services.

Use of a county multiplier to measure the secondary effects in a community will result in inflated estimates. The leakage or spillover of economic activity from the community out into the rest of the county, or surrounding area, needs to be estimated. These leakages can be estimated by a survey of community residents.

<table>
<thead>
<tr>
<th>County employment size-class</th>
<th>Average multiplier</th>
<th>Probable range *</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,000 - 2,999</td>
<td>1.7</td>
<td>1.5 - 1.9</td>
</tr>
<tr>
<td>3,000 - 4,999</td>
<td>1.8</td>
<td>1.5 - 2.0</td>
</tr>
<tr>
<td>5,000 - 9,999</td>
<td>1.9</td>
<td>1.6 - 2.1</td>
</tr>
<tr>
<td>10,000 - 19,999</td>
<td>2.0</td>
<td>1.8 - 2.2</td>
</tr>
<tr>
<td>20,000 - 49,999</td>
<td>2.2</td>
<td>2.0 - 2.4</td>
</tr>
<tr>
<td>50,000 and over</td>
<td>2.2</td>
<td>2.0 - 2.5</td>
</tr>
</tbody>
</table>

* Based on data for 375 Appalachian counties, there is a probability of 70 percent, or 7 chances in 10, that individual county multipliers will be included within these ranges.

and shoppers asking the percent of income spent in the community, percent spent in the county but outside the community, and percent spent outside the county. An example may help clarify how the county multiplier is adjusted to reflect only community changes. If the county multiplier is two and it is estimated that 40 percent of the worker's income is spent outside the community, then the community multiplier is only 1.2 (2 x 0.60).

The point of these comments is that national, state, or even county averages of the multiple effects of a new plant tend to overestimate the effects the individual community experiences.

From the second perspective, distribution of benefits and costs across the community, the checklist divides the community into three sectors: the private sector, the local government sector, and the school district sector. The private sector includes the labor force, local merchants, and local households. The local government and school district sectors include the provision and financing of public services.

Both primary and secondary benefits and costs are estimated for each sector of the community. In each sector, an accounting of benefits and costs from the new plant allows for the estimation of the impact on that sector. The procedure is applicable at the community, county, region, or state level. Where an independent town and county are both involved in an industrial project, both would measure the respective costs and benefits of the project in the government sector. Much of the information required by the model should already be part of the information used by local industrial development groups.

Private Sector Benefits

The benefits to the private sector are the primary and secondary income and employment changes occurring because of the new plant. These benefits reflect only the changes in the area that is evaluating industrial impact. This area may be a community (most common), multiple communities, a county, or multiple counties.

The income and employment impact from the new plant is internalized; i.e., only changes in the area are measured. Both primary and secondary effects need to be internalized. The adjustment of the county multiplier to measure community changes (see discussion on multipliers) is an internalizing procedure.

Private Sector Costs

Sometimes workers' income gain does not equal the plant's payroll because the workers may give up paying jobs for a new job. The income gain to the workers at the plant is the additional income at the new job over the income at their previous job. However, the area may not lose the workers' previous income if the previous jobs are refilled. The income foregone by a worker transferring jobs is replaced by income to the worker filling the previous job. The area will lose income if the workers' previous jobs are not refilled or do not pay at previous wage levels. This may also be a cost factor where a new operator may take over or expand an existing plant.

In short, the loss of previous income is an opportunity cost of industrialization to the area's private sector and must be deducted from the internalized income benefits of the plant. The estimation of this cost before a plant locates is very difficult. In the Oklahoma study, an average of 7 percent of the work force at the new plants left jobs that were not refilled.

25 Throughout the remainder of this chapter the general terms local or area will be used rather than community or county or region. The appropriate term may be substituted for specific situations. The major caveat is not to mix levels of analysis; i.e., do not use county government impact with a community private sector impact analysis.
**TABLE 13.2**

*Gains To The Private Sector In The Area Checklist*\(^{2,6}\)

**Benefits:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internalized plant payroll paid to area residents</td>
<td>$ ___ __</td>
</tr>
<tr>
<td><strong>Total Primary Benefits</strong></td>
<td>$ ___ __</td>
</tr>
<tr>
<td>Internalized income of residents x area income multiplier</td>
<td>____</td>
</tr>
<tr>
<td><strong>Total Secondary Benefits</strong></td>
<td>____</td>
</tr>
<tr>
<td><strong>Total Benefits to Private Sector</strong></td>
<td>$ ___ __</td>
</tr>
</tbody>
</table>

**Costs:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income loss from unrefilled previous jobs of area residents</td>
<td>____</td>
</tr>
<tr>
<td>Private industrial development costs</td>
<td>____</td>
</tr>
<tr>
<td><strong>Total Primary Costs</strong></td>
<td>____</td>
</tr>
<tr>
<td>Income loss from previous jobs not filled x area income multiplier</td>
<td>____</td>
</tr>
<tr>
<td><strong>Total Secondary Costs</strong></td>
<td>____</td>
</tr>
<tr>
<td><strong>Total Costs to Private Sector</strong></td>
<td>____</td>
</tr>
</tbody>
</table>

**Gain to Private Sector:**

**Total Benefits – Total Costs**

**Gains to the Local Government Sector*\(^{2,7}\)**

**Benefits:**\(^{2,8}\)

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property taxes new homes</td>
<td>____</td>
</tr>
<tr>
<td>Property taxes new plant investment</td>
<td>____</td>
</tr>
</tbody>
</table>

---

\(^{2,6}\) Area refers to a community, county, or multi-county region.

\(^{2,7}\) Local refers to municipal, township, or county government.

\(^{2,8}\) Because of local difference in taxing methods, other items that may affect benefits or costs should be added to the checklist (i.e., sanitary or solid waste disposal districts, mosquito control, etc.)
Utility revenues from new plant $ _____
Utility revenues from new residents
Additional state aid or shared taxes (Income and/or sales taxes from plant payroll) _____
Other tax revenues from new residents
Total Primary Benefits $ _____
Change in tax revenues from former residents
Total Secondary Benefits
Total Benefits $ _____

Costs:
Services provided new plant
Services provided new residents
Services provided new in-commuters
Local government industrial incentive costs
Total Primary Costs
Additional services provided former residents
Secondary Costs
Total Costs

Gain to Local Government Sector:
Total Benefits - Total Costs

Gains to the School District Sector

Benefits:
Tax revenue — new homes
Tax revenue — new plant’s additional investment
Additional state aid due to new students
Additional federal aid due to new students
Total Primary Benefits
Change in school revenues from former residents

Total Secondary Benefits

Total Benefits

Costs:

Additional physical plant due to new pupils

Additional educational services provided new pupils

Tax revenues lost from tax concessions to the new plant

Total Primary Costs

Additional educational services provided former pupils

Total Secondary Costs

Total Costs

Net Gain To School District Sector:

Total Benefits – Total Costs

Gains to the Area

Gain to area’s private sector

Gain to the local government

Gain to the school district sector

Gain to the total area

The loss of income from unfilled jobs creates secondary changes similar to the secondary changes resulting from an expansion of jobs or income. The private sector income and job losses are internalized just as the private sector benefits are.

Other private sector costs include the travel, salary, and promotional expenses by the industrial development group and individuals to attract the new plant. These are added to other private sector costs.

Private Sector New Gain

The primary and secondary benefits and costs to the private sector can be added and the difference between total benefits and costs is the net gain in the area’s labor and proprietor income from industrial development (private sector net gains). The following shows the derivation of private sector net gains using the model.
Gains To The Private Sector In The Area Checklist

Benefits:

Internalized plant payroll paid to area residents

Total Primary Benefits $ __________

Internalized income of residents x area income multiplier

Total Secondary Benefits

Total Benefits to Private Sector $ __________

Costs:

Income loss from unrefilled previous jobs of area residents

Private industrial development costs

Total Primary Costs

Income loss from previous jobs not filled x area income multiplier

Total Secondary Costs

Total Costs to Private Sector

Gain to Private Sector:

Total Benefits – Total Costs

Public Sector

The changes from industrial development are not limited to those occurring in the private sector – labor force and local merchants, etc. The location of a new industrial plant with associated population changes can have a major impact on the local political jurisdictions. This impact can be expressed as additional tax revenues, expenditures for public services, and in some cases even the expansion of service capacity.

Each area in its prelocation discussions with a potential plant should determine what additions to its utility, education, transportation, and other public facilities are needed to meet the requirements of the new population and the plant.

In measuring the economic changes in the area from the location of a new industrial firm, the unit of measurement is defined to include only the separate taxing jurisdictions involved. Boundaries between town limits and school districts do not necessarily coincide; hence school districts are treated separately from other governmental units. If a county is estimating industrial impact on the public sector, then the analysis should include the impact on the specific jurisdictions where the plant locates besides the "average" impact on all jurisdictions in the county. Because of the significance of the property tax as a revenue source for local government, including school districts, the next section is devoted to this specific topic. Before proceeding to the next section, a comment on data source is needed. In most cases, public records (government budgets) can provide the information needed for the public sector analysis.
Property Taxes

The local investment in equipment and buildings by the new plant, along with any new housing investment by or for new residents, can add to the property tax base of the local government and school district. Only the assessed value of the new investment is an industrialization benefit to the public sector. New investment restricts the change in property tax base to new equipment, new building, and change in the value of industrial sites. The preindustrialization value of a plant site is not a benefit of industrial development because the property tax revenues would have been generated regardless of the location of a new plant. The same reasoning applies to the location of the new plant in an existing building. The impact of new housing investment by new residents in the area is also limited to new construction. New residents are workers who move to the area of their own volition or at the request of the new plant ("imported" workers). The value of existing homes and all residential lots is not a result of industrialization and therefore should not be counted as a benefit to local government. To estimate the value of new residential investment, an average value per home needs to be assumed according to the housing market in each area. The assessed value of all new industrial and residential investment times the property tax mill levy is the property tax revenue going to the appropriate political jurisdiction.

The use of tax concessions (freezes on increases, low assessments, or outright exemptions) to attract industry are an opportunity cost to local political jurisdictions. These opportunity costs are equal to the foregone property tax revenues and are included as a cost to the respective political jurisdiction.

Local Government Benefits

The impact from the location of a new plant and new residents in an area is transmitted to the local government. The primary benefits are the additional property and sales taxes plus other revenues (utilities) from the new plant. Only utilities operated by local government are included in the analysis. The average monthly utility bill of each new family for municipal electricity, water, and sewer must be established. All utility rates can be assumed to be equal to the cost of providing services, excluding capital costs, but this need not be the case in specific communities. All capital expenditures for utilities are assumed to be paid from special tax levies.

Intergovernmental aids to the municipality (gas taxes, commercial vehicle taxes, alcoholic beverage taxes etc.) are estimated by these aids per capita times the number of new residents due to the new plant. The increase in local sales tax receipts is measured by the amount of plant payroll spent in the community times the municipal sales tax rate. This includes state aid from gas taxes, commercial vehicle taxes, and alcoholic beverage taxes when returned to the area. The increase in the area's income can also increase local sales tax receipts and shared taxes (state income taxes) that the local government receives.

The workers at the new plant generate secondary effects for households and businesses in the area. The secondary private sector changes, in turn, affect property values, property taxes, and other municipal revenues. Secondary benefits (revenues) are estimated by local government revenues per dollar of income times the amount of secondary income.

Local Government Costs

The provision of public services to the new plant and new residents increases the level of local government expenditures. The primary costs are the expenditures for public services delivered to the new plant, new residents and/or new in-commuters. The per capita expenditures times the number of new residents is used to estimate the local government expenditure impact of the new residents. The service costs of the new plant must be determined in the negotiation process.

It is assumed that any jobs that are not filled by "imported" workers or area residents are filled by in-commuters. In-commuters are workers from the surrounding rural area and other communities. To account for the in-commuters' use of local public services, assume that the cost of providing public services for in-commuters is the same as the per capita costs of the services for the area's residents, excluding utility and school costs. This may be an overcharge, but it will simplify calculations.

The increase in secondary economic activity in the area also increases the need and demand for public services, which can affect local government expenditures. Local government secondary costs are estimated by the amount of secondary income times local government expenditures per dollar of income.

Local refers to municipal, town, or county government, whichever unit is making the analysis.
Gains to the School District Sector

Benefits:

- Tax revenue — new homes $\
- Tax revenue — new plant's additional investment \\
- Additional state aid due to new students \\
- Additional federal aid due to new students \\

Total Primary Benefits $\

- Change in school revenues from increased local economic activity \\

Total Secondary Benefits \\

Total Benefits $\

Costs:

- Additional physical plant due to new pupils \\
- Additional educational services provided new pupils \\
- Tax revenues lost from tax concessions to the new plant \\

Total Primary Costs \\

- Additional educational services provided former pupils \\

Total Secondary Costs \\

Total Costs \\

Net Gain To School District Sector:

Total Benefits — Total Costs \\

Gains to the Area

- Gain to area’s private sector \\
- Gain to the local government \\
- Gain to the school district sector \\
- Gain to the total area \\

115
**Local Government Net Gains**

The primary and secondary benefits and costs are added up and the difference between benefits and costs is the local government net gain. This procedure should be repeated for all local jurisdictions affected by the new plant. A positive net gain implies that industrialization is financially beneficial to this unit of local government.

**Gains to the Local Government Sector**

**Benefits:**

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property taxes new homes</td>
<td>$</td>
</tr>
<tr>
<td>Property taxes new plant investment</td>
<td>______</td>
</tr>
<tr>
<td>Utility revenues from new plant</td>
<td>______</td>
</tr>
<tr>
<td>Utility revenues from new residents</td>
<td>______</td>
</tr>
<tr>
<td>Additional state aid or shared taxes</td>
<td>______</td>
</tr>
<tr>
<td>(Income and/or sales taxes from plant payroll)</td>
<td>______</td>
</tr>
<tr>
<td>Other tax revenues from new residents</td>
<td>______</td>
</tr>
<tr>
<td><strong>Total Primary Benefits</strong></td>
<td>$ ______</td>
</tr>
<tr>
<td>Change in tax revenues from former residents</td>
<td>______</td>
</tr>
<tr>
<td><strong>Total Secondary Benefits</strong></td>
<td>______</td>
</tr>
<tr>
<td><strong>Total Benefits</strong></td>
<td>$ ______</td>
</tr>
</tbody>
</table>

**Costs:**

<table>
<thead>
<tr>
<th>Cost</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services provided new plant</td>
<td>______</td>
</tr>
<tr>
<td>Services provided new residents</td>
<td>______</td>
</tr>
<tr>
<td>Services provided new in-commuters</td>
<td>______</td>
</tr>
<tr>
<td>Local government industrial incentive costs</td>
<td>______</td>
</tr>
<tr>
<td><strong>Total Primary Costs</strong></td>
<td>______</td>
</tr>
<tr>
<td>Additional services provided former residents</td>
<td>______</td>
</tr>
<tr>
<td><strong>Secondary Costs</strong></td>
<td>______</td>
</tr>
<tr>
<td><strong>Total Costs</strong></td>
<td>______</td>
</tr>
</tbody>
</table>

Gain to Local Government Sector:

\[
\text{Total Benefits} - \text{Total Costs}
\]
School District Effects

The impact on the school district is dependent on the number of new students, new property taxable investments — or school taxes when they may be separated — and the relationship between new enrollments and revenues for schools. The new students are from families who move to the area of their own volition, or at the request of the new plant.

On the revenue side of the model, the primary benefits include the new industrial and residential investments added to the tax rolls, plus any additional intergovernmental revenues for the school district. Federal and state school aid is computed on a per student basis. New tax revenues plus the number of new students times the per pupil school aid figure are the primary revenues (benefits) of industrialization to the school district.

A primary cost of industrialization on the local school district is the cost of educating new students brought into the school system because of the new plant. The number of new students times per student expenditures is used to estimate the primary costs of new students on the school district. Industrial location incentives tied or related to the new plant's property investment can affect the fiscal impact on the local school district. Any location incentive that reduces a new plant's tax payments for schools is an opportunity cost of industrialization.

The secondary revenues and costs to the school district are the changes, due to the new industry, in educating the students already enrolled in the system. The school's secondary effects and the local government secondary effects are computed the same way.

The net impact of industrialization on the local school district is the difference between the additional revenues and expenditures arising from the increased industrial activity. A positive net gain implies that the new plant is financially beneficial to the school district. The following shows the derivation of the school district sector net gains using the model.

Summary

This chapter addressed the problem of evaluating the economic impact of new industry on a local area. The local area was defined to include either a community, a county, or any combination of the two. An area needs to estimate or evaluate industrial impact to determine if industrialization is an economically-viable development alternative. Non-economic effects were not measured, but these can be quite significant and may supplement or cancel the economic measure of well-being.

Benefits to the area were defined as the personal and business income, plus revenue to the local government and local school district generated by the new plant. The costs to the area from industrialization were the loss of previous personal and business incomes, and any local government and school expenditures that were related to the new plant. The secondary effects were the changes in the area's private and public sectors that would not have occurred without the location of the new plant.

The secondary effects were estimated by using multipliers. The multipliers were adjusted to measure only the changes occurring in the area; i.e., spillovers were not counted as local effects. The economic impact was limited to that occurring in the area doing the evaluation to prevent an over-investment by the area in its industrial development program.

The net gains to an individual sector or all sectors of the area is the difference between the benefits and costs of industrialization. If an area is actively bidding for industrial jobs (a policy which in no way is advocated by this chapter), the net gains represent the maximum bid. However, every attempt should be made to secure industrial development without the extreme action of uneconomic "bidding." If bidding does occur, the best terms should be secured for the area.

The model can be used to estimate the changes resulting from industrialization, and this in turn can be used to determine the limits of local involvement in providing sewer, water, and other public facilities for the new plant. Furthermore, if the net gains to local government or the school district are small, or even negative, a reevaluation of tax incentives as part of the industrial development program may be needed.

The Oklahoma study, that was the basis for this chapter, found that annual community net gains average $3,772 per employee, $0.78 per dollar of payroll, $0.27 per dollar of sales and $22 per person in the community. This was an approximation of industrial impact, and it must be emphasized that there are wide variations between communities and individual studies are always recommended.

The model presented in this chapter should be viewed as the starting point for analyzing industrial impact. The structure of the model should be altered to reflect the institutions and conditions in specific areas.

Appendix III presents a hypothetical industrial impact study to show the computational procedures of an impact analysis. Study of this appendix will greatly fa-
cilitate use and understanding of the model for community industrial programs. A true understanding of the benefits and costs of a specific proposal from industry will have a direct effect on community inducement strategy by injecting a higher degree of realism to negotiation than is obtained from "seat of the pants" negotiations.

Selected References


Federal, state, and local taxation all play a role as determinants of the location of economic activity. Local taxation is most likely the only form of taxation that can be adjusted to community economic development goals. In devising a tax strategy, it is well to keep some of the principles of taxation in mind.

Economists, businessmen, tax students, and the man in the street will argue that investment that strengthens an area's economic base is the key to prosperity and that its taxation must be moderated. This is the way the capital for the new jobs and area needs for its idle labor force becomes available. The capital comes out of corporate and individual saving. Hence the taxes on corporations and the middle- and upper-income brackets should be reduced. However, practical politics will prevent such reduction unless there can be a general tax cut. Some of those who look upon investment as the road to faster economic growth would make up the revenue lost from lowering corporate and individual income taxes by imposing some type of general sales tax, but this tends to reduce purchasing power.

Actually, both increased investment and increased consumer purchasing are needed to maintain a satisfactory rate of economic development. Neither should be taxed so heavily that economic activity would be slowed down. Taxation affects community income and progress through the spending of tax collections. Taxation tends to be restrictive in terms of economic activity and, at the same time, tends to expand economic activity, so taxing and spending must be balanced. To keep taxes consistent with local economic objectives, the taxation of both consumption and investment should be as moderate as possible and still meet the need for community services.

Sounds simple, but it is the crux of the problem. The economic effects of taxes, in the aggregate, are so remote, so spread through the population, and so tangled by the actions of a host of different economic situations that they are practically unknown, in spite of the many studies which have been made. Judgments must therefore be reached with only imperfect data available, looking to past experience and to conjecture concerning the future.

In recent years when state and local governments have been hard pressed to meet the demands for community services without over-loading taxpayers, communities have hoped that the services might be paid for in part out of economic growth. At the same time, they have attempted to foster industrial growth by cutting those taxes that fall on business, expecting lower taxes to lure business from other localities and also prevent the loss of local industry. The dilemma facing the community produces two questions.

1. Will industrial growth reduce taxes?
2. Will a reduction in taxes attract industry?

Will growth reduce taxes? Any answer needs to be hedged with many qualifications. There are some grounds for the belief that a high level of economic development is usually associated with high taxes at least on a per capita basis. Two arguments for this are: (1) If the growth results in higher per capita income, there may be a greater demand and ability to pay for community services from the taxpayers themselves; and (2) Industrialization itself may create the need for more services.

On the other hand, industrialization up to some optimum will add to per capita income and it may foster the ability to pay faster than it increases the demand and need for services. If there is a high rate of unemployment and underemployment in the area, growth to provide needed jobs will obviously enhance per capita income and, in turn, provide more tax revenue.

There can be no doubt about a community's dependence upon a plant already located there and pro-
viding much of the employment for the community’s labor force. Beyond this, if there are not enough jobs for the natural increase in population, there is an out-migration of young people. The community has no alternative except to export one of its most costly products gratis — educated youth. This situation in some communities is a potent argument for industrial development programs.

But if an area must import population to man a new industrial operation, the case is not so clear. More income will be generated by increased business activity, but there will also be more people to share it. The city may have more than a proportionate rise in real estate values. A community cannot make itself wealthy by simply adding to its population. Without increasing income, there may be nothing to be gained.

Thus, industries which add to the tax base more than they add to population (or the need for services) are fiscally advantageous. New industries making use of the local labor force would appear to be a priority target in the industrial growth strategy. However, no industry should be rejected because large numbers of people might be “brought in from outside” before the full impact of new people with increased incomes is evaluated. In most cases, the benefits in terms of strengthening the economic base of the area will outweigh demands on the tax base.

A balance in the taxation policies of communities is desired. If one or more segments of the population feel they are taxed out of proportion to their vested interest, the political repercussions may stymie industrial development efforts. A major facet of the strategy of the local development group will be to assure the community that programs to attract industry coincide with the best interest of the entire community.

There is another issue of taxation and manufacturing development likely to arise in states or communities where industry taxes are relatively heavy. Where the economy is slowing down or declining, property taxation, for example, may become burdensome because industry profits are falling. A plant that finds it cannot compete with manufacturers in areas with decidedly lower taxes may threaten to move if tax relief is not afforded. Taxation can be a contributing factor, but it is not the basic reason for community decay or lack of growth.

*Will reduction in taxes attract industry?* Tax savings are a source of income for a business. In theory, other things being equal, if a firm has a choice in locating a new facility and there is a substantial tax differential between one location and another, it will tend to locate where the tax costs are lower. In how many instances taxation is the deciding factor is not known. Because of this uncertainty, controversy ranges between one extreme that taxation has virtually no influence to the opposite that it exerts a very important influence. Firms may contend that taxation is more important than it really is, or that they are moving out of or into a location because of taxation, when other factors are controlling. They may be silent if they think they have a good thing. In many cases, taxes are what people think they are: a point to be remembered by industrial development groups when they extol the virtues of their local tax systems.

The tax executives of the larger corporations and the tax accountants and attorneys of the smaller and medium-size concerns are highly tax conscious. They work to minimize the taxes of the firms they represent and to keep the taxes on their firms as low, or lower, than the taxes on competitors. For each business firm, the important thing is: what will be the taxes on their firm in each proposed location?

Data showing property taxes on homes and on other business properties may not be a safe guide for an industrial plant. The well-informed firm will not be misled by claims that taxes are low in a certain state or locality because per capita tax collections are low, the ratio of business taxes to total taxes is low, the tax rate is low, or other claims that tell only part of the story. A firm will want to know what the local expenditure and debt situation is, what services it will receive from the taxing bodies, and what the future tax outlook is.

Businessmen deplore the uncertain tax policies of some state and local governments. The uncertainty may arise over unbalanced budgets, a reputation for heavy business taxation in the past, the inability or unwillingness of the government to settle on a definite tax course, frequent changes in tax legislation and tax administration, or other factors. In planning for the future, as well as in making location decisions, corporations logically desire to minimize uncertainty, even if they cannot eliminate it. The tax structure and tax policies, then, should be as certain and definite as possible and consistent with economic development objectives. Community decisions in both economics and ethics are required to determine how to attract industry and how taxation fits into the picture.
INDUCEMENTS TO INDUSTRY

There is a distinction between inducements and the nearly universal financing programs used in community development programs. The distinction is between “incentives” (financing programs usually offering a subsidy in the form of lower interest) and “inducements,” which are frequently termed “giveaways.” “Giveaway” is a relative term from the viewpoint of a community. The community’s cost for inducements is usually weighed against the beneficial effect of a new industrial payroll (Chapter 13).

Community acceptance of any cost for inducements will bear a direct relation to a community’s desires and the goals of its development program. The impact of any facet of industry location upon a community should be considered and a community should have predicated ground rules on how far it is willing to go in encouraging new industry through inducements. After a plant is located, there should be no surprises for the community related to the cost of inducements.

By the time industry has reached the point of actually looking at a community and sites, it has “most of the money in the bank,” providing the right decisions have been made up to that point. But there is the almost inescapable fact that as businessmen are susceptible to good “salesmanship,” they are also susceptible to “bargaining.” There are firms that start a quest for a new plant on the basis of inducements they can secure. This can be a serious mistake in relation to the major location factors which should give direction to the location quest and the community should beware.

A town assembles local, state, and federal resources to achieve a goal, but the process within which town and an industry bargain is seldom understood. Just as industries in one labor market vie for the services of that area’s labor forces, towns compete with one another for new industry. Consequently, there is scarcely a town which does not have some kind of industrial development committee or commission to “welcome” prospective industrialists. In addition to “selling” the town to the interested parties, they are often empowered to offer special inducements in the form of tax rebates, low-cost land, buildings, or special public services. Many of these inducements are granted as a matter of course under existing state legislation, but many others are discretionary on the town’s part.

Firms that are considering establishing a new plant generally survey a number of different sites and weigh each site according to a number of criteria, and a significant weight is placed on the type of explicit offer made by each community. This is often rationalized by industry as a community demonstration that the company is really “wanted.”

It seems unusual to treat this seemingly natural act of location selection as the culmination of a market process, but it is entirely appropriate. Towns act to maximize their utility by attracting new income-earning opportunities through special inducements. Profit maximizing firms supply the income-earning opportunities to the most attractive community. Clearly, the level of inducement can only be one element in a firm’s calculated decision, but as the differences between alternative sites narrows, the level of discretionary incentives gains in importance.

The most notable characteristic of location market is its lack of conformity to the standard competitive market. Neither the package of inducements nor the quantity of new industry have perfectly divisible units of measurement. Moreover, the item that is “purchased,” so to speak, by the community is a public good in the broadest sense. As was pointed out in Chapter 13, once a new industry opens its doors, job opportunities are open to all residents (and even nonresidents) and not simply to the taxpayers who may have paid for the inducements.

The Community Package

The town or area bidding for industry, a scarce goods, offers a “package” of benefits to the firm. Some of these benefit components may represent costs to the taxing jurisdiction, while others may not. Communities differ in both ability and willingness to offer industry this package. The package in all situations can be viewed as containing essentially the same components, although the quality and value of each component varies widely between taxing jurisdictions.

Factors Beyond Local Control

An important part of what a town or area is able to offer industry is beyond their control. The location, climate, and natural resources are local endowments which may be vitally desirable to industry. Industry, faced with a decision between locating where a cash subsidy is offered and locating in an area endowed with attractive natural resources but offering no subsidy might choose in favor of the latter if the endowments far exceeded the subsidy in value.
In a very real sense, natural factors are treated in a competitive situation by industry as a part of the supply price. The area incurs not money but merely opportunity costs. The value of the offer is measured by the benefits brought by the best industry which the area could secure by expending part of its natural endowments. Wherever these natural factors retain the character of a public good — for example, climate or proximity to markets — the town or area may need not even ration those resources among prospective industries.

State and other public programs which may be applied to the area and which will benefit industry (i.e., state training grants, state industrial bond programs) may be viewed as outside inputs to the package. However, if the application of these programs require local services or time, the costs of the time should be included in determining cost to the community.

Factors Under Local Control

The local political unit is often requested by industry to provide sewer and water lines, special roads, industrial land, and so on. These services must be regarded as a part of the area offer. It is common practice for communities or counties to extend water and sewer lines to a new industrial site at no cost to industry. Many construct basic facilities before starting an industrial location program. Towns build industrial parks and construct high-capacity water and sewer facilities with the intention of attracting industry. Where basic facilities do not exist and are provided, they become real costs to the community.

A community is also able to make nonfinancial offers to industry. It may agree to resist the entry of other firms which would employ the same type of labor, thus guaranteeing the first firm’s control over the labor market. It may promise to actively oppose the coming of unions. Both promises are difficult to keep and probably better not made. These offers of a “favorable community attitude” to industry or to a particular firm are nevertheless valued by industry as part of the community package and are often cited by industry as reasons for locating with perhaps greater emphasis than is deserved.

Cost Factors

Finally, the local entity is able to complete its offer with a range of monetary inducements to industry. The financial inducements offer the greatest flexibility since they are almost wholly discretionary and require little advance preparation. These inducements serve to lower the firm’s costs; in fact, all factors in the package do, but monetary inducements are most direct and predictable in their cost-lowering implications. Property tax moratoriums lasting a number of years, cash, land or building subsidies, and other legal and extra-legal inducements may be offered by communities.

Bargaining

Bargaining is carried on directly and secretly between a community (or its representative) and a firm. The community believes that it is competing with many other towns. It does not know what prices rival communities are offering. Nor does it know what other industries it might be able to bid for as alternatives. Firms, on the other hand, know the prices offered and also realize that the town lacks information on the demand side of the market. They are already in a strong position because of their product, which is jobs, and of the limited number of location seekers.

The secrecy of the bargaining process and the information structure of that process further strengthen the position of the firm. As a result, firms receive prices which may be far higher than the price which would be enough to induce their location decision. The fact that local and state governments are limited by law in the package deals and prices they supposedly can offer, does not restrain this action. Reports of under-the-counter deals between localities and industries are sufficiently abundant to suggest that the price actually paid may be higher than the legal limits would permit. The community has to decide how far to bargain on the basis of their development goals and assessment of the books and management capabilities of prospective firms.

Inevitably the process of bargaining revolves around the number of jobs the firm is going to create when the plant is in operation. There is a tendency for industrial bargainers to inflate the number of jobs to get a “better deal.” This is the worst possible mistake they can make. In future community relations, this figure is remembered by the community long after all other considerations.

Truth in bargaining by industry and truth in reporting to the community by bargainers is essential. In many cases, “gift horses” offer deceptive short-run advantages for the location of a business or industry. Business advantage, per se, should not be based upon local inducements. The community in the processes of bargaining should not offer inducements to the extent that
they may lead to an otherwise uneconomic location of an industry.

Inducement Methods

A number of methods are used in the United States to subsidize industry and to influence its location decisions. Most are programs administered by local and state governments, or by private development corporations associated with these governments. While the federal government has a few programs which can directly influence location, it pays the bill for many of the state and local programs through the subsidization of public works or as the result of tax-exemptions on municipal and industrial bonds.

One very commonly-used type of local subsidy is the property tax exemption. Many localities typically grant new firms an exemption from property taxes of 5, 10, or 15 years; however, not very often for school taxes where they are separate in the tax bill. In many communities, where tax exemptions are prohibited by law, informal agreements are made with firms that taxes will be kept low through low assessments. Of course, both legal and illegal property tax exemptions (or rather, reductions in the illegal case) have the same economic impact. They both have a predominant effect on a business firm's fixed costs.

Accelerated depreciation is a type of hybrid of the property tax exemption and the corporation income tax exemption. It is like the former in that its value is based on the amount of the firm's capital equipment. It is like the latter in that since accelerated depreciation essentially means a saving of profits that would otherwise be taxed away through income taxes, it too is valuable only to a firm which is turning a profit. Some states have used this method selectively by allowing accelerated depreciation for only certain types of investment expenditures such as research and development or pollution control.

Tax considerations tend to be an overemphasized factor. Between the states, tax considerations have tended to level off, certainly if not nationally, regionally. Whereas some states have gross volume taxes, others have income taxes. The net collected from most businesses tends to be nearly the same. On rare occasions some significant differences occur because of the peculiarities of some companies, but these are not necessarily permanent and successive legislatures can change regulations at will.

Taxes vs. Services

A tax on the value of a firm's land and buildings does not vary with output in the short-run and is thus considered a fixed rate. Property taxes on inventories do vary with output to some extent, but not proportionally. As output (and sales) grow, inventory becomes a smaller proportion of it. Thus the property tax on inventories is partly a fixed cost and partly a variable cost. In any case, property tax exemption is a subsidy that primarily affects fixed costs.

A second category of tax concessions is an exemption from state corporation income taxes. Not all states levy corporation income taxes at the present time; therefore, this incentive may be offered where states are competing for industry. Corporate income taxes differ significantly from the property tax exemption in impact as it does not affect the firm's fixed costs. This tax comes only out of profits. Thus only firms which expect to make profits regularly stand to benefit from this type of tax concession. While we have already established that businesses are profit-oriented, the significance of the above statement is that many new firms or new plants may require as much as three years to attain full production and thereby a profitable operation. Thus, when incentives are needed the most, they are not provided through exemptions from State or local income taxes.

Accelerated depreciation is a type of hybrid of the property tax exemption and the corporation income tax exemption. It is like the former in that its value is based on the amount of the firm's capital equipment. It is like the latter in that since accelerated depreciation essentially means a saving of profits that would otherwise be taxed away through income taxes, it too is valuable only to a firm which is turning a profit. Some states have used this method selectively by allowing accelerated depreciation for only certain types of investment expenditures such as research and development or pollution control.

Tax considerations tend to be an overemphasized factor. Between the states, tax considerations have tended to level off, certainly if not nationally, regionally. Whereas some states have gross volume taxes, others have income taxes. The net collected from most businesses tends to be nearly the same. On rare occasions some significant differences occur because of the peculiarities of some companies, but these are not necessarily permanent and successive legislatures can change regulations at will.

Taxes vs. Services

There are several public services which industry may expect. Facility planners will check to make sure they are available, particularly in the quality and quantity necessary to support plant location plans. These services are important because they can increase the efficiency of existing industry or raise the potential efficiency of new industry.

Improved streets and roads, street lighting, sanitary and water systems, and police and fire protection may lower production costs per unit just as tax concessions or rent-free buildings. While it is fairly easy to observe the condition of streets, industry will consider the adequacy of police protection, local crime rates, law enforcement, traffic conditions, and traffic control. For fire protection, they will want to know the quality of firefighting equipment, availability of fire hydrants, water pressure, the current insurance classification of the fire department, and the availability of service to outlying areas.

Plant locators look for the frequency of trash and garbage collections. They check to make certain that the potential site is within the pickup limits or if it is not,
whether private trash collection services are available and what health inspection and ordinances cover the disposal of trash and garbage in the community.

Good educational and health facilities in a community are frequently top priority on the list of requirements of a plant location. Education and health are of vital importance both to individuals planning residence in a community and to a business itself. To facility planners, community stewardship is considered more than just "keeping taxes down." A responsible government also provides good housekeeping services.

Low taxes often point to poor community services. Tax-free offers can suggest to industry that someone else is carrying the tax burden for industry newcomers. New industries may wonder who will share the same burdens for future newcomers. Adequate public services are necessary to attract industry, its management, and workers. Services must be paid for from public revenues. When one group escapes them, some other group must make up the difference. This is the crux of the community's decision whether or not to offer inducements and, if offered, how to pay for necessary services.

The local government can see great benefits from a manufacturing firm moving to its jurisdiction. First, it sees more jobs for the city and area, something that is very important due to the extensive need for employment opportunities. It sees a multiplier effect — the increased wages purchasing local goods and services and the possibility of other firms locating in the area. The new firm might purchase inputs from other firms in the town. It also sees greater tax revenues coming from the firm itself unless they have been waived in some fashion, from the workers paid by the firm, and from the merchants with increased sales, etc.

The only expenses that the local government sees are some additional public services and the cost of the inducement. The former will not appear large if the government thinks that excess capacity exists in existing public facilities. The latter varies, but can be small as in the case of industrial development financing where it is essentially state or federal programs that foot the bill.

In short, offering an incentive to a manufacturer to move to town often seems an excellent idea from the vantage point of the local government.

Conclusion

Many factors influence total costs in far greater degree than do local incentives, and thus dominate the locational decision. The community offering inducements should realize that some proportion of the firms accepting their inducements would have located in the town anyhow. When this is taken into account, the benefit-cost ratio and thus the rate of return if there are costs is drastically reduced.

Local governments, as distinct from national, therefore face a dilemma. Numerous and efficient services must be provided if industry is to be attracted at all, but a high level of taxes to pay for these services is apt to deter industrialists. Communities must keep this matter in perspective and wrestle with the incentive dilemma: Do state or local taxes and giveaways play a dominant role in the location decisions of most important business firms?

The conclusion is they do not. Does this mean that they play no role in location? No, for sometimes tax breaks or giveaways may be that marginal element which tips the scale in favor of a specific location. The community's inducement package is indeed a fragile thing when both community and industry are looking for a "good deal."

Selected References


15. FINANCING INDUSTRIAL DEVELOPMENT

It was pointed out in Chapter 6 in the section on The Role of Capital that everyone likes to do business with someone else’s money. Therefore, any strategy a community develops for industrial financing must take this fact into account.

Capital is either owned or borrowed. Owned capital is contributed by those who have an ownership in the business. Borrowed capital is contributed by those who take a creditor interest. The state of the economy and the nature of the business seeking capital influence the source to be used and the amount and kind of capital that can be secured.

Financing by a Firm

Financing of industrial plants from a firm’s earnings has several advantages and disadvantages. The use of surpluses permits expansion free from direction by outside sources. Successful expansion from profits indicates financial stability and strengthens the company’s credit position. On the other hand, it decreases the investor interest and participation in the company through the reduction or forbearance of dividend payments to pay for expansion. To avoid the disadvantages of internal financing, firms often seek outside financing from conventional capital sources or from the communities in which they may offer to locate new facilities.

Outside Financing

The financial requirements of major manufacturing facilities may be so large that management must often look beyond plowed-in profits for normal expansion outlays. Demands for outside capital include funds for both initial financing and expansion. Either because equity owners (proprietors or stockholders) do not care to lose or dilute their control, or because their companies need more money than earnings can provide after dividends have been paid, firms seek outside capital to build and equip their industrial facilities.

The problems of securing venture capital or local bank participation were discussed in Chapter 6, as was the need for communities to organize local industrial development corporations to secure funds. The source of funds for community development corporations being local monies combined with funds or guarantees from state or federal programs where they can be used, the community must also be organized in a similar manner to issue industrial revenue bonds.

Foundations

In some circumstances, foundations can be a source of loans or equity capital in a local industrial development project. There are more than 24,000 foundations in the United States. The Foundation Directory lists over 6,800 that are most active. This directory should be available in most local libraries.

Normally, tax-exempt foundations invest their funds in order to earn income which they use to make grants or conduct programs in furtherance of charitable objectives. However, some foundations regard investment of their funds as an additional technique to be used to accomplish their charitable objectives. They have embarked on programs of investing a limited portion of their capital funds to further specific charitable goals.

This type of investment is sometimes called a “program-related investment.” Foundations engaged in this type of investment program may be a source of investment capital for local development companies. However, the factor that must be kept in mind when approaching a foundation as a potential investor is that program-related investments are an extension of the foundation’s normal charitable functions. Although foundations may not take a traditional investor’s view toward proposed program-related investments, such investments will still be subjected to careful financial evaluation.
Church Activity

A number of religious institutions encourage and support economic development in disadvantaged sectors of American society. The approaches taken by churches deal with the use of money for economic development, primarily as "investment." Funds are injected with an expectation of an eventual return of capital plus some form of income and secondarily, as "grants" or outright gifts.

Where the organized religions have chosen to invest directly, the greatest portion of the funds invested in economic development projects has been in the form of loans. Loans have been made that involve equity participation in the form of either warrants for stock, common or preferred stock, or a conversion privilege which gives the investor the right to convert all or part of his debt into an equity investment. Interest rates have varied from 3 percent all the way up to the conventional rate for business loans.

Loans from Business Development Corporations

Business development corporations are organized to stimulate industrial development in a state or locality through the assumption of greater than ordinary lending risks. Business development corporations may either be for profit or nonprofit. Their purpose is to serve high-risk borrowers who do not have needed credit available on a regular basis from commercial lenders or who can acquire credit only at rates up to twice as high as those charged by the development corporation. The development corporation either takes the risk itself or makes the assumption of the risk acceptable to other lenders. The net effect is to subsidize industry by reducing interest costs substantially below what established lending institutions would impose.

The development corporations are usually privately financed, and their initial funding is from the sale of stock or from borrowing. The stock is sold primarily to businesses, individuals, and local development organizations that are interested in the economic development of the area. Borrowed money comes from federal or state programs, commercial banks, savings and loan associations, savings banks, and insurance companies. Borrowing normally is at or somewhat above the prime rate for short-term business loans except for federal funds used in the so-called distressed areas or for minority enterprises. The funds so assembled are loaned to private businesses, primarily to small manufacturing firms.

Most of the loans granted have had five- to ten-year maturities and are used for plant or equipment purchases, although some have been granted to provide a firm with working capital.

State Direct Loans and Loan Guarantees

Another approach to financial incentive and assistance is the granting of direct loans to businesses by state-created agencies. Many states have gone into the business of financing land acquisitions, plant construction, and purchases of machinery and equipment for those firms that cannot arrange conventional financing themselves. Financing is accomplished in some states by establishing revolving funds that are provided out of money appropriated by the state legislatures. Other states issue revenue or general obligation bonds to create their funds. In either event, the loans granted to business firms by the agency are repaid with interest. The revenue thus derived pays administrative costs and provides added funds for future lending.

Ordinarily, the loans have maturities of 10 to 20 years and are normally used for the purchase of land or the construction of plants. Loan guarantee programs, on the other hand, are an insurance type of assistance whereby a state agency guarantees the repayment of first mortgage industrial loans made by private banks. In most cases, the insurance takes the form of a pledge on the part of the state to pay in the event a borrower defaults. Such guarantee arrangements are based on the full faith and credit of the state, which will provide revenue funds for claims in the event of default on the part of the borrower.

The loans thus guaranteed usually have a maturity of 20 to 25 years and, like the direct loans, are used to purchase land, machinery, and equipment, and to construct manufacturing plants.

Municipal Bond Financing

Another important financial incentive — one that has been much publicized — is that of a governmental unit issuing bonds to acquire or construct industrial facilities. In effect, a city or county sells municipal bonds in order to construct a plant. The plant is then leased to an industrial firm. The term of the lease provides for payments according to a schedule of amounts and time so as to permit retirement of the bonds and payment of interest on them.
This practice has proven to be particularly attractive from two points of view: (1) Such bonds are easy to sell because the interest income received by the bond-holders on up to one million dollars of bonds is exempt from federal income taxes. This feature makes it possible to sell the bonds at interest rates lower than are normally imposed on ordinary corporate debt securities. The bonds thus marketed may take the form of either general obligation bonds or revenue bonds. In the former case, the purchaser usually looks through the issuing municipality to evaluate the soundness of the bond. (2) Municipal bond financing is an effective inducement to industry because the firm acquires financing at a lower interest cost than it would have to pay if it marketed its own securities. In addition, the firm is not required, in most cases, to pay real estate taxes, since the owner of the plant and land is actually a public agency. In practice, some communities expect the lessee to make payments in lieu of taxes, but this is the exception rather than the rule.

The Lease Purchase

The usual vehicle in which community development corporation fundings are transferred to a firm is through a lease-purchase agreement to finance either or all land, plant, and equipment (See also p. 136). The lease-purchase is an arrangement for transforming a relatively unsecured loan into a viable loan and at the same time freeing the assets of a firm for working capital. The community can normally borrow two-thirds of the value of real estate involved, thus reducing the risk to the community or lenders to the community.

Another special application of the lease-purchase technique is a method for a community to help an existing industry expand and remain within the community. In this case, the lease-purchase of real estate can be a method of transforming a frozen asset into working capital. This can happen when an arrangement can be made for the sale of real estate to a community or other investors by an owner who simultaneously leases the plant back. Usually the length of such a lease varies from 5 to 20 years. Thus, the owner becomes a tenant on what was formerly his own property. There are several reasons that make a transaction of this type attractive to the industry. From the industry’s viewpoint, some of the advantages of a sale and lease-back are:

4. To retire bank loans.
5. To reduce income taxes.

A lease-purchase agreement or contract is usually based on a lease of 15 to 25 years. The community investors expect to get their money back with interest during the term of the lease. The purchasers (lessors) continue to own the property after the expiration of the lease period. The industry tenant is given one, two, or even more renewal options of five or ten years each at low rentals. A purchaser, such as a local development group, having recovered their investment, with interest, by the end of the initial lease term can afford to be fairly generous in this respect (2% to 3% of original sales price). The rental after the end of the first lease is a matter of negotiation and should be settled at the time the original contract is negotiated.

The Finance Committee or Local Development Corporation

Financing industrial projects is complex, not only because of the various courses open, but also because of the differing nature and needs of each industrial prospect. The community offering the broadest range of financial services and expertise will have a distinct advantage over other communities not so well prepared.

The following are ingredients of a successful effort to form a local industrial development corporation or less formally-structured finance committee.

1. Select men of prestige who understand methods of financing for industrial projects. There is no generally accepted way to identify and select such men for all communities. Some communities have investment bankers and other individuals such as loan officers and bond or security brokers who are able to serve. In other communities it may be a local banker or accountant who has the knowledge to head such a committee. This does not mean that it is limited to such men, only that they usually have the background in financial matters which would make them the logical choice unless "hidebound" or overly-conservative because of a lack of familiarity with industrial financing techniques.

2. Know the competitive interest rate that will be attractive to individuals buying debentures and to industrialists seeking mortgage or lease financing.

3. Know the financial strength of the community and the kind and amount of local participation that can be expected.
4. Know all usable sources of financing, such as correspondent banks, insurance companies, other lending institutions, pension funds, foundations, churches, and state and federal programs that can supplement and expand the community's usually limited sources.

The Historical Perspective:
Community Financing Programs

There is a widespread belief that community financial assistance for industrial development is a new invention or new industrial development technique. This is not true. Communities that believe this are merely reinventing the wheel. The Report of Manufactures of 1790 was the forerunner of today's Census of Manufactures. The most recent was in 1969 and it is presently conducted every four years.

The 1790 report was submitted to The Congress by Secretary of the Treasury Alexander Hamilton. Both he and Washington, as President, advocated the promotion of industry in the new United States. The first report led to enactment of a Tariff Bill to encourage American manufactures. In all fairness, it should be mentioned it was in large part also a revenue bill. The report included Hamilton's plan and suggested incentives for a Federal Industrial City to be created at Paterson, New Jersey. While not developed as a national industrial park as Hamilton hoped, Paterson, located on the falls of the Passaic River, did become the center of the U.S. silk industry by 1840.

Hazleton, Pennsylvania

To provide insight into community industrial financing programs, it is worthwhile to review the long-term efforts of Hazleton, Pennsylvania, to provide a financing program for community development.

The mining of anthracite coal began at Hazleton in 1833 and soon became the economic base of the entire area. The low wages, seasonal unemployment, and limited cash in the mining economy made it apparent that supplemental income outside of the mines was necessary. In the 1890's, community business leaders took their first action to bring new payrolls into Hazleton. At the same time, New England textile firms were looking for relocation sites offering low-cost labor and any other advantages that might exist in areas that were in search of industry. To the businessmen of the community, the textile industry seemed suited to the needs of the Hazleton area at the time. It could be largely staffed by women workers, and it could provide additional payroll for business growth and supplementary income for miners' families without jeopardizing the supply or cost of labor for the coal mines.

The Hazleton area's early development activities were more or less sporadic. Hazleton depended on the initiative of a community leader to "do something" about a particularly urgent problem, with the inducements offered to prospective industries negotiated on a case-by-case basis. Many kinds of inducements were offered to attract textile operators to move in. These included loans, underwritten partly by members of the board of trade or the chambers of commerce and partly by the local banks. The inducements offered included periods of grace on payments against loans, free land, outright cash grants, periods of free rent on plants, moving expenses, and exemption from taxes.

The earliest efforts to improve the local economy were those of the Hazleton Board of Trade, organized in 1895. The early efforts were directed toward the improvement of the business climate by increasing payrolls in the community. It was not until 1947, when the Hazleton Industrial Development Corporation was organized, that industrial development efforts became community-wide and concern was no longer with improving the local economy, but maintaining it.

The Hazleton Board of Trade brought the textile and garment industries to Hazleton. Members of the business community, through the Hazleton Board of Trade, subscribed $50,000 ($10,000 in cash) to erect a silk mill for the first firm, which was later paid back by the firm. Employment in the plant at one time exceeded 2,000, but declined in several stages and in 1938 part of the mill building was sold to a city authority to be used as the first municipally-owned industrial building in Pennsylvania. The mill was closed in 1958. Right after the first mill, a second was financed through a stock issue to which the community as a whole subscribed and the shares were eventually retired.

In 1915, the industrial development committee of the Hazleton Chamber of Commerce became the focal point for luring and maintaining new payroll. The Chamber engaged also in a greater range of activities. For example, when the plant of a shirt factory established in 1906 became obsolescent in 1931, local banks and 78 individual members of the Chamber of Commerce advanced cash and judgment notes to raise a fund of $55,000 to erect a new building for the firm. Through the efforts of the Chamber in 1921, local business firms and banks subscribed to a bond issue of $150,000, which served as a loan to bring in a manufacturer of heavy-duty filter equipment.
Prior to the establishment of an industrial development corporation in 1947, the Chamber promoted the location in Hazleton of 29 firms, largely textile and garment manufacturers. In virtually all cases, the Chamber provided some incentive, such as underwriting leases and loans, plant building, free rent, moving costs, or cash payments based on the percentage of payrolls ($8,000 per $100,000 of payrolls). Loans were usually underwritten by the local banks and Chamber members. In 1938, the Chamber sponsored the project which resulted in the municipally-owned industrial building. The purchase was financed by the sale to the community of over $200,000 worth of municipal bonds by the city authority.

The purchase of the mill constituted another act on the part of the community directed toward achieving fuller employment through community-provided incentives. In the city authority building, rents to industry are kept at a rate substantially lower than rental rates prevailing elsewhere. They represent a particular incentive to industries such as garment manufacturing, where available investment capital and profits are relatively low.

With the further decline in anthracite mining after World War II, the need for male employment, which could provide more jobs and greater financial security, was fully apparent. It was realized in Hazleton that it was no longer a question of providing additional payroll, but that it was necessary to find a new economic base for the community if it was to survive as a community at all. To face this challenge, the Hazleton Industrial Development Corporation came into existence in 1947.

Development activities were no longer to be financed on an ad hoc basis, as earlier, but were to be backed by established capital funds contributed by the community as a whole, either in the form of bonds or share in the corporation and/or outright donations. The first venture of the Hazleton Industrial Development Corporation (HIDC) had as a goal $500,000, and over $650,000 in bonds and contributions from the community were obtained. This amount provided the initial capital for the most ambitious community development project that had ever been undertaken in Hazleton. HIDC agreed to build a plant to a prospect's specifications, costing $1.6 million. An outright grant of $500,000 (in effect, a downpayment on the plant) was made to the incoming firm by the HIDC and the balance of the cost was financed by local banks through HIDC.

To the community, this appeared to be a disappointing venture. When, in 1949, the firm finally took possession of the plant, it failed to produce the number of jobs anticipated; instead of the 750 to 1,000 jobs expected, only some 250 to 300 materialized. Out of the fund of $650,000 raised, this represented a cost of roughly $24,000 for each job created. The results of the HIDC venture were disappointing to the community of Hazleton. In the nine years of disillusionment that followed the HIDC fund-raising drive, up to the next major action of HIDC, the firm paid out $7 million in payroll and direct expenditures in Hazleton. When the "multiplier factor" is applied, it is readily apparent that those who contributed to this drive were well paid back. Today the community is aware of the benefits they received. However, during the nine-year period after the plant was established, all attempts to raise new funds failed.

In 1954, the HIDC undertook a second building project. This time, no HIDC cash grant to a prospect was involved because of the previous experience. A 66,000-square-foot plant, costing $325,000, which was built to a prospect's specification, was financed through a $90,000 loan from the HIDC, and a $180,000 loan from several local banks. The balance was raised from the business community in loans ranging from $500 to $2,000 each.

Continued unemployment in the Hazleton area called for increased industrial development efforts and more operating funds. But little optimism existed about a communitywide response to another bid for money. Nevertheless, a small group of community leaders believed that sufficient funds could be raised to back a new planned development program.

The first target of this group was to raise $25,000 to purchase a 550-acre tract for an industrial district. Toward this end, a dime-a-week campaign was launched, netting $423,000 within 9 months. The funds were collected in specially-painted lunchpails, which were placed in grocery stores, service stations, and other public places in Hazleton.

In response to opinions that "you can't do it," the group organized a second nonprofit corporation, CAN DO, Inc. (Community Area New Development Organization), whose capital goal was $500,000. A two-pronged drive was organized: one was concentrated on soliciting outright contributions from the business community, and from the general public, by a dime-a-week fund campaign; the other on selling 15-year, 3-percent debenture bonds to the public at large. These offerings carried with them a special incentive, for they were offered at a point above the interest rate of local savings institutions. These
bonds were to be repaid from rental income from firms brought in by CAN DO. As an additional incentive, each group which sold $25,000 worth of bonds earned a seat on the board of directors of CAN DO. This not only boosted bond sales, but the resultant participation of a cross section of the community in CAN DO served to develop and maintain communitywide interest and enthusiasm in its operation.

The two fund-raising drives in 1956 exceeded all expectations. Within 4 weeks, $200,000 in outright contributions and $540,000 in bonds were raised. All the work connected with the fund-raising campaigns was done by volunteers from community service clubs who solicited people at their work. The total cost of raising the funds was less than $1,000 for the campaign. In the spring of 1959, another $850,000 was raised in 4 weeks, using the same methods as in the 1956 campaign. This fund-raising drive was another success and also produced the jobs the community wanted.

Today, continuing widespread community support of CAN DO attests to community approval of its activities and accomplishments by the people of the Hazleton area. While not all of Hazleton's employment problems have been resolved, CAN DO has been responsible for raising $2,200,000 in local funds which, combined with private state and federal funds, have created more than 7,500 jobs in 53 new industrial plants.

Selected References


16. INDUSTRIAL SITE STRATEGY

A firm seeking a location for a new plant needs a site ideal for both present use and future expansion. To back its efforts to attract new industry, a local economic development organization must be fully prepared to supply information on individual plant sites in the area and to point out the unique advantages of each site.

This takes long and careful preparation. But it is worth the effort because it produces results. A manufacturer considering a possible location for a new or branch plant is not convinced by mere assurances of "lots of fine plant sites in town." He wants clear evidence that these sites exist and that a site is available and will be suitable for the operation of his proposed plant.

To determine whether or not a site suits his requirements, the manufacturer must be furnished information on where sites are located; their size, cost, topography, grading requirements, and susceptibility to flooding; drainage characteristics and load-bearing capacity of the soil, depth to ground water, zoning designation, tax rate, adjacent land use, existing industrial buildings, and other improvements; and the utilities and transportation facilities by which they presently are or definitely will be served by the time a plant would be in operation.

Requirements of a Good Site

A checklist of the attributes of land for a good industrial site include:

1. Land should be fairly level to reduce the site preparation costs. Soil should be of such composition that it is capable of bearing foundation loads or can be made capable with a reasonable financial outlay. Soil should be of such depth as to facilitate underground access for services.

2. The land should be well drained and free from flooding.

3. The site should be located so that it can be served by utilities. This means that lines for water, sewage, gas and electric services must be nearby, if not on the site.

4. The land should be served by highways or all-weather roads and, if possible, located near rail service if the area has such service.

5. The site area should be large enough to be broken into complementary parcels capable of accommodating various-sized plants and their parking requirements, in order to be served economically with utilities.

6. The land should have a fixed price and in a range that is reasonable compared with other land in the immediate area. It should be established for certain that the land will be available when a buyer appears.

7. Industrial sites should be protected by zoning laws to prevent gradual residential overgrowth and possible future restrictions to industrial expansion and sites should be free of encumbrances such as separately held mineral rights or easements that may restrict the full use of the site.

Identifying an Industrial Site

Purchasing and developing the wrong land is expensive and will usually prove to be a liability difficult to sell. Before a community seriously considers land acquisition they should ask for professional assistance. State Development Agencies, in partnership with railroads and utilities, usually have formed Site Evaluation Committees which will meet with a development group and look over the various sites in mind. Where such a group exists they will advise on the best choice and will often furnish a completed report to be used in making final determinations. This process will offer the advantage of an evaluation prior to assuming the very considerable cost of site development.
Where help is needed in identifying and evaluating industrial sites, it is possible for a local site evaluation committee to do the job using local people and resources. The steps are relatively simple: usually the only technical assistance required is for soils information and any county office of the U.S. Department of Agriculture, Soil Conservation Service, can help with soils information and interpretation. The steps for a local site evaluation project include:

1. Using U.S. Geological Survey Topographic Map to survey the area to locate parcels of land which would seem to be potential industrial sites.

2. Determine which factors will have an impact on the development of the sites identified.

3. Develop a system of evaluation for the potential sites.

4. Compare each site against the others and make a specific recommendation on each site.

5. Make a decision as to which site, after the comparative evaluation, appears to have the highest potential for development and for acceptance by industrial plant locators.

The results of a survey may vary, but properly conducted, the survey should reveal high priority sites that should be purchased or developed, while others will require more detailed analysis and opinion by a competent site engineering company before going ahead with development.

As in the case where State agencies or other industrial development agencies have helped in this process, the value of this approach is to make preliminary determination prior to spending money for development costs and to assure that money spent to employ a site evaluator will not be lost.

Appendix IV presents a method by which local groups can identify and rate industrial sites in their area.

Industrial Parks

One of the most widely used community development techniques is the establishment of community or development group-owned industrial parks. Just as a community must consider whether or not to create an industrial park, sooner or later in the process of a company's facility planning there arises the question of "whether to locate in an industrial park or district." The company's answer is a judgment based upon an evaluation of the firm's goals in site selection relative to a preference for an individual site or the advantages or disadvantages of industrial park locations. An "organized" or "planned" industrial park or district is a tract of land which is subdivided and developed for the use of a group of industries. Streets, rail lead tracks, and utilities should be installed before sites are put up for sale. If there is to be an advantage to a firm locating in a park, the existence of basic site needs is paramount.

A comprehensive plan must provide for adequate control of the area and buildings through restrictions and zoning with a view to protecting the investments of both developers of the district and industries occupying the improved sites. Industrial parks or districts offer advantages to prospective occupants of sites as well as to the communities in which they are located. Community advantages are mainly in the economies of providing services to a compact area. Convenience is probably the basis of advantages for industry.

Advantages to Industries Locating in Industrial Parks

There can be advantages to both large and small manufacturers for locating in planned parks.

Modern trends in plant location have resulted in an increasing demand for locations away from areas of traffic congestion, nonexistent parking, and cramped sites. Management wants more space for functionally designed one-story plants, offstreet parking and loading docks, employee cafeterias and recreational facilities and future expansion. Furthermore, management may want to be spared the problems and delays involved in finding and developing raw sites or arranging for utilities. Management also may want to be assured that its investment will be protected and that it will have compatible neighbors and desirable services. A location in such an industrial park generally meets these requirements.

By choosing an industrial park location, a manufacturer or distributor is assured that needed facilities and conveniences will be there when he moves in. He expects to be spared zoning problems and the possibility of indignant meetings with abutting residential property owners.

Although many of the larger manufacturing companies are well equipped with plant location experts, engineers, and other specialists who can completely investigate locations, labor, taxes, and utilities, the smaller manufacturers would like to avoid these surveys. From
the viewpoint of this group, in particular, the industrial park can be the answer to many locational problems.

If desired by the individual manufacturer, the park developer may even provide a "package" or "turnkey" type of service. In this case, an architect and contractor will carefully supervise the design, construction, and maintenance of the new plant according to the manufacturer’s own specifications — consistent with building codes and established restrictions in the district. Financial assistance may be part of the package as well. The terms will probably be reflected by the objectives of either a profit or non-profit group controlling the district.

Disadvantages of Industrial Parks

Like advantages, disadvantages are sometimes real and sometimes imagined. Not every firm will find to its liking the sometimes rigid requirements imposed in industrial districts. Under such conditions it is possible that construction and landscaping costs may be higher. Setbacks may increase the cost of land acquisition. Since park developers cannot be expected to tie up land indefinitely, it may be difficult to meet future expansion needs in an industrial park. Not all industrial parks will take as tenants every kind of industry. Togetherness may bring competition for labor which can be accentuated because of differences in wage scales between industries or the preference of workers for more "glamorous" kinds of jobs. In the same vein, organization of labor may be facilitated or production disrupted in jurisdictional disputes. A firm may not be able to act as an individual in some situations. Many firms consider the advertising value of branch plants. A plant in an industrial park may be lost in the crowd. Obviously the local situation, the size and location of parks will have a great deal to do with these factors when they are considered either as advantages or possible disadvantages.

Community Decisions

Hundreds of industrial parks, both profit and non-profit, are scattered across the countryside. Generally they meet the qualifications to be designated as an industrial park. At the same time there are many signs hanging out claiming the existence of an industrial park or district. If a community has decided to create an industrial park, it should make certain that the criterion chosen in its development truly embodies the advantages industry considers desirable when selecting a site in an industrial park.

The establishment of an industrial site involves considerable expense to the community — much more than is often imagined. The following list of site development costs are taken from the Iowa Development Commission publication, Community Guide to Industrial Development. It is an attempt to provide a rough guide for estimating cost for industrial site development. Cost figures vary widely and these are presented only as an approximation and as a check list of items for which community decision makers should seek local cost figures.

### SITE DEVELOPMENT COSTS

<table>
<thead>
<tr>
<th><strong>Aerial Photo</strong></th>
<th>Cost</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>$5.50 each</td>
<td></td>
<td>(40x40:400ft=lin.)U.S. Dept. of Agriculture, Agricultural Stabilization and Conservation Service</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Grading</strong></th>
<th>Cost</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0.40 to $1.00 per cubic yard</td>
<td>Depends on amt., type of soil, etc.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Water Lines</strong></th>
<th>Cost</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 in. — $8 linear ft.</td>
<td>Should be loop system</td>
<td></td>
</tr>
<tr>
<td>12 in. — $8 linear ft.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16 in. — $12 linear ft.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Topographic Survey</strong></th>
<th>Cost</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 acres</td>
<td>$15.00 per acre</td>
<td></td>
</tr>
<tr>
<td>80 acres</td>
<td>$12.50 per acre</td>
<td></td>
</tr>
<tr>
<td>120 acres</td>
<td>$10.00 per acre</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Bore Test (2 in core)</strong></th>
<th>Cost</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>$7 per foot/hole</td>
<td>For load bearing and density including soil analysis, classification and plasticity index.</td>
<td></td>
</tr>
</tbody>
</table>

133
Railroad Spur Track

Cost

$16-18 linear ft.

Switch, Main Line $5,000 each
Switch, Branch Line $3,000 each
Curve Max. of 12°
Grade 2% or less
Right of Way 20 ft wide

Remarks

Figures are exclusive of grading and ballast.

Storm Sewer

<table>
<thead>
<tr>
<th>Size</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 in</td>
<td>$6.00 linear ft.</td>
</tr>
<tr>
<td>36 in</td>
<td>$16.00 linear ft.</td>
</tr>
<tr>
<td>38 in</td>
<td>$23.00 linear ft.</td>
</tr>
<tr>
<td>60 in</td>
<td>$33.00 linear ft.</td>
</tr>
</tbody>
</table>

Sanitary Sewer

<table>
<thead>
<tr>
<th>Size</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 in</td>
<td>$6.50 linear ft.</td>
</tr>
<tr>
<td>12 in</td>
<td>$7.50 linear ft.</td>
</tr>
<tr>
<td>18 in</td>
<td>$9.00 linear ft.</td>
</tr>
</tbody>
</table>

Roads (concrete)

<table>
<thead>
<tr>
<th>Size</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 ft</td>
<td>$12-14 linear ft.</td>
</tr>
<tr>
<td>30 ft</td>
<td>$20 linear ft.</td>
</tr>
<tr>
<td>40 ft</td>
<td>$28 linear ft.</td>
</tr>
<tr>
<td>54 ft</td>
<td>$38 linear ft.</td>
</tr>
</tbody>
</table>

Curb and Gutter

<table>
<thead>
<tr>
<th>Size</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$2.50 linear ft.</td>
</tr>
</tbody>
</table>

Gas Line

<table>
<thead>
<tr>
<th>Size</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$3.00/ft. (min.)</td>
</tr>
</tbody>
</table>

Speculative Industrial Buildings

Building “on spec” (before there is a tenant) is a community and/or developer’s tool used to help attract firms by providing an immediately available modern building. Construction of speculative buildings attests to a community’s desire for industrial growth.

There are two schools of thought concerning the stage to which construction should be carried. One group believes that only a “shell” should be constructed, with completion of the plant awaiting a definite tenant so that the building can be finished to his specifications. Ideas vary as to what constitutes a shell. Some think that little more than a roof and two or three walls should be put up. Other shell advocates would put up walls and roof and leave uncompleted such items as flooring, wiring and plumbing.

Another school advocates having a plant complete in practically every respect so that all a manufacturer has to do is turn the key in the door and the plant is ready to operate. This isn’t literally true, of course, because even the most avid followers of the “turnkey” plant school will only run electrical connections to the plant and leave the choice of power wiring and a few other minor matters up to the occupant.

Speculative industrial buildings relieve manufacturers of all the detailed work involved in real estate acquisition, rezoning, arranging for municipal and other services and utilities, and dealing with architects, lawyers, engineers, and contractors. The availability of speculative buildings also permits manufacturers to see almost exactly what a plant will look like, without working up specifications and layouts.

Speculative buildings also provide modern space quickly for manufacturers who unexpectedly get a large contract or for some other reason need space in a hurry. They enable manufacturers to know exactly when they can move in and exactly what the cost will be.

It is often possible for a community development group to construct a speculative building at a lower cost than a plant built to specifications. It can be erected at a time when construction crews are not busy and therefore there is no rush or overtime which tends to run costs up. The contractor may even be willing to shave his usual profit margin to keep a work crew intact and demonstrate his community development spirit. The public interest aspect is also likely to cut costs of architect, legal, financial, real estate brokerage and other fees. Land acquisition costs can be kept down when a prospect is not actively bidding for a particular site.

There are several risks for a community and/or tenant to be considered in the use of this technique. One community risk is some loss of capital invested in a new plant. In addition there is a definite possibility of tying up capital in a new plant for a year or two and paying interest on this while the plant is unoccupied. This cost should be planned, because it is unrealistic to expect to sell a plant as soon as it is built.

The following chart is reproduced to provide an example of the effectiveness of spec buildings in Minne-
sota development programs. Generally this chart indicates a success situation. However, the chart should not be construed as a sales pitch for spec building. Each community has its own advantages and disadvantages and must evaluate carefully its probable success in using the spec building technique in its development program.

Pressure to obtain a tenant quickly may lead to accepting one who does not meet the original specifications of the community development group. Or it may cause some loss of capital if a plant is sold at less than cost, in effect subsidizing industry. In such circumstances, the sponsoring group and the tenant run the risk of alienating public support if the general public has not been informed of the program's aims and risks.

Another risk is that a tenant may accept an attractive building or "deal" for the building that may cause him to cut short a full appraisal of more important and persuasive locational factors which may, or may not, be favorable in the long run for his business or the community's investment.

Available Buildings

In the same way that industrial spec buildings sometimes meet the requirements of a facility planner, good quality vacant industrial property can be fitted to meet the physical requirements of a new plant. The advantages where they prevail pertain to immediate availability of suitable buildings as they do for spec buildings. This is particularly significant when a producers' market stimulates an industry to immediate expansion.

The existence of even approximately suitable premises can therefore be a strong attraction. Certain areas possessing wartime factories or surplus military bases no longer required for defense work are often attractive. Although the location may be one where production costs are greater than elsewhere (at least initially), the incentive of immediate production causes these sites to become highly desirable property in some situations.

The word suitable is the key word in utilizing existing buildings. Not every empty building is suitable,

| TABLE 16.1 |
| SPECULATIVE BUILDINGS IN RURAL MINNESOTA COMMUNITIES |

<table>
<thead>
<tr>
<th>Date Started and Completed</th>
<th>Glenwood</th>
<th>Hutchinson</th>
<th>Jackson</th>
<th>St. Peter</th>
<th>Wadena</th>
<th>Willmar (1)</th>
<th>Willmar (2)</th>
<th>Winona</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type Construction</td>
<td>&quot;Star&quot; Steel</td>
<td>&quot;Varco-Pruden Block&quot;</td>
<td>&quot;Inland&quot; Steel</td>
<td>&quot;Inland&quot; Steel</td>
<td>&quot;Mesco&quot; Steel</td>
<td>&quot;Mesco&quot; Steel</td>
<td>&quot;Cement Block&quot;</td>
<td></td>
</tr>
<tr>
<td>Size (sq. ft.) (Building &amp; Land)</td>
<td>12,000 8 acres</td>
<td>10,800 3 acres</td>
<td>15,000 8 acres</td>
<td>20,000 3 acres</td>
<td>16,000 5 acres</td>
<td>11,200 2 acres</td>
<td>11,200 2 acres</td>
<td>20,000 5 acres</td>
</tr>
<tr>
<td>Cost</td>
<td>$55,000 Inc. Land</td>
<td>$37,500</td>
<td>$55,000</td>
<td>$90,000</td>
<td>$60,000</td>
<td>$47,000</td>
<td>$48,000</td>
<td>$80,000 Inc. Land</td>
</tr>
<tr>
<td>Facilities</td>
<td>Concrete Possible</td>
<td>Concrete No</td>
<td>Concrete No</td>
<td>Concrete No</td>
<td>Re-bar No</td>
<td>Re-bar No</td>
<td>Dirt No</td>
<td>To Site</td>
</tr>
<tr>
<td>Floor</td>
<td>Installed</td>
<td>No Installed</td>
<td>No Installed</td>
<td>No Installed</td>
<td>To Bldg.</td>
<td>To Bldg.</td>
<td>To Site</td>
<td></td>
</tr>
<tr>
<td>Rail</td>
<td>Dirt Possible</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>To Bldg.</td>
<td>To Bldg.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utilities</td>
<td>Installed</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>To Site</td>
<td>To Site</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lease</td>
<td>Sold-Land Contract</td>
<td>Lease</td>
<td>Lease</td>
<td>Lease</td>
<td>Sold</td>
<td>Sold</td>
<td>Lease, then Sold</td>
<td></td>
</tr>
<tr>
<td>Employment New or Added</td>
<td>30</td>
<td>25</td>
<td>100</td>
<td>25</td>
<td>15</td>
<td>15</td>
<td>16</td>
<td>50</td>
</tr>
</tbody>
</table>

Source: Minnesota Department of Business Development
nor, for that matter, always available. In many rural areas, vacant buildings can be tied up in estates. Temporary use of existing buildings is often an important factor in locating an industry. Often a new industry will want to work out a pilot operation for training and management purposes. Thus, there are many reasons why a community should inventory available space as part of their development program.

Community development groups should have a list and description of buildings for industrial or warehousing use. On a broader scale, information should be sent to industrial realtors and State economic development agencies. Transportation and utility companies, banks and others also list available buildings within their respective service areas.

**Sell or Lease**

Industry enters into many negotiations with communities without having fully decided whether to buy or lease a site and/or building. A community needs to be prepared for either event. The community should recognize a company’s reason for its choice to buy or lease and relate this to the community’s best interest at the same time.

The following factors guide the industry decision and the implication of these factors in relation to a specific firm should guide the community’s decision as to whether to present a lease, a lease-purchase or only an offer to sell:

1. Are company requirements going to change rapidly over the next few years? If they are, they may want to consider leasing.

2. Is there a short supply of capital? Can the firm use available money better if it is not tied up in a building? Can the company expect higher returns from funds if they are invested elsewhere? If capital is tight, leasing may be preferable for the company.

3. Can the firm secure a favorable lease from the owner of a building with an option to purchase? Because of tax considerations, a property owner may prefer to lease his property rather than sell it. In such a case, he is apt to make the lease price more attractive than the selling price. A business will explore this possibility.

4. Accountants will advise how leasing or purchasing might affect a firm’s financial picture. If the company can buy property at a favorable price and the purchase does not cause a shortage in working capital, then purchasing may be indicated.

5. Companies will consider resale. Is the facility one that can be readily resold? If so, to purchase may be wise. On the other hand, leasing may be better if there is something about the facility (for example, little or no adjacent land for parking or a plant addition) which could limit resale of the property.

From the above it is obvious that the company will consider all advantages for it in arriving at its proposal to buy or lease. The community must then face the dilemma of how to protect its interest and promote its development program at the same time.

After site strategy has been resolved and the industrial sites identified, then the attributes of each site must be described in a factual manner so that it will be useful to industrial prospects.

Your industrial development group must be prepared to answer readily all questions prospects may ask about each site marked for potential industrial development. The same kind of information should be compiled for each available industrial building. Inability to provide essential data, or delay in making information available, may cause a prospect to look to another community.

Good site data includes most of the items of information developed in the site survey. They include location, description of property (acreage, shape, grade, mineral rights), utilities (electricity, natural gas, water, sewerage, telephone), transportation (railroad, airport, motor freight, highways), zoning, owner, price, and remarks. A scale drawing of the site is nearly always included, showing the exact shape and relation to such physical features as rail lines, roads, and streams. Photographs of the site (surface and aerial views) often accompany the description.

Appendix V is a site data sheet used by the State of Maryland and is a typical site data sheet. An available building data sheet is also included as Appendix VI.
Selected References


Ohio, State of, Community Development Series (8), No. 3, "How to Prepare a Site Survey," and No. 4, "Industrial Parks." Economic Research Division, Development Department, State of Ohio, Columbus, Ohio.


The "Great Industrial Development Game" is played by finding "prospects." The point of the game is to determine where the action is, or will be, before your competitors, and, if possible, before the prospect discovers that he is a prospect. For example: The Wall Street Journal carries a story that toy deliveries are running six weeks late for the Christmas season. This means some toy manufacturers are scurrying around trying to meet deadlines and determined it will not happen again next year. Several of these manufacturers may soon discover they will need to expand or build a new plant. You, the player, put together a list of toy manufacturers and send all of them a letter telling them "what a profitable place your town is for making toys." The return mail brings positive responses from three toy manufacturers. That's 10 points each for a "prospect" — and another 100 points if you actually sign up one of them for your town.

Locating Industrial Prospects

Finding prospects is a highly competitive game. There are at least 15,000 communities with many community committees and professionals engaged in the search for a very limited number of prospects. This is only the U.S. figure. We have already pointed out in Chapter 2 that there is also foreign competition for many of these potential prospects, particularly in those industry sectors that are labor intensive. In this section we need to develop a number of things — how does one establish or avail himself of a list of prospects; what are growth industries and what does the term mean; what does clean industry mean; how do you get prospects to take a look at you; and what kind of help is available to find prospects?

Prospect Development

The first step in putting together a prospect list is prospect development. Sometimes this is referred to as the "suspect list." A firm is only a suspect until it is confirmed as actually studying or seeking a location for a new plant. Finding suspects or developing prospects is, in effect, long hard detective work. This presents a problem for the community that is not totally committed to an industrial development program. Or, in smaller communities the time and costs required for prospect development in terms of study, letter writing and phone calls can eliminate some communities from the game. However, the community that has done all its other required homework is not necessarily eliminated just because it has limited resources for prospecting.

Area Industrial Development Organizations

At the local level there is no better source of industrial prospects than the area service organizations which serve the community. The utilities, railroads,
banks, the state development agency, area chamber of commerce groups and similar organizations have a definite interest and obligation to locate industry in the communities in the area they serve. The management of many of these organizations have committed funds for advertising, staff, travel and all of the necessary back-up expenses to secure new industry for their area. They should be looked upon as allies in the great industrial game.

Many of the methods of prospect development followed by communities will also be used by service groups who probably have more resources than the individual community. There may be some duplication and the local community should coordinate the prospect development program with that of its service organizations. Not all duplication is bad; the repetition of some advertising, personal contacts, and follow up programs, is necessary in order to secure the desired results.

There are several steps which the local community might take to assure good cooperation with area organizations. The most effective is a regularly scheduled program of contact with the industrial development department of all area based organizations. This means for more than once a year. As part of meeting this requirement, many communities bring all of the industrial development allies into the community at one time. Communities do this to demonstrate that they know what they are doing and that they can be relied upon to respond correctly when a service group introduces the community to a prospect. Service group visitors are shown the industrial land available, are briefed on the labor market size, and the other aspects of the community industrial development program.

Too often, the area service groups cannot be effective in dealing with a specific community due to the lack of designated contact within that community. The community contact must be predetermined and know what it is he should be doing. The area organizations with broader resource bases are unquestionably the best source of prospects for the individual community. Developing a good working relationship with them is an essential factor in prospect development.

Foreign firms are establishing an increasing number of production facilities in the United States. (German corporations now have more capital invested in South Carolina than anywhere else in the world except Germany itself.) These include smaller firms as well as foreign based multinational corporations. The State economic development agencies of the various states are highly involved with the Federal government in a national program to attract more foreign investment. State economic development agencies will probably be the source of these prospects for most communities, another reason for communities to prepare and work with their State agencies.

The table on the following page presents the increasing value of foreign investment in the United States by country to indicate where the most action is.

Working As A Team

There are certain basic rules to follow in dealing with any team. There are ten rules that have been stated many times to produce better cooperation and understanding between local groups and the State and private groups they work with. They are:

1. When you have an important prospect, tell the team member about it. They will keep your confidence and often can help you with it. It is possible that they may be working with the same prospect and can coordinate your efforts.

2. Invite a representative of the team to meet with your industrial development committee. Get them to provide speakers for your Board of Directors meetings and local service clubs. Their talk about industrial development on the State and local level can be of great value to you in your community. Remember you have to have the widespread local support that can only come from an informed public.

3. If you have a research problem that you can't handle yourself, ask the team member to help you with it. In most cases their research resource will be much greater than yours. All State economic development agencies have a library of industrial development information. The library will include material on everything from the principles of professional development for the industrial development man to methods and sources for assembling promotional brochures and conducting research. Find out what all your State agencies and other team members have to offer and make use of their services.

4. If you need information for a prospect from several State agencies, often the State economic development agency can obtain this data faster and easier than you can. Their contacts with other de-

---

### TABLE 17.1  
FOREIGN DIRECT INVESTMENT IN THE UNITED STATES

Selected Data and Countries  
(Millions of Dollars)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>6,910</td>
<td>8,363</td>
<td>9,923</td>
<td>11,818</td>
<td>13,270</td>
</tr>
<tr>
<td>Area:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td>1,934</td>
<td>2,284</td>
<td>2,575</td>
<td>2,834</td>
<td>3,117</td>
</tr>
<tr>
<td>Europe</td>
<td>4,707</td>
<td>5,819</td>
<td>7,005</td>
<td>8,510</td>
<td>9,554</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>2,248</td>
<td>2,796</td>
<td>3,156</td>
<td>3,496</td>
<td>4,110</td>
</tr>
<tr>
<td>EEC</td>
<td>1,446</td>
<td>1,841</td>
<td>2,405</td>
<td>3,306</td>
<td>3,528</td>
</tr>
<tr>
<td>Belgium</td>
<td>157</td>
<td>175</td>
<td>228</td>
<td>309</td>
<td>338</td>
</tr>
<tr>
<td>France</td>
<td>168</td>
<td>197</td>
<td>265</td>
<td>319</td>
<td>294</td>
</tr>
<tr>
<td>Germany</td>
<td>103</td>
<td>156</td>
<td>318</td>
<td>617</td>
<td>675</td>
</tr>
<tr>
<td>Italy</td>
<td>71</td>
<td>82</td>
<td>86</td>
<td>95</td>
<td>100</td>
</tr>
<tr>
<td>Netherlands</td>
<td>947</td>
<td>1,231</td>
<td>1,508</td>
<td>1,966</td>
<td>2,121</td>
</tr>
<tr>
<td>Other Europe</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweden</td>
<td>166</td>
<td>199</td>
<td>239</td>
<td>199</td>
<td>208</td>
</tr>
<tr>
<td>Switzerland</td>
<td>773</td>
<td>896</td>
<td>1,096</td>
<td>1,395</td>
<td>1,550</td>
</tr>
<tr>
<td>Japan</td>
<td>88</td>
<td>72</td>
<td>108</td>
<td>176</td>
<td>229</td>
</tr>
</tbody>
</table>

Source: U.S. Department of Commerce

Departments of your State government will speed up answers to your questions.

5. Tell the team members when a new industry locates in your community. It is also locating in their service area. They want to publicize it too. Too many people worry too much about "who gets the credit." Remember, no one gets credit if you fail to land a prospective industry. To be successful — you will need all the professional help you can get.

6. You have to present the specific facts as to why your service area has the facilities and resources to assure a company’s profitable operation. Send copies of all industrial development literature to the team members and keep them informed of changes.

7. Answer, promptly, requests for information from you. They want answers just as fast as you do. If you are dealing with a referred prospect whose requirements you feel are beyond your area’s ability to satisfy, call or write whoever made the referral and honestly tell them so. Don’t just forget it! Silence makes it very difficult for them.

How do they know what you are doing unless you tell them? If there is a question you can’t answer immediately, don’t hold off sending the rest of the reply until you get this answer. Send the material you have and note that the rest of the answer will follow, or say you honestly don’t know.

8. Seek to learn more and participate in State and area programs, encourage attendance from your community at industrial development workshops, industry shows, or other related activities.

9. When team members make prospecting trips — ask them to let you join them on one. Have one of their men accompany you on calls on good prospects. To those new to industrial development and making first calls on industry, the company of the experienced person could prove invaluable.

10. Above all, when team members ask for information from you for a prospect, or when they give you the name of the prospect, keep their confidence.

Techniques of Prospect Development

If a community decides that reliance upon others for prospects has brought limited results, there are many

---

so-called “tricks of the trade” that can increase the opportunity to discover prospects. Most are relatively simple; others require considerable time and background for analyses. But they are not beyond the resources of a hardworking community. Some are as simple as our illustration of the “game” at the beginning of this chapter. In that example we identified an industry sector. In another simple example, we can identify a firm. Recently a friend complained to me that he had waited six months for the recliner chair he wanted and finally had to buy another brand. I suggested, “They probably need a new plant.” This was confirmed a couple of weeks later by the required statement that the firm was registering a stock issue for expansion purposes. Soon after this there was an announcement that the firm was building a new million dollar plant in Tennessee. You don’t have to be smart to pick up something like this — just think prospect development!

Identifying “Growth” Industries

Too many communities sit around listening to “experts” tell them that an industrial prospect development program should be directed toward those industries that are called growth industries. Growth industries are usually defined as those industries that show growth potential and therefore present industrial opportunities because employment is still rising in the industry. Industries that have shrunk in employment substantially from a peak year are thought of as declining industry. Declines in employment in an industry sector are also said to represent excess capacity in an industry. This has some limitations if applied to industry prospecting program because no account is taken of need to replace obsolete facilities in all industry categories or of the possibility that productivity has been increased without increasing employment through installation of new equipment in the industry. Where a so-called declining growth industry would locate a new plant in a new community it could only help to increase employment and add to the local economic base even though it would probably not add as many employees as it had previously had in an obsolete plant.

In the beginning of this chapter we defined finding prospects as determining “where the action is.” This means that in an industry sector which overall may be described as slow or declining industry sector, there will be companies that will be expanding. Finding companies whatever they produce and wherever they are is the name of the game. Broad characterization of industry sectors has limitations. Once these are understood, the community search for growth industry is valid; but a community should not arbitrarily reject an industry sector in a prospect development program because it has not been labeled “High Growth.” We mentioned earlier that electronic plants are always high on a community’s list of desirable industry. There are no figures yet to show that electronic manufacture has reached its employment peak. However, across the country one can observe an increasing number of closed electronic production facilities. One such plant can be traced from Route 128 (around Boston) to a Tennessee location, and the products produced now come from a plant in Singapore. If this trend persists, communities that already have located electronic production plants might well think about a strategy for further diversification of their economic base.

A List of Growth Industries

If the limitations of “growth industry” prospecting are recognized there is a helpful publication, Growth and Labor Characteristics of Manufacturing Industries, published by the U.S. Department of Commerce and for sale by the Superintendent of Documents, U.S. Government Printing Office. It costs 50 cents. The booklet describes the characteristics of 411 manufacturing industries in terms of growth and labor characteristics. But, a list of growth industries only identifies potential within an entire industry sector and not which companies may be growing.

In connection with a discussion of labor characteristics, in many communities there inevitably creeps into the strategy discussions the expression “we only want high paying industries — we’re not interested in low wages.” While this is no doubt desirable, it should be pointed out that wages paid in manufacturing, even at the lower end of the scale, are generally higher than those otherwise prevailing in a community with little or no industrial base. This, along with any other cliches that limit vision of communities seeking industry, should be eliminated from a community strategy. There are too few opportunities to land a new industry as it is, and the competition is too intense.

One other often chosen selective approach to prospect development that does make sense needs to be discussed here. In communities where there are substantially more male or female workers than the opposite employed, a program to seek industry that will complement and balance employment opportunities is valid. One caution, it should be based upon precise knowledge of the composition of the labor force; i.e., if males are the dominantly employed group and there simply are no more men available to go to work, it becomes rather pointless to seek additional male employment anyway.
Selective prospecting is sometimes the result of limited resources either financial or manpower for carrying out a prospecting program, or the area labor supply available to industry may be limited. In such cases the categories of industry that the community seeks should more often be those that will “fit” the community than those the community might desire.

One of the best approaches toward identifying Growth Industry is used in *Industrial Growth for Rural Communities.*\(^{32}\) The authors identified those industries that *actually* grew in Pennsylvania between 1961 and 1969. Growth was defined in terms of increases in numbers employed and number of establishments. The study identified 151 growth industries, of these 18 were very fast growth, 20 fast growth, and 32 as moderate growth. Though not all the industries identified were as exotic as many might wish; for example, dress manufacturing was counted as a very fast growth industry in Pennsylvania, the study realistically did identify on the basis of experience those industries that successfully did “fit” in Pennsylvania. If used by communities in that State, it should eliminate some waste motion but as the authors caution the growth list may only be an approximation of growth in the 70’s since it is based upon experience in the 60’s. Every community should prepare a list of the types of new plants that have been moving into the State or area. Then the community can compile a list of similar firms to contact in the prospect development program. In nearly every State, someone publishes a State manufacturing directory, so this is a fairly simple process.

The *U.S. Industrial Outlook,* published annually by the U.S. Department of Commerce, should be on the bookshelf in every community industrial development office. Each *Industrial Outlook* reviews industry experience primarily in the previous five years and projects levels of activity for major industries for the current year and toward 1980. The publication presents narrative and statistical analyses on an industry-by-industry basis for major manufacturing and non-manufacturing sectors of the U.S. economy.

The *Industrial Outlook* includes detailed analyses of approximately 200 individual industries or closely related industry groups. Manufacturing industries covered account for about 85 percent. Each industry section contains information on recent developments, including technological change, foreign competition in domestic and overseas markets, changes in domestic supply and demand, probable impact of new economic policies, and pollution abatement efforts.

When a community is developing its list of suspects or dealing with a prospect, reference to the *U.S. Industrial Outlook* will provide industry background sufficient to make relatively sound judgments about prospect solicitation or about a firm that may be dealing with the community.

**Growth Companies**

Often it is possible to identify growth companies. Many companies are meeting their requirement to keep their business expanding through acquisitions. Most of the major conglomerates of today were assembled almost entirely by acquisitions.

Sometimes forgotten in the process of comparing growth and of prospect development is that even acquisitions working within the framework of a corporate giant must expand individually if they are to contribute their share toward the total growth of the company. It pays to keep track of the acquisition activities of the conglomerates because the acquired firms may very well be the ones that will require early expansion.

**Required Reading**

“Thinking prospect” while reading is an important part of the development of suspects. An example: When you see the headline in a paper that says, “Pollution Control to Cost Jobs in Some Industries,” this means, read the rest of the article and evaluate it. Will some industry be ripe for solicitation because it will cost less to build a new modern plant somewhere else than modernize an old plant? In this particular article among fifteen industry groups mentioned were iron foundries. 

*Poor's Register of Corporations, Directors, and Executives has a list of all major iron foundries in the country* (in fact, all national corporations by industry groups), and perhaps they should be turned into suspects. While an old inefficient iron foundry can be “dirty,” modern ones no longer need produce a pollution problem.

Several publications carry information regarding the financial requirements and situations of industrial firms. The Security Exchange Commission issues periodic listings of registrations, approvals and similar orders which indicate financial trends and requirements of manufacturing firms. The *Wall Street Journal, Barron’s, Journal of Commerce and Financial and Commercial Chronicle* have the most extensive listings of corporate fiscal announcements.

For example: The following is one item taken from The Securities and Exchange News Digest, a daily summary of SEC activities and can be subscribed to through the Superintendent of Documents, U.S. Government Printing Office.

NUCLEAR SERVICES CORPORATION, 477 Division St., Campbell, Calif. 95008 — 375,000 shares of common stock, of which 225,000 are to be offered for sale by the company and 150,000 by certain shareholders. The offering is to be made (*at $10 per share maximum) through underwriters headed by Danes Cook & Kelcher, Inc., 26 Beaver St., New York 10004, and McLeod Langton & Co., Inc., 710 American Bank Bldg., Portland, Oreg. 97205. The company provides services and systems to the nuclear power plant industry. Net proceeds will be used primarily for expansion. (File 2-46432 — Nov 29)

This clipping could have been a suspect, but to know for certain it had to be checked out by the alert community. Since items like this appear daily in the SEC News Digest, a prospect development program that utilized the digest could provide a suspect a day, and like a "Vitamin-a-Day" program would not require too much in the way of resources or time to handle.

Although infrequent, industrial firms do sometimes run ads soliciting plant location assistance. These might appear in the classified section of metropolitan newspapers, in the Wall Street Journal, or similar publication or in the facility planning publications (Area Development, Plant Location, Industrial Development, etc.). A systematic program of screening these publications should be a part of the everyday work of a community industrial developer. While doing this, he can also be on the lookout for press releases and other announcements of promotions, new title designations or similar stories which give a name contact with industrial organizations. The Wall Street Journal has a column naming these people almost every day. A congratulatory letter describing the community's industrial development assistance available might eventually lead to a prospect. The already referred to Poor's Register of Corporations, Directors and Executives is a source for address and reliable information on industrial firms. Its geographical supplement can be most useful in developing a direct mail program into a specific area. The Fortune Magazine annual list of the Top 500 Industrial firms is another source of financial data and trends which can be useful in prospect development. Moody's Industrial Manual with its bi-weekly supplements contains detailed financial data on all major industrial firms. There are a number of financial data sources and most all of them have good information but the trick is to not let the screening of them become such a chore that it leaves no time for the real follow up. It's important to develop a technique of ignoring the non-related material when screening these publications. Another source of company names for prospect development when target industries are identified is the manufacturing directories from the various states.

Advertising

As soon as there is a community organization, someone is certain to say, "We need to advertise!" Advertising can consist of everything from "hanging out a shingle" to an expensive and sophisticated advertising media campaign. Since most community industrial development groups have limited resources, the answers to whether to advertise range from the moot to how effective can we be.

The importance of advertising in industrial development prospecting cannot be overlooked. Techniques in advertising vary and the money spent in advertising can be unlimited. Magazine advertising probably constitutes the most extensive use of media advertising used by industrial development organizations. General newspaper advertising including the Wall Street Journal and the Journal of Commerce is somewhat limited in its effectiveness. In mass circulation newspapers, such advertising can become institutional. This is not all bad if the advertiser can afford a major campaign.

The use of general advertising by areawide organizations is much more easily justified than advertising by the local community group. The area organization has a much wider variety of economic factors with wider appeal to more industrial prospects. This broader audience can justify the kind of money that it takes to participate in an extensive advertising program. Many times area materials can be useful to community promotional efforts too. The use of advertising reprints in direct mailing and the use of advertising in personal contact work is quite often effective.

Another effective advertising medium is industry trade publications. Practically every segment of U.S. industry has one or more trade publications catering to both the management and technical levels of industry groups.

Trade publications often can be used to promote "community fit," a special resource or service. An available industrial building, industrial sites, and the offer of economic feasibility studies directed at a specific industry are examples of how such publications can be used.

Studies have been produced by many areawide organizations, universities, utilities, or State agencies
that demonstrate the feasibility within a State or area for the location of a specific industry. For example, the titles range from *The Use of Oyster Shells in Tidewater Virginia* to *The Manufacture of Tufted Carpeting: An Industrial Opportunity in the Northern Plains.* Literally hundreds of these studies exist. Communities should not only be aware of such studies, they should attempt to exploit any opportunity the community may have to match the locational requirements set forth in these studies.

**Publicity**

In contrast to advertising, publicity is free; the main concern in a community development program is to make it good. Receiving good publicity is the result of using such techniques as press releases, articles or interviews, which in community development programs are usually related to community success stories. Publicity in a national magazine and trade journals is prestigious and establishes creditability to a community's efforts. However, there is a distinction between free publicity and "publicity" that is gained through buying advertising space in the same publication — it becomes obvious to everyone.

When a community success story has merit, it usually can be published, but at the same time it has to be well presented. As an example, there appeared in *Nation's Business,* published by the U.S. Chamber of Commerce, an article, "Industry's Hidden Dividends," the story of the successful industrial development efforts of several communities. It has often been said: "Success breeds success." It is certain that the communities mentioned in the article have received new inquiries from industry to see if these towns had a place for a new firm. Using publicity is a tool that is available to most aggressive communities, but it takes time and ingenuity to make use of this tool.

**Discovering Plant Location Plans**

We have already mentioned that State economic development agencies, area development groups, utilities and railroads have information on the plant location plans of many companies. In fact, by the time they bring a firm to a community, a suspect has been transformed into a prospect. There are a number of people in a community who can be sources of leads to firms that can be turned into prospects. In order to make such people effective, they should be supplied with the community industrial inventory or brochures. Sources within the community of plant location plans include:

Local manufacturing executives, purchasing agents, sales managers and salesmen, advertising directors, and other key business officials — do business with other firms, attend industry and association meetings, and hear of firms considering new locations.

Local wholesale firms (including manufacturers' agents and brokers) — represent manufacturers from all over the country in the local market and are in a position to learn of plant expansion.

Firms considering new plant locations often contact local banks for information. While some names must be held in confidence, banks should be able to provide some leads.

*Industrial realtors* — may be consulted by manufacturers and distributors while attempting to locate sites.

*Newspapers* — get leads from the many contacts open to them.

In addition to enlisting the aid of local sources of names of industrial prospects, often prospects can be discovered by examining prime defense contract awards. Companies that receive large orders in relationship to a previously lower volume of business may be developing plans for new plants to handle the new business.

There are a number of plant location firms and some engineering firms that specialize in selecting plant locations for clients. Consulting firms want facts about various communities on file. They can be a source of prospects if you send them your material and some of these firms will find prospects for a community on a retainer basis. Your State economic development agency should be able to tell you about firms working in your area.

**Organizing a Prospect Development Committee**

It is helpful, and may be necessary, to employ someone who will be responsible for developing and maintaining the prospect list over a period of time. He should have a knowledge of industry and business, should be socially acceptable, have interest in the work, ingenuity, and sustained drive to work hard, and keep up to date on prospects.

Although one person, whether paid or volunteer, should be given responsibility to see that the list of industrial prospects is developed and maintained, a
committee of local businessmen can be extremely helpful on a project of this type. Through their regular association with other local prospects, they are in a good position to plan and sustain a program of combing these sources effectively. A committee can also keep the entire community of businessmen alert to the need for discovering prospects.

The membership of the committee should include local manufacturers, plant managers, salesmen, wholesalers, and retailers and should be officials of firms who have outside contacts. The committee will vary with the talent available in the community, but it is highly important that members be interested and active so that all possible avenues and leads will be explored and developed.

What the Committee Can Do

The Committee can do many things to build up a good list of suspects and prospects. Here are some of them:

1. Get local businessmen with associates in other parts of the country to ask for information about plants planning expansion programs. Friends in other cities can be made listening outposts for the community. Attend trade association meetings. If a local hospital administrator had attended a recent annual convention of the American Surgical Trade Association, he could have brought back to his community the names and addresses of 162 manufacturing exhibitors listed in the convention program.

2. Organize salesmen and others who visit plants and distributors in other cities to be on the alert for news of plants planning new locations.

3. Alert banks, electric utility companies, and newspapers to the need for names of prospects. Banks often are in touch with firms in other cities and are in a position to secure information. Newspapers through their many news sources might suggest or actively seek leads to industrial prospects. Call on railroads and other transportation companies serving the area.

4. Arrange to be the contact with the state industrial development commission. Many firms write to these agencies for information on their location problems.

5. Make a list of the new plants which have been moving into the State or area within the last several years. The list will provide a picture of the types of industries that are looking favorably at your area. Contact other firms in the same industrial types that have already located in the region. Such firms, for competitive reasons, may be considering the need for establishing branch plants in the area. Also determine what industries are suppliers to industry in the area. They might need to locate near their customers' plants to protect their market.

6. Determine what firms in the State or region have recently expanded from larger cities into smaller cities. Then prepare a list of other firms in same industries, because they may also be considering expansion.

7. Call on nearest regional headquarters of manufacturing firms doing business on a nationwide scale. Many development groups have found that presentation of location advantages to such regional offices have lead to the establishment of branch or satellite plants in the smaller and less congested areas of the region.

8. Select names of leading firms (of a type the community is interested in and has location factors for) from industrial directories. Distant plants in other areas may be considering need for locating branch plants in your area to better serve markets not now served adequately. For this reason it will pay when listing names of suspects to give special attention to distant plants not now located in your region or State.

9. Make an effort to see that every person in the community is a scout for new prospects. A housewife talking with a house guest was responsible for the location of a new plant in one town. Read the names of manufacturers off the sides of their trucks as they pass by town. If your town is within their existing transportation pattern, they might consider a branch plant location in your town.

10. Call upon the local boy who made good when he went to the big city. He has manufacturing contacts, or, as has sometimes happened (depending upon the circumstances under which he left town) he may be led to locate a branch plant in his hometown.

11. Members of Congress and local residents who hold national offices in various organizations may also have regular association with manufacturers.

12. Be responsible for preparing an industrial development brochure. The brochure is a necessity. Every community should have one to serve as a detailed
business calling card. The best way to write an industrial development brochure is to truthfully tell the potential prospect what he needs to know in a simple and sensible order. The information included should inform rather than impress. It cannot be stressed too strongly that an industrial development brochure has one use — with prospects — it is not a booklet for a tourism program or to make the folks in the community proud of themselves. It may be the only chance the community will have to make its point with the businessman and it is he who you want to read the industrial brochure.

The guidelines for an effective brochure\textsuperscript{33} follow. The brochure should:

a. Fit easily into a standard size envelope or file folder.

b. Be light enough to mail first class without costing a small fortune or slowing down delivery.

c. Have a straightforward title and be factual. ("A Guide to Investment in Anywhere" is a good deal better than "Come to Anytown, A Balanced Economy of Purposeful People.")

d. Concentrate on getting across the relevant facts instead of making boastful generalities.

e. Outline distinctive advantages or incentives that the community has to offer.

f. Use testimony of respected authorities (bankers, management consultants, editors of business publications) to back up its statements.

g. List by name existing firms operating in the area.

h. Have up-to-date statistics.

i. Have professional-looking charts, or other visual materials if used. (Better no artwork at all than bad artwork.)

j. Be clearly aimed at selected industrial prospects rather than at business in general.

k. Include the name, address, and telephone number of the organization putting out the brochure (the contact name on the brochure should match the name on any cover letter.).

13. The prospect development committee can also conduct or participate in promotional meetings. This is a technique being widely used in industrial development. Many are conducted by State development agencies and broad-based development organizations, such as utilities and railroads. Sometimes communities are invited to participate and sometimes communities have used the technique themselves. The idea is to meet face-to-face in a congenial situation to tell prospects or suspects about a community, area or State. To be effective, promotional meetings must be carefully planned. Decision makers (both from industry and the community), rather than party goers, must be on the attendance list. There are other dangers. In larger groups it is difficult to please everybody and to make clear to all what is to happen as the result of the promotional meeting.

From Suspect to Prospect

When the community has its suspect list, it must turn it into a prospect list. When a tip or lead produces the name of a firm and an officer of that firm to contact, or when a list of industries has been compiled, you can either telephone or write the prospect and contact him personally.

The Telephone

In most instances when a potential prospect’s name has been obtained, industrial developers use the telephone to attempt the first contact. The call is carefully thought out and the points that the caller hopes he can cover are written down in front of him. A disorganized telephone call is soon apparent to the prospect and does not generate his confidence in the caller to the extent he will fall for the real purpose of the call; which is, to arrange to send, and preferably bring in person, additional information for a face-to-face meeting. Such a meeting can take place either at the firm’s office or in the community and the option should be given to the firm.

The objectives of the telephone call are:

1. To instill confidence in the prospect that the community knows what it is doing.

2. Determine the real degree of interest the prospect may have in the community.

3. Discover any immediate questions the prospect may have that the caller may answer or prepare answers for, and

4. To arrange as soon as possible for a face-to-face meeting.

Writing

If it is not possible to telephone the prospect, it may be necessary to resort to a letter for the initial contact. The objectives of the letter are essentially the same as those of a phone call. When the community is working without a direct lead, this is called “cold prospecting,” the use of a direct mail campaign is most often the first way of contacting firms selected in the community prospecting program.

There are pluses and minuses in the direct mail technique. Every major site locator and, in fact, every major businessman in the United States is deluged with direct mail, and only if the message moves across the desk and into the mind rather than downward to the wastepaper basket can a mailing possibly score.

Following are some industrial development rules of thumb which should be helpful in the preparation of direct mail pieces:

1. Make your letter look “personalized” rather than mimeographed. There are a number of systems of reproduction that can give this illusion.

2. Send your message to an individual executive by name rather than to a title within the company. In large companies cover two or three levels of command; for example, “The President,” “The Vice President in Charge of Real Estate,” “The Vice President in Charge of Manufacturing.” They are all listed in the Poor’s directories.

3. The first sentence or few words are the key to success or failure. They must “hook” the executive reader. By long and sometimes bitter experience, it has been found that a gimmick or shock statement is less effective than a carefully worded and restrained appeal to corporate self-interest.

4. Keep the letter under two pages; one page is usually better.

5. Include a self-addressed reply card offering further material. The convenience helps assure an early return.

6. Don’t add all your brochures or other material to the extent that your first face-to-face meeting will be weakened.

It should be noted that in some cases it may be possible or desirable to use telephones for cold prospecting. For example, the objectives of a direct mail campaign can sometimes be more impressively achieved where a telephone can be used. Where detective work has zeroed in on a firm or group of firms in the “where the action is” arena, use of the telephone can be very effective in following up a company’s response to mail campaign.

Personal Contact

Personal followup after letters or telephone calls is the most important part of the prospecting technique. It is the hard day-to-day work that, hopefully, settles down to the negotiation that can lead to the firm’s location in a specific town. But, as a method of “cold prospecting” it is probably the greatest waste of time and money. It usually involves travel and the associated costs and has no guarantees that a “cold” prospector will see anybody in a firm that is looking for a new plant location. Prospecting travel should always be preceded by a letter or telephone call indicating you will be in a certain place at certain times and previously establish appointments.

When suspects become prospects, there is still much work to be done before you score 100 points in the “Great Industrial Development Game.” The care and feeding, and the evaluation of prospects become important, if there is to be a day for signing an agreement between a community and a firm to locate a new plant.

Selected References


Ohio, State of, *Community Development Series* (8), No. 5, "Community Promotion, and No. 6, "How to Find and Work with Industrial Prospects," Economic Research Division, Development Department, State of Ohio, Columbus, Ohio


18. THE CARE AND FEEDING OF PROSPECTS

Much has been written about the "care and feeding of prospects," but, unfortunately, it appears it hasn't been read in many communities. There are still communities whose industrial development program is conducted by some individual who comes on strong with a prospect by giving him the well-worn phrase: "There're great people here and it's a great place to live — lots of people even vacation here," or there are still the homely fellows on the industrial committee who think it is ingratiating to cover up lack of preparation by putting their feet on the table and reminding a prospect that "we're just simple folk" (as if it were necessary!).

Everyone in the community is involved in the wooing of prospects through the impressions they create. There is the story of the prospect who kept on going. He stopped for gas and asked the attendant, "What kind of a place is this?" The attendant's reply was: "It's a lousy place to live and I'd leave tomorrow if I had the bus fare!"

In preceding chapters, we have emphasized the requirements for preparation and the need to have community facts available for prospects upon request. A good factual presentation gets the personal negotiation off to a good start. Beyond this there is no specific procedure to follow in negotiating with prospects, but there are a great many do's and don'ts. The negotiation that leads to the ultimate establishment of a new plant is a personal relationship between the prospect and local representatives. Negotiators must have the confidence of the prospect to be successful. Do be conscious of the personality of the prospect, his ethnic and religious background. In light of that, be conscious of the prospect's sensitivities. In small towns there is always the chance that "coolness toward strangers" will irritate a prospect when exhibited by some unfeeling person. Choose with care those who will initially meet the prospect. At the same time don't overdo the welcome: remember it's a business meeting. Some people like to be pressured and it may be the only way they buy, but others may strongly resent pressuring. This is why understanding the background of a prospect and gaining his confidence early is so important. No one has really ever been able to write down a rule for when to put the final agreement papers in front of a prospect and say "please sign here." Knowing the moment when the prospect is ready to sign is the real art in industrial development and is best developed through experience.

Usually the act of signing works itself out, but there is one technique that sometimes can be used to consolidate the commitments that a community is willing to make and sets forth what the prospect will do. This is to suggest drawing up a "letter of intent." It has the advantage of getting a lot of "talk" down on paper and in a fairly systematic way that can be a prelude to a final agreement. Although a letter of intent is not a binding legal document, it probably should not be suggested in any initial meetings unless intensive negotiations have taken place. In much the same sense, a followup letter after a prospect returns to his office is a letter of intent but it often lacks the mutual understanding of a true letter of intent.

A prospect most often begins his survey of a community through one of several agencies specializing in industrial location. They may be the State development agency, area development departments of local utilities, railroads, banks, and industrial real estate brokers or factory location services. Or, the prospect may make the survey personally or through members of his own staff.

In the initial stages of the survey, the prospect generally prefers to conceal his identity. He has legitimate reasons for this, and it is unwise to probe for information not needed at the time. However, the community is entitled to certain facts which can usually be given without endangering the prospect's need for secrecy. The community has the right to know the
nature and size of the intended operation in order to determine how it will fit into the town's development plans.

Where there is no specific injunction to secrecy, however, the community organization will wish to learn as much as possible about the industry, not only to make sure that the location in the community will be mutually advantageous, but also to make it possible to serve the prospective industry better.

In cases where the prospective industry does not require secrecy, it may be highly desirable to let the community development team know of the exact nature of the proposed plant, since this will tend to put a stop to unfounded rumors which can be seriously damaging to the entire operation. A thorough knowledge of the proposed operation will be helpful in securing public backing for possible zoning changes or necessary extensions of public services at a later date. The matter of secrecy is one of balance and usually serves the interests of the community too. Telling "the whole country" the name of a prospect before the final agreement, actually is an invitation to competition from other communities. But the community contact group will have to make the judgment when the prospect does not ask for secrecy. He may be looking for other "bidders" or the community industrial development group may need to have a picture in the local paper to establish credibility within the community. The following typical news clipping is an example of one that might invite competitive bids from many communities.

**New industry eyes Somore location**

Representatives of another new industry have been considering locating in Somore. That industry is Sweetcenter Corporation, based in Notown, Iowa, which specializes in packaging equipment.

The president of the Sweetcenter firm attended a meeting of the Somore Development Corporation last Thursday, and talked of the possibility of starting a branch of Sweetcenter in Somore. If Sweetcenter were to locate in Somore, he said, it would represent an expansion in order to better serve the greater Twin Cities metropolitan area. Sweetcenter presently has plants located in two Iowa communities, and there are no plans to move those plants, he continued.

Sweetcenter would probably originally locate temporarily in an existing building in Somore if the decision to move is made, said the president, and then acquire other facilities later.

Bob Bell, president of the Somore Development Corporation, took the president of Sweetcenter on a tour of buildings for potential temporary sites. No decision on the part of Sweetcenter on the considered move was announced at the meeting, but the president said he would inform the development corporation on a decision "in the very near future."

---

**Preparing for the Prospect Meeting**

After you've learned as much from the prospect as he is willing to divulge, the next step is that of providing the facts which will be of specific interest in terms of his operation. The facts about the community and specific industrial sites that have been gathered in advance will form the nucleus of the presentation of facts to the specific industry. Many of these facts will be offered to him as they are. It should be the aim, however, to select and develop those facts which are of specific interest in terms of the contemplated operation — that is, to give a tailor-made presentation. In the case of labor availability, for example, emphasis should be upon those types of labor that will be used, and special effort may be needed to indicate the immediate availability of the type and numbers of employees who will be needed locally.

The information about sites must also be reassembled in terms of the specific needs of the individual industry. The manufacturer or his agents should have reasonably specific descriptions of the type of property required and the facilities needed. This is not always true, however, and a technique that can be used to establish the requirements that a plant locator has in mind is to work with him to fill out a *Plant Requirements Checklist*. Appendix VII is a sample Checklist and use of the technique can be indicative of a businesslike approach by the community.

**The Prospect Meeting**

If the name of the prospect is known and presentation of the community's assets is to be made to him directly, a personal visit by the prospect is highly desirable. The prospect's visit to the community is much better and more common than visits to the prospect's plant. As in any other business negotiation, the personal factor is highly important, and a face-to-face meeting is designed to place the negotiations on an easier and more friendly basis than is possible through correspondence or by intermediaries.

The initial visit with the prospect should be clearly understood to be one for exchange of information and not a high-pressure selling effort. If the prospect's schedule permits, it is often advantageous to include a short tour of the area concentrating on sites and situations pertinent to location of a plant. While not a "grand tour," it doesn't hurt to go past the golf course if the prospect is interested. It is extremely unlikely that any firm commitment can be made on the basis of a single visit and an effort to secure one too rapidly may end negotiations. On the other hand, a face-to-face
discussion may enable the community representatives to present many intangible factors which may ultimately prove of considerable importance. At the same time, casual conversation may reveal facts about the industry which will make the selling effort more effective. The entire conference should be aimed at presenting specific factors about the community and securing further information about the needs of the industry in order to gain confidence and make further presentations more effective.

The number and timing of any follow-up activities with the prospect can only be gauged by the degree of interest the prospect has shown in the community and by sensing the personal temperament of the prospect as to continual approaches. Much patience must be shown by the community because timing of the final decision is in the hands of the prospect. Frequently when a prospect is interested in a community, he will invite a small group to one of his existing plants so that they can better understand the nature of his operations and the prospect can “sell” to the community at the same time. If such an invitation is received, it should be handled discreetly and in the manner prescribed by the prospect. There is sometimes danger in upsetting employees at the existing plants unless they have been informed that a new plant is pending.

Prospect Wooing

When the prospect visits the community, it is well to secure the participation and the enthusiastic cooperation of the leading elements in the town to meet with him in order to demonstrate the friendliness and welcome he will receive if he locates in the community. Manufacturers already in the community who have a known hospitable attitude toward additional industry can be particularly helpful on any welcoming committee.

It should be kept in mind that some, if not all, of the principals of a small industry may wish to have their homes in the community where the plant is to be located and the type and sincerity of the welcome in the community may well be a decisive factor in the decision to locate. The prospect, whether large or small, is evaluating your town’s social factors as well as its economic factors.

The prospect should not be overwhelmed by a large group on his first visits. Three or four well-informed people who can give him the answers to his questions will be more effective than a large group. The big meeting should be saved for a time if an extraordinary demonstration is needed to clinch the sale. The big meeting is better held after the sale.

It is well to keep in mind that while the prospect is attending your meeting, his wife may be looking over your town. There should also be a ladies’ committee which is able to show the prospect’s wife those aspects of the community which would be of particular interest to families.

There are no fixed rules on entertaining prospects; this is a matter of discretion. Over-entertainment exhibits poor taste just as surely as a lack of interest in serving the desires of the prospect. In picking up the check use discretion. The prospect does not want to be “over obliged.” If he wants to, let him have a check once in awhile. A reasonable and sincere effort should be made to treat the prospect as you would like to be treated. If he has put in a long day, traveled far and is fatigued, a fixed schedule of cocktail parties, heavy dinners and an excess of company may be exactly what he doesn’t want. More often, the prospect may spend some time with various members of the community over a friendly dinner and then want to rest. This portion of the program can best be handled by discreet questioning of the prospect concerning his wishes.

Use Available Help

The negotiations which are carried on on behalf of the local community will, in many cases, be handled by people who are donating their time and effort to the community’s development. They may not be skilled and experienced in matters of industrial location. In many cases, the community representative may feel that he is venturing into water over his head. If facts are not immediately available to him he may need help.

Area industrial groups whose interests are compatible with those of your community can often supply the background of experience which may be needed in personal negotiations. The State development commission, an areawide development group, the local utilities, or railroad will send professional representatives to a community to back up the presentation. In this event, it must be established that any exclusive dealings with the industry which the community may have will be respected by the assisting agency and the confidence will be kept. To seek help is to avoid the instances where an exaggerated desire for maintaining secrecy or the old bugaboo about “who gets the credit,” has resulted in the loss of an opportunity because the community presentation was unnecessarily faulty or incomplete at some point.
Summary

"The care and feeding of prospects" has stressed that the prospect, like the customer should be treated as if he is always right. Part of the care of prospects includes arranging for the prospect to meet the people who will be able to help him if he chooses your community. They include the banker from whom he may want to borrow, or deposit, the right man to get straight answers from on tax questions, etc. He doesn't have to meet all of these people on his first visit, but they should be "stacked up" somewhere in case he does. The wooing period is not over when the prospect has seen the community, but it must be combined with the community's development of a thorough knowledge of the prospect. The more community costs are involved, the more the community must know its prospect and be able to evaluate the feasibility of a specific project proposed. Chapters 19 and 20 attempt to give guidance in this phase of negotiations.

Selected References


19. KNOWING YOUR PROSPECT

When communities and prospects sit down to negotiate and the bargaining begins, the firm seeks to find out about the community and the community should study the prospect. Only by knowing your prospect can you have confidence in him. The community and the local development group must know enough about a prospect to be able to determine the potential for success of the enterprise and to know how the firm will affect the community. This is particularly important where inducements are involved.

Many communities can reach a point in negotiations where the major product that they are buying with their inducement package may be management. If this is the case, obviously it is essential that they know management's quality and record of success. The financial plans and policies that control them are vital to the growth and success of any enterprise. The community must ask itself, can proposed management do what it says it can do?

Successful management accomplishes its objectives by earning a profit on production through the use of men, money, materials, machines, and markets. Sound management attains its objectives through smooth planning and organization of resources and activities directed toward production, marketing and profits. The outstanding cause of failure among business concerns, especially the smaller and "home grown" ones, is the general lack of training and experience of their leaders in the general techniques of management and especially financial management. Many failures can be avoided if financial requirements are well known in advance.

Estimating the financial requirements of a business is the first problem of management and a difficult task under the best of circumstances. Many inexperienced organizers fail to prepare for the pitfalls.

Financial Management

Starting a business with inadequate resources is courting disaster. Operating a company with insufficient funds during its early stages, on the assumption that additional financing will be taken care of as the need arises, is unsound. When management seeks excessive investment capital, be suspicious. At the same time, this must be weighed against the current trend where everyone wants to do business with someone else's money. A community wants to know all the facts and, if interested, it may start to bargain. Any firm in urgent need of funds, be it newly-organized or with some maturity, is suspect. It is a fair assumption that it does not know how it stands, or where it is headed, if its management has no financial plan. A community in this predicament is a poor credit risk, a condition which prevents normal dealings with the recognized sources of funds. Many prospects seeking investments by communities do so because their plans are inadequate by standards of regular lending sources.

Lack of adequate data for financial planning invariably leads to panicky negotiating by the prospective borrower, who soon proves that he does not know what he is talking about. Without a convincing financial plan, the borrower cannot justify the amount of the loan he desires, explain exactly what it will be used for, or state how much he can afford to pay for it and when he can repay it.

At the same time, if a prospect appears to be without a plan for his proposal, a community should not summarily discontinue negotiations until it is truly apparent the prospect is incapable of producing a financial plan. Community insistence on a strong plan can strengthen the impression that the community is a good one with which to do business.
In the same vein, many community industrial groups are approached by local “mousetrap builders” who obviously are not able to demonstrate the kind of management background that will secure venture capital. Rather than reject involvement in an enterprise with an otherwise acceptable product, but lacking management ability, the development group might attempt to “educate” the prospect and arrange to secure the management assistance to produce a sound enterprise for the community.

Goals of a Financial Plan

A successful business requires both fixed and working capital. The amounts and the relations between these and other financial factors help determine the success of the enterprise. To produce its goal of a profit, a proper proposal to a community by management must pay attention to the following:

1. Acquiring the proper amounts of fixed and working capital.
2. Having the required capital available at the right time.
3. Securing borrowed funds as cheaply as possible.
4. Arranging repayments that will not strain company finances.
5. Investing in uses that will promote the business.
6. Controlling expenditure for profitable objectives.
7. Controlling the use of profits from operations.

The Language of Finance

As financial plans of a prospect are reviewed and negotiations develop, there are a number of terms that will be dropped into the conversation that communities need to understand if they are going to evaluate a proposal. The most common terms are assets, liabilities, working capital, and financial statement or balance sheet.

Assets

The assets, or resources, of a company are of two general kinds — fixed and current.

Current assets are also referred to as “quick” or “liquid.” They include cash and marketable securities, accounts and notes receivable, inventories, and any advance payments made by customers. Current assets can be converted into cash within a reasonable period of time.

Current assets must be sufficient to meet immediate costs, including such items as payroll, materials, interest and dividends.

Fixed assets are permanent in nature, and not easily converted into cash except at considerable loss. They include land, buildings, machinery, equipment, furniture and fixtures, and goodwill when this item appears on the financial statement. Investment in subsidiaries is another form of fixed assets.

Liabilities

Current liabilities represent company debts which will be payable within a relatively short time; in no case longer than a year. They cover bills payable to suppliers and others. They also include ongoing expenses such as taxes, interest, and salaries.

Long-term, or fixed liabilities include bonds, notes of longer than a year’s maturity, and mortgages. When a concern’s liabilities exceed its assets, it is insolvent, which means that it cannot pay all of its creditors. Whether the creditors allow it to continue operations, in the hope that the situation will improve, is often a question of business judgment.

Working Capital

Working capital is defined as the excess of current assets over current liabilities. It is the money used to finance the purchase of raw materials and for the production and sale of finished products.

Most incorrect estimates of capital requirements to operate a business fall in the working-capital category. This is because of the uncertain nature of three important factors of financial management: (1) the length of time of the production cycle from purchase of raw materials to sale of products; (2) the terms of credit to be extended to customers; and (3) the startup cost associated with a new business until it reaches profitable production levels. This period tends to be longer than most organizers figure.

Ratio Analyses

Current Assets To Current Liabilities. Various relationships between fixed and current assets and liabilities
are used to show the purported financial strength of an enterprise. One such comparison, called the current ratio, is found by dividing current assets by current liabilities. Until recent years, the current ratio was given great weight by bankers and vendors in determining their willingness to extend credit and in fixing the amount and terms. A ratio of two dollars of current assets to one of current liabilities, known as a "2-to-1," or more simply, as a "2" ratio, is still considered acceptable for credit purposes. A lower ratio is questionable, and a higher one is progressively more acceptable.

In recent years, progressive bankers have recognized that the nature of the business, the quality of its management, and other nonfiscal matters must be recognized, thus minimizing the influence of the current ratio as a lending norm. For example, a concern with a poor current ratio may be an acceptable credit risk if it has lately acquired new management with a history of successful operations. The dynamic climate of modern business has placed increasing confidence in management rather than on financial statements.

Total Assets to Total Debt

This ratio shows in another way the coverage which the owners give to the company's creditors. The relation between total debt, or expressed in another way, net worth and total debt, also indicates the relative protection a creditor will have on his risk.

Fixed Assets to Net Worth

This ratio will indicate whether too large a proportion of the net worth has been invested in land, buildings, and machines. When investments in fixed assets are too large, not enough of the current assets and working capital will be available for current operations.

Turnover of Inventory

Inventory-turnover ratio is found by dividing either year-end or average inventory costs into annual sales. It is important because an excess of inventory is a frequent cause of financial difficulties, especially if a considerable portion of it is slow moving. When this ratio is not representative of the industry as a whole, it means that either the inventory should be reduced or sales increased.

Credit Sales To Accounts Receivable

The ratio of credit sales to receivables indicates the condition of collection of customer accounts. As with excessive inventories, poor collections tie up working capital and lead to financial trouble.

Although the ratios explained here are fewer than half the number used by careful financial analysts, if these few are computed from an adequate financial statement, a fairly clear picture will emerge of the concern's financial condition, as well as the likely defects in its financial management.

Return on Investment

After all costs of the operation have been paid, the net profit divided by the total investment is the annual rate of return. This figure should be higher than the interest rate on borrowed funds, or at least greater than other opportunities for investment. This can be the final consideration upon which the community can base its decision to support the prospect's proposal.

The Financial Statement

When negotiations with a community become sufficiently serious and where costs to a community may be involved, the prospect should offer a financial statement for consideration by the community. The chief purpose of the statement is to present figures for analysis so that those interested can get an idea of the conditions of the company from the operating and financial standpoints. The average earnings of a successful firm should be approximately 10 percent of sales. A satisfactory figure on earnings is a sign to proceed with negotiations.

Further analysis is based on establishing the rate of return on investment and the use of ratios. Ratios are not dependable as an overall picture of company affairs unless several of them are considered simultaneously. Taken as a group, they may give a fairly clear idea of the current financial and operating situation. It is usually advisable, also, to consider the trends of the various ratios where there is an operating experience. For this purpose, the ratios of previous years should be compared with current ratios. Ratios and returns should be compared with trends within the same industry.

A source of information on industry trends is: Industry Profiles, 1958-68. Bureau of Domestic Commerce, U.S. Department of Commerce, 1970, 297 pp., $2.25. This publication provides a statistical picture (20 basic data series) of economic developments in each of 527 manufacturing industries. It is an excellent tool for evaluation of the prospects of various industry segments. The Profiles are also useful as a guide for
communities when they are considering the growth sectors of industry for "prospecting" purposes.

Checklist for Evaluation of Proposals

Because of the need for understanding the way prospects may use financial terms and ratios, it is apparent that any community industrial development organization should include among its membership those people in the community, bankers and accountants especially, who can work with business proposals and can interpret the financial data for projects under consideration. The following checklist of things a community should attempt to learn about their prospect was prepared by the State of Ohio Development Department:35

Financial and Historical Background

- Where, when, and by whom founded
- Amount and sources of original capital
- Dates and reasons for changes in capital structure
- Kind of business organization
- Dates and reasons for changes in management
- Dates and reasons for changes in location
- Dates and reasons for changes in products
- Percent of capital now owned by chief security holders, with addresses
- Balance sheet — most current
- Profit and loss statement — most current
- Amount, value, and future disposition of real estate owned

Management

- Personal histories of leading executives
- Duties of leading executives
- Attitude of executives toward location plans
- Difficulties, if any, with financing, operations, salaries

Operations

- List of major products, with annual value of each product
- Age of production equipment
- Present number of male and female employees and wage scale paid
- Accurate account of labor disputes under present management
- Present sources of chief raw materials
- Seasonal characteristics of operation, if any

Sales

- Proportion of sales to each of largest customers and their locations; is the plant a captive to the major customers?
- Relative value of each major product for a five-year period
- Forecast of probable future sales

If the Firm is a Branch

- Legal and financial relationship between the parent company and the branch
- Methods of handling sales and distribution of products of the branch
- Financial, historical, management, operational, and sales characteristics of the parent firm and branch

Securing Information

The community frequently may not be able to secure information in each of these areas. It is important, however, to get as much needed information as possible. This is the best method of making certain that the firm and the community are compatible. Some sources for getting the information to evaluate prospects include:

- Form 8-K Filings, United States Securities and Exchange Commission, Public Reference Section, Washington, D.C. 20549
- Dun & Bradstreet Report, Dun & Bradstreet, Inc., 99 Church Street, New York, New York 10007
- Poor’s Register of Corporations, Directors, and Executives, Standard and Poor’s Corporation, 345 Hudson Street, New York, New York 10014
- Thomas Register of Manufacturers, Thomas Publishing Co., 461 Eighth Avenue, New York, New York 10001
- Moody’s Industrial Manual, Moody’s Investors Service, Inc. 99 Church Street, New York, New York 10007
- Company Annual Reports
- Company Prospectus

Only when the financial analysis of the prospect is as complete as possible, is the community prepared to
match the expected benefits and/or costs with the guidelines arrived at when the community established its broad strategy for economic development.

**Selected References**


20. IS IT A FEASIBLE PROJECT?

Before community spending starts, a feasibility study should be made to determine whether a particular business to be located at a specifically-identified site has a reasonable chance of success. A feasibility study considers all the pertinent factors and is designed to find out whether or not a proposed project will make money.

It is not safe for a community to assume that feasibility of a project has been determined or, if it has been attempted, that it is correct. There are plants that either never opened their doors or closed soon after opening. In most cases, the reason for closing has been failure to develop a market or an adequate supply of working capital sufficient to assure success to the firm.

How does a community industrial development group know whether a feasibility study is well done? There is probably some relationship between what a study costs matched against a reputable professional or firm engaged in such business. Also, there may be a relationship between the size of a company and the feasibility study. But even the top firms have been known to close newly-established plants for which there was, or appeared to be, feasibility sufficient to warrant going ahead with plans.

Firms get into precarious situations for a variety of reasons — poor management in general, poor financial management, not adapting to industry changes, falling behind in technological change, being unaware of changing market demands, not providing for adequate supplies of quality raw products, inadequate distribution systems, underpricing goods or services, underestimating competition. There are countless reasons, but the point is that an adequate, well-conducted feasibility analysis of a project could eliminate many of these problems.

There are many situations that require feasibility analysis (new plants, new products, acquisitions, etc.), but we are mainly concerned in community industrial development with proposals that represent a completely new enterprise or a branch plant. Branch plants and new enterprises are basically similar, except a branch plant implies more management experience at the start of operations. Some communities give too much credence to implied management expertise instead of checking out the entire feasibility of a project. The main reason for a feasibility study, from the community's viewpoint, is to determine whether the management of a new plant in their community can deliver on its promises to the community.

This is a judgment that leaders of a community industrial development group will have to make. The leaders will have to study the analysis and recommendation in the study and decide that a proposal is economically sound and will produce the beneficial results sought by the community when it decided upon an industrial development strategy. In many states, the State Economic Development Agency or the Cooperative Extension Service will help communities analyze or often help prepare feasibility studies.

Techniques of Feasibility Analysis

This section is presented to attempt to answer the question posed earlier: "How does a community group know a feasibility study is well done?" There are two parts to the feasibility analysis for a new plant. The first, and this is usually completed by the time a prospect gets to a community, is the determination that considered all of the factors involved in industrial location and led to the site-seeking within a general area.

Enough has been presented on the role of location factors in Chapter 6 to provide the necessary background to understand the first phase and to follow the techniques enumerated below. The second part is an economic analysis to determine that the place chosen meets criteria of the definition of feasibility in the first sentence of this chapter — will the proposal have a reasonable chance of success at a specific place?
Factors Directly Influencing Economic Feasibility

The factors having direct influence on feasibility of a proposal are generally measurable (cost, return, availability). Since numbers can be presented, they are probably most relevant for a community group attempting to make an evaluation of project potential.

Analysis of factors directly influencing project feasibility can be divided into three sectors: raw material supply, the production process, and marketing. The analysis of these factors provides the basic information required for loan applications. Analysis will show whether or not the proposed operation can economically survive; i.e., cover production and sales costs, be able to pay any interest and principal, and make a profit. The feasibility study is designed to answer three questions: (1) What are the factors that will tell whether or not a firm should go into business; (2) How much does it cost to enter the business and what facilities will the firm need; and (3) What will be the rate of return (profit)?

Raw Material Supply

The first part of an analysis concentrates upon determining the economic availability of the raw material for the proposed enterprise. For example: polypropylene pellets for a plastic plant.

There are four basic conditions that need to be analyzed when evaluating raw material supply:

1. The minimum economic size of the controlling facility. Determination of the minimum economic size of the facility will in turn set the amount of raw product required to reach this scale of operation.

   For example, a minimum size plastic extrusion plant, considering today's level of technology, would have to operate at least two extrusion machines. The minimum economic size of facility can be determined by actual cost analysis of existing plants or many times from specifications from equipment companies.

2. Plant requirements. The determination of the minimum size economic facility will indicate the amount of raw product or material that will be required. For example, a firm would need to procure between 2,000 and 3,000 pounds of polyethylene pellets per day per plastic extrusion machine.

3. Availability of requirements. When the amount of raw material required is known, it must be determined whether or not this quantity is available, is of adequate quality, and is at a price that can be afforded. Economics of transportation or time in transit partially defines the area within which a facility can draw its raw materials.

   With all factors, or limitations, in mind, it is possible to determine the availability of the raw material. Usually this involves a survey of a production area or of raw material suppliers within the defined area that can serve a plant. The survey would include an analysis of statistical production data within the area to determine if this is enough raw material to allow economic operation of a facility.

   The survey should include an accounting of the future production plans and future price expectations of supplies. Where the volume of production is not adequate for facility needs, a survey can be made of potential producers to determine their willingness to enter production of the raw materials necessary.

4. Assured supply of requirements. It is not enough to know that there is currently adequate production for plant needs. It must be known whether the quantity can be assured. In other words, is the source of raw material dependable? What special arrangements might need to be made for procurement? It is also important to know the current market use of the raw material, what part of that supply will be actually available at the start of the firm’s production.

   To summarize, the supply determination phase of a feasibility study needs to show how much raw material will be needed in order to operate a facility at an economic size, that the raw product is economically available, and the source of supply is dependable.

Facility Evaluation

In this part of a feasibility study, the production process of the proposed facility is analyzed. The specific facility needs, capital requirements, financing requirements, and the potential costs and returns from the
operation of the facilities are analyzed. Factors to be considered in this part of a feasibility study include:

1. **Facility needs.** The necessity of first determining the minimum size of the controlling facility has been stressed already. In many cases there may be multi-facilities involved and one may be a limiting facility to the rest. In some instances, the size of the facility may be limited where, as a captive processor, its size is limited by its use in the parent firm's product. Actual size of the facility is subject to special analysis of current stages of technology which the enterprise can adopt, and must adopt, in order to operate within the competitive environment. A feasibility report should identify space, plant, and expected equipment needs.

2. **Investment capital needs.** Once specific facility needs are determined, it is possible to determine what facilities will cost. This part of the study is relatively easy to prepare once it is decided exactly what facilities are required. These can usually be determined on the basis of estimates from the equipment companies, construction companies, and utility companies. The study should project the average gross margin, return on sales, and average return on investment in the business.

3. **Labor needs.** Following facility size determination, it is relatively simple to estimate labor needs. Usually, labor needs can be based upon the number of production workers required (people at machines and assembly). The number of workers available and their skills must compare favorably with area figures and reflect attainable goals set in establishing labor costs for the plant.

The labor requirement also involves the availability of management and technically-trained persons. This is an extremely important factor and generally will dictate the success or failure of the undertaking. There must be qualified management, or the feasibility study must show the ability to pay the price that it takes to secure top-notch personnel. The labor portion of the report should include discussion about wages and productivity rates expected, relationship between capital and labor requirements, and probable staff levels and staffing costs.

4. **Cost of operation.** This part of the feasibility study analyzes the information thus far determined by applying appropriate wage rates; management costs; raw material input costs; various operational costs, such as utilities; and fixed costs of repairs and maintenance, depreciation, interest, taxes, and insurance. This process should involve the development of cost budgets for the various phases of the operation. The result will provide a per-unit cost for an operation.

5. **Profitability.** With costs of operation determined, profitability of the operation can be projected following estimation of expected prices. Profitability of the operation can be prepared from this projected income statement. Essential to this is preparation of a “break-even chart” which will show at what level of production, given the costs and returns information, that the plant will be able to break even (cover all costs of operations).

It is possible to select various price levels and determine break-even points for various price levels. The importance of the break-even chart is to show the minimum level of production that must be marketed to achieve the break-even point.

6. **Working capital needs.** The completion of the projected income statement has been the end of many feasibility studies. However, in the opinion of many authorities, the most important item in a feasibility study is the cash flow summary.

We have already said that provision for adequate working capital is most often the critical item for the successful operation of a business. It is necessary to prepare a cash flow summary to determine what the cash needs will be for the firm and the sources of cash available to meet these needs.

To be more specific, it is necessary to know how much capital will be needed for day-to-day operation of the facilities (wages, inventories, utilities, raw material, etc.) and when this capital is required. Further, it is necessary to know if this capital is going to come from receipts, borrowings, or sale of stock. The cash flow is also required to help determine size of loans, length of loans, probable pay-back periods, and amount of interest and principal it is possible to pay back periodically.

To summarize, the facility determination stage of a feasibility study is necessary to establish what facilities are needed; how much they will cost; what operational items, such as labor, utilities, and raw material will cost;
how much profit will be made; and how much working capital will be needed to safely operate the business.

Market Determination

In most feasibility studies, determination of the market for a product is the most difficult part of the study. It is necessary to determine current and potential consumption of a product; types of markets where the product will be sold; types of distribution systems required; and how to enter the market; types of customers; the types of selling arrangements; and the prices that can be charged for a product. The ingredients of market determination in a feasibility report should include consideration of:

1. **Consumption.** Related to consumption of a product is the nature of the product. Key to its rate of consumption (market demand) is its nature; for example, what human need is it designed to satisfy? Is it a durable good or nondurable? Is it a staple or an impulse item? Is it a high "mark-up" item, or inexpensive? How is it sold to the consumer?

A feasibility study should show current consumption of the product or service offered; the trends in consumption; the trends in consumption of competing products; in what form, qualities, volume, etc., is the product consumed; who is currently providing for consumption demands, and are they adequately providing for demands; how will competitors react if a new firm enters the market; at what capacity are current competitors operating and is there room to compete with them?

2. **Markets.** Relative to markets, a report should show what kind of markets exist; where these markets are and what it will cost to serve these markets. It is necessary to examine how the firm’s success will be affected by such factors as business cycles, or whether it is subject to rapidly-changing tastes and markets. How much of the business is controlled by major firms? Has customer loyalty been built up for a competitive product? What are the perimeters of the market in terms of price, service, quality in which producers must compete?

3. **Distribution system.** What type of organization and distribution system will best serve needs of the firm? Will it have its own sales force or use brokers, and what is the cost involved; will it market under its own brand versus a buyer’s brand; will it transport the product to the market, and if so, what transport method will it use; will the firm buy or lease equipment, and what will be the cost?

4. **Market entry.** How easy is it to enter the market? Market entry requires a determination about how the product will be introduced in the market — through lower prices, advertising and promotion, or some other method; how long will it take to build up the market to desired sales volume; and what will be the costs involved? Like almost all factors, this affects the lead-time to be considered and the working capital requirements.

5. **Customers.** Who will be the buyers is the next question. What types of buyers — chainstores, wholesalers, or institutions in the case of consumer products; what quantities will they require; what product specifications will the buyers require; how reliable are buyers; have they indicated interest in the product; and what kind of commitment will they make to buy the product?

6. **Selling arrangement.** What kind of selling arrangements will be encountered needs to be answered. What kind of pricing arrangements will be required; what kind of delivery schedules will be required; what kind of payment schedules or discounts will be encountered; what kind of services will have to be provided with the product; and what will be the costs involved; will sales offices have to be established and if so, where will they be, how many salesmen, and what type of compensation plans for salesmen will there be and what will be this cost?

7. **Prices.** Critical to the entire feasibility analysis is the question, what price can be expected for the product? This question can be partially answered by analysis of past prices and price trends and, based upon this analysis, project future expected prices in light of expected future consumption demands as affected by expected future economic conditions. This, of course, is a relatively difficult task, especially if attempts to predict prices are very far into the future. The price is subject to the action of many uncontrollable factors — inflation or competitors, both domestic and foreign. For example, what appears to be the firm’s ability to increase productivity or make product changes?

A sample format for presenting a feasibility study is included in Appendix VII. It is fairly concise, but the
amount of information provided should be sufficient for a community group to use to check; against a prospect's presentation of his plans for a new plant.

Summary

A feasibility study should be required before a community that makes a loan or gives an inducement makes a decision to do it. This will help the community avoid the costs associated with making a wrong decision. A basic feasibility study analyzes the factors that directly affect the success of an operation, such as: (1) Assurance that an adequate supply of quality raw products can be procured at an acceptable price; (2) determination of facility needs, capital requirements, management ability, financing requirements, and potential costs and returns from the operation; and (3) assurance that an adequate market can be secured for the output of the operation. Adequate analysis of these factors will determine whether or not the venture will be economically sound and make a profitable return for the members.

In addition to the analysis of directly influencing factors, a complete feasibility study also analyzes the availability of the many facilities and services which the firm feels essential to create an acceptable environment in which the plant can operate and its management and labor force can live.

If all of these factors are analyzed adequately and are determined to be favorable for economic operation of the facility, the undertaking should be profitable. Though the analysis shows that the enterprise will be profitable, the final profit determining factor is management. There must be a competent management staff who follow through in the planning, organizing, directing, staffing, and controlling functions of management in order to insure a profitable undertaking. This is the crux of the community's problem in knowing whether a "project is feasible." Only after considering the best evidence available and with understanding should the decision be made.

A feasibility study does not necessarily produce a series of calculations of two plus two equals four; more often, they equal four and a half, or three. They must be interpreted. Timidity of local decisionmakers can kill an otherwise good project. One thing to weigh is that even in the unexpected failure of a firm, there may be some rationalization for having made an affirmative decision. A firm usually returns to the community more money in the first year in the form of payroll than the community's inducement, if any was given. A closed plant becomes an available building and the labor force is from that time forward an available skilled work force. There is rarely a total loss to a community when a plant closes if it has been well considered from the start.

In the real world, a community may experience no difficulty even in the absence of an adequate feasibility determination before welcoming a new plant. However, it is the relatively small number of manufacturing plants that fail, that are bought out and move, or that have a history of being a "runaway plant" (short-time exploiter of a community inducement or other advantages), which cause the proponents of industrial development programs the most headaches when it comes to "selling their community on industry."

The feasibility study will not necessarily keep an "unwelcome" industry, or one that appears to lack feasibility, out of a community. It will indicate that the community should protect itself against the damage that such firms may inflict on the community's industrial development program in the event such a firm fails, moves, or otherwise displeases the community by its actions.

Selected References


Like most things in life, a successful industrial development program is not a one-man, one-committee, or, for that matter, a one-community job. There are many agencies, both government and private, that will help a community that wants help.

But, the first place to look for help is to your neighbors. In smaller communities the full range of facilities, services, and resources may be insufficient to be attractive to industry. This is especially true when a smaller community enumerates its labor force. The community will discover that, to produce a labor supply attractive to industry, it will be necessary to include figures from those communities within commuting distance to demonstrate that the work force available is of a size adequate to interest industry location seekers.

In the same sense, one town may have a machine works, another an electric motor rewinder and still another a plater, a foundry, or a hardware and parts distributor.

The town must know what area must be included in the presentation to produce what may be termed a functional economic area. This means having a base of resources sufficient to produce and sustain additional economic growth. Once a group of communities recognizes that each has limitations as a single community, but that together they can furnish the functional base needed for industrial growth, they will discover that each has a vested interest in a broadly based industrial development effort.

The Role of Group Practice

A broad based industrial development group usually represents an organized area or regional effort to secure industry. The regional development group is devoted to the economic development of a relatively wide geographic area, including several jurisdictions such as towns, cities, or counties. Regional organization may be adapted for areas of any size, nor do State and county lines have to be a barrier to these groupings. The significant factor that determines sizes of a region is to garner sufficient resources to support an effective program.

Most regional organizations are nonprofit, a few have sold stock and are prepared to provide member communities with financial aid in acquiring new industry. Some regional industrial development groups are quasi-public with a part of their operating funds derived through pro rata per capita tax assessment. Otherwise, regional groups may depend on voluntary contributions and fund-raising drives to cover their expenses. The objective of funding efforts is to employ trained personnel to organize and operate the region's program to stimulate industrial development.

Functions of regional development groups differ somewhat depending on what a particular organization is directed to accomplish. The primary motive is the same for all — improvement in the region's industrial structure and alignment of its potential for further growth. The following activities are the usual function of effective regional industrial development groups:

Publicity — Prepare promotional material for use in advising expanding industries why they should consider the region for the location of new or branch plants.

Information — Act as clearinghouse for information on the region and local areas as it pertains to industrial expansion and economic growth; advise on appropriate State and Federal programs useful in industrial and community development; initiate regional conferences where economic problems of interest to participating communities may be discussed and resolved.

Research — Perform studies which can help local groups within the area catalogue their resources and to
show how these resources can help to attract new industry.

Size alone is no criterion as to how much a regional industrial development group can achieve, even on a limited budget. More important is that its program be keyed to well-defined goals, appropriate development techniques, and effective direction provided by a knowledgeable staff. Cooperation is essential to the success of any such enterprise, and member bodies must be able to see the need for economic growth outside as well as within their own boundaries.

There are a number of advantages provided by regional organizations. Most significant they can provide:

Leadership — There is a wider area on which to draw for competent, trained leaders able to direct the regional program and to guide local efforts.

Finances — Pooled finances go much further to support common programs including, for instance, surveying a region or advertising the shared resources and other attractions that the region’s communities have to offer site-seeking industries.

Efficiency — By having a central point for discussion of common problems and dissemination of information on State and Federal aids for community development, local leaders can take quicker action without duplication of effort.

Mutual advantage — Sound economic development anywhere in the region helps boost the growth potential of every other community participating in the regional program. Obversely, it is clear that much of the effort spent by a single small community which is successful in attracting industry will benefit an area far beyond the town limits. The effects of increased employment and other economic activity which accompany new industry will be spread widely throughout the benefiting area, mainly because employees will come to the plant from the larger commuting area that satisfies the new plant’s labor needs. This is why community resources and community efforts should be pooled and coordinated in a regional effort among many communities. Otherwise, the cost will be borne by one community while the benefits are spread over the larger area.

Also, by virtue of its familiarity with the problems of local groups, as well as with State programs for economic growth, the regional organization has a unique opportunity to coordinate and encourage the efforts of both State and community industrial development agencies.

State Economic Development Agencies

In connection with prospecting, we have already mentioned each State has a tax supported industrial development agency. To area or community groups with either existing or planned industrial development programs, it’s a most important State agency for both technical and material help. It is there to help every community so to be certain to make use of it. Success of the State agency can only be measured in terms of the results achieved by the communities which it represents. It is to the State’s benefit to help communities do an effective job of industrial development. The influence of the State and local governments can be decisive in the industrial development programs of a community or area.

The existence of a State agency demonstrates in a positive way that the State is favorably inclined toward new industry. When the State can create the impression of a favorable climate for industry, the efforts of local groups are enhanced. The States with the best climate for industry are those with laws favorable to manufacturing and processing without adversely affecting community services and general living conditions. The State development agencies have been among the leaders in the effort to create more attractive economic and political environments for industrial development, as well as providing a strong sales force. An effective State agency can create a coordinated and comprehensive statewide development program that benefits all.

Forming a Supporting Industrial Development Team

In addition to the State economic development agency, there are other State agencies, such as the State planning agencies, or for technical assistance the State Cooperative Extension Service located at the State’s land-grant university which can be reached through every county Extension agent. Many private groups also support economic development programs operated by communities. They include utilities, banks and railroads with industrial development departments. All these people will become part of your “team” if you have developed something to sell. Early development of a team approach will increase the community’s industrial development resources and effectiveness. Identify your area’s team and work with it.
Normally, existing area industrial groups will be in contact with a community when they learn that an effective group is established, but don’t wait for them to recognize your existence. Let them know that the community is in business to seek new industry. These supporting industrial development organizations welcome any ideas and they will also welcome your participation as an organized group with a product to sell, if you’ve done your homework, and often they will help you with it.

One point that must be recognized is that any broad based organization has the particular problem of relationships with many communities and groups. The local industrial development group is concerned with just one place, the team man is concerned with many. This relationship with the local communities is all important. The team effort is only as effective as the community is ready and willing to attract industry. There are a few exceptions, but team members have no sites of their own to lease or sell. The team members’ goal is that the new plant locate in the area it serves. Your goal is for the industry to locate in your area, and that is your responsibility.

Professionals work most comfortably with those communities that are ready in terms of organization. This is necessary, because the risk of losing an industry to another area may be so great that an unorganized group, well intentioned perhaps, but unprepared to talk business with a businessman can lose the prospect. Professional team members know that one weak link can endanger an otherwise effective program. That is why most State and private agencies have a community development division to help you organize and develop your program, as well as an industrial division to find prospects.

The staffs and budgets of team member organizations vary considerably and as a result their help and the services which they offer also differ. But it follows that a larger operation will usually have more resources than a local group. By virtue of this fact they will have more prospects and you must make every effort in your own interest to get a “team membership.”

On Staying Together

Sometimes you will hear a local industrial development group, and more often a local volunteer say about a team member agency: “They never do anything for us. They only work for part of the State. They only work for the biggest city – or the biggest power company.” Almost without exception this kind of criticism comes from communities who aren’t willing or haven’t done anything for themselves, who generally have never invited a representative of these agencies to their community or visited their offices. You will also find that the large city or certain area that seems to be favored is actually growing in response to an economic or geographic situation. Probably these cities or groups are conducting such a strong development program that they will probably grow without much help. Generally, the larger the community, the stronger the industrial development organization, the larger market or other locational advantages that may be in its favor. There is only one point that can be made on this, and that is that smaller areas have to work harder, and they can be successful in their efforts.

Team members with prospects are subject to the dictates of an industry’s requirements. Industry usually says it wants information only on cities in the northern half of the State, only those over or under a certain population, only those on a navigable stream, or even names specific communities. These qualifications determine the communities your team agency will refer to the prospect. Seldom will there be a prospect whose requirements are such that he may be interested in each and every community in the State. The desires of the industry dictate to your team agency which communities will be shown, just as the desires of the industry dictate which sites you will show them in your own community.

What To Do With Success

Efforts of nonmetropolitan communities of all sizes to bring in industry have been studied in attempts to discover the ingredients of a successful program. Some obvious points come through. Successful communities have been at it a long time (more than 10 years). This is a truism in spite of the example of one town located at the intersection of two interstate highways. The best evaluation of their “success” story disclosed that two new industries located there despite the worst the community could do. However, most successful communities have worked hard at industrial development and treated it as a business—good business for the community. They have learned or picked up the tricks of the trade, made their mistakes and recovered from them. Successful communities learn early how competitive industry seeking is and then learned how to “sell” to reach the goal of a new plant for their town.

A new plant is a major event in the life of the community ultimately selected for a new facility. The community will be highly interested in the announce-
ment of a new plant and will want to participate in the successful implementation of its establishment. What could be a simple announcement, will make the headlines in the local newspaper. Theoretically the community will already have worked out who gets credit for the job of community salesmanship. But it usually requires a considerable amount of diplomacy just to get through the announcement which will be the beginning of public relations between a new industry and the community.

Community-industry public relations are important and, when well directed, will help to produce a quality labor force which was one of the community's promises. Along with the announcement, the community will probably participate at the ground breaking and final dedication of the plant when it begins operation. Publicity of this nature can be of great importance in developing community understanding and cooperation for a new industry. The interest and publicity given a new plant will bring community participation which can lower the start-up costs for the new plant. This can be important where the community or area has invested in the plant or has promised to take the leadership role in recruiting and training or pretraining the work force for the new industry. The community cannot forget that this was one of its industrial development goals.

Making the Best Use of the New Plant

Back when the community was planning a strategy for industrial development, its goals were to create jobs and increase per capita incomes in the area. The interval between the announcement of a new plant and its opening is the time to develop a strategy to make the best economic use of the new plant. Going back to the multiplier concept explained in Chapters 1 and 4, this is the time to explore the full potential of the location of a new plant. Are some of its suppliers approachable to locate a plant in the area to serve the new plant? Can local suppliers expand to produce products for the new plant? Or, is there sufficient market potential for a new homegrown industry to be established? Will the community and area recruit and train as many as possible of the local residents so that per capita incomes will be raised?

There are many more opportunities for the community to derive the greatest benefits from the location of a new plant. A definite effort should be programed each time a new plant locates or when an existing plant expands in the community. A plant expansion may permit manufacture of some product, or a service, that could not be supported locally at the time the plant first located in the community.

Local People Do Benefit from Manufacturing Jobs

There is good evidence that local people do benefit from new industry. A recent survey in Colorado shows that Coloradans are the chief beneficiaries on new manufacturing opportunities in that State.36

The Colorado report shows that 70 percent of the new jobs created in manufacturing are taken by people who had resided in the State a year or longer prior to accepting employment. Even more significant was the fact that in nonmetropolitan areas, 88 percent of jobs were taken by residents, compared to 67 percent in the metropolitan areas of Colorado.

The purpose of the study was to determine to what extent the attraction of new manufacturing industries to Colorado, along with expansion of existing plants, was serving the employment needs of the people of the State.

The report shows that not only are Colorado residents the chief beneficiaries of new employment opportunities in the State, but also that 40 percent of those hired were unemployed prior to accepting employment in manufacturing.

A sampling of manufacturing employees indicated that 80 percent (this figure includes 10 percent who had not resided in the State a full year) were living in Colorado at the time they were hired and that 72 percent of these did not need to change residence when they took their jobs. Almost 85 percent of the new employees considered that the new job opportunity represented a personal advancement.

A final noteworthy figure produced in the study was that only 7 percent of the manufacturing employees were transferred by their employer from out of State to Colorado.

The Environment One More Time

During the start-up period the community development group must not become complacent. The community-industry climate may appear to be stabilized – but don't count on it today. Public opinion in America today has become volatile. Subject to these new

influences, new opinions can be generated on the spot and particularly about the environment. This situation can be exploited by special interest-groups or by single individuals opposed to community-oriented programs if a community is unprepared to cope with such situations.

The time between announcement and production can be critical for both community and the new industry. To pass safely through this period requires a cooperative venture between the community development group and the new industry. An unexplained site, a smokestack or an access road, when questioned, can jeopardize the community’s ability to deliver on promises made to a new industry.

When the word “environment” is mentioned the word “pollution” is soon to follow. Pollution of particular concern in industrial development programs because it can create highly visible situations such as fish kill, increasing the difficulty of water treatment or it may be associated with more subtle implications such as impairment of physical and mental health.

The concern about the ever-increasing pollution load and the desire for environmental quality is not a passing fad. Improving the quality of the environment is a national goal. Industries contribute to our high standard of living measured in food, materials and services to people; but they may also contribute to the degradation of the physical environment, just as people do by their simple presence within the environment.

There is an urgent need for a community to understand the economic and social benefits that modern pollution abatement efforts of industry can achieve and the relationship of environmental benefits to costs. One caution is that a community is composed of individuals, many of whom do not recognize the social costs of using our environment. The solution to this problem is to increase the awareness of members of the community to the social cost factors by an objective flow of information to people concerning both the environmental effect and social benefits involved in balancing industrial growth and the environment.

In an attempt to recognize the social costs of pollution, Federal and State legislation has been enacted to restrict the uses of selected resources and the practices used in disposing of pollutants. Without resort to facts, proposed industry actions to abate or control pollution often have been described as inadequate in many communities. Measures of pollution potential are needed by communities if there is to be understanding by the community of the costs and benefits of industry on the local environment. Such measurements can only come from case by case analysis of specific proposals. Federally required environmental impact statements that assure environmental requirements have been met are becoming a fact of life in the industrial location decisions made by industry. Hopefully, “impact statements” will come to be acceptable assurance to all members of the community. 37

Industry-Community Relations

A plan to channel community enthusiasm with the establishment of a time schedule for the construction and start of production in a new plant is necessary. A plan can be important to both the community and industry in helping to maintain community-wide cooperation between announcement and completion of a new plant. Industry’s plans will consist of a final review and determination of requirements of the plant — its size, capacity, equipment, layout and material handling. It involves the final design and construction of the new plant.

The interval after announcement will involve the time it will take to purchase and get delivery of new equipment and to recondition other equipment. It will involve the hiring and on-the-job training in a pilot operation, or pretraining of new employees, and moving in key people. The accumulation of an inventory to support a new plant, the locating of suppliers, and the coordination of transportation for both the assembly of the inventory and delivery of the product will also require time.

With the best of plans, every plant needs time to get fully organized. In other words, don’t expect full employment the same week production in a new plant begins. A new management team needs time to learn local customs and how to get along with the new employees in order to arrive at the best production schedule quickly.

The community has frequently been given low concern in industry public relations, far behind personnel and customer relations. But industrial relations are partly community relations. Many of the programs now used by companies for improving public relations with the community arose originally as correctives for

past objectionable practices. There was a time when the owners and managers of industry perhaps were less concerned about the conditions in which their workers might live. Less thought was given to the air and water pollution which the manufacturing processes created, and when many companies remained aloof from local institutions and community programs. This sort of indifference is rapidly disappearing as leaders of business and industry realize that in the long run what is good for the community is also good for their business.

At the same time, the small- or medium-sized community may fear the absentee power controlling large local branch plants, but it can be dispelled by carefully planned programs for improving relations with the community. A community-industry program to assure a complementary relationship in the community needs to consider the role of each in several mutual interest areas:

1. Harmonious relations with employees
2. Participation in local government
3. Modern housing programs
4. Health programs and elimination of problems
5. Street and traffic planning
6. Parks and playgrounds
7. Community educational projects
8. Local civic clubs
9. Community social services programs

Business and industry have been among the chief agents in molding and changing our economic and social concepts and daily living habits. There is no doubt that they will play just as important a part in that process in the future. Public relations has become an essential activity of business and industry. To the extent that public pressure is increased, management leaders will be expected to do an acceptable job in their dealings with complicated social and economic environments. Their actions must demonstrate their good judgment and the sincerity of their expressed social purposes. However, no community should expect industry to assume the community's role in doing social work. The first obligation of a business is to return a profit to its investors, or there would be no new industry.

The effects of public opinion on business profits, and the extent of this influence were aptly expressed by Paul Garrett, vice president of public relations of General Motors: "The continuing end responsibility of management is and always must be to sell its products against competition at a net profit. But who could have envisioned the winding chambers in the labyrinth of public opinion through which management must successfully pass today to reach a new profit? Public opinion is but the shadow cast by what the company does, and the executive's behavior is largely instrumental in casting that shadow." The shadow cast by a new industry in the town, then, greatly depends upon the kind of reception the community prepares for its new industry.

What It All Means

While peaks of community enthusiasm may have been reached at the time of announcement of a new plant, at groundbreaking, at dedication and when employees started to work, the objectives of the community development group are long term, and the measurement of its success comes when the local Chamber of Commerce finally acknowledges "the new plant" at an "Old Timers' Night Dinner." This is the final goal of a community industrial development strategy — a long and happy relationship with its industrial base that leads to the production of a successful "Old Timers' Night," and the creation of more jobs and higher incomes for local people. All this without impairing, and more hopefully, improving the environment and "quality of life."

Selected References


APPENDIX
APPENDIX I
THE LABOR SURVEY

Firms and plant location consultants have said that in their studies of potential plant locations, they spend more money obtaining labor market data than any other plant location factor. Many industrial development groups are trying to provide accurate and adequate labor information. They will be limited in their results if they do not understand what business wants to know about the labor supply.

A majority of the plant locations in rural areas have been the labor intensive industries. To properly understand the employer's needs for labor market information, view the subject from the vantage point of a highly competitive labor intensive employer when reductions in labor cost may be the measure of success for an enterprise. To analyze the factors that primarily control a product's labor cost, consider the manpower supply in terms of both quantity and quality.

To determine the quantity for the labor intensive type plant, an area must provide the number of workers needed above established "entrance quality standards" for a proposed industry (your local employment security office can tell you what this means). In determining the quantity of labor available for a new plant, begin by defining the area's available labor force. From readily available census information, you can establish the characteristics of the population. Know the ratio of males to females and the breakdown according to age, with specific interest in the 19 to 44 year-old groups. Establish the ethnic characteristics, and educational achievement levels of the labor force. Record the labor force participation rate by types of employment activity. Know the factors relating to competition for employment. Begin by studying the area's working population according to wage rates, since the wage patterns of an area must fit a new plant rather than a plant's wage rate patterns being fitted to the community.

Next, define the labor draw area of the plant site under consideration. Establish the normal commuting distance to be expected at the particular plant site. Commuting distance is influenced by transportation routes and competing employers (costs and wages). Identify competing employers and, if possible, obtain information on wage rates according to job classifications in competing plants. Fringe benefit packages vary widely from area to area and their costs should be included in making estimates. When you have all information, industry can do an adequate job in evaluating the quantity of labor to staff a plant and wage costs — but not labor costs.

The quality of a labor force is related to productivity and it reflects labor costs. Production varies considerably from one location to another. As important as the subject of productivity is, it is also one of the most difficult on which to obtain qualitative information because of its confidential treatment by most employers. Often communities must search for indirect indicators of productivity. In some instances, it is possible to compare output per man-hour for a standard product or use comparative scrap rate information, but generally these and similar direct data are not available. Information on worker attitudes as reflected by absenteeism rates, attrition rates, and data on management-labor relations are indicators of productivity.

Develop data on the percentage of local labor force belonging to various labor organizations. Obtain data on man-hours lost due to management-labor disagreements and on the attitudes of area laborers toward joining various labor organizations, and note if the area has experienced considerable labor strife. Data on each of the above points are not always available in the detail required to accurately assess labor costs and labor force characteristics which will be experienced by an employer in a specific area. The community that has this informa-
duction available as completely as is possible can expect to favorably impress industry site seekers.

Usually, the first step in obtaining labor information not otherwise available will be to conduct a local survey. There are several techniques for such surveys. Often a special committee of an existing local organization will agree to conduct the labor survey.

Surveys involve collection of labor force data from the entire community or from a small, but representative sample of the population. Data from the sample are then expanded to infer statistical information about the entire population. Sampling can yield information which is almost as accurate as a census of the entire population. Also, sampling requires considerably less time and money. The labor force data is usually obtained by a questionnaire filled out by each respondent. The questionnaire may be sent and returned by mail, or the data collected by a team of interviewers, or obtained by some combination of both methods.

Many State economic development agencies have developed techniques and forms for compiling labor surveys. Communities should check to determine what is available and "standard" in their area. In the absence of such materials, the following is a sample questionnaire prepared for community use by the Area Development Department of the Northern Natural Gas Company.\(^3\)

\(^3\) Techniques for Measuring the Labor Resources in Small Areas, Area Development Department, Northern Natural Gas Company, Omaha, Nebraska, 1965. pp. 38-40.
SAMPLE QUESTIONNAIRE
LABOR FORCE SURVEY

To make our industrial development program more effective we need to know more about the human resources of County. When a prospective industry looks at our area, we need to be able to tell them the occupations and skills of our labor force. Prospective new industries need to know if they can hire an adequate number of potentially skilled local workers.

County increases its chances of success of having a new industry locate here if it can provide accurate, up-to-date labor force information. For this reason, the Industrial Development Commission and the Agency are cooperating to study the labor force potential of County.

This survey is distributed to only a sample of the residents of County rather than to the entire population. Your household was selected by mathematical chance and is one of being contacted. (Eliminate if a door-to-door survey is contemplated.) You are not asked to put your name on this questionnaire as the total numbers are all that we are interested in. Return of all the questionnaires is necessary to draw valid conclusions, so please complete the questionnaire and return it to us.

Please have all persons in your household who are 14 years old or over fill out a separate form. We hope you will give us your cooperation in our effort to build a better community through industrial development.

1. Sex  Male  Female

2. Age on your last birthday: (Check the age group)
   - 14 to 17
   - 18 to 24
   - 25 to 34
   - 35 to 44
   - 45 to 54
   - 55 to 64
   - 65 or over

3. Last grade in school completed:
   - 4th or lower
   - 5th or 6th
   - 6th
   - 7th
   - 8th
   - 9th to 11th
   - 12th (high school completed)
   - 13th to 15th
   - 16 or more (college graduate)

4. Main activity at the present time:
   a. Keeping house
   b. Going to school but want local job after graduation.
   c. Working for wages, salary or commission (non-agricultural)
   d. Operating own business or professional practice (non-agricultural)
   e. Operating a farm (as owner, part owner, or tenant)
   f. Retired
   g. Looking for work
   h. Not working now, but have a job or business and will be working within 30 days
   i. Other (please specify)
5. Description of full time job or business:
   (If you checked a,b,f, or g above, please write in the blank the word “None” under “Occupation” below)

<table>
<thead>
<tr>
<th>OCCUPATION</th>
<th>INDUSTRY</th>
<th>YEARS OF EXPERIENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. Other occupations in which you are skilled or experienced.
   (List as many as you feel you are qualified in.)

7. If you are not presently employed and a new industry needed employees in an occupation for which you might be qualified, (and the industry paid wages equivalent to others in the area) would you accept employment in ___County:

   ___ Yes  ___ No

Analyses of Data

A pile of questionnaires is not the most efficient way to present the information that is obtained in the survey. The questionnaire should be analyzed and organized into meaningful categories of labor information. Summary sheets should be prepared to highlight the data gained from the survey. Remember the survey was conducted to demonstrate in a positive fashion that there is a far larger potential work force than the usual "official" figures imply.
LOCATION

County: ____________________________

Distance in miles from:
- Atlanta _________________________ Miami _________________________
- Charlotte ______________________ New York ______________________
- Chicago ________________________ Savannah ______________________

POPULATION

<table>
<thead>
<tr>
<th>City</th>
<th>1960</th>
<th>1950</th>
</tr>
</thead>
<tbody>
<tr>
<td>County</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

GOVERNMENT SERVICES

Type of local government: ____________________________

City zoning ordinance in effect: ( ) yes ( ) no

County zoning ordinance in effect: ( ) yes ( ) no

Subdivision ordinance with design standards in effect:
- ( ) yes ( ) no

Number full-time fire department personnel: ____________________________

Number volunteer fire department personnel: ____________________________

Fire insurance classification: ____________________________ in city
- ____________________________ outside city

Number full-time policemen: ____________________________ in city
- ____________________________ county

Full-time city engineer: ( ) yes ( ) no Licensed: ( ) yes ( ) no

Garbage service provided: ( ) public ( ) private ( ) none

Public library: ( ) yes ( ) no

Post office in city: ( ) yes ( ) no

If yes, class of post office: ____________________________

EDUCATION FACILITIES

Public elementary and secondary schools

Number of schools in county: ____________________________

Enrollment grades 1-12: ____________________________

Number high school graduates annually: ____________________________

Vocational education programs in high schools
- ( ) trade and industrial
- ( ) business and office
- ( ) distribution and marketing
- ( ) industrial arts

Area technical school

Name: ____________________________

Location: ____________________________ Enrollment: ____________________________

Junior college

Name: ____________________________

Location: ____________________________ Enrollment: ____________________________

Four-year college

Name: ____________________________

Location: ____________________________ Enrollment: ____________________________

Other educational facilities

Name: ____________________________

Location: ____________________________ Enrollment: ____________________________

COMMERCIAL SERVICES

Machine shop(s): ( ) yes ( ) no

Tool and die service(s): ( ) yes ( ) no
Electric motor repair service(s): ( ) yes ( ) no
Type of newspaper: ( ) daily ( ) weekly ( ) other
( ) none
Radio station(s): ( ) yes ( ) no Number: ____________
Number of TV channels received: ____________
Cable antenna television serves city: ( ) yes ( ) no
Seating capacity of largest banquet room: ____________
Seating capacity of largest auditorium: ____________
Travel accommodations: ________________________ motel rooms
____________________ hotel rooms
Number of banks: ____________ Total assets: $ ____________
Number of savings and loan associations: ____________
Total assets: $ ____________
Chamber of commerce: ( ) yes ( ) no
Manager is full-time: ( ) yes ( ) no
Other industrial developers: ________________________
Remarks: ____________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________

TRANSPORTATION SERVICES

RAIL
Railroad(s): ( ) yes ( ) no
Name(s): ___________________________________________________________________________
If no, distance to nearest loading point: ____________ miles
Piggy-back service: ( ) yes ( ) no
Reciprocal switching: ( ) yes ( ) no

MOTOR CARRIER
Inter-city bus service: ( ) yes ( ) no
Highway number(s): federal ________________________
state ________________________
Interstate highway: ( ) yes ( ) no
If no, distance to nearest interchange: ____________ miles
Number of motor freight carriers: ____________ interstate
____________________ intrastate
Number of motor freight carriers maintaining local terminals: ____________

BARGE
City adjoins navigable river: ( ) yes ( ) no
Name of river: _______________________________________________________________________
Public barge dock available: ( ) yes ( ) no
Channel depth: ____________ feet

AIR
Distance to nearest public airport: ____________ miles
Type of runway: ( ) sod ( ) hard surface
Length of longest runway: ____________ feet
Runway lighted: ( ) yes ( ) no
Aircraft tie down or hanger facilities: ( ) yes ( ) no
Aircraft repair (power plant and/or airframe): ( ) yes ( ) no
Navigational aids: ( ) VOR ( ) ILS ( ) OMNI ( ) NDB ( ) GCA
Nearest commercial air transportation: ____________ miles
Location: __________________________________________________________________________
Name(s) of airline(s) serving point: _______________________________________________________________________________________________________
Name(s) of airline(s) serving point: _______________________________________________________________________________________________________

Length of time goods in transit to:

<table>
<thead>
<tr>
<th>City</th>
<th>Days by Rail</th>
<th>Days by Motor Freight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlanta</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baltimore</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Birmingham</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charlotte</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chicago</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cleveland</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Memphis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miami</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Orleans</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New York</td>
<td></td>
<td></td>
</tr>
<tr>
<td>St. Louis</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

UTILITIES

WATER
Water supplied by: _______________________________________________________________________
Water supply approved by the Georgia Department of Public Health: ( ) yes ( ) no
**SANITATION**

Type of sewage treatment plant:

- Treatment plant has operating permit from Georgia Water Quality Control Board: [ ] yes [ ] no

Characteristics of waste treatment plant:

- Measurement
  - Gallons per day
  - Population equivalent

Sewer use charge: [ ] yes [ ] no

**NATURAL GAS**

Natural gas service: [ ] yes [ ] no

Name of supplier:

Name of distributor:

Btu content:

**ELECTRICITY**

Name of supplier:

Name of distributor:

**LABOR MARKET ANALYSIS**

- County:
- Population (date)
- Civilian labor force (annual average 196_):
  - Unemployed
  - Unemployed as percent of labor force
  - Total employment
    - Agricultural employment
    - Non-agricultural employment
    - Manufacturing employment
    - Non-manufacturing employment
- Date of latest labor market survey:
- Conducted by:
  - Results: available male
    - Available female
    - Total available

**HEALTH FACILITIES**

- Number of hospitals:
- Number of beds:
- If no hospital, nearest facility:
- Location:
- Public health service: [ ] yes [ ] no
- Other facilities:
- Number of medical personnel:
  - MDs
  - Dentists

**LOCAL MANUFACTURING CHARACTERISTICS**

- Number of manufacturing plants in city:
- Number of plants with labor unions:
- List local labor unions:

Largest manufacturers in city:

- Firm:
  - Product(s):
    - Employment: male _____ female _____ total _____

- Firm:
  - Product(s):
    - Employment: male _____ female _____ total _____

- Firm:
  - Product(s):
    - Employment: male _____ female _____ total _____

- Firm:
  - Product(s):
    - Employment: male _____ female _____ total _____

- Firm:
  - Product(s):
    - Employment: male _____ female _____ total _____
RECREATION FACILITIES

Facilities available: ( ) golf course(s)
( ) tennis court(s) ( ) swimming pool(s)
( ) park(s) ( ) country club

Nearest state park: __________________________ miles
Nearest public access lake or river: __________________________ miles
Activities: ( ) swimming ( ) fishing ( ) camping
( ) water skiing ( ) motor boating

INDUSTRIAL SITES AND INDUSTRIAL BUILDINGS

Total number of industrial sites available: __________________________
Total number of industrial buildings available: __________________________

LOCAL INDUSTRIAL DEVELOPMENT ORGANIZATION

Name: __________________________
Local contact: __________________________
Address: __________________________
Phone number: __________________________ Area code: __________________________

TAX STRUCTURE

Assessment ratio, city property: __________ percent of real market value

Basic tax levy for 196 __________ (per $1000 assessed value):
   city $ __________ county $ __________
   state $ __________ total $ __________

MISCELLANEOUS INFORMATION

Number of protestant churches: __________________________
Roman Catholic church: ( ) yes ( ) no
   If no, distance to nearest: __________________________ miles
Jewish temple or synagogue: ( ) yes ( ) no
   If no, distance to nearest: __________________________ miles
Average cost of construction for residential housing:
   $ __________ per square foot
Outstanding community awards, honors or achievements:

PREPARED BY

GEORGIA DEPARTMENT OF INDUSTRY AND TRADE
P. O. Box 38097, Atlanta, Georgia 30334
Area Code 404-577-3450
APPENDIX III

A Sample Impact Study

A hypothetical industrial impact study will be analyzed in this appendix to demonstrate a measurement procedure that can be used. Local citizens in their negotiations with a potential industry must determine various characteristics of the new firm, the workforce, local government and the community to estimate industrial impact.

The Plant

The following chart lists items of information that must be established in order to complete an impact study using the technique described in Chapter 13:

**PLANT:**

- Plant investment
- Value of existing plant site and building
- Annual cost of sewer expansion
- Annual sewer bill at plant
- Number employed at plant
- Average annual salary paid by plant
- Intra-county multiplier (secondary effects only)

In this example the plant’s equipment investment in the community is $80,000. This is the plant’s only addition to the property base in the community since it will locate in a previously occupied building in the municipally owned industrial park. The plant requires an expansion of the city owned and operated sewage treatment facilities. The annual cost of repaying the bond for this expansion is $1,000. The management at the plant estimates that the plant’s annual utility (sewer) bill will be $4,000.

The Workforce

The following chart lists items of information that must be established in order to complete an impact study using the technique described in Chapter 13:

**WORKFORCE:**

- Residence (number of workers living in the)
  - Same community as plant
  - Same county as plant but not the same community
  - Outside the same county as the plant
- Average salary at previous job
- Spending patterns of propensity to consume locally
  (percent of total income spent in the same community as the plant is located in by the workers’ place of residence):
    - Community
      - In same county but outside the community
      - Outside the county

The firm will employ 50 workers. Thirty of the workers are presently residents in the community, five workers are brought into the community, ten workers reside elsewhere in the same county and five workers commute to work from outside the county. Five workers are seeking employment at the plant because their previous jobs are about to be eliminated. The workers average wage at the previous jobs is $4,500 versus an average wage of $5,000 at the new plant. The five workers who are new residents in the community bring another 15 persons into the community with them including eight children who are enrolled in the local school system. Adequate housing is available for only two families, forcing the other three families to build new homes. The average value of the new homes, excluding the lot, is $20,000.
The Community

The following chart lists items of information that must be established in order to complete an impact study using the technique described in Chapter 13:

**COMMUNITY:**

**New Residents:**
- Nonschool age
- School age
- Total

**Available housing units**
**New housing units required**

**Municipal government:**
- Property taxes mill rate
- Property tax assessment ratio
- Shared taxes per dollar of income
- Utilities per family per year (if municipal)
- Per capita municipal (current and capital) expenditures (excluding utilities)
- Per capita municipal revenues (excluding property taxes and utilities)
- Revenues per dollar of personal income
- Expenditures per dollar of personal income

**School district:**
- Property tax mill rate
- State aid per average daily membership
- Federal aid per average daily membership
- Operating expenditures per average daily membership
- Capital expenditures per average daily membership
- Revenues per dollar of personal income
- Expenditures per dollar of personal income

The municipal government utilizes a 15 mill property tax rate for part of its revenues. Property is assessed at 60 percent of its fair market value. The second major source of municipal revenue is shared taxes. Let's assume that the local area receives $.008 of shared taxes per dollar of local personal income. The third major municipal revenue source is utilities (sewer, water, garbage). The average annual municipal utility bill is $250 per family. Per capita municipal revenues, excluding property taxes and utility revenues, are $35. The per capita municipal operating and capital expenditures, excluding utility expenditures, are $45. Municipal revenues and expenditures per dollar of personal income are $.025 and $.024 respectively.

The local school district property tax is 25 mills. Per average daily membership (ADM) school aid is $250 (state) and $50 (federal). School operating expenditures are $400 per ADM and capital expenditures average $20 per ADM. The school revenues and expenditures per dollar of income are $.030 and $.029 respectively.

**Private Sector Analysis**

The new income remaining in the community (internalized income) is determined by weighing the plant payroll by the workers place of residence and propensity to consume locally. Equations (1) through (4) show the calculation of primary internalized income:

<table>
<thead>
<tr>
<th>Number of workers by place of residence</th>
<th>Average Annual Income</th>
<th>Propensity to consume locally by place of residence</th>
<th>Internalized primary income</th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>x 5,000  x .60</td>
<td>= $105,000</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>x 5,000  x .50</td>
<td>= 25,000</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>x 5,000  x .40</td>
<td>= 10,000</td>
<td></td>
</tr>
</tbody>
</table>

Total primary internalized income = $140,000
Of the plant’s $250,000 payroll only $140,000 remains in the community or 56 percent in this example.

This exemplifies the importance of locally available labor force on the new plant’s impact on the community. In this example, if all of the workers came from the community, the internalized income would be $150,000.

Equations (5) and (6) calculate the internalized secondary income impact of the new plant. It is assumed that the recipients of secondary income reside in the community and exhibit the same propensity to consume locally as do the workers at the plant who live in the community:

\[
\text{Internalized primary income} \times \text{Intra-County income multiplier} \times \text{Propensity to consume locally} = \text{Internalized secondary income}
\]

\[
$140,000 \times .8 \times .6 = $67,200
\]

The $67,200 represents the change in the income of community residents not working at the new plant that is spent in the community. The total income change in the community from the new plant is $207,200.

The private sector opportunity costs of the new plant is the primary and secondary income loss because some previous jobs are not refilled. The calculation of income loss from previous jobs not refilled is similar to the calculation of internalized plant payroll. The propensity to consume locally by the workers place of residence is used to weigh income from previous jobs. In the example, three of the previous jobs not refilled are held by community residents and the remaining two jobs are held by a county resident and a noncounty resident respectively. The job held by the resident of another county is assumed to have no affect on community income. The loss of internalized primary income is computed in equations (8) and (9):

\[
\text{Number of workers by place of residence} \times \text{Average annual income previous job} \times \text{Propensity to consume locally by place of residence} = \text{Internalized previous income lost}
\]

\[
3 \times 4,500 \times .60 = $8,100 \quad (8)
\]

\[
1 \times 4,500 \times .60 = 2,250 \quad (9)
\]

Total primary income lost $10,350

The loss of the primary income affects the volume of trade in the community and this loss of secondary income is estimated by equation (10):

\[
\text{Internalized primary income lost} \times \text{Intra-county income multiplier} \times \text{Propensity to consume locally} = \text{Secondary income loss}
\]

\[
$10,350 \times .8 \times .6 = $4,968 \quad (11)
\]

The total loss of previous income in the community (private sector opportunity costs) is $15,318.

Local chamber of commerce and other private individuals estimate the costs of travel, entertaining and other expenses in negotiating with the new plant are about $5,000. These industrial development program costs are deducted from private sector benefits.

The primary and secondary benefits and costs are summed to give total benefits and costs to the private sector. The net gains in the private sector are the difference between total benefits and costs in the private sector. Table A summarizes the industrial impact on the community’s private sector.
Municipal Government Sector Analysis*

The changes in population, income, and property values are the means by which the new plant affects the municipal government sector.

In this example, the three new homes built by the three new families who could not find housing add to the community’s property tax base. The homes are assessed at 60 percent of their fair market value and the addition to the assessed residential property tax base is $36,000. Only the structures or improvements are additions to the property tax base since the lots are already on the tax roll.

The municipal property tax rate is 15 mills yielding $540 in municipal property tax revenues from the new homes. The location of the plant on tax exempt property and in a building already on the property tax rolls means that only the assessed value of the plant’s equipment is added to the tax base. The assessed value of the plant’s equipment is $48,000 and the 15 mill municipal property tax rate yields another $720 to the city’s property tax revenues. Utility revenues are assumed to be adequate to cover the operating costs of producing and delivering the utilities. This condition may vary from community to community. The utility impact of the new plant is $4,000 and for the five new families in the community it is $1,250 (5 families x $250 per year per family). These are entered as both benefits and costs in the municipal government sector. The annual costs ($1,000 in this example) of the capital improvement of the municipal utility system because of the new plant or new residents are entered as a cost to the municipal government. The non-utility and non-property tax municipal government revenues and expenditures are determined by the number of new residents in the community, see equations (13) and (14), respectively.

<table>
<thead>
<tr>
<th>New Population</th>
<th>Municipal government fiscal coefficient per capita</th>
<th>=</th>
<th>Primary impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>x 35</td>
<td>=</td>
<td>$700</td>
</tr>
<tr>
<td>20</td>
<td>x 45</td>
<td>=</td>
<td>$900</td>
</tr>
</tbody>
</table>

*Municipal government is the unit of government most directly involved in the industrial development program. Thus, it may be either city, village or town government.

The shared taxes portion of the municipal government’s revenues is highly variable and for this example $.008 per dollar of new income is assumed as the return in shared taxes. However, each municipality should estimate this ratio for its own situation. N. Note: $191,882 = 186,882 + $5,000 for industrial development program costs (See Table A) i.e. the net gain in internalized income.

<table>
<thead>
<tr>
<th>New income in community</th>
<th>Shared taxes ratio</th>
<th>=</th>
<th>Shared taxes for municipality</th>
</tr>
</thead>
<tbody>
<tr>
<td>191,882</td>
<td>x .008</td>
<td>=</td>
<td>$1,535</td>
</tr>
</tbody>
</table>

The 15 workers who reside outside the city limits and who commute into the community to work at the plant create municipal service costs. The in-commuters are computed as weighted per capita non-utility municipal expenditures. The weight is the percentage of time spent in the community per year by the worker assuming he spends 10 hours per day five days a week for 52 weeks a year in the community. Equation (17) shows the computation of the municipal government costs for in-commuters.

<table>
<thead>
<tr>
<th>Number of in-commuters</th>
<th>Per capita expenditures</th>
<th>Weight for time in community</th>
<th>=</th>
<th>Cost of in-commuters</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>x 45</td>
<td>x .2854</td>
<td>=</td>
<td>$193</td>
</tr>
</tbody>
</table>
The location of the new plant generates secondary public sector effects similar to those occurring in the private sector. The secondary public sector effects are a function of the secondary income changes caused by the new plant. Equations (20) and (21) show the calculation of the secondary municipal fiscal impact.

Note: $62,232 = 67,200 - 4,968.

<table>
<thead>
<tr>
<th>Internalized secondary income</th>
<th>Municipal fiscal coefficient per dollar of income</th>
<th>Secondary municipal impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>$62,232</td>
<td>.025</td>
<td>$1,556</td>
</tr>
<tr>
<td>62,232</td>
<td>.024</td>
<td>1,494</td>
</tr>
</tbody>
</table>

The foregone property tax revenue from the tax exempt plant site is an opportunity cost to the municipal government, equation (23).

<table>
<thead>
<tr>
<th>Value of plant site</th>
<th>Assessment ratio</th>
<th>Mill levy</th>
<th>Property tax</th>
</tr>
</thead>
<tbody>
<tr>
<td>$10,000</td>
<td>.60</td>
<td>.015</td>
<td>$90</td>
</tr>
</tbody>
</table>

The primary and secondary benefits and costs are summed to determine total benefits and costs to the municipal government sector. Net gains to the municipal government sector are the difference in total benefits and costs. Table A summarizes the industrial impact on the municipal government sector.

**The School District Sector Analysis**

The investment by the new plant and new residents along with changes in school enrollment are the channels by which the new plant’s impact is transmitted to the local school district. Equations (24) and (26) calculate the additional school district property tax revenue from the plant’s new investment and new residential investments.

<table>
<thead>
<tr>
<th>New Investment by plant</th>
<th>Assessment ratio</th>
<th>Mill Levy</th>
<th>School Property Tax Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>$80,000</td>
<td>.60</td>
<td>.025</td>
<td>$1,200</td>
</tr>
</tbody>
</table>

In equation (27) the three families that build new homes, valued at $20,000 each, pay $900 in property taxes to the local school.

<table>
<thead>
<tr>
<th>New Residential investment</th>
<th>Assessment Ratio</th>
<th>Mill Levy</th>
<th>School Property Tax Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>$60,000</td>
<td>.60</td>
<td>.025</td>
<td>$900</td>
</tr>
</tbody>
</table>

The change in ADM affects the school revenues from inter-governmental school aid. Equations (29) and (30) calculate the revenues from state and federal government aid.

<table>
<thead>
<tr>
<th>New students</th>
<th>School intergovernmental aid financial coefficient per ADM</th>
<th>Intergovernmental aid</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>250</td>
<td>$2,000</td>
</tr>
<tr>
<td>8</td>
<td>50</td>
<td>400</td>
</tr>
</tbody>
</table>
The primary capital and operating expenditures resulting from the location of the plant are functions of the change in enrollment. Equation (32) gives the operating expenditures and equation (33) gives the capital expenditures for the new students enrolled in the school district because of the new plant.

\[
\text{New students} \times 400 = \text{School Primary Expenditures} \quad (31)
\]

\[
8 \times 400 = 3,200 \quad (32)
\]

\[
8 \times 20 = 160 \quad (33)
\]

The school district also extends an implicit location incentive to the new plant when the plant locates on the publicly owned industrial site. The opportunity cost of this location incentive to the school district is $150 per year.

Community factors influencing the new plant's impact include local labor (mentioned in preceding section), propensity to consume locally, and public fiscal structure. The propensity to consume locally, percent of total income spent in the community, varies from 40 percent for noncounty residents, to 50 percent for county residents, to 60 percent for community residents. The intra-county multiplier (secondary effects only) is estimated to be 0.8.

\[
\text{Value of plant site} \times \text{Assessment ratio} \times \text{Mill levy} = \text{Lost property tax revenues} \quad (34)
\]

\[
10,000 \times .60 \times .025 = 150 \quad (35)
\]

The location of the new plant in the community generates both primary and secondary changes in the school district fiscal resources. The secondary fiscal effects are a function of secondary income in the private sector. The secondary revenue and expenditure effects are calculated by equations (37), revenues, and (38) expenditures.

\[
\text{Secondary income} \times \text{School fiscal coefficient per dollar of income} = \text{School Secondary fiscal impact} \quad (36)
\]

\[
62,232 \times .030 = 1,867 \quad (37)
\]

\[
62,232 \times .029 = 1,805 \quad (38)
\]

The sum of the school's primary and secondary benefits and costs give the total benefits and costs of the new plant on the school district. The net gains of industrialization on the local school district is the difference between total benefits and costs. Table A summarizes the industrial impact on the local school district.

**Total Community Analysis**

The net impact of the new plant on the entire community is the sum of the net impact on each of the three community sectors. The new plant's estimated average annual impact on the private sector is $186,882. The average annual industrial impact on the municipal government ($1,374) and school district ($1,052) sectors are much smaller. The sum of the net gains to each sector gives a total community net gain of $189,308. The analysis can be presented to the community using the format that follows.
INDUSTRY IMPACT SUMMARY

GAINS TO THE PRIVATE SECTOR IN THE AREA*

Benefits:

Internalized plant payroll paid to area residents $140,000

Total Primary Benefits $140,000

Internalized income of residents x area income multiplier 67,200

Total Secondary Benefits 67,200

Total Benefits to Private Sector $207,200

Costs:

Income loss from unfilled previous jobs of area residents 10,350

Private industrial development costs 5,000

Total Primary Costs 15,350

Income loss from previous jobs not filled x area income multiplier 4,968

Total Secondary Costs 4,968

Total Costs to Private Sector 20,318

Gain to Private Sector:

Total Benefits – Total Costs 186,882

GAINS TO THE LOCAL GOVERNMENT SECTOR*

Benefits:

Property taxes new homes $540

Property taxes new plant investment 720

Utility revenues from new plant 4,000

Utility revenues from new residents 1,250

*Area refers to a community, county, or multi-county region.

*Local refers to municipal, township, or county government.
Additional state aid or shared taxes
(Income and/or sales taxes from plant payroll) 1,535

Other tax revenues from new residents 700

Total Primary Benefits $ 8,745

Change in tax revenues from former residents 1,556

Total Secondary Benefits 1,556

Total Benefits $ 10,301

Costs:

Services provided new plant 5,000

Services provided new residents 2,150

Services provided new in-commuters 193

Local government industrial incentive costs 90

Total Primary Costs 7,433

Additional services provided former residents 1,494

Secondary Costs 1,494

Total Costs 8,927

Gain to Local Government Sector:

Total Benefits — Total Costs 1,374

GAINS TO THE SCHOOL DISTRICT SECTOR

Benefits:

Tax revenue — new homes $ 900

Tax revenue — new plant’s additional investment 1,200

Additional state aid due to new students 2,000

Additional federal aid due to new students 400

Total Primary Benefits $ 4,500

Change in school revenues from increased local economic activity 1,867

Total Secondary Benefits 1,867

Total Benefits $ 6,367
**Costs:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional physical plant due to new pupils</td>
<td>160</td>
</tr>
<tr>
<td>Additional educational services provided new pupils</td>
<td>3,200</td>
</tr>
<tr>
<td>Tax revenues lost from tax concessions to the new plant</td>
<td>150</td>
</tr>
<tr>
<td><strong>Total Primary Costs</strong></td>
<td>3,510</td>
</tr>
<tr>
<td>Additional educational services provided former pupils</td>
<td>1,805</td>
</tr>
<tr>
<td><strong>Total Secondary Costs</strong></td>
<td>1,805</td>
</tr>
<tr>
<td><strong>Total Costs</strong></td>
<td>5,315</td>
</tr>
</tbody>
</table>

**Net Gain to School District Sector:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Benefits – Total Costs</strong></td>
<td>1,052</td>
</tr>
</tbody>
</table>

**GAINS TO THE AREA**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gain to area's private sector</td>
<td>186,882</td>
</tr>
<tr>
<td>Gain to the local government</td>
<td>1,374</td>
</tr>
<tr>
<td>Gain to the school district sector</td>
<td>1,052</td>
</tr>
<tr>
<td>Gain to the total area</td>
<td>189,308</td>
</tr>
</tbody>
</table>
APPENDIX IV

INDUSTRIAL SITE IDENTIFICATION METHODOLOGY

This methodology was developed by the Washington County (Penna.) Planning Commission and the Overall Economic Development Committee Program Staff, in conjunction with the Washington County Industrial Development Agency. It has been modified slightly to give usefulness outside of Appalachia. It was published as County Industrial Sites, Commissioner's Report 2, Commissioner's Office, Washington County, Pennsylvania, 1971.

The purpose of Appendix IV is to provide a rating system which can be used by general planners, industrial development agencies, businessmen and public groups to carry out a preliminary evaluation of potential industrial sites in their communities or areas.

The methodology used in this survey is detailed and inclusive rather than complex. It was designed to permit the layman to complete the initial stages of industrial site evaluation without the financial or technical assistance of "outside" expertise.

THE EVALUATIVE FACTORS, SUB-FACTORS AND POINT SYSTEM

Factor I — Site Size and Physical Characteristics

1. Site size
2. Geology
3. Topography (Slope)
4. Status of Mineral Operations
5. Soils
6. Flood Potential
7. Air Pollution Potential
8. Water Pollution

Factor II — Patterns of Land Holding and Status of Planning and Land Regulation

1. Property Value/Acre (Costs)
2. Number of Property Owners
3. Status of Zoning
4. Existing Land Use
5. Marketability
6. Proximity to Support Services
7. Proximity to Labor Force
Factor III — Availability of Man-Made Facilities

1. Proximity to Public Utilities
   a. sewer lines
   b. water lines
   c. gas service
   d. electric service

2. Proximity to Transportation
   a. four lane expressway
   b. two lane arterial
   c. proximity to access road
   d. rail lines
   e. access to navigable water
   f. airports
      (1) business jet
      (2) commercial

3. Proximity to High Tension Lines, High Pressure Gas Lines or Major Telephone Cables

THE POINT SYSTEM*

Factor I — Site Size and Physical Characteristics

1. Site Size

<table>
<thead>
<tr>
<th>Site Size</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,000 Acres</td>
<td>10 Points</td>
</tr>
<tr>
<td>900 Acres</td>
<td>9 Points</td>
</tr>
<tr>
<td>800 Acres</td>
<td>8 Points</td>
</tr>
<tr>
<td>700 Acres</td>
<td>7 Points</td>
</tr>
<tr>
<td>600 Acres</td>
<td>6 Points</td>
</tr>
<tr>
<td>500 Acres</td>
<td>5 Points</td>
</tr>
<tr>
<td>400 Acres</td>
<td>4 Points</td>
</tr>
<tr>
<td>300 Acres</td>
<td>3 Points</td>
</tr>
<tr>
<td>200 Acres</td>
<td>2 Points</td>
</tr>
<tr>
<td>100 Acres</td>
<td>1 Point</td>
</tr>
<tr>
<td>Less than 100 Acres</td>
<td>less than 1 Point</td>
</tr>
<tr>
<td>Less than 10 Acres</td>
<td><em>zero minus</em></td>
</tr>
</tbody>
</table>

* Point assignments need not be arbitrary in using this system. For example, in areas of high population density sites of 1,000 acres might not be available under reasonable circumstances or in areas of sparse population the point schedule on proximity to labor force might need to be revised.

Rationale – Site size is a factor in the potential development of an industrial parcel for a number of reasons:

1. A large site can accommodate a very large industry or many small ones.
2. Development costs of a large site may be reduced through economies of scale.
3. A large site may permit the development of incompatible industries by permitting buffer zones inside the site.
4. A large site allows peripheral buffers which protect the industries inside the site and neighboring uses outside it.
5. A large site would permit the easier identification of the parcel as an industrial area.
6. Newer industries might be easier to attract if their owners knew that they could locate in an area containing other industries (see zoning).

2. Geology

No points given unless geologic hazard present.

Rationale – Geologic conditions should be evaluated, if possible, to identify areas that might be subject to conditions such as contact springs and earth slides. Serious conditions of geologic hazard would produce minus scoring.

3. Topography (Slope)

<table>
<thead>
<tr>
<th>Slope of One to Three Percent Over the Site</th>
<th>10 Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>90% 1-3</td>
<td>10% 4-6</td>
</tr>
<tr>
<td>80% 1-3</td>
<td>20% 4-6</td>
</tr>
<tr>
<td>70% 1-3</td>
<td>30% 4-6</td>
</tr>
<tr>
<td>60% 1-3</td>
<td>40% 4-6</td>
</tr>
<tr>
<td>50% 1-3</td>
<td>50% 4-6</td>
</tr>
<tr>
<td>Under 50% 1-3</td>
<td>Under 50% 4-6</td>
</tr>
<tr>
<td>Under 50% 1-3</td>
<td>Under 50% 4-6</td>
</tr>
<tr>
<td>Under 50% 1-3</td>
<td>Under 50% 4-6</td>
</tr>
<tr>
<td>Under 50% 1-3</td>
<td>Under 50% 4-6</td>
</tr>
<tr>
<td>Under 50% 1-3</td>
<td>Under 50% 4-6</td>
</tr>
</tbody>
</table>

A zero minus rating might be considered if the site is so badly broken by steep topography that it would require extensive grading costs.

Another zero minus condition might occur if the potential site is so level that extensive costs would be incurred to provide drainage protection.

Rationale – Topographic conditions are obviously important in the preparation of an industrial site. A site should be nearly level in the plant and access areas.

Site preparation costs can be substantial, therefore, the less grading that has to be done, the better.

When a potential site has a predominant natural grade in excess of 6 or 8 percent, the costs of development may become excessive. In addition, rapacious grading practices may cause other physical problems and may severely affect the ecological balance of the site and surrounding areas.
The capacity of a railroad switch engine must also be considered. This engine cannot negotiate grades much in excess of one percent, therefore, sites which contain steeper slopes would require special rail development costs or be useful only to service by truck.

It should be noted that the point assignments made in this sub-factor are arbitrary. In areas with less developable land, higher point totals could be assigned to steeper sites.

4. Status of Mineral Operations

Minerals in Place — Not to be Mined 10 Points
Removed by Strip Mining Practice — Reclaimed 9 Points
Removed by Deep Mining — Subsided 8 Points
Removed by Deep Mining — Not Subsided 2 Points
Removed by Strip Mining — Not Reclaimed 2 Points
Removed by Deep Mining — Subsidence Prone 0 Points
Minerals in Place — To be Removed — in an Active or Inactive Field Zero Minus

Rationale — Where a mineral underlays virtually all of an area and it is extremely valuable, there is high expectation that it will be exploited.

To prevent damage to industrial plants from subsidence and to protect a valuable resource from waste, industrial sites should not be located in areas where subsidence is not complete and particularly in areas where underground mining is anticipated to occur during the operational life of the industrial site.

5. Soils

Deep — well drained 100% 10 Points
Deep — well drained 50% 9 Points
slight problems less than 50% 8 Points
Deep — well drained Under 50%
slight problems 50%+ 7 Points
Slight Problems 6 Points
Slight Problems 50%+ slight to moderate under 50%
Slight to Moderate — moderate 5 Points
Variable 4 Points
Moderate 50% Severe 50% 3 Points
Severe 50%+ 2 Points
Severe 100% 1 Point
Marshy, Swampy, Other Drastic Soil Conditions Zero Minus

Rationale — The soils generally best suited for industrial development sites are those that are at least 40 inches deep to hard bedrock; have a seasonal high water table below 36 inches; have soil material within the construction area that has good bearing value, shear strength, low compressibility, low shrink-swell potential and good workability as construction material; have no flood hazard; have low frost action potential; and are not stony or rocky at, or near the surface.

Those soils with a rating of 8, 9 and 10 have slight limitations for use and will not require expensive construction measures to overcome; those with a rating of 5, 6 and 7 have moderate limitations; those with a rating of 1, 2, 3 and 4 have severe limitations; and those with 0 and zero minus rating have very severe limitations. Those with severe and very severe limitations should be carefully checked from an economic standpoint to determine if it is feasible to overcome the limitation.
6. Flood Potential

<table>
<thead>
<tr>
<th>Condition</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flood Free (Above Standard Project Flood Line)</td>
<td>10</td>
</tr>
<tr>
<td>In Standard Project Flood Zone but Above Intermediate Regional Flood Zone</td>
<td>9</td>
</tr>
<tr>
<td>In Intermediate Flood Zone</td>
<td>8</td>
</tr>
<tr>
<td>Within Flood of Record Zone</td>
<td>3</td>
</tr>
<tr>
<td>Annual Flooding</td>
<td>0</td>
</tr>
</tbody>
</table>

Rationale — Most industries want to locate in areas that are free from flooding. Even those industries that need large quantities of water in their particular manufacturing process make considerable financial expenditures to protect their investments. Therefore, any site that is flood free is considered to be valuable.

Areas which have a minimum potential for flooding are the next most valuable. These areas are defined as being within the Standard Project Flood Zone. The Standard Project Flood Zone is that area that the U.S. Army Corp of Engineers defines as having 1/10 of one percent chance of flooding at any given time.

The next most valuable is the Intermediate Regional Flood Zone which is an area which has a one percent chance of incurring a flood at any given time.

The Flood of Record Zone is that area which has been flooded at least once but the flood that occurred is the most severe on record.

An area which suffers floods more frequently than the Flood of Record should be considered very dangerous and having no value for industrial purposes.

The U.S. Army Corp of Engineers should be consulted prior to making any decision about the flood potential of an area.

7. Air Pollution Potential

Air Pollution and Plant Locations:

Basin, Hilltop or Plateau Area II

areas subject to little or no air pollution from prevailing wind 10 – 9 Points

Basin, Hilltop or Plateau Area I

areas in the path of prevailing winds carrying moderate air pollution 8-7-6 Points

Spill Areas

basins, valleys and plateau areas subject to pollution spillovers or inversions 5 – 4 Points

Valley Area II

moderately deep, moderately narrow valleys; moderate limitation of
horizontal and vertical dispersion;
inversion conditions hazardous \hspace{1cm} 3 - 2 Points

Valley Area I

deep-narrow valleys; severe
limitation of horizontal and vertical
dispersion; inversion conditions acute \hspace{1cm} 1 - 0 - zero minus

Rationale — The difficulties associated with damage to a particular manufacturing process must be considered in the location of a particular industry in a particular site.

Environmental amenity must also be considered. Modern industries avoid areas polluted by foul air because their employees often refuse to live in communities suffering from it.

In periods of inversion, air pollution developed in narrow valleys or basins subject to inversion is extensive.

8. Water Pollution

No points given.

Rationale — Generally where existing Federal, State and local regulations are enforced, the potential for pollution is under control.

An example for this reasoning is where:

1. a sewer plan requires sewerage treatment as a condition concurrent to the placement of water lines; or

2. existing industries are required to tie into sewerage plants and specifically, pre-treat any particularly dangerous wastes.

However, it should be noted that in areas where no sewers are available and no laws require treatment of industrial wastes, a sliding scale of potential water pollution damage should be applied to prospective industries and industrial sites should not be located on streams which are evaluated to have insufficient capacity to absorb industrial wastes.

Factor II — Patterns of Land Holdings and Status of Planning and Land Regulations

1. Property Value/Acre (Costs)

   Owned by local government or development group \hspace{1cm} 10 Points
   Can be Secured by either at No Cost \hspace{1cm} 9 Points
   $1,000/Acre \hspace{1cm} 8 Points
   $2,000/Acre \hspace{1cm} 7 Points
   $3,000/Acre \hspace{1cm} 6 Points
   $4,000/Acre \hspace{1cm} 5 Points
   $5,000/Acre \hspace{1cm} 4 Points
   $6,000/Acre \hspace{1cm} 3 Points
   Over $6,000/Acre \hspace{1cm} 0 Points

Rationale — The costs of the property to be acquired is an important factor because the development costs of an industrial site must be added to raw land costs to determine a sale price.
Industries that desire to locate in any given area will not pay in excess of a certain price for land and development costs. Therefore, although a site may be ideal in other aspects, it could be simply too expensive to successfully market.

2. Number of Property Owners

<table>
<thead>
<tr>
<th>Number of Owners</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local government or nonprofit development group</td>
<td>10 Points</td>
</tr>
<tr>
<td>1 Private Owner</td>
<td>9 Points</td>
</tr>
<tr>
<td>2 Private Owners</td>
<td>8 Points</td>
</tr>
<tr>
<td>3 Private Owners</td>
<td>7 Points</td>
</tr>
<tr>
<td>4 Private Owners</td>
<td>6 Points</td>
</tr>
<tr>
<td>5 Private Owners</td>
<td>5 Points</td>
</tr>
<tr>
<td>Over 5 Private Owners</td>
<td>0 Points</td>
</tr>
<tr>
<td>In Excess of 25 Owners</td>
<td>Zero Minus</td>
</tr>
</tbody>
</table>

Rationale – Excessive numbers of property owners can cause difficulty in the assembly of a total land parcel for industry.

Where local governments do not enjoy the right of eminent domain in relation to land acquisition for industrial purposes, then land purchases must be negotiated.

This means that costs of land can become excessive, or that one owner can delay or prevent the acquisition of a compact parcel.

In areas where ownership is widely scattered, purchases should be avoided, if possible.

3. Status of Zoning

<table>
<thead>
<tr>
<th>Zoning Type</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing Industrial</td>
<td>10 Points</td>
</tr>
<tr>
<td>Existing Agricultural</td>
<td>9 Points</td>
</tr>
<tr>
<td>Existing Commercial (Undeveloped)</td>
<td>8 Points</td>
</tr>
<tr>
<td>Existing Residential (Undeveloped)</td>
<td>7 Points</td>
</tr>
<tr>
<td>Existing Special</td>
<td>6 Points</td>
</tr>
<tr>
<td>Existing Other</td>
<td>5 Points</td>
</tr>
<tr>
<td>Proposed Industrial</td>
<td>4 Points</td>
</tr>
<tr>
<td>Proposed Agricultural</td>
<td>3 Points</td>
</tr>
<tr>
<td>Proposed Residential (Undeveloped)</td>
<td>2 Points</td>
</tr>
<tr>
<td>No Zoning</td>
<td>0 Points</td>
</tr>
<tr>
<td>Refusal of Municipality to Accept Ordinance</td>
<td>Zero Minus</td>
</tr>
</tbody>
</table>

Rationale – Zoning is an essential tool which is designed to protect industrial areas from attack by outside and incompatible uses.

The most ideal solution is to locate an industrial site in an area which is presently zoned for industrial purposes.

A less ideal but still practical solution is to locate the site in an area which is zoned for agricultural purposes (often a “holding” technique in semi-rural areas).

An even less attractive alternative is to locate a site in an undeveloped area scheduled for commercial or residential purposes. In this instance, care must be taken to insure a zoning change will not destroy the fabric of the municipal comprehensive plan or that the introduction of industry into an undeveloped commercial or residential area would be incompatible with obvious future uses.
Municipalities that do not have proposed zoning ordinances cannot protect industrial areas at all. However, the existence of a proposed ordinance would indicate that the potential for protection through zoning exists.

Areas which have had a proposed zoning ordinance for periods longer than two years do not indicate any serious desire to institute them. These areas should be regarded as unprotected and potentially dangerous to investment related to industrial development.

4. Existing Land Use

<table>
<thead>
<tr>
<th>Usage</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unused or Occupied by Random Farm Buildings</td>
<td>10 Points</td>
</tr>
<tr>
<td>10% or less of Site Occupied by Random Residential or Commercial Structures</td>
<td>9 Points</td>
</tr>
<tr>
<td>20% or Less of Site Occupied by Random Residential or Commercial Structures</td>
<td>6 Points</td>
</tr>
<tr>
<td>30% or Less of Site Occupied by Residential or Commercial Structures</td>
<td>4 Points</td>
</tr>
<tr>
<td>40% or Less of Site Occupied by Residential or Commercial Structures</td>
<td>2 Points</td>
</tr>
<tr>
<td>50% or Less of Site Occupied by Residential or Commercial Structures</td>
<td>0 Points</td>
</tr>
<tr>
<td>50% or Over Occupied by Residential or Commercial Structures</td>
<td>Zero Minus</td>
</tr>
</tbody>
</table>

Rationale – An unused site, or one that is occupied by random farm buildings, would obviously be very suited for industrial purposes because there would be a minimal cost associated with acquisition of structures and demolition costs.

As the site becomes more densely built up, the higher the acquisition costs become.

After coverage of a site by residential or commercial structures, a limitation on the capacity of that parcel for industrial use occurs.

If the coverage ranges between 20 and 50 percent, and the development is clustered, whole sections of it will probably be eliminated from consideration.

After a site exceeds 50 percent coverage, there is little reason to consider it as a viable possibility for industrial development, particularly, if the residential or commercial development is scattered throughout the site.

5. Marketability

This factor is answered on a yes/no basis. No point rating is necessary. Preliminary conversations with the property owner(s) would indicate their willingness to sell. If the property owner(s) indicates that he will sell, then this evaluative system assumes that the property is on the market. If the owner(s) states definitely that it is not, then it is assumed not to be on the market and the site is eliminated from further consideration at this time.

The price of the property is evaluated in sub-factor 1 of this factor (Property Value). If an owner says the property is for sale, but quotes an exhorbitant price, that is not considered in this (Marketability) sub-factor. If it is for sale, regardless of the price quoted, then it is kept for further consideration in this item of the survey.
6. Proximity to Support Services

Major Commercial and Service Centers:
- Proximate 20 Miles: 10 Points
- Proximate 10 Miles: 5 Points

Minor Commercial and Service Centers:
- Proximate 10 Miles: 0 Points

Rationale — Many industries require services and supplies provided by independent firms. Industrial sites located near to these service centers obviously expend less time and money meeting their requirements.

7. Proximity to Labor Force

10,000+ Labor Force within 20 Minutes Auto Travel: 10 Points
5,000+ Labor Force within 20 Minutes Auto Travel: 9 Points
10,000+ Labor Force within 30 Minutes Auto Travel: 8 Points
5,000+ Labor Force within 30 Minutes Auto Travel: 7 Points
10,000+ Labor Force within 40 Minutes Auto Travel: 6 Points
5,000+ Labor Force within 40 Minutes Auto Travel: 5 Points
10,000+ Labor Force within 60 Minutes Auto Travel: 4 Points
5,000+ Labor Force within 60 Minutes Auto Travel: 3 Points
Under 5,000 and over 60 Minutes Travel Time: 0 Points

Rationale — The industries which will locate in any industrial site require a labor force to operate their plants. Industries which locate closest to the existing labor pool find it easier to attract employees.

The distinction employed in this sub-factor evaluation between time required to get to work and the size of labor force is strictly arbitrary.

Factor III — Availability of Man-Made Facilities

1. Proximity to Public Utilities

A. Sewer Lines

- On Site: 10 Points
- Abutting Site: 9 Points
- One Mile: 5 Points
- Two Miles: 3 Points
- Three Miles: 1 Point
- Over Three Miles: 0 Points

Rationale — The assumption made in this sub-factor is that the sewer line that is being evaluated is sufficient in size to accommodate the average flows that would be generated by the occupants of the industrial site being evacuated.

Few evaluative factors are more difficult to cope with in this survey than that of sewer service, because of the special needs of various types of industries. However, the expense of laying sewers or providing sewage treatment is always great.

B. Water Lines

- On Site: 10 Points
- Abutting Site: 9 Points
C & D. Gas & Electric Service

<table>
<thead>
<tr>
<th>Distance</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>On Site</td>
<td>5 Points</td>
</tr>
<tr>
<td>Abutting Site</td>
<td>4 Points</td>
</tr>
<tr>
<td>One Mile</td>
<td>3 Points</td>
</tr>
<tr>
<td>Two Miles</td>
<td>2 Points</td>
</tr>
<tr>
<td>Three Miles</td>
<td>1 Point</td>
</tr>
<tr>
<td>Over Three Miles</td>
<td>0 Points</td>
</tr>
</tbody>
</table>

Rationale — The extension of electric and gas lines is the responsibility of the utilities that service a given area. However, negotiations have to be conducted to secure these lines, and time is required to extend them. Thus, a site which has a suitable line on-site or abutting it is in an advantageous position in comparison to a site which would require the extension of lines for one or more miles.

2. Proximity to Transportation

A. Access to a Four Lane Limited Access Highway

<table>
<thead>
<tr>
<th>Access Time</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>On Site or Abutting</td>
<td>10 Points</td>
</tr>
<tr>
<td>Under 5 Minutes</td>
<td>9 Points</td>
</tr>
<tr>
<td>Under 10 Minutes</td>
<td>8 Points</td>
</tr>
<tr>
<td>Under 15 Minutes</td>
<td>7 Points</td>
</tr>
<tr>
<td>Under 20 Minutes</td>
<td>6 Points</td>
</tr>
<tr>
<td>Under 30 Minutes</td>
<td>5 Points</td>
</tr>
<tr>
<td>Under 40 Minutes</td>
<td>4 Points</td>
</tr>
<tr>
<td>Under 50 Minutes</td>
<td>3 Points</td>
</tr>
<tr>
<td>Under 60 Minutes</td>
<td>2 Points</td>
</tr>
<tr>
<td>Over 60 Minutes</td>
<td>0 Points</td>
</tr>
</tbody>
</table>

B. Access to Two or Four Lane Arterial

<table>
<thead>
<tr>
<th>Access Time</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>On Site or Abutting</td>
<td>10 Points</td>
</tr>
<tr>
<td>Under 5 Minutes</td>
<td>9 Points</td>
</tr>
<tr>
<td>Under 10 Minutes</td>
<td>8 Points</td>
</tr>
<tr>
<td>Under 15 Minutes</td>
<td>7 Points</td>
</tr>
<tr>
<td>Under 20 Minutes</td>
<td>6 Points</td>
</tr>
<tr>
<td>Under 30 Minutes</td>
<td>5 Points</td>
</tr>
<tr>
<td>Under 40 Minutes</td>
<td>4 Points</td>
</tr>
<tr>
<td>Under 50 Minutes</td>
<td>3 Points</td>
</tr>
<tr>
<td>Under 60 Minutes</td>
<td>2 Points</td>
</tr>
<tr>
<td>Over 60 Minutes</td>
<td>0 Points</td>
</tr>
</tbody>
</table>

C. Proximity to Access Roads

<table>
<thead>
<tr>
<th>Location</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>On Site</td>
<td>5 Points</td>
</tr>
<tr>
<td>Abutting Site</td>
<td>2 Points</td>
</tr>
<tr>
<td>None</td>
<td>0 Points</td>
</tr>
</tbody>
</table>

Rationale — Availability of adequate highway transportation has become one of the key factors in the transfer of manufactured goods. Areas which are proximate to good highways, flourish.
Access to four lane limited access highways is particularly important because these roads are part of, or are connected directly to, the Interstate system. This provides a direct connection to much of the rest of the nation and reduces travel times accordingly.

Access to the two and four lane arterials mainly serving within an area are of the less valuable because these roads are often congested and travel times to the limited access network is increased accordingly.

D. Rail Lines

- On Site: 10 Points
- Abutting Site: 5 Points
- None: 0 Points

Rationale — Rail Lines are an absolute necessity to manufacturers using certain bulk raw materials which are carried by rail because of costs. The provision of rail service to an undeveloped parcel of land can be very expensive even if the rail line abuts the site and only a spur is needed.

A site which has access to multiple forms of transportation is obviously much more flexible in the uses to which it can be put, thus its value is enhanced.

E. Access to Navigable Waterways

- Abutting the Site — Dock in Place: 10 Points
- Abutting Site — No Dock: 5 Points
- None: 0 Points

Rationale — Access to a navigable waterway is a necessity to some types of manufacturers and enhances the flexibility of any potential site. Dock facilities are expensive and require time to build. Therefore, a site on a navigable waterway with a dock in place is obviously valuable.

Assignments of points to industrial sites with water access is a difficult task, because only a limited number of manufacturers need them. However, to ignore this advantage which is available to certain sites would negate some of their additional value.

Dock facilities can be expensive.

F. Airports

- Commercial Airport and/or Business Jet Service
  - Proximate: 5 Points
  - Under 10 Minutes Travel: 4 Points
  - 10 – 20 Minutes Travel: 3 Points
  - 20 – 30 Minutes Travel: 2 Points
  - Over 30 Minutes Travel: 1 Point
  - Over 60 Minutes Travel: 0 Points

Rationale — Access to an airport which provides commercial service or business jet landing privileges is an asset to the location of an industry, particularly a "branch" plant of a national corporation.

To facilitate scoring, a Sample Evaluation Record Sheet is made a part of this appendix.
### Sample Evaluation Record Sheet

#### Site Score

<table>
<thead>
<tr>
<th>Total Points This Site</th>
<th>Possible Points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical Environment</strong></td>
<td></td>
</tr>
<tr>
<td>Site Size</td>
<td></td>
</tr>
<tr>
<td>Slope</td>
<td></td>
</tr>
<tr>
<td>Coastal Conditions</td>
<td></td>
</tr>
<tr>
<td>Soil Quality</td>
<td></td>
</tr>
<tr>
<td>Flood Potential</td>
<td></td>
</tr>
<tr>
<td>Air Pollution Potential</td>
<td></td>
</tr>
<tr>
<td><strong>Planning &amp; Land Regulation</strong></td>
<td></td>
</tr>
<tr>
<td>Property Value</td>
<td></td>
</tr>
<tr>
<td>Property Ownership</td>
<td></td>
</tr>
<tr>
<td>Zoning Type</td>
<td></td>
</tr>
<tr>
<td>Existing Land Use</td>
<td></td>
</tr>
<tr>
<td>Marketable (for sale)</td>
<td></td>
</tr>
<tr>
<td>Proximity</td>
<td></td>
</tr>
<tr>
<td>Urban Services</td>
<td></td>
</tr>
<tr>
<td>Labor Force</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Max. Pts</th>
<th>Pts. this Site</th>
<th>Man-made Facilities</th>
<th>Max. Pts</th>
<th>Pts. this Site</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Water Transportation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Airport Access</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rail Access</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4-Lane Highway Access</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3-Lane Highway Access</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Access Road on Site</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Water Lines</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sewer Lines</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Electric Service</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gas Service</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Available Public Transit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Preliminary Costs

<table>
<thead>
<tr>
<th>Preliminary Costs</th>
<th>Land Purchase Costs</th>
<th>Development Costs</th>
</tr>
</thead>
</table>

#### Total Costs

<table>
<thead>
<tr>
<th>Clearing &amp; Grubbing</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stripping</td>
<td></td>
</tr>
<tr>
<td>Moving &amp; Compaction</td>
<td></td>
</tr>
<tr>
<td>Access Road</td>
<td></td>
</tr>
<tr>
<td>Railroad Access</td>
<td></td>
</tr>
<tr>
<td>Water Line</td>
<td></td>
</tr>
<tr>
<td>Sewer Line</td>
<td></td>
</tr>
</tbody>
</table>

| Total | $ |

---

203
APPENDIX V

MARYLAND DIVISION OF BUSINESS & INDUSTRIAL DEVELOPMENT
2525 Riva Road
Annapolis, Maryland 21401

INDUSTRIAL SITE NO. ___

<table>
<thead>
<tr>
<th>LOCATION</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Town/City</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location/Address</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present Use of Site</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zoning</td>
<td></td>
<td>Sur. Land Use</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SIZE</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Acreage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj. Acreage Avail.</td>
<td></td>
<td>Useable Bldg.(s) on Site?</td>
</tr>
<tr>
<td>Useable Bldg.(s) on Site?</td>
<td></td>
<td>Total sq. ft.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NATURAL CHARACTERISTICS</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil: Subsoil Type</td>
<td>Weight Bearing Capacity</td>
<td>lbs./sq.ft.</td>
</tr>
<tr>
<td>Drainage: % Subject to Flooding</td>
<td>Water Table Depth</td>
<td>ft. Vegetation: % Clear</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TRANSPORTATION</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Roads: Length of Rd. Frontage ft. Type of Access Road</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width ft. Rt. # and dist. of nearest maj. hwy. access</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rt. # and dist. of nearest interstate access</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rail: Length of Rail Frontage ft. Distance to Rail</td>
<td>R.R. Name</td>
<td></td>
</tr>
<tr>
<td>Siding on Site?</td>
<td>If yes, car capac.</td>
<td>If no, cost to extend per ft.</td>
</tr>
<tr>
<td>Water: Length of water frontage ft. Depth at site ft. Dist to channel</td>
<td>ft.</td>
<td></td>
</tr>
<tr>
<td>Channel depth ft.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UTILITIES</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dist. from Bldg.</td>
<td>Size/Capacity</td>
<td>Cost to Extend</td>
</tr>
<tr>
<td>Electricity:</td>
<td>volts</td>
<td>per ft.</td>
</tr>
<tr>
<td>Water: Munic.</td>
<td>&quot;Main&quot; p.s.i.</td>
<td>per ft.</td>
</tr>
<tr>
<td>Well</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sewer: Munic.</td>
<td>&quot;Main&quot;</td>
<td>per ft.</td>
</tr>
<tr>
<td>Septic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural Gas:</td>
<td>&quot;Main&quot;</td>
<td>per ft.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MISCELLANEOUS</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe any planned development or existing improvements affecting site value, access, etc.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Photos/Plats/Maps Enclosed (Circle). If not, sketch property on reverse of sheet.
<table>
<thead>
<tr>
<th>CONTACTS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sale Price:</td>
<td>Lease Price:</td>
</tr>
<tr>
<td>Owner:</td>
<td>Address</td>
</tr>
<tr>
<td>Agent:</td>
<td>Address</td>
</tr>
<tr>
<td>Listed by</td>
<td>Date</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SKETCH GRID</th>
<th></th>
</tr>
</thead>
</table>

[Grid image]
**APPENDIX VI**

**MARYLAND DIVISION OF BUSINESS & INDUSTRIAL DEVELOPMENT**

2525 Riva Road

Annapolis, Maryland 21401

**INDUSTRIAL BUILDING NO.** __

<table>
<thead>
<tr>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Town/City</td>
</tr>
<tr>
<td>Name/Address</td>
</tr>
<tr>
<td>Most Recent Use of Bldg.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Sq. Ft.</td>
</tr>
<tr>
<td>Office Area</td>
</tr>
<tr>
<td>Min. Sq. Ft. Avail.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SPECIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of Construction</td>
</tr>
<tr>
<td>Floor: Type</td>
</tr>
<tr>
<td>Heat</td>
</tr>
<tr>
<td>Elevators: Freight (no.)</td>
</tr>
<tr>
<td>Truck: No. Docks</td>
</tr>
<tr>
<td>Loading Platform?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TRANSPORTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roads: Length of Rd. Frontage</td>
</tr>
<tr>
<td>Width</td>
</tr>
<tr>
<td>Rail: Length of Rail Frontage</td>
</tr>
<tr>
<td>Siding on Bldg?</td>
</tr>
<tr>
<td>Water: Length of Water Frontage</td>
</tr>
<tr>
<td>Channel depth</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UTILITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity:</td>
</tr>
<tr>
<td>Water: Munic.</td>
</tr>
<tr>
<td>Well</td>
</tr>
<tr>
<td>Sewer: Munic.</td>
</tr>
<tr>
<td>Septic</td>
</tr>
<tr>
<td>Natural Gas:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MISCELLANEOUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe any planned development or existing improvements affecting building value, access, etc.</td>
</tr>
</tbody>
</table>

Photo/Floor Plan/Map Enclosed (Circle). If not, sketch floor plan and lot boundaries on reverse of sheet.

---

206
APPENDIX VII

PLANT REQUIREMENTS CHECKLIST

| Firm: | | NOTICE: This sheet is for use as a guide to assist you in site selection. It will be treated confidentially. If you wish the name of your firm withheld until a later date, please check: |
| Address: | | No, Yes |
| City: | State: | |
| Tel. No: | | |
| Officer: | Address for Contact: | Tel: |
| City: | State: | |
| Product(s) to Be Manufactured: | |

Requirements

Physical Properties - Building

New construction building___ Existing building___ Consider either___

Size (sq. ft.): Production_____ Offices _____ Warehouse & Other____

Dimensions: Production_____ Offices_____, Warehouse & Other____

Kind of Construction: (X) Brick___, Concrete block___, Steel___, Prefab____

Floor: Reinf. Conc._____, Floor load/sq. ft.____, Other____

Min. Size Bays: Production_____ Offices_____, Other____

Loading Platforms: For____ R.R. cars, for_____ Trucks, wells for___ trks

Boilers: Number_____, Totaling_____, H.P.

Sanitary Facilities For: M._____, F._____.

Air Conditioning: (X) Production_____, Offices_____, Other____

Sprinkler System: (X) Production_____, Offices_____, Other____

Material Handling: O. H. Cranes-No._____, Capacity (Tons)_____

Maximum price: $_______ per square foot.

Site

Number of Acres: Minimum_____, Maximum_____

Location: (X) on-Railroad_____ Highway_____, Waterway_____

Discharge of plant effluent__________

Surface or ground water for processing_________

Rail Spur: (X) None______, Implant______, Outside_____

No. of Tracks_____

208
## PLANT REQUIREMENTS CHECKLIST

### Continued

### Utilities

#### Electric
- **Type of service:** Phase, Volts
- **Max. demand:** KW, Monthly Consumption kwh,
- **Metering desired:** (X) Secondary, Primary

#### Fuel
- **Type of service:** (X) Natural Gas, Oil, L.P. Gas, Other
- **Interruption tolerance:** (hours) Standby fuel required
- **Monthly consumption/unit of measure:** Heating, Processing
- **Type of gas contract:** (X) Interruptable, Non-interruptable

### Water
- **Availability from:** (X) Municipal, Wells, Surface, Impounded
- **Est. quantity:** Sanitary M.Gal./Mo, Processing M.G.D. (or M.G./mo)
- **Chemical tolerance acceptable:**
- **Analysis of plant waste:**

### Transportation
- **Service:** (X) Rail, Motor Carrier, Air, Water-Imports
- **Est. Annual Tonnage:** Inbound-Rail, Truck, Water
- **Outbound-Rail, Truck, Water**
- **Points of origin (annual tons) from:**

### Personnel

#### Administration & Office
- **Male**, Female

#### Production
- **Initially-Male**, Female, One-Year-Male, Female
- **Classification:** Skilled %, Semi-Skilled %, Unskilled %
- **Special skills:**
- **Training program desired:**

### Financing

- **Est. investment:** Physical properties $, Equip.-$, Other
- **Financing Req.:** (X) None, Land & Buildings, Other
- **Type of lease--if financed:** (X) Straight lease, Lease purchase, Other
- **Term of lease desired--years:**

### Area

- **Geographic Area Desired:**
- **Community size Desired:**
- **Special or Personal Requirements:**

---

209
APPENDIX VIII

A FEASIBILITY STUDY SAMPLE

PLASTICS MOLDINGS: S.I.C. 3079

PRODUCT DESCRIPTION Plastics moldings, using the injection molding process, consisting of finished products for consumers and finished products or components for user industries.

A. GENERAL EVALUATION OF PROSPECTS

This industry needs skilled management, a modest requirement for highly skilled labor, and active sales promotion. For most manufacturing operations, little skill is necessary and operators can be easily trained. Technical and economic considerations necessitate fairly large-scale operation, and capital requirements are rather high, though plant is small by U. S. standards. Technical changes are important in this industry and necessitate continuing attention to technique. Advantages of industry are that demand for plastic products is increasing and wide range of products that can be manufactured makes industry readily adaptable to variations in demand in different places and at different times. Injection technology is the basis of plastics processing. Injection machinery is expensive, however, and, depending on capacity, one production line will cost from $40,000 to $200,000. Molds average $5,000 per item. These two components make medium-sized runs essential to spread costs over many items. The lower range of run length is perhaps 3,000 items. Technology is fairly complex, and the machines have many variables in their operation. A minimum-sized shop of two 1602 injection machines plus all peripheral equipment would need more than a $150,000 investment.

B. MARKET ASPECTS

1. USERS

Plant can produce finished products for consumers, e.g., tableware, ashtrays, toys, and articles for use by many industries, e.g., cases for television and radio sets, clocks, razors, lipsticks, etc., knobs for radios, keys for business machines, bottles, bottle tops, dispensers. New products are constantly being introduced in automobiles and furniture.

2. SALES CHANNELS AND METHODS

Sales of finished consumers' products to wholesalers or large retailers. Sales of industrial components usually direct to user industries. Since new uses are constantly being found for plastics moldings, it is important to have good salesmen.

3. GEOGRAPHICAL EXTENT OF MARKET

Products are easily handled and transport costs are not burdensome. Potential domestic market usually nationwide.

4. COMPETITIVE SITUATION

a. Domestic Market. Plastic products are very largely substitutes for similar products made of wood, metal or ceramics, and their competitive position usually depends very much on their price in relation to that of goods for which they are substitutes, though for some uses they may have superior qualities. For cheap tableware, for example, plastics have advantage over ceramics of being less easily broken or chipped. Competition from imports is likely to be keen, and machinery with the highest rates of production may be required to meet competition.

b. Export Market. International competition very keen. Plant described might make some foreign sales but would normally be unable to compete in general international trade.

5. MARKET NEEDED FOR PLANT DESCRIBED

Some plastic products fall within category of commonly used household articles, e.g., tableware. Many plastic products are used as components of articles, e.g., radio sets. Possible uses for plastics moldings are so numerous and character of demand for them so varied that no general indication of market limitations for this plant can be given in terms of population or otherwise. Investigation of feasibility of finding market for plant's output requires thorough examination of existing production capacity, if any, and survey of possibilities of substituting plastics moldings for other materials in articles in common use. Regardless of the products to be produced, the plant must be prepared to produce and sell approximately 650,000 pounds of plastic products.
C. PRODUCTION REQUIREMENTS

ANNUAL PRODUCTION – THREE-SHIFT OPERATION: – 648,000 Pounds

It should be understood that the figures on this chart are for illustration only. Machinery, wage, and raw materials cost as well as the relationship between them constantly change.

1. CAPITAL REQUIREMENTS

a. FIXED CAPITAL
   (1) Land $1,000
   (2) Building
      One-story, about 3,500 sq. ft. floor space, approx. 50 ft. by 70 ft. May be built of any suitable local material. $21,000
   (3) Equipment, Fixtures and Furniture
      Principal items: Two injection molding machines, air compressor, drill press, band saw, engine lathe, counting scale, oven, granulator, milling machine, dies, die stock. $88,120
      (a) Production tools & equipment $82,780
      (b) Other tools & equipment 1,000
      (c) Furniture and fixtures 840
      (d) Transportation equipment 3,500
      Total Fixed Capital $110,120

b. WORKING CAPITAL
   Direct Materials 90 $36,000
   Direct Labor, Mfg. Overhead (a) 60 $23,700
   Admin. & Sales Costs (b), Contingencies 30 $5,200
   Training Costs 2,700
   Total Working Capital $67,600

c. TOTAL CAPITAL $199,720

2. MATERIALS AND SUPPLIES

a. Direct Materials
   Polyethylene $34,220
   Polystyrene 4,000
   Total annual consumption 648,000 lbs. $129,600

b. Supplies
   Dies $150
   Maintenance materials & repair parts 150
   Lubricants 150
   Hand tools 200
   Office supplies $38,720
   Total

c. Availability of Materials and Supplies
   All are readily available in national markets. However, if petroleum shortages continue, it may be necessary to look closely at plastic raw materials sources. Dies for each product must be designed and made to fit machines on which used. Plant should be equipped to make own simple dies.

3. POWER, FUEL, WATER

a. Electric Power
   Connected load about 100 h.p. $9,000
b. **Fuel**
Steams needed to heat plastic, also for general purposes. Any locally available boiler fuel may be used. Boiler purchased should be adapted to fuel chosen. $ 1,800

c. **Water**
About 15 gals. a minute needed to cool molds in production. $ 1,500

4. **TRANSPORTATION**

a. **Own Transport Equipment**
1-ton pick-up truck

b. **External Transport Facilities**
Total in and out shipments about 60 tons a month. Therefore no special external transport facilities necessary.

5. **MANPOWER Three-shift Operation**

a. **Direct Labor**
   - Skilled workers 1  $ 10,000
   - Semiskilled workers 1  7,000
   - Unskilled workers 10  55,000
   - Total 12  $ 72,000

b. **Indirect Labor**
   - Manager 1  $ 13,000
   - Office staff 2  10,000
   - Other 1  4,000
   - Total 4  $ 27,000

c. **Shift Operation**
Manager works with unskilled labor setting up the work and making molds during day-shift. Skilled worker and semiskilled worker supervise other two shifts.

d. **Training Needs**
Manager should be fully experienced in plastics molding. Making of molds requires high degree of skill. Remaining work can be satisfactorily done by unskilled workers with few days' training. Plant should reach full production within a month.

6. **TOTAL ANNUAL COSTS AND SALES REVENUE**

a. **Annual Costs**
   - Direct Materials  $129,600
   - Direct Labor  72,000
   - Manufacturing Overhead (a)  78,520
   - Admin. & Sales Costs (b), Discts., Bad Debts, Contingencies  69,920
   - Depreciation on Fixed Capital  7,700
   - Total  $357,740

b. **Annual Sales Revenue**  $379,200

**NOTES**

(a) Includes Supplies, Power, Fuel, Water, Indirect Labor.

(b) Includes Interest, Insurance, Legal & Audit Charges, Sales Commission, Travel, Freight Out.
BIBLIOGRAPHY


Colorado Interstate Gas Company, *Your Town ... And What To Do With It!* Colorado Interstate Gas Company, Colorado Springs, Colorado.


Erickson, Donald B. and Wayne W. Owens, "Tools and Techniques Available for Community Development Work," *Great Plains Community Development*, Leaflet No. 4. Great Plains Agricultural Council, Kansas State University, Manhattan, Kansas.


Hansen, Niles M., *Factors Determining the Location of Industrial Activity in Metropolitan and Nonmetropolitan Areas*. University of Texas, 1972.


Hudson Institute, *A Second Synoptic Context (and Executive Summary) for Discussing the '70's and '80's*. Hudson Institute, Croton-on-Hudson, New York, February 1972.


Ohio, State of, *Community Development Series (8)*. Economic Research Division, Development Department, State of Ohio, Columbus, Ohio.


217


