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AN ECONOMIC DEVELOPMENT PROGRAM FOR OKLAHOMA

A DISSERTATION
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degree of
DOCTOR OF PHILOSOPHY

BY
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Norman, Oklahoma
1969

AN ECONOMIC DEVELOPMENT PROGRAM FOR OKLAHOMA

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Chapter I

AN ECONOMIC DEVELOPMENT PROGRAM FOR OKLAHOMA

"If a man is indolent, let him be poor. If he is drunken, let him be poor. If he is not a gentleman, let him be poor. If he is addicted to the fine arts or to pure science instead of to trade and finance, let him be poor.

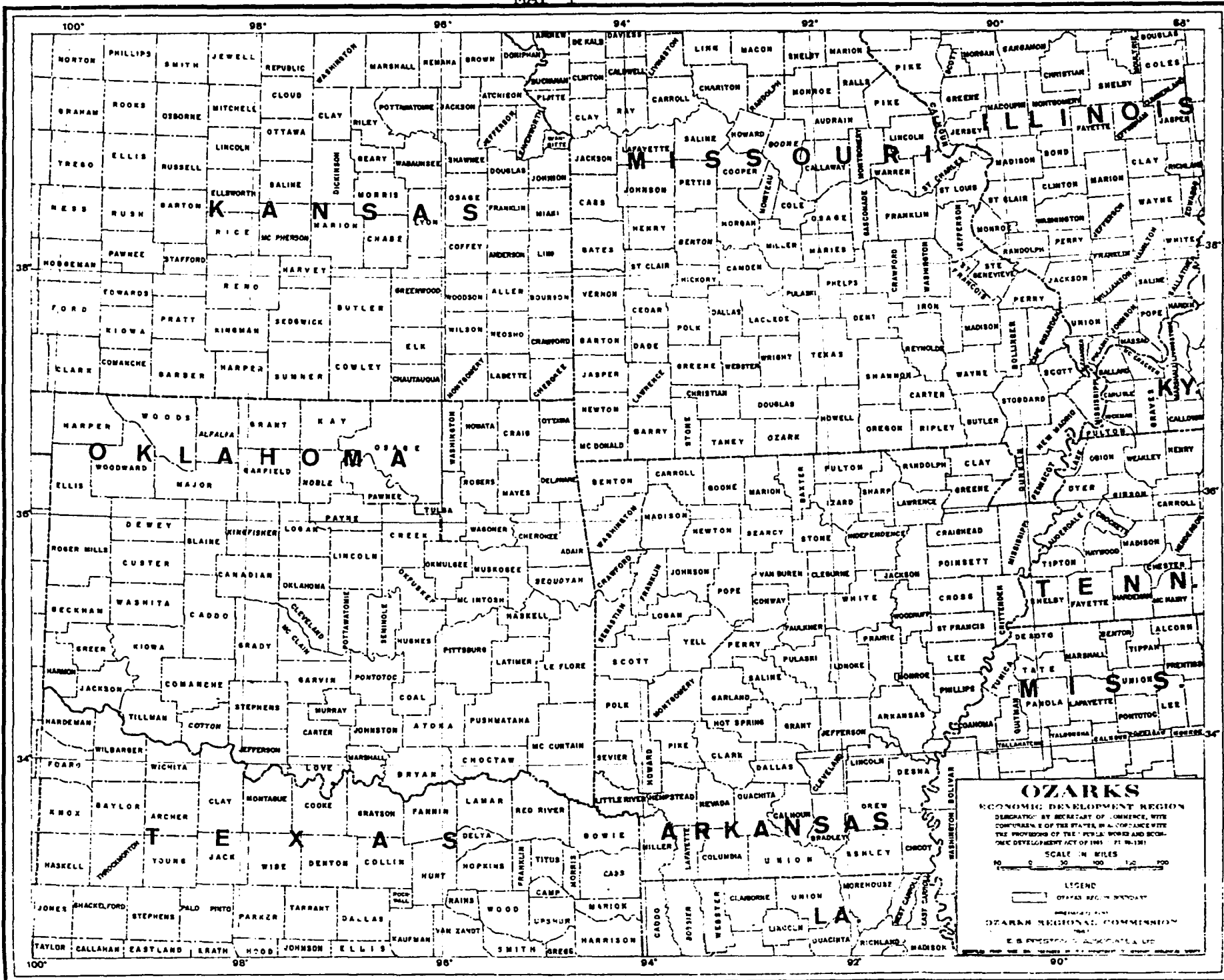
"Now what does this Let Him be Poor mean? It means let him be weak. Let him be ignorant. Let him become a nucleus of disease. Let him be a standing exhibition and example of ugliness and dirt. Let him have rickety children. Let him be cheap and let him drag his fellows down to his own price by selling himself to do their work. Let his habitations turn our cities into poisonous congeries of slums. Let his daughters infect our young men with the diseases of the streets, and his sons revenge him by turning the nation's manhood into scrofula, cowardice, cruelty, hypocrisy, political imbecility, and all the other fruits of oppression and malnutrition. Let the undeserving become still less deserving; and let the deserving lay up for himself, not treasures in heaven, but horrors in hell upon earth."

(George Bernard Shaw in his Preface to Major Barbara)

INTRODUCTION

These acid comments by George Bernard Shaw vividly portray a social and economic consciousness that was prevalent at the turn of the century. Although this laissez-faire economic and social Darwinism is still discussed and occasionally advocated, it is no longer acceptable to the majority of the people of this nation. The American people have recognized and assumed through the mechanisms of their government a common responsibility to insure and to maintain the economic and social well-being of all American citizens. This assumption of responsibility has been taken by the American people over a period of six decades.

During these six decades since the period described by Shaw in Major Barbara, a vast number of natural, social, technological and economic crises have unfolded. These events and phenomena have served to broaden the public's perception of the magnitude and complexities of their common social and economic needs. These events have also



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functioned as catalytic forces that crystalized broad demands for a public sharing of what came to be regarded as collective responsibilities.

As the responsibilities and authority of the public sector were expanded, there have been major alterations in the structure and operation of government itself. There have been changes, expansions and eliminations of many traditional programs. Simultaneously, there has been a creation of new programs, large increases in expenditures and the institution of new forms of administrative control. All of these aforementioned events and changes have been interrelated and have exercised strong influences on the quality and quantity of economic growth of this nation and the individual regions and states.

The assumption of public responsibilities has probably been most dramatic at the national level. There a vast array of programs has been conceived and written into national legislation. This aggressive role by the national government has been precipitated by the inaction and often impotence of

state and local governments. Also, the national economy, as opposed to state or regional economies, has been the primary focus of economic thinking in both academic and political communities for the past three decades.

This thought, while generally ignoring the sub-national economy, has beneficially served to identify and examine a wide range of national economic issues and maladies. Further, because of this focus of thought, a series of studies has revealed a variety of economic interrelationships that have served as the basis for the formulation of a number of national economic goals and policies. Because of the discernment of these economic interrelationships, monetary and fiscal tools have been developed and refined, and are now being used in the public sector to institute and maintain the policies necessary to achieve these national goals.

In simplistic terms, at the national level, these tools for management of the total economy and the maintenance of aggregate prosperity have been conceived and based on the assumption that there is

a clear and quantifiable relationship between the economic well-being of the nation and the total quantity of new investment by the public and private sectors. This new, or Keynesian, fiscal policy dictates that if total private investment is insufficient to produce the desired national economic well-being and growth rates, it is the responsibility of the public sector to make sufficient public investments. Further, such policy can theoretically work in reverse to reduce inflationary effects and slow the economy. With increasing sophistication, this rather simple concept of national economic management has been applied in the United States for over three decades.

Inadequate attention, however, has been given to the development of techniques for the management of the economies of individual states or regions or the development of systematic procedures for regional economic development. In part, this is because national economic policies have been formulated and implemented on the assumption that if the economy of the nation as a whole is growing, the small sub-

national economies will also grow. Yet, the use of the existing national development policies has induced dissimilar rates of growth in both income and in population among and between the individual regions and states. Such is the case with the Ozarks Region and the State of Oklahoma.¹ (Map 1) The Ozarks area, while economically expanding in absolute terms, has not been able to maintain its relative position with the national economy.

Thus, it is imperative that techniques of development for regional and sub-national economies, such as the Ozarks Region, be formulated, validated and implemented. Unless the academic and political communities focus on those sub-national economies, such as the Ozarks Region, that have demonstrated poor economic performance for long periods of time, these areas will continue to be unable to adjust to secular changes which affect their economic well-being.

¹For the purposes of this study, the Ozarks Region is defined as those counties that comprise the Ozarks Regional Commission. The Ozarks Regional Commission was created under the Public Works and Economic Development Act of 1965.

The need for sound economic planning and economic development programs in these underdeveloped regions, such as Oklahoma, is a cause for national concern for two reasons:

1. The relatively low rates of output and employment growth in these underdeveloped regions act as a drag on national rates of growth.
2. The quality of life offered by these regions to their inhabitants is likely to be significantly lower than that enjoyed by the rest of the nation, and this has worked to induce these people to outmigrate in search of opportunities.

Purpose of this Study

Oklahoma is an area of the United States that has for several decades experienced acute underdevelopment. The region was plagued by the Great Depression of the 1930's, the dust bowl and a debilitating outmigration that was portrayed by John Steinbeck in The Grapes of Wrath. This under development manifests itself in a variety of areas that will be discussed and detailed in subsequent sections

of this chapter.

Yet, irrespective of its past, the state has the resources and potential for a strong and prosperous economic future. There are large quantities of untapped energy sources (coal, oil, natural gas). By July, 1970, Tulsa, Oklahoma will be connected to ocean water transportation by the canalization of the Arkansas-Verdigris Rivers. A series of major arterial corridors connect Oklahoma with the urban populated market centers of Midwestern America. (Map 2) Further, within the past decade the people of the state have worked to make a series of public investments in a wide arena of areas that include public works, health, education and recreation. Indeed, these are only a few of the resources that reflect the development potentials of this region and are the source for a beginning of what remains to be accomplished.

As subsequent sections will indicate, Oklahoma is in a period of economic transition from a rural and underdeveloped economy to a growing, prosperous, urban and industrialized area. Because of the

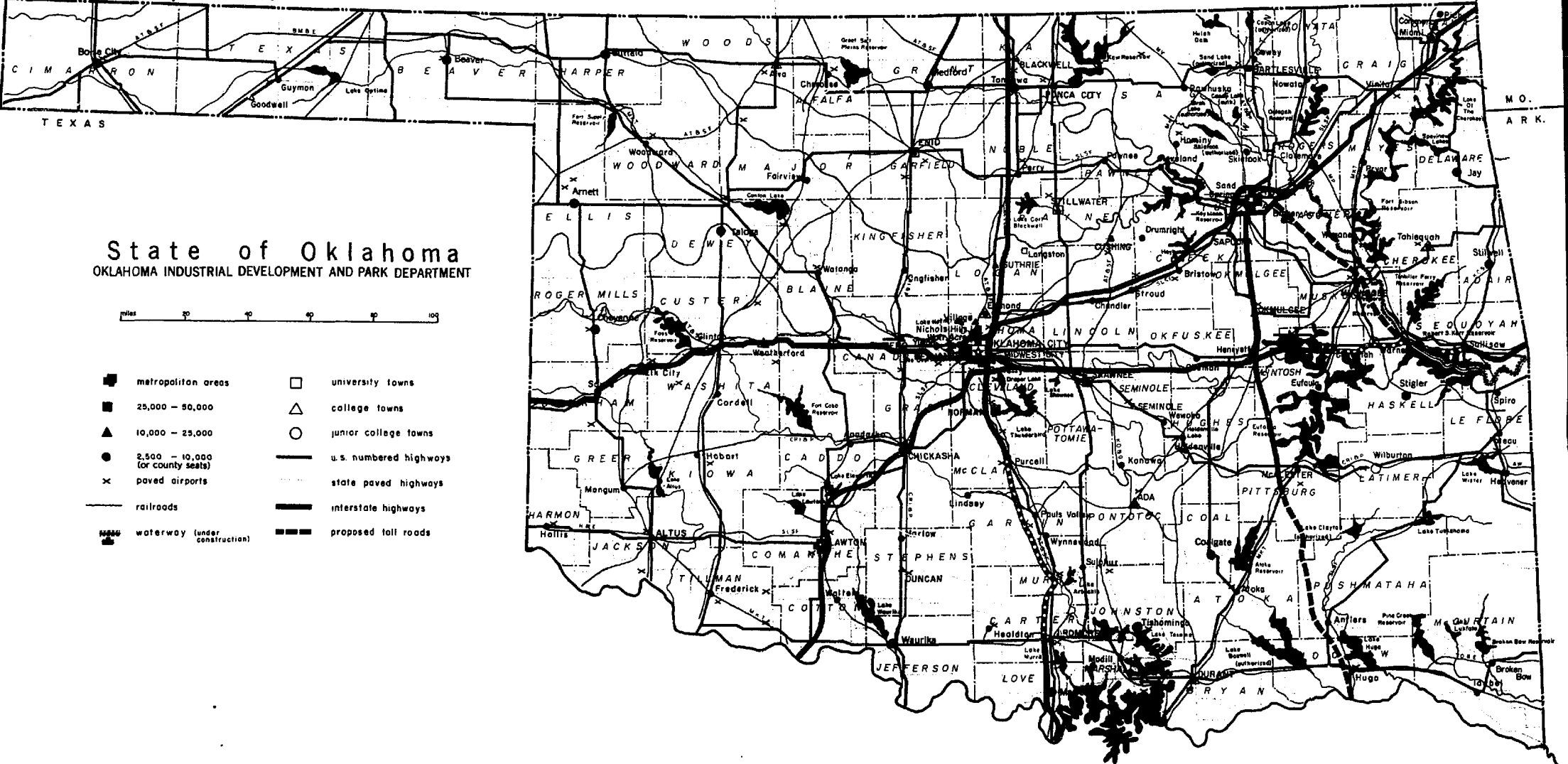
MAP 2

MAJOR HIGHWAYS IN THE STATE OF OKLAHOMA

COLORADO

KANSAS

N. M.



State of Oklahoma
 OKLAHOMA INDUSTRIAL DEVELOPMENT AND PARK DEPARTMENT



- | | |
|------------------------------------|--------------------------|
| ■ metropolitan areas | □ university towns |
| ■ 25,000 - 50,000 | △ college towns |
| ▲ 10,000 - 25,000 | ○ junior college towns |
| ● 2,500 - 10,000 (or county seats) | — u.s. numbered highways |
| ✕ paved airports | — state paved highways |
| — railroads | — interstate highways |
| — waterway (under construction) | — proposed toll roads |

complexities appendant in this development and the necessity that the resultant growth proceed in an orderly manner, it is imperative that public resources be efficiently and effectively allocated through careful planning. It is therefore appropriate that a careful appraisal be undertaken of Oklahoma's economic development goals, policies, strategies and programs. Therefore the purpose of this study is as follows:

1. To investigate select factors involved with the formulation and implementation of a statewide development program.
2. To prepare a strategy and program of economic development for the State of Oklahoma that will include select recommendations for the modification of existing programs, creation of new programs and implementation of demonstration programs to accelerate the state's economic growth. These recommendations will be based on existing institutional, financial and political structures.

This study will be divided into five chapters. This first chapter, in addition to providing the rationale for this suggested program, will present background information on development planning in Oklahoma and a summary quantification of the extent of Oklahoma's underdevelopment.

The second chapter will present a "strategy" for Oklahoma's economic development. This strategy for development will include economic goals which Oklahoma could achieve. Further, this strategy will indicate a series of actions necessary for the state to achieve these goals of development.

The third chapter will present a series of proposals for research, technical assistance and demonstration projects that will serve to formulate new techniques of development. Because of the lack of attention to the problems of underdeveloped regions, relatively little is known concerning the mechanisms of developing sub-national economies. The purpose of these projects will be to identify significant regional economic interrelationships

to develop specific and systematic action programs of growth for underdeveloped areas in Oklahoma and the Ozarks Region. These programs are of such a nature, however, that their applicability is not limited to this geographic area. It is hoped that several of these projects can point the way to new national and state legislation on development and serve as the basis for the alteration and refocusing of several existing national and state programs.

The fourth chapter of this study will include a preliminary set of recommended capital investments for the continued economic development of Oklahoma. This set of recommended capital investments is a limited enumeration. This initial set of recommended capital investments will include the fields of occupational training, highways and airports. The limitation to these three areas is made to conform to the state planning effort which has undertaken work in these three functional areas.

The fifth chapter of this recommended program will present a summary and conclusions. This chapter

will summarize the salient points presented in this study and those conclusions that might be drawn.

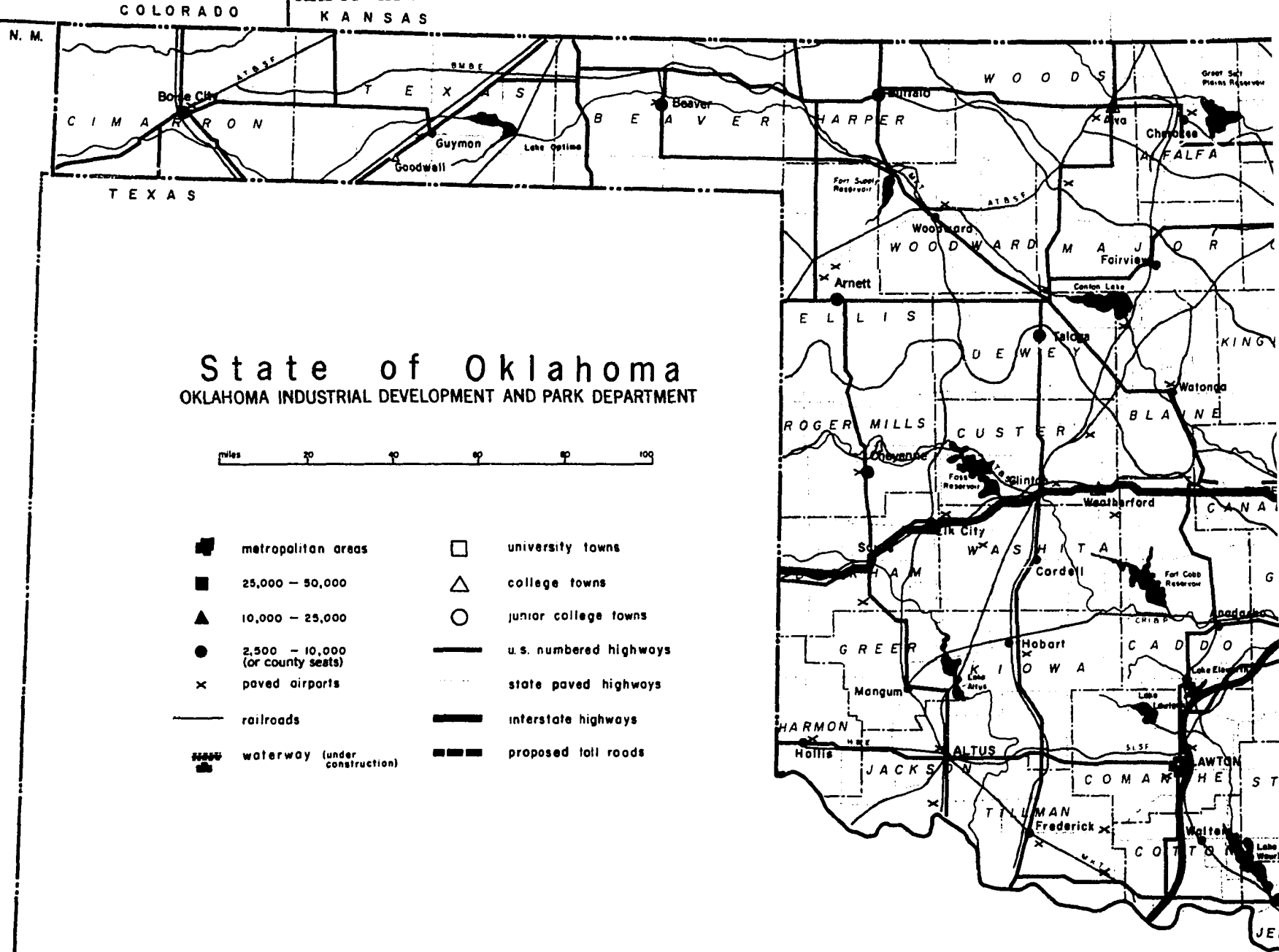
A Brief History of Economic Planning in Oklahoma and Other Selected States.

The national conservation movement, begun during the early 1900's, was the first stimulus for widespread planning on the part of individual states. During this period, many states took stock of their natural resources and put into legislation and administrative practices a series of measures for the protection of public lands, for river pollution control, for game protection, for forest preservation and for prevention of waste of oil and gas.

As a consequence of this national conservation interest, several states established conservation and development departments. The immediate results of these departments were increased interest in more efficient management of the states' physical resources. However, this emphasis on comprehensive management of physical resources pointed to the need for overall planning of state programs.

MAP 2

MAJOR HIGHWAYS IN THE STATE OF OKLAHOMA



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Although the conservation movement was instrumental in the evolution of the state planning, it was not until the early 1920's that modern state planning was initiated. This modern era began in 1923 when New York State established a temporary Commission on Housing and Regional Planning.² This organization was directed to undertake not only housing studies but also to focus on the state's economic development. In addition, this Commission prepared recommendations on the need for a central state planning agency. Subsequently, similar commissions were formed in New Jersey, Wisconsin, Illinois, North Carolina and Virginia. However, much of the work of these agencies was focused on promoting metropolitan planning and providing technical assistance to local planning agencies.

Ironically, the largest stimulus to state planning was the Great Depression. In that troubled

²Violi, Louis C., "The Nature and Function of the State Comprehensive Plan," An unpublished paper, School of Urban and Regional Planning, University of Oklahoma, Norman, Oklahoma, 1966. Hereafter cited as Violi.

time, there were pressing needs for programs of development and, correspondingly, a short supply of funds for the support of these programs. The "New Deal" programs dramatized the need for state governments to identify and coordinate public works and other public projects that could use the vast pools of unemployed labor. It was these problems and pressures that gave birth to modern state planning and development programs.

On July 20, 1933, the Public Works Administration appointed a National Planning Board for the purpose of stimulating city, regional and state planning. Subsequently, this Board recommended the immediate organization of state planning boards within each of the 48 states. As a further stimulus for action, the Public Works Administration allotted funds to the individual state planning agencies for the employment of consultants.³

³University of Oklahoma Research Institute, Design Study for the State Plan of Oklahoma, Nov., 1967. Hereafter referred to as Design Study.

After the establishment of the National Planning Board, 13 states immediately established official state planning agencies. By the spring of 1938, 45 states had established state planning boards.⁴ Unfortunately, these boards were relatively ineffective in establishing long range development programs. Rather, the early boards began and ended their efforts in noncontroversial, fact-gathering activities. Thus, the primary legacy of these early state planning and development efforts is a fine and often useful set of basic data on natural resources and some limited information on the human and economic resources of that era.

With the United State's involvement in the Second World War, the interests of the nation shifted from domestic to international problems. Consequently, the state planning activities of most states were diminished.

During the latter part of the Second World War, interest in state planning revived as states began

⁴Violi, Op. Cit. p. 9-12.

to concentrate on the transition that would be necessary to shift from a military to a civilian economy. The activities of the state planning boards were generally based on the premise that this cessation of hostilities would once again bring a depression in the economy. Consequently, these agencies concentrated on the surveying and identification of industrial opportunities, potential manpower, physical resources and problems of state and local taxation. Although this resumption of the Great Depression did not materialize, the industrial promotion activities of the state planning agencies were retained by many planning boards. Planning was once again linked with economic development.⁵

State planning in Oklahoma is a recent phenomenon and has never been adequately attempted. Oklahoma, along with many other states, did not undertake state planning until the mid 1930's. Although the National Planning Board was established in 1933, it was not until January, 1935 that Governor William Murray appointed the first state planning board in

⁵Design Study, Op. Cit., Chapter 3

Oklahoma. This original board was hampered by several constraints. The first was that the board was not created by legislative act; therefore, it could not act in an official capacity. Thus, the planning board's primary functions were advisory to the Governor and the Legislature.⁶ Also, this original board was unable to obtain funds from the national government. This, in part, was aggravated by a widely heralded political dispute between Governor Murray and President Roosevelt.

Because of these limitations, the Legislature created the Oklahoma State Planning Board in May, 1935. When the Legislature created this board, planning became a state function in Oklahoma. This original board undertook a series of studies concerning the physical resources of the state, administrative studies in select state institutions, a study on the Grand River Development Project and a series of select economic studies in cooperation with the United States Department of Agriculture and Oklahoma State University.

⁶Ibid

After the Second World War, the Oklahoma Planning and Resources Board, as in many other states, was given the responsibility of preparing a series of Industrial Survey Reports. These reports were primarily directed toward the collection and presentation of a vast array of data concerning the social, economic, physical and cultural development of the state. The agency was thus delegated to serve as a research arm for the industrial development efforts of the state.

In the late 1940's and early 1950's several studies were undertaken to be used in the industrial development effort of Oklahoma. The Bureau of Business Research at the University of Oklahoma did the work for several of these studies. As previously indicated these studies focused on the history of the state and limited analyses of select demand and supply relationships of the agriculture, food processing, timber, petroleum and petro chemical industries. These reports did not include specific recommendations on actions the state could undertake to direct or

accelerate its development.⁷

Also during this period of the early and mid-1950's other studies on industrial development in Oklahoma were sponsored by Oklahoma Gas and Electric Company⁸ and the Oklahoma Business Executives' Research Committee.⁹ The study sponsored by Oklahoma Gas and Electric Company (A Key to the Industrial Potential of Oklahoma) gave graphically displayed background information on Oklahoma. However, this report also did not recommend a program of action for the state's development. An interesting sidelight of this report is the emphasis it gave to the availability of cheap labor due to high unemployment. However, it was left to the individual business to train

⁷ Cella, Francis R., Law, Robert O., An Analysis of the Economic Potential and Water Requirements of Southeastern Oklahoma, also, An Analysis of the Economic Potential and Water Requirements of North Central Oklahoma, also, An Analysis of the Economic Potential and Water Requirements of the Upper Washita Basin, Bureau of Business Research, University of Oklahoma, 1953.

⁸ Cella, Francis R. A Key to the Industrial Potential of Oklahoma, Oklahoma Gas and Electric Company, Oklahoma City, Oklahoma, 1951.

⁹ Cella, Francis R. Factors Affecting Industrial Location in the Southwest, Business Executives' Research Committee, Oklahoma City, Oklahoma, 1954.

its work force. Thus the state was not in a position to beneficially use its potential labor force to attract out of state industries.

With the assistance of the Committee for Economic Development and the Ford Foundation, the Oklahoma Executive Research Committee's studies were focused on past patterns of industrial development and the sources of capital for new manufacturing in Oklahoma. The principal recommendations of these studies were the necessity for the unspecific "encouragement" of industrial foundations across the state and the need to establish an educational program to show industrialists what factors are important in plant location. These were passive recommendations that were not actively pursued or implemented.

Other economic studies for Oklahoma development were conducted in the mid and late 1950's. These studies also were primarily focused on economic base data review and projections.¹⁰

¹⁰ Cella, Francis R., Dikeman, Neil I., Ball, Gary, An Economic Base Study of the Arbuckle Mountain Area of Oklahoma, Bureau of Business Research, University of Oklahoma, Norman, Oklahoma, 1957.

Cella, Francis R., Dikeman, Neil I., An Economic Base Study of the Wichita Mountain Area of Oklahoma, Norman, Oklahoma, 1956.

In February, 1955, under the administration of Governor Raymond Gary, the Oklahoma Legislature created the State Department of Commerce and Industry. This department was given the responsibility of developing the Oklahoma State Plan. This legislation transferred the state planning function from the Oklahoma Planning and Resources Board and formalized the ties between economic development and the planning function in Oklahoma. The new department was also given the responsibility for the coordination of municipal planning funds from the Housing Act of 1954. Little was done on state planning activities by this agency.

One of the first programs undertaken by this new department was with Fantus Area Research, Inc.¹¹ This study was directed toward collecting in one report a documentation of those assets that might attract industry to Oklahoma. Further, this study

¹¹Yaseen, Leonard C., A Study of the State of Oklahoma, Fantus Area Research, Inc., New York, New York, 1956.

indicated, on the basis of the state's resources, select industries that could possibly be attracted to Oklahoma.

This department operated for approximately 10 years and, unfortunately, was involved in many political controversies. The consequence was an administrative restructuring of the Department.

In 1965, the Oklahoma Legislature combined the Oklahoma Planning and Resources Board and the Department of Commerce and Industry. The new agency was named the Oklahoma Industrial Development and Park Department. This new department was authorized and directed by the Legislature to prepare a state planning program for the state.

The Division of Research and Planning of this new department has the responsibility for the formulation of this planning effort. The Legislature, in conferring these responsibilities on this Division, also directed this Division to undertake research studies necessary to foster the continued economic

development of the state. Thus, by virtue of the directives of the Legislature, state planning in Oklahoma is closely tied to the continuing economic development of the state.

Underdevelopment in Oklahoma

Programs of action based on a poorly understood background produce surrealistic results. Therefore, in order that the strategy for Oklahoma's economic development be clearly understood, it is necessary to grasp the actual extent of poverty and underdevelopment in this state. This section will present a brief delineation of select problems of housing, education, migration, employment and income in the State of Oklahoma. These brief descriptions will be vivid enough if it is realized that these statistics are not entities unto themselves, but rather are symbolic of human experience and human conditions that must be significantly altered if the state is to achieve the growth and economic well-being it desires.

Poverty and the conditions that engender poverty are intolerable in human terms and unfeasible from an economic standpoint. Poverty exists in the State of Oklahoma, and it does not present a pleasing face as evidenced by the following facts.

Migration

In today's numerically-oriented society, the power of numbers is too often devalued. Percentiles are all too easily manipulated to indicate almost any desired effect. In addition, it is not an uncommon reaction to consider these numerals things-in-themselves, rather than as simplified and symbolic expressions of collective, individual and often tragic human experiences. As a case in point, between the years 1950 and 1960, the population of Oklahoma increased an estimated 4.3 percent. (Table 1) Such a rise has been hailed as a sign of advancing progress in the state. It is a quantifiable expression of acceptable growth. However, this statistic conceals other less acceptable facts and rather bitter conditions.

TABLE 1
 PERCENTAGE CHANGE IN POPULATION
 AND NET MIGRATION RATE
 OKLAHOMA COUNTIES
 1950 to 1960

County	Unadjusted Percentage Change in Population	Total Adjusted Net Migration Rate
Adair	-12.1	-22.5
Alfalfa	-21.1	-24.1
Atoka	-27.5	-33.8
Beaver	- 6.0	-14.3
Beckham	-17.8	-24.9
Blaine	-19.7	-26.5
Bryan	-16.4	-22.5
Caddo	-18.0	-26.3
Canadian	- 3.6	-11.8
Carter	+ 7.1	- 8.3
Cherokee	- 6.5	-17.0
Choctaw	-23.4	-28.4
Cimarron	- 2.0	-14.7
Cleveland	+14.9	- 2.0
Coal	-31.2	-35.1
Comanche	+64.6	+28.9
Cotton	-21.1	-25.9
Craig	-10.7	-15.1
Creek	- 6.1	-15.2
Custer	- 0.3	-10.1
Delaware	-10.4	-16.7
Dewey	-31.2	-34.6
Ellis	-25.5	-28.5
Garfield	+ 0.3	-14.8

County	Unadjusted Percentage Change in Population	Total Adjusted Net Migration Rate
Garvin	- 4.1	-17.0
Grady	-15.1	-22.3
Grant	-22.2	-25.0
Greer	-24.4	-28.0
Harmon	-27.6	-32.4
Harper	- 0.4	- 8.3
Haskell	-31.5	-37.2
Hughes	-26.7	-31.7
Jackson	+48.1	+18.2
Jefferson	-26.3	-30.7
Johnston	-19.7	-24.5
Kay	+ 4.4	- 7.7
Kingfisher	-17.3	-23.3
Kiowa	-21.7	-28.8
Latimer	-20.1	-25.2
LeFlore	-17.5	-25.0
Lincoln	-15.0	-20.7
Logan	-15.8	-20.4
Love	-24.0	-29.3
Major	-24.0	-29.5
Marshall	-11.2	-17.5
Mayes	+ 1.7	- 8.8
McClain	-13.2	-21.3
McCurtain	-18.2	-26.0
McIntosh	-30.6	-26.1
Murray	- 1.4	- 9.0
Muskogee	- 5.7	-14.3
Noble	-14.6	-20.0
Nowata	-14.8	-20.0
Okfuskee	-30.9	-35.9
Oklahoma	+35.1	+10.6
Okmulgee	-17.1	-24.5
Osage	- 1.9	-10.2

County	Unadjusted Percentage Change in Population	Total Adjusted Net Migration Rate
Ottawa	-12.2	-19.1
Pawnee	-20.1	-24.1
Payne	- 4.7	-17.1
Pittsburg	-16.3	-24.6
Pontotoc	- 9.0	-17.8
Pottawatomie	- 4.7	-14.2
Pushmataha	-24.3	-29.5
Roger Mills	-31.2	-36.6
Rogers	+ 5.5	- 6.3
Seminole	-31.0	-36.9
Sequoyah	- 9.0	-19.2
Stephens	+11.5	- 4.8
Texas	- 0.5	-14.7
Tillman	-16.7	-25.2
Tulsa	+37.5	+13.9
Wagoner	- 6.4	-15.5
Washington	+28.8	+ 7.9
Washita	+ 2.6	- 5.3
Woods	-17.9	-23.3
Woodward	-40.3	-10.4
State of Oklahoma	+ 4.3	- 8.6
United States	+18.5	1.8

Source: U.S. Bureau of the Census, U.S. Census of Population, 1960, Oklahoma, Number of Inhabitants, Table 6; and Bowles and Tarver, Net Migration of Population, 1950-1960 by Age, Sex and Color, Volume I, Part 5, Tables 1 and 2.

Note: The net migration estimates represent the balance between the numbers of persons migrating into and out of a specified area. Unadjusted migration is the actual difference in number of the population.

These state-wide population growth statistics fail to mention that in 1959, 31 percent of Oklahoma families fell beneath an annual income level of \$3,000.¹² It fails to note that in 1959, 189,941 families -- one third of the state's families -- did not earn sufficient money to afford the basic amenities of living. In short, one-third of all Oklahomans were poor.

Another fact of that 4.3 percent statistic is the chronic out-migration of people from rural to urban areas. For example, while in the decade spanning 1950 to 1960, the entire state showed an unadjusted percentage increase in population of 4.3 percent, only 13 of 77 counties actually gained in population. These 13 counties were all either urban or semi-urban areas or contained military installations. During this period, the population of Oklahoma, Tulsa and Comanche counties (counties with large urban areas) increased 35, 38 and 65 percent, respectively. The growth of these three urban

¹²U.S. Bureau of the Census, U.S. Census of Population, 1960, Oklahoma, Selected Social and Economic Characteristics.

centers is indeed impressive. At the same time, rural populations declined at ominous rates: Hughes, 27 percent, Pushmataha, 24 percent; Major, 24 percent, and Dewey, 31 percent. While urban Oklahoma grows, rural Oklahoma declines, and declines doubly. The rural population outmigration loss generally comprises the young and talented age groups. Thus, there is not only a quantitative but a qualitative loss; there are not only present population decreases, but receding possibilities for a future increase. The flight of Oklahoma citizens to urban areas leaves the rural counties with less available labor, less future potentialities and a smaller base for needed tax revenues.

The total adjusted net migration rate for Oklahoma's counties (that is, the balance between numbers of persons migrating into and out of a specified area; showing the gain or loss of population due to internal migration) for the years 1950 to 1960 shows that Cotton, Harper, Okfuskee and Seminole counties had migration rates of 26 percent,

8 percent, 36 percent and 37 percent, respectively. Using the adjusted migration figures, only five counties - Oklahoma, Tulsa, Comanche, Jackson and Washington - showed a net population gain, and the state as a whole reported an outmigration rate of 8.6 percent.

These numbers are alarming if we are to be concerned with the quality of Oklahoma life. It is necessary to realize that despite our progress, 31 percent of Oklahoma's families in 1959 still fell beneath the \$3,000 median family income level, and that the size of Oklahoma's rural population decreased 21 percent during the last decade. It is important to consider that this rate of rural migration often pours dismayingly large numbers of unskilled men and women into cities that are unable to cope with them. It is imperative to consider, then, that the 4.3 percent population increase in Oklahoma has accrued in the urban communities at the expense of a 21 percent decrease from 1950 to 1960 in rural areas. In other words, 13 of our counties gained, while 64 suffered

population losses and losses of markets and economic potential which are extremely difficult and costly, if not impossible, to replace.

Housing

As reported by the 1960 Census of Housing, in McCurtain, Choctaw, Atoka, Coal, Pushmataha, Latimer and Adair counties, only one-third of the total housing units were sound with all plumbing facilities. (Table 2) In the Ozarks counties of Oklahoma, 63 percent of all houses were considered unsound. Large numbers of Oklahoma dwellings lacked even basic plumbing facilities. In counties such as Kingfisher and Kiowa over 60 percent of all home dwellings were judged to be dilapidated and deteriorating.

In view of their quality, it is not surprising that the median value of owner occupied houses in Oklahoma was 34 percent less than the national average. (Table 3) Further, no single county in the total state had a median value of owner occupied houses that equaled the national average. Substandard housing in Oklahoma is thus a critical problem and a

TABLE 2
 CONDITION OF OKLAHOMA HOUSING
 OKLAHOMA COUNTIES, 1960

County	Total Housing Units	Percent Sound With All Plumbing Facilities	Percent Deteriorating and Dilapidated
Adair	3,999	35.31	45.14
Alfalfa	3,632	74.81	25.19
Atoka	3,441	32.78	48.68
Beaver	2,487	63.53	31.93
Beckham	7,020	56.14	41.42
Blaine	4,820	57.39	30.83
Bryan	8,772	48.53	40.09
Caddo	10,261	53.25	36.64
Canadian	8,590	69.45	20.88
Carter	14,888	57.54	38.13
Cherokee	5,765	49.54	27.55
Choctaw	5,886	35.34	51.60
Cimarron	1,642	76.00	21.19
Cleveland	14,254	73.18	23.58
Coal	2,081	33.93	48.92
Comanche	24,697	78.33	17.27
Cotton	2,874	50.45	43.04
Craig	5,108	54.27	32.71
Creek	14,443	58.23	31.52
Custer	7,528	67.51	23.86
Delaware	5,670	41.83	44.14
Dewey	2,662	50.83	32.79
Ellis	2,247	60.26	33.24
Garfield	18,733	75.41	20.54
Garvin	9,684	59.94	36.48
Grady	10,841	62.80	28.13
Grant	3,458	65.42	33.55

TABLE 2--continued

County	Total Housing Units	Percent Sound With All Plumbing Facilities	Percent Deteriorating and Dilapidated
Greer	3,452	60.46	31.89
Harmon	2,682	41.24	48.40
Harper	2,139	67.23	25.71
Haskell	3,234	41.74	37.85
Hughes	5,642	51.40	42.32
Jackson	9,668	69.49	24.21
Jefferson	3,186	54.24	40.87
Johnston	3,008	41.99	43.65
Kay	18,169	77.24	18.83
Kingfisher	3,990	55.39	36.32
Kiowa	5,811	56.82	36.57
Latimer	2,724	38.44	35.72
LeFlore	10,301	45.93	33.12
Lincoln	7,096	58.64	33.23
Logan	2,177	55.93	35.82
Love	4,401	44.46	46.95
McClain	8,620	62.39	27.27
McCurtain	8,620	29.95	51.19
McIntosh	4,238	40.89	45.30
Major	3,098	49.94	36.31
Marshall	3,198	64.23	29.71
Mayes	7,663	55.51	33.93
Murray	4,125	55.93	37.96
Muskogee	20,959	58.34	33.84
Noble	4,010	59.70	31.30
Nowata	3,997	42.21	49.74
Okfuskee	4,227	36.36	49.07
Oklahoma	150,098	79.35	16.95
Okmulgee	13,216	49.84	41.37
Osage	11,894	62.45	30.96
Ottawa	10,947	61.47	28.20
Pawnee	4,344	48.78	40.24
Payne	14,768	69.62	25.79

County	Total Housing Units	Percent Sound With All Plumbing Facilities	Percent Deteriorating and Dilapidated
Pittsburg	12,692	49.15	38.35
Pontotoc	10,270	63.15	29.17
Pottawatomie	15,136	64.57	30.19
Pushmataha	3,533	25.50	49.90
Roger Mills	1,979	56.64	26.73
Rogers	7,347	58.85	25.63
Seminole	10,295	54.49	39.73
Sequoyah	5,771	46.16	34.36
Stephens	13,496	73.12	23.09
Texas	4,700	81.11	14.72
Tillman	5,649	55.89	35.81
Tulsa	119,525	78.17	18.23
Wagoner	5,777	54.79	32.85
Washington	14,578	77.37	18.46
Washita	6,113	59.37	34.29
Woods	4,536	76.83	13.62
Woodward	4,657	74.04	20.03
State of Oklahoma	815,685	65.98	26.95
United States	58,326,357	74.00	18.80

Source: U.S. Bureau of the Census, U.S. Census of Housing, 1960, States and Small Areas.

TABLE 3
 MEDIAN VALUE OF OKLAHOMA OWNER
 OCCUPIED HOUSING UNITS
 OKLAHOMA COUNTIES, 1960

County	Median Value (Dollars)	Median Value as a Percent of United States Median Value
Adair	Less Than 5,000	Less Than 42.0
Alfalfa	Less Than 5,000	Less Than 42.0
Atoka	Less Than 5,000	Less Than 42.0
Beaver	6,700	56.3
Beckham	6,200	52.1
Blaine	5,300	44.5
Bryan	Less Than 5,000	Less Than 42.0
Caddo	5,600	47.1
Canadian	7,300	61.3
Carter	6,300	52.9
Cherokee	6,200	52.1
Choctaw	Less Than 5,000	Less Than 42.0
Cimarron	7,700	64.7
Cleveland	10,300	86.6
Coal	Less Than 5,000	Less Than 42.0
Comanche	9,900	83.2
Cotton	Less Than 5,000	Less Than 42.0
Craig	Less Than 5,000	Less Than 42.0
Creek	Less Than 5,000	Less Than 42.0
Custer	8,100	68.1
Delaware	Less Than 5,000	Less Than 42.0
Dewey	Less Than 5,000	Less Than 42.0
Ellis	Less Than 5,000	Less Than 42.0
Garfield	8,000	67.2
Garvin	5,600	47.1
Grady	5,900	49.6
Grant	Less Than 5,000	Less Than 42.0

TABLE 3--continued

County		Median Value (Dollars)		Median Value as a Percent of United States Median Value
Greer		6,000		50.4
Harmon		5,600		47.1
Harper		7,200		60.5
Haskell	Less Than	5,000	Less Than	42.0
Hughes	Less Than	5,000	Less Than	42.0
Jackson		7,800		65.5
Jefferson	Less Than	5,000	Less Than	42.0
Johnston	Less Than	5,000	Less Than	42.0
Kay		8,700		73.1
Kingfisher		6,900		58.0
Kiowa		5,300		44.5
Latimer		5,300		44.5
LeFlore	Less Than	5,000	Less Than	42.0
Lincoln	Less Than	5,000	Less Than	42.0
Logan		5,100		42.9
Love	Less Than	5,000	Less Than	42.0
McClain		5,100		42.9
McCurtain	Less Than	5,000	Less Than	42.0
McIntosh	Less Than	5,000	Less Than	42.0
Major	Less Than	5,000	Less Than	42.0
Marshall	Less Than	5,000	Less Than	42.0
Mayes		6,000		50.4
Murray		5,100		42.9
Muskogee		6,600		55.5
Noble		5,500		46.2
Nowata		5,200		43.7
Okfuskee	Less Than	5,000	Less Than	42.0
Oklahoma		9,900		83.2
Okmulgee	Less Than	5,000	Less Than	42.0
Osage		5,500		46.2
Ottawa	Less Than	5,000	Less Than	42.0
Pawnee	Less Than	5,000	Less Than	42.0
Payne		8,200		68.9

TABLE 3--continued

County		Median Value (Dollars)		Median Value as a Percent of United States Median Value
Pittsburg	Less Than	5,000	Less Than	42.0
Pontotoc		6,200		52.1
Pottawatomie		6,400		53.8
Pushmataha	Less Than	5,000	Less Than	42.0
Roger Mills	Less Than	5,000	Less Than	42.0
Rogers		6,400		53.8
Seminole	Less Than	5,000	Less Than	42.0
Sequoyah	Less Than	5,000	Less Than	42.0
Stephens		7,800		65.5
Texas		8,600		72.3
Tillman		5,500		46.2
Tulsa		10,400		87.4
Wagoner	Less Than	5,000	Less Than	42.0
Washington		10,700		89.9
Washita		7,200		60.5
Woods		6,100		51.3
Woodward		7,200		60.5
State of Oklahoma		7,900		66.4
United States		11,900		100.0

Source: U.S. Bureau of Census, U.S. Census of Housing, 1960.

¹The Census does not list median housing under \$5,000. Therefore, units valued at \$0 to \$4,999 are listed as less than \$5,000.

glaring physical manifestation of the extent of the state's underdevelopment and poverty.

In the effort to expand Oklahoma's economy, good housing must become a major portion of any capital improvements program. For, whether it is a local plant expansion or a national corporation locating a facility in Oklahoma, sufficient housing for management and workers is a basic requisite.

Education

The nature and quality of education are concerns that have received increasing attention in the past several years. In order to operate a vast democracy in an increasingly complex world, it is imperative that citizens be trained and educated to cope with the complexities and convolutions of our technological society. Well-intentioned ignorance and simple misdirection have barely scraped along in less complicated eras; they will not suffice at all today.

For the population 25 years of age and older, the median number of years of school completed in

Oklahoma (10.4) compares adequately with the national average (10.6). (Table 4) Yet, for those Oklahoma counties within the Ozarks area, the median number of years of completed education for the population age 25 years and over is less than 9.0 years. Twenty-five Oklahoma counties fall beneath even this level. These figures mean that in the Ozarks counties, the majority of the population 25 years of age and older have not received more than a ninth grade education. In McCurtain County, 66 percent of this population group lack a ninth grade education; in Sequoyah, 68 percent, and in Wagner, 59 percent. In Okfuskee, Coal and McClain, 62 percent, 64 percent, and 57 percent of the population 25 years and older, respectively, have not completed junior high school.

There are great economic and social costs to these individuals and to the people of this state and nation because of these inadequate educational attainments. Ignorance's penalty is double; intellectual and economic gains are both foreshortened, as minimal education returns a minimal income. The jobs left to those lacking a high school diploma are few

TABLE 4
 MEDIAN NUMBER OF SCHOOL YEARS
 COMPLETED AND PERCENT OF COUNTY
 POPULATION COMPLETING EIGHT OR
 LESS SCHOOL YEARS
 OKLAHOMA COUNTIES, 1960
 (25 years of age and over)

County	Median Number of Years of School Completed	Percent Completing 8 or Less Years of School
Adair	8.2	68.1
Alfalfa	11.1	38.8
Atoka	8.3	64.8
Beaver	10.5	39.1
Beckham	9.4	47.6
Blaine	9.2	48.4
Bryan	8.9	51.7
Caddo	8.9	51.7
Canadian	9.9	45.0
Carter	10.3	41.4
Cherokee	8.6	59.2
Choctaw	8.4	63.0
Cimarron	11.2	36.7
Cleveland	11.5	36.5
Coal	8.3	63.8
Comanche	11.9	29.8
Cotton	9.5	46.5
Craig	8.8	53.9
Creek	8.9	51.3
Custer	10.5	41.0
Delaware	8.5	61.9
Dewey	9.3	48.2
Ellis	9.7	47.0
Garfield	11.4	35.6

County	Median Number of Years of School Completed	Percent Completing 8 or Less Years of School
Garvin	8.9	52.1
Grady	9.7	45.4
Grant	11.3	37.5
Greer	9.9	43.1
Harmon	9.3	47.6
Harper	10.5	41.4
Haskell	8.2	68.7
Hughes	8.5	60.8
Jackson	11.4	33.5
Jefferson	8.8	55.0
Johnston	8.5	59.6
Kay	11.3	35.8
Kingfisher	10.0	44.3
Kiowa	9.6	46.3
Latimer	8.4	63.5
LeFlore	8.3	64.8
Lincoln	8.7	57.9
Logan	9.0	50.9
Love	8.7	58.0
Major	8.9	54.5
Marshall	8.8	53.7
Mayes	8.8	54.1
McClain	8.7	57.0
McCurtain	8.1	66.2
McIntosh	8.3	64.8
Murray	8.8	54.8
Muskogee	9.7	45.5
Noble	9.7	46.1
Nowata	9.0	50.8
Okfuskee	8.4	62.3
Oklahoma	12.0	29.3
Okmulgee	8.9	51.6
Osage	10.0	44.2

TABLE 4--continued

County	Median Number of Years of School Completed	Percent Completing 8 or Less Years of School
Ottawa	9.1	49.5
Pawnee	8.9	53.9
Payne	11.7	37.4
Pittsburg	8.9	51.3
Pontotoc	9.1	49.5
Pottawatomie	9.4	47.7
Pushmataha	8.2	68.4
Roger Mills	9.0	51.4
Rogers	9.0	50.3
Seminole	8.8	53.9
Sequoyah	8.2	67.8
Stephens	10.7	37.6
Texas	11.4	32.8
Tillman	9.4	47.4
Tulsa	12.1	28.8
Wagoner	8.6	58.8
Washington	12.2	28.8
Washita	10.6	39.4
Woods	10.3	43.9
Woodward	10.2	43.1
State of Oklahoma	10.4	
United States	10.6	39.7

Source: U.S. Bureau of the Census, U.S. Census of Population, 1960, Oklahoma, Selected Social and Economic Characteristics.

and are decreasing annually. This region must, therefore, improve the quality of its total educational system to eliminate these individual tragedies. As an initial step toward concurrently improving these peoples' economic levels and educational levels, relevant and widespread vocational-technical education must be furthered and funded so that vast numbers of these people can adjust to productively meet present and future job requirements.

Employment and Income

The development program advocated in this study is based on the premise that the problems of unemployment, underemployment and economic underdevelopment are closely linked with substandard and irrelevant education, substandard housing, high out-migration and low income levels. Hopefully, the provision of adequate jobs and the provision of relevant training will break this cycle. The scope of this cycle can further be represented by employment statistics. The following select employment statistics indicate the magnitude of effort and

urgency attached to the provisions of these jobs.

Between the census of 1950 and that of 1960, the labor force for the Ozarks Region of Oklahoma declined 13 percent. (Table 5) For select counties in eastern Oklahoma, during this same period, the total labor force declined as follows: Pushmataha, 35 percent; Okfuskee, 39 percent; Nowata, 21 percent; Latimer, 26 percent; and Ottawa, 14 percent. Furthermore, in Creek, McClain, Osage, Rogers, Sequoyah and Wagoner counties, one-fourth to one-third of the employed persons worked outside their county of residence in 1960. This reflects the lack of indigenous economic opportunities.

In national terms, an unemployment figure of 5 percent may indicate under-used human resources. Yet, against this national figure, one must balance an unemployment rate in Adair County in 1967 of 16.8 percent; in Hughes, 9.7 percent; in Haskell, 10.8 percent, and in Cherokee, 11 percent. (Table 6)

However, these unemployment statistics are but quantitative reportings of jobs as applied to people. The question of the quality of the jobs,

TABLE 5
NUMBER OF PERSONS
IN THE LABOR FORCE
OKLAHOMA COUNTIES, 1960

County	Labor Force		Percent Change
	1950	1960	
Adair	3,972	2,977	-25.05
Alfalfa	3,974	3,012	-24.21
Atoka	4,154	2,669	-35.75
Beaver	2,744	2,733	- 0.40
Beckham	7,895	6,677	-15.43
Blaine	5,467	4,331	-20.78
Bryan	8,958	8,228	- 8.15
Caddo	10,833	9,293	-14.22
Canadian	9,078	8,451	- 6.91
Carter	12,603	13,500	+ 7.12
Cherokee	4,848	4,872	+ 0.50
Choctaw	5,882	4,597	-21.85
Cimarron	1,796	1,670	- 7.02
Cleveland	13,284	17,527	+31.92
Coal	2,526	1,632	-35.39
Comanche	22,963	40,672	+77.12
Cotton	3,163	2,586	-18.24
Craig	5,596	5,162	- 7.76
Creek	14,036	13,738	- 2.12
Custer	7,837	8,422	+ 7.46
Delaware	4,325	3,638	-15.88
Dewey	3,200	2,377	-25.72
Ellis	2,462	2,101	-14.66
Garfield	21,303	20,460	- 3.96
Garvin	9,485	9,552	+ 0.71
Grady	11,360	10,573	- 6.93
Grant	3,987	3,136	-21.34

County	<u>Labor Force</u>		Percent Change
	1950	1960	
Greer	3,701	3,101	-16.21
Harmon	2,722	2,069	-23.99
Harper	2,274	2,382	+ 4.75
Haskell	3,930	2,510	-36.13
Hughes	6,113	4,852	-20.63
Jackson	6,936	4,852	-30.05
Jefferson	3,567	2,526	-29.18
Johnston	3,011	2,481	-17.60
Kay	18,978	19,094	+ 0.61
Kingfisher	4,609	4,310	- 6.49
Kiowa	6,466	5,214	-19.36
Latimer	2,617	2,105	-19.56
LeFlore	9,658	8,249	-14.59
Lincoln	7,358	6,202	-15.71
Logan	7,579	6,995	- 7.71
Love	2,464	1,934	-21.51
McClain	4,610	4,170	- 9.54
McCurtain	8,599	6,767	-21.30
McIntosh	4,897	3,264	-33.35
Major	3,832	2,880	-24.84
Marshall	2,650	2,533	- 4.42
Mayes	6,151	6,143	- 0.13
Murray	3,403	3,459	+ 1.65
Muskogee	22,836	21,263	- 6.89
Noble	4,661	3,587	-23.04
Nowata	4,355	3,407	-21.77
Okfuskee	5,088	3,120	-38.68
Oklahoma	138,007	180,766	+30.98
Okmulgee	14,080	11,564	-17.87
Osage	11,420	11,495	+ 0.66
Ottawa	10,932	9,373	-14.26
Pawnee	4,320	3,328	-22.96
Payne	16,134	15,917	- 1.34

County	<u>Labor Force</u>		Percent Change
	1950	1960	
Pittsburg	12,849	10,889	-15.25
Pontotoc	10,602	9,958	- 6.07
Pottawatomie	14,838	14,652	- 1.25
Pushmataha	3,660	2,386	-34.81
Roger Mills	2,486	2,079	-16.37
Rogers	6,474	7,025	+ 8.51
Seminole	12,604	9,249	-26.62
Sequoyah	5,199	4,601	-11.50
Stephens	12,272	13,836	+12.74
Texas	5,352	5,486	+ 2.50
Tillman	5,691	4,963	-12.79
Tulsa	103,713	138,443	+33.49
Wagoner	4,820	4,618	+ 4.19
Washington	13,286	16,309	+22.75
Washita	6,482	6,791	+ 4.77
Woods	5,158	5,174	-13.59
Woodward	5,158	5,174	+ 0.31
State of Oklahoma	796,670	854,095	+ 7.21

Source: U.S. Bureau of the Census, U.S. Census of Population, 1960, Oklahoma, Selected Social and Economic Characteristics.

TABLE 6

OKLAHOMA UNEMPLOYMENT RATE
OKLAHOMA COUNTIES, JUNE 1967

County	Unemployment Rate
Adair	16.8
Alfalfa	2.4
Atoka	7.0
Beaver	3.6
Beckham	4.0
Blaine	2.3
Bryan	4.8
Caddo	5.8
Carter	5.4
Cherokee	11.1
Choctaw	9.3
Cimarron	4.7
Coal	8.3
Comanche	5.6
Cotton	4.0
Craig	3.7
Custer	4.6
Delaware	5.9
Dewey	4.0
Ellis	3.3
Garfield	3.8
Garvin	5.1
Grady	5.4
Grant	3.0
Greer	5.3
Harmon	4.9
Harper	4.0
Haskell	10.8
Hughes	9.7
Jackson	5.0
Jefferson	9.6
Johnston	10.8
Kay	3.1

TABLE 6--continued

County	Unemployment Rate
Kingfisher	2.1
Kiowa	3.7
Latimer	9.3
LeFlore	7.6
Lincoln	4.0
Logan	3.2
Love	8.2
McClain	9.1
McCurtain	6.1
McIntosh	9.7
Major	2.0
Marshall	4.9
Mayes	7.7
Murray	5.5
Muskogee	6.6
Noble	2.0
Nowata	7.2
Okfuskee	6.9
Oklahoma, Canadian, Cleveland (SMSA)	4.3
Okmulgee	8.2
Ottawa	6.9
Pawnee	7.4
Payne	3.7
Pittsburg	6.0
Pontotoc	5.3
Pottawatomie	6.0
Pushmataha	6.3
Roger Mills	2.5
Rogers	5.5
Seminole	6.7
Sequoyah	8.5
Stephens	3.6
Texas	4.5

TABLE 6--continued

County	Unemployment Rate
Tillman	6.8
Tulsa, Creek, Osage (SMSA)	4.2
Wagoner	6.7
Washington	2.9
Washita	4.5
Woods	1.6
Woodward	1.9
State of Oklahoma	4.3
United States	4.6

Source: Employment Security Commission, Oklahoma Labor Force Estimates, March 1968.

U.S. figure: Unadjusted rate provided by Oklahoma Employment Security Commission.

the pay and the opportunity for advancement in a position are no less critical. Thus other measures are needed. Of the many criteria by which Oklahoma's underdevelopment can be gauged, personal income emerges as one of the best. This is for the following reasons:

1. It reports the total experience of all individuals and is an additive on an individual, area, state or regional basis.
2. It provides an index for comparisons of individual and area underemployment.
3. It provides in a uniform manner, the magnitude of individual average loss or gain of money per year.
4. It provides an easily understood economic objective against which public expenditures can be gauged and an indication of inadequate, inappropriate and untimely investments for economic development purposes.
5. It provides a basis for benefit cost analysis that can indicate inadequate, inappropriate and untimely investments for economic development purposes.

Operationally, various income measurements provide good information. One analysis involves the study of sources of income within the individual state or region. A disaggregation of national and Oklahoma income sources indicates several unfavorable comparisons. (Table 7)

During 1967, for the entire nation, manufacturing accounted for 23.8 percent of personal income. In Oklahoma, the corresponding figure was 12.9 percent or approximately one-half of the national average. Further, the state's income derived from farming was almost twice as large as the national average, while income from mining operations was over six times greater than the national average. Civilian government generated 11.2 percent of the nation's personal income; 13.9 percent of Oklahoma's. The rate of transfer payments also shows Oklahoma negatively: United States, 8.3 percent; Oklahoma, 10.7 percent.¹³

¹³The transfer payments category comprises, in general, receipts of persons from government and business (other than government interest) for which no services are rendered currently.

TABLE 7

PERSONAL INCOME COMPONENTS

Percent Contribution, Industrial Sources
of Civilian Income Received by Persons
for Participation in Current Production
United States and Oklahoma, 1967 ¹

Income Component	Oklahoma Percent Contribution	United States Percent Contribution
Farms	4.84	2.75
Mining	5.23	.83
Contract Construction	3.91	4.82
Manufacturing	12.41	23.82
Wholesale and Retail Trade	12.77	13.43
Finance, Insurance and Real Estate	3.65	4.11
Transportation, Communications and Public Utilities	5.84	5.67
Services ²	9.49	11.46
Government ²	13.89	11.15
Other	.23	.24

Source: U.S. Department of Commerce, Office of Business Economics,
Survey of Current Business, August, 1968, Page 21.

¹Consists of wage and salary disbursements, other labor
income and proprietors' income.

²Does not include earnings of military personnel.

Note: These percentages will not add to 100 as these are only
Industrial sources of civilian personal income.

These statistics indicate that the state, unlike the nation as a whole, is still very dependent on the extractive and agricultural industries as sources of income and employment. Further, the state has a greater dependency than the nation as a whole upon the public sector both in terms of employment and for transfer payments. This balance in the economy of the state is unhealthy for several reasons. It means that as the extractive and agricultural industries decline, the state's income will be continuously threatened. Further, as the nation continues to grow, the state, because of its small industrial base, will have greater problems participating in the national economic expansion. As the following discussion of the income gap will indicate, the present economic mix of the state does allow for growth, but for a growth that is considerably less than the national average. (Table 8) Thus, it appears desirable to decrease the state's economic dependency upon the agricultural and extractive industries and to increase the state's income generated from manufacturing and other growth-oriented income sources.

TABLE 8
 PER CAPITA PERSONAL INCOME
 United States and Oklahoma
 1957-1967

	United States (Dollars)	Oklahoma (Dollars)	Income Gap (Dollars)	Rank ¹
1957	2,045	1,641	404	38
1958	2,068	1,762	306	35
1959	2,161	1,805	356	35
1960	2,215	1,861	354	34
1961	2,264	1,910	354	35
1962	2,368	1,925	443	39
1963	2,455	1,992	463	38
1964	2,586	2,121	465	37
1965	2,765	2,303	462	38
1966	2,978	2,462	516	37
1967	3,159	2,643	516	35

Source: U.S. Department of Commerce, Office of Business Economics, Survey of Current Business, August, 1968, Page 15.

¹The rank is among the 50 states.

Another income analysis uses the concept of the income gap.¹⁴ The income gap is defined as the difference between the per capita personal income for a geographic area (region, state or county) and the per capita personal income of the United States. It is thus a measure of the effectiveness of the county, state or region toward achieving adequate economic development. Notwithstanding the technicalities of the data, the importance and relevancy of this income measure are its simplicity, its ease of understanding and the fact that it indicates a direction of action. For an underdeveloped state such as Oklahoma, the operational course of action is to close this income gap and change it from a negative quantity to a positive quantity. Operationally, this means that those programs and projects which have the highest new income generation capabilities should be considered first for funding and operation as economic development projects.

¹⁴This concept was elaborated by Bernard Goss, Senior Economist, Ozarks Regional Commission, Little Rock, Arkansas, in an unpublished paper Policy Considerations for Regional Development Programs, 1967.

The income gap in Oklahoma has been substantial. (Chart 1) In 1950 the per capita personal income of the United States was slightly less than \$1,500. The per capita personal income of the State of Oklahoma was \$1,143. There was an income gap of \$353. By 1967 the per capita personal income of the United States was \$3,159, while the per capita personal income of Oklahoma was only \$2,643. The income gap between Oklahoma and the United States had increased to \$516. Therefore, the gap has widened between Oklahoma and the United States. (Chart 2)

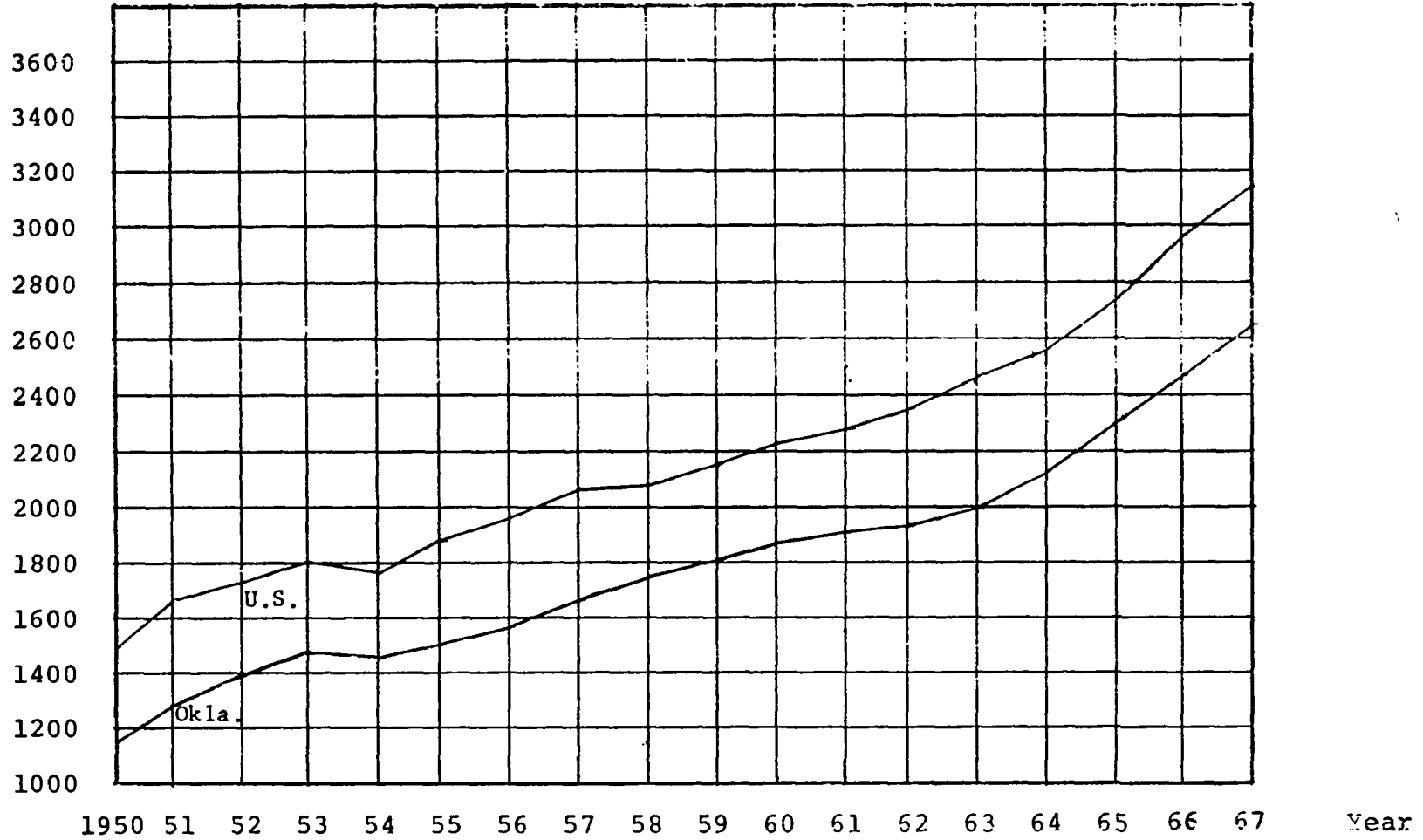
This widening of the income gap means, in effect, that the relative economic position of the people of this area to the nation as a whole is declining. If the gap is allowed to continue to widen, the people of this area will be further excluded from the mainstream of national economic growth, activity and progress.

The magnitude and significance of this income gap may not be fully appreciated unless it is converted from a per capita to an aggregate basis. This is accomplished by multiplying the annual per capita

CHART 1

PER CAPITA PERSONAL INCOME, UNITED STATES AND OKLAHOMA
ANNUALLY, 1950-67

Dollars



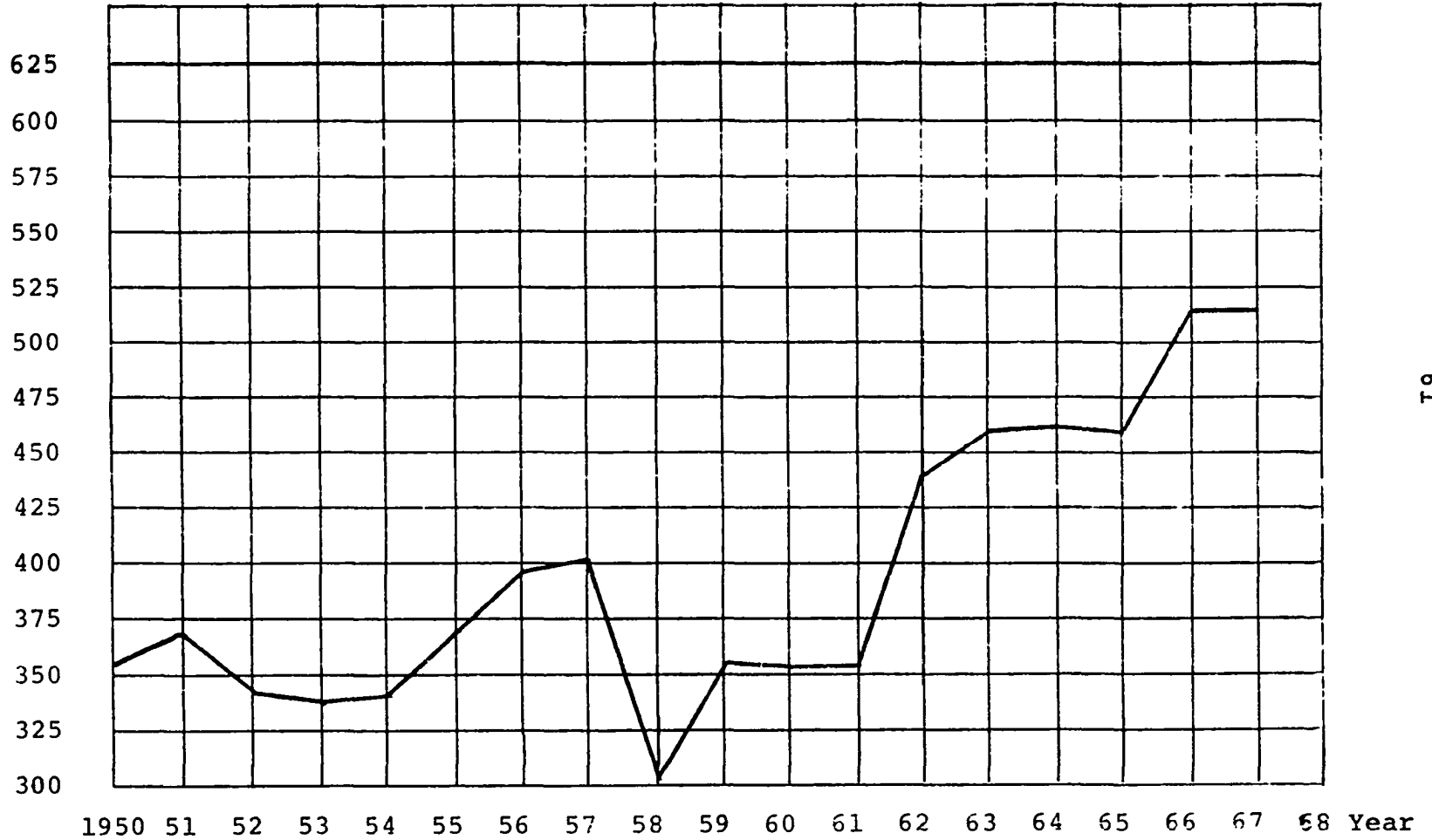
09

Source: See Appendix A

CHART 2

PER CAPITA PERSONAL INCOME GAP BETWEEN THE UNITED STATES
AND OKLAHOMA, ANNUALLY, 1950-67

Dollars



Source: See Appendix A

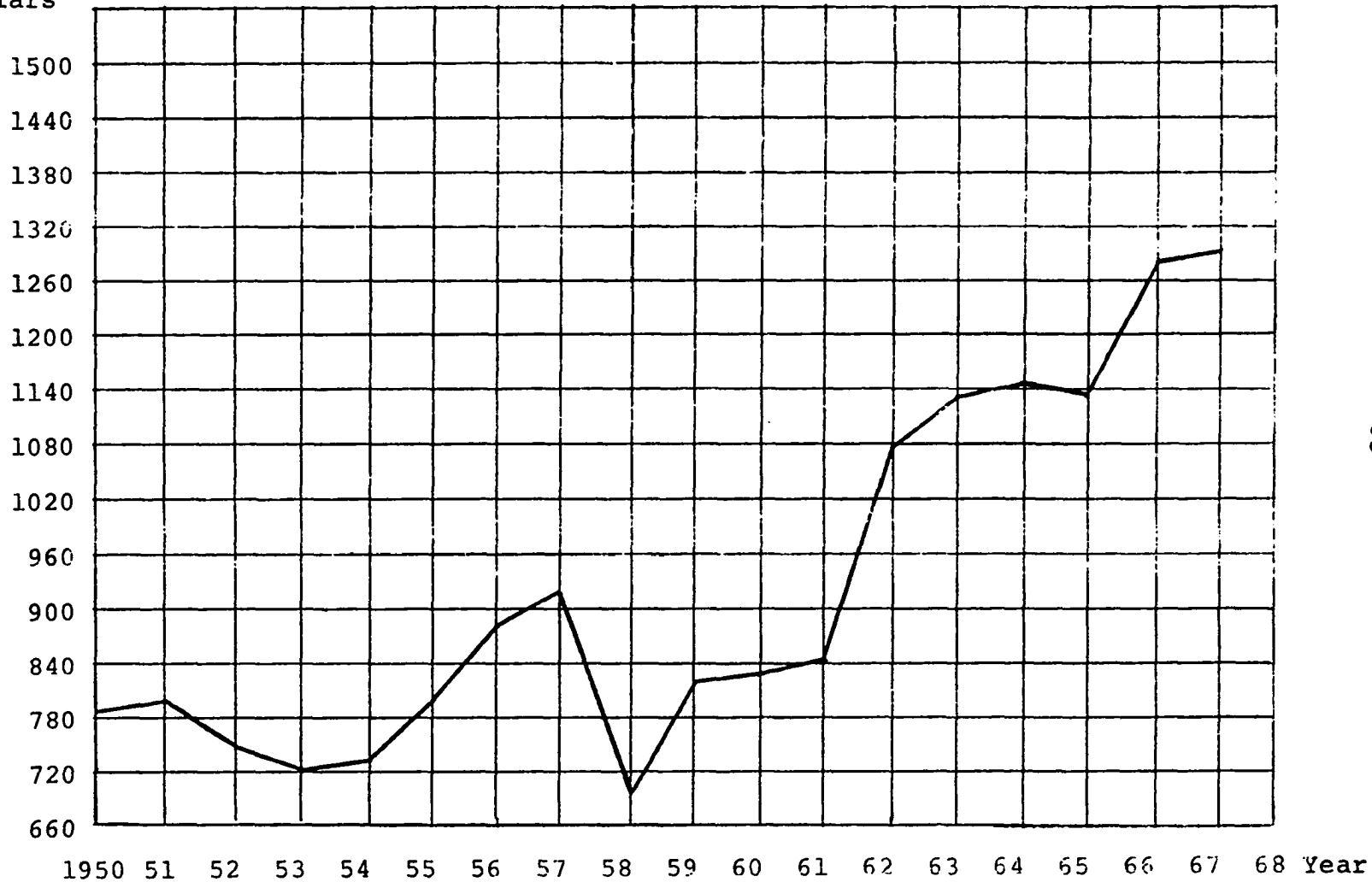
income gap estimate times the estimated population. This will produce an estimate of the total size of lost personal income within a geographic area because the per capita income level was not developed to the national average. For example, the per capita income gap in Oklahoma in 1950 was approximately \$353. The state had a population of approximately 2.2 million. Therefore, the total lost personal income due to the income gap was approximately \$788 million. By 1967, when the income gap had risen to \$516 per year and the population had risen to approximately 2.5 million, there was a total of \$1.3 billion of lost personal income. (Chart 3)

The significant point made by this annual increase of lost personal income is that the lack of recognition or of inaction on these problems of economic underdevelopment permits the causal conditions to progressively worsen. This loss of aggregate and taxable income is a recurring and not a self-correcting situation. The lack of adequate and timely economic development in Oklahoma has permitted this great loss to grow every year.

CHART 3

AGGREGATE INCOME GAP IN OKLAHOMA, ANNUALLY, 1950-67

Millions of
Dollars



Source: See Appendix A

As has been indicated, the costs and consequences of economic underdevelopment are high in both individual and in aggregate terms of lost income and lost tax revenues. Dr. Walter Heller, in testimony before the Joint Economic Committee of the Congress in 1962, estimated that the marginal tax rates from the incremental income that would be derived from the closing of the income gap would be as high as 36 percent. The federal tax system would take approximately 30 percent of this increased income, and the state and local tax systems would take approximately 6 percent. The loss of this income due to underdevelopment means that vast amounts of taxes have been lost to federal, state and local governments.¹⁵

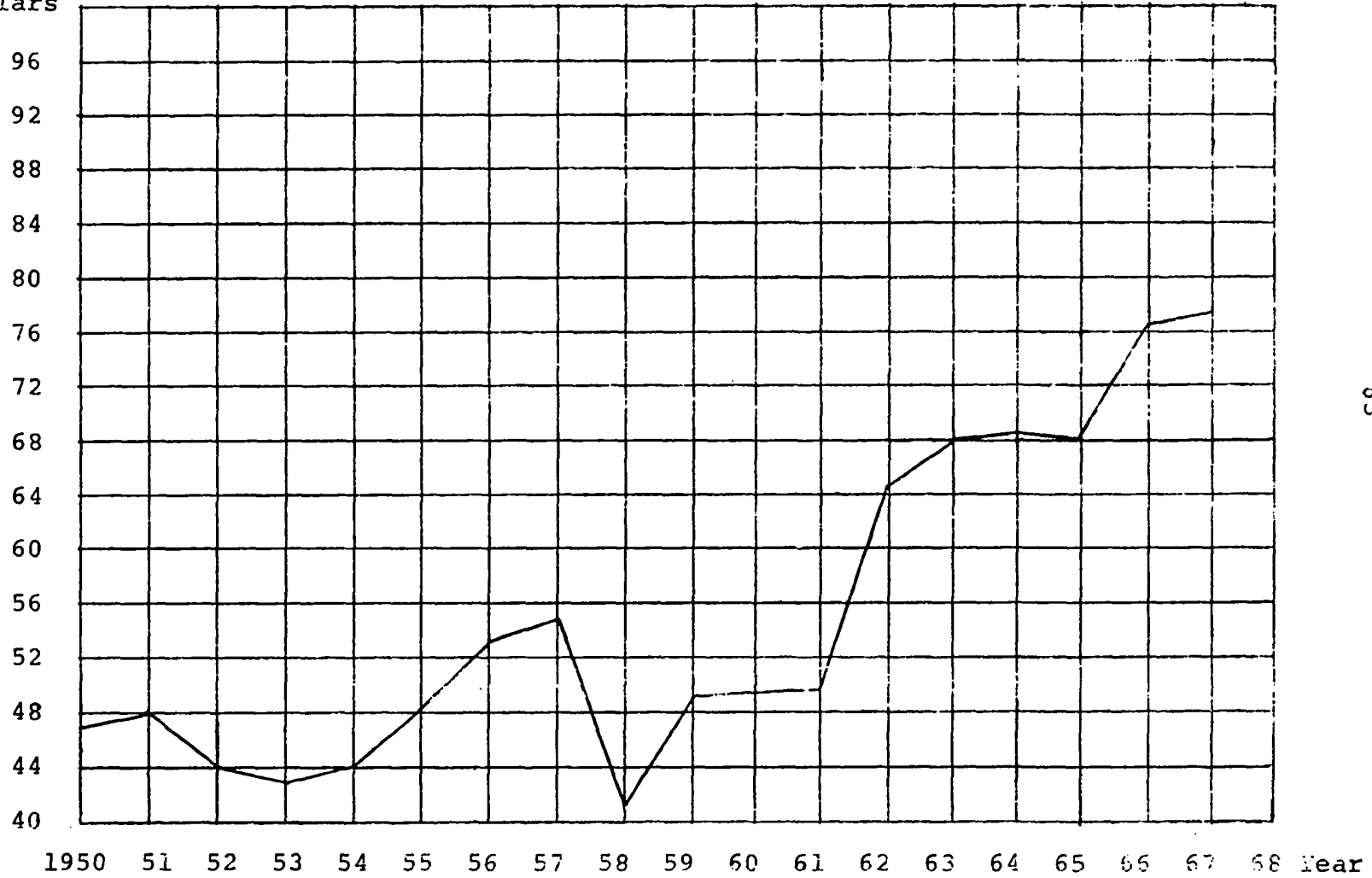
The lost income and tax revenues, due to the continued inadequate economic development of Oklahoma, has been substantial. In 1950, the state government was deprived of almost \$47 million in tax revenues because of this underdevelopment. (Chart 4) By 1967 the loss had risen to close to \$80 million

¹⁵U.S., Congress, Joint Economic Committee, 1963 Economic Report of the President, hearings before the Joint Economic Committee.

CHART 4

LOSS OF STATE TAXES DUE TO INCOME GAP, OKLAHOMA, ANNUALLY, 1950-67

Millions of
Dollars

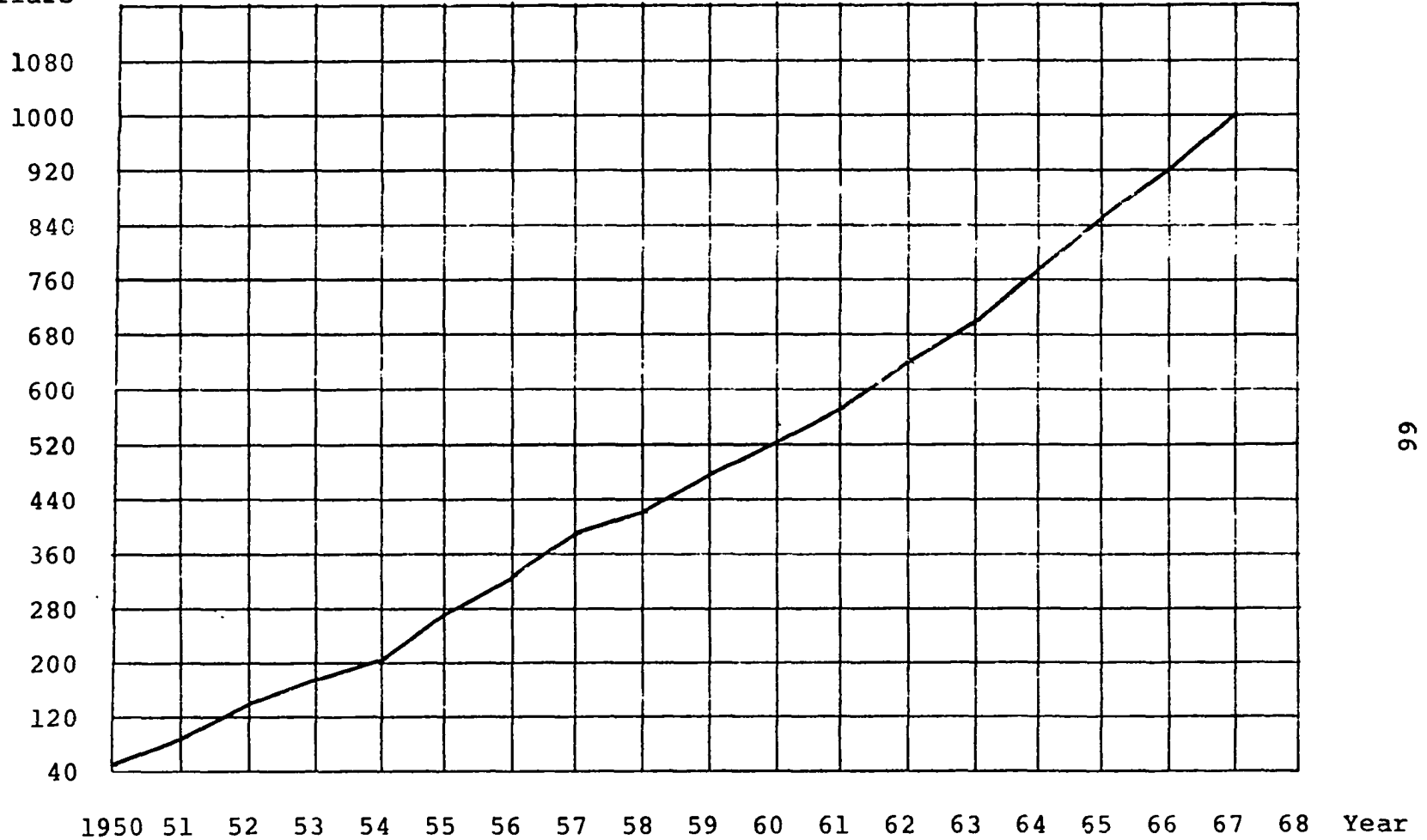


65

Source: See Appendix A

CHART 5

ACCUMULATIVE LOSS OF STATE TAXES IN OKLAHOMA, DUE TO INCOME GAP, 1950-67
Millions of Dollars

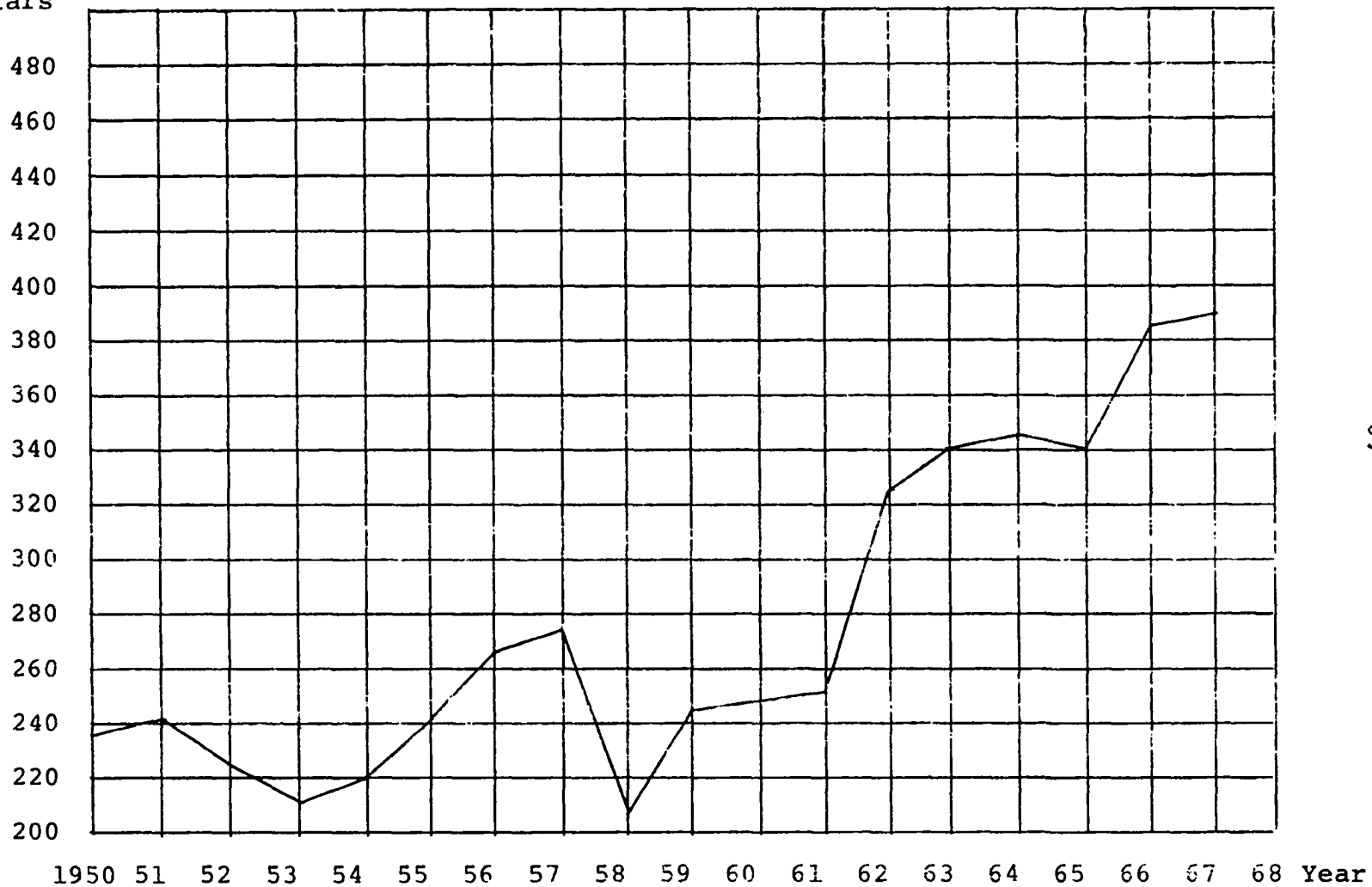


Source: See Appendix A

CHART 6

ACTUAL LOSS OF FEDERAL TAXES IN OKLAHOMA, ANNUALLY, 1950-67

Millions of
Dollars



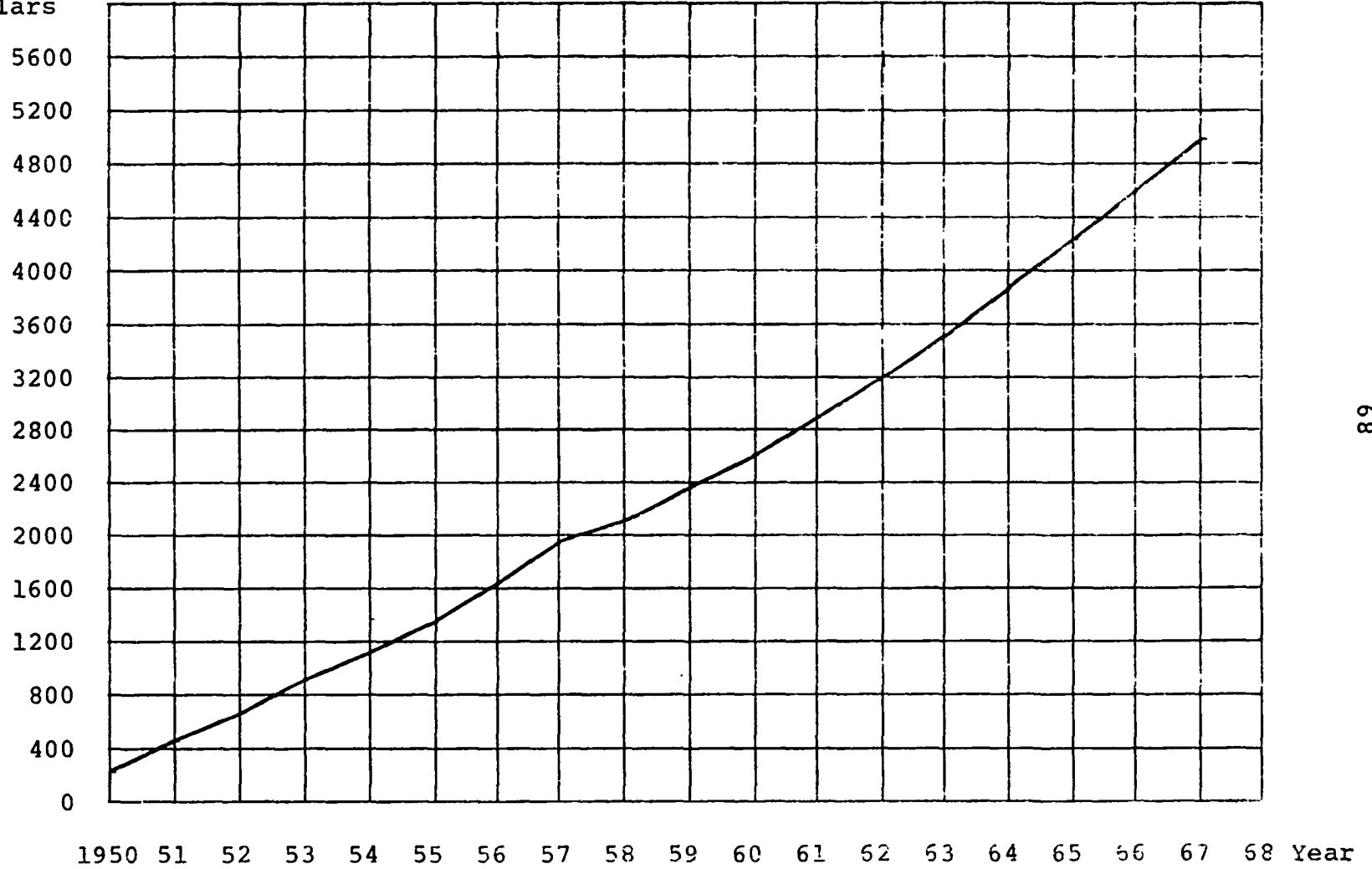
67

Source: See Appendix A

CHART 7

ACCUMULATIVE LOSS OF FEDERAL TAXES IN OKLAHOMA, DUE TO INCOME GAP, 1950-67

Millions of Dollars



Source: See Appendix A

per year. Cumulatively, over the 17 years, 1950-1967, total loss of state taxes due to underdevelopment below the national income average was over \$1 billion. (Chart 5) Monies of this amount are sorely needed to help fulfill the needs and promote the opportunities of all the citizens of this state. The cost of this income gap to Oklahoma is painfully clear. Economic development is clearly a matter of prime concern.

Not only the citizens of Oklahoma but the citizens of the entire nation suffer from the continuing underdevelopment of the state. Annual losses of federal taxes due to Oklahoma's underdevelopment and income gap grew from \$236 million in 1950 to \$388 million in 1967. (Chart 6) In cumulative terms, the federal tax losses in Oklahoma from 1950 to 1967 were about \$5.5 billion and are increasing annually. (Chart 7)

Therefore, if Oklahoma were further developed it could contribute a larger amount of tax monies for the maintenance of the federal system. It is critical and prudent, then, for federal, state and

local governments to make relevant and adequate investments for the immediate economic development of this and other equally underdeveloped areas. In our interrelated governmental and economic system, the growth of these underdeveloped regions, such as Oklahoma, will benefit not only these inhabitants but the entire people of these United States.

Poverty and its effects as shown in inadequate housing, education, welfare, unemployment and out-migration have long been present in Oklahoma. These problems require action and commitment. To construct better cities, to create a more livable environment and to enrich our society will not be the product of happenstance. To transmute goals and visions from dreams into programs and to establish harmonious social relations requires directed comprehensive planning. To achieve those conditions that are regarded as essential, it is critical that Oklahoma decide where it shall invest its money and its talents. Recommendations for these decisions are presented in this study.

▼ This study shall include a strategy that can guide the economic development of the state, delineate research necessary for that development and present a list of demonstration projects designed to take initial steps toward achieving economic growth. The scope and magnitude of Oklahoma's underdeveloped conditions have been presented in this chapter so that it may be known how much is still to be accomplished and why these accomplishments must be delayed no longer.

Chapter II

A PROPOSED STRATEGY FOR DEVELOPMENT

"We must begin to be concerned with shaping development rather than continuing to merely react to it."¹⁶

For the resources of a state to be effectively and efficiently used for economic development purposes, it is necessary that an orderly, well-conceived plan be formulated and implemented. The purpose of this chapter is to present a proposed strategy of action that can be followed in developing the economy of Oklahoma. This chapter will be divided into three sections:

- A. Economic Development Planning of Other States
- B. The Alternative Approaches

¹⁶B. Budd Chavooshian, Jersey Plans, Fall 1966, Vol. XVI, Nos. 1 and 2 (Trenton, New Jersey: State of New Jersey, 1967), p. 100.

C. A Proposed Strategy for Development of
Oklahoma

A. Economic Development Planning of Other States

Economic development in the past decade has been only a peripheral concern of most state planning agencies. This has been due in large part to the fact that state planning officials have been concerned with physical environment, with engineering-oriented problems, with socio-political processes and with the organization of the government machinery. Thus, the economist generally has not been a participant in the planning function at the state level.¹⁷

Rather, as in Texas, Kansas, Iowa and other states, economic planning generally has been limited to historical economic analyses, input-output matrices and select economic projections and studies as opposed to the more traditional concerns of the economist such as the efficient and effective use of scarce

¹⁷ Selma Mushkin, State Programming and Economic Development, Council of State Governments, (Chicago, Illinois: 1965), p. 3.

resources, increasing the volume of goods and services that are available for consumption and the various aspects of distribution of these goods and services.

The state planning offices primarily have concerned themselves with the following five functions:

1. Goal formulation
2. Coordination techniques among state agencies
3. The maximum rationalization of planning regions and districts
4. Coordination of Federal programs and support
5. Compilation of capital improvement projections

The economic development value of these efforts is often limited. The economic goals presented in many state plans are broad, imprecise and difficult, if not impossible, to translate into specific plans and programs of action. For example, the economic development objectives and programs of the state of Texas are confined to the preparation of the

following elements:¹⁸

1. Input-output design and testing
2. Current year input-output matrices
3. Projected input-output matrices
4. Design and testing of a state economic model
5. The presentation of economic forecasts

Further, the coordination attempts in most states, especially with Federal agencies, have shown little success. An example is the reluctance among Federal agencies to comply with and adopt coterminous planning boundaries as identified by state governors and sanctioned by the President in Bureau of the Budget directive A-80. At the present time there are 90 such area planning and development organizations in the United States. Yet, these planning boundaries have been formally recognized and used only by the Department of Housing and Urban Development and the

¹⁸Texas Planning Office, State of Texas Study Design for Statewide Comprehensive Planning and Programming Process, Organization and Recommended Studies (Austin, Texas: Texas Planning Office), pp. U-D-1--V-E-1.

Department of Commerce. The preponderance of Federal agencies still are seeking to individually delineate area planning boundaries within the states and establish separate planning organizations.

The capital improvement programs of the state planning agencies are largely the compilation of suggestions of individual departments. An example of how these investments are not directly related to economic development planning is the criteria by which Delaware compiles its capital improvement schedule.¹⁹ It is based on the following factors:

1. Whether it is an emergency project
2. Whether its physical condition justifies replacement or rehabilitative action
3. Whether such a project will result in a significant savings in current operational cost
4. Whether funds other than state monies will be used

¹⁹ Delaware State Planning Office, Annual Report, Fiscal Year, 1966 (Dover, Delaware: Delaware State Planning Office, 1967), pp. 1-21.

5. Whether a degree of detailed planning
has been accomplished

Economic planning is generally relegated to traditional industrial development agencies. Since the 1930's every state has either established such agencies to promote and facilitate industrial location and expansion or has assigned these functions to existing departments. Further, regional boards, chambers of commerce and industrial development councils and trusts have been organized at the local level in all states to assist in these promotional efforts.

Most economic development programs of these state industrial development agencies are limited to and emphasize data collection and dissemination involving such matters as recreational facilities, resources, production, population, wage rates and taxes. Many of these agencies also devote considerable attention to the promotion and servicing of "prospects". It was estimated that in the year 1958 alone over 100 million dollars was expended for

these traditional programs by state agencies, local agencies, utility companies, railroads, banks, insurance companies and other private agencies.²⁰

The individual states and communities generally offer a wide range of financial and tax incentives to individual industries. (Table 9) This has induced fierce competitiveness among states and communities for new national industrial locations and expansions. It has been suggested by Dr. Selma J. Mushkin that many of these special subsidy programs in the states and communities basically rest on a "smoke stack" theory of progress which assumes that the attraction of manufacturing firms into an area is essential to economic development.

Yet, manufacturing firms are not always the center of the economic life of the community. New York City's harbor and its financial district, Chicago's transportation and terminal facilities and Miami's hotels are primary drives behind their

²⁰Report of the Committee for Economic Development, The Economic Developmental Competitive Position of the State of Connecticut, Donald K. David, chairman (New York, New York: Booz, Allen, and Hamilton, 1960) p.1.

Table 9 (Continued)

Financial Assistance for Industry.																		
	State Sponsored Industrial Development Authority	Private Sponsored Development Credit Corporation	State Authority or Agency Revenues Bond Financing	State Authority or Agency General Obligation Bond Financing	City and/or County Revenues Bond Financing	City and/or County General Obligation Bond Financing	State Loans for Building Construction	State Loans for Equipment, Machinery	City and/or County Loans for Building Construction	City and/or County Loans for Equipment, Machinery	State Loan Guarantees for Building Construction	State Loan Guarantees for Equipment, Machinery	City and/or County Loan Guarantees for Building Construction	City and/or County Loan Guarantees for Equipment, Machinery	State Financing Aid for Energy Plant Construction	City and/or County Financing Aid for Energy Plant Construction	State Financing Aids for Industrial Research and Development Programs	State Authorized to Issue Industrial Revenue Bonds Under 1939 Bond Act
WEST NO. CENTRAL																		
Minnesota	•						•	•										
Iowa		•••••			•••••										•			
Nebraska		•••••			•••••													
Missouri		•••••	•	•	•••••	••												
No. Dakota		•••••			•••••	••		•	•	•							•	•
So. Dakota	•	•••••			•••••	••												
Kansas		•••••			•••••	••												•
EAST NO. CENTRAL																		
Ohio	••	•	••		••	•		•	••	•								•
Indiana		•	••		••	••			••	•								
Illinois		•			••	•			••	•								
Michigan		•			••	•			•	•								
Wisconsin		•			••	•			•	•								•
NEW ENGLAND																		
Maine	••	••	•		•						••	••						
New Hampshire	••	••			•						••	••						•
Vermont	••	••			•						••	••						
Massachusetts	••	••									••	••						
Rhode Island	••	••	•								••	••						
Connecticut	••	••						•			••	••						•
MIDDLE ATLANTIC																		
New York	•	•	•	•														
New Jersey		••																
Pennsylvania	•	•								•							•	
SOUTH ATLANTIC																		
Delaware	•		•	•				•			•	•						•
Maryland	••	•			•	•					••	••						
D. C.																		
Virginia	•	•									•							•
West Virginia	••	•			••	•		•			•							•
No. Carolina		•						•										•
So. Carolina	•							•	•	•								
Georgia					•													
Florida																		
EAST SO. CENTRAL																		
Kentucky	•	•			•												••	
Tennessee		••			••	••											••	
Alabama	••	••			••	••												
Mississippi	•	•			••	••											••	
WEST SO. CENTRAL																		
Arkansas	•	•			••	••												
Louisiana					••	••												
Oklahoma	•		•		••	••			•	•			•	•				
Texas																		•
MOUNTAIN																		
Montana	•				•													
Idaho		•••																
Wyoming	•	•••																
Colorado		••			•													
New Mexico			•		•				•	•								•
Arizona		•																
Utah	•	•			•													
Nevada																		
PACIFIC																		
Washington		•			•	•												•
Oregon		•																
California	•	•																
Alaska	•	•																
Hawaii	•																	

SOURCE: Northern Natural Gas, 2223 Dodge Street, Omaha, Nebraska-68102

respective economies. Government is the predominant industry in Washington, D.C. In Bethesda, Md., medicine is the hub, attracting manufacturing firms, as well as wholesale and retail business.²¹

In fact, situations exist where although there has been a heavy emphasis on the "smoke stack" approach of industrial development, there, in fact, has been little or no real economic growth in terms of income. North Carolina, for example, in the past decade has altered its economy from that of a poor agricultural state to a poor industrial state. At present, over 1/3 of the state's workers are involved in manufacturing activities as compared to 25 percent nationally. In North Carolina, more than 75,000 new jobs were created in manufacturing between 1960 and 1965. However, two-thirds of these jobs were in industries paying less than the state's average wage. Twenty-seven percent of these new manufacturing jobs were in textiles, another twenty-seven percent were in apparel and seventeen percent were in

²¹Mushkin, Op. Cit. p.24.

furniture. Industrialization, remarkably enough, has reduced the average income level in North Carolina.²² As the experience of North Carolina indicates, industrialization alone may not develop a region. Thus, the quality of growth is equally as important as the quantity of growth if the income gap of an area is to be closed.

There may be positive factors, however, to sub-optimal development. The total national economic and social costs resulting from the low quality development of North Carolina may be less than those resulting from a development policy that forces people to migrate to the urban and ghetto areas.

Within the past eight years the Federal government has instituted several programs to assist in alleviating the economic underdevelopment of the states. These programs include:

1. The Area Redevelopment Act of 1961 and its successor, the Public Works and

²²Carol Van Alstyne, The State We're In, (Durham, North Carolina: Committee on Manpower and Economic Development, the North Carolina Fund, 1967), pp. 18-25.

Economic Development Act of 1965

2. The Appalachian Regional Development Act of 1963
3. The Manpower Development and Training Act of 1962
4. The Vocational and Technical Education Act of 1963
5. The Housing Acts of 1964 and 1968

The success of these programs in terms of their objective of combating economic underdevelopment has been limited. The Appalachian Commission, for example, is expending over 80 percent of its funds (over 500 million dollars) on highways. The fourth chapter will contain a detailed discussion on the validity of public works investments, such as highways, for inducing economic development.

Other programs such as the Federal Manpower Training programs have been oversubscribed and underfinanced and have generally focused on obsolete or service skills not directly related to basic industrial growth. The Economic Development

Administration (EDA) annually has received less than 500 million dollars with which to stimulate the nation's underdeveloped regions.

Although state governments have manifested interest in economic development through establishment of development agencies, these agencies have not made imaginative use of the many tools and alternatives that are available. These available tools include capital investments, aid and assistance programs to the political subdivisions, the controls and regulations that states enact to direct the activities of the various political subdivisions and taxation and fiscal policies. Additionally, the state by virtue of its coordinative and persuasive capacities can influence many decisions in the private sector that can be economically beneficial to the state. All of these state tools and responsibilities can be used:

1. To accentuate and accelerate favorable industrial and employment trends
2. To retard industrial developments that are unfavorable

3. To mitigate the hardship affects of market forces that cause dislocations
4. To develop and foster new markets for the industries and resources of the state
5. To develop and foster new or more efficient uses of reserves or resources, both natural and human
6. To improve the competitive position of the area
7. To remove statutory and administrative deterrents to economic development

There are some states that have exercised strong and positive leadership in using available tools to achieve development. South Carolina is an excellent example. For many years, South Carolina has had the lowest per capita personal income in the United States. The South Carolina per capita income gap in the period 1960 to 1967 ranged from \$835 to \$946. (Table 10)

Yet, in 1961 the state embarked on a major

Table 10

PERSONAL INCOME AND INCOME GAP
UNITED STATES AND SOUTH CAROLINA, 1960-1967

Year	United States Per Capita Personal Income	South Carolina Per Capita Personal Income	Per Capita Income Gap
1960	2,215	1,377	838
1961	2,264	1,429	835
1962	2,368	1,531	837
1963	2,455	1,581	874
1964	2,586	1,692	894
1965	2,765	1,852	913
1966	2,978	2,060	918
1967	3,159	2,213	946

Source: Computed from the U.S. Department of Commerce, Survey of Current Business, Aug. 1968, by the Division of Research and Planning, Oklahoma Industrial Development and Park Department.

program to decrease out-migration, increase employment and raise incomes. The state government assumed the responsibility for these objectives. The state focused its efforts on furnishing highly skilled manpower training to its residents as an inducement to attract national industrial expansions. This was, in fact, the primary emphasis of the South Carolina development program. Consequently, in the period from 1961 to 1967 approximately 30 million dollars were invested by the state in occupational training equipment and facilities. South Carolina moved itself into the position where it could guarantee to train at state expense the workers for any industrial firm that desired to locate or expand in that state.

This state leadership, in occupational training, induced an increase of annual new plant investment from a yearly average of 200 million dollars prior to 1961 to over 500 million dollars annually from 1965 to the present.²³ Simultaneously, personal

²³A. Wade Martin, Director (1961-1968) South Carolina Technical Education Committee, private interview held during April, 1968.

income in South Carolina increased almost 48 percent in the period from 1960 to 1966 compared to a national average increase of 39 percent. (Chart 8) Of the 400 plus firms that have located in South Carolina since 1961, almost all of these firms credit the occupational training program instituted by the state as the prime reason for their decision.

Connecticut also has pursued an aggressive leadership role in effecting economic development. The state has established a long-range plan, 1960-1975, to improve the state's competitive position and to foster economic development. Included in the Connecticut approach is a series of specific recommendations including:²⁴

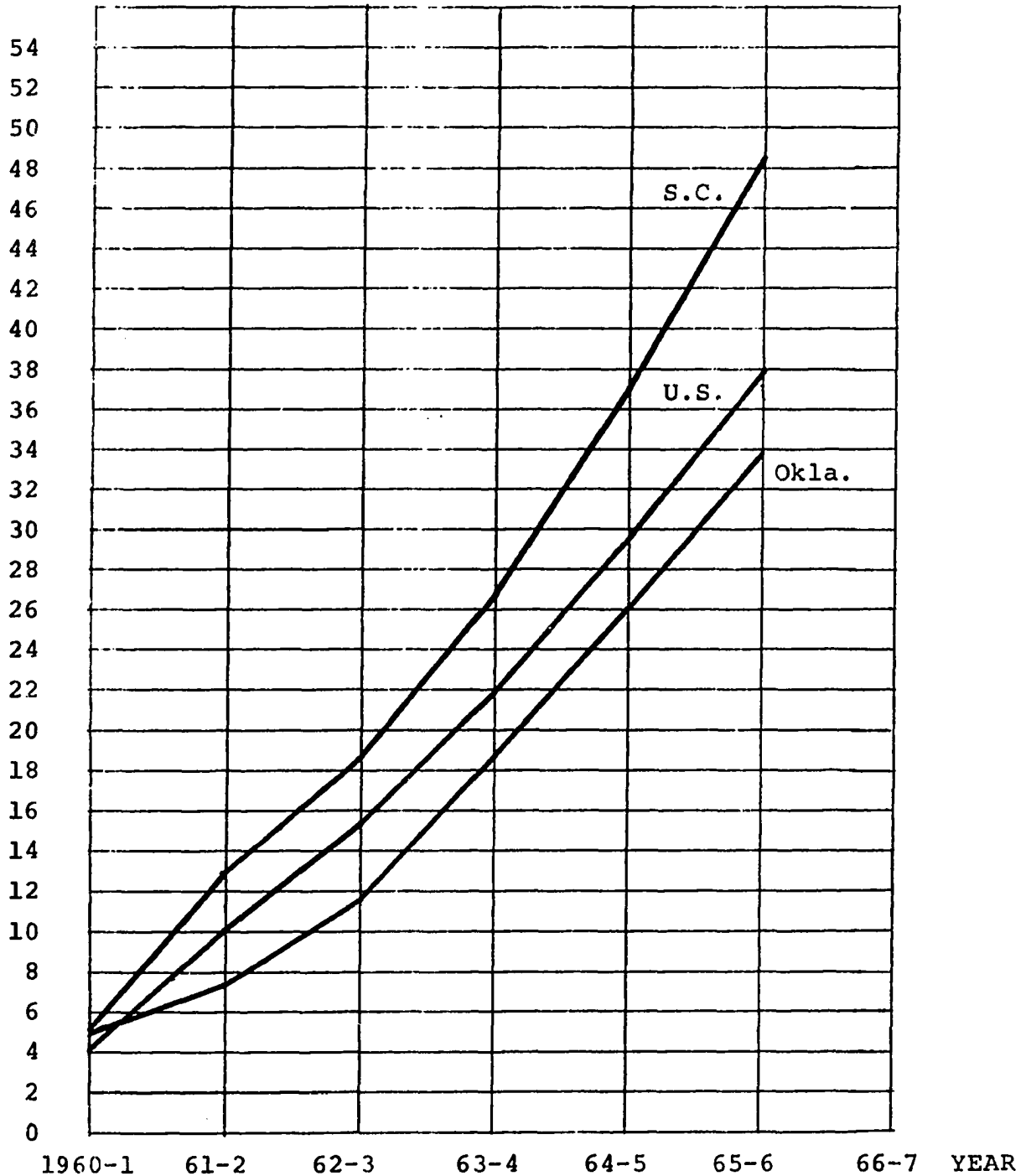
1. On Tax Reforms
 - a. Gradual elimination of business personal property taxes
 - b. Elimination of sales taxes on machinery and equipment
 - c. A first step toward the elimination

²⁴Committee for Economic Development, Op. Cit. pp. 37-48.

CHART 8

UNITED STATES, SOUTH CAROLINA, AND OKLAHOMA PERSONAL
INCOME, ACCUMULATIVE PERCENT CHANGE, 1960-66

Percent



Source: Computed by the Division of Research and Planning, Oklahoma Industrial Development and Park Department From U.S. Dept. of Commerce, Survey of Current Business, August 1967.

of sales taxes on such facilities should be to exempt machinery and equipment used in research and development

- d. Tax assessments or rates on industrial land associated with plants which have been idle for three years or longer should be raised
- e. Lower assessments or rates should be placed on:
 - 1) New plant
 - 2) Industrial land brought into use after lying idle for three years or longer, and
 - 3) Land newly used for industrial purposes
- f. The state corporate income tax should be raised and consideration given to an increase in the sales tax
- g. Consideration should be given to the

possibility of expanding the local tax base by adopting new taxes related to ability to pay

- h. Taxation of federal government property should not be permitted
 - i. A long-range tax program, integrated with a total economic development program, should be prepared
 - j. A clear-cut, gradual, step-by-step schedule of tax charges should be established
2. On Unemployment Compensation Reform
- a. New companies should be assigned rates which are lower than the maximum employment compensation tax rate for the first year
 - b. Where employees are mandatorily retired because of age regulations and where, within 30 days, a new employee has been hired specifically to replace the mandatorily retired

worker, any such separations should not be used as a basis for raising the employer's compensation rate

- c. A new merit factor should be developed which rewards employers for expanding payrolls
- d. Consideration should be given to the possibility of raising unemployment compensation rates during periods of prosperity and lowering them during depressed times.

3. On Labor

- a. A state advisory council on productivity should be established
- b. A productivity institute should be established at the University of Connecticut
 - 1) It would be concerned with:
 - a) Concepts and techniques of

- g. to provide
- h. to provide
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- y. to provide
- z. to provide

worker, any such separations should not be used as a basis for raising the employer's compensation rate

- c. A new merit factor should be developed which rewards employers for expanding payrolls
- d. Consideration should be given to the possibility of raising unemployment compensation rates during periods of prosperity and lowering them during depressed times.

3. On Labor

- a. A state advisory council on productivity should be established
- b. A productivity institute should be established at the University of Connecticut
 - 1) It would be concerned with:
 - a) Concepts and techniques of

- modern industrial management
- b) Supervisory and in-plant vocational training
 - c) Production practices and work methods
 - d) Marketing and labor relations
 - e) Training courses and seminars to develop needed managerial, supervisory, technical and vocational skills
 - f) In-plant factory engineering work to improve production practices and techniques
 - g) Development of technical libraries and technical information or reference centers which would disseminate technical information through a wide range of printed and visual media
 - h) Industrial and applied research

particularly aimed at the development of new processes and products

- i) Assistance to institutions, private firms and other organizations in improving their research and development and management and worker training and in preparing the way for smooth production and job changeovers with the introduction of new products and processes
 - j) Stimulation of research and curricula in the State's educational system, required by a modern industrial society, including business administration and industrial engineering
- 2) State programs designed to maximize worker mobility should be developed

3) Labor-management conferences at the state and local level should be continued and supported as part of a program to sustain and strengthen an attractive business climate

4. On Transportation

- a. Establish a new state river and port authority or strengthen the responsibilities of the present water resources commission in this area
- b. Coordinate highway programs with the wide range of activities affecting economic development
- c. Foster improvement in air cargo service
- d. Maintain the present attractive climate for business operations by the carriers and continue the state's past successful efforts to develop a superior transportation situation

The experiences of other states indicate that there has generally been uncoordinated or limited planning for economic development. Rather, the responsibility for economic development has been delegated to industrial development agencies and to the Federal government. The states have formulated a series of financial incentive programs to induce national industrial expansions into their area.

These incentive programs have value, yet, there are other positive actions individual states can undertake and other investments they can make to induce industrial development. South Carolina presents a clear example of a state focusing its expenditures on occupational training toward economic development. The results have been significant and are directly attributable to these state investments. Connecticut presents an example of a developed state that has recognized and undertaken a series of actions in the fields of tax reform, unemployment compensation and transportation. This has been directed toward maintaining growth in the

Connecticut economy.

The strategy that is proposed for the State of Oklahoma is based on the state exercising such a leadership role. It is further based on the state undertaking a series of research projects that can identify beneficial and productive actions and policies that might be established and undertaken in the coming years.

B. The Alternate Approaches

To close this income gap and thus induce regional growth, an underdeveloped state, such as Oklahoma, can either passively or actively pursue four alternative strategies. These alternatives are as follows:

1. Assume a passive policy designed to encourage out-migration of the culturally and economically deprived. This alternative of no action and the subsequent

out-migration is unacceptable as a state policy for the following reasons:

- a. Such a policy induces inadequate individual economic opportunity and inadequate cultural development for all socio-economic groups
- b. Such a policy serves to export the state's prime resource for development -- human capital.
- c. Such a policy serves to increase the migration from rural states, such as Oklahoma, to the urban, industrialized areas. A continuous infusion of these rural, functionally illiterate and culturally deprived people into the ghetto areas serves to generate a critical mass situation that has explosive potentials for the ghettos. Programs that contribute to the provision of economic opportunities in the underdeveloped

states make a substantial contribution to the problems of the urban ghettos as well.

Oklahoma has unknowingly pursued this no action alternative for many years. There has been little interest in economic or industrial development. Appropriations for even the traditional industrial development programs annually have been less than 250 thousand dollars.²⁵ Further, in the 1965 session of the Oklahoma Legislature strong actions were unsuccessfully initiated to eliminate the industrial development function altogether.

2. Increase the funding for and expand the existing systems of government transfer payments to the economically deprived.

²⁵Budget Records of Oklahoma Industrial Development and Park Department.

Even with the accelerated activity in the field of public welfare within the past three decades, there still resides in the United States over eight million persons who are dependent on the welfare programs of the public sector.²⁶ From the experiences gained through these programs, there are presently discussions underway in both governmental and academic circles concerning necessary program alterations. Evidence from these decades of experience indicates that although these programs provide a valuable remedial and social function, they do not have the capability to generate development.

Oklahoma has become heavily dependent upon income maintenance and distribution programs. This dependence is manifested in a sales tax that is earmarked exclusively for the welfare function, an annual

²⁶U.S. Bureau of the Census, Statistical Abstract of the United States, 1968, p. 299.

welfare department budget of over 235 million dollars and an annual per capita welfare disbursement that is one of the highest in the United States. (See Table 11)

It is thus apparent that other more viable approaches to development must be aggressively pursued, rather than placing heavy reliance on income maintenance and redistribution programs.

3. Actively seek to induce national or regional enterprises to physically locate industrial branch operations within the state or region. Unfortunately, a series of misconceptions have arisen concerning this alternative. The primary misconception concerning such programs revolves around the assumption that the objective of industrial location programs is to relocate existing firms from one area to another. This invalid and static concept of economic growth and resources ignores

Table 11

TOTAL DISBURSEMENTS OF PUBLIC WELFARE FUNDS
UNITED STATES AND OKLAHOMA, 1950-1968

Fiscal Year	United States Disbursements ----Millions of Dollars----	Oklahoma Disbursements -----Dollars-----	United States Per Capita (Dollars)	Oklahoma Per Capita (Dollars)
1950	2,395	80	15.77	35.82
1951	2,394	76	15.55	34.75
1952	2,464	81	15.76	37.10
1953	2,547	101	16.02	47.27
1954	2,653	89	16.39	41.26
1955	2,756	91	16.70	41.68
1956	2,861	98	17.02	43.77
1957	3,099	103	18.10	43.33
1958	3,433	110	19.71	49.44
1959	3,680	119	20.76	51.72
1960	3,804	130	21.13	55.63
1961	4,115	135	22.48	56.65
1962	4,457	146	23.98	59.96
1963	4,736	156	25.10	63.67
1964	5,096	168	26.63	64.26
1965	5,310	176	27.40	71.66
1966	5,776	187	29.48	75.46
1967	6,945	230	35.10	91.62
1968	8,852	236	44.29	93.47

Source: Oklahoma Department of Public Welfare, and Division of Research and Planning, Oklahoma Industrial Development and Park Department, January 1969.

the vast annual economic growth the United States has experienced for many years.

The growth of the United States Gross National Product within the past decade stands as indisputable testimony to the vast number of new industrial plant expansions that American industry has made within this period. Thus, with very minor exception, industrial location programs have been directed toward assisting wider participation in the continuing national growth. These efforts work to secure a more equitable distribution of these national industrial expansions as opposed to "stealing" another region's industry. The reality of industrial location practices is that firms that could be easily induced to relocate from one state or region to another are generally marginal operations and, consequently, are undesirable.

These marginal operations are firms that are labor intensive, pay low wages, are dependent upon public financing and are mobile. The examples usually given of such firms are the garment and shoe industries.

Industrial growth in Oklahoma presents a clear example of the magnitude of this aforementioned misconception. (Table 12) In 1967, there were 54 new plants that began operation in Oklahoma. Of these 54 only 8 had national headquarters outside of Oklahoma. Further, each of these 11 national new plant investments were expansions of the parent company operations. It is also significant that 44 of these 54 new plants were locally initiated.

4. The fourth alternative available to a state or region is the development and implementation of programs designed to generate new income by accelerating the expansion and the growth of local industry,

TABLE 12

NEW AND EXPANDING MANUFACTURING
INDUSTRIES IN OKLAHOMA,
1967

	<u>New Mfg. Industry</u>		Exp. of Existing Industry	Total of New & Expanded
	National	Local		
No. of firms	8	46	96	150
Percentage of total	5	31	64	100
No. of Jobs Created	774	737	3,435	4,946
Percentage of total	16	15	69	100

Source: Division of Research and Planning, Oklahoma
Industrial Development and Park Department,
Oklahoma City, Oklahoma, May, 1968.

while concurrently inducing entrepreneurs to develop new industrial complexes within the region. There are a series of policies that a state can follow to increase its output and raise its income levels. They are as follows:

- a. Improve the quality of public entrepreneurship. Public entrepreneurship can be defined as the careful assessment of available resources in the state so that they can be combined and used in ways to create improved products at lower resource costs. The taking of inventories of land, air and water resources and designing state and interstate programs so as to avoid waste or gain fuller resource utilization can increase the output of the economy, just as similar changes do in the private sector.
- b. Improve technological advances.

Contributions of state and local governments to scientific and technological improvements, as aids to both private industry and to public programs, may increase state productivity through the creation of technology-oriented industry.

- c. Improvements in the quantity and quality of the work force.

State and community programs that enhance the skills and work capacity of the work force will add to the capital resources that determine income flows.

- d. Improvements in allocation of resources for physical investment.

Actions taken by the state to improve allocation decisions in public works and to devise cost-effectiveness techniques with quantitative relationships to economic development will work to increase benefits and lower

costs over the range of public facility requirements. These allocation techniques also can enable state governments to establish public work investment priorities on economic development objectives.²⁷

This alternative is decidedly in concert with national goals and a wide variety of existing national programs.

Several of these programs were listed earlier in this chapter. They also include the following:

- 1) The Small Business Administration
"Small Business Loan Program"
- 2) The business and public utilities
loan programs of the Farmers Home
Administration
- 3) The water, sewer and other renewal
programs of the
a) Ozarks Regional Commission

²⁷Besen, Stanley M., Fechter, Alan E. and Fisher, Anthony C., "Cost Effective Analysis for 'War of Poverty'", Cost Effectiveness Analysis, Frederic A. Praeger, Washington, D.C., 1967.

- b) Technical Action Panels
of the Department of Agriculture
- c) Department of Housing and
Urban Development

C. A Proposed Strategy for Development for Oklahoma

The fundamental objective of this suggested Oklahoma economic development strategy is to create more and better jobs for the residents of this state and thus close Oklahoma's income gap. This objective could be accomplished by the following actions:

1. The inducement of national or regional enterprises to physically locate their industrial expansions within Oklahoma.
2. The formulation and implementation of programs designed to accelerate the expansion and the growth of local industry, while concurrently inducing entrepreneurs

to develop new industrial enterprises within the state.

3. The establishment and operation of occupational training programs that can produce workers for the following:
 - a. Existing job vacancies
 - b. Expansion of existing firms
 - c. New firms locating within Oklahoma

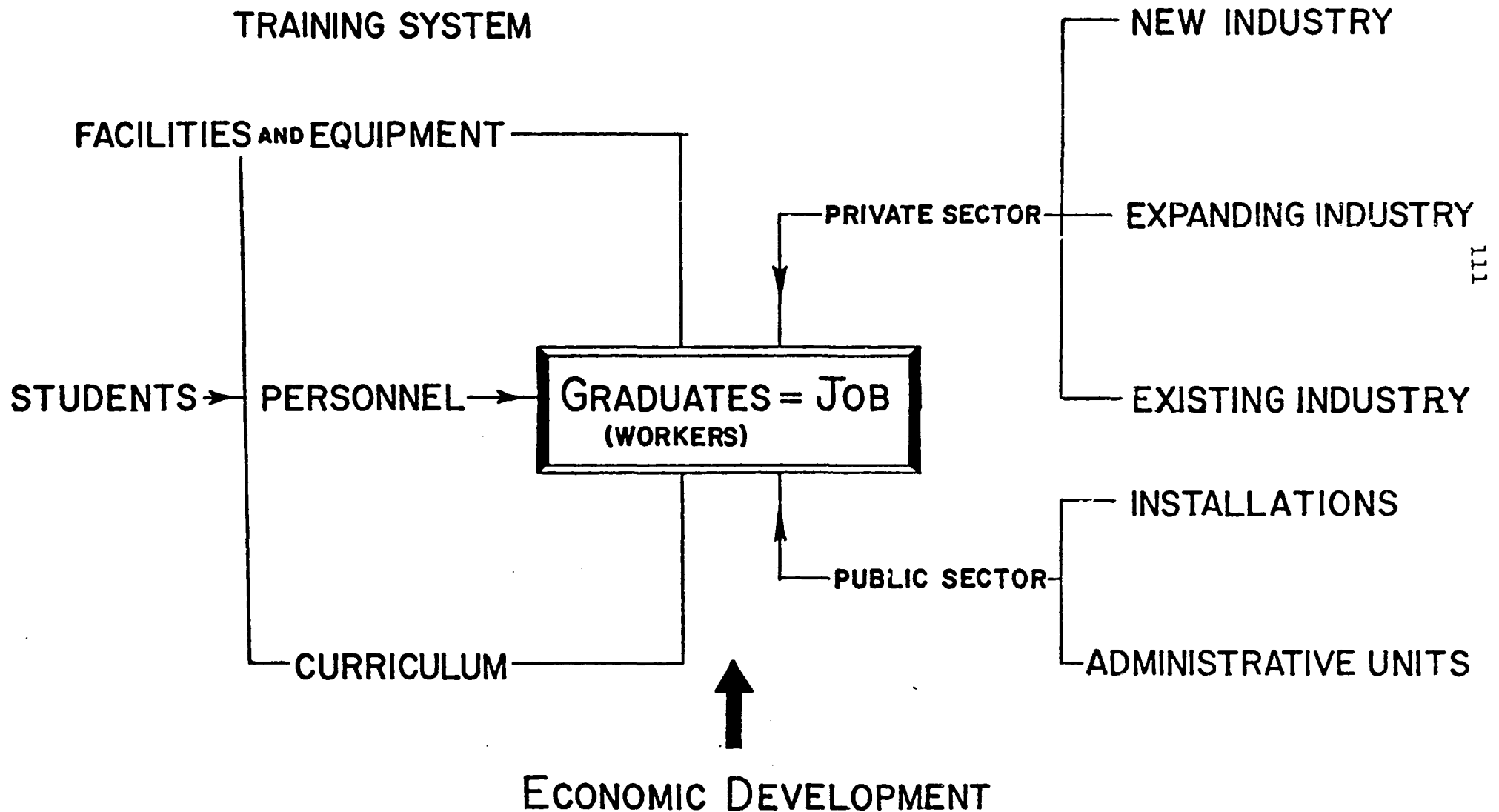
This development approach is directed toward increasing the flow of income into the state by strengthening and expanding the state's capabilities to produce and market goods, services and information for out-of-state purchasers. As these capabilities are strengthened and as state firms are better able to serve external markets, the income and profits to these firms will flow back into the Region. This approach is not welfare-oriented in terms of income redistribution and income maintenance. Rather, it is focused on the creation of new income within this state.

An important element in this proposed strategy is the role of risk capital. Risk capital can be

A SIMPLISTIC JOB MATCH MODEL OF THE OKLAHOMA DEVELOPMENT PROGRAM

SOURCE OF MANPOWER

SOURCE OF EMPLOYMENT



defined as private capital invested to create new firms or expand existing firms. It is this new capital investment that enables the establishment of new and expanded industrial and service firms.

Therefore, in essence, the success of the Oklahoma development program will be dependent upon the state's success in securing this risk capital investment from entrepreneurs and established firms to create new firms, to expand existing firms or to create branch operations within Oklahoma.

The succeeding chapters will present a series of specific research projects and demonstration projects for the State and Ozarks Region that are directed toward reducing the risks for private capital investment in Oklahoma. These projects are focused toward developing programs of selective public investments that can serve to induce private capital into the state and to simultaneously further involve existing indigenous risk capital sources in the state's growth. The fourth element of this plan will indicate a preliminary series of these investments that can make a large contribution toward the closure

of the Oklahoma income gap by producing industrial growth.

Complimentary to the creation of new jobs and investment opportunities is the necessity of establishing an occupational training system that can train large numbers of workers to fill these job opportunities. This is in concert with the South Carolina experience. Consequently, the State of Oklahoma should continue to work toward the establishment of an occupational training system that is responsive, flexible, opportunity-oriented and able to meet the following objectives:

- a. Provide worker skills for existing job vacancies
- b. Provide worker skills for expansion of existing industries
- c. Provide worker skills for new industries locating in Oklahoma
- d. Provide upgrading training to increase the productivity of worker skills.

Investment in human resources through technical training, as well as general education, will play an

important role in Oklahoma's economic and industrial development program. Consequently, substantial investments will be made in vocational-technical education programs in Oklahoma. Yet, all kinds of expenditures on training and education are not equally effective in raising local productivity and incomes. It is important, therefore, for a low income state, such as Oklahoma, to use its limited training and education resources selectively to maximize its rate of gain in income.

There are three major concepts that should guide Oklahoma's policy of selective training for economic development.

- 1) To concentrate training in the industries whose growth causes growth in other industries; for example, the resulting growth of select service industries as basic industry grows
- 2) To concentrate training in the industries most likely to expand and to provide the most jobs and income growth

- 3) To concentrate training on the types of skills that are most likely to influence investment decisions to expand jobs and income in an area

Economists and students of regional development have emphasized that all employers are not equally important to area growth. There must be a distinction made between the "base" industries, those that generate the basic income flow in an area (sometimes referred to as the "export" industries), and the "residential" industries, those that provide local services to the population residing within the area. Public programs that assist the base industries may help them expand and thus generate more jobs for residential industries as well. Public programs that assist residential industries lead to more profits for individual firms, not necessarily to more total jobs and higher income in the area. Vocational-technical education curricula, designed to serve all local employers equally, therefore, are not necessarily well designed for maximizing economic growth.

Likewise, all industries are not equally likely to expand or grow faster in an area. The process of economic development itself involves the shifting of the distribution of jobs among industries -- away from the extractive industries (such as farming, mining and lumber) toward more manufacturing industries at first, and eventually toward more service industries. The opportunities for expansion, of course, depend upon the competitive conditions of physical, financial and human resources in the area and the changing national demands for these resources. Oklahoma, for that matter the Southwest as a whole, has made much progress in recent decades by gaining a larger share of the textile, apparel, shoe and light assembly industries. But these are low-wage, slow-growth industries nationally. This has represented a step up from a poverty-stricken farm and forest economy, but further catching up to the national average income and growth rate cannot long be based upon these industries in the future. Therefore, training, oriented to economic development goals,

must consider the kinds of industries that will grow the fastest in order for real progress to take place.

Finally, all types of skills and training are not equally important to investment decision in an area. Some industry is immobile or must locate near particular resources or in a major metropolitan area, and the availability of public training programs are not influential in decisions to invest locally in expansion. Other industry is very mobile and labor costs may be important, but unskilled workers may be easily adapted to the work with brief instruction on the job. For some industries, however, semi-skilled workers may require moderately long periods of specialized training. Although highly skilled workers and professional workers may be recruited nationally, the semi-skilled work force may need to be recruited and trained locally. The availability of existing training programs or the adaptability of training programs to new specialized needs, therefore, may be an important aspect of area competition for new industry.

In summary, the Oklahoma Strategy for Development is based on two complementary and interrelated sets of actions. The first set is the identification of a series of select public expenditures and action programs designed to induce the investment of private risk capital in Oklahoma. This first set of actions will work to produce jobs for the people of this state. The second set of actions is the establishment of a flexible, industry-oriented occupational training system that can prepare the people of this state to fill these new jobs. These two sets of investments and actions can eliminate Oklahoma's underdevelopment and thus close the state's income gap.

The course of Oklahoma's development within the past 24 months indicates that this approach can succeed. Within this period, the state has given high priority to the establishment of a highly responsive Department of Vocational and Technical Education. This has been accomplished. A series of investments have been made throughout the state for

the construction of new industry-oriented training facilities. Such investments have already been made in Hugo, Poteau and McAlester, Shawnee, Muskogee, Duncan, Enid, Fort Cobb, Drumright, Bartlesville, Oklahoma City, Tulsa and Ardmore. (Map 3) The others to follow are presented in Chapter 4.

In addition to these new and expanded occupational training facilities, the State has existing technical training programs at Oklahoma State Tech in Okmulgee and the Oklahoma State Technical Institute in Oklahoma City and Stillwater. Further technical training programs also are offered in the seven State junior colleges. (Map 3) During the years 1967 and 1968 intensive industrial development activities have been initiated. The consequence is a substantial industrial growth in new plant investment in Oklahoma. In the period from 1963 to 1966, new plant investment averaged only 50 million dollars per year. In 1967, as the Oklahoma development efforts were intensified, the figure rose to slightly over 60 million dollars. In 1968, there were approxi-

Jan. 1969

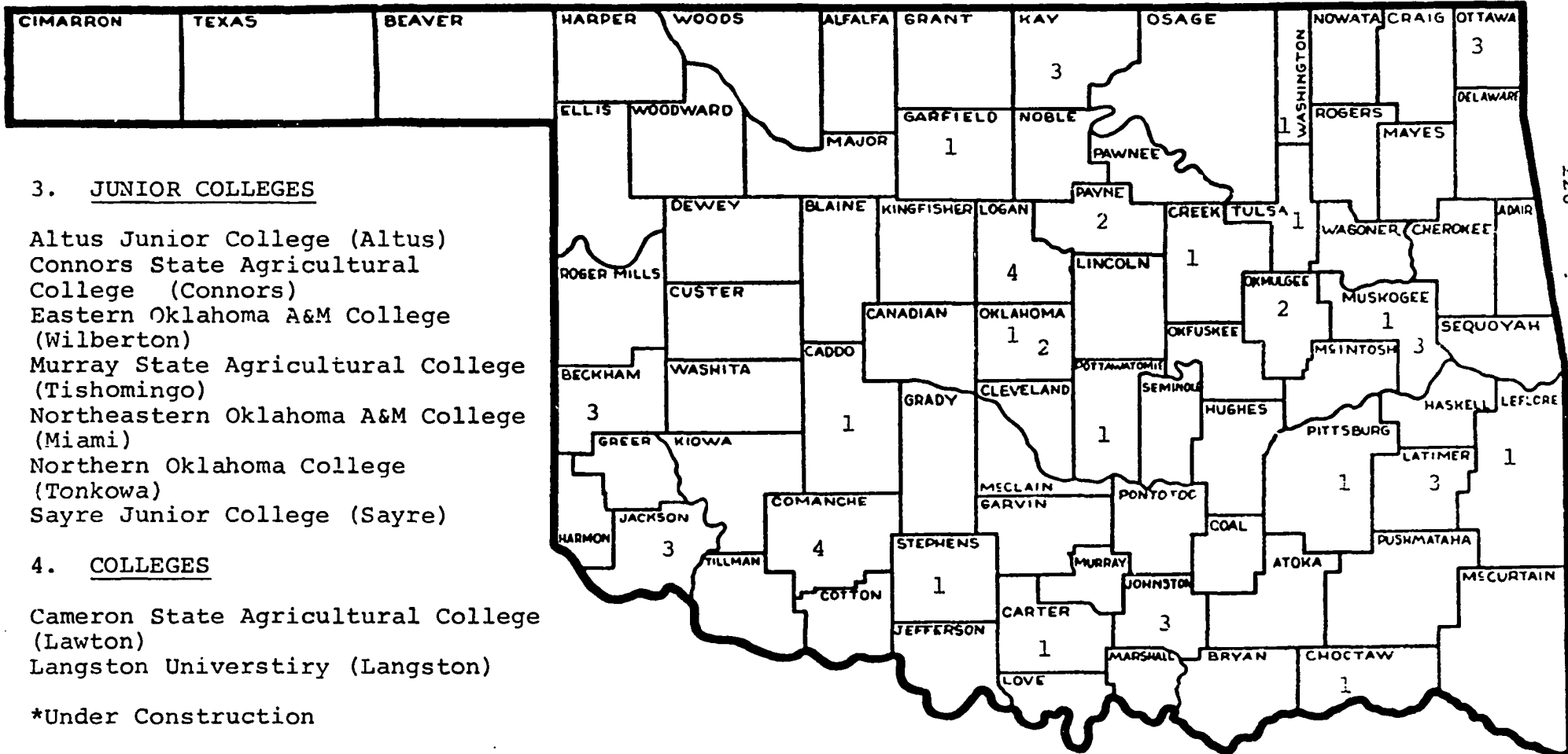
1. AREA VOCATIONAL-TECHNICAL SCHOOLS

Tulsa Area Vocational-Technical Center (Tulsa)
 Oklahoma City Area Voc-Tech Center (Okla. City)
 Southern Oklahoma Area Voc-Tech Center (Ardmore)
 Duncan Area Vocational-Tech Center (Duncan)
 O.T. Autry Area Voc-Tech Center (Enid)
 Tri-County Area Voc-Tech (Bartlesville)
 Caddo-Kiowa Area Voc-Tech (Ft. Cobb)
 Central Oklahoma Area Voc-Tech (Drumright)*

Indian Capital Arka Voc-Tech (Muskogee)*
 Kiamichi Area Voc-Tech (Poteau, Hugo, McAlester)*
 Gordon Cooper Area Voc-Tech (Shawnee)*

2. TECHNICAL INSTITUTES

Oklahoma State Tech (Okmulgee)
 Oklahoma State Technical Institute (Okla. City)
 Oklahoma State Technical Institute (Stillwater)



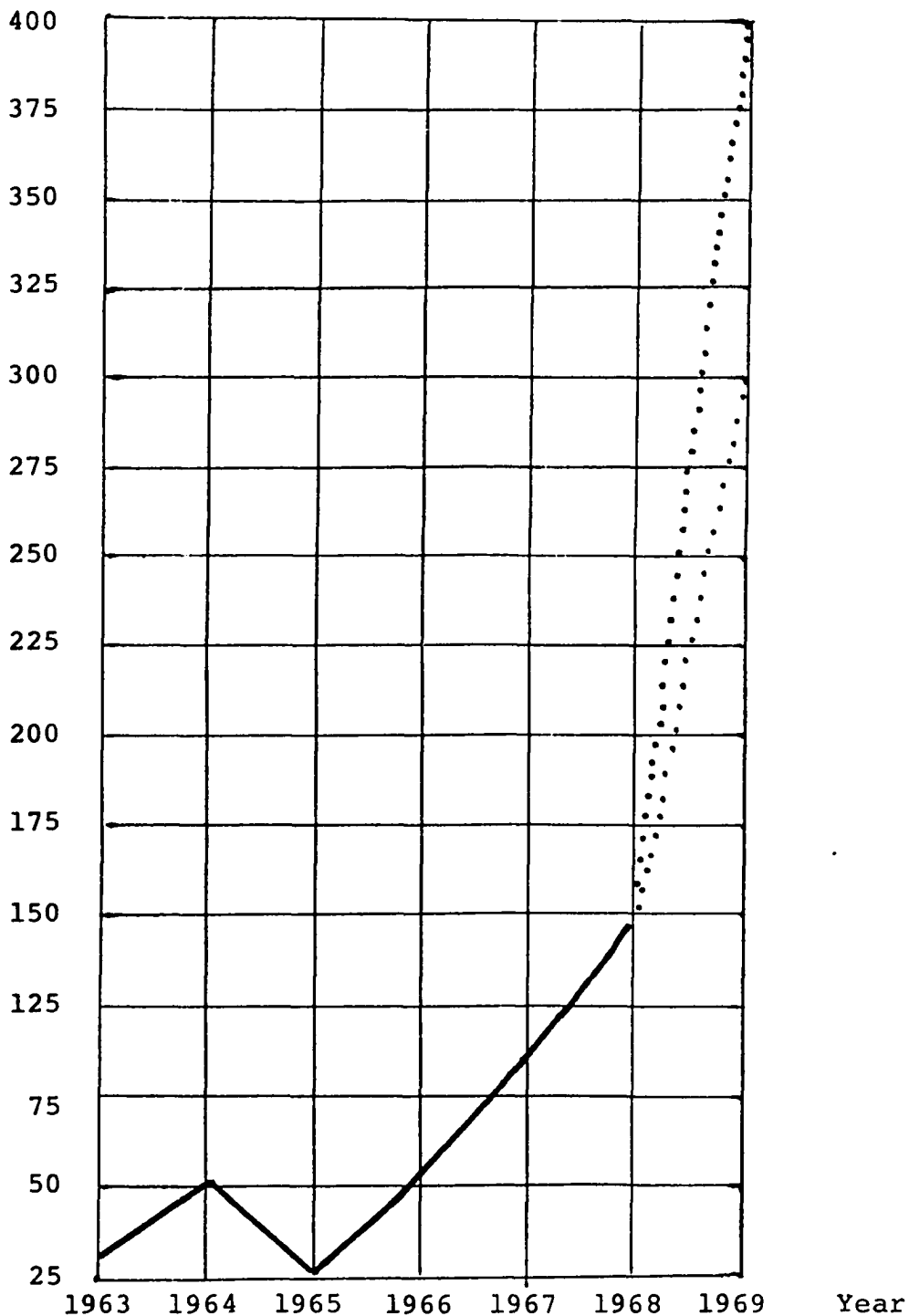
mately 150 million dollars of new plant investment. In 1969 it is anticipated the state will experience a growth of over 400 million dollars in new plant investment.²⁸ (Chart 9)

Succeeding chapters will present a series of research projects, demonstration projects and specific investments that are geared toward meeting the objectives of the Oklahoma program and accelerating the progress that already has been made. These programs are structured in such a manner that the techniques that are evolved can hopefully have applicability to regions, states and municipalities outside of Oklahoma.

²⁸1963-66 tabulated by the Division of Research and Planning, Oklahoma Industrial Development and Park Department from the Bureau of Business Research, University of Oklahoma, Oklahoma Industrialization. 1967 data from the same source with additional information by the Division of Research and Planning, Oklahoma Industrial Development and Park Department. 1968 data from Division of Research and Planning, Oklahoma Industrial Development and Park Department, "New and Expanding Industry in the State of Oklahoma, 1968" Jan. 1968.

CAPITAL INVESTMENTS OF NEW AND EXPANDING
MANUFACTURING INDUSTRIES IN THE STATE
OF OKLAHOMA, 1963 THROUGH 1968

Millions of Dollars



Source: 1963-1966 tabulated by the Division of Research and Planning, Oklahoma Industrial Development and Park Department from the Bureau of Business Research, University of Oklahoma, Oklahoma Industrialization. 1967-1968: Division of Research and Planning, Oklahoma Industrial Development and Park Dept., "New and Expanding Industry in the State of Oklahoma", January, 1969.

Chapter III

ECONOMIC DEVELOPMENT RESEARCH AND DEMONSTRATION PROJECTS

As has been indicated in the first chapter, there is a sparsity of information and basic data on the development and management of sub-national economies. These gaps are evident in the Ozarks Region and in Oklahoma as they are in the other developed and underdeveloped areas of the United States. To formulate successful public programs of economic growth and to identify discriminatory public investments for this development, it is critical that limited funds be expended for the generation of some basic data for the conception of some basic and systematic development techniques.

It is the purpose of this chapter to indicate, in specific terms, research areas in which public funds might be invested to generate some of this

basic data and formulate systematic development procedures. Some of these suggested research and demonstration projects are new; most would involve high-level work and commitment by qualified people and organizations; all have the potential to contribute to the continued economic growth of this state and region.

This chapter will be divided into three sections. Each of these three sections will be further divided into individual types of projects. This division of the chapter will be as follows:

Section A. Industrial Development Research
Projects.

1. Development of Techniques for Expanding Existing Industrial Enterprises.
2. Development of Techniques for Initiating New Industrial Enterprises.
3. Development of Strategies for Gaining Maximum Participation of Leading Industrialists in the Design and Implementation of the State's Industrial Development.

4. Development of Strategies for Inducing Existing Corporations to Locate in Oklahoma.

Section B. Occupational Training Research
Projects

1. Development of an Occupational Training Information System.
2. Development of Effective and Efficient Curricula and Teaching Techniques.
3. Development of a Training Program for Teachers, Administrators and Designers of Occupational Training Programs.
4. Development of Systematic Procedures for Acquiring Facilities and Equipment Necessary for Occupational Training.
5. Development of Strategies and Procedures for Involving the Hard-Core Unemployed in Effective Occupational Training Programs.

Section C. Experimental and Demonstration
Projects

1. An Experimental Field Research and Pilot Project in Occupational Training to Test the Economic and Motivational Advantages of Providing Maintenance Loans, as Opposed to Grants, to Trainees and to Establish Systematic Procedures for Reinforcing Self-Help Orientation Among Trainees from the Hard-Core Unemployed.
2. A Work Program for the Establishment of an Occupational Training Information System Based on the Manpower Needs of Industry.
3. Pilot Project for the Development of a Systematic Procedure for Community-Initiated Industrial and Economic Development.

The first and second sections (A & B) will present brief descriptions of a series of research

and experimental projects on industrial development and occupational training. These two sections will include selected factors that might be significant in the subsequent formulation of detailed work programs for the suggested projects. The presentation of several of these projects is to provide a conceptual relationship between problem areas and to indicate varying levels of generalization. However, it is not to be construed to mean that significant interdependent relationships between categories do not exist; that any sub-category is necessarily less significant than any other; or that projects and relationships that are not included are necessarily less relevant. Although there are many research and demonstration projects outlined in this chapter, this presentation is by no means all-inclusive.

The third section (C) of this chapter will define in further detail the objectives of three of these select research and experimental projects. In that section three of the projects from sections A and B will be expanded into detailed work programs

suitable for funding and implementation.

The expansion of knowledge in the areas suggested in this chapter can provide information that will assist Oklahoma in closing its income gap. Further, the knowledge gained about regional development in Oklahoma can hopefully be used elsewhere.

A. Industrial Development Research Projects

The purpose of these select research projects on industrial development is to develop techniques for expanding, creating and establishing industrial enterprises in Oklahoma that can provide more job opportunities and increase personal income within the state.

The projects were selected on the basis of conferences with economic and industrial development specialists from the Ozarks Regional Commission, the five Economic Development Districts in Oklahoma, (See Map 5) and staff of the Divisions of Industrial Development and Research and Planning of the

Oklahoma Industrial Development and Park Department. The four areas of study selected for this section correspond to the areas of staff and program concentration of these agencies. The individual projects suggested in each area can provide techniques that are presently non-existent or insufficient and needed by these agencies.

As has been indicated, this section will include a series of brief descriptions of industrial development research projects. Each of these descriptions will include select factors that might be considered in undertaking these projects. These industrialization research projects will be divided into four categories that are as follows:

1. Development of techniques for expanding existing industrial enterprises.
2. Development of techniques for initiating new industrial enterprises.
3. Development of strategies for gaining maximum participation of leading industrialists in the design and

implementation of the state's industrial development:

4. Development of strategies for inducing existing corporations to locate in Oklahoma.

1. Development of Techniques for Expanding Existing Industrial Enterprises.

As has been indicated in Chapter II, over 86 percent of the new jobs created in Oklahoma in 1967 came from the expansion of existing firms. This dramatically emphasizes the importance of existing local firms in programs of economic development. Consequently, it may be highly beneficial to an area, or state, to conceive, structure and implement programs that can work to encourage and induce existing local or state firms to expand and prosper. These local programs may be strengthened by the following:

- a. The establishment of procedures for identifying and rank ordering local enterprises with expansion potential, such as enterprises that can profitably

expand and provide more and higher paying job opportunities. This research may be based on one or more of the following factors:

- 1) The individual firm's short term needs for:
 - a) Larger plant facilities (building and/or equipment),
 - b) Key personnel,
 - c) Financing,
 - d) Short-term training programs in skills where shortages exist,
 - e) Public works.
 - 2) The individual firm's long term needs for:
 - a) Basic and applied research,
 - b) Technological innovations,
 - c) New skill development.
- b. The establishment of procedures for identifying the specific research needs of growth industries that can be initiated,

supported or developed in Oklahoma. This research may be based on one or more of the following:

- 1) Identification of "common factors" of growth industries that are essential to the industry's development and expansion.
 - 2) An identification of common and unique research projects required by these particular industries.
- c. The establishment of procedures for orienting Oklahoma's research institutions, programs and researchers to the research needs of industry. These procedures could be based on an identification of select and controllable factors. These factors could include:
- 1) The administrative control of various research institutions and their influence in determining the type of research being done.

- 2) The involvement of the private business sector in financially and politically supporting and participating in the research orientation of public research institutions.
 - 3) The formulation of techniques and mechanisms to coordinate the needs and efforts of researchers and administrators with private enterprise.
- d. The establishment of procedures for identifying two or more specific enterprises that could be merged; such as mergers which will increase the overall expansion potential of the companies being merged. This research may be based on one or more of the following factors:
- 1) A shortage of financing in a growth enterprise and the strong financial resources of another enterprise with less growth potential.
 - 2) An "economical matching" of:

- a) Physical resources,
- b) Human resources,
- c) Similar markets,
- d) Research,
- e) Transportation,
- f) Warehousing requirements.

2. Development of Techniques for Initiating New Industrial Enterprises.

It is the purpose of this section to briefly describe a series of research projects that may assist industrialists in initiating new industrial firms in Oklahoma. These projects will include:

- a. The establishment of procedures for identifying specific feasible enterprises based on five to seven Standard Industrial Classification digits. This feasibility of specific enterprises may be based on factors that include the following:
 - 1) The demands of international markets.
 - 2) The demands in national markets.

- 3) The competitive advantages that may be derived from savings in transportation costs. The transportation cost may define and limit markets.
- 4) The competitive advantages that may be derived from labor cost differentials between regions.
- 5) The commercial existence of natural resources, methods for exploiting them profitably and their relevance to specific products.
- 6) The availability of management techniques which integrate all of the above factors by operationally defining their relative weights, establishing the significant relationships between them and including any other competitive factors that may be relevant to identifying a profitable industrial potential in Oklahoma.

b. The establishment of procedures for implementing specific enterprises that have been identified as feasible to include the select factors that are as follows:

1) The formulation of a procedure for identifying and stimulating responsible companies that are most likely to be interested in creating and managing the feasible enterprise. This procedure might include the following steps:

- a) The identification of the appropriate decision maker within each company
- b) The formulation of methods for approaching and meeting with these individuals
- c) The establishment of various goals for these meetings and the methods for achieving these goals at each meeting

- d) The formulation of methods for evaluating the results of each of these meetings and determining alternatives based on these results.
 - e) The formulation of procedures for following up and finalizing (closing) each of these negotiations.
- 2) The formulation of a procedure for identifying and committing public funds for the capital investment required to implement a feasible enterprise. This research may be limited to existing or anticipated public resources.
 - 3) The formulation of a procedure for identifying and committing entrepreneurs and risk capital to a feasible enterprise, whether or not these enterprises are involved in a related business.
 - 4) The formulation of a procedure for

identifying and developing entrepreneurial initiative within any underdeveloped area.

- 5) The formulation of methods for developing non-profit organizations involving individuals with entrepreneurial experience who are willing to establish industrial enterprises in underdeveloped areas and thus teach others the processes involved.

3. Developing Strategies for Gaining Maximum Participation of Leading Industrialists in the Design and Implementation of the State's Industrial Development.

The involvement of leading industrialists and members of the power structure is critical to the successful implementation of a program of economic development. Consequently, the purpose of this section is to identify a series of research projects to develop techniques to secure this involvement.

The projects include:

- a. The establishment of procedures for identifying industrial leaders who can contribute to the State's industrial development.

This identification may be based on the following:

- 1) The financial resources possessed by these individuals and the type of entrepreneurial initiative they have displayed in the past. This research can also identify risk capital and those entrepreneurs seeking a wide variety of investments.
- 2) The type of national growth industries with which the individual industrial leaders are involved and that industry's potential for development in Oklahoma.
- 3) The identification of industries and their leaders which are most dominant in Oklahoma, and whose needs may present opportunities for developing

new or larger enterprises.

- b. The establishment of procedures for effectively communicating with leading Oklahoma industrialists and involving them with the State's industrial development. The formulation of these procedures may be based on the following:
- 1) The formulation of trust, or other mechanisms that can concurrently provide the industrialist an opportunity to profit individually while performing in a public service capacity in underdeveloped areas.
 - 2) The formulation of inducements which can induce industrial leaders to become involved with donating time, talent and resources to the State's industrial development program.

4. Developing Strategies for Inducing Existing Corporations to Locate in Oklahoma.

The Oklahoma Strategy for Development is focused toward inducing many firms to locate their expansions in Oklahoma. The following projects are oriented to identify select research that can be used to induce firms to locate within the State. The projects are as follows:

- a. The establishment of procedures for identifying existing corporations with the highest probability of locating in Oklahoma. This identification may be based on:
 - 1) The available resources and competitive advantages which Oklahoma has to offer specific types of industry.
 - 2) The formulation of procedures for identifying corporations with specific expansion plans and their locational requirements.

- b. The establishment of procedures for communicating with corporations that may be interested in locating in Oklahoma. The communication might be based on:
 - 1) Procedures for identifying the significant decision maker within the company.
 - 2) Procedures for gathering the facts and inducements which are relevant to the individual corporation.
 - 3) Procedures for establishing effective communications and social and psychological techniques that can be used in "closing a deal".

- c. The establishment of public assistance to be used in convincing corporations to locate in Oklahoma. This assistance may be based on any one or more of the following factors:
 - 1) Financial assistance
 - 2) Specific research oriented to the

corporation's needs

- 3) Technological assistance
- 4) Managerial assistance
- 5) Consultant assistance
- 6) Training programs for required
personnel
- 7) Industrial sites
- 8) Buildings
- 9) Equipment

B. Occupational Training Research Projects

As in other states, the curricula, facilities and personnel which make up Oklahoma's occupational training programs have not been directly focused on the economic development of the state. Consequently, the skills of the graduates from these programs have not been directly related to the number and types of skills required by the public and private sectors of Oklahoma's economy. As a result, there have frequently been too few graduates to fill the available jobs, while other graduates must migrate to urban centers

within the state or to other states, to find employment in their newly developed skills. For underdeveloped areas, this outmigration leaves behind additional economic handicaps by constantly draining from the area the manpower resources.

As was indicated in the second chapter, occupational training is a key element in the Oklahoma development effort. Oklahoma's past economic history indicates that the quantity of industrial development necessary to close the state's income gap cannot be induced unless the Vocational-Technical training system is given the techniques, resources and administrative directive to establish flexible, industry-oriented training programs that can accomplish the following objectives:

-Provide workers for existing job
vacancies
-Provide workers for new plant expansions
-Provide workers for new industrial
enterprises
-Provide retraining for Oklahoma workers

The purpose of this section is to identify and outline a series of research projects on occupational training. These projects are designed to provide the Oklahoma occupational training system with techniques and programs that will enable them to meet its objectives. These occupational training research projects will be divided into the five categories that are as follows:

1. Development of an Occupational Training Information System.
2. Development of Effective and Efficient Curricula and Teaching Techniques.
3. Development of a Training Program for Teachers, Administrators and Designers of Occupational Training Programs.
4. Development of Systematic Procedures for Acquiring Facilities and Equipment Necessary for Occupational Training.
5. Development of Strategies and Procedures for Involving the Hard-Core Unemployed in Effective Occupational Training Programs.

1. Development of an Occupational Training Information System.

Requisite to the management of a flexible occupational training system is the collection and generation of basic data on the specific manpower needs of industry and the capabilities of the training system to produce this manpower. The purpose of this information system is the collection and generation of basic manpower data. In Oklahoma, very little comparable and continuous supply and demand manpower data is collected. Demand data has been limited to periodic area surveys conducted by the Oklahoma Employment and Security Commission for the Manpower Development Training Programs. There have been only two major demand studies conducted in Oklahoma that covered a broad range of occupational skills.²⁹

²⁹ Oklahoma State Regents for Higher Education, Higher Education Opportunities and Needs in Oklahoma: Self-Study of Higher Education in Oklahoma, Oklahoma City, Oklahoma.

Oklahoma Employment Security Commission, State Employment Service, Research and Planning Division, Manpower Report, Oklahoma City, Oklahoma, 1964, 1968.

Manpower supply information has been fragmentary with both the Department of Vocational and Technical Education and the Regents for Higher Education keeping separate records on enrollment, graduates and even definitions of work skills.³⁰ Further, the Department of Vocational and Technical Education has instituted a tracer system on its graduates to their first position. Thus, there is limited data or information that is basic to the effective management of the total occupational training system.

The availability of this information will permit the effective and efficient allocation of limited training resources to meet the objectives of the Oklahoma development program.

The sub-optimal use of training resources and the resultant opportunity costs this misuse induces can be eliminated by the establishment of a comprehensive information and management system for occupational training programs. Such a system does not exist in Oklahoma or any of the other forty-nine

³⁰ Maurice W. Roney and Paul V. Braden, Occupational Education Beyond the High School in Oklahoma, September 1967.

states. Because of the need of such a system, it is proposed that there be established in Oklahoma an Occupational Training Information System (OTIS) that can accomplish the following:

- a. Identify the immediate, intermediate and long-term personnel requirements of the private and public sectors of Oklahoma by geographic locations and by specific Dictionary of Occupational Titles job classifications.³¹
- b. Identify the immediate, intermediate and long-term training programs and trained personnel outputs of all training institutions in Oklahoma by geographic locations and by specific Dictionary of Occupational Titles job classifications.

This supply information can be compared with the demand information and provide a basis for decisions on the number and type

³¹U.S. Department of Labor, Manpower Administration, Dictionary of Occupational Titles, Vol. I, Definitions of Titles, and Vol. II, Occupational Classifications, 1965.

of training programs to be added or changed in specific geographic areas.

- c. Identify the dropouts and first jobs taken by graduates from training programs.

This information will help to:

- 1) Identify causes for dropouts
- 2) Identify the relationship between training and the first employment.

This information on the supply, demand and initial employment characteristics of trainees and dropouts in the Oklahoma occupational training system, when combined with cost figures for this training, will provide the basis for cost management of Oklahoma's training resources. Because this is a vanguard type research project, it can represent a functional prototype other states can develop for their own use.

2. Development of Effective and Efficient Curricula and Teaching Techniques.

Because occupational training is work-oriented,

it is critical that the curricula and teaching techniques used be relevant and adequate to the work experience in which the trainee will eventually participate. It is the purpose of this element to propose a series of research projects that can serve to develop new or improved curricula and teaching techniques. These projects are as follows:

- a. The establishment of procedures for involving private enterprise in the design of occupational training programs.
- b. The establishment of procedures for extending occupational training programs to include more on-the-job training in private industrial enterprises.
- c. The establishment of procedures for identifying, developing and utilizing programmed learning techniques in combination with teacher guidance and on-the-job training.
- d. The establishment of efficient short-

term programs for training machine shop skills.

- e. The establishment of procedures for scheduling and organizing training programs at various hours of the day and evening to make maximum use of existing facilities and provide maximum opportunities for a greater number of possible trainees.
- f. The establishment of procedures for the funding, purchase, operation, replenishment and maintenance of a state equipment pool for portable or "special school" training.

3. Development of a Training Program for Teachers, Administrators and Designers of Occupational Training Programs.

The demand in occupational training for competent and professional teachers and administrators is acute. There is a need for a special institute to

develop and conduct training programs for teachers, administrators and designers of occupational training programs. It is suggested that this institute should be oriented to design manpower programs according to the needs of industry, private enterprise and government. Such an institute might be designed:

- a. To serve a multi-state region that may include states in addition to the member states of the Ozarks Regional Commission.
- b. To receive financing from the State of Oklahoma, the Ozark Regional Commission, and other public and private participatory agencies.
- c. To concentrate on the establishment of training programs that can induce regional development.
- d. To establish close working relations with industry, State Secondary Education Departments, State Departments of Higher Education, State and Federal Manpower Training Agencies, and individual

occupational training centers. This can work to insure the formulation and implementation of industry-oriented occupational training programs.

- e. To develop and train counselors in new counseling techniques.
- f. To establish programs and techniques to improve the image of occupational training. This might include the following:
 - 1) A newspaper information program
 - 2) A billboard information program
 - 3) A radio information program
 - 4) A television information program
 - 5) A series of public information lectures and seminars for:
 - a) Civic groups
 - b) Education groups
 - c) Industry groups
 - d) Poverty groups
 - e) High school groups
 - f) Public officials and employees
 - g) Commerce groups

- g. To develop adequate high school curricula that will prepare graduates for participation in occupational training programs.

4. Development of Systematic Procedures for Acquiring Facilities and Equipment Necessary for Occupational Training.

There are a variety of national development programs that make monies available to the states for the purpose of acquiring the facilities and equipment necessary for occupational training. These programs include the Vocational Education Acts of 1963 and 1968, the Public Works and Economic Development Act of 1965, the Higher Education Act of 1965 and others. Further the state has made available through the Bond Issue passed on December 10, 1968, over \$5.5 million of state funds that can be used for purchasing vocational education facilities and equipment. Because of the variation in the matching requirement of the individual federal programs and the possibilities that

exist for the establishment of rent/lease/purchase programs from equipment supply companies, it is possible for the state to double or triple the amounts of available state monies. Thus, it is imperative that attention be given to developing alternative purchase combinations that can be effected with Oklahoma's matching funds. It is the work of this section to suggest a series of projects that might develop techniques to assist in these management decisions. These projects are as follows:

- a. The establishment of procedures for identifying, applying for and acquiring maximum aid from Federal, Regional and State programs which support occupational training programs.
- b. The establishment of procedures for identifying communities which require occupational training programs.
- c. The establishment of procedures for acquiring equipment from private enterprise, Federal surplus and other private

or public sources for minimum amounts of cash and for short-term rentals.

- d. The establishment of procedures for identifying, renting or acquiring existing buildings and doing minimum renovations necessary to convert them into sites for training programs.
- e. The establishment of mobile and temporary training programs which can fill short-term manpower demands in rural communities.

5. Development of Strategies and Procedures for Involving the Hard-Core Unemployed in Effective Occupational Training Programs.

The purpose of these suggested research projects is to develop techniques and procedures that can be used in formulation of training programs for the hard-core unemployed. These projects include the following:

- a. The establishment of procedures for

identifying welfare recipients and hard-core unemployed persons and the type of training programs most likely to provide them with gainful employment. These procedures might be based on the following:

- 1) The social influences, cultural norms and level of education which determine the poor's attitudes and ability to be trained.
- 2) The premise that training for the hard-core unemployed should be aimed at skills which can "guarantee" jobs and higher wages.
- 3) The identification of the hard-core unemployed by significant social, cultural and/or personality traits. These differences may provide a basis for designing more effective training programs for the unemployed identified as belonging to a particular "trait" group.

- b. The establishment of procedures for recruiting and motivating the hard-core unemployed for occupational training. This recruitment might be based on the following:
- 1) Procedures for gaining an understanding and appreciation of the norms and values of the hard-core unemployed
 - 2) Procedures for identifying the informal leaders of the hard-core unemployed and using them to directly influence their own groups
 - 3) Procedures for providing inducements which are economically attractive to the hard-core unemployed and have a high probability of providing training recruits
 - 4) Procedures for mixing classes in which the hard-core unemployed can be trained alongside others whom they accept as socially prestigious.

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 - 4) Procedures for mixing classes in which the hard-core unemployed can be trained alongside others whom they accept as socially prestigious.

- c. The establishment of procedures for providing financial aids to students requiring such as assistance through the use of the private money markets. This project will be discussed in greater detail in Section III of this chapter as an experimental project.

C. Experimental and Demonstration Projects

The purpose of this third section is to expand three of the projects suggested in Sections A and B into detailed work programs for demonstration and experimental purposes.

The first demonstration and experimental project is involved with the establishment of a new financial arrangement to support trainees in occupational training. The project will test and establish a systematic procedure for integrating the relatively simple task of making maintenance loans to trainees with more complex motivational training procedures. As an experiment, it is anticipated that results will

justify a systematic procedure for providing maintenance loans, rather than grants, to trainees in occupational training programs. A prime objective of this experiment will be to ascertain the dropout rate and loan default rate of these trainees. If, for example, it is definitely ascertained that this rate is only one out of ten, it will then be possible to use public monies in a collateral position against loans from the private money markets. Therefore, \$100 thousand of public monies that previously could only support 100 students with \$1 thousand per student grants could, by the use of this technique, support one thousand students at \$1 thousand per student through \$1 million of loans. The development of this technique can radically change and improve the existing public financial aids to hard-core unemployed trainees and those desiring upgradation training, but who are otherwise unable to afford or secure financial assistance.

The second demonstration and experimental project involves the establishment of an Occupational Training Information System. The purpose of this

project is the establishment of an information network that will systematically collect and generate basic supply and demand information on manpower in Oklahoma. The availability of this information will permit the more efficient and effective allocation of limited training resources to meet the objectives of the Oklahoma development program.

The third of these three projects is focused toward the development of techniques to produce accurate industry feasibility studies and the subsequent implementation of those studies. The experiment will seek to formulate systematic procedures that can insure with a high degree of probability that those studies with feasible industry recommendations will be implemented either by a national firm, a local or regional firm or by individual investors or entrepreneurs.

Project 1

An Experimental Field Research and Pilot Project
in Occupational Training to Test the Economic and
Motivational Advantages of Providing Maintenance
Loans, as Opposed to Grants, to Trainees and to
Establish Systematic Procedures for Reinforcing
Self-help Orientation Among Trainees from the
Hard-Core Unemployed.

The following proposal is for an experimental field research and pilot project to establish and test a systematic procedure for making maintenance loans to needy trainees. This experiment will also evaluate whether this integration reinforces self-help orientation among trainees when a personal financial responsibility is combined with a skill training program directly related to individual job opportunities. Thus, a prime objective of this experiment will be to ascertain the trainees' dropout rate and the loan default rate of these trainees. These rates will be important because they can serve as the basis

for involving the private money markets in such loans. After the default rates on the loans are determined, it will then be possible to use public monies in a collateral position against loans from these private money markets. If, for example, these default rates are only one out of ten, \$100 thousand of public monies that previously could only support 100 students with \$1,000 per student grant could guarantee \$1 million of private loans and thus support 1,000 students with \$1,000 loans per student. In this example, a multiplier of 10 is thus achieved from public monies. If the dropout rate is 5 out of 10, it would still be possible to achieve a multiplier of 2 for public monies. Such multipliers can work to increase the effectiveness of public disbursements made available for development programs.

These loans may have a value for not only the hard-core unemployed but also the individual desiring upgrading training. These loans will make such upgrading training possible for the individual trainee without personal sacrifice. For example,

if the trainee is currently making a minimum wage of approximately \$275 per month, it may not be possible for him to give up his work to take training without suffering personal losses. However, with the aid of a loan of \$1,500 for example, the trainee could maintain his existing standard of income for approximately 22 weeks of full time training. After this training, the individual could repay the loan out of the marginal increase in his salary. Thus he is able to improve his income without facing any personal financial sacrifice or night training. Further, this individual's advancement makes a position available for a less skilled individual.

It is suggested that this experiment involve three groups of trainees of 100 persons each. Two of these groups would be control groups. The third group would be the experimental group. The experimental group would consist of one hundred trainees receiving loans to pay their maintenance and training expenses. The second group of trainees or control group A would consist of one hundred trainees

receiving grants to pay their maintenance and training expenses. The third group of trainees or control group B would consist of one hundred trainees who are self-supporting and paying their own maintenance and training expenses.

There would be several controlled factors in the experiment. They would be as follows:

- a) Each group would consist of trainees 18 years of age and over. There would be no established maximum age limit.
- b) Each group would be screened with the same aptitude and motivational tests so that each group would consist of trainees with comparable scores.
- c) Each group would be divided into comparable size classes, similar type training programs and comparable facilities.
- d) Each group would be provided with similar type job opportunities.

There would be several experimental factors in the program. They would be as follows:

- a) The experimental group would be given loans which they would be obliged to repay after completion of their training and the acquisition of gainful employment.
- b) The experimental group would be praised and given positive reinforcements for the self-help orientation expressed by their "investment" and financial commitment.
- c) The experimental group would participate in discussions on investments the poor make, such as survival and gambling on long shots, and the best kind of investments the poor could make with their limited resources such as training, changing jobs for better wages, business for oneself and using one's family for employees.
- d) The experimental group would participate in discussions on welfare, philanthropy, varying levels of altruism and the best way to help others to help themselves.

The 300 trainees would be trained as machine tool operators because of the shortage in this manpower skill in Oklahoma. This need for machine tool operators is a serious industrial skill shortage in Oklahoma. (Table 13) As such, the development of training programs for the hard-core unemployed as machine tool operators can serve to meet the needs of industry and provide a high probability of getting a good paying job for every trainee who completes training in these skills.

The intensity of the demand for machine tool operators is reflected in an Occupational Needs Survey that is currently being conducted by the Oklahoma Full Employment Commission, the State Board of Vocational and Technical Education and the Oklahoma Employment and Security Commission. The preliminary estimates of this survey indicate there are presently approximately 1,000 - 1,200 machine tool operator job vacancies in Oklahoma. Thus, by focusing the training of this program on these demands, the probability of employment for these trainees is high.

TABLE 13

REGISTERED AND IMMEDIATE DEMANDS FOR
MACHINE TOOL OPERATORS IN SELECTED
OKLAHOMA COMMUNITIES, 1967

Area	Immediate Demand
Oklahoma City	200 - 250
Tulsa	700 - 750
Enid	65 - 75
Muskogee	20 - 25
Ardmore	25 - 30
McAlester	70 - 80

Source: Derived from the Oklahoma Occupational Needs Survey now being conducted jointly by the Full Employment Commission, the State Department of Vocational-Technical Education, and the Oklahoma Employment Security Commission.

Because the experiment involves several functions that are presently performed by individual state agencies, it is suggested that this be a coordinated effort involving the following agencies:

- a) Division of Research and Planning of the Oklahoma Industrial Development and Park Department
- b) Oklahoma Full Employment Commission
- c) Oklahoma Employment and Security Commission
- d) State Department of Vocational and Technical Education

It is suggested that these agencies perform the following services in this experiment:

- a) The project would be managed and written by the Division of Research and Planning.
- b) The Full Employment Commission would:
 - 1) Recruit trainees
 - 2) Identify jobs for trainees
 - 3) Supervise the extension and repayment of individual loans.
- c) The Oklahoma Employment and Security Commission would:

- 1) Recruit trainees
 - 2) Test the trainees
 - 3) Identify jobs for trainees
- d) The State Department of Vocational and Technical Education would:
- 1) Conduct and supervise training for the experiment
 - 2) Recruit trainees
 - 3) Identify jobs for trainees

The loan fund itself would be established in a commercial bank. It is proposed that a schedule of loans to trainees be based on amounts that are approximately comparable to the absolute amounts of trainees stipends granted under the Bureau of Indian Affairs Training Programs and the training stipends granted by the Department of Labor under the Manpower Development Act. Using these scales, the maintenance loan schedule per month would be approximately as follows:

- a) Single individual - \$150
- b) Family head - \$200

- 1) Plus 1 - \$250
- 2) Plus 2 - \$285
- 3) Plus 3 - \$325
- 4) Plus 4 - \$350
- 5) Plus 5 - \$365

It is further proposed that trainees using this loan program be required to sign personal promissory notes to the commercial bank. These notes would require the trainee to repay the loan plus 4 percent interest over a period of two years. Payment would start one month after the trainee obtained full time employment.

In concluding this experiment there would be several anticipated results given the premise that there may be significant motivational differences between those individuals who personally finance their training and those who are given government stipends to take training. These anticipated results are as follows:

- a) It is anticipated there will be significantly fewer dropouts in the experimental

group than in the group receiving financial assistance in the form of grants.

- b) It is anticipated there will be little difference between the number of dropouts in the experimental group and the self-supporting group. However, if there is a significant difference it is anticipated there will be fewer dropouts in the experimental group because of the psychological reinforcements this group of trainees will receive during training.
- c) It is anticipated that attendance and measurable performances will be significantly better in the experimental group than in the group receiving government grants.
- d) It is anticipated that attendance and measurable performances will not be significantly different between the experimental group and the group paying their own way.

- e) It is anticipated that the total costs of the training programs for the experimental group will be significantly lower than the total costs of the training programs for the group receiving the government grants.
- f) It is anticipated the experiment will indicate how much loss may be anticipated from operating a revolving loan for trainees.
- g) It is anticipated as a conclusion that more trainees can be supported for occupational training programs with loans than grants, and that more students will complete their training with better performances under the loan programs than under the government grant programs.

Project 2A Work Program for the Establishment of An
Occupational Training Information System Based
on the Manpower Needs of Industry

The Ozarks Regional Commission in the summer and fall of 1967 financed a study of the occupational training systems of the member states of Arkansas, Oklahoma, Missouri and Kansas. This project was oriented toward identifying the actions and sequencing necessary for the establishment of flexible occupational training systems that could provide the Region's present and future demands for skilled manpower. This study by Ling-Temco-Vought Systems Management Services has been completed.³² One of the principal findings by the LTV Study is the need in each of the member states for a data system that can provide detailed manpower demand and supply information that can be used for policy and operational decisions.

³²LTV, Op Cit.

The findings of several other reports also lend credence to the desirability of the establishment of such a data system. For example,

a. Jerome Moss recently published a paper entitled "The Evaluation of Occupational Education Programs" in which he stresses the importance of program evaluation as a means of enabling educators to make more rational decisions about the theories and practices of program development and operation.³³

b. The 1968 Manpower Report of the President stated on page 76:

Efforts to solve labor shortages cannot stop with ex post facto evaluations and action. The time to deal with manpower shortages is before they develop, as the President said in his 1966 Manpower Report. An awareness of the importance of planning ahead has brought about increased activity in manpower forecasting. The projection of manpower requirements and supply developed by the Department of Labor have been extended to several hundred occupations and industries...This research needs to be expanded and further revised and the results must be applied in the planning of professional, technical and vocational education...

³³Moss, Jerome, The Evaluation of Occupational Education Programs, Technical Report of the Research Coordination Unit, Occupational Education, University of Minnesota, September, 1968.

A comprehensive system of reporting on occupational training would add greatly in appraising achievements and needs and in coordinating Federal training programs with private industry's much larger training activities.³⁴

c. One of the basic recommendations of the President's Automation Commission was:

We recommend the creation of a national computerized job-man matching system which would provide more adequate information on employment opportunities and available workers on a local, regional and national scale.³⁵

d. In a speech at the Conference on Policy Issues and Developmental Problems of Post High School Vocational-Technical Education, on November 14, 1967, Edward B. Jakubaucas stated:

To meet the needs of employers and workers there obviously must be a continuous monitoring of our Vocational-Technical Education Programs to maximize social and individual benefits (productivity to employers, earnings to workers). In relation to our relatively scarce educational input of Vocational Technical

³⁴U.S. Department of Labor, Manpower Report of the President, Washington, D.C., April 1968.

³⁵National Commission on Technology, Automation and Economic Progress, "Automation Commission's Report on Technological Developments," Monthly Labor Review, March 1966.

resources, there must be a close "feedback" between the labor market and the classroom.³⁶

e. A caveat was given by Rupert N. Evans on page 16 of a 1966 publication entitled Occupational Data Requirements for Educational Planning when he stated that:

...Almost all curriculum decisions for vocational education are made locally. If these decisions are made on national data, they are likely not to get local support. If decisions are made on local data (which is usually the case), the result is parochialism.

The real need is for regional information. It would appear that the extent of the region should be defined by mobility.³⁷

f. Gerald G. Somers stated in an article entitled "The Response of Vocational Education to Labor Market Changes," published in Vocational Education, a supplement to the Journal of Human Resources, in April, 1968, page 33, that:

³⁶E.B. Jakubaucas, "The Implications of Manpower Supply and Demand upon the Vocational-Technical Education in the West Northcentral States Region," Paper presented to Conference on Policy Issues and Developmental Problems of Past High School Vocational-Technical Education, Stillwater, Oklahoma, November 1967.

³⁷R. Evans, "Occupational Data Requirements for Educational Planning" Proceedings of Conference, University of Wisconsin, Center for Studies in Vocational and Technical Education.

Many vocational educators are vitally concerned about the responsiveness of their offerings and new programs to manpower requirements. Their efforts to implement their wishes along this line are sometimes thwarted by the absence of labor market data in the quantity and form they need, and by their own traditions in establishing new programs and courses.³⁸

g. A recently published study entitled An Analysis of the Comparative Costs and Benefits of Vocational Versus Academic Education in Secondary Schools relates that:

In order for decision makers in vocational education to implement programs to meet the demand generated by economic growth, it will be necessary to obtain data on the direction and magnitude of change in technological progress and economic structure...Evaluation of this nature, however, cannot be undertaken at the state or federal level.³⁹

h. Finally, the Vocational Education Amendments of 1968 relate in Section 104 that the state advisory council shall:

³⁸Gerald G. Sommers, "The Response of Vocational Education to Labor Market Changes," The Journal of Human Resources, Vol. III, supplement "Vocational Education," April 1968.

³⁹Jacob Kaufman, Dek Su, and Ernest Seromsodorfer, An Analysis of the Comparative Costs and Benefits of Vocational Versus Academic Education in Secondary Schools. Preliminary report of a project for U.S. Department of Health, Education and Welfare, 1969.

...evaluate the effectiveness of vocational education programs, services and activities carried out in the year under review in meeting the program objectives set forth in the long-range program plan and the annual program plan provided for in paragraphs (4) and (5) of Section 123 (a) and (ii) recommended such changes in such programs, services and activities as may be warranted by the evaluations.⁴⁰

The study by Roney and Braden entitled Occupational Education Beyond the High School in Oklahoma was released in January 1968.⁴¹ This study did much to gather relevant information previously in the domain of individual agencies, but the program data were collected only for the post-high school level and only for a single point in time. This study, like the Oklahoma State Regents for Higher Education Study of 1965 or the Manpower Reports of 1964 or 1968 by the Oklahoma Employment Security Commission, do not provide continuous data flow for interagency

⁴⁰Vocational Education Amendments of 1968, 90th Congress Conference Report No. 1938, October 1968, p. 4-7.

⁴¹M.W. Roney and P.V. Braden, Occupational Education Beyond the High School in Oklahoma, Stillwater, Oklahoma, The Research Foundation Oklahoma State University, January 1968.

cooperation and decision making.⁴²

The purpose of this suggested demonstration project is to develop recommendations on the actions, sequencing, financing and operational structure that are necessary for the establishment of such a flexible and comprehensive manpower information system with the states of Arkansas, Kansas, Missouri and Oklahoma. The designed mission of this system would be to provide relevant measurements that can serve to accomplish the following objectives:

Objective #1

Measure the manpower needs of industry by specific occupations in finite geographic areas, within limited time parameters.

Objective #2

Measure the cost of training programs and determine if these training programs are filling manpower needs of industry.

⁴²Oklahoma State Regents for Higher Education, Higher Education Opportunities and Needs in Oklahoma: Self-Study of Higher Education in Oklahoma, Oklahoma City, Oklahoma.

Oklahoma Employment Security Commission, State Employment Service, Research and Planning Division, Manpower Report, Oklahoma City, Oklahoma, 1964, 1968.

Objective #3

Measure the efficiency of training programs in filling manpower needs in terms of costs and time requirements. This would be accomplished by comparing the information generated for objectives 1 and 2.

Objective #4

Identify human resources available for training and employment.

For discussion purposes, this information system will hereafter be referred to as the OTI System (Occupation Training Information System). This experiment will attempt to develop an ongoing procedure for gathering and programming information for the OTI System so that it can provide the specific measurements necessary to accomplish the aforementioned objectives.

It would be desirable that the system be designed so that it could be limited or enlarged to include any, or all, skills and professions and any, or all, geographic areas. However, it is suggested

that the initial OTI System be limited to the manpower needs of industry within the member states of the Ozarks Regional Commission. This limitation is suggested in order that the planning of the long-term programs required to fill these identified needs can be started immediately by the training organization within the states.

Many separate public agencies within the states are presently involved in collecting information related to existing occupational training programs.

These data and sources are as follows:

a. Graduates and Enrollments

- 1) Oklahoma Regents for Higher Education
- 2) Coordinated Area Manpower Planning Service
- 3) Oklahoma Employment and Security Commission
- 4) Oklahoma Department of Vocational and Technical Education

b. Demand

On contractual basis, irregularly, the

Oklahoma Employment and Security
Commission

c. Tracer

Oklahoma Department of Vocational and
Technical Education.

The experiment would identify other relevant information from these existing sources and suggest how it might be integrated into the OTI System. In addition, the information, actions and sequencing necessary to fill any data gaps could be included with possible methods of distributing the resulting measurements. This study could also indicate the administrative structures necessary to establish and maintain an OTI System.

It is suggested that the establishment of an effective and efficient information system for occupational training is dependent on an inter-departmental approach between all agencies directly related to training and employment. Much of the select information currently being produced for specific operational and administrative purposes

may provide most of the information required for the OTI System. In addition, a major advantage to be gained in the establishment of the system could be an increase in interdepartmental cooperation.

It is suggested that the various agencies and boards to be involved in this project include the following:

- a. CAMPS (Cooperative Area Manpower Planning System)
- b. State Board for Vocational and Technical Education
- c. Oklahoma Regents for Higher Education
- d. Oklahoma Employment and Security Commission
- e. Representatives from private training institutions.

In addition to the many departments and agencies involved with occupational training at the state level, there are several other levels of government also involved with occupational training. There are the regional development commissions, the multi-county associations (districts), counties

and local communities. Because of their differing responsibilities, each of these entities of government require and generate different bits of information. The formation of a comprehensive and functional information system should be related to the programs of these different entities of government. The information system should also be designed to insure rapid, effective and efficient communications to and from these entities of government.

It is suggested that formation of the OTI System include the collection on a continuous basis of the following three principal categories of data:

- a. The manpower needs of industry
- b. The outputs of personnel from the training system and a tracer system on all trainees
- c. The human resources available for training.

Each of these three categories will be discussed independently in some detail.

1) The Manpower Needs of Industry

It is suggested that the information on the Manpower Needs of Industry should be divided into the following 3 sections:

Section a) Information on Job Vacancies in Specific Plants

Section b) Information on Jobs Which Will Become Available as a Result of Expansions of Existing Industries or the Location of New Industrial Organizations

Section c) Information on Job Skills Required to Encourage New Growth Industries in the Region

The section on job vacancies in specific plants would identify immediate manpower needs and provide any specific information that might be necessary to establish vocational training programs to fill these needs.

These manpower needs would be of an immediate or existing nature. The fulfillment of these

existing job vacancies would provide rapid benefits to trainee, industry and the community.

This information on existing job vacancies should be specific and identify the specific industrial plants, their location and their immediate manpower needs by occupational skill.⁴³

The information on jobs which will become available as a result of expansion of existing industries will allow training agencies and training programs time to be oriented and develop programs to fill these specific needs of industry. The idea of mobile occupational training programs, which can be temporarily set up to provide occupational skills required by an expanding or new plant, can be further developed with this information.

The information on job skills required to encourage new growth industries in the region may be the most difficult to generate. Where applicable, this information should identify the type and number of "high" level technical and professional training

⁴³It is suggested that jobs be identified and described according to the U.S. Department of Labor, Manpower Administration, Dictionary of Occupational Titles, Vol. I, Definitions of Titles and Vol. II, Occupational Classification, 1965.

programs that can induce economic growth in the state and region. These manpower needs could be identified through research into the personnel requirements of the nation's high technology growth industries and services.

2) The Outputs of Personnel from the Training System and a Tracer System on all Trainees

There are presently many individual training programs in operation within the states of Arkansas, Kansas, Missouri and Oklahoma. However, there is no single source of information available on the outputs of these training organizations. This information is essential to any system interested in identifying and providing the human skills required by industry.

Systematic, comparable and recurring information on the training outputs of the following training agencies is essential to the establishment of an occupational training information system:

- a) Public high school programs
- b) Parochial school programs
- c) University, college and junior college programs

- d) Private training programs
- e) Area vocational schools for adults
- f) CAMP training programs

Coordinated information on the outputs of these training facilities will indicate the extent that training programs fill the needs of the region or any of its parts.

It is also suggested that the OTI System include a tracer system on all trainees -- dropouts and graduates. This tracer system should follow each trainee from the training program to his first job (or no job). This could include where the trainee locates, the type of job and wages. This information is necessary to determine effectiveness of training programs in supplying manpower within the state or region.

Limiting tracer information to graduates only could provide inadequate and misleading information. For example: Programs which lose a large percentage of trainees before graduation because the students lose interest in the training and go on to other

unrelated projects could be distinctly different from those programs which have many dropouts because trainees accept job offers based on their training, even before "graduation". In either case, a high dropout rate indicates the program requires improvement. However, the treatment of each case could be significantly different; the former program might be eliminated, curtailed or seriously renovated; the latter program might require more classes and/or shorter training periods.

The experiment should present recommendations on the actions and sequencing necessary for the development of information on the human resources available for training and jobs. This is in concert with objectives of the OTI System which is to:

Rapidly and continuously provide operational measurements which will identify human resources available for training and employment for specific occupations in finite geographic areas within the member states of the Ozarks Regional Commission.

As indicated in Chapter 1, throughout the states of Arkansas, Kansas, Missouri and Oklahoma there are persons with the economic need, willingness and ability to participate in occupational training programs. There is presently no continuous system for determining the number of these persons, their location, background and other pertinent information relevant to their recruitment and training. This study should make recommendations as to how information on these human resources can be generated and included in the OTI System to promote industrial development and to support administrative and operational decisions on occupational training programs.

The OTI System could include means of determining whether or not job vacancies can be filled from the existing labor pool, and if training is indeed needed. This would help guarantee employment for the maximum number of trainees and utilize limited training resources to maximum advantage.

As a means of confirming the need before a

training program is finally established, the recruiting of trainees could include a simultaneous recruitment of skilled job seekers for the same jobs. The number of skilled recruits applying for these jobs may necessitate adjustments to the number of trainees, and may eliminate certain, or all, aspects of the training program.

Project 3

Pilot Project for the Development of a Systematic Procedure for Community-Initiated Industrial and Economic Development

The industrial development goal of the individual community and state is the establishment of permanent, on-going enterprises that will enhance overall economic development by providing additional tax revenues as well as permanent, full-time, gainful employment for the people of the area. Traditionally, programs of industrial development focus on locating established corporate expansions in one's own community. However, when it is realized there are 40,000 industrial development foundations, chambers

of commerce and utility and bank industrial development organizations competing for these expansions with an annual expenditure of over 100 million dollars, the intensity of the competition becomes obvious.⁴⁴

In the past, industrial development programs have been more of an art than a science. Instead of the use of systematic procedures, these industrial development efforts have been heavily dependent on the personalities of individual industrial salesmen, their pitch and their being "in" with the right corporation at the right time. Because of the large demand for economic Development, a more systematic approach to industrialization is needed. The formulation of these procedures will assist the industrialization of the underdeveloped regions to proceed in a more efficient and effective manner with higher probability of success.

Thus, it is appropriate that underdeveloped states or regions seek to develop and implement more

⁴⁴National Committee for Economic Development, Op. Cit., p.1.

innovative approaches. One approach can involve the underdeveloped community's or state's leaders looking inward to develop their own economic and human resources in an effort directed toward identifying and developing specific industrial investment opportunities locally.

A major obstacle retarding these efforts in the underdeveloped communities is the lack of entrepreneurial skills and experience required to develop the feasible industrial enterprises. Yet the fulfillment of this gap by the public sector is largely unacceptable. In the United States, the role of entrepreneur is outside the range of acceptable functions for any government agency. Instead of filling this role, the public sector involves itself with activities such as public works and business loans as a means of inducing economic development in depressed communities. Although these functions are an accepted and essential government function, they are often an inadequate basis for the sustained economic development of depressed communities. Industrialization and economic

growth do not necessarily follow the building of roads, land improvements, airports, etc. Nor do existing government offers of financial loans for business enterprises through the Small Business Administration and the Economic Development Administration provide an adequate basis for inducing a depressed community's leaders to initiate new business enterprises. Though these programs increase the deprived community's probability of attracting private enterprises, the community and its citizens remain in passive roles, awaiting the decisions of others. This passive role on the part of the community provides little or no promise of self-sustaining economic development.

However, each state and community does have among its citizenry, a group of successful entrepreneurs and businessmen with proven records of personal success. Also, many communities have some form of industrial development organization. In addition to these resources, Oklahoma has many counties and cities that have passed general

obligation tax bonds. These are limited liability bonds that provide local public monies for industrial plant financing. In Oklahoma these bonds can be as much as 5 mills of the total assessed value of the county or city property. (Map 4)

These are potent resources that have not been adequately developed. There are many reasons why these resources are not being used effectively. Primarily, there is no systematic procedure for controlling and integrating the use of all these resources.

The primary goal of this project, in addition to the actual implementation of industrial enterprises in 5 demonstration areas of Oklahoma, will be the integration of the processes involved in this implementation into a systematic procedure for establishing locally initiated industrial plants.

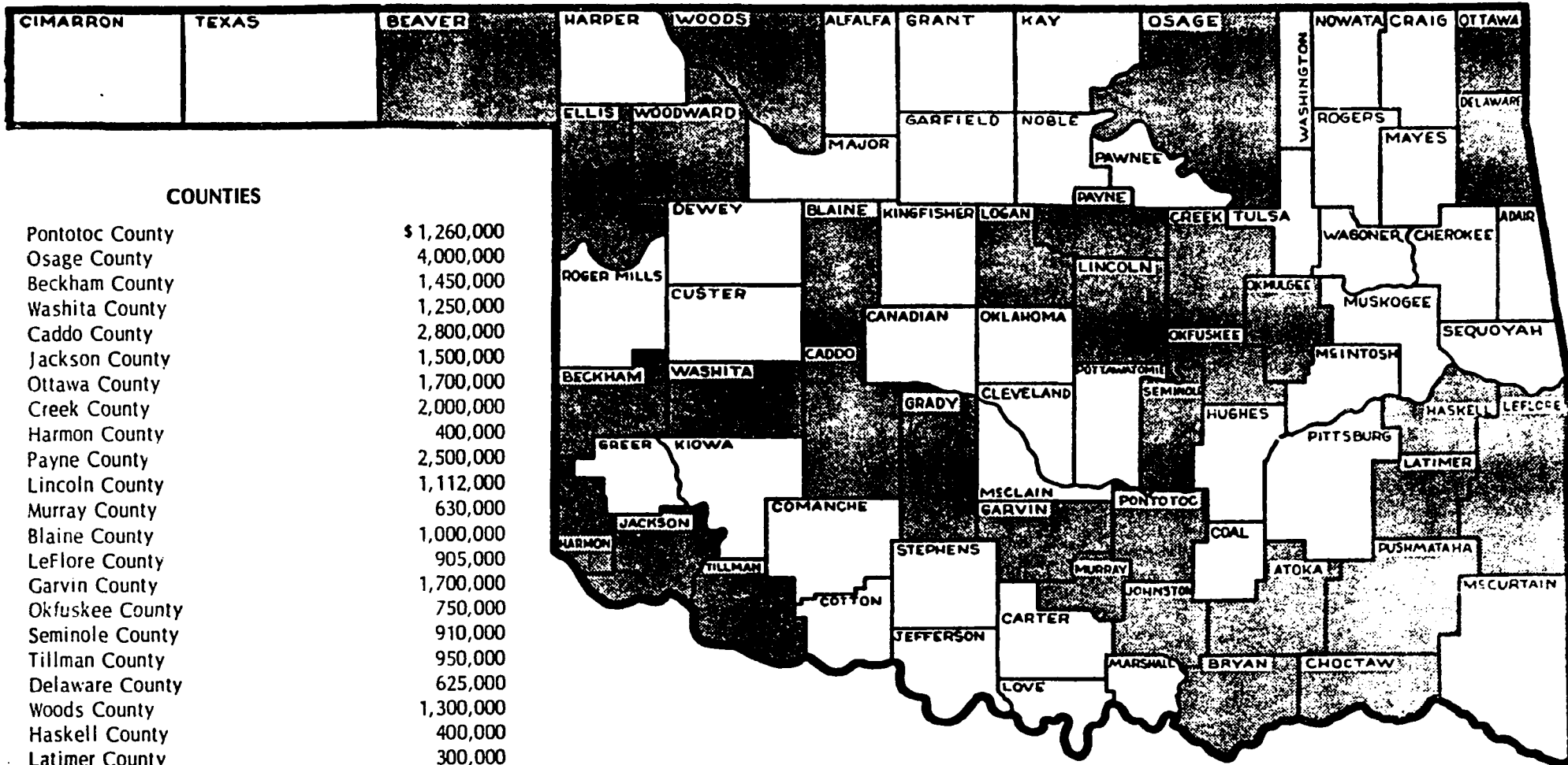
(map 5) A key element in the formulation of these procedures will be the careful and detailed preparation of reliable and usable feasibility studies. Many available feasibility studies, often prepared by unqualified persons, are too general, incomplete

OKLAHOMA

INDUSTRIAL DEVELOPMENT AND PARK DEPARTMENT COUNTIES WHICH HAVE APPROVED INDUSTRIAL BONDS IN OKLAHOMA

January 15, 1969

(Article 10, Section 35)



COUNTIES

Pontotoc County	\$ 1,260,000
Osage County	4,000,000
Beckham County	1,450,000
Washita County	1,250,000
Caddo County	2,800,000
Jackson County	1,500,000
Ottawa County	1,700,000
Creek County	2,000,000
Harmon County	400,000
Payne County	2,500,000
Lincoln County	1,112,000
Murray County	630,000
Blaine County	1,000,000
LeFlore County	905,000
Garvin County	1,700,000
Okfuskee County	750,000
Seminole County	910,000
Tillman County	950,000
Delaware County	625,000
Woods County	1,300,000
Haskell County	400,000
Latimer County	300,000
Atoka County	360,000
Johnston County	350,000
Okmulgee County	1,725,000
Bryan County	1,000,000
Ellis County	800,000
Beaver County	2,000,000
Logan County	1,700,000
Woodward County	1,760,000
Grady County	2,040,000
Choctaw County	500,000
Pushmataha County	475,000

CITIES

Elk City	\$ 200,000	Midwest City	\$ 500,000
Cushing	300,000	Bristow	180,000
Waurika	48,000	Lindsay	110,000
Pawnee	150,000	Nowata	150,000
Hominy	105,000	Cordell	100,000
Mangum	100,000	Vinita	167,000
Drumright	85,000	Wilburton	53,000
		Hobart	140,000

and uncertain. In developing a systematic procedure of economic development, the feasibility studies must be very specific, detailed, timely and accurate. A reliable and detailed feasibility study has more conviction and increases its probability of being implemented.

The development of these detailed and accurate feasibility studies will impose new demands and techniques on the research organizations in the state or region. As these organizations develop this expertise, they will become essential sources of vital information for future area plans and feasibility studies. Another important benefit to be derived will be the establishment of a backlog of profitable enterprises from which a potential entrepreneur can choose an enterprise according to his interest and financial limitations.

A prime benefit of this project will be the involvement of local entrepreneurs and investors in the establishment of industrial plants. This involvement will be oriented toward demonstrating to all concerned

the functions and role of the entrepreneur and the problems, solutions and opportunities available to those who are willing to initiate these new undertakings.

As the immediate purpose of this project will be to implement 5 feasibility studies directly and systematically, the project will be oriented to aggressively use the human and financial resources of underdeveloped communities to establish industries. Implementation of these new industrial plants will therefore not be dependent on the saleability of the feasibility studies to existing corporations, though this possibility will also be exploited. Rather, through this project, the underdeveloped community will help develop the essential resources and approaches it requires to establish its own economic self-reliance.

Objectives and Procedures

The principal objectives of this project are as follows:

- a. To identify specific industrial

opportunities in the five Oklahoma economic development districts. (Map 5)

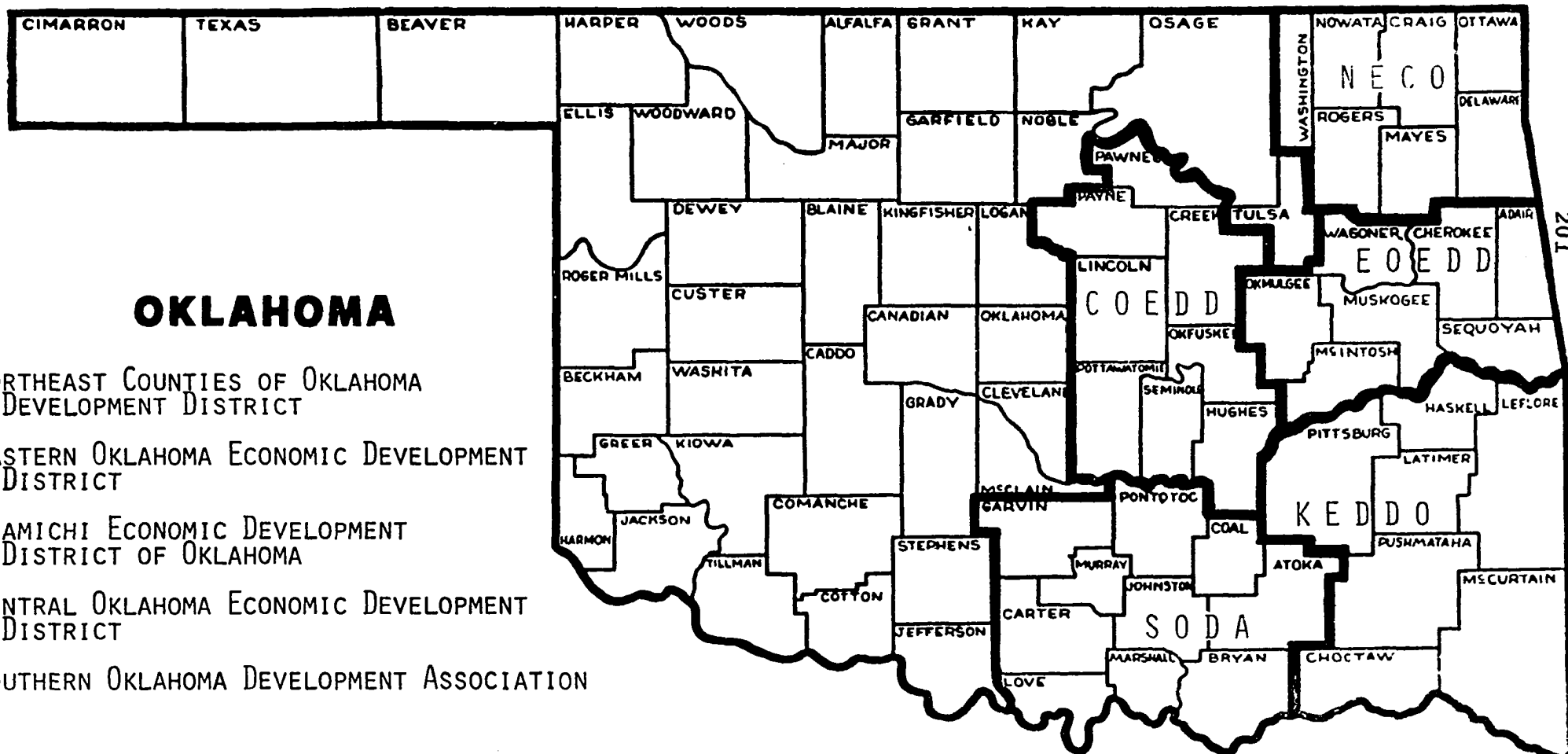
- b. To implement one of these feasibility studies in each of the five districts.
- c. To involve community leaders with the entrepreneurial experience involved with creating these new industries.

The first objective could be accomplished by the establishment and use of detailed procedures for the preparation of feasibility studies that would include all information necessary for new plant implementation. Some selected items that might be included in these feasibility studies are detailed in Appendix D of this study.

Another technique that might be used to identify potential industrial opportunities in Oklahoma involves the collection of existing feasibility studies and updating or modifying these reports.

This could include the gathering of completed feasibility studies from federal, state and local

MAP 5
ECONOMIC DEVELOPMENT DISTRICTS IN OKLAHOMA



OKLAHOMA

- NORTHEAST COUNTIES OF OKLAHOMA DEVELOPMENT DISTRICT
- EASTERN OKLAHOMA ECONOMIC DEVELOPMENT DISTRICT
- CIAMICHI ECONOMIC DEVELOPMENT DISTRICT OF OKLAHOMA
- CENTRAL OKLAHOMA ECONOMIC DEVELOPMENT DISTRICT
- SOUTHERN OKLAHOMA DEVELOPMENT ASSOCIATION

SOURCE: DIVISION OF RESEARCH AND PLANNING, OKLAHOMA INDUSTRIAL DEVELOPMENT AND PARK DEPARTMENT, JANUARY 1969.

agencies, universities, private industries, consulting firms and individuals. The effect of both the efforts of initiating new studies and modifying existing studies would be to establish an information bank of feasible industrial enterprises of varying sizes which can be established in Oklahoma. This could include industries which are feasible only in certain areas, as well as industries which are feasible in any one of many areas.

The second objective of the project would be involved with actually establishing five enterprises that were identified in the feasibility studies. This would necessitate the establishment of a procedure for selling the facts represented by the feasibility study to existing corporations that are already established in the same or a related industry. If no corporation was interested in the specific plant opportunity, the plant could be implemented by local entrepreneurs using procedures that could be developed for initiating, constructing and operating feasible industrial enterprises by local investors in the absence of an outside

corporation that would be willing to establish the facility.

The third objective of the project would be the involvement of community leaders with the entrepreneurial experiences that occur with the creation of new industry. The purpose of this involvement would be to provide these people with the motivation, insights and skills they would require to duplicate the experience.

The project could be accomplished by the completion of the following steps:

- a. The establishment and administrative funding of a private non-profit organization to be responsible for coordinating and administering the project and selecting the individual communities in each district for this demonstration project.
- b. The formulation of 20 or more feasibility studies for each of the five demonstration areas. These 20 studies might ideally include a range of investments

in order that a variety of investors could be attracted. (Appendix D) The formulation of these feasibility studies would include the collection, updating and modification of existing feasibility studies.

- c. The selection of at least five of these feasibility studies would be made in order that more intensive analyses could be performed. These additional analyses could provide the specific information required for the implementation of these industrial investments. A suggested set of detailed criteria for the second phase analyses and screening of these feasibility studies is included as Appendix E of this study.
- d. The administration unit that is established would perform the following actions while the feasibility studies are being prepared.

- 1) Activate and strengthen industrial development organizations involved with the areas or create such organizations where they do not exist.
- 2) Establish sources of local financing for the industrial enterprises to be created in these areas. This may include:
 - a) Industrial General Obligation Trust Bonds for both the city and county included in the demonstration.
 - b) The organization of a Small Business Investment Company (SBIC) by the members of the community with the aid of the Small Business Administration (SBA).
- 3) Establish financing from various state and federal agencies. These would include:
 - a) Small Business Administration,
 - b) Economic Development Administration,

- c) Bureau of Indian Affairs,
 - d) Ozarks Regional Commission,
 - e) Oklahoma Industrial Finance Authority,
 - f) Office of Economic Opportunity,
 - g) ~~United States~~ Labor Department.
- e. The local industrial development organization would undertake the following actions after the completion of the feasibility studies.
- 1) Contact corporations in the same or related activities and attempt to induce them to establish a plant suggested by the feasibility study.
 - 2) If a national expansion cannot be effected, the administrative unit for this project would work with the local industrial development organization to identify local entrepreneurs and investors and assist these people to establish the industrial plant.

- f. The administrative unit would generalize the experiences gained from this experiment in order to duplicate the industrialization process in other communities.

The project's potential is obvious and appears unlimited. Systematic procedures for planning and implementing feasible industries in underdeveloped areas could have an impact on the rate of industrial growth everywhere and would assist in the quick implementation of existing profusion of plans into new industrial enterprises. To establish functional and direct relationships between the planning and the implementation of any program would, in itself, be a major contribution to all government spending. The immediate impact of this project would be limited to its most specific results which could be as follows:

- a. The project could provide new job opportunities in five areas of substantial unemployment. This could directly increase permanent full-time employment and the income level of the area involved in the

project.

- b. The project could provide five communities with an industrialization program for establishing other feasible industries after the initial project is completed.
- c. The project could introduce entrepreneurship to members of the five underdeveloped communities and provide specific investment opportunities for those members of the community who wish to initiate other industrial enterprises. The project would be a demonstration of entrepreneurial initiative for members of the community to emulate.
- d. The project could establish systematic procedures for planning and implementing new industrial enterprises which, when appropriately adjusted, could be applied to any underdeveloped area in the United States.

In review, this suggested program has included the establishment of a wide range of research and

demonstration projects. The prime objective of each of these projects is the formulation of systematic and replicable procedures that can cope with some aspect of the Oklahoma economic and industrial development program. The techniques to which these projects are directed are not now in existence, are insufficient or are not replicable. If economic development is to proceed in an orderly manner with high probabilities of success and with minimal waste of resources, these replicable procedures are requisite.

There will be serious obstacles, however, in the formulation of these techniques and in the conduct of these studies. Probably, the most difficult problem will be the attraction of competent consultants and staff who can adequately formulate or implement these concepts. There are apparently few consultants in the State of Oklahoma or the Southwest who have experience in these types of efforts. Most of these are found in the University systems, wherein they may only devote a limited

amount of time to this type activity.

It appears that financing may not be a problem in these studies. The techniques are sorely needed in all underdeveloped regions, and there is an almost unlimited range of Federal, State and foundation sources of financing for experimental, demonstration and pilot projects of the types presented in this chapter.

Chapter IV

ECONOMIC DEVELOPMENT CAPITAL IMPROVEMENT PROJECTS

The economic development of the State of Oklahoma presents a challenge to the responsible public and private agencies that is at once both difficult and exciting. The extensive Federal and State interest and responsibility in making this region a productive and viable participant in America's economic life is manifested by programs of urban renewal, construction and modernization of hospitals, public housing, model cities, water and sewer facilities and waste treatment works, other public facility construction, industrial parks and business loan programs to stimulate private investment. These programs depend heavily for maximum benefits upon sound investments. To effect the quality and quantity of economic growth necessary for this region requires all levels of government - Federal, State and local - to make a new series of public investments.

These investments could be directed toward stimulating the creation of vast amounts of private enterprise, and thus, provide more and better jobs within this State. The programs, investments and actions necessary to make this State an area of growth and an increasingly viable part of the national economy can only be accomplished through creative, comprehensive planning and coordinated use of available resources.

This plan should be viewed as a first major effort to formulate a comprehensive program of economic development research and to provide demonstration projects for this state. A finer focus on the actions necessary to meet the objectives of this program will evolve as it is carried out. This evolution should be consonant with the research, development, demonstration and implementation of programs involving all aspects of economic development. This preliminary investment plan will detail a series of those public investments that can contribute to the continued growth of private enterprise in this state. The preliminary investment schedule contained herein will be confined to those

public expenditures which prior studies, plans or hearings have indicated as having direct relationships with economic development in Oklahoma. As indicated in Chapter I the investments suggested in this study will be confined to the three areas which are as follows:

- A. Occupational Training,
- B. Airport Development,
- C. Highway Development.

Suggested Capital Improvements for Occupational Training in Oklahoma

A flexible and adequate occupational training system is a basic requirement for economic development. In an underdeveloped state, such as Oklahoma, the availability of a training system that can produce large numbers of well-trained workers for industry is critical. Often for industry to locate or expand its operations in an area, it is a basic requirement that the public sector have the capability to train the individual workers. The South Carolina experiences discussed in Chapter II indicate the benefits to a state having a responsive occupational education system. To be able

to meet industry's manpower demands, the status of occupational training in Oklahoma was revised in 1967.

In that year two studies were completed, one by Ling-Temco-Vought Systems Management Services⁴⁵ and the other by personnel at Oklahoma State University.⁴⁶ These studies were oriented toward identifying the actions and sequencing necessary for the establishment of a flexible occupational training system that could satisfy the State's present and future demands for skilled manpower. The primary points made by both studies are as follows:

- A. The Oklahoma Vocational-Technical Education program should be put on an equal and independent administrative basis with Higher Education and Secondary Education by the establishment of a new Board for Vocational and Technical Education.

⁴⁵LTV, Op. Cit.

⁴⁶Roney and Braden, Op. Cit.

- B. This Board for Vocational and Technical Education should contain Oklahoma industrial leaders.
- C. There exists a need to quickly establish a system of Vocational-Technical Centers in Oklahoma, oriented to training adults for the needs of Oklahoma industry.
- D. There exists a need for increased operational funds for occupational training programs in Oklahoma.
- E. There exists a need for the development of a State equipment pool for "special industry schools."

These reports also contained a series of other recommendations which are summarized in Appendix B.

In accordance with the concepts and recommendations of these studies, Governor Dewey F. Bartlett forwarded to the Oklahoma Legislature in January 1968, a reorganization bill for the administration of occupational training in Oklahoma. The purpose of this bill was to establish a separate and independent Board for

Vocational and Technical Education which would have equal status with the Oklahoma State Board of Education and Oklahoma Regents for Higher Education. This reorganization of occupational training was made a reality in the 1968 session of the Oklahoma Legislature. This legislation adhered to the LTV recommendation to include industrialists on the new Board for Vocational and Technical Education, as well as professional educators.

The newly formed State Board for Vocational and Technical Education is now composed of the same six members appointed to the State Board of Secondary Education and six new members appointed by the Governor from industry. These changes were made to assist in orienting the state vocational-technical programs to the needs of industry.

In response to these changes in the Oklahoma Vocational-Technical Training System, the State of Oklahoma, the Economic Development Administration, the Department of Health, Education and Welfare, and the Ozarks Regional Commission made substantial investments in the spring of 1968 to establish five new training

centers in Oklahoma. These investments included the purchase of sites, buildings and equipment for training centers in Hugo, Poteau, McAlester, Shawnee and Muskogee, Oklahoma. These investments are listed in Table 14.

These five new schools were added to a system that included seven traditional vocational education facilities in Tulsa, Oklahoma City, Ardmore, Duncan, Enid, Bartlesville and Fort Cobb. However, with the reorganization of the State Board, the focus of these existing schools was altered to the industry-oriented concepts used in establishing and funding the five new training centers.

The ownership of the equipment for these new schools was retained by the State Board for Vocational and Technical Education. This is in accordance with the LTV study. A prime recommendation of this study was the establishment of a state owned pool of training equipment that could be used for mobile and flexible industry-oriented training. This recommendation has resulted in the establishment of a "special school" program in Oklahoma. This program is an innovation in

TABLE 14

PROJECT FUNDING SOURCES
FOR AREA VOCATIONAL-TECHNICAL SCHOOLS
OKLAHOMA
FY, 1967-68

1. Gordon Cooper Area Vocational-Technical School
(Shawnee Area)

EDA (Basic Grant)	\$791,000	
EDA (10% Bonus)	158,000	
Total EDA	<u> </u>	\$ 949,000
Local Funds		196,000
State Funds		120,000
Ozarks Supplement		316,000
Total Project Cost		<u>\$1,581,000</u>

2. Hugo, Poteau, McAlester Areas

EDA (Basic Grant)	\$772,650	
EDA (10% Bonus)	154,530	
Total EDA	<u> </u>	\$ 927,180
Ozarks Supplement		309,060
Local Funds		309,060
Total Project Cost		<u>\$1,545,300</u>

3. Muskogee Area

HEW		\$ 400,000
Local Funds		700,000
Ozarks Supplement		500,000
Total Project Cost		<u>\$1,600,000</u>

GRAND TOTAL	\$4,726,300
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Oklahoma occupational training.

The training programs established under this concept (termed "special schools" programs) are extremely flexible in course content and in locations. This flexibility of training is due to state ownership and maintenance of a large pool of state-owned training equipment that can be moved to any location within the state. This permits the establishment of "special schools" anywhere in the state where industry may wish to locate or expand. Training may be conducted in multipurpose facilities of vocational-technical centers, in on-going shops and classrooms of vocational-technical centers or in leased facilities. This training equipment is taken to the permanent plant location, the pilot plant location or to a facility readily accessible to personnel who are to be trained. If a vocational-technical center, technical institute, community college or public school facility is not available for the training, the State Department for Vocational and Technical Education arranges to lease adequate space in which to conduct the training.

It is the policy of the Department for Vocational and Technical Education to develop training programs in these "special schools" that are appropriate to the needs of the plant to be served. These programs may entail a package consisting of short Manpower Development classes, Special School Comprehensive Adult classes and courses lasting up to two years in the local area vocational-technical school, technical institute or community college. The package plan is designed to fill immediate job vacancies, meet projected business expansion needs and provide for a reservoir of personnel trained in skills suggested by the industry.

This package program of training provides all reasonable instructional services without cost to the industry to be served. Where possible and practical, the instructors to be used in these "special schools" are employed from the industry for which training is being conducted. This works to insure that the instruction is pertinent and practical by having it presented by those who have current knowledge concerning what techniques are being ~~used~~ in industry and the unique and proprietary operations of the specific industry.

The curriculum, the course content and the time-length of the training program to be offered in a "special school" are determined by a committee composed of representatives of the new or expanding plant and staff representatives of the Department for Vocational and Technical Education. If basic education courses are needed by the trainees in order to make the program more effective, these courses are incorporated into the overall training program.

This concept was formulated to develop a closer working relationship between the industrial development efforts of the state occupational training system and the individual businesses desiring to initiate or expand operations in Oklahoma. To implement this program, the Oklahoma Legislature appropriated funds specifically to provide training for those industries new to the state or expanding their operations within the state. The State Department for Vocational and Technical Education established an Office of Industrial and Technical Services to coordinate all activities related to this training for industry. It is the

function of this Office to work with representatives of new and expanding industries and Oklahoma industrial development organizations to ascertain the skills needed and the availability of personnel with these skills, and to develop training programs to provide personnel with specific skills needed by these new or expanding Oklahoma industries.

In order to accelerate this industrial growth as outlined in the development strategy, investment schedules for vocational-technical education in Oklahoma are presented in Tables 15 and 16.

These investment schedules are flexible. Should funds be available, it would be possible to accelerate this schedule. These investments would permit the establishment and construction of \$15,400,000 of new vocational-technical education facilities with Oklahoma. (Table 15) Also, \$10,850,000 of training equipment for "special schools" training can be purchased (Table 16). This \$26 million investment will give Oklahoma an occupational training system that can effectively compete with other regions for national industrial expansions

TABLE 15

PROJECTED CAPITAL INVESTMENT IN BUILDINGS AND
EQUIPMENT FOR OKLAHOMA AREA VOCATIONAL-TECHNICAL
SCHOOLS, FISCAL YEARS
1969, 1970, 1971, 1972, 1973 and 1974

Fiscal Year	District	Investment (Dollars)
1969	Tulsa	\$ 15,000
1969	Oklahoma City	40,000
1969	Ardmore	25,000
1969	Duncan	25,000
1969	Enid	50,000
1969	Bartlesville Dist. #1	248,000
1969	Caddo-Kiowa Dist. #2	36,000
1969	Central Dist. #3	800,000
1969	Indian Capital Dist. #4	1,271,428
1969	Gordon Cooper Dist. #5	1,349,000
1969	Kiamichi Dist. #7	1,570,000
1970	Ardmore	850,000
1970	Central Dist. #3	1,180,000
1970	Indian Capital Dist. #4	600,000
1970	Gordon Cooper Dist. #5	225,000
1970	Canadian Valley Dist. #6	2,000,000
1970	Cleveland-McClain-Garvin Dist. #8	1,500,000
1971	Enid	500,000
1971	Comanche Dist. #9	1,500,000
1971	Major-Woods Dist. #10	1,400,000
1972	Oklahoma City	1,000,000
1972	Bartlesville Dist. #1	500,000
1972	Craig-Mayes - Ottawa-Rogers Dist. #11	2,400,000
1973	Duncan	500,000
1973	Indian Capital Dist. #4	1,000,000
1973	Kiamichi Dist. #7	500,000
1973	*Beckham-Custer-Washita Counties	1,500,000
1973	*Kay County	1,500,000
1974	Tulsa	1,000,000
1974	Caddo-Kiowa Dist. #2	200,000
1974	Gordon Cooper Dist. #5	500,000
1974	Kiamichi Dist. #7	500,000
1974	*Greer-Harmon-Jackson Counties	1,500,000
1974	*Coal-Hughes-Pontotoc Counties	1,500,000
1974	*Adair-Cherokee-Sequoyah Counties	1,500,000
1974	*Woodward Area	1,500,000

Source: Oklahoma State Department of Vocational and Technical Education, March 20, 1969.

*Districts Pending--Not Yet Legally Formed.

TABLE 16
ACTUAL AND PROJECTED EXPENDITURES
FOR A STATE EQUIPMENT POOL
FY 1967 THROUGH FY 1971
(DOLLARS)

Fiscal Year	Annual Expenditure	Cumulative Investment
1967-68	379,220	379,220
1968-69	5,271,428	5,650,648
1969-70	1,400,000	7,050,648
1970-71	2,200,000	9,250,648
1971-72	1,600,000	10,850,648

Source: Oklahoma State Board for Vocational Education.

and simultaneously provide workers for expansion of existing Oklahoma firms.

Preliminary Investment Schedule for Development Highways

Adequate transportation facilities have long been recognized as a basic requisite for economic growth. In an underdeveloped area such as the Ozarks Region, highways are especially critical. They often provide the sole connection between urban areas for transporting people and goods between agricultural and other extractive areas and their markets and service centers, as well as providing access to existing facilities and new areas in which manufacturing, extraction, recreation and other services can be developed.

In response to these needs, each of the member states of the Ozarks Regional Commission maintains large highway construction programs that annually exceed \$100 million per state. Oklahoma has such a continuing highway construction program on the Federal-aid-Interstate, Primary and Secondary Systems, as well as on other State highway systems, plus maintenance and operation

programs. In fiscal year 1967-1968, Oklahoma expended \$162,493,000 on its highway program.⁴⁷

While large amounts of this highway program are devoted and scheduled for the interstate system, the state also maintains a large construction program for the remainder of its highway system. Consequently, the Oklahoma State Highway Department maintains and subsequently updates a projected highway construction program. This action permits the Department to:

1. Determine necessary state funds in future years.
2. Insure that all allocated Federal funds are utilized.
3. Provide continuity of improvements along particular highways.

The need for adequate highway transportation within this Region has been recognized by the Ozarks Regional Commission. Therefore, in order that this Commission might effect the soundest possible highway

⁴⁷ Bureau of the Census, State Government Finances in 1967. p. 31.

investments, a contract for a highway study was let to E.S. Preston and Associates, Limited. The purpose of this study was to review the existing highway system in the Region in relation to the total transportation network of the area with a view to planning and developing a program of highway improvements that, in conjunction with the regular State and Federal-aid programs, would provide a network to adequately serve the area and enable it to take full advantage of its present and evolving opportunities.

The Preston study examined the existing economic conditions within the Region, as well as areas of possible future development, as factors affecting the need for and location of highways. The study reviewed the entire Ozarks Region to determine the location of areas which might logically be expected to have substantial potential for future development on the basis of national and regional trends. Not surprisingly, the Preston study felt that the Standard Metropolitan Statistical Areas (SMSA) warranted primary consideration for highway investment. The study also noted that in the first

half of this decade, the metropolitan areas in the Region grew faster than the national average for such areas. (See James A. Constantin, A Transportation Position Paper, University of Oklahoma, Norman, Oklahoma, April 1968.)

In addition to these SMSA's, the Preston study noted there were eighteen smaller urban centers with populations of 5,000 or more. Despite the fact that these cities were in counties that generally lost population, half of these small urban centers experienced population growth. This development of nodal and satellite cities suggests there is much latent potential in this Region for dynamic economic growth.

The Preston report suggested the need for two separate Ozarks Highway Programs. The first recommended program is the development of a number of arterial corridors to provide connections of major urban areas within the Region to the metropolitan centers within and surrounding the Region. The purpose of this program would be to fill the gaps left by the Interstate System. The second program would provide access to

existing and future industrial and recreation cities, as well as improve local road access with the Region.⁴⁸

The specific recommendations for these major arterial corridors are presented in detail in the Preston study. The study also recommends a program to improve roads for the nodal cities and their satellites.

The Ozarks Regional Commission also contracted with Dr. James A. Constantin, Professor of Marketing and Transportation, University of Oklahoma, to develop a transportation position paper for the Region. This has been accomplished. The recommendations of this paper on highways and airports are as follows:

- A. The Ozarks Regional Commission should take a functional view of transportation as a resource and not as an end in itself.
 1. Therefore, efforts should be taken to improve common carrier transportation services.
 2. Therefore, efforts should be taken to

⁴⁸E.S. Preston & Associates, Ltd., Ozarks Region Highway Planning Study, February 1968, p. IV-1.

overcome resistance to economic development that are inherent in truck transportation rate systems.

- B. The Ozarks Regional Commission should take the position that its highway promotion should follow these major patterns.
 - 1. Arterial corridor improvement,
 - 2. Secondary road systems,
 - 3. Recreational roads.
- C. The Ozarks Regional Commission should recognize the rising significance of airports in industrial development and, therefore, help establish an aviation network in small towns and cities as an additional means of tying them into a system with the nodal city.
- D. The Ozarks Regional Commission or the member states should be alert to the needs of areas on the Arkansas-Verdigris Rivers needing industrial access roads.
- E. The Ozarks Regional Commission should

recognize that motor transportation is the major commercial link between small towns and the nodal city, therefore:

1. The Ozarks Regional Commission should use its influence with member states to help rationalize the motor carrier system, especially that segment made up of small motor carriers.
2. The Ozarks Commission should encourage experimentation in establishing a series of secondary or satellite freight terminals in selected small towns of the Region.
3. The Ozarks Regional Commission should recognize that one of the problems of the carriers in serving small towns is that they cannot get sufficient traffic to cover their costs. It is believed that an adjustment in rate policies would cause some shippers (wholesale) to stop moving

some of their goods in their own trucks and use common carrier trucks in the small towns.

The Constantin study is significant in the development of a regional highway program for the following reasons:

- A. It provides an argument against the megalopolis concept and introduces facts to support the existence of actual and potential economic vitality in the small urban centers within the Region and State of Oklahoma.
- B. It recognizes transportation as a resource, not an end in itself. Therefore, the study indicates that the most beneficial actions to the economic growth of the Region relative to transportation may not be constructing highways.
- C. It differentiates between physical proximity and economic and temporal proximity. Thus, the report concludes the relevant measures of the relation between market, production

point and source of raw materials or fabricated parts is economic proximity and/or temporal proximity, not physical proximity. This means that the Ozarks Regional Commission should give heavy emphasis to those actions that will affect our relative time-cost-place position in transportation as opposed to solely concentrating on the construction of road systems that have engineering feasibility.

- D. It indicates that economic analysis of transportation must also include the quality and quantity of service offered to individual areas.

Therefore, in consideration of both the Preston report and the Constantin paper, it is suggested that Oklahoma make the following investments:

- A. Research related to Oklahoma's time-cost-place relationship with the surrounding areas as outlined in Chapter II.
- B. Feasibility studies on the arterial corridors recommended by the Preston report.

C. Construction of secondary roads to strengthen the physical and economic relationship between and within nodal systems in Oklahoma. This recommended construction consists of projects that vary in length from short segments of one to five miles, which would improve access to a particular facility, to sections as long as thirty to forty miles, providing necessary connections between towns or other major highways.

It is the intent of these projects to open up certain areas which at present are not realizing their full development potential due to a lack of good access. These recommendations are from both the Preston and Constantin reports and by the Oklahoma State Highway Department (See Appendix C).

Preliminary Investment Schedule for Development Airports

The existing Oklahoma airport system has not been planned. Rather, it has been based on the rationale of establishing as many airports within the state as possible. Consequently, communities which had the interest, capital and ability to meet FAA requirements were afforded the opportunity to establish an airport. Oklahoma can no longer afford this random type of airport development.

Within the past several years, air transportation has assumed an increasingly important role in the field of economic development. Those areas without adequate air freight capabilities are not able to attract industries that require this type of service. In addition to the importance of air freight and passenger service, the availability of airports that can accommodate corporate jet executive planes has become critical. Many of the large corporations will not locate in communities that do not have airports with these jet capabilities. An example of this is the criteria the

3 M Corporation placed when they selected the plant that is presently located in Weatherford, Oklahoma. A prime determinant of that location was the availability of an airport that could accommodate corporate jets. Those communities without such an airport were automatically excluded from consideration as a possible site. Another example is the industrial park that is adjacent to the Memphis, Tennessee, airport. Officials of that facility attribute the location of plants in that industrial park to the availability of an airport that handled corporate jets and not to their air cargo capabilities.⁴⁹

During the past ten years, the number of Oklahomans owning private aircraft has increased. This has meant increased demands for the establishment of new airports and the expansion and improvement of the 106 private and 104 public airports that presently exist within the state. These demands have in fact exceeded the financial capabilities of the state and

⁴⁹ Gilbert Hill, "Real Estate, Run of '69: Cities Lose their Grip," The Sunday Oklahoman, Jan. 5, 1969, p. 16.

federal agencies to provide capital construction funds.

It is, therefore, appropriate that Oklahoma establish a State Airport Plan that can accomplish the following objectives:

- A. Identify specific and measureable criteria for making state airport investments.
- B. Identify those Oklahoma airport investments that have a direct relationship to the accelerated economic growth of the state.
- C. Identify other aeronautical needs and opportunities for the state.
- D. Prepare a master schedule of investments for Oklahoma airports for:
 1. Improvement of existing airport facilities,
 2. Consolidation of existing airport facilities,
 3. Expansion of existing airport facilities,
 4. Construction of new airports.

- E. Identify the actions necessary to fit the Oklahoma Airport Plan into a Regional Airport Plan.

This plan is currently being developed by the Oklahoma Aeronautics Commission and the Division of Research and Planning of the Oklahoma Industrial Development and Park Department. It will be completed in the fall of 1969. This plan will serve as a direct input to the overall state transportation plan.

Until this plan is finished, it is difficult to make rational judgments as to optimum development investments in airports. However, there are three cases of possible airport investment in Oklahoma that warrant immediate public expenditures. These are in the cities of McAlester, Miami and Madill. These communities are growth areas that have municipal airports that are in need of expansion and improvement to meet existing industrial development opportunities. These needs were recommended by the Oklahoma Aeronautic Commission after it conducted hearings on the need for such facilities.⁵⁰

⁵⁰ Oklahoma Aeronautic Commission, Airports for Investment by the Ozarks Regional Commission, Hearings before the Oklahoma Aeronautic Commission, September 1968.

Therefore, on the basis of recommendation from the Oklahoma Aeronautic Commission the following airport investments are suggested:

1. McAlester Municipal Airport: Project will extend the runway 1,600' and will provide the necessary appurtenances for this increased runway.

FAA (Basic Grant)	\$400,000.00
Local Funds	400,000.00
Ozarks Supplement	240,000.00

Total Project Cost \$1,040,000.00

2. Miami Municipal Airport: Reconstruction and expansion of airport facilities.

FAA (Basic Grant)	\$185,873.00
Local Funds	137,988.00
State Funds	
(Okla. Aero Comm.)	7,500.00
Ozarks Supplement	55,761.90

Total Project Cost \$387,122.90

3. Madill Municipal Airport: Construction of
airport facilities.

FAA	\$ 31,174.00
Oklahoma Aeronautic Commission	3,750.00
Ozarks Regional Commission	18,500.00
Local Funds	8,924.00
	<hr/>
Total	\$ 62,348.00

Chapter V

SUMMARY AND CONCLUSIONS

This plan is the first major effort to formulate a comprehensive program of economic development research and demonstration projects for the State of Oklahoma. In the process of formulating this proposed economic development program, several facets of the problems and opportunities of underdevelopment have been discussed. For the purpose of this chapter, these points will be briefly reviewed.

Oklahoma is handicapped by extreme rural poverty and economic underdevelopment. These conditions are manifested in high out-migration rates from the rural counties, low income levels, very inadequate housing, high unemployment rates and a population that is generally both functionally and academically

illiterate. Thus, the State is faced with large and terrible economic losses due to the severe opportunity costs of these underutilized human resources.

The path to resolve these problems is unmarked. This is due in large measure to the lack of attention that has been given to sub-national or regional economic development by both the academic and political communities. Rather, attention has been focused on the management and stimulation of the national economy with the implicit assumption that if the national economy grows, the regional economies will also grow. Although this assumption has generally been valid, there are many sub-national areas that have not experienced the quality and quantity of growth of the national economy. Therefore, there have been markedly unequal rates of growth among the regions and states.

A prime measure of these unequal rates of growth is the size of the income gap. This gap, or the absolute difference between the Oklahoma per capita income and the national per capita income, has consistently risen during the past seven years of national

prosperity. The absolute value of Oklahoma's income gap has risen from \$353 per person in the state in 1950 to \$516 in 1967. Thus, while both the national and the Oklahoma economies have been experiencing growth, the quantity of Oklahoma's development has been far less than the national average.

The costs associated with this gap are large. Because Oklahoma was not developed to just the national income level in 1967, the state and national economy lost \$1.3 billion of personal income that otherwise would have been generated. This loss of income resulted in the loss of about \$77.8 million yearly in state taxes, and about \$324 million in federal taxes. The experiences gained from these annual recurring losses indicate that the cost of inaction is an increased income gap and decreased probabilities of ever solving the under-development problem.

In response to this challenge, Oklahoma has established as its primary goal of development the closure of its income gap. Consequently, the Oklahoma program consists of two concurrent thrusts at the

indigenous problems of underdevelopment. The first emphasis is on the creation of more and better jobs for the people of this state. This objective will be accomplished by the following actions:

- A. The inducement of national or regional enterprises to physically locate their industrial expansions within Oklahoma.
- B. The formulation and implementation of programs designed to accelerate the expansion and the growth of local industry, while concurrently inducing entrepreneurs to develop new industrial enterprises with the state.

Thus, private risk capital plays a primary role in the Oklahoma development strategy. In fact, the success of this program is dependent upon Oklahoma securing risk capital investments within the state. The achievement of this investment of risk capital will increase the flow of income into the state by strengthening and expanding the state's capabilities to produce and market goods, services and information for out-of-state

purchasers. As these capabilities are strengthened and as state firms are better able to serve markets outside this Region, the income and profits to these firms will flow back into this Region. Thus, this suggested strategy is directed toward the creation of new income and income sources within this state.

A concurrent emphasis of this program is investment in human resources in the areas of technical and general education. It will be futile to create job opportunities if people are untrained to capitalize on these opportunities. Therefore, a primary focus of the public investments for development will be on the establishment of an occupational training system that can train workers for the following:

- A. Existing job vacancies,
- B. Expansions of existing plants,
- C. New industrial plants.

In addition to the passive role of training people for job vacancies, the occupational training system of the state will be used as an active and aggressive development tool. This will be accomplished by

making the distinction between the "base" industries, those that generate the basic income flow in an area, and the "residential" industries, those that provide local services to the population residing within the area. This distinction is important because public programs that assist the base industries may help them expand or locate within the Region and thus generate more jobs for residential industries as well. Public programs that assist residential industries lead to more profits and larger individual firms, (not necessarily to a maximum employment of underdeveloped human resources). Consequently, the major policies that will guide Oklahoma's policy of selective training are as follows:

- A. To concentrate training in the industries whose growth is multiplied by secondary growth.
- B. To concentrate training in the industries most likely to expand and to provide the most jobs and income growth.
- C. To concentrate training in the types of

skills that are most likely to influence business investment decisions that will expand jobs and income in an area.

To effect the quality and quantity of economic growth this strategy calls for and this state requires, it will be necessary for all levels of government -- Federal, State and local -- to make a new series of public investments. Therefore, this investment plan has proposed two sets of investments:

- A. Research and Experimentation Projects to formulate new techniques and programs for accelerating this state's growth.
- B. Public facility investments that have a clear relationship with inducing new risk capital investment within the state.

The Research and Experimentation Projects are divided into three categories:

- A. Industrial Development Research Projects.
- B. Occupational Training Research Projects.
- C. Demonstration and Experimentation Research Projects.

For the Industrial Development and Occupational Training Research Projects, a series of individual research areas and projects are identified that require further investigation. These projects were presented in outline form and included recommended salient factors that should be considered or examined in the process of the project.

- A. Development of Techniques for Expanding Existing Industrial Enterprises.
- B. Development of Techniques for Initiating New Industrial Enterprises.
- C. Development of Strategies for Gaining Maximum Participation of Leading Industrialists in the Design and Implementation of the State's Industrial Development.
- D. Development of Strategies for Inducing Existing Corporations to Locate in Oklahoma.

For the Occupational Training Research Projects, the areas of suggested investigation are as follows:

- A. Development of an Occupational Training Information System.
- B. Development of Effective and Efficient Curricula and Teaching Techniques.
- C. Development of a Training Program for Teachers, Administrators and Designers of Occupational Training Programs.
- D. Development of Systematic Procedures for Acquiring Facilities and Equipment Necessary for Occupational Training.
- E. Development of Strategies and Procedures for Involving the Hard-Core Unemployed in Effective Occupational Training Programs.

The third area of suggested research-demonstration and experimental projects contained the detailed work programs for three projects.

The first demonstration and experimental project is involved with the establishment of a new financial arrangement to support trainees in occupational training. The project will test and establish a systematic

procedure for integrating the relatively simple task of making maintenance loans to trainees with more complex motivational training procedures. As an experiment, it is anticipated that results will justify a systematic procedure for providing maintenance loans, rather than grants, to trainees in occupational training programs. A prime objective of this experiment will be to ascertain the drop-out rate and loan default rate to these trainees. If, for example, it is definitely ascertained that this rate is only one out of ten, it will then be possible to use public monies in a collateral position against loans from the private money markets. Therefore, \$100 thousand of public monies that previously could only support 100 students by loans of \$1 thousand per student through \$1 million of loans. The development of this technique can radically change and improve the existing public financial aids to hard-core unemployed trainees and those desiring upgradation training, but who are otherwise unable to afford or secure financial assistance.

The second demonstration and experimental

project involves the establishment of an Occupational Training Information System. The purpose of this project is the establishment of an information network that will systematically collect and generate basic supply and demand information on manpower in Oklahoma. The availability of this information will permit the more efficient and effective allocation of limited training resources to meet the objectives of the Oklahoma development program.

The third of these three projects is concerned with developing systematic techniques to produce feasibility studies. A related aspect of the project is the development of systematic procedures to insure, with a high degree of probability, that those studies with feasible industry recommendations will be implemented either by a national firm, a local or regional firm, or by individual investors or entrepreneurs.

This investment plan includes a series of possible public facility investments. Three initial investments suggested were in the areas of occupational training, highways and airports.

The proposed investments for occupational training development in Oklahoma were suggested by the new Oklahoma State Board for Vocational and Technical Education. These investments include the establishment of a series of new occupational training centers within Oklahoma, the expansion of several existing facilities and the expansion of the state training equipment pool. These suggested investments are time phased until fiscal year 1972. However, should sufficient monies become available, it would be possible to accelerate this investment schedule.

The investment in highways is an outgrowth of a study by E. S. Preston and Associates, Limited, another study by Dr. James A. Constantin, Professor of Marketing and Transportation, University of Oklahoma and a series of conferences with the Oklahoma State Department of Highways. These studies and conferences indicated there were two separate highway programs in which investments could be made. The first is the development of arterial corridors to provide for the connection of major urban areas within the State to the metropolitan centers within and surrounding

the State. The second is the development of roads to provide access to existing and future industrial and recreational sites, as well as to improve local access roads within the State.

The Constantin study suggested that the most beneficial actions in highway transportation relative to the economic growth of the State may not be solely constructing highways. The studies conclude that economic and temporal proximity are significant considerations in highway investments for development purposes. This means that the State and the Ozarks Regional Commission should give heavy emphasis to those actions and research programs which can provide the basis for the improvement of rate structures and service patterns that can assure an economic base for good service at low cost to towns and also serve as a rationalizing process to improve the financial position of the carriers.

In consideration of the recommendations from these studies and conferences, the suggested highway investments include the following recommendations:

- A. Investments should be made on research related to Oklahoma's time-cost-place relationship with surrounding areas.
- B. Feasibility studies on the arterial corridors recommended by the Preston report should be undertaken.
- C. Construction of a series of secondary roads to strengthen the physical and economic relationship between and within nodal systems in Oklahoma should be undertaken.

The suggested investment in airports is made on the basis of hearings held by the Oklahoma Aeronautics Commission. Oklahoma does not presently have a state airport plan. However, the Oklahoma Aeronautics Commission and the Division of Research and Planning of the Oklahoma Industrial Development and Park Department are preparing a state airport plan that will be complete by the fall of 1969 and will accomplish the following objectives:

- A. Identify specific and measureable criteria for making airport investments.
- B. Identify those Oklahoma airport investments that have a direct relationship to the accelerated economic growth of the state.
- C. Identify other aeronautical needs and opportunities for the state.
- D. Prepare a master schedule of investments for Oklahoma airports.

Thus, the program suggested herein identified select problems of underdevelopment in Oklahoma, a goal of development for the state, a strategy to reach this goal, research and demonstration projects to effectuate the strategy and some initial public investments in accordance with completed research and the suggested strategy.

The suggested program has as its objective the creation of new jobs and higher incomes for the people of Oklahoma through an intensive economic development program. The strategy that is recommended is the

identification of select public investment that can stimulate massive investments of private risk capital in the form of industrial enterprise within the state.

To effectuate the formulation of well planned programs, a number of specific industrial development research projects, occupational training research projects and experimental and demonstration projects were presented. The successful completion of these studies and projects can provide systematic and replicable development techniques.

Finally, a series of public investments in the areas of occupational training, highways and airports were suggested. These projects can each have a direct influence in preparing their affected area's infrastructure for development.

The challenge of developing this state into a viable, economically sound area is exciting. This proposed program presents a possible approach. Through well planned actions and wise use of resources by all public and private agencies involved, Oklahoma can successfully create greater productivity and a higher

standard of living for the people of this state and simultaneously develop programs that other states and other regions can replicate.

APPENDIX A

COMPUTATION OF PER CAPITA

INCOME GAP

Computation of Oklahoma Income Gap

Annually, 1950-1968

Year	Oklahoma	United States	Per Capita Income Gap	Population	Total Income Gap (\$000)
1950	1,143	1,496	353	2,233,351	788,373
1951	1,284	1,652	368	2,187,000	804,816
1952	1,391	1,733	342	2,183,000	746,586
1953	1,467	1,804	337	2,141,000	721,517
1954	1,445	1,785	340	2,157,000	733,380
1955	1,507	1,876	369	2,186,000	806,634
1956	1,580	1,975	395	2,239,000	884,405
1957	1,641	2,045	404	2,273,000	918,292
1958	1,762	2,068	306	2,271,000	694,926
1959	1,805	2,161	356	2,301,000	819,156
1960	1,861	2,215	354	2,337,000	827,298

Computation of Oklahoma Income Gap (Con't)

Year	Oklahoma	United States	Per Capita Income Gap	Population	Total Income Gap (\$000)
1961	1,910	2,264	354	2,383,000	845,582
1962	1,925	2,368	443	2,435,000	1,078,705
1963	1,992	2,455	463	2,450,000	1,134,350
1964	2,121	2,586	465	2,461,000	1,144,365
1965	2,303	2,765	462	2,456,000	1,134,672
1966	2,462	2,978	516	2,478,000	1,278,648
1967	2,643	3,159	516	2,510,300	1,295,315
1968*	2,775	3,374	599	2,525,000	1,512,475

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SOURCE: Computed by the Division of Research and Planning, Oklahoma Industrial Development and Park Department from:
 U.S. Department of Commerce, Survey of Current Business, Aug. 1968; and
 U.S. Bureau of the Census, Current Population Reports; and
 W.N. Peach, R. Poole, and J. Tarver, County Building Block Data for Regional Analysis: Oklahoma; and
 Oklahoma Employment Security Commission, Oklahoma Population Estimates.

*Estimate.

TAX LOSS DUE TO INCOME GAP, OKLAHOMA, ANNUALLY, 1950-1968
(\$000)

Year	Federal Tax Loss	State Tax Loss	Total Tax Loss
1950	236,512	47,302	283,814
1951	241,445	48,289	289,734
1952	223,976	44,795	268,771
1953	216,455	43,291	259,746
1954	220,014	44,003	264,017
1955	241,990	48,398	290,388
1956	265,322	53,064	318,386
1957	275,488	55,098	330,585
1958	208,478	41,696	250,173
1959	245,747	49,149	294,896
1960	248,189	49,638	297,827
1961	253,075	50,615	303,690
1962	323,612	64,722	388,334
1963	340,305	68,061	408,366
1964	343,310	68,662	411,971
1965	340,402	68,080	408,482
1966	383,594	76,719	460,313
1967	388,595	77,719	466,313
1968*	453,743	90,749	544,491

Source: Division of Research and Planning, Oklahoma Industrial Development and Park Department, December 1968.

*Estimate.

APPENDIX B
Executive Summary
of
The Studies Entitled
BASIC PLANNING WITH
ACTION-ORIENTED RECOMMENDATIONS RELATIVE TO
VOCATIONAL AND TECHNICAL SKILLS AND LITERACY SYSTEMS
IN THE STATE OF OKLAHOMA

By
Corporate Systems Management Services
Ling-Temco-Vought, Inc.
Arlington, Texas
Reginald G. Foster, Project Manager

and
OCCUPATIONAL EDUCATION BEYOND THE
HIGH SCHOOL IN OKLAHOMA

By
Maurice W. Roney, Paul V. Braden
The Research Foundation
Oklahoma State University
Stillwater, Oklahoma

EXECUTIVE SUMMARY

The major findings and recommendations of both the studies by Ling-Temco-Vought, Inc. and by the Research Foundation of Oklahoma State University are very similar as indicated in the annotated summaries. There is one major difference between the two studies which concerns the structure of the administrative unit.

Both reports call for a central administrative unit for occupational training which has the power to undertake the planning and implementation necessary for effective occupational training in Oklahoma. However, each report recommends a different administrative structure. The Ling-Temco-Vought study calls for the establishment of an independent board of Vocational-Technical Education that would have equal status with the Oklahoma State Regents for Higher Education and the State Board of Education. The membership on this

Board would include the Chancellor of the Oklahoma State Regents for Higher Education, the State Superintendent of Public Instruction and the Director of the Industrial Development Commission, and six members (one from each Congressional District), two members at large and one nonvoting ex-officio member (the Executive Director and Secretary for the Board).

The Ling-Temco-Vought study further recommends that the appointed members of the Board be composed of leaders of business, industry, and labor to insure that the occupational training system would be highly responsive to the industrial growth of the State of Oklahoma.

The Oklahoma State University Research Foundation study recommends Oklahoma State University as the administrative organization. Based on their academic resources it is suggested Oklahoma State University may be the best choice. However, this study also indicates other alternatives for establishing the administrative unit.

The significant points made by both studies

were as follows:

1. The need for a central administrating agency.
2. The need for increased and separate funding for occupational training at the post high school level.
3. The need for improvement and refocusing of guidance services.
4. The need for occupational training planning and research, coupled with a statewide plan of development for occupational training.
5. The need for the systematic establishment of a better image for occupational training in Oklahoma.
6. The need for consideration of some form of degree or recognition for those completing occupational training programs.
7. The need for the development of the special schools programs.
8. The need for the establishment of an

occupational training information system that could provide accurate and continuous information on the needs of industry to enable responsible officials to make realistic policy and operational decisions.

LTV ReportMajor Findings:

1. The present legal structure which divides the responsibilities of the State Board of Education and the Oklahoma State Regents for Higher Education hampers effective planning and coordination of occupational education.
2. There is little or no practical coordination on the approval of programs or funding policies between the Oklahoma State Board of Regents for Higher Education and the State Board for Vocational Education.
3. Need for a state-wide Master Plan for Vocational-Technical education in the State of Oklahoma now exists and will insure coordination among existing and future programs.
4. An urgency exists to consolidate occupational education to achieve a most

- effective economic development program.
5. The current public image of Oklahoma's vocational-technical effort and accomplishment is generally more nonexistent than negative or positive.
 6. Some personnel directors contacted indicate that the supply of workers which can qualify for existing Oklahoma job openings and perform satisfactorily with minimum training is extremely limited.
 7. Some segments of organized labor are seriously concerned about the future impact which the shortages of skilled and semiskilled labor will have on productivity.
 8. Vocational-technical schools award no degrees.
 9. There is insufficient and inadequate coordination between economic and educational planning in the State of Oklahoma.

10. Training for industry can be significantly improved to meet the needs of existing and expanding industries. It is evident that industry by itself cannot solve the many faceted problems resulting from a shortage of needed skills.
11. Oklahoma state-local funds are currently inadequate to construct and equip vocational-technical institutions which can provide specialized pre-employment occupational training to reduce the uncertainty of attracting high risk capital and new jobs to all sections of the State of Oklahoma.
12. Little effective use is being made of federal construction funds available under Section 103 of the Higher Education Facilities Act for vocational-technical education.
13. There is no recorded effort available

to utilize the more than two million dollars of unused federal funds for Vocational Rehabilitation available for rehabilitation services or the possible construction of needed education and training facilities.

14. The minimum criteria currently prescribed by the state board for Vocational Education lacks needed flexibility with regard to the establishment of Area Vocational-Technical School Districts.
15. The funding practices in Oklahoma for Area Vocational-Technical Schools are inadequate and/or inoperative with respect to need.
16. LTV found no Facilities Planning Guide for Architects. A guide is urgently needed in connection with the construction of new Vocational-Technical Schools in Oklahoma.
17. No attempt to obtain equipment from the

National Industrial Equipment reserve has been made for vocational-technical education.

18. Administratively, the current Oklahoma Surplus Property Program is excellent; however, inadequate coordination and utilization of available surplus property by vocational-technical institutions exist.
19. There is inflexibility in the current Oklahoma vocational-technical programs.
20. Oklahoma lacks a comprehensive curriculum and instructional materials development laboratory to provide service for occupational training programs.
21. In the Area Vocational-Technical Schools, the level of difficulty of some of the programs being offered is beyond the capabilities of some of the high school students recruited and enrolled. The student dropout rate and those who go

on the college derogate from maximum effectiveness of these institutions in providing new entries in the labor force.

22. The research and development function for the Vocational-Technical Education effort in Oklahoma is entirely inadequate to meet the needs of the recommended program for Oklahoma.
23. Little to no effort is exerted to coordinate and encourage the expansion of Adult Basic Education with occupational education or job needs in the State of Oklahoma.
24. Effective vocational guidance in Oklahoma high schools is subordinated to counseling of students relative to college entrance.
25. Little or no program of interdisciplinary counseling in Oklahoma institutions of higher education exists for advising

potential college dropouts concerning their transfer to occupational curriculums.

26. Considerable pre-employment post high school education is located in dormitory-type institutions presently operated under four-year degree granting institutions.
27. The Vocational-Technical Education Offices are located in Stillwater, which is sixty (60) miles from Oklahoma City where vitally needed support services pertaining to economic development are currently located.

Recommendations:

1. Establishment of a new Board for Vocational-Technical Schools, with the Technical Institute at Oklahoma State University remaining with the University; all other technical institutes funded through the Board.

2. Development of master plan (joint agency).
3. That training be more industrially oriented to needs of industry. (Results of true coordination.)
4. Physically locate Vocational-Technical offices in the State Capitol or in the immediate vicinity.
5. Planning for occupational training should be focused with the economic development planning of the state.
6. Functions of adult basic education be transferred to the recommended Vocational-Technical Board.
7. Establishment of a Research and Development unit at the state level for Vocational-Technical Education in order to insure a responsiveness of the system to needs.
8. Identify manpower supply which exists and sources of new supply.
9. Representatives of organized labor be

actively involved in the overall planning and be invited to serve on local Vocational-Technical Boards.

10. Develop comprehensive student recruitment placement program. Institutions be named Technical Colleges and be affiliated with Regional Association of Colleges and Schools.
11. Improve guidance available to high school students.
12. Improve vocational guidance to students in institutions of higher education concerning transfer possibilities.
13. Employ industrial engineers for planning and executing training programs. Also employ industrial relations specialist who will be responsible for coordination of manpower requirements and job training with the state and private educational authorities and the Employment Security Commission.

14. A well equipped comprehensive instructional laboratory must be established.
15. Vocational-Technical School should award the Associate of Applied Science Degree.
16. State ownership of equipment and increased funding.
17. Better utilization of federal funds.
18. Central purchasing and central warehousing of equipment.
19. All funding levels of all programs of vocational-technical education be vested in single board.
20. Ozarks Regional Commission give highest priority to providing funds for construction and equipping of the schools.
21. Immediately develop a planning facilities guide.
22. Criteria be revised to allow establishment of a vocational-technical school in other parts of the state.
23. Future post high school occupational

education be developed in commuter type physical facilities.

24. Public information program should be initiated to produce a better image.

Oklahoma State University Research Foundation ReportMajor findings:

1. Unplanned growth of occupational training in Oklahoma has brought about a division of responsibility and authority for occupational training.
2. Very little statewide planning has been done. Programs have been established by popular demand without reference to specific employment opportunities or industrial development needs within the state.
3. Occupational education has been developed without a planned system of funding with the results being a poorly staffed and poorly equipped program.
4. To obtain the recognition and respect, an open end system of post high school education should be established with an entry and exit at all levels including

part of the higher education system.

5. A system containing functional units for manpower research, industrial planning services and occupational education should be developed under the control of a centralized administrative unit.
6. Another important function of the system should be adult training and retraining.
7. Oklahoma has a two level system of education - high school - college - but no intermediate level which an occupational structure requires.
8. Most post high school education is located at 4-year degree granting institutions. OSU has been predominant in efforts for the development of post high school vocational-technical education.
9. State major population areas do not have adequate technical education services (especially Oklahoma City and Tulsa).
10. Oklahoma has not kept pace with national

movement of post high school vocational-technical education.

11. Based on 1966 fall enrollments, Oklahoma technical education is largely developed in only four fields.
 - a. drafting and design
 - b. electronics
 - c. mechanical (including air conditioning and refrigeration)
 - d. data processing
12. Oklahoma is not producing kinds and numbers of personnel needed to meet future manpower needs.
13. Oklahoma post high school programs in technical (engineering and scientific) fields are operating at about 1/2 capacity.
14. Present technical schools have unused potential for industrial development programs. These schools could produce a sufficient quantity of these technicians to meet demands of new or expanding

industry.

15. Oklahoma industry is not employing available graduates of technical schools. Job offers from out-of-state are almost 3 to 1 for 1967 graduates.
16. Graduate technicians' role in state economic development is not being fully realized.
17. Opportunities for graduate technicians are excellent in fields of engineering and science.
18. Employment opportunities for graduate technicians are expected to improve rapidly in the future.
19. Business, office, and distributive, and paramedial programs at the associated degree level have not been developed.
20. All schools now providing two year post high school technical programs are needed to meet the demand for technical graduates and to serve students with

different characteristics.

Recommendations:

1. Oklahoma should make a major effort in occupational education beyond the high school.
2. All post high school occupational education and the supporting services of a manpower development program should be coordinated through one administrative unit.

Alternative plans for the central administrative unit.

- a. A system of state occupational schools administered by a new, established board of control.
 - b. An administrative unit established by the Oklahoma State University to provide a coordinated system of manpower development.
3. Separate funding should be provided for occupational education services.

4. All existing institutions and programs will be needed to provide the range of services that will be required.
5. An expansion of occupational education should be programmed for the state's urban areas as soon as possible.
6. A planned program of activities should be conducted to inform high school counselors of occupational education opportunities.
7. A central information service should be established to bring Oklahoma employers and graduates of Oklahoma schools together.

APPENDIX C

SUGGESTED HIGHWAY
INVESTMENTS

APPENDIX C

Justification for Oklahoma Projects

No. 0-1 SH 82 North of Tahlequah to SH 33 - This would improve a feeder route through an area having a high percentage of Indian population. Plans are underway for developing several area-wide recreation sites and Indian culture centers along the Illinois River, all of which will be dependent on good access to the area.

No. 0-2 U.S. 270 Near Red Oak to SH 31 at Lequire - This improvement would extend SH 82 south to U.S. 270, passing through an area not presently served by an adequate road system. This area is rich in coal and other mineral deposits and is also within the impact area of the Arkansas River Navigational System.

No. 0-3 U.S. 69 to Fort Gibson Reservoir - This improvement would provide access to the Flat Rock Creek Recreation area at Fort Gibson Reservoir.

No. 0-4 U.S. 177 to Arbuckle Reservoir - This project

provides for improved access to the east side of Arbuckle Reservoir.

No. 0-5 U.S. 177 to SH 12 at Roff - This connection would provide a needed link from Garvin County east to Ada, the site of the State Educational Center and Health Center as well as several industrial and research activities.

No. 0-6 SH 33 near Flint to SH 20 - This improvement of a feeder route just north of 0-1 would provide for necessary access through an area of Indian culture and potential recreation development along the Illinois River.

No. 0-7 U.S. 69 to I-40 East of Checotah - This road will open up the north shore of Lake Eufaula for commercial and recreational purposes and provide a tie to both U.S. 69 and I-40.

No. 0-8 SH 9 to U.S. 270 - The improvement of this route provides a link of the local highway system necessary for the economy of this area. It also serves two municipal lakes near Shawnee.

No. 0-9 U.S. 259 to U.S. 271 - This improvement would provide good access through an area having considerable recreation and commercial timber potential. It will also provide a more direct route between marketing and population centers within the immediate area.

No. 0-10 SH 12 Near Millcreek to SH 99 - This project will improve access through a recreational area. It would serve Devil's Den Park and the proposed future expansion of Platt National Park and Arbuckle Recreational Area.

No. 0-11 Blanco to U.S. 270 Near Hartshorne - This improvement would provide access to an area where Kerr-McGee and other large industrial interests are planning to begin coal mining operations. At present the mines in the area are dormant.

No. 0-12 U.S. 62 Near Boynton to U.S. 69 South of Muskogee - This improvement would provide good access needed for local service in the Muskogee and Arkansas River area.

No. 0-13 SH 27 South of Okemah to U.S. 75 at Wetumka -

This improvement would provide a much needed link in the local highway system in the area which would improve access between local marketing centers.

No. 0-14 SH 145 East of Paoli to SH 19 and No. 0-15

Garvin County Line to SH 59 - Both of these improvements complete gaps in the local highway system, thereby providing better access between local markets in the area.

No. 0-16 SH 140 North of U.S. 66 to Kendrick - This improvement, like the previous one, provides a necessary link to the local highway system.

No. 0-17 SH 53 to SH 7 - This project would improve a portion of SH 74 in a petroleum producing area.

PROPOSED OZARK HIGHWAY PROJECTS FOR THE STATE OF OKLAHOMA
November 27, 1967

Route No.	County	Description		Mile	1/ N.Lanes		2/ ACC CTL	3/ DES SPD	Design Traffic ADT	Estimated Cost (\$1000)				Status PCT,COMP.		Prob Let Date
		From	To		Pav	R/W				Design	R/W	Constr	Total	Plans	R/W	
0-1	Cherokee Delaware	SH82	N. SH33	17.6	2	2	N	50	600	80	50	800	930	0	0	70
0-2	SH82 Haskell Latimer	US270 at Red Oak	SH31 at LeQuire	12.9	2	2	N	60	1000	150	120	2850	3120	30	0	71
0-3	Wagoner	US 69	Ft.Gibson Res.	7.0	2	2	N	50	700	10		130	140	0	0	70
0-4	Murray	US 177	Arbuckle Res.	2.0	2	2	N	50	600	45	20	393	458	0	0	70
0-5	SH29 Garvin Pontotoc	US 177	SH 12 at Roff	9.0	2	2	N	60	1000	72	72	648	792	0	0	69
0-6	Delaware	SH33 at Flint	Sh 20	20.0	2	2	N	50	600	75	100	675	850	0	0	70
0-7	McIntosh	US 69	I-40	18.0	2	2	N	50	700	90	50	810	950	0	0	70
0-8	SH102 Pottawatomie	SH 9	US 270	9.0	2	2	N	50	900	25		225	250	0	100	71
0-9	SH144 McCurtain LeFlore Pushmataha	SH 144	US 271	36.7	2	2	N	50	550	200	150	2108	2458	0	0	70
0-10	SH7 Johnston	SH 12 Mill Cr.	SH 7	9.9	2	2	N	60	1000	90	80	1810	1980	0	0	71

TABLE 14 -- continued

Route No.	County	Description		Mile	1/ N.Lanes		2/ ACC CTL	3/ DES SPD	Design Traffic ADT	Estimated Cost (\$1000)				Status PCT.COMP.		Prob Let Date
		From	To		Pav	R/W				Design	R/W	Constr	Total	Plans	R/W	
0-11 SH53	Pittsburg	Blanco	US 270	12.8	2	2	N	50	500	77		691	768		100	69
0-12 SH56	Muskogee	US 62	US 69	11.8	2	2	N	50	800	59		531	590	0	100	71
0-13 SH27	Okfuskee Hughes	US 75	S. of Okemah	8.2	2	2	N	60	800	95	80	860	1035	0	0	71
0-14 SH145	Garvin	SH 19	2.2 M. West	2.2	2	2	N	50	600	6		54	60	0	100	71
0-15 SH133	McClain	Garvin C.L.	SH 59	2.2	2	2	N	50	400	6		54	60	0	100	71
0-16 SH140	Lincoln	Kendrick S.	Present Paving	2.5	2	2	N	50	900	35		315	350	0	100	71
0-17 SH74	Carter	SH 53	SH 7	12.9	2	2	N	50	300	75	88	1166	1329	0	0	

Source: E.S.Preston & Associates, Ltd., Ozarks Region Highway Planning Study, February 1968, pp. B-17 and 18.

1/ Right of Way

2/ Access Control

3/ Design Speed

2 Lane

4 Lane

N None

P Partial

F Full

APPENDIX D

Appendix D

The "feasibility" of an industrial enterprise could be reported and determined by the following factors:

1. The availability of human and material resources required for the implementation and operation of the enterprise and, where applicable, the cost of providing these factors for the industrial enterprises such as, labor supply, skills, site requirements, utilities and raw material.
2. The competitive advantages of the specific area, such as, specific natural or human resources, labor costs and transportation savings.
3. The relationship between the market area to be specified for the enterprise and the competition within, and from outside, this specified market area. It cannot

be taken for granted that savings in transportation and/or labor will necessarily provide an adequate competitive advantage over competition outside the specified market area. Other factors to be considered could be: competitor's production, capacity of existing competitors, present production in relation to that capacity and the relative importance of advertising and brand names.

4. The existing shortage of the industrial product, as well as the predictable shortage, based on future demands.
5. The net profit in relation to the total investment required to implement the enterprise in the specified labor area might be at least 10 percent, and the net profit relative to the required operating capital might be at least 20 percent.
6. The number of job opportunities to be made

available to the labor area in relation to the total investment required for a specific industrial enterprise. Unless there are other factors to justify a variance, the EDA rule of thumb is at least one job created for every \$10,000 of total investment. Variance is possible when it can be shown that specific industry will induce other industrial enterprises, and/or it is essential to the community's development or the national interests.

7. The potential for expansion of the suggested industry, and/or the possibility of developing other related industries in the area as a result of the enterprise's existence, such as, sub-contractors, associated industries and suppliers. The potential increase in commercial activity, which any industrial development will create, should not be included

unless there is a direct relationship between the specific industry and a specific commercial enterprise it may generate.

8. The availability of the capital investment required for the enterprise. Since the specific sources of financing cannot be predetermined for every enterprise, it is essential that a range of different size industries (based on the amount of capital investment required) be planned for each demonstration area. The following is a list of specific size categories and the suggested minimum number of enterprises to be planned for each.

	<u>Size</u>	<u>Number</u>
a.	\$75,000 to \$150,000	(5)
b.	\$200,000 to \$400,000	(5)
c.	\$500,000 to \$850,000	(5)
d.	\$1,000,000 to \$3,000,000	(3)

<u>Size</u>	<u>Number</u>
e. \$3,000,000 to a maximum that is feasible for the specific labor area.	(2)

The list may vary when the specific labor area is too small to support the larger industries, or is too large, so that anything less than a \$200,000 industry will make no significant difference.

9. The minimum wages required by the federal government will not exceed the minimum wages the specific industry can afford to provide its employees.
10. The verifications, suggestions and criticisms of the feasible enterprises from the economic leaders of the specified areas, and from the responsible corporate management of firms presently producing equivalent products (in other

words, "competitors" within and outside the specified labor area).

11. Industrial plants which may be feasible for successfully established corporations (such as, expansions for producing brand new products) should be clearly distinguished from those plants which are feasible for a new corporate structure. Very few, if any, of the suggested industries should be solely dependent upon inducing existing corporations to implement the enterprise.

APPENDIX E

Appendix E

INDUSTRIAL PLANT STUDIES PHASE II

The information to be included in the feasibility study for each of the industrial enterprises recommended as feasible and ready for implementation could include the following:

1. A general description of the product(s), process, skills, potential, etc. of the specific enterprise.
2. The production capacity of the specific plant and:
 - a. The percentage of total capacity required by the plant to "break even".
 - b. The percentage required to attain the suggested minimum profit (i.e., a

minimum of 10 percent of the total capital investment and a minimum of 20 percent of the required operating capital).

- c. The profit picture when the plant is producing at full capacity.
3. Location and site requirements, including:
 - a. Utilities required at full capacity, and the cost of providing these utilities if they do not exist.
 - b. Transportation facilities, such as railroad sidings, roads and air transport facilities and the costs for providing these facilities if they do not exist.
 - c. Acreage requirements.
 4. A description of the specific market area to be served by each enterprise. Each plant may serve a different size market area, even when all are located in the same town. This description

will include the following:

- a. A marketing and distribution plan with the geographical limits of the market area to be served.
 - b. The labor area's competitive advantages.
 - c. The existing and future demands of the market area for the plant's production.
 - d. A listing and description of companies presently supplying existing demands.
5. The costs and availability of the necessary plant equipment.
 6. The costs and availability of the "raw" materials required for production.
 7. The manpower requirements in the following categories:
 - a. Key personnel (number and description of functions).
 - b. Skilled personnel available in the labor area (number and description

of functions and time required for training).

- c. Skilled personnel to be trained (number, description of functions and time required for training).
- d. Unskilled personnel to be trained on the job (number and description of functions).

8. Financial requirements:

- a. Fixed costs for the specific industrial plant (the capital investment required for land, building, equipment, engineering and installation).
- b. Start-up costs, such as the minimum capital required to maintain operations until the plant runs profitably. This would also include the earlier costs of hiring key personnel, establishing training programs, initiating sales prior to the completion of a physical plant, etc.

- c. General industrial contracting costs. These are the costs involved with the construction of the specific plant.
 - d. Operating capital.
 - e. Additional costs required to provide the essential site requirements that may not be available in the specific labor area.
9. An estimate of profits based on a breakdown of costs and potential sales for each of the first five years. This should include the probability of operating at a loss for the first twelve to eighteen months as a result of start-up costs.
10. Time requirements: This should indicate the training and sequencing for the following:
- a. Phase I - Planning for a specific plant. Arranging financing, finding

key personnel, establishing training programs and gathering bids.

b. Phase II - Implementation

General industrial contracting (actually started with the gathering of bids). Time schedule for construction, delivery of equipment and installation.

c. Phase III - Start-up time required before profits may be anticipated.

11. Sources of information for detailed plans (engineering) and other specific references such as, textbooks, periodicals, government publications, technical papers, patents, trade associations and directories.
12. Potential customers (lists of specific sales outlets).
13. Lists of equipment suppliers and subcontractors for the various bids required for implementation of the industrial

plant.

14. Lists of possible sources of supply for the "raw" materials required for the plant's production.
15. A plant layout of the specific industrial enterprise.

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