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GRADUATE COLLEGE

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PLANNING BY FEDERAL GOVERNMENTAL AGENCIES

IN THE STATE OF MISSOURI

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TABLE OF CONTENTS

Page

LIST OF TABLES. vi

Chapter

I. INTRODUCTION. 1

Objectives
Method of Approach
Sources

II. HIGHLIGHTS OF THE EVOLUTION OF FEDERAL PLANNING. 10

World War I
The Depression
World War II
Employment Act of 1946
Planning by Foreign Countries
Government Planning during the 1960's
Private and Business Sector Complementing Federal Planning

III. SELECTED FEDERAL AGENCIES IN MISSOURI THAT USE STATE PLANNING 34

Highways
Mental Health
Higher Education
Vocational Rehabilitation
Pure Air
Clear Water
Summary

Chapter Page

IV. SELECTED FEDERAL AGENCIES THAT PLAN ON A REGIONAL BASIS 79

Corps of Engineers
Planning by the Missouri Basin Inter-Agency Committee
Planning by the General Services Administration

V. SELECTED FEDERAL AGENCIES THAT PLAN LOCALLY 109

Forest Service
Soil Conservation Service
National Park Service
United States Geological Survey
Federal Aviation Administration

VI. REASONS WHY SOME FEDERAL AGENCIES IN MISSOURI DO NOT PLAN FORMALLY 136

VII. SUMMARY AND CONCLUSIONS 143

BIBLIOGRAPHY. 164

LIST OF TABLES

Table		Page
1.	Road Condition and Programs Anticipated. . . .	42
2.	Bridge Condition, Location, and Safety Factors.	43
3.	Road Condition and Safety.	44
4.	Questions Asked by Citizens Vocational Rehabilitation Council in a Form Mailed to Agencies Concerned with Vocational Rehabilitation.	59
5.	Steps Undertaken in the St. Louis Air Pollution Study.	66
6.	Items Essential To Reaching the Goals of the St. Louis Air Pollution Study.	68
7.	Items not of Primary Importance to Reaching the Goals of the St. Louis Air Pollution Study.	70
8.	Items that Are Primarily Research in St. Louis Air Pollution Study.	72

PLANNING BY FEDERAL GOVERNMENTAL AGENCIES IN THE STATE OF MISSOURI

CHAPTER I

INTRODUCTION

Planning has different meanings to different people. An international interdisciplinary planning group sponsored by Syracuse University at Minnowbrook, New York, indicated that planning is a process of change which involves commitment.

The Minnowbrook Conference set forth the following propositions regarding the "process approach" to planning:

1. Planning is a process of formulating goals and developing commitments to attaining them, a process undertaken to some extent by all individuals and organizations.
2. Planning is a process of intended adaptive rationality in pursuit of goals. In practice it is usually intermingled with behavior which is directed by habit, tradition, previous decision, or external pressure.
3. Planning, as foresight coupled to goals, policies, and action, inescapably grows out of, and is linked to specific cultures (and especially to their characteristic patterns of action and authority relationships).
4. Planning has functions that are:
    a. Explicit, open, and manifest,
    b. Implicit, hidden, and latent.
5. The process of planning implies attention to implementation and to evaluation of both goals and performance.

> 6. In a formal organization, the concept of central planning implies not only planning for the entire system (enterprise, government agency, political party, trade association, union, etc.) but the promotion and co-ordination of planning by its component units or sub-systems.[1]

Perhaps the simplest definition of planning is that used by Neil W. Chamberlain, "Planning is the systematic management of assets."[2]

Basic data must be compiled in sufficient detail so that systematic analysis can be made. Once the quantitative and qualitative information on resources is known, it is necessary to determine the needs which can be fulfilled. After an inventory of assets has been taken and the various needs determined, overall goals can be set. Projects can then be selected which will best achieve these overall goals. The projects should be broken down into sectors of more manageable proportions.

A plan is a document which changes over time. Changes in the institutional arrangements or economic situation require flexibility. A United Nations group said that, "In essence a plan is a body of economic and social policies expressed in quantified targets and defined tasks."[3] Plans

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[1]Robert J. Shafer, "What Is National Planning?" in The Guidance of Economic Development, ed. by Bertram M. Gross (New York: McGraw Hill Book Co., 1967), pp. 258-59.

[2]Neil W. Chamberlain, Private and Public Planning (New York: McGraw Hill Book Co., 1965), p. 4.

[3]United Nations, Planning for Economic Development: Report of the Secretary-General Transmitting the Study of a Group of Experts (New York: 1963), p. 5.

vary greatly, not only between private companies and public enterprises, but also within these spheres.

Some organizations attempt to make plans using highly sophisticated mathematical models. Others use non-mathematical procedures. The tremendous speed and capacity of the modern computer makes possible the use of a large number of variables in the planning process. Furthermore, the quantity and availability of data are increasing, making possible a much closer relationship between the plan and reality. It is likely that this type of planning will increase, especially when the skills of management are such as to make the models more readily understood.

At the present time a well designed program without sophisticated mathematical relations is more common than plans based on mathematical models. A highly knowledgeable group of individuals in an organization is usually able to determine the best activity to be carried on under various circumstances. Often, all supervisors in an organization as well as non-supervisory personnel share in gathering data and suggesting changes. Plans based on mathematical models require fewer nontechnical people in the actual formulation. The data input may require a specialized staff, but the neglect of most of the operational staff in planning may cause difficult personnel problems, especially at the professional level.

Social psychologists have indicated that for a person to have a commitment to a project, he must consider himself

a part of it. Many high level individuals do not have the training to take part in or even understand the process of a mathematical plan. This can have a demoralizing effect on the executors of the plan.

Lower level supervisors often take a significant part in formulating nonmathematical plans. They indicate the needs and potential in their area. Their superiors then indicate to these persons what action will be taken. This makes the plan a part of every section of the organization. It is unlikely that this activity can occur to any great extent in mathematically oriented plans.

Presently, an increasing number of private and public organizations utilize and realize the importance of planning. The federal government has used planning in the past mainly during times of national emergencies. This planning was generally discontinued after the emergency passed. It was then reinstated during the next major emergency.

Large business organizations have been planning in a formal manner for many years. Due to the acceptance of planning in business and its successful use during national emergencies, the federal government has encouraged planning by its agencies. In recent years, state, regional and local authorities have been active in planning. In general, before state and local authorities receive federal funding for a project, they must demonstrate how the proposed project is part of an overall plan.

Many agencies of the federal government have offices within a state. This study considers how planning by such agencies is carried out in the state of Missouri. There has not been a thorough study of planning efforts by federal agencies within a state, as far as the writer can determine. This study is designed to begin to fill the void.

Missouri economic development has resembled that of the United States as a whole. Between 1949 and 1968, per capita personal income in Missouri has been around 96 per cent of the national average. Total personal income has ranged between 2.2 and 2.5 per cent of that of the United States during the last twenty years.[4] Missouri also reflects the national picture in the urban movement. Total farm employment, including both family and hired hands, decreased 44 per cent from the 1950-55 average to 1968.[5] Between 1952 and 1968 the number of nonagricultural workers in Missouri increased about 25 per cent[6] while that of the United States grew 38 per cent.[7] The 1960 Census showed that

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[4]U.S. Department of Commerce, Office of Business Economics, "Total and Per Capita Personal Incomes by Regions and States, 1968," Survey of Current Business, XLIX, No. 8 August, 1969 (Washington, D.C.: Government Printing Office), p. 14.

[5]U.S. Department of Agriculture, Agricultural Statistics: 1969 (Washington, D.C.: U.S. Government Printing Office, 1969), p. 442.

[6]U.S. Department of Labor, Bureau of Labor Statistics, Employment and Earnings: States and Areas: 1939-1968, Bulletin No. 1370-6 (Washington, D.C.: U.S. Government Printing Office, August, 1969), p. 282.

[7]U.S. Department of Labor, Bureau of Labor Statistics, "Current Labor Statistics," Monthly Labor Review,

Missouri had 67 per cent of its population in urban areas, slightly less than the 70 per cent registered in the nation.[8] Federal government employment in Missouri increased 30 per cent between 1959 and 1968,[9] compared to 23 per cent in all the states.[10] Geographically, Missouri is in the approximate center of the nation. Because of this advantage several regional federal offices are located in the state.

Objectives

The objectives of this study are:

1. To present the methods of planning by selected federal governmental agencies in Missouri.

2. To determine what federal agencies in Missouri plan.

3. To indicate why some federal governmental agencies in Missouri do not plan.

Information on how federal agencies in Missouri plan may be helpful to organizations currently involved in planning. The information may also encourage firms or agencies not planning at the present time to do so in the future.

XCII, No. 12, December, 1969 (Washington, D.C.: Government Printing Office), p. 89.

[8]U.S. Bureau of the Census. U.S. Census of Population: 1970. Vol. I, Characteristics of the Population. Part I United States Summary (Washington, D.C.: U.S. Government Printing Office, 1964), p. XXIII and pp. 1-4.

[9]U.S. Department of Labor, Bureau of Labor Statistics, Employment and Earnings, p. 286.

[10]U.S. Department of Labor, Bureau of Labor Statistics, Monthly Labor Review, p. 89.

Recognition of agencies attempting to operate efficiently, as indicated by their planning efforts, may encourage them to improve their efforts to operate economically. The recognition of federal agencies that plan may also encourage non-planning agencies to consider such an activity and provoke an examination of the functions and operations of supervisors and employees.

Method of Approach

Although planning is presently a prerequisite for implementation of projects, few written guidelines and policies exist concerning how planning should be undertaken in federal and state governments. This research is the result of various efforts to understand and evaluate the planning process of the government's agencies in Missouri. Personal interviews, which were the main approach, were supplemented by public, private, published and unpublished material. This material is indicated under "Sources" later in this chapter.

Where executives in some agencies indicated that no planning was undertaken in their departments, these statements were usually considered as final. Most agencies in Jefferson City, Kansas City and St. Louis were contacted. Time and distance constraints limited personal contacts outside these cities. Except for the Corps of Engineers, defense agencies were not contacted because of the assumption that much of their planning would be classified and not available to civilians.

In Chapter II there is a brief history of planning in the United States. This chapter stresses the planning carried out by federal governmental agencies from World War I to the 1960's. Planning by private and business organizations, instigated by the planning efforts of the federal government, is also examined.

In Chapter III planning carried on by state agencies and used by federal departments is considered.

In Chapter IV there is an explanation of planning by regional federal offices in Missouri. It includes a study of their planning even though some of it may be done partly by offices outside the state of Missouri.

Local federal planning is the subject matter of Chapter V. Planning done by the agency for the area it serves is considered, even if the local plans are finalized in the national offices.

The analysis of the reasons why many agencies in Missouri do not plan formally are in Chapter VI.

Summary and conclusions appear in Chapter VII.

Sources

Interviews conducted with over one hundred individuals representing almost as many offices were the prime source of this study. These interviews were held between February, 1967, and July, 1968. The agencies and persons interviewed are listed in the bibliography.

Information was requested in the interview from the chief executive of each office. Usually he personally explained the planning aspect of his agency, or the reasons for not planning. In some cases the personnel actually performing the planning were asked by their superior to explain the planning operation. In one instance heads of departments were called into a meeting for a discussion of the current planning in their organization. Additional information was obtained from unpublished internal material of the agencies. Federal and State publications, reports, and books also provided data, information and background material for this study.

CHAPTER II

HIGHLIGHTS OF THE EVOLUTION OF FEDERAL PLANNING

The United States Government did not encourage planning prior to the middle of the twentieth century unless it seemed absolutely necessary. The country was expanding rapidly with a relatively small but growing population and seemingly inexhaustible resources. Furthermore, the people felt that he who governs least governs best. There was, therefore, little likelihood of federal planning except during war.

Some planning, in a broad sense, was carried on. Hamilton had a plan for encouraging the growth of manufacturing. The Homestead Act(s) were passed to enlarge land ownership which Jefferson felt would encourage democracy. In addition, vast amounts of land were provided to the railroads to enable them to expand.

World War I

Wartime, however, necessitated broad planning. The United States in almost all instances left property in the hands of private owners. Market demand was channelled

through the government. Broad actions were initiated during the First World War. The National Defense Act included clauses giving the president power to "order war material, to commandeer manufacturing plants, and to appoint an industrial mobilization board."[1] Some of the boards created either by the president or by congress were the War Industries Board, the Food Administration, and the Emergency Fleet Operation. The War Industries Board was given the following responsibilities:

> to create new facilities and find new sources of supply;
> to conserve resources by economies in their use;
> to determine priorities in production and delivery;
> to allocate among the various purchasing agencies the available supplies whenever a shortage appeared;
> to be purchasing agent for the Allies.[2]

Prices of raw material and intermediate products were controlled, but a general price control mechanism was not fully developed by the end of the war.

The Food Administration had the responsibility to see that United States citizens and the allies had a sufficient amount of food with a limited increase in prices. This Administration was authorized to:

1. Enter into agreements with farmers;
2. License and regulate business firms;
3. Buy and sell foodstuff.

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[1]George Soule, Planning U.S.A. (New York: The Viking Press, 1967), p. 41.

[2]Ibid., p. 42.

The Shipping Board planned for and managed the existing merchant fleet, and built ships for the war.[3]

The three organizations combined their planning and operating branches. An indication of the success of planning during World War I may be the fact that methods of solving problems during that conflict were basically used again in future periods of stress such as the depression and the Second World War. Immediately after the First World War there was some loss of interest in planning.[4] Various people felt that planning was likely to result in too much governmental interference.

Ironically, the Union of Soviet Socialist Republics convinced American businessmen of the practicality of planning. Russia has promoted planning since the late 1920s. Programs were established to achieve targets by given dates. The Russians' lack of effective managerial capabilities caused severe problems early in their planning period. United States businessmen were requested to assist Russia in their developing industries. As Russia achieved rapid industrial growth, American managers became more aware of the advantages of planning.[5] This awareness seemed to have been shared by President Roosevelt who resorted to federal

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[3] Ibid., p. 45.

[4] Merle Fainsod and Lincoln Gordon, Government and the American Economy (rev; New York: W. W. Norton & Co., Inc., 1948), p. 803.

[5] Soule, Planning U.S.A., p. 95.

planning in order to ease the economic depression of the 1930's.

The Depression

The depression caused a reversal of the attitude of unconcern. During that period national planning was espoused by many economists. Even the United States Chamber of Commerce approved of planning--if the plan was to be voluntary. The Agricultural Adjustment Act (AAA) and the National Industrial Recovery Act (NIRA) of 1933 were the major laws which required planning. The Agricultural Adjustment Act attempted to raise the income of farmers. This was done indirectly by raising prices through reduction of acreage and directly by government subsidies. Agricultural statisticians determined a reasonable price for a commodity, then estimated the amount of the crop which would enable the price to reach the desired level. Output per acre was projected. The reduction required was broken down by states, counties, and, finally farms. The farmers had to vote to approve the programs. An individual could decide not to comply, even if a law passed, but would deprive himself of government subsidy.[6]

The National Industrial Recovery Act provided for codes to be established for each major industry. Theoretically, there was to be a partnership between labor, government, and industry in designing a code of fair

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[6] Ibid., p. 118.

competition. Trade associations attempted to write codes which were submitted for approval to the Central Division of the National Recovery Administration. Once approved, the Code Analysis Division checked it to make certain that it met the requirements of the law. These requirements included provisions for collective bargaining, hour regulations, wage ranges, limits on industry capacity, minimum prices, cost determination, and credit terms. Committees of trade associations and the Industrial Advisory Board (which included representatives of the Department of Commerce, the Department of Labor, and the consumer) held pre-hearing conferences. Differences were reconciled at public hearings. The Code was then sent to the President whose signature made it law. There was hard bargaining between business and labor in those industries which had strong unions. In most cases, however, business was far stronger, and the consumer was weakly represented.

The NIRA was a major undertaking in planning which ended in failure even before the law was declared unconstitutional. The Act, which in part encouraged industries to plan in cooperation with labor and consumers, was rushed through Congress without adequate planning. Programs, determined mainly by businessmen, excluded labor and consumers from effective representation. Furthermore, even business was represented mainly by big enterprises.[7]

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[7]Broadus Mitchell, Depression Decade: from New Era Through New Deal: 1929-1941. The Economic History of the

The major regional plan that occurred during the depression was carried out by the Tennessee Valley Authority, which was established in 1933. Water related problems had been studied for many years before the depression. On April 10, 1933, President Roosevelt, who had experience with power sites while he was Governor of New York, proposed the Tennessee Valley Authority (TVA). The Authority was to include comprehensive regional planning in soil erosion control, afforestation, efficient use of lands, and the diversification of industry. The broad aims of the law were realized. The Authority, in cooperation with other governmental units, was particularly successful in its soil conservation program. Its success in electric power generation, which was to be a secondary aim, contributed to industrial expansion throughout the nation.

The electric rates charged by TVA plants were considerably lower than those of private power plants. The demand for electric power was demand elastic. Private power plants followed the price lead of the TVA, and made considerably higher profits than before because with lower rates, more electric power was consumed.[8]

United States, Vol. IX (New York: Rinehard & Co., Inc., 1947), pp. 239-243.

[8] Ibid., p. 348.

World War II

The creation and operation of the Tennessee Valley Authority tended to show public and private organizations the importance of planning in managing resources. Nevertheless, the planning operations of government slowed considerably after the NIRA failed, although the national economy was slowly growing from a low level. The threat of a second world war accelerated the movement toward planning. The nation benefited from the experiences of the First World War as well as the planning efforts during the depression. The economy was still at a low level, enabling broad governmental action to encourage expansion without the threat of inflation. Mobilization began in 1940, and expanded considerably after the United States entered the War in 1941. Procurement, materials, manpower, and prices were all planned on a national basis.

Material acquisition was divided into three major classifications: industrial, agricultural, and materials procured abroad. The Supplies, Priorities and Allocation Board was responsible for determining production needs, and establishing policies to meet them. The Office of Production Management executed measures to increase and regulate production of defense materials. These two agencies were later combined to form the War Production Board.

Food control was initially administered by two agencies--The Food Distribution Administration and the Food Production Administration. The two offices were combined in

1943 in the War Food Administration. Between 1939 and 1944, food production increased 23 per cent although farm acreage rose only 3 per cent. Planning for agricultural output, through the extensive use of new farm machinery and technology, overcame the decrease in agricultural employment and resulted in considerably more food.

Since the government felt that production was a matter of life and death for the fighting forces, most contracts were handled by a few large firms. The big enterprises were in a position to guarantee timely deliveries. However, theoretically, the orders were supposed to be spread among firms of all sizes. Manpower was a major problem in production, both on the battlefield and at home. The War Manpower Commission determined where the greatest needs existed. The draft "encouraged" workers to seek positions in draft exempt industries.

Disruption of work was largely avoided. Patriotic efforts of management and labor were responsible for their mutual cooperation and understanding. To insure labor peace, the National Defense Mediation Board was organized, as was the National War Labor Board which superseded it. Disputes were handled case by case, but the National Labor Board had a sufficient number of cases which served as precedents.

Prices were also administered by federal agencies. The National War Labor Board had to clear most wage increases. The Office of Price Administration determined the

prices of many civilian goods through price ceilings and the rationing of highly demanded goods.

Finally, the distribution of defense goods was controlled by two governmental agencies. The Office of Defense Transportation was designed "to assure maximum utilization of the domestic transportation facilities of the Nation for the successful prosecution of the war."[9] The national transportation system was left in the hands of private enterprise. The War Shipping Administration took over the operation of the Merchant Marine.

The planning and operations carried out by the federal government were complex. War organizations carried out planning to a considerable extent. The Office of War Mobilization was established in 1943 to coordinate all war programs.[10]

The success of the United States in producing goods and services during the planned economy of World War II cannot be questioned. Virtually every economic indicator registered substantial improvement. Per capita disposable income and consumption rose despite the huge quantities of war materials being produced. Nevertheless, the United States was not anxious to continue controls. Most restriction and planning bodies were eliminated within two years after the

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[9]Gilbert C. Fite and Jim E. Reese, An Economic History of the United States (2d ed.; New York: Houghton Mifflin Co., 1965), p. 635.

[10]Ibid., pp. 634-38.

war. Almost 200 emergency war agencies were established after 1939, but only a dozen remained by mid-1946 when the Employment Act came into being.[11]

Employment Act of 1946

Planning, even immediately after the war, was not entirely disregarded by the nation. People were aware of what could result from concerted national planning and effort. Although most people seemed strongly against substantial governmental activity, the spectre of widespread unemployment encouraged the passage of the Employment Act of 1946. The Act was not as strong as many had hoped. Section 2 declared that the policy of the Government was to maintain maximum employment, production and purchasing power. The Act required the President to make an Economic Report to Congress within sixty days after the beginning of each regular session. The report must contain information on:

(1) the levels of employment, production, and purchasing power obtaining in the United States and such levels needed to carry out the policy declared in section 2;
(2) current and foreseeable trends in the level of employment, production, and purchasing power;
(3) a review of the economic program of the Federal Government and a review of economic conditions affecting employment in the United States or any considerable portion thereof during the preceding year and of their effect upon employment, production, and purchasing powers; and
(4) a program for carrying out the policy declared in section 2, together with such recommendations for

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[11]Harold Underwood Faulkner, American Economic History (8th ed.; New York: Harper & Row, 1959), p. 713.

legislation as he may deem necessary or desirable.[12]

The Act also provided for the establishment of a Council of Economic Advisors. These were to be men of renown in the field who would be of assistance to the President. The duties of the Council were:

1. To assist and advise the President in the preparation of the Economic Report;
2. To gather timely and authoritative information concerning economic developments and economic trends, both current and prospective, to analyze and interpret such information in the light of the policy declared in sec. 2 for the purpose of determining whether such developments and trends are interfering, or are likely to interfere, with the achievement of such policy, and to compile and submit to the President studies relating to such developments and trends;
3. To appraise the various programs and activities of the Federal Government in the light of the policy declared in section 2 for the purpose of determining the extent to which they are not contributing to the achievement of such policy, and to make recommendations to the President with respect thereto;
4. To develop and recommend to the President national economic policies to foster and promote free competitive enterprise, to avoid economic fluctuations or to diminish the effects thereof, and to maintain employment, production and purchasing power;
5. To make and furnish such studies, reports thereon, and recommendations with respect to matters of Federal economic legislation as the President may request.[13]

The requirements of the Act implicitly demand that projecting and planning be carried out. It, therefore, indicated not only many areas of the nation where projecting was necessary, but also the need for planning. A great deal of

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[12] Employment Act of 1946, Statutes at Large, LX, sec. 3, 24 (1946).

[13] Ibid., pp. 24-25.

prestige is connected with the Council. Unfortunately detailed planning is not undertaken by the Council despite the opportunity provided for it under the law. However, when American foreign aid became available to other nations after World War II, the U.S. Government started to lay down foreign economic policy guidelines which dragged it into planning in cooperation with foreign countries.

Planning by Foreign Countries

Although planning after World War II by the United States government had considerably lessened, many foreign countries planned, some at the insistence of the United States. Two organizations that received the full cooperation of the United States were the International Bank for Reconstruction and Development and the Marshall Plan.

The International Bank for Reconstruction and Development was established in 1944. The goal of the Bank is to help raise the level of the world's production as much and as rapidly as it can. The Bank undertakes the financing of projects or programs which promise an increase in productivity in the shortest possible time.[14] The determination of the optimum programs to be studied requires considerable planning. Planning includes surveys of the borrowing country's agricultural, industrial and mineral resources;

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[14]International Bank for Reconstruction and Development, Second Annual Report: 1946-1947 (Washington, D.C.: International Bank for Reconstruction and Development), p. 8.

of its manpower, production and transportation situation; of the state of its external trade and balance of payments; its internal finances, particularly its budget and current position.[15] The surveys include not only current output, but an analysis of what is likely to happen in the future. Funding requests for a project by a country are viewed in light of the entire economy, and the profitability of the project. Considerable emphasis is placed on planning done by the Bank and the country requesting the aid.

The Marshall Plan was a means of providing American aid to countries which suffered severe damage in the Second World War. Countries interested in receiving aid were invited to discuss their prospects. Sixteen countries accepted the invitation. These nations were: Austria, Belgium, Denmark, Eire, France, Greece, Iceland, Italy, Luxemburg, the Netherlands, Norway, Portugal, Sweden, Switzerland, Turkey, and the United Kingdom. Representatives of these countries formed a committee which prepared a study of the possibilities of aid from the United States.

The report indicated in detail each major element of the country's economy: food, fuel, equipment, productive efficiency, inflation, power, iron and steel, and transportation equipment. An attempt was made to determine how to overcome the shortages in each area, with alternatives of

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[15] Ibid., p. 17.

where the resources could reasonably be acquired. Measures were indicated which would encourage:

1. The stimulation of maximum self-help in Europe.
2. The determination of Europe's minimum requirements for imports, and the allocation among the countries of Europe of goods available under the American program.
3. The determination of possibilities in the United States and elsewhere.
4. The arrangement for the procurement, domestic transport, and overseas shipment of the goods, and payment for them.
5. The easing of the impact in the U.S. economy.
6. The arrangement of agreements between the participating countries and the United States.[16]

The Marshall Plan helped bring about a revival in the economy of Western Europe with direct and indirect benefit to the United States. It was also an important example of successful planning.

Perhaps the planning carried out to comply with the Marshall Plan encouraged European Countries to engage in planning for the last couple of decades. The European Economic Community and its member nations plan as a unit and individually. The Treaty of Rome included the following statement:

> It shall be the task of the Community in establishing a common market and progressively approximating the economic policies of Member States to promote throughout the Community a harmonious development of economic activities, a continuous and balanced expansion, and increased stability, an accelerated raising of the standard of living, and closer relations between Member States.[17]

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[16]Sidney S. Alexander, The Marshall Plan, National Planning Association Planning Pamphlets Nos. 60-61 (National Planning Association, Washington, D.C., 1948), p. 54.

[17]Treaty of Rome, Quoted in Geoffrey Denton, Planning

This statement does not specify that planning must be carried out, but such a function is necessary for achieving its goals. The Medium-term Policy Committee (MTP Committee) was formed by the Council of Ministers in 1964. The first task of the MTP Committee was to draft a program for a medium term economic policy. The draft was to "present the broad lines of the economic policies intended to be pursued by member states and institutions of the community for the agreed period and should aim at insuring their cooperation."[18]

Governmental Planning During the 1960's

An important milestone in the evolution of federal planning occurred during the 1960's. Planning was encouraged by the federal government because several regions in the United States have not kept pace with national economic growth. The Full Employment Act of 1946 indicated that encouraging general employment opportunity was the policy of the United States Government. The Area Redevelopment Act (ARA) of 1961 indicated the steps to be followed for state and regional development.

> The Congress declares that the maintenance of the national economy at a high level is vital to the best interests of the United States, but that some of our communities are suffering substantial and persistent unemployment and underemployment; that such

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in the EEC: The Medium-Term Economic Policy Programme of the European Economic Community (London: Chatham House, 1967), p. 22.

[18] Ibid., p. 24.

> unemployment and underemployment cause hardship to many individuals and their families and detract from the national welfare by wasting vital human resources; that to overcome this problem the Federal Government, in cooperation with the States, should help areas of substantial and persistent unemployment and underemployment to take effective steps in planning and financing their economic redevelopment; that Federal assistance to communities, industries, enterprises, and individuals in areas needing redevelopment should enable such areas to achieve lasting improvement and enhance the domestic prosperity by the establishment of stable and diversified local economies and improved local living conditions; and that under the provisions of this Act new employment opportunities should be created by developing and expanding new and existing facilities and resources rather than by merely transferring jobs from one area of the United States to another.[19]

To achieve success of the ARA program, it was felt imperative that planning be encouraged. Section 15 of the code indicates that up to seventy-five per cent of the planning funds would be provided by the Federal Government for assistance in planning for a city, municipality or county.[20] This indicates that the importance of planning is finally being recognized for other than emergency situations. Planning is thus being extended to the state, regional and local levels.

The Economic Opportunity Act of 1964 stressed that it is the policy of America

> to eliminate the paradox of poverty in the midst of plenty in this Nation by opening to everyone the opportunity for education and training, the opportunity to work, and the opportunity to live in decency and dignity. It is the purpose of this Act to strengthen,

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[19] Area Redevelopment Act, Statutes at Large, LXXV, sec. 2, 47-48 (1961).

[20] Ibid., sec. 15, 58.

> supplement, and coordinate efforts in furtherance of that policy.[21]

The law is not retroactive. It demonstrates that planning has been the accepted mode of behavior--at least for the states that wish to receive funds for major Youth Programs (Title I) or Urban and Rural Community Action Programs (Title II). Almost all assistance requires the cooperation of the states and planning by them. In carrying out the provisions of Title I and Title II

> no contract, agreement, grant, loan, or other assistance shall be made with, or provided to, any State or local public agency or any private institution or organization for the purpose of carrying out any program, project or other activity within a State unless a plan setting forth such proposed contract, agreement, grant, loan, or other assistance has been submitted to the Governor of the State, and such plan has not been disapproved by him within thirty days of such submission.[22]

The importance of one individual can be seen by developments in the Department of Defense. When the president of Ford Motor Company, Mr. Robert McNamara, was appointed Secretary of Defense in January, 1961, he brought with him no special knowledge of warfare, but a great deal of business managerial capability. He felt that the Defense Department ought to be run as efficiently as a successful corporation.

The Defense Department had planned throughout its history. Each branch of the Armed Services recognized the importance of thorough planning since human lives depend on

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[21] Economic Opportunity Act of 1964, Statutes at Large, LXXVIII, sec. 2, 508 (1964).

[22] Ibid., pp. 508-33.

it in wartime. Financial planning was not carried on extensively in the Department. The military feels, and most Americans agree, that whatever must be spent to defend our nation will be spent. This led in many instances to empire building, and almost always resulted in little coordination among the branches of the service. Mr. McNamara pointed out that there was one type of "war" he could not envision. That would be a war in which the Army would not use the Navy and the Air Force.[23] He began a planning series called Planning Programming Budgeting System (PPBS), which was first suggested by the Rand Corporation in 1958. Under PPBS programs are designated by function. Thus, it becomes easier to see where money can best be spent to achieve desired goals. Probably even more important than the classification, however, is the fact that the Department was required to plan five years in advance for all expenditures. The plans were expected to be carried out. There are five steps in the PPBS system, which the Defense Department uses:

> (1) A program structure in terms of missions, forces, and weapon systems; (2) analytical comparisons of alternatives; (3) continually updated five-year force structure and financial program; (4) related year-round decision making on new programs and changes; and (5) progress reporting to test the validity and administration of the plan.[24]

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[23]Robert S. McNamara, The Essence of Security: Reflections in Office (New York: Harper & Row, 1968), p. 91.

[24]David Novick, "Program Budgeting: Long Range Planning in the Department of Defense" in Managerial Long-Range Planning, ed. by George A. Steiner (New York: McGraw-Hill Book Co., Inc., 1963), pp. 199-200.

The importance of the planning which was encouraged by the Department of Defense should not be overlooked. Perhaps the most important element is that the highly complex Defense Department succeeded in carrying the operation through. Furthermore, it led to the spreading of the PPBS planning system to other Departments of the United States Government.

President Johnson supported that approach to planning. In July, 1964, Budget Bureau Circular No. A-11 requested all agencies to submit program statements and estimates of new obligational authority and of expenditures under existing and proposed legislation for three years beyond the next budget year. Since the budget estimate is made a year in advance, the total estimates must now be made for the coming five years.

Thus, planning is now an integral part of government activity. Congress has demonstrated its approval thereof by demanding plans in many laws. Furthermore, funds for planning by regional, state and local governments are provided by the federal government. Congress and the Bureau of the Budget require planning from federal departments for federal funds.

Private and Business Sectors Complementing Federal Planning

The above highlights show that planning was carried on by the federal government to some extent throughout its history. Before the mid-twentieth century, however,

planning was largely a stop-gap measure, adopted to cope with national emergencies. Private groups responded to the lack of federal planning. Two major private organizations are the National Planning Association and Resources for the Future, Inc.

The National Planning Association (NPA) is an "Independent nonpolitical, nonprofit organization. . . . NPA believes that through effective private planning we can avoid a 'planned economy'."[25] The National Planning Association has been planning since its inception in 1934. The concern with anticipated unemployment encouraged NPA to publish "National Budgets for Full Employment" in 1945, which was followed in 1952 by "The American Economy in 1960." The relatively accurate projections achieved in 1952 encouraged the publication by the National Planning Association of "Long Range projections for Economic Growth: The American Economy in 1970" in October, 1959.

The National Planning Association projects, in constant dollars, the U.S. economy for five and ten year intervals to help private and public agencies in their future plans. Under specific and varied assumptions, three different projections of our economy are arrived at by multiplying projected hours worked per man year times productivity per man hour. This was done for all major sectors of the

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[25]Gerhard Colm, The American Economy in 1960: Economic Progress in a World of Tension, Planning Pamphlet No. 81 (Washington, D.C.: National Planning Association, December, 1952), p. i.

economy: agriculture, manufacturing, services, etc. To arrive at hours worked and productivity rates, NPA starts with the continuously revised projections of the population made by the U.S. Bureau of the Census. The NPA then estimates the labor force, employment and output per man-hour. The gross national product is divided into private consumption, investment, government purchases and net foreign transactions.

The three different projections of NPA are based on the following assumptions:

1. Full employment and full output (target projection)
2. Continuation of present economic conditions (present-policy projection)
3. Most probable output (judgment projection)

The National Planning Association, in addition to planning, has urged the federal government to plan. NPA's Steering Committee encouraged the federal government to work toward a 4.5 per cent rate of growth.[26]

Resources for the Future (RFF) was established in 1952 as a non-profit corporation for research and education in the development, conservation and use of national resources. The corporation has been concerned with resources and their future availability since its inception. Perhaps

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[26]Gerhard Colm, Targets for U.S. Economic Growth in the Early 60's, A Statement by the NPA Stearing Committee, Planning Pamphlet No. 111 (Washington, D.C.: National Planning Association, February, 1961), p. 3.

the broadest study by the RFF was "Resources in America's Future: Patterns of Requirements and Availability, 1960-2000."

Resources for the Future, Inc., is mainly interested in the supply and use of natural resources. To project the need for and the availability of resources, estimates of many elements of the productive process are made. Similar to the National Planning Association projections, RFF uses the population projections of the U.S. Bureau of the Census. However, the RFF method of arriving at the projected figures of the national economy are derived from the number of workers in the labor force and the output per worker per year rather than an hourly rate of output per worker.

Estimates are then made as to how total output will be divided in terms of spending units (government spending, personal consumption expenditures, gross private domestic investment and net exports). The total output is also divided into durable goods, non-durable goods, construction and services. After the broad aggregates are determined, the major resource categories--land, water, energy and non-fuel minerals--are estimated. Demand is projected on the basis of population and past spending and the specific needed resources are estimated. The accuracy of the individual projections is checked with the aggregate derived figures. A further check is made for resources by considering the demand for final goods with the specific resources required and the future resources likely to be developed.

Projections by RFF are divided into high, medium and low estimates on the basis of the same three levels of projections of the population by the U.S. Bureau of the Census. To arrive at their ultimate results, Resources for the Future, Inc., employs several specific assumptions, taking into consideration technology, social changes, economic needs, change in production functions, etc.[27]

Parallel to planning by federal and private organizations, business is planning at an accelerated rate. The growth of business, increased knowledge of management science, and the continued development of the computer have contributed substantially to planning. Although the number of business establishments has been increasing, a few industrial giants dominate the market. At the end of 1968 the top 500 firms employed more than two-thirds of the industrial workers and their sales amounted to 64 per cent of total industrial sales in the United States.[28]

One major reason for the increasing importance of the large firms is the computer which helped them grow through diversification and expansion. Such growth required a great deal of planning. Of the 500 largest companies, only 25 per

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[27]Hans H. Landsberg, Leonard L. Fishman, and Joseph L. Fisher, Resources in America's Future: Patterns of Requirements and Availability, 1960-2000 (Washington, D.C.: The John Hopkins Press for Resources For the Future, 1961), pp. 19-25.

[28]Fortune, "The 500 Largest U.S. Industrial Corporations," Fortune, LXXIX, No. 6 (May 15, 1969), pp. 166-67.

cent carried out formal planning in 1958. By 1963, 60 per cent were engaged in planning and an additional 24 per cent indicated that they intended to institute formal planning. It is anticipated that many smaller establishments will follow the example of the large firm in initiating formal planning. Hiring qualified planners is a major problem facing the small enterprises in implementing the planning function.[29]

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[29] Planning in Business, Summary of Information Presented at a Conference on Planning for Industrial Growth quoted in George A. Steiner and Warren M. Cannon, Multinational Corporate Planning (New York: MacMillan Co., 1966), p. 18.

CHAPTER III

SELECTED FEDERAL AGENCIES IN MISSOURI THAT USE STATE PLANNING

State planning has increased throughout the nation during the last quarter century. Among the major reasons for the increase are the great rise in spending by state governments, the additional sharing of spending with the federal government, and the acceptance of state planning by most people.

The Missouri State Planning Commission is the coordinating body for all planning in the state. The Commission is responsible for assisting local and regional planning agencies, reviewing the various state plans for consistency with other agencies and with state goals, and for preparing a comprehensive state plan.

The most dramatic increase in planning has been in cities. The Missouri State Planning Commission assists the plans of cities and approves them when completed. When the planning commission was established in 1962 there were 15 cities that had developed comprehensive plans. Currently there are over 115. In 1962 only 7 counties had planning authorities; in 1967 there were 34. In 1962 there were no

regional planning programs; in 1968 there were 14. Much of the impetus and direction for increased planning in these areas has come from the Missouri Office of State and Regional Planning.

One of the major responsibilities of the Office is the development of a comprehensive state plan. The legislation authorizing a state plan became effective August 4, 1966. By the end of the year the approach was schematized in a systems analysis study, which indicated when each stage of the plan would be accomplished and who would do the actual planning. Approximately $200,000 became available for the first year planning operation. Two-thirds of the funds came from the federal government and the remainder was provided by the State. The Director now anticipates that the comprehensive plan will be published in 1970--approximately two years later than the initial estimate. In a sense, the plan will never be completed, but will be a continuously evolving document.

Since 1967 little has been accomplished in the state comprehensive plan. The Office of State and Regional Planning feels that its principal duty is to coordinate the activities of each of the agencies in the state government, and each of the other planning groups in the state. Each state agency is to prepare a plan, or a series of plans, for its own operations. The planning commission analyzes these plans for consistency and plausibility.

One reason for the failure to complete the State Plan is the turnover of directors. During the last five years, four different directors headed the agency. Another reason that the comprehensive plan has not progressed as expected is that the present director thinks it is better to encourage district planning within the state before carrying out a state comprehensive plan. It is, of course, somewhat easier to prepare plans on a smaller scale, but the districts are often required to have comprehensive plans prior to obtaining federal funds. The various district plans must be consistent with those of the state agencies and other districts.

The Missouri Office of State and Regional Planning has little authority over state agencies that submit programs to the Commission. The Office may recommend changes, and indicate possible problems, but the agency submitting the plan need not heed the recommendations. Because of the requirements of the federal government, however, more power is being given to the Office. It is expected that in the future more authority will be vested in it. Federal grants usually require that a plan be submitted before funds are made available to the states. Presently, some requests from Missouri agencies are presented to the federal government whether the Office of State and Regional Planning approves them or not. It is expected that in the near future the approval of the Missouri Office of State and Regional Planning will be obtained before state programs are federally funded.

The Office may then be in the position of having more authority over federal funds than over state funds.

Almost all federal departments request plans of their counterpart state agencies. These state plans are taken into consideration when the federal ones are formulated for the states. However, some offices of three federal agencies do not produce state plans of their own. They rely completely on the state agencies to plan for these federal organizations located in the state. As the object of this study is planning by the federal agencies in Missouri, only the plans used by the following three federal agencies are considered:

1. Department of Transportation
2. Department of Health, Education and Welfare
3. Department of the Interior.

Missouri Agencies which prepare plans for these federal departments are:

1. Missouri State Highway Commission
2. Division of Mental Diseases
3. Missouri Commission on Higher Education
4. Section of Vocational Rehabilitation
5. Air Conservation Commission
6. Water Pollution Control Administration.

The major reason why the plans of some offices of the three federal departments are entirely carried out by the state is the fact that Missouri has been formulating them for many years. The state is reluctant to give up the authority it had in the past. Furthermore, the federal government

would have to duplicate many functions if it were to carry out planning in the state. It also feels that the state should be given the opportunity to plan for its agencies. Social psychologists have often stressed that for persons to really consider an operation their own, they must be made a part of the entire formulation.[1] This is accomplished when the state agency plans its operations.

Highways

The planning department of the Missouri State Highway Commission is comprised of engineers who held other positions in the Highway Commission prior to their appointment in the planning department. Plans for highways in Missouri are the product of three groups: The Automotive Safety Foundation, the Midwest Safety Foundation and the Missouri State Highway Commission. Federal and state officials agree that the plans of the three groups were well conceived and comprehensive. The fact that the Missouri State Highway Commission has been planning for almost half a century contributed to the thoroughness of these recent plans.

The Automotive Safety Foundation of Washington, D.C., comprised primarily of engineers, established an "ideal" system of highways for Missouri. The Foundation received technical help from state, county and city road engineers. The "ideal" system was then compared with the actual. The

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[1]Muzafer Sherif and Carolyn W. Sherif, An Outline of Social Psychology (rev; New York: Harper & Brothers, 1956), pp. 333-60.

location of the existing roads compared favorably with the "ideal" system but in some instances the quality of roads had to be upgraded. Physical improvements and their costs were scheduled over a twenty year period, divided into segments of five years each. The study found that there is an increasing time lag and lack of funds for Missouri highway construction.

The funds needed to complete the highways are greater than those obtained from current revenues. Highway revenues are derived mainly from state gasoline taxes and from federal funds. While tax revenues are estimated annually in advance, federal funds are more difficult to estimate. The federal government provides up to 90 per cent of the funds for interstate Highways, and 50 per cent of the funds for many other roads. However, there is a maximum amount of federal funds for each state based on population, area, and postal routes. It is interesting to note that the U.S. Bureau of Public Roads, which works harmoniously with the Missouri State Highway Commission, feels that the Missouri state gasoline tax of five cents per gallon is too low. Nevertheless, the state of Missouri continues to build some roads each year entirely with state funds because of the inadequacy of federal appropriations.

The primary work of the Midwest Research Institute was done by persons specialized in data processing planning, computer programming and economic analysis. The Institute used engineers from the Missouri Highway Department and the

Bureau of Public Roads as advisors to its personnel. The Missouri State Highway Department requested the Midwest Research Institute to develop a traffic model to "estimate future traffic volume on all existing and proposed principal rural highways."[2] The model used destination, socio-economic factors, travel time, attraction factors, and population to estimate approximate traffic flow. The Institute divided the continental United States into destination zones centered around Missouri. Assuming that most traffic would travel relatively short distances, it allotted Missouri 536 zones, the eight adjacent states 112 zones, and the rest of the U.S. 20 zones. The analysts used U.S. Bureau of the Census computer tapes for social and economic characteristics of each zone. Highway traffic was divided into truck, work, vacation, social-recreation, and personal business. An origin and destination study conducted by the Missouri Highway Department at every degree of latitude and longitude in Missouri was also used in the study. Travel time was computer simulated between each pair of zones. The drawing power of each destination zone was estimated for each type of travel, mainly on the basis of socio-economic data. For example, the "drawing power" of a zone for truck trips considered total population and employment in durables, non-durables, transportation and wholesale trade.

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[2]John E. Hosford, Development of a State-Wide Traffic Model for the State of Missouri (Kansas City: Midwest Research Institute, 1966), p. I.

The model has proved helpful to personnel of the Missouri Highway Department and the Bureau of Public Roads. Both agencies agree with the Midwest Research Institute that more work needs to be done. The biggest advantage of a model approach is that once the data are stored on computer tape and formulae developed, much more data can be examined than would be possible with non-computerized methods.

The major sources of data used by the Missouri Highway Commission in preparing their plans are traffic counts, interviews with drivers, and inventories of road conditions. Traffic counts are taken annually on major highways, and every three years on farm-to-market roads. They indicate the number of vehicles which pass a specific point on a highway, the number of extra-axle vehicles and axle load. However, they do not provide data on destination. This information is obtained through interviews with drivers. Interviews also provide clues on driver preferences. Missouri drivers indicate preferences for speed, safety and comfort, respectively.

A complete highway inventory is kept up to date by the Missouri State Highway Commission. Tables 1, 2, and 3 indicate the information which is maintained for every section of Missouri highway.

The inventory includes percentage of capacity currently being used, the year in which capacity is expected to be exceeded, the number of accidents in each section of the highway, type of road surface, and many other items. These factors are examined carefully during the planning phase.

TABLE 1

ROAD CONDITION AND PROGRAMS ANTICIPATED

Information Included in a Schedule Maintained by the Missouri State Highway Department for Analysis of Highway Needs
Project which is being contemplated
Width of highway and shoulder
Access controls, if any
Number of lanes
Pavement data
Type
Thickness
Year built
Base of highway
Type
Thickness
Curves over two degrees, direction and amount
Grades over three per cent, and the length
Sight distance
Speed zone
Traffic control devices
Structures over the road
Reported accidents and year
Traffic--total and percentage of trucks

TABLE 2

BRIDGE CONDITION, LOCATION, AND SAFETY FACTORS

Information Included in a Schedule Maintained by the Missouri State Highway Department for Analysis of Highway Needs
Exact location of the bridge
Bridge number
Divided or undivided highway
Type of bridge
Length of bridge
Width
Bridge roadway
Approach roadway
Vertical clearance
When built
Load capacity
Design
Estimate
Rating of bridge
Year of rating
Condition index
Safety index
Service index

TABLE 3

ROAD CONDITION AND SAFETY

Information Included in a Schedule Maintained by the Missouri State Highway Department for Analysis of Highway Needs
Surface
Type
Width
Mile post location on map
Section begins
Length (Usually less than five miles)
Number of lanes
Shoulder width
Average daily traffic
Surface condition--(A scale from one thru 10)
Operational speed--(Index from 1-10)
Average operational speed attained
Capacity currently attained
When capacity is expected to be exceeded

Projections of demographic trends are used to estimate where traffic may be moving in the future.

Highways that are deficient are carefully examined. Urban areas whose population exceeds 50,000 persons must have an up-to-date record of deficiencies in the highway it serves to be eligible for federal improvement funds. This record also includes the basic study or plan used, the extent to which the road provides reasonable transportation, and how it fits into the master plan. Missouri exceeds the federal requirement in detail and coverage.

The Missouri Highway Commission has long, intermediate and short term plans. The planning department stresses that although long range highway plans (more than ten years) are available, they are intentionally vague. It is not feasible to make specific plans for long periods in the future. Highways in these plans are divided into limited access, thoroughfare but not limited access, and rural roads. The likelihood that each of the three general types of highways will require repairs is known, but the requirements of specific sections are not planned so far in advance.

Intermediate term plans (five to ten years) have more specific goals. The major goal is to make the road system as efficient as possible. The highway department assumes that there will be no change in the tax structure during their intermediate planning period. The amount of revenue for roads can then be estimated. The road inventory is used to indicate where highway problems are likely to

develop in the future. The greatest need in any highway is usually to provide a thoroughfare on which sufficient speed and safety can be maintained. Outdated design of a highway, traffic in excess of designed capacity, or surface in need of repair are problems which must be overcome. Some highways carry as many as twice the number of cars for which they were originally designed. This deficiency is usually overcome by improving current roads rather than expanding the system.

Few specific plans are made for short term periods (less than five years). Plans during this period are mainly an implementation of the intermediate term programs. Changes made in the short term plans often involve considerable cost or delay in execution.

Most major highways are interstate. Hence, highway planning requires considerable coordination with adjoining states. All these state highway agencies are informed of planned programs of the Missouri State Highway Commission. This enables programs of all neighboring states to mesh smoothly. The highway agencies of other states reciprocate.

Although the Missouri Highway Department maintains that it is free of political influence, there is evidence that this is not always true. For example, the executive office recommended that a new freeway be studied by the Highway Commission. On the basis of their study, the Highway Commission concluded that the road was economically unfeasible. It was further pressured to study a toll road in

place of the freeway. This second study showed that the revenues from traffic thereon would not be sufficient to meet the bond payments. The Governor then hired a private consulting firm to make a feasibility study. The firm concluded that the proposed road was feasible. At the time this is written the road is still a center of controversy.

To date, the planning activities of the State Highway Commission of Missouri have been limited to highways and there is no organization concerned with a total transportation system. For example, in the future it may be found that it will be more economical to have less travel by private auto and more travel by mass transport. The cost of highways, automobiles and time may make it advisable to provide other means of transportation. The Department of Transportation is planning meetings on a recurring basis to be held primarily in the major cities of Missouri. It may be advisable that such meetings should consider other cities in the state.

Mental Health

A Comprehensive Mental Health Plan for Missouri was completed in 1966 at the Division of Mental Diseases. The personnel who formulated the comprehensive plan were primarily physicians, psychiatrists and sociologists from throughout the state. Planning on a continuing basis is done by the professional employees of the Division of Mental Diseases. There is no specific office in charge of formal planning in the Division.

The Comprehensive Mental Health Plan was the result of two years of effort by many persons. Missouri mental health officials felt that the planning organization must be one "composed of those decision-makers who are most intimately concerned with health and welfare issues."[3] The executive committee was composed of the directors of each of the eleven state departments and divisions which are directly concerned with mental health. The executives appointed a seven member working committee which supervised the work of eight committees and five subcommittees which prepared most of the plan.

The eight committees and five subcommittees were in charge of:

1. Forensic psychiatry
2. Resources for Children and Youth
   a. Preventive Services
   b. Community Resources
   c. Residential Care
3. Manpower
4. Community Mental Health Centers
5. Mental Health Coordinators of the Health and Welfare Council of St. Louis

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[3]Department of Public Health and Welfare, Division of Mental Diseases, Executive Committee for Mental Health Planning. Comprehensive Mental Health Planning in Missouri (Columbia: Program Evaluation and Development Center, 1966), p. 27.

6. Mental Health Committee of Health and Welfare Council of Kansas City
7. Mental Health Committee of Health and Welfare Council of St. Louis
8. Geriatrics
    a. State Committee on Aging
    b. Mental Health Planning for Aging for the Metropolitan St. Louis Area

The members of the committees were chosen to provide a broad professional and geographical representation. Some of the committees had more than 100 members. Although such a large size may have been disadvantageous in some respects, the broad representation helped broaden the objectives of the plan and provided a starting point for an inventory of mental health conditions that existed in Missouri.

Mental health programs are so widely spread among private organizations, governmental agencies and private practitioners that an accurate inventory is difficult to make. Most subcommittees mailed questionnaires to the various interested agencies and individuals to arrive at a reasonable estimate of the available assistance. Answers to the questionnaires and the professional experience of the members of the committees provided guidelines for the plan.

The plan prepared by the committees did not include a timetable for action. It merely indicated what the members felt should be accomplished. The committees made a list of recommendations with few priorities assigned to them.

However, the final plan which compiled all the reports included a list of projects and their priorities.

Costs and revenues were estimated by only one committee. The lack of that information was an important drawback of the plan. Overall, however, the federal government shares costs of most of the programs, usually providing at least 50 per cent of the total amount. In most cases the federal assistance requires the inclusion of the program in the comprehensive mental health plan of the state. The federal government provided Missouri with $78,330 in fiscal year 1964 and $76,400 in fiscal year 1965 for mental health planning purposes. The planning was to be inclusive and completed by the state. This may be one reason why the mental health programs in Missouri were so encompassing.

The Comprehensive Mental Health Plan recognizes that acquiring professional personnel is the most difficult problem facing the success of the various recommended programs. Although more interest in mental health programs can be achieved through publicity and scholarships, the required personnel cannot be immediately obtained.

The federal government has been receptive to proposed programs of the plan. Over half of the programs recommended in the plan are currently in operation. Another twenty-five per cent will be in operation soon. The remaining programs will probably not be implemented soon because they are considered either "unfeasible" or impossible to implement without additional state legislation.

The Comprehensive Mental Health Plan was a broad attempt to find out the existing situation of mental health in Missouri. A major flaw in the plan is that many of the programs were considered "unfeasible" by those who are to implement the plan. Such a consideration is inexcusable since the Division of Mental Diseases had representatives on almost every committee and was responsible for coordinating the plan. Furthermore, the committeemen were mainly professionals who should know what is and is not "feasible."

In some instances, a number of suggested programs cannot be carried out because present Missouri laws do not permit action. In other instances, the Division of Mental Diseases does not implement programs encouraged by federal statutes. For example, Missouri is doing almost nothing in the area of drug addiction which is treated by law as a crime, not a curable illness. The Division of Mental Diseases agrees with the federal legislation that the drug addict is sick and needs help. However, state legislation is such that federal programs are insignificantly implemented in the state.

Another area of disagreement between the Division and the federal government is that of the program for the aged. Federal authorities consider the problem of mental health for the aged as a major one which will increase in importance in the future. Consequently, they encourage the utilization of an increasing amount of funds to learn more about geriatrics and to provide increasing care to the

elderly. In Missouri, on the other hand, the authorities feel that little can be done permanently for the aged. The state feels that these people can be evaluated and built up mentally and physically to some extent. The prime need is to provide these people with a nursing home which can care for the aged in a much more reasonable and economical manner than can be done by hospitals or the Division of Mental Diseases. Contrary to the federal point of view, Missouri feels that less money, time and effort will be spent on the aged in the future.

The continuing program of planning in the Division of Mental Diseases is informal. The Director of the Division suggests most of the programs that are initiated. There are regular meetings of the heads of the various departments, and these individuals are encouraged to propose programs which they think are worthwhile. In most cases planning starts for certain programs in Missouri while federal legislation for such programs has not been finalized. The state then enacts legislation which enables Missouri to take advantage of the mental health programs either as soon as the federal law is passed, or shortly thereafter. However, the plans of the Division of Mental Division appear to be weak. There is no attempt to continue the work which was done in the 1966 Comprehensive Mental Health Plan.

Higher Education

More money is appropriated for education than any other item in the Missouri budget. The state's concern is that education should be carried out efficiently. The Office of Higher Education of the Department of Health, Education and Welfare does no planning for Missouri but provides substantial funds to the state on the basis of the Missouri plan for Higher Education.

The Missouri Commission on Higher Education prepares plans for Higher Education in Missouri. The Commission was founded in 1964 and

> charged with conducting studies, developing coordinative and cooperative efforts, and making recommendations to the colleges, the universities, the General Assembly and the Governor. In addition it was charged with providing a long range plan for all of higher education in the state, and, more recently, with administering various Federal aid-to-education programs.[4]

The persons preparing the plan are almost exclusively educators.

The First Coordinated Plan for Missouri Higher Education was published in September, 1966. It was the result of a three year study prepared internally by the Commission. The aim of the Commission was to make a first class system of higher education, rather than excellence in a single area. The Commission determined what the Missouri System of Higher Education should be.

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[4]Missouri Commission on Higher Education, First Coordinated Plan for Missouri Higher Education (Jefferson City: 1966), p. I.

The basic philosophy of the Missouri Commission on Higher Education is that "Every Missouri Citizen should have equal and reasonable higher educational opportunities."[5] Furthermore, the population should be within 25 miles of some institution of higher education. The system should be divided into Junior Colleges, Four Year State Colleges, the University of Missouri System and Private Schools.

Enrollment of Missouri colleges is estimated by class on the basis of projections of high school graduates. These projections are derived from current enrollments and attrition rates. Over 80 per cent of Missouri students are projected to complete high school in 1973-74 compared with 63 per cent projected a decade earlier. The percentage of high school graduates attending college is expected to increase two per cent per year. Projections based on these factors, plus the anticipated rise in veterans' attendance and increased graduate work showed that enrollment in the Missouri institutions of higher learning will double from 1966-67 to 1974-75.[6]

The institutions are divided into three groups--the University, colleges and junior colleges. The University of Missouri is geared toward graduate education. No increase in its enrollment is anticipated as admission will be restricted to high school graduates who are likely to pursue

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[5] Ibid., p. 4.

[6] Ibid., pp. 18, 19, and 23.

graduate studies. The state colleges are to excell in under-graduate education and a few selected graduate programs. Junior colleges are to serve the community in which they are located. These two year colleges are to be considered a part of the higher education system and removed from control of the State Board of Education. The first two years of college education, vocational training and adult education are to be provided by these junior colleges to the communities where they are located.

Although the Commission on Higher Education prepared a worthwhile plan, its success is questionable. There are problems of authority, data availability, and financial control. Each institution of higher learning determines its own programs. The Commission on Higher Education can make recommendations on the programs, but cannot enforce them as it agrees that programming is to be carried out by the colleges. Programming is:

> A continuous process whereby the long range plan is expressed in terms of well defined programs of action designed to achieve rather specific goals in the immediate five to ten year period, such goals and programs being selected through careful evaluation of alternatives, ranked in order of priority, and spelled out in sufficient detail to estimate rather accurately the commitment of resources necessary for their accomplishment.[7]

The Commission's authority in financing may be a means of obtaining coordination. The Commission reports to the Missouri Legislature for state appropriations and to the

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[7] Ibid., p. I.

federal agencies when federal funds are appropriated. Some of the Commission's actions in the past resulted in its loss of the support of some state legislators. As the executive body of the state government backs the Commission, this may provide a basis for regaining total legislative support.

The Regional Office of Health, Education and Welfare distributes allocated funds to public and private schools in the area without going through the Washington Office. The criteria for this distribution are set up by the Missouri Commission on Higher Education according to a point system. Half the points are set up by Health, Education and Welfare and the other half by the Commission. The various schools usually request funds long before they are needed, thus providing a financial plan for their major expenditures.

It is difficult to determine the financial position of the various state institutions for higher education. Each college has different trust funds and other sources of income. In the future the colleges are to follow standardized financial statements which will enable comparisons of all sources and uses of funds. Unlike the colleges which are established by the legislature, the University of Missouri is a constitutional body and its financial reports are different from those of the colleges. It would take a constitutional amendment to submit the University to the standardized reports proposed by the Commission.

As the plan indicates that education should be available for everyone, the Commission recommended that junior colleges be established only in areas in which there is a sufficient number of potential students. These areas must provide half the funds needed for operating the colleges. Some areas in Missouri have a sufficient tax base to support a junior college, but most of the taxable property is in the hands of few persons. Often these persons have considerable political influence and in few cases successfully opposed a junior college in their area to avoid paying more taxes. Unless the Commission receives more power for implementation, any plans it formulates may be ineffective.

Vocational Rehabilitation

Planning for vocational rehabilitation in Missouri is carried out by a planning section and an executive committee of the state Education Department, Section of Vocational Rehabilitation. The executive committee is composed of the director of the agency and the heads of the major departments, including the planning section. The committee meets regularly to discuss the status of current programs and assign future actions.

The discussion centers around twelve major areas:

1. Communications and Public Relations.
2. Medical Programs and Hospital Development needed for rehabilitation purposes.
3. Job preparation, placement and follow up.

4. Rehabilitation needs of the blind and visually handicapped.
5. Rehabilitation needs of the deaf and hard of hearing.
6. Rehabilitation needs of heart, cancer and stroke patients.
7. Rehabilitation needs of those with behavior disorders.
8. Rehabilitation needs of the mentally retarded.
9. Needs of the aging.
10. Needs in correctional rehabilitation.
11. Vocational rehabilitation needs of the culturally and economically deprived.
12. Legislation.

Missouri is divided into twenty Vocational Rehabilitation Districts. Representatives of each District combine to form a Citizens Vocational Rehabilitation Council which functions in an advisory capacity. Most of these representatives are private citizens. The Council requested all agencies connected with vocational rehabilitation to answer a detailed questionnaire. Some of the points are included in Table 4. This gave the state considerable information on which to build the operations of the Vocational Rehabilitation Section. Proposed programs are analyzed in detail by the Vocational Rehabilitation Section planning section which is composed of previous high school teachers. The Project Director of the Office of Vocational Rehabilitation,

TABLE 4

QUESTIONS ASKED BY CITIZENS VOCATIONAL REHABILITATION COUNCIL IN A FORM MAILED TO AGENCIES CONCERNED WITH VOCATIONAL REHABILITATION

What part does your agency take in:
- Communication and public relations?
- Interagency and program coordination?
- Medical programs and hospital development in meeting rehabilitation needs?
- Job preparation, placement, follow up?
- Rehabilitation needs of the blind and visually handicapped?
- Rehabilitation needs of the deaf and hard of hearing?
- Rehabilitation needs in heart, cancer, and stroke?
- Rehabilitation needs of the behavior disorders?
- Rehabilitation needs of the mentally retarded?
- Rehabilitation needs of the aging?
- Needs in correctional rehabilitation?
- Vocational rehabilitation needs of the culturally and economically deprived?
- Architectural barriers?

Resources Utilized by your agencies:
- What were the major sources of your funds, in percentages?
  - Public:
    - Federal:
    - State:
    - Local:
  - Private:
  - Other:
- Total amount of budget administered by your agency:

Agency's program--the kinds of activities in which you are engaged, services offered, and size of client population:
- Fund raising?
- Public information?
- Sponsor or conduct research?
- Percentage of budget devoted to in-state research:
- Training within area of service:
- Number and kind of personnel trained over the past five years under this program:

TABLE 4--Continued

Does your agency render direct services to clients?
Services rendered:
Provided:
Purchased:

Approximately how many clients per year receive direct services from your agency?
Age distribution:
Sex distribution:

Professional staff and facilities of your agency:

Relationships with other agencies:

What are the greatest unmet needs of the clients your agency serves?
What is required to meet these needs? What is the priority?
What role can your agency play in meeting these needs?
What role can Vocational Rehabilitation play in meeting these needs?

What role can the Bureau for the Blind play in meeting these needs?
What changes does your agency plan over the next decade (facilities, expansion, staff addition, increased services, broader client groups, etc.)?
What, in your opinion, will be the major rehabilitation personnel needs during the next decade?
Are there architectural barriers within your agency which prevent handicapped persons from using your services?

Are there presently legal restrictions that make it difficult to function?
Would a "Central Registry" of handicapped persons be beneficial? Why?

Source: Citizens Vocational Rehabilitations Council, Division of Vocational Rehabilitation, Jefferson City, Missouri.

Statewide Planning found that teachers are more productive in planning for vocational rehabilitation than other individuals. This may be due to the fact that Vocational Rehabilitation is a section of the Education Department.

The most difficult problem faced by the planners is determining the current situation of the twelve mentioned areas. For example, the number of persons who are hard of hearing in Missouri is currently difficult to determine. Major steps are being taken by the state to gather the quantitative data required for effective planning. Presently, a statewide information service is being established to collect data in many areas such as hospitals, schools, health centers and others. These data are being stored on computer tapes. In the near future, if someone wants to know about persons in Missouri who are hard of hearing, a computer run will indicate those who have been tested and found deficient, persons recently born with the defect, accidents in which hearing was permanently impaired, etc. There are still a number of difficulties that must be ironed out before this system can be used reliably.

The information system, studies prepared by the state agency, and studies of other states are used to estimate the scope of a vocational rehabilitation need. When a need is determined, it is brought to the Executive Committee for discussion and action. One of the prime considerations is manpower. The state is short of skilled personnel in the area of rehabilitation. Other considerations include

operating costs, the priorities the Committee assigns to programs awaiting implementation, the legislative and operational steps needed for implementation, and determining who should be responsible for administering the programs. The Vocational Rehabilitation Section in Missouri is a service organization with no operating facilities of its own. Rehabilitation is carried out by other organizations. General and mental hospitals usually have a rehabilitation center supported by the state Section which contracts with these units to provide a center in their facilities. These centers are partially funded by federal and state monies but totally administered by the institutions.

The federal government requires a plan before a state vocational rehabilitation agency can receive funds. Presently, Missouri has no formal comprehensive plan for the Vocational Rehabilitation Section. However, a considerable amount of work is being carried out by the Section. Its planning section is formulating specific projects to satisfy federal requirements. As planning funds can be obtained from the federal government, it is hoped that a comprehensive plan will be prepared in the near future. So far, the lack of funds, staff and time has delayed the preparation of the state comprehensive plan for vocational rehabilitation.

Pure Air

Missouri passed an Air Conservation Law in 1967. The law provided for a six-member Air Conservation Commission, with an executive secretary and staff to carry out its day to day operations. The personnel of the Commission includes engineers, physical scientists and economists. Funds are available for additional personnel but their positions have not been filled yet. One of the duties of the Commission is to prepare a comprehensive plan for air conservation.

The Missouri Air Conservation Commission feels that air pollution is a national, even international, problem, but can best be solved locally. As planning for pure air in Missouri must be approved by the state, local governments are to present their programs to the Commission. In these programs, air pollution can be readily attributed to the various causes--industry, government, and individuals.

After the extent and types of pollution are measured the local governments prepare a plan for their elimination. This plan is to show the quality of filtering processes necessary for achieving the desired purity and methods of preventing pollutants from reaching the atmosphere. Time limits for implementation are also included in the local plans. In St. Louis and Kansas City political difficulties may predominate. Since most of the pollutants are caused by industry, influential businessmen and corporations may be forced to spend considerable sums of money to reduce them. The Commission insists that the cost should be borne by those

causing the pollution, and that the federal government should not provide funds to help individuals or industries.

Industries feel that it is impossible to provide the necessary purification and remain competitive when their market is regional, national, or international. They may protest if some firms in a different area need not bear the expense of using antipollution techniques.

Technology for reducing pollutants is improving, but is far from efficient. The state feels that the best available methods should always be used. However, some localities and companies seem to tolerate some pollutant producing equipment in areas not intensely industrialized. They argue that such pollution is soon diffused and causes little damage. The state contends, however, that it is best to have all plants operating as cleanly as possible. This could be especially difficult if such requirements are not nationally adopted.

The problem caused by the non-uniformity of state pollution requirements is intensified in Missouri where St. Louis and Kansas City spill over into adjacent states. St. Louis has completed an air pollution study, while Kansas City's is underway. The study of St. Louis, after which the Kansas City study is patterned, was divided into two phases. Phase I presented the current results of air pollution in the city and the current level of control. During this phase, the inventory of the areas helped in pointing up the objectives of Phase II which were "to present the findings of the

study and to recommend an air resource management program plan" for the people of the area.[8] The steps undertaken in the St. Louis Air Pollution Study are shown in Table 5. The work was divided into three sections: Items essential to reach project goals (Table 6), items not of primary importance in reaching project goals (Table 7) and items that are primarily research and are not dependent on action of the local cooperating agencies for successful completion (Table 8).

The report included detailed requirements for dealing with seven different pollutants traced to industrial, residential, or commercial causes. However, the St. Louis report is not the plan of the city but a suggestion presenting local needs, action and cooperation required before the plan is passed into law. Eight agencies assisted the U.S. Public Health Service, which produced the report. State and local authorities cooperated with federal personnel during both phases of the study which was undertaken before the Missouri Air Conservation Commission was formed.

There are many political, economic, technological, staffing, and financial difficulties inherent in planning for pure air. Firms can either threaten to move or actually relocate, causing severe economic problems. The mere threat

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[8]Department of Health, Education, and Welfare, U.S. Public Health Service, Interstate Air Pollution Study Phase II Project Report, Vol. I: Introduction (Cincinnati: Health, Education, and Welfare, 1966), p. 14.

TABLE 5

STEPS UNDERTAKEN IN THE ST. LOUIS
AIR POLLUTION STUDY

1. Assemble lists of air pollution complaints received by air pollution departments, health departments, and other branches of local government.

2. Conduct a preliminary inventory of air pollution sources and their locations. Locate and list major single sources, groups of sources and determine in a general way the types of problems and trends affecting those problems.

3. Indicate the growth trends of the area, in regard to population, economics, industry, transportation and power.

4. Compile and put in usable form existing information on air pollution such as meteorological information, previous air quality information, previous sociological, meteorological and economic studies that have a bearing on air pollution

5. Conduct an odor survey directed primarily toward defining more precisely the problems at hand, and developing a methodology for their eventual solution. It will be started by the use of scentometers and by an observer corps of people such as high school students.

6. Collect and make an evaluation of local ordinances, state laws and enabling acts pertaining to air pollution and prepare guidelines for an ordinance for East St. Louis and for other communities desiring same.

7. Survey existing programs in air pollution including consideration of their relation to planning and zoning. It is anticipated that this survey would lead to an activity in Phase II of the program which would be of interest to the Bi-State Development Agency, the PHS--Division of Environmental Engineering and Food Protection, and the PHS--Division of Air Pollution.

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9. Considerable work has been done in the Greater St. Louis area on the effects of air pollution on vegetation. Certain additional work and summarization of past work is desirable. This will be done under the

TABLE 5--Continued

guidance of the PHS--DAP Laboratory of Medical and Biological Sciences--Agricultural Section in cooperation with state and local governmental agencies. It will have as its objective a continuing vegetation damage surveillance activity.

10. A public opinion survey will be made under the general supervision of Public Health Service consultants. It will be directed toward determining without bias the opinions and desires of the citizens. In addition to its value to the St. Louis areas, the information obtained will assist materially in developing Phase II of this project and long range community programs in other areas.

11. Determine air quality within the limitations of resources that can be made available. Planning maps for sampling station networks will be prepared for each of the types of air pollutants to be measured. These will show the number and distribution of stations needed to give data of a certain probable reliability. The probable location and numbers of available equipment will also be indicated on these maps. This will assist the advisory and executive committees to understand and contribute to this program phase.

Source: Department of Health, Education, and Welfare, U.S. Public Health Service, Interstate Air Pollution Study, Phase II Project Report, prepared by N. G. Edmisten, J. W. Sadler, F. Partee, J. D. Williams (Cincinnati, Ohio: Technical Assistance Branch, Division of Air Pollution, Robert A. Taft Sanitary Engineering Center, May 1966), pp. 10-11.

*Item 8 was deleted during the course of the Air Pollution Study.

TABLE 6

ITEMS ESSENTIAL TO REACHING THE GOALS OF THE ST. LOUIS AIR POLLUTION STUDY

1. Develop an air resource management program plan for the Project area with a time schedule for implementation and a plan for financing the program.

2. The air quality measurement program developed and operated during Phase I of the Project will continue in operation and will gradually be redesigned and modified for local agencies to operate or finance for central operation. It will function as a continuing activity providing a sound air quality basis for an air resource management program. Cooperate with the Continuous Air Monitoring Program (CAMP) of the Laboratory of Engineering and Physical Sciences Branch of the Division of Air Pollution to assure this program's success and full usefulness to other parts of the air resource management program being developed.

3. A detailed emission inventory will be made. This will build upon the work done in Phase I of the Project and will serve the needs of an air resource management program and research work testing the mathematical diffusion models. It will be coordinated with planning and zoning activities, and will help develop an air-use data bank. The emission inventory will be made with the cooperation and help of the Industrial Waste Council. It will relate emissions to the map grid system put into operation during Phase I of the Project.

4. A complaint-recording system will be placed in operation. All cooperating agencies, both state and local, will record complaints in a uniform manner, using the map grid system. Copies of these records, if their numbers warrant, will be handled by automatic data processing through a program developed by the Project staff. The resulting reports and data, including maps, will be made available to interested agencies and individuals in the area periodically. This program activity will become the responsibility of local agencies at the end of this Project.

5. Establish a subcommittee on ambient air quality standards within the Project Executive Committee. The subcommittee will have the responsibility for locating and bringing together the technical competence and

TABLE 6--Continued

group interests needed to determine ambient air quality standards. If these subcommittee activities should indicate that insufficient information is available on which to establish standards, the subcommittee is expected to indicate studies which should be made and outline a plan which will lead to the formulation of standards in a reasonable length of time. The Executive Committee would expect to make recommendations based on the subcommittee's report. However, it recognizes that it does not have authority to establish standards and, therefore, if agencies with this authority enter this activity, the Project will assist them in all ways possible.

6. Establish a subcommittee of the Executive Committee on ordinances, rules and regulations. This subcommittee would build upon the activities started during Phase I of the Project with the City of East St. Louis and St. Louis County. The Executive Committee would review suggested ordinance provisions prepared by the subcommittee and, if satisfactory, approve them and recommend their use.

7. Prepare a report on the Project.

Source: Department of Health, Education, and Welfare, U.S. Public Health Service, Interstate Air Pollution Study, Phase II Project Report, prepared by N. G. Edmisten, J. W. Sadler, F. Partee, J. D. Williams (Cincinnati, Ohio: Technical Assistance Branch, Division of Air Pollution, Robert A. Taft Sanitary Engineering Center, May 1966), pp. 12-13.

TABLE 7

ITEMS NOT OF PRIMARY IMPORTANCE TO REACHING THE GOALS OF THE ST. LOUIS AIR POLLUTION STUDY

1. Detailed odor studies based on the Phase I findings will be made in cooperation with industries and agencies. Since standardized practices are not available for this activity, considerable flexibility is needed; however, the following policies and guidelines are presented:

    a. Emphasis will be placed on development of an odor surveillance network.
    b. Studies of specific problems will be based on Phase I studies and the priorities which are indicated.
    c. Odor studies will be made with the cooperation and active participation of potential odor source owners.
    d. Research agencies and groups will be encouraged to play a part.
    e. Odor studies will be made with the active participation of the responsible regulatory agency.
    f. The ultimate objective is to develop and establish an odor control program as part of an air resource management program, primarily, by defining, studying, and solving problems on a priority basis.

2. Continue development of a continuing vegetation damage surveillance activity utilizing local resources. This will be done under the guidance of the Public Health Service, Division of Air Pollution, Laboratory of Medical and Biological Sciences, Agricultural Section, in cooperation with state and local agencies.

3. Encourage the development of an air pollution potential forecasting activity patterned after the Public Health Service program but designed to fit the needs of the project area.

    This activity would be developed through the U.S. Weather Bureau primarily by the Weather Bureau Research Station attached to the Public Health Service. It would be dependent in part upon funds and personnel not planned or budgeted for as yet.

TABLE 7--Continued

4. Consider an industry management opinion survey directed toward finding areas of agreement on air pollution programs and means of implementing an air resource management program.
5. Continue the activities of the subcommittee on education and information developing an adequate and suitable education and information activity. The immediate activity would be the preparation of one or more short publications covering the findings and activities of the Phase I operations. Its second major objective would be the carrying out of an education and information activity starting about March 1, 1964, with the objective of assuring responsible understanding of the findings made during Phase I of the Project and activities being carried on during Phase II.
6. Assist in the evaluation and/or solution of specific air pollution problems in cooperation with industry and regulatory agencies. During activities associated with these problems, assist in the development of ambient air quality standards and pollutant emission standards suitable for the area and encourage regulatory and planning agencies to use the information obtained.
7. Analyze the potential impact of air pollution on the future of central areas of cities in the project area. The completion of this activity will be dependent on the active participation of Downtown St. Louis, Inc., planning commissions, and others having an interest in the future of central city areas.

Source: Department of Health, Education, and Welfare, U.S. Public Health Service, Interstate Air Pollution Study, Phase II Project Report, prepared by N. G. Edmisten, J. W. Sadler, F. Partee, J. D. Williams (Cincinnati, Ohio: Technical Assistance Branch, Division of Air Pollution, Robert A. Taft Sanitary Engineering Center, May 1966), pp. 13-14.

TABLE 8

ITEMS THAT ARE PRIMARILY RESEARCH IN
ST. LOUIS AIR POLLUTION STUDY

1. Continue to provide the project framework and relationship with various segments of the community to assist with epidemiological, materials deterioration, and other studies as appropriate and as agreed to by the Project Executive Committee.

2. Continue, as provided for in the Phase I Project Agreement, fluorescent particle diffusion studies directed toward determining airflow characteristics over the urban area.

3. Test mathematical diffusion models. This activity, as planned and in operation, provides for the operation of twenty sulfur dioxide sampling stations during December, January, and February 1963 and 1964. A detailed sulfur dioxide emission inventory will be made during the summer of 1964 and additional sulfur dioxide measurements will be made during the winter season of 1964-65.

Source: Department of Health, Education, and Welfare, U.S. Public Health Service, Interstate Air Pollution Study, Phase II Project Report, prepared by N. G. Edmisten, J. W. Sadler, F. Partee, J. D. Williams (Cincinnati, Ohio: Technical Assistance Branch, Division of Air Pollution, Robert A. Taft Sanitary Engineering Center, May 1966), p. 14.

may be sufficient to discourage the enthusiasm of local anti-pollution planning organizations.

The first two years of an air resources commission are financed entirely by the federal government. Because of the shortage of personnel, Missouri has requested less money than is available to her. Technological equipment totally paid for by the Federal government has not been requested because Missouri feels that without adequate personnel it is wasteful to purchase the equipment.

The anti-pollution planning process is promising because it enables the lowest level of government to have a voice in formulating the plans. The Missouri law specifically requires this. Judging from the St. Louis experience, however, there is some doubt as to the independence of the local government or even the state. Any locality can request an air pollution study to be conducted by federal personnel. Such a study may be the locality's plan to be submitted to the Missouri Air Conservation Commission for approval. The federal study has a good chance of being accepted, even if it differs somewhat from the State's requirements. A new study is unlikely since it would be time consuming and expensive. Consequently, if the state wants to enforce stricter controls as indicated by the Missouri Air Conservation Commission, it may face opposition from the cities.

Clear Water

Planning for clear water is carried out by the Missouri Water Pollution Commission. The personnel are physical scientists and engineers. The Executive Secretary is the active head of the Commission. Cooperation among many agencies in Missouri is widespread in planning for pure water. The cities, water plants, U.S. Department of the Interior and the state Water Pollution Commission are all actively working on improving the quality of water.

Pollution control in the Missouri Basin began in the late 1940's. The states in the Basin agreed then on increasing the treatment level required of industrial and private users. This agreement failed because the growth in the number of industrial plants made the treatment procedures ineffective. Each plant provided fewer pollutants than it had previously, but industrial growth throughout the Basin increased the total pollutants.

The state now sets purification standards for cities in cooperation with local governments and neighboring states. Water purity is measured as it enters and leaves major cities. The cities are required to see that the states have as a recourse the Federal Government which calls conferences in an attempt to persuade groups and individuals to comply with the law. Usually these conferences are sufficient to achieve compliance. If further "persuasion" is needed, a hearing is held. The city must explain at the hearing the

difficulties it has in carrying out its legal obligation. Solutions and compromises often result from these hearings.

While regulations have been laid for reducing water pollution in the cities, agricultural pollution is a more difficult problem to solve. The runoff from farms is widespread and difficult to control. In an agricultural state like Missouri it is especially important to control this source of pollution through better farming methods. Water purity laws, however, are now being enforced only against large farms. There is little likelihood that strict enforcement will be made against the small farmer.

Most of the funds to combat water pollution are received from the federal government which requires a plan in order to be eligible for these funds. The plan, which is submitted to the Department of the Interior, must include the amounts to be spent during the next five years. The plan must also include the manpower currently being used, and expected to be used for each spending classification.

Missouri does not have a formal comprehensive plan for reducing water pollution. However, the Department of the Interior form which must be completed by the state in order to receive federal funds is comprehensive. The use of funds by the Missouri Water Pollution Commission is divided into eleven classifications:

1. Water Quality Standards
2. Water Quality Monitoring
3. Inspection of Treatment Facilities

4. Enforcement and Compliance
5. Education and Training
6. Technical Services
7. Special Studies and Surveys
8. Coordination and Planning
9. Public Information
10. Administrators
11. Others

Expenditures for these classifications for the next five years must be explained in detail, showing the sharing rates among federal and state funds. Financial estimates in the requests submitted for federal funds appear unrealistic. In considering future expenditures, federal funds are assumed to remain constant. This is an impractical assumption as reflected by past spending activities of the federal government. However, increases in Missouri spending for water pollution abatement depend on how much the state is willing to spend. A five-year plan shows an increase in state spending from $90 million in 1968 to over $600 million in 1972. The state appropriations for 1969 were more than double those of 1968.

The federal government has been willing to accept plans as submitted by the Missouri Water Pollution Commission --that is, the complete and detailed request for funds form. It appears that there is little additional detailed work done by the federal government at this time. Questions remain concerning the thoroughness of the five-year plans and the

independence of the state agency. The federal government sets the specific items to be considered, and approves the final product. The Missouri Water Pollution Commission expects an increase in the amount of planning that will be required by the federal government.

Summary

Generally, Missouri plans that have been generated for highways, mental diseases, higher education, vocational rehabilitation, air conservation, and water pollution have been accepted by the Federal Government. The Missouri State Highway Commission prepares a continuing study of highway needs for short, intermediate, and long terms. Most of the work of planning highways is the result of roads inventory, traffic counts, and interviews of drivers. The plans are usually implemented with little difficulty since the department has the respect of the Bureau of Public Roads as well as the State.

At the Division of Mental Diseases there are some difficulties in administering a plan prepared in 1966. These are partly due to the disagreement within the legislature over some of the suggested programs. Current planning in the Division is weak.

The Missouri Commission on Higher Education is responsible for planning higher education in Missouri. A long range comprehensive plan, completed in 1966, set the goals for higher education in the State. Costs were reasonably

related to expectations based on explicitly stated assumptions. The individual institutions are responsible for programming and the Commission has considerable authority over them in the receipt of federal funds.

The Vocational Rehabilitation Section of Missouri does not have facilities of its own. Plans, therefore, are related to what other organizations do. A study made in 1967 of vocational rehabilitation programs in all agencies serves as a groundwork for continuous study.

Plans for clean air are developed by local governments in Missouri, such as St. Louis and Kansas City, through grants from the Department of Health, Education, and Welfare. Since its institution in 1967, the Missouri Air Conservation Commission centralizes local plans and channels them to the Federal Government. Thus, no overall planning for air pollution control exists in Missouri.

Water pollution programs are reviewed by the Missouri Water Pollution Commission in cooperation with local governments and neighboring states. Planning is informal and consists of information contained in requests for Federal funds filed by the State Commission.

CHAPTER IV

SELECTED FEDERAL AGENCIES THAT PLAN ON A REGIONAL BASIS

Missouri is approximately in the geographic center of the United States. Partly because of the central location of the state, several federal agencies dealing with regions comprising several states are located in Missouri. Among these agencies are the Corps of Engineers, the Missouri Basin Inter-Agency Committee, and the General Services Administration, Office of Space Management.

Corps of Engineers

The Corps of Engineers in Missouri is mainly concerned with flood control. Such activity, however, is expanded at relatively low marginal cost to include irrigation, water supply, navigation and recreation. The Corps begins planning with a study of the region.

Flood control studies are initiated at the request of the Congressional Public Works Committees. The Corps has a number of projects currently under way and does not seek additional programs that would exhaust its scarce resources. A serious storm, drought, or other "act-of-God" can

stimulate an appeal for such additional programs by afflicted citizens and their elected representatives. Recommendations of a study by the Committee usually result in a law authorizing it. A bill appropriating funds for the study must also be passed before planning can begin. Personnel and financial considerations limit the number and scope of studies which can be undertaken at any time. The Corps Chief of Engineers in Washington determines the priorities of the authorized studies. Although Corps personnel admit that political considerations enter into the determination of projects, such considerations are usually not the deciding factor in Missouri. Projects that appear most necessary for the State are usually studied first.

A complete study includes initial public hearings, an economic and physical analysis of the region, and a closing set of public hearings. The Corps may decide at any point of a study that the program is not feasible and discontinue the work. The initial public hearing enables agencies and persons in the area to participate in the planning from its earliest stage. Personal invitations are sent to federal, state and local agencies, and to private interest groups and individuals in the region who are known to be concerned with water related activities. Furthermore, broad newspaper coverage encourages other interested parties to attend the hearings. Those who wish to make statements but are unable to attend are asked to send in their remarks which are presented at the hearing and included in the official transcript.

The Corps encourages open hearings because persons in the area are more aware of the potentialities of a project. Furthermore, it is wise psychologically to allow individuals in the region to participate in a study from the beginning. Although flood controls may provide substantial benefits, there are also social costs involved such as relocation of families and possibly undesirable changes in the environment. Encouraging people to take part in the study is expected to ease the psychological burden of adversely affected individuals. The people in the various interest groups are especially important to the Corps since such groups may have developed related studies and discussed the ramifications of the project. The groups often include experts who contribute significantly to the discussion or analysis of the proposed project. The suggestions of these experts at the outset may save the Corps considerable work. Moreover, organized opposition in most cases is sufficient to stop the study before significant amounts of funds are spent.

Hearings which indicate the likely success of the Corps programs and favorable response by the citizens in the region are followed by an economic and physical analysis of the area, the damages inflicted in the past, and the likelihood of future tragedies. Past flood damage is usually the starting point of this phase. The speed with which many lives, not to mention millions of dollars, can be lost is very dramatic and brings a clamor for action. While channelling streams and building reservoirs provide flood

control, many other benefits can be added at relatively little extra cost. Congress is usually willing to provide as many benefits as economically feasible and the Corps is willing to comply.

The economy of a region is based in part on the economy of the nation. The Corps accepts national projections made by the U.S. Bureau of the Census and the Office of Business Economics of the U.S. Department of Commerce for population, personal income, and gross national product. Estimates of the U.S. Department of Agriculture are used to determine crop yield per acre and food requirements by river basin for each crop. The Corps then divides a basin into subbasins to which aggregate basin requirements are allocated in order to meet the agricultural needs of the estimated population.

The population and agricultural needs indicate to the Corps the future requirements of the nation and region but the data on past floods and damages indicate losses that may be eased by flood control measures. Past damages are divided between direct and indirect damages. Direct damage includes agricultural, nonagricultural, and transportation and communications losses, the cost of which is estimated by the Corps. Indirect damage from floods, such as losses to business sales is also recognized but not quantified by the Corps.

Detailed analysis of the physical characteristics of a region is prepared by the Corps with the cooperation of

other governmental agencies, especially the Environmental Science Services Administration, the U.S. Geological Survey and the Department of Agriculture. Floods are caused by a combination of climate, rainfall, terrain, and composition of the stream beds. Data collected on each of these elements are analyzed by the Corps or in cooperation with it.

Weather and stream flow data are available for some localities for more than fifty years. Climatic data included in the analysis are normal daily minimum and maximum temperatures, the highest and lowest monthly temperature, and the dates of their occurrences. Data for rainfall analysis are long term mean precipitation by month, the maximum and minimum rainfall by month and year, and the maximum rainfall in a twenty-four hour period. These data are available for many cities and similar information on areas surrounding these cities is assumed to be the same. Stream discharges and reaction during various stages of storms are observed at several points in a river. Additional gauging stations and more sophisticated equipment are continually being added. The data available from the stream gauging stations include the location of the station, the type of terrain, the drainage area, the flood stage, maximum recorded flood stage in height of the river, speed of the water and when it occurred, and the minimum recorded discharge and date. Monthly runoff is considered for the years for which data are available. These factors, once assembled, are related to the storms and floods that have occurred in the past.

After the physical characteristics and past flood histories are known, hypothetical floods are formulated to determine what damages they could cause and what measures might be taken to control their effects. The Corps insists that floods cannot be stopped but can be controlled at selected locations. Topographical maps are used as a guide to select the optimum sites for flood protection.

The flood protection extended to a community is determined on the basis of the loss which will be averted and the cost of the protection. Future losses are estimated in terms of expected values in constant dollars. As agricultural losses are especially important in Missouri, the amount of loss depends on the location of the farm, time of the storm, extent of the storm, and crops grown. The land use in an area abutting the river is examined and the expected yield for each crop is estimated. The time of the year is important because floods occurring early in the year cause little damage and make replanting possible; also, storms late in the year may happen after the harvest has been completed. The data considered in determining the per cent of future crop loss is the cost of replanting and the probabilities of its success, the per cent of normal yield expected from late planting and the per cent of total crop harvested.

To determine the likelihood of future tragedies, the Corps considers the relationship between the intensity of flooding and the stages of the storm. Estimates are made for

discharges of the river which occur at various elevations. The probability that a storm will reach each height is estimated on the basis of past records for the area. The damage during each stage of the storm for various heights of the river is computed. The sum of the expected damages for each stage is the total expected annual damage. These computations are carried out under the hypothesis that no channel improvements or reservoirs will be completed. It is then hypothesized that various combinations of channels and/or reservoirs will be built.

Channelling and reservoirs are two major types of flood control considered by the Corps of Engineers. Channelling is a means of changing the course of a river so that it will handle water at increased velocity and volume. Thus, the additional water which can be accommodated in a new channel may prevent a flood. Channelling is carefully engineered to encourage minimum cost and multiple use of the waterway. Water capacity for sectional channels of various widths and depths is projected and the costs estimated. The channelling is done in such a way as to inhibit erosion. The depth the river can maintain depends on its activity. Fast waters provide a sweeping action which automatically maintain their own depth but slow waters require the channel to be dredged periodically, markedly increasing the maintenance cost.

Channel expenditures are divided into federal and nonfederal expenditures. Federal expenditures are those

associated with clearing, excavation, oxbow construction, engineering and design, supervision and administration. State expenditures are those concerned with rights of way, bridges, engineering and administration of implementation phases.

Reservoirs are created where water is retained for man's use. The flow of rivers varies greatly during the year depending on the occurrence of drought or flood problems. Reservoirs enable systematic releases of water which may eliminate or ease these problems. Flood control storage is mainly based on the area to be protected by the reservoir. Considerable soil erosion in an area means that a large amount of sediment carried by the river will tend to fill up water storage areas. To retard the filling up of these areas, sediment reservoirs are constructed on the basis of data collected from similar areas in the nation.

The base of the dam required for a reservoir is determined by the soil surface. Geological studies together with other factors determine the type and strength of the required dam. The experience and reputation of the Corps of Engineers in that field are nationwide. The total cost for constructing reservoirs includes expenditures for:

Land:

Purchase and Resettlement

Acquisition

Relocations:

Roads

Utilities

Reservoir:

Clearing

Eradication of undesirable fish

Erosion Control

Drainage

Dam Construction:

Embankment

Spillway

Outlet Works

Roads, Railroads, and Bridges

Recreation Development

Buildings, Grounds, and Utilities

Permanent Operating Equipment

Engineering and Design

Supervision and Administration

Annual costs are then computed, including interest and economic loss on inundated lands. The costs are amortized for one hundred years in the case of a reservoir, and fifty years for a channel.

Channels and reservoirs alleviate damages, and they also provide other benefits such as navigation, irrigation, water supply, recreation and wildlife. Costs and benefit analysis for each of these benefits are measured. Channelling may increase the value of a river as an artery of

transportation and a source of recreation. The likelihood and value of navigation on an improved river is estimated prior to a recommendation of depth. The deeper a river is, the more likely modern tugs and barges can operate on it.

Irrigation benefits are considered on the basis of projected agricultural requirements. Irrigation projects are especially important in areas that are normally dry. The decrease in the number of small farms and the substitution of expensive and sophisticated agricultural equipment for farm workers have called for more efficient utilization of available farmland. The difference between crop yield without irrigation and crop yield with irrigation is estimated by the Department of Agriculture. The Corps then computes the marginal cost of irrigation. The difference between the gain in yield and cost is the benefit.

Water supply considerations must be requested from the federal government by state or local governments. The requesting government usually contracts for a study of water needs and water supply on the basis of a population projection and future water demand for winter and summer days. The U.S. Public Health Service independently estimates the cost and benefit of water supply and water quality measures on the basis of population, industrialization and water use. Benefits as defined by this federal agency are the difference in the dollar amount of the two lowest priced projects of water supply. This definition of benefit appears unusual. The worst "second best" choice, under this system,

may show unrealized benefits that will fluctuate according to the magnitude in differences in the cost of the two lowest sources. The capital and operating expenses for various feasible sources of water supply which are estimated by the Corps of Engineers plus the findings of the Public Health Service determine the selection of the project which satisfies the need of the community.

Benefits from a reservoir and its surrounding land are important for recreation activities such as swimming, camping, picnicking, boating, skiing, fishing and hunting. Considerable cooperation in recreation planning is carried on between the Corps of Engineers, U.S. Bureau of Sport Fisheries and Wildlife, and Missouri Conservation Commission. The U.S. Bureau of Sport Fisheries and Wildlife estimates recreation benefits on the basis of similar past projects undertaken in other areas with similar social-economic characteristics. Mathematical models based on population, reservoir surface area, and the proximity of the reservoir to population centers are applied to Missouri and adjoining states to estimate the number of visitors to the proposed site. As indicated by past experience, the number of visitors and the surface area limit the recreational uses of the reservoir.

During the construction of a reservoir, much damage is done to fish. The feeding area is destroyed, normal habitats are disturbed and many fish are killed. However, the accumulation of many years of silt in the streams render

them fit for undesirable fish only. The Conservation Commission, therefore, often considers the construction of a reservoir as an opportunity to get rid of undesirable fish currently in the river with a view to stocking at a rather small cost with more desirable species. Channelling inhibits bank erosion, and reservoirs can enable a steady stream of water permitting a better environment for the desirable fish.

Wildlife is often disturbed by reservoirs. Usually reservoirs are constructed in rural areas, destroying the environment of many animals and birds. A reservoir, on the other hand, provides a potentiality for a more desirable habitat for waterfowl. The Corps cooperates with the U.S. Bureau of Sports Fisheries and other agencies to provide a desirable environment for fish and wildlife consistent with the major aims of the reservoirs. The costs and benefits of actions taken for fish and wildlife preservation are estimated by the Bureau, mainly on the basis of its long experience.

There is much precision in estimating the benefits published by the Corps of Engineers, but these may be less accurate than indicated. The men making the estimates, being experts in their field, think broadly about the various interacting elements which will cause the benefits. One planner in the Corps insists that despite the difficulties, the Corps' estimates of both costs and benefits are seldom wrong. Another planner feels that with the little knowledge

we have about human beings and their changing behavior, it is very difficult to quantify many variables. This, he feels, causes substantial errors. It seems that the second planner's viewpoint is more plausible. There are so many items that can vary in the next fifty years of the plan that the figures are almost certain to be in error. How will the increasing affluence of middle class America affect backyard swimming pools? How will this affect water recreation? What will be the effect of controlling pollution on people and business? What will birth control methods do to population projections? The answers to these questions can not be accurately stated. Yet, "Average Annual Enhancery Benefits" estimated by the Corps of Engineers for the next fifty years are provided to the nearest fifty dollars.

The assumptions of the Corps are explicitly stated when they compute most of the costs and benefits of a project. Every step in the computations is explained in detail, enabling an examiner to determine the rationality of the procedures. However, the spurious accuracy in the plans may lead the Corps and Congress to accept the figures with greater accuracy than is warranted. A more sound way of presentation should include a range of probable rounded values.

According to the Corps their cost estimates are accurate. The type of construction has been standardized to a considerable degree. The persons working on these estimates have been doing it for many years. Contracts for most

portions of the construction are let as soon as possible after decisions are made as to the project to be implemented.

The major governmental agencies are informed of the project and a preliminary draft is sent to them for their comments. There is a ninety day limitation for receiving their comments, but this period can be extended. As the Corps maintains close contact with the involved agencies throughout the planning, few additional comments are received. Once the Corps and the interested agencies agree on the most beneficial projects, public hearings are held to explain them to interested citizens and organizations. Frequently, there are some disappointed individuals at the hearings, either because the projects they had initially proposed were not approved or because the recommended projects are considered undesirable by them. The Corps attempts to mitigate the feelings in order to obtain as much solidarity as possible behind the programs.

Following the public hearings the results are submitted to Washington, where the Corps decides on the most feasible project. The Corps recommends the project, and Congress is requested to act.

Planning by the Missouri Basin Inter-Agency Committee

The Missouri Basin includes ten states. These states are Colorado, Kansas, Minnesota, Missouri, Montana, Nebraska, North Dakota, Iowa, South Dakota and Wyoming. Until 1945 there was little coordination among these states

concerning the Basin. During that year the Department of the Interior presented Congress with a program to encourage waterfowl habitat in the Missouri Basin. Simultaneously the Department of Agriculture presented a program to encourage farming through irrigation in that Basin. While both proposals appeared to have a good chance for success, outcries from the states showed that they were incompatible. Congress then recognized the necessity for coordinating programs and established in 1945 the Missouri Basin Inter-Agency Committee (MBIAC). The Committee is comprised of the governors of the ten states and representatives of the following seven federal agencies: the Corps of Engineers, the Department of Agriculture, the Department of the Interior, the Federal Power Commission, the Department of Commerce, the Department of Health, Education, and Welfare and the Department of Labor. One objective of MBIAC is "the formulation of a framework plan which would provide a broad guide to the best uses, or combination of uses, of water related land resources to meet foreseeable short and long term needs."[1]

From 1945 to 1964, meetings were held regularly but no effective plans were formulated. In 1964 coordination of planning was made the continuing responsibility of a Standing Committee. The chairman and secretary of the Committee are employees of the Corps of Engineers, and the other members

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[1] Missouri Basin Inter-Agency Committee, Comprehensive Framework Study, Appendix, Water and Related Land Resources Development (Draft) June, 1969.

are representatives of the states and agencies comprising the MBIAC. The Standing Committee appointed five work groups (Economic Analysis and Projections, Present and Future Needs, Hydrologic Analysis, Land Resource Availability, and Water and Related Resources Development) to carry out the planning. The bi-monthly meetings of the Standing Committee constitute a forum where planning problems of the work groups are resolved or integrated. These meetings are open to the public but the number of outside attendees is generally small. In 1965 the Water Resources Council was formed and assigned the task of resolving water problems in all river basins in the nation. The council supervises the River Basin Comprehensive Planning Studies, including those of the Missouri Basin. However, complete freedom for planning is assured to the committees administering the various basins.

The presence of two Army Corps of Engineers on the Standing Committee and the experience of the Corps in water related planning have made it possible to use the procedures employed by the Corps in formulating their water resources plans. However, while the Corps makes projections for periods of ten years up to the year 2000, the MBIAC produces its estimates for 1980, 2000 and 2020. Furthermore the MBIAC considers agriculture, forestry, manufacturing, mining, water factors, fish and wildlife, and energy in more detail than does the Corps.

Crop and livestock production of the Basin is estimated on the basis that agricultural goods are to be produced

for national consumption. Current agricultural land use patterns are mapped and the efficiency of farms is studied. Improvements which can be incorporated in land use, mechanization and modern management practices are taken into consideration. The output of crops and livestock for the three projected years is first determined as a continuation of past trends, then estimated with the assumption of technical and management improvements. For example, irrigation systems were established with little planning, which resulted in considerable duplication and evaporative water loss. To overcome these deficiencies, new irrigation plans call for the necessity of efficient reservoirs to release water during dry periods, more usage of mechanical equipment and the issuance of irrigation permits. These steps are essential since the amount of land irrigated is programmed to almost double from the present six million acres by the year 2020. The irrigation permits which must be renewed every ten years may later demand efficiency from the farmers before renewal.

Forest resources are determined by the quantity and quality of timber currently in existence, the demand for wood, and the ownership of the timberland. The MBIAC inventoried the timber in the Basin to establish the relationship between annual growth and annual depletion. The Committee sought means by which the land can provide other uses than timber, such as watershed protection, wildlife and recreation. The greatest possibilities for such uses are on federal land of the national forests, national parks, Bureau

of Land Management property, Fish and Wildlife Service areas and Indian reservations. Since these properties are under federal control, their usage seems to cause little problem.

The Missouri Basin Inter-Agency Committee projects manufacturing and contract construction on the basis of employment trends and the relationship between manufacturing and other sectors of the Basin's economy. A survey of current output was made, but little analysis was carried out although food and chemical products were considered in greater detail because of their intensive use of water, and the large amount of waste treatment required to avoid pollution.

The study of minerals in the Missouri Basin included production in previous years, an estimate of potential reserves, and feasible projects. These estimates were undertaken in cooperation with the U.S. Bureau of Mines, the U.S. Geological Survey and the States' Geological Surveys. Estimated future demands for each mineral were compared with the resources available in the Basin. These comparisons led to the recommendation of several projects to enhance mineral production. One especially notable project was a coal hydrogenation plant system. "A capital investment of several billion dollars will be necessary to build coal hydrogenation plants in the 60,000 to 100,000 bpd size that are expected to be located in the Yellowstone and Western Dakota

Subregions."[2] This project is judged unfeasible as the required investment is not likely to be supplied by either government or private enterprise. A further difficulty of such a recommendation is that other feasible projects suggested by the MBIAC may also be considered unwise.

The need for clear water in the Basin was studied in terms of water supply and waste treatment. As central water supply systems are especially important in urban areas, cities whose population exceeded 10,000 were inventoried to determine the quantity of water available from current sources. Hydrological studies of such sources included water tables, the history of water availability, and past water usage. This was undertaken to evaluate the likelihood of sufficiency of the present sources. It was assumed that towns whose population would exceed 2,500 by the year 2020 would have a water supply system by that year. The source of the water needed to satisfy the demands of the growing population and the methods of conveying the water were examined. Technological advances such as electric power lines, inexpensive plastic pipes and financial arrangements such as federally insured loans and grants were taken into consideration in developing the new water supply systems for these cities.

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[2]Missouri Basin Inter-Agency Committee, Comprehensive Framework Study, Appendix, Economic Analysis and Projections (Draft), June, 1969, p. 254.

A community large enough to require a centralized water supply system usually needs a waste treatment plant as well. Without treatment plants wastes discharged directly into streams without passing through treatment plants consume the oxygen in the water in order to naturally purify themselves. Because of the increasing population and industrialization, the great volume of generated wastes has overwhelmed this natural process. Thus, currently there is not sufficient oxygen in the water to carry out this anti-pollution process. The treatment plants are primary (removing visible solids), secondary (biochemically consuming a portion of the organic matter) or tertiary (consuming a portion of synthetic organisms). The MBIAC collected a great deal of data concerning municipal and industrial waste treatment. The MBIAC used its estimates of industrial expansion, agricultural management practices, and increases in urban population to project the needs for waste treatment facilities which would maintain generally acceptable levels of water purity. It was anticipated that 85 per cent of the raw wastes would be removed by 1980, 90 per cent by 2000 and 95 per cent by 2020. The MBIAC assumed that secondary treatment will be applied to all wastes in cities prior to 1980, and extensive tertiary treatment would be available by 2020. Unfortunately, no enforcement procedures were indicated. In 1959, fewer than 25 per cent of the communities in the Basin provided secondary treatment, and currently almost half the industrial plants in the Basin have

inadequate or no sewage facilities. Legislative measures may be necessary to improve this situation.

Fish and wildlife have three major uses: recreation, commercial, and a source of study for scientists. A fish and wildlife inventory included the quality and quantity of land and water in the area, the ownership of these properties and their accessibility to the public. Water bodies were examined to determine the species of fish and the quantity and quality of the water needed to upgrade and increase the more desirable species. Projected demand for fishing and hunting sites were prepared on the basis of past records of issued licenses, reported kills, population, and time/space relationships between sportsmen and recreational sites. Recommendations were made to alleviate overcrowded areas in urban locations. Such recommendations included the construction of reservoirs near cities, encouraging farmers, Indians on reservations and lessors of school lands to permit sportsmen to use their property for recreational purposes. The MBIAC study concluded that commercial fishing is practicable in the Missouri River, but their data seem to indicate otherwise. The Committee found out that commercial fish prices are low and the quantity caught for market consumption is only one-twentieth of the basin capacity.[3] Such price findings would surely discourage the fishing industry.

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[3]Missouri Basin Inter-Agency Committee, Comprehensive Framework Study, Appendix, Present and Future Needs (Draft), June 1969, pp. V-66 and V-66.

Furthermore, an increase of 20 times the quantity presently produced would necessitate an increase in the fishing equipment. This would require capital expenditures which are unavailable.

One measure of the development of an area is the amount of energy it uses. An inventory of the electric organizations was made to determine the amount of energy production, its ownership, and potential expansion. The inventory included current technological advances such as high power transmission lines, system integration and increasing production with minimum additional plants. The energy study determined what generating and transmission facilities will be needed to provide an adequate supply of low-cost power, and when and where such facilities should be located. The study, which was based on past trends of the industry, was checked for consistency with the projected growth of the population and the economy of the Basin. As expected, the MBIAC study proved a need for considerably more energy and recommended the expansion of private facilities. However, it appears strange that no increase in hydroelectric power was projected. Furthermore, no mention was made in the MBIAC plan of a study presented to the Committee by the Bureau of Reclamation which showed several additional public sources of electricity. Such important sources should not have been left out from the plan.

It is expected that all individual studies of the Missouri Basin will be consolidated into a comprehensive

plan. Some projects may then be abandoned if they prove to be incompatible with the aggregate plan. A few federal agencies have been disturbed by the non inclusion of their recommendation in the preliminary decisions of the Committee. One agency has even threatened to publish its work papers in simple form as a "service" to interested individuals and groups. Most agencies had no complaints for the deletions of their proposals from the earlier phases of the Missouri Basin plan because they considered the goals of the integrated plan as paramount.

The MBIAC did, of course, have problems during the formulation of the plan. Such problems included failure of Work Groups to meet time schedules, overreaction to disgruntled agencies, lack of coordination with other river basin committees and lack of authority to implement the plan when completed. The time schedules were difficult to meet because the members of the work groups of the MBIAC did the planning in addition to their normal work load in other agencies. As these agencies were spread over the ten states of the Basin, arranging conferences in advance caused considerable loss of time. It is difficult, under such circumstances, to provide a timely plan. However, modern communication media and the dedication of the planners to the project largely overcame institutional difficulties. The idea of locating the planning personnel of the Missouri Basin in one place was discarded, since this would negate organizational cooperation.

There was an indication that some planners over-reacted to agencies whose projects were not accepted as part of the plan. An attitude of reconciliation may have caused other members of the planning staff to consider the recalcitrant agencies' other programs less critically. This may be one reason for the recommendation of such unlikely projects as commercial fishing and hydrogenation plants. However, in spite of such unfeasible recommendations, the MBIAC's plan is further ahead than those of other basins. Thus, coordination with similar committees has not been as extensive as desired. The MBIAC recognized the necessity of such cooperation and attempted to be informed of what agencies in adjacent basins were doing.

Perhaps the most serious problem of planning by the MBIAC is that it has no authority for implementation. The MBIAC is an advisory body which may have considerable influence because its members are highly placed officials of various agencies and states. The implementation of the plan will require legislative action from Congress, State Legislatures, local governments, or all three bodies. In some instances, unfavorable or no action by any of these bodies may veto a part of the plan.

Because MBIAC is the first organization to carry out comprehensive river basin planning in the United States, committees in the other basins in the nation are using it as a model of cooperation, broad studies, and independence. The agencies represented in the MBIAC fully cooperated among

themselves throughout the plan formulation. There were, as mentioned above, a few disappointed persons, but the program was generally carried out with minimum disagreement. This is mainly due to the fact that all personnel were involved in planning from the beginning stages of the formulation. The regular meetings of the Standing Committee helped to keep the views of each Work Group directed toward the whole plan rather than on individual segments.

The planning for the Missouri River Basin was comprehensive. It included every economic and physical aspect judged as important by the planners. Assumptions were clearly stated and the expected results were indicated in detail. The Work Groups were generally able to plan without federal intervention. In one instance the Basin personnel were inclined to disregard national estimates, but some pressure was apparently applied on them to use the federally generated projections. This seems to have been a reasonable approach since it insures that the basin's projections will conform with aggregate national projections. It is thus expected that when other basins complete their studies, the combined effort may result in the first carefully formulated Regional Comprehensive Economic Plan in the United States. The plan will indicate regional needs in each sector of the economy, and will enable the governments to have several alternatives for achieving economic growth.

Planning by the General Services Administration

The responsibility of providing physical accommodations for almost all federal agencies was placed in 1949 in the hands of the General Services Administration (GSA). The Administration established the Office of Space Management to plan for and implement this task. The Office employs specialists in land and building acquisition, building organization, and maintenance. These specialists work as a group to insure that office and warehouse space will be of multiple use, economical, and conveniently located for employees, the general public, and other federal and state offices. Planning by the Office of Space Management includes determining the amount and quality of space available, where the space is needed, and whether to rent, or buy and erect a required building. The Sixth Region, whose headquarters is in Kansas City, is comprised of Missouri, Kansas, Nebraska, Iowa, South Dakota, North Dakota and Minnesota.

Each locality within a region is examined to determine the amount and quality of space available which may be used to handle governmental needs. Such examination includes a study of economic conditions, an inventory of the availability and quality of office space, and a record of vacancy rates. Because construction activity can act as a contracyclical force, Space Management considers the economy of each city in the Region in addition to construction data. Furthermore, a recessed economy may mean that office space

can be acquired at a low cost. The economy of the cities within the Region is evaluated on the basis of published data and interviews with businessmen and business organizations. However, the results obtained from these interviews may be biased. For example, the Chamber of Commerce of each locality is contacted during the economic study. Data published and presented by these local organizations are frequently prejudiced toward their localities. A thorough independent study by GSA personnel, which may be an alternative to the biased data, is considered prohibitively expensive. The employees of General Services Administration recognize such a problem and sometimes disregard these local reports.

Determination of where space is needed is made on the basis of the Office of Space Management's records, requirements set down by Congressional action, requests of governmental agencies, and the economic conditions in the localities. After determining the need and location of a building, planning is carried out to decide what the building should include, and whether it is better to rent or buy. The General Services Administration then uses government funds to plan and get the best structure possible. The competition between business and government for hiring top level personnel has necessitated more elaborate governmental offices than in the past. This provides the executive with psychic income.

The Office of Space Management includes in its plan a decision on whether to rent or buy a building after the needed type of structure is established. Several considerations influence their decision. As owners of rental units supply the maintenance for a building, it is felt that this is more economical than if the government undertook such work. A rented building even with an option to renew the lease requires the government agencies to move out after a certain period. On the other hand, an owned building guarantees space forever and fixes the cost of occupancy. The final decision on whether to rent or buy usually depends on the difference between the cost to buy and the cost to rent.

General Services Administration analyzes the cost to buy/cost to rent by comparing the rental cost of a hypothetical new private building to the construction cost of a similar one. Such costs, whether rented or owned, include construction, interest, and return on capital. The costs of constructing and maintaining an owned building is amortized over its expected life. The annual rental cost is then compared with the amortized building cost to determine the least expensive alternative. Usually, it is less expensive to buy a building.

Basing a decision on such a comparison seems questionable. The construction costs should be the same for both the private and the public buildings since they are assumed to be identical. The government has an advantage in the other two cost items: its interest rates are lower than

those provided to individuals and it does not include any return on capital in the GSA computations. Congress has generally been willing to accept the studies made by GSA.

It would seem that in their analysis of vacancy rates the GSA would occasionally find sufficient space readily available for government accommodation. However, GSA does not consider these findings in their analysis. Another possibility for housing government agencies could result from renovating a purchased or a rented building. However, the General Services Administrations does not consider such possibilities in its planning.

After the plan sets out the type of building and whether to rent or buy, the chosen buildings for the next five to ten years are reported to the GSA in Washington by the Regional Offices. The reports assign priorities to each building. The items which appear satisfactory to the Washington office are submitted to the Bureau of the Budget for approval. If the building plans are consistent with the President's program, a bill is presented to Congress for approval.

The Office of Space Availability insists that political considerations are of little importance in site selection. However, other sections in GSA as well as other governmental agencies feel that politics are a significant factor in determining where a building will be constructed. More than one person used the example of the federal office building completed in downtown Kansas City in 1966, which

was proven too small by 1969. GSA owned a sizeable tract of land in a different Kansas City location which had ample parking facilities and a convenient location. This tract was rejected and the reason was not publicized. However, the real reason for this rejection was not political. According to the Corps of Engineers, the rejected site was located in a flood plain. Neither federal buildings nor private structures financed with federally guaranteed loans can be built in such a location. It thus seems that better public relations and more open planning might alleviate some of the misjudgments generated in this instance.

Generally, the Office of Space Management plans adequately for the building space. The economic study could be strengthened, but the government currently acts at a minimum level of services, and therefore the contracyclical force potential is not used. The cost to rent/cost to buy comparison might be strengthened by having builders bid on alternatives. GSA finds almost no buildings available to rent or renovate, but the possibility might be considered.

CHAPTER V

SELECTED FEDERAL AGENCIES THAT PLAN LOCALLY

A number of federal agencies plan only for the locality they serve. Some of these local plans are then finalized in the national offices. In Missouri the federal agencies which plan locally include: the National Forest Service, the Soil Conservation Service, the National Park Service, the U.S. Geological Survey, and the Federal Aviation Administration.

Forest Service

There are two national forests in Missouri. These are the Clark National Forest and the Mark Twain National Forest. The Forest Service, which is in charge of these forests, prepares two distinct plans for each forest. One is a physical plan and one is a personnel plan. The physical plan is made on the basis of a tree inventory. Each forest is divided into districts, with a ranger in charge of each district. These districts are broken down into tracts which are examined by using aerial photographs taken every decade. The photographs are so detailed that a determination

can be made of the various uses carried out in the forest, the type and maturity of trees, and even the animals inhabiting the forest. The photographs are verified by continuing field checks by the rangers.

The physical plans for the forest include timber management and recreation. Timber management provides a means to maintain, improve and protect a unified, perpetual forest. To maintain a forest, undesirable trees are destroyed, the forest is thinned to the optimum density, and orderly harvesting of mature trees is carried out. Except for approximating the number of trees to be destroyed, little planning for removing undesirable trees is carried out. As such trees are found, they are demolished, either chemically or mechanically.

More complete planning is carried out for thinning and harvesting trees. The Service contends that timber is a resource that should be harvested in an orderly manner and thinning encourages the growth of the trees. The trees prevalent in Missouri require thinning in the eighth year, and further thinning in the fifteenth year. The income derived from the sale of the thinned trees is usually sufficient to cover the cost of maintaining the forest and reconditioning the lands. The remainder is turned over to the U.S. Treasury. Planning of trees to be cut is precisely determined before a contract for the harvest is let because full maturity of the trees is not reached for eighty years.

It would seem difficult for private entrepreneurs to resist mining the entire crop if precise plans were not enforced.

Planning is especially important in determining which mature trees to harvest. Some areas are most advantageously cut in part, others require complete clearing as shade from nearby trees retard growth of some species of new planted trees. After a section of the forest is harvested, soil tests are used to determine the best type of replacement. Usually, similar trees are planted, but agricultural technology has at times permitted an upgrading of trees or the planting of more desirable species.

Agricultural technology is furthered by experimentation which is an important element in planning for the national forests in Missouri. Tracts are reserved exclusively for scientific studies aimed at determining the types of trees which might be introduced into the state. Other studies determine the most desirable growth rate for trees already in the forests. Fast growth tends to make trees weaker. Methods to encourage the proper rate of growth for the required strength are considered and improvements are incorporated into newly harvested areas.

As fire is the most catastrophic danger to a forest, considerable planning is made for protection of the timber resources. Plans are based on the use of modern technological methods in equipment and psychology. Technology has provided substantial potential for fire fighting through chemical fire retardent, aircraft to transport fire fighters

and drop retardents, and mechanical implements. Psychological approaches, whose effect cannot be measured, are planned against arsonists who cause most of the forest fires in Missouri. It is hoped that the cooperation of individuals in the area, and their education as to the beauty and economic necessity of a national forest will eventually have the desired psychological effect on potential arsonists.

The land in and around the forests is protected to a considerable extent by watersheds provided by the forests. Physical planning takes into consideration the protection provided by trees and other growths. Areas which must be totally cleared are harvested in small patches to ascertain that protection will be maintained. For similar reasons, replanting is carried out shortly after the harvest. In most areas, specific varieties are planted to provide an early growth of new trees, thus increasing the protection from flood and erosion. Recent studies indicate that too much water, which is necessary for other purposes, may be used by the trees. However, recent planning tends to accept the theory that a well planted forest is still most advantageous if national forests are to be perpetuated. Planning thus takes place to make certain that there is at least as much lumber grown as is harvested or destroyed. It is impossible to plan this for one year because fire and other causes of destruction cannot be estimated except on a probability basis over a longer period of time.

One plan which is likely to be slow in fulfillment is the movement toward a unified forest. The national forests in Missouri are a patchwork quilt, with many sections owned by private persons. The Forest Service is attempting to close the gaps because a unified forest would be easier to plan and administer. Yet, the Service does not have enough money to purchase all private properties within the forests. It also does not use the right of eminent domain to acquire these properties, mainly because of the ill feeling enforcing such rights might have on private owners. Instead the Service attempts to unify the forests through terms fair to all concerned. Occasional purchases are supplemented by trades of government land at the edge of the forest. This trade is advantageous to the farmer because the land on the perimeter of the forest is often more fertile and amenable to growing farm produce than land in the middle of the woodland.

Recreation, which is the fastest growing usage of the national forests, requires more planning than previously. The types of recreational activities suitable to the forest include hunting, camping, nature trails, fishing, picnicking, and swimming. Missouri state recreationists feel that there is unnecessary competition and lack of coordination between state and federal agencies. Subsequently, a state Inter-Agency Council for Outdoor Recreation has attempted to coordinate recreational needs in the state. The state feels that this has been a very successful body, although there are

no federal representatives on it. However, recreational planning in the forests of Missouri is done by the Forest Service and the State Council.

Planning for recreation is difficult because most recreation in the forest is water oriented. National forests in Missouri do not have as much water as the rangers would like. In addition, numerous pockets of land adjoining water are usually privately owned. The Forest Service attempts to cooperate with the state and private owners to avoid duplication of recreational effort. Plans for recreation are prepared in a manner which allows the participation of private individuals.

Planning for personnel is the second broad type of plan carried out by the Forest Service. The forest ranger is generally a well trained man in his field. He is usually enthusiastic about planning and anxious to participate in it. He is aware of the personnel program, and is encouraged to become proficient in various phases to enhance his opportunities for promotion. The staff in each district is small, but plans indicate that the number of personnel will double over a five to ten year period. The staff expansion is to be accomplished by hiring more people specialized in forestry and related fields. Biologists, for example, are presently needed in each district, while previously one in a region was considered to be sufficient.

Soil Conservation Service

The Soil Conservation Service is responsible for planning and carrying out a soil and water conservation program in cooperation with farmers and other federal and state agencies. Each decade an inventory is taken. At the time this study was made, the inventory for 1959 was published in 1962. Each inventory is used to categorize the land and determine its current use. These inventories are more than a presentation of actual data at the time they are gathered. They also include certain assumptions and projections based on these assumptions. On the basis of such inventories, planning is done to improve the land and use it efficiently. The inventories include projections of population, crop acreage and distribution, timber acreage, needed water resources, and desired recreational facilities. Although each state prepares its own study, national assumptions are included to insure that the service's state programs are consistent with those of the Washington office. The state assumptions are similar to those of the nation, but the basis for projections are past trends of the state. Missouri estimates appear consistent with those of the nation, but the State did not assume that public funds will be used to provide conservation measures which prove non-profitable for an individual.

Because of the wide scope of the inventory, eleven groups cooperated in it--five federal agencies (Soil Conservation Service, Agricultural Research Service, Agricultural

Marketing Service, U.S. Forest Service, and Farmers Home Administration), five state organizations (Soil Conservation Service, Missouri Division of Resources and Development, Missouri Conservation Commission, Missouri State Soil District Commission and the University of Missouri), and Conservation Needs Committees carried out most of the field work and regularly held meetings to discuss problems and solutions. Such meetings were attended by a representative from one of the federal or state agencies cooperating in the inventory. Such a representative usually provided technical information at the request of the committees. The meetings generated a great deal of information both to the Committee and to the government representative. Since Missouri has 114 counties, it was decided that it would be too cumbersome to have joint meetings. However, the Soil Conservation Service consolidated the Committees into four groups which resulted in meaningful coordination.

The Soil Conservation Service categorizes land on the basis of its capabilities on a scale ranging from I to VIII. The scale is further subdivided, indicating specific characteristics of the land. Category I, for example, means "Very good soils that are nearly level, easily worked, have practically no hazards and can be used for cultivated crops

safely with ordinary good farming methods."[1] The lowest grade of soil areas, Category VIII, is:

> Soil areas that are very steep, very stony, very sandy or very wet are placed in this class. Some such areas consist essentially of rock outcrop. They are best suited for wildlife food and shelter areas or for recreational purposes. Most soil in this class are best protected without use in order to conserve water.[2]

The Soil Conservation Service in Missouri mapped the entire state in terms of these categories. The land was described not only in terms of general quality but also in the quality for each crop. This was done because different crops require different types of soil. For example, wet land of Category III can provide a higher yield of corn than eroded land in Category II. An estimate of normal yields was made to enable the Service as well as the individual farmer to compare individual output with a norm.

The inventory was used to plan for changes that would lead to improved output. Recommended changes included altering land use, improving farming methods, and increasing water availability. Missouri farmers attempted to raise crops in every land category. The 1959 inventory showed that 16 per cent of the inferior land (Category VIII) was used to grow crops during that year, while such land is classified for wildlife and recreation. On the other hand, about 20 per

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[1] Missouri Conservation Needs Committee, Missouri Soil and Water Conservation Needs Inventory (Columbia: Missouri Agricultural Experiment Station, 1962), p. 9.

[2] Ibid., p. 11.

cent of the best (Category I) land was used for pasture and forests. Such contrary usage can be attributed to the ownership of the property. Category VIII cropland is usually owned by the poor who have few skills and depend on farming for their existence, while Category I forest and pasture land is usually owned by absentee owners who consider the land as an investment.

Future needs for each crop were estimated by the service on the basis of population estimates for the nation. The information about the best land in the state for each crop was indicated. On the basis of these facts, the Soil Conservation Service planned to upgrade the land. The inventory indicated acreage requiring such treatment, if it was economically feasible. If Soil Conservation Services plans are not implemented, it is estimated that 90 per cent of the cropland in Missouri, two thirds of pasture land, and ninety per cent of "other" land will have conservation problems by 1974.

Farming methods causing soil conservation problems in Missouri were noted in the inventory and improved methods were indicated. The methods for implementing the recommendations mentioned in the plan are fostered by the Conservation Needs Committees, farm group meetings, and agricultural publications. Implementation is not likely to be carried out totally because the Soil Conservation Service cannot force farmers into any action. Thus, one major advantage of the Conservation Needs Committees is to help their members

recognize the weaknesses and strengths of the agricultural process in the county. Such knowledge would likely spread to other farmers and initiate more action than would be expected by a federal employee. Farm organization meetings are another method of informing the farmer of conservation possibilities. The Soil Conservation Service sends representatives to most open agricultural meetings. Agricultural publications and research are included as part of the Soil Conservation Services plan. They attempt to make science and action move together toward better farming practices and a better environment.

Water related difficulties are prevalent in Missouri. The Soil Conservation Service plans to improve the water supply primarily through financing methods presently available from the federal government. Other water difficulties, such as flood damage, erosion, and poor drainage are also planned in terms of physical possibilities, rather than economic feasibility. No timetables or cost figures are included in these plans.

The potential that can be attained in agriculture through the cooperation of farmers and the Soil Conservation Service is great. The farmer's interest, as well as that of the nation, is improved by better farming practices. As farms become larger, there is increased likelihood that sound, economically feasible conservation practices will be carried out on a larger scale. Unfortunately, some conservation activities are not profitable in the short run. The

Federal and State governments will have to decide whether public expenditures should be used to preserve land, whether the law should require good conservation practices, or whether an individual should be allowed to permit his land, which is also America's land, to be ruined.

National Park Service

Plans of the National Park Service are formulated by a branch of the Service specializing in planning, but with active participation by the Service staff located at the site. Park rangers are anxious to take part in the planning process and are important contributors to it. Plans begin as soon as an area is considered for use by the National Park Service and after the plans' objectives are defined. The Service in Missouri is primarily concerned with national monuments and battlefields. The means of achieving the objectives are planned in terms of conservation, restoration, visitors use facilities, and staff training. The planning for such sites includes a historical analysis and land management.

Historical analysis is carried on by using documents and oral reports. Professional historians of the Service use the records of the National Archives and Records Service, newspaper files, and other publications for maps or other clues showing how the area looked during the historic period. The ranger at the site attempts to locate personal letters, documents, and any information that can be gained

through interviews. People often have vivid recollections of an event or stories about it, but such a source is often questionable because of contradictions. The plan covers detailed descriptions including plants grown in the area, and the composition of buildings in the vicinity.

The historical analysis enables planning for land management to be carried out efficiently. Land management includes an inventory of the property to determine its present state, and compares this with past conditions indicated by the historical analysis. A program is then developed to make the land and general area resemble the historical view as authentically as practically feasible. In many instances additional land is required. In one Missouri battlefield, the state was so anxious to have a National Battlefield designated by the National Park Service that it offered to buy the land. The Service determines the priority and the amount of land which is necessary to service the historical place. After the land is secured, plans are made to have the same plants on the property as in historical times. Buildings are renovated wherever possible, duplicated where necessary, and collaborative items are acquired.

Development planning describes the desired improvements and sets a complete description of the buildings and other facilities. A site chart is prepared which lists every building existing and proposed on the park and every building that was there in the olden times. Roads and trails on the site are studied and improvements are recommended. The use

of the park, battlefield, or monument is related to its location. The population centers near the park, the culture in the area, the terrain in the park and the surrounding lands are combined to determine what should be done by the National Park Service. Visitors' use of the facilities is planned on the basis of the tourist information they will get and on their comfort. The Service plans the best way to imprint the ideas of the site on the public. The methods include published handouts, signs at the points of interest, recordings, and telescopes. The interpretive methods are being expanded and improved, but careful attention is made to keep each item short. Studies showed that the public shies away from remaining a long time at one point.

The parks, battlefields and monuments are planned to be aesthetically appealing in line with their overall objective. Landscaping, service buildings and other improvements are planned to fit in with the broad objectives. Other items, such as adequate parking, are planned to make the park convenient and pleasant. Recreation facilities, such as picnic, camping and swimming areas, may also be provided.

To maintain the efficiency of an area, the personnel in charge of the facilities are constantly undergoing training. Such training is planned in cooperation with other federal organizations for periods of five years. These programs are intended to make the rangers efficient, knowledgeable and specialized in the site they are servicing.

Occasionally, the Service personnel gets frustrated by what they consider less than adequate cooperation from other agencies. For example, one location was not well marked on highways leading to it. The ranger bemoaned the fact that the Highway Department would not mark the location because too few people come to visit the park. He felt that the low number of visitors is a result of the fact that the park is not well marked. Usually, however, cooperation between the National Park Service and the various agencies is satisfactory.

Plans prepared by the National Park Service point out in considerable detail what is expected to be done, as well as an inventory of the current condition of the park. There is no indication in the plan of the precise order in which the various items are to be carried out nor the dollar amount required to implement the plan. The Service feels that the timing of a program cannot be indicated in a meaningful way because there is no assurance when Congress will appropriate the money. The personnel feels that there is considerable interest in the plan on all levels, but the responsible individuals in the Service will take appropriate action only when funds become available. Thus, the plan is flexible, because the amount of money which will be available is not set. Regardless of how little or how much money is provided, the Park Service is always able to use these funds for implementing phases already planned.

United States Geological Survey

The United States Geological Survey in Missouri has two divisions that are engaged in formal planning: the Water Resources Division and the Topographic Division. The Water Resources Division cooperates with the State Geologists to study water resources for the state of Missouri. Projects undertaken by the Division are usually accomplished in cooperation with the state, county, or municipality. The cooperative effort eases the financial strain on the Survey, since the cooperating government provides half the cost of any project. The state or local government initiates planning by requesting assistance from the U.S. Geological Survey. Consequently, the kind of project is almost impossible to determine beforehand. However, overall planning in terms of future needs is carried out by the Survey. Plans by the Water Resources Division are designed to assist in the development of the quality of water and in the expansion of its use in lakes and reservoirs. This is done in cooperation with the Corps of Engineers, the Soil Conservation Service, and private developers. The plans prepared by the Division are largely a determination of the type of study which the Division feels should be made. The Survey anticipates that it will complete all the phases of the plan within ten years, and will constantly review and update them.

The Water Resources Division in Missouri plans for studies concerning streams, lakes and reservoirs, aquifers, and springs. The formalization of plans is somewhat eased

because a considerable amount of data on these water resources has been gathered since the early 1920's. Such data are sometimes inconsistent, and often are in widely different forms. As time goes on, more consistent data are planned to be collected.

The planning of stream studies includes determining the availability, flooding tendencies, quality, and use of water. The availability of water is to be measured at selected sites of major streams. Some of these data are collected by gauges permanently installed at several sites. It is planned that the number of gauging stations will be increased by approximately 50 per cent in the next ten years. Studies will include flow duration, low flow characteristics, required storage facilities and discharge data. A graphic presentation is then prepared for each gauging station and a stream flow analysis is prepared for all the basins in Missouri. All this information is provided to other states receiving water from the same sources as Missouri.

Floods, as well as droughts, are major problems with streams. Plans by the U.S. Geological Survey include studies to determine flood characteristics of streams in Missouri. It is expected that enough data will be collected so flood profiles can be filed for most areas in the state. These profiles can be used by the Corps of Engineers, the Bureau of Reclamation, and the Missouri Basin Inter-Agency Committee in their planning. Knowledge of where floods

occur and their extent can be valuable in planning for land use and residential construction. Little planning is carried on to control floods unless implementation is to take place by other governmental agencies in the near future.

Plans are also made to determine the quality of water. Data are collected at the gauging stations in the streams and the chemical quality of the water is analyzed in periods of normal and low flows. Since temperature changes cause environmental changes, temperature measurements are taken at selected gauging stations. The data will permit a measurement of the variation in chemical composition in streams and basins and the findings are mapped in detail. This helps to determine the areas where pollutants originate.

Plans for streams and lakes and reservoirs include current usage for recreation, municipal drinking water, and sewage disposal. The Division plans to use a current inventory to estimate future use cooperatively with other state and federal agencies.

Aquifers are probably one of the most important sources of water. The Water Resources Division has plans to determine the use and availability of underground water. An inventory of well yields and estimates of the depth of their sources, velocity of movement, and direction of flow are made by the Division during their planning. The chemical quality and degree of salinity of the water is analyzed in selected aquifers. The results are used to show where sufficient water exists. Missouri has a potential problem with

underground saline water. Present indications are that there is little danger of saline water being forced into currently used wells. In the future, however, this could cause a serious problem, necessitating a careful review of the relationship between saline and fresh water. When knowledge of the underground system becomes available, an explanation of the hydrologic character of surface and underground water is made. Maps are published in detail, showing aquifers, water level data, and chemical quality information. The underground water cannot be as frequently measured as water above the ground. Typical well hydrographs are available, however, to indicate changes in depths of water. Water used from the aquifers is estimated, and related to the available surface and underground water. The data are especially important to government and industry.

Springs are the final source of water for which plans are made by the Water Resources Division. A map of major spring locations is prepared, showing the distribution of springs and their relationships to stream flow. The major springs in Missouri undergo a chemical quality analysis. The development of the spring water is to be determined and compared with the availability and dispersion of springs.

After each of the four water sources are considered, total water supply and its overall quality is analyzed. Current use and development of each of the sources is related to future expectations. The Division considers the interrelationship between water sources and the effects that

developing one water source will have on the others. Data and analysis are provided to show the development characteristics of an area. Problems arising from loss of water in an area are expounded and measures to avoid misuse of water are recommended.

Almost all the work done by the Water Resources Division of the U.S. Geological Survey is done in cooperation with other governmental units. The Division gets along well with the other agencies, but rarely does the Geological Survey initiate the work. This means that programs handled by the Survey are determined, to a considerable extent, by persons outside that agency. When the Survey and another agency are especially interested in a project, there is often rapid implementation.

Often, however, there are delays because of lack of sufficient planning and coordination with related governmental agencies. For example, St. Louis is spending a billion dollars to improve its sewer system, without causing pollution. It requested the Water Resources Division to estimate the proper size of the sewers and act as general advisor in water matters. The Division was anxious to cooperate with St. Louis, but there was a two year delay before work could begin. The year the request was made federal projects were frozen in all agencies, and during the second year there was a shortage of skilled manpower in the Division. The delay in the St. Louis project was especially long, but

the work of the Survey is so varied that acquiring and maintaining skilled personnel is often a problem.

Closer coordination with the agencies requiring the help of the Survey is a prime factor for the success of planning. One Missouri agency that does coordinate with the Geological Survey is the Highway Department. The Highway Department is a frequent "customer" of the Division. When highways are built, every attempt is made to avoid flooding problems. The Division is informed of proposed highways, and undertakes its flood plain study plans shortly after the Department requests help. The Survey then advises the Highway Department as to where roads and bridges will be relatively safe from storms. Bridges are then built in such a way as to withstand all floods except severe ones that are estimated to occur only once every fifty years.

The Water Resource Division, thus, plans a great deal for the studies of all sources of water in Missouri. Most of the programs are carried out with the cooperation and financial backing of other governmental agencies. Although this means that the determination of when to implement the programs is made outside the Division, plans are nevertheless made by the Division and are being implemented.

The Topographic Division of the United States Geological Survey also plans in Missouri. It has plans for a new series of enlarged and more detailed maps. This new series is scaled at one-inch per three tenths of a mile and is designed to be similar to those made by Western European

countries. The order of preparing maps in the series is based on who needs the maps, when the last map of the area was prepared, and where the greatest physical changes have occurred.

Maps are needed by governments, private organizations, and individuals. Maps requested by state and local governmental agencies are given first priority because these agencies pay most of the costs enabling the mapping program to expand more rapidly than if only federal funds are used. Federal agencies that request maps are second in priority. The Geological Survey feels that cooperation among the various federal agencies is necessary and that mapping for other agencies is one method of cooperating. The maps having the greatest number of requests by federal agencies are prepared as soon as possible after the local governmental requests are processed. Requests from individuals and businesses are considered last. When there is a great demand for a particular map by private sources, the map is produced ahead of schedule. If few requests for maps are received by the Topographic Division, preliminary copies of such maps are mailed out before final publication takes place.

Mapping is a continuous process. After the priority requests have been filled, the oldest maps are updated first. Continued work is required because of the changing use of the terrain and because as time goes on more details are demanded in maps. The most obvious change occurs as urbanization takes place, but rural changes also make maps obsolete.

Water conservation measures, erosion controls, and irrigation change the terrain and make existing maps obsolete.

Mapping an area is largely a repetitive operation, consisting of five major steps: photography, supplemental control, advance mapping, field checks, and the final map. The first step is the taking of an aerial photograph. This step takes nine months since the time of year in which the picture is to be taken is limited by foliage, cloud cover, and sun angle. Aerial photographs cannot be taken in Missouri during December because the angle of the sun prevents accuracy. Contractors are invited to present bids and contracts are awarded to the lowest bidder. This is sometimes distressing to the Division because unqualified aviators and photographers occasionally bid, and thus delay implementation. However, if the bidder fails to satisfy the requirements, the Division may refuse further bids from him.

Extensive field work is planned after the photographs are completed. The photographs are carefully studied in the field by Division personnel. Items which are not clear on the pictures as well as the geophysical data which makes up the land are investigated. The work is scheduled so that the southern part of the area is carried out in winter, and the northern part in summer. Six months are allotted to carry out this field work.

The photographs and the field work are combined to generate an advance map. Stereoscopic equipment facilitates

proper drawings of the photographs, and the results of the field work are incorporated in the drawings.

The advance map is taken to the field for verification and last minute additions. Buildings and other points, which are visible from the photograph, are identified. The field check is also a six month process, and extensive planning takes place to see that it promptly starts when the weather is likely to be most satisfactory.

The annotated advance map is returned to the office where the final map is prepared. Water and section lines are then incorporated and the final map is then sent to Washington for publication. This last step is also completed in six months.

Federal Aviation Administration

The Federal Aviation Administration Field Offices plan for short and intermediate terms. Planning is carried out to ascertain that efficiency in flight operations will be maintained, to make optimum use of human resources, and insure that maintenance of facilities and equipment will cause practically no interference to regular operations.

Much of the work done by the Field Offices of the Federal Aviation Administration (FAA) is the routine job of maintaining facilities by highly skilled workers. A national study estimated the time required for each job and a formula was determined by which overall operations could be planned. Consequently, fairly accurate estimates of the

time required to do the various jobs are made. The timing of the actual maintenance jobs are then compared with the national estimates to check continuously on the plans. Technological changes and continued improvement in the proficiency of the workers and the equipment have considerably increased output. However, several FAA Field Offices operate at less than 70 per cent of the nationally determined norm.

The Federal Aviation Administration plans for the efficient use and flexibility of its personnel. About 95 per cent of the local offices' budget is spent on salaries. Most of the cost is fixed, but it still must be used efficiently. Although the FAA men are specialized, dynamic technological changes render their skills outdated unless continuous training is provided for them. One administrator indicated that he has to undergo yearly study and training to be able to occasionally substitute for one of his subordinates. Because the men are skilled, a worker who leaves creates a serious gap. The Area Office of the FAA attempts to maintain a training pool so that there is an immediate replacement for anyone who leaves. The Field Offices plan the work schedule of their employees so they can actively participate in the development and training of their human resources.

The Federal Aviation Administration Field Offices attempt to plan for the renewal of their equipment five years before it will be needed. They study the professional journals to keep up with product development in order to

make air operations safer. The larger airports, of course, use more and better equipment than the smaller ones. Equipment is expensive and the marginal returns in terms of preserving life is getting smaller.

Major changes to an airport, such as a new tower, require much planning, but the views of the FAA are changing markedly. A few years ago, six major airports in the Nation required new towers, including one airport in Missouri. The Administration ordered plans to be drawn up so that all the towers could be identical. The towers recommended were prohibitively expensive, and did not meet the requirements of all the locations. The plans had to be significantly altered to be satisfactory, causing a waste of money and manpower. The Chief of each Field Office now indicates to the Area executives the current conditions in the localities served by the Office. This report indicates the need for new airfields and the expansion of the current field operations. The data collected include the number of landings, traffic forecasts, economic conditions and the expected growth of business in the area.

A one week meeting is held annually between the Federal Aviation Administration Field Office personnel and the Area executives. The meetings are planned to cover the broad spectrum of operations handled by the Field Offices and the changes that have occurred in the area. The meetings encourage two-way informal communications, which is one

of the most important means of enabling the Field Offices to participate in the planning of the organization.

Although the planning done by the Federal Aviation Administration in Missouri is informal, the offices participate in the determination of actions needed to be carried out. The technological nature of much of the work precludes long term planning, but plans are made for as long as five years before implementation.

Congressional practices are a source of considerable dissatisfaction to the Federal Aviation Administration Field Offices. Congress often neglects to pass appropriation bills until after a new fiscal year has begun. This means that activities are almost always carried out as in the previous year, which may be unsatisfactory. Expansion of activities may be imperative and budget cuts can be devastating. For example, if Congress decides that a ten per cent cut in personnel is deemed necessary for economy reasons, severe hardships might result to FAA offices. If the Administration's appropriation bill fails to pass until the fiscal year is half over, this may necessitate the reduction of the work force by twenty per cent during the remainder of the fiscal year.

CHAPTER VI

REASONS WHY SOME FEDERAL AGENCIES IN MISSOURI DO NOT PLAN FORMALLY

There is little doubt that great strides have been made in planning by federal agencies in Missouri. This is especially true at the regional rather than on the state and local levels. Most federal executives recognize the importance of planning and realize that it must be accomplished. They admit that the demand for planning is new and feel that the results of the initial steps are encouraging. However, there are still many federal agencies in Missouri which do not formally plan. These agencies are numerous and listing them would be undesirable. However, the various reasons most of these agencies gave for not engaging in formal planning are nearly identical and can be categorized as follows:

- Planning is unrealistic for the agency
- Shortage of qualified planners and other personnel
- Technological changes
- Political maneuvers are more effective than planning
- Agencies are new
- Planning is done outside Missouri.

Some offices do not plan because they feel that their agency cannot plan realistically. These offices have line, enforcement, or advisory functions. Line offices are those which have immediate responsibility for achieving the goals of the agency. They insist that there is no need to plan because their operations are determined by regional or national headquarters. As these headquarters usually have staff departments in charge of planning, these are looked upon as the only offices which could plan. At the same time, the planning personnel is jealous of its responsibility and resents interference by line departments. Cooperation is so much stressed among federal employees that any action which might create friction is avoided.

Enforcement officers feel that their efforts to stop illegal operations are impossible to plan ahead of time. Furthermore, their general program is governed by laws. Consequently, they are not free to plan and follow courses of action which they think ought to be done.

Advisory agencies, as enforcement agencies, do not know when they will be called on to give advice. The methods used by them in fulfilling their work include meetings, personal contacts, articles and demonstrations. All these methods of operations are difficult to plan. They all result from spontaneous needs of private groups. Consequently, it is difficult to plan in advance for the place, problems, articles and demonstrations requested by these private people.

Almost all the agencies that do not plan indicated that there was a shortage of qualified personnel. Such an indication was even made by the agencies that do plan. Agencies that did not plan used the lack of planners as a reason for not engaging in such activity. Such agencies indicated that if they could hire the qualified personnel, they would formally plan. Furthermore, many responsible persons in these offices indicated their willingness to co-operate with their main departments to train planners. One promising approach in that direction was initiated by a major federal department. When it was determined that planning should be carried out throughout the Department, regional executives were called upon to convince their entire work force of the necessity of planning. Courses were set up to train the operating levels in planning procedures. The program received considerable support from all levels, especially as many employees were undertaking individual plans informally.

According to some federal executives, understaffing was another reason for not planning. The shortage of general personnel meant that managers did not wish to use their limited manpower for planning. Planning was thus considered unnecessary either because operations were routine, or the staff was small. Routine operations do not require planning because the operations become almost automatic over a period of time and formulating plans would merely be a waste of time.

Technology makes planning impossible, according to some agencies that do not plan. These agencies feel that changes occur so rapidly as to render plans obsolete. This is especially true as technological outcomes are unpredictable. For example, the Post Office Department is especially concerned about incorporating advanced technological methods in their daily work. Its costs and manpower needs are rising more rapidly than its revenues. The Office insists that future plans cannot be made because of the rapid technological changes. Some advanced equipment, not yet available on the market, can enable the Department to carry out its current work load and meet the anticipated expansion in the future. The Department has some ideas it would like to see implemented, but these ideas are still in theoretical form, not close to an operational stage. The Department notifies manufacturers of its ideas and hopes that private enterprise will come through with practical solutions. Such methods of solving postal problems cannot be planned in advance. The Department follows the technological direction which makes it possible to achieve its goals.

A few agencies feel that they can better perform without planning because they become more flexible, they can play politics to accomplish their goals, and they can encourage others to act more efficiently on their behalf. Such agencies believe that formal plans limit their activities too much. They prefer acting on whatever appears to be most necessary at the moment. These agencies feel that

they hav ittle power to get the necessary results from Congress. They feel that they can efficiently do their work by recommending programs to private concerns and encouraging them to contact their congressmen. The executives of these agencies insist that such lobbying meets with congressional approval and is more effective than going through regular channels with formal plans.

Although new federal agencies are required to plan since their inception, a new agency in Missouri does not follow this requirement. Its personnel seemed demoralized and indicated that planning was impossible because of the lack of operational procedures in the agency. Such procedures were not set up because the agency was too new. Furthermore, the public expected immediate action from the new department. Consequently, the personnel of this new agency became concerned with obtaining immediate results rather than spending their time planning. Furthermore, the personnel stated that there was no directive for planning from either the regional or the national head offices. This may indicate the necessity of stressing the planning function in an agency prior to the legislation authorizing it.

Some federal offices in Missouri do not plan as such a function is undertaken at the regional or the national office. These latter departments have the staff, the experience, and the resources to undertake such planning activities. Furthermore, the fact that planning in these agencies has been successfully done by other offices in the

past deters the local agencies from engaging in planning. The local personnel see no need to change a function that, in their opinion, has been successfully done. Aside from the fact that they are not interested in planning, these employees prefer to spend their time carrying out their day-to-day operations.

It is also believed that planning by field offices would slow down operations because the Regional agencies would have to coordinate the plans of all local offices. This is believed by some people to be costly and time consuming. In addition, some regional offices hold data needed for planning from local offices. Such data is either considered confidential or are not available in a transmittable form.

There are differences of opinion among the local employees who can carry out independent action or planning at their level. One large federal agency which does not require any planning on the local level had centralized all planning and decision making in its head offices in 1964. In that year, a group of organization experts was sent to the agencies' offices throughout the country, including Missouri. These experts studied the operational systems concerning work output, office procedure, and personnel. Recommendations were then made for carrying out these activities in a uniform way all over the nation.

It was felt that the laws were so explicit that there was no need for any planning at the local level. Since this

reorganization, virtually all the decisions concerning the number of employees, the type of offices, and all management decisions are being made at national offices. Even decisions relating to hiring new employees are made outside the local offices. The national office sends men they consider competent to the regional office in Kansas City where District Managers interview the prospective employees and make recommendations. However, the Division Managers feel that their recommendations carry little weight as the decision on whether to hire or reject an individual is made at the national level.

CHAPTER VII

SUMMARY AND CONCLUSIONS

Planning is the orderly management of assets. Planning has been carried out by the Federal Government of the United States throughout its history. However, until a quarter of a century ago it was only undertaken during emergencies such as major wars and the depression.

Planning by the Federal Government during World War I was the broadest ever encountered in the United States until that time. The National Defense Act gave the president great powers to regulate the national economy, and the agencies established to administer the war effort were very active in planning, and used it extensively in their operations.

Although most federal planning was discontinued after the war, federal agencies came back to it during the depression. During the thirties, national planning was espoused by many economists and such laws as the Agricultural Adjustment Act and the National Industrial Recovery Act came into existence. These acts required a great deal of planning for their implementation. A major regional plan was also formulated at this time under the Tennessee Valley

Authority. The Authority included comprehensive regional planning in soil erosion control, afforestation, efficient use of lands, and the diversification of industry.

World War II provided additional impetus to planning, much of which was patterned after the procedures established during the First World War and the depression. The planning and controls included food production and distribution, manufacturing, labor and prices. Despite the tremendous amount of goods and services used for war, per capita disposable income and consumption rose substantially during this period. After the war, the United States encouraged planning by foreign governments and international organizations. The International Bank for Reconstruction and Development and the Marshall Plan are examples of such encouragement.

The wars and depression enabled the American public to become aware of the potential of national planning. The fear of widespread unemployment encouraged the passage of the Employment Act of 1946 which implicitly demanded projections and planning. However, little detailed planning was carried out under the auspices of this act.

Planning was explicitly fostered by the federal government during the 1960's. The Area Redevelopment Act of 1961 enables the federal government to provide most of the funds for planning at the local level. The Economic Opportunity Act of 1964 stresses cooperation among the states and also requires them to plan in order to receive federal funds.

While the federal government was planning intermittantly, private groups attempted to fill the gap. Two such groups are the National Planning Association and Resources for the Future, Inc. These organizations made thorough studies of the United States' economy and projected national figures to the end of the century. Big business also embraced the idea of planning for their firms, adding to the prestige and acceptance of national planning.

At the national level, planning was fostered by Secretary of Defense Robert S. McNamara. He demanded that the Department be run as efficiently as a business organization. Such efficiency required planning. The planning of the Defense Department was so successful that in 1964 the U.S. Bureau of the Budget instructed all agencies to submit their budgetary requests under the Program Planning and Budgeting System. This meant planning and estimating new obligational authority and expected expenditures and results for three years beyond the next budget year.

Planning has now become an official policy of the United States Government. The purpose of this study was to determine how planning of federal governmental agencies is carried out in Missouri. Some federal agencies in the state rely on plans completed by state agencies. Other federal agencies plan on a regional or local basis. In addition, there are still a number of federal agencies in Missouri that do not plan formally.

The Missouri Office of State and Regional Planning was authorized in 1966 to write a state plan. Such a plan has not yet materialized because the Office has lacked continuity in Directors. The current Director believes that it is more effective to encourage regional planning within a state prior to completing a state comprehensive plan. One of the main problems faced by the Office is its lack of authority. Most agencies feel that the Office will be more influential in the future. However, the federal government is currently providing it with some influence by requiring that federal grant requests be reviewed by the Office.

Federal agencies that use the plans formulated by state agencies are the Department of Transportation, the Department of Health, Education, and Welfare, and the Department of Interior. The Missouri agencies that prepare plans used by these departments are the Missouri Highway Commission, Division of Mental Diseases, Missouri Commission on Higher Education, Section of Vocational Rehabilitation, the Air Conservation Commission, and the Water Pollution Control Administration.

The Missouri State Highway Commission formulates plans for short term, intermediate term, and long term highway needs. Computer models, traffic counts, interviews with drivers, and inventories of road conditions are considered in determining the plans. The size of the community being served and the need to serve the rest of the nation are important elements in determining what should be done.

While long term plans seem to be vague, intermediate term plans are specific. The major intention of intermediate term plans is to make the road system as efficient as possible under the current tax structure. The short term plans indicate the specifics which can fulfill the intermediate term goals.

The Missouri State Highway Commission sets specific goals, primarily through internal planning but also as a result of basic studies contracted to private research firms. Annual inventories of highway conditions, recurring interviews with drivers, and traffic counts give flexibility to the highway plans. Definite time requirements are indicated in the plans and these are compared with the accomplished results. Coordination with other states is an important element of planning by the Missouri State Highway Commission. The Commission does have a few political difficulties, but generally manages to avoid confrontation by having considerable data to back up its decisions and requests.

The Department of Health, Education, and Welfare reviews the state plans prepared by Missouri's Division of Mental Diseases, the Commission on Higher Education, and the Section of Vocational Rehabilitation. The Missouri Division of Mental Diseases prepared a study by persons in the various areas related to mental health. Eight committees were formed to determine the needs and the available resources of mental health services. The committees sent questionnaires to individuals and agencies providing services. The results

of the questionnaires were compiled and the historical data concerning mental illness and services were gathered. This information, together with an inventory of physical equipment helped in determining future needs in relation to the available resources.

Politics in mental health planning appeared to be completely absent. This may be due to the broad range, high quality, and independence of the planning group. The staff of the Division of Mental Diseases found planning of great importance, but thus far has not maintained a planning operation. Goals were set in the plan, but no timetables were prepared and few priorities were indicated. Furthermore, some of the programs recommended in the plan were found to be unfeasible. This seems hard to understand as the practitioners and the staff of the Division of Mental Diseases were the members of the various committees recommending the programs. The parts of the plan considered feasible are being implemented and their programs are following the details of the plan.

The first plan for Missouri higher education was published in 1966 by the Missouri Commission on Higher Education. Enrollment was apportioned to the various institutions in the state on the basis of the academic qualification and residence of students. Capital expenditures were based on the increased enrollment at each institution.

The goal of the higher education plan is to provide each person in Missouri with the opportunity to achieve his

maximum potential through education. Targets are set, but no attempt is made to compare the targets with the achievements. Furthermore, there is difficulty in implementing the plan because each institution of higher education is autonomous. Politics is extremely important as the legislature is responsible for approving the programs of each college. Moreover, funds are lacking for the full implementation of the higher education plans. Consequently, educators rely heavily on federal funds without which plans would not be implemented.

The Department of Health, Education, and Welfare reviews and accepts the plans of the Missouri Section of Vocational Rehabilitation. However, there is currently no overall plan prepared for vocational rehabilitation in the State. Rehabilitation work is carried out by contract to private concerns. The planning department of the Section of Vocational Rehabilitation prepares studies of the needed services and awards a contract to the organization most likely to carry out the program successfully. An information system is being initiated throughout the state to enable the Section of Vocational Rehabilitation and other state agencies to recognize the extent of the problems, the geographic area most in need of help, and the disability which is most prevalent. This information will enable research to be carried out in the most necessary areas, and will enable the Section to contact those suffering from a particular disability when a better treatment is found.

The target dates in the vocational rehabilitation plan of Missouri are not set and comparisons between goals and achievements are not made. Such control is important to successful planning. However, the Section of Vocational Rehabilitation feels that this is unimportant because the Section is merely a support for other agencies. Implementation of plans is, therefore, difficult. Currently there is not a comprehensive plan, but the Section intends to prepare one as soon as personnel needs are met.

The Missouri Air Conservation Law, passed in 1967, provides for establishment of a Commission to prepare a comprehensive plan for air conservation and police the state to maintain acceptable levels of air purity. The Commission feels that although air pollution is an international problem, it can best be solved by local action. Local areas in Missouri are, therefore, required to provide pollution data and possible programs for their area. One city in Missouri, St. Louis, has completed a study of air pollution and Kansas City has a study well on the way. The St. Louis study is a cooperative effort of eight federal, state, and local agencies and similar cooperation is being extended to Kansas City.

Planning for pure air in Missouri has been carried on largely on a local basis, with the approval of the State Air Conservation Commission. Data needed for planning air control purposes are now collected regularly. However, targets are set up, and revised whenever technology offers

more effective anti-pollution measures. Achievements are regularly compared with goals but a shortage of manpower is slowing planning and implementation. Other political and coordination problems are causing difficulty in implementation. Among such problems is the location of the two largest cities in need of air control partially in other states. Thus, pressure is applied by private concerns to ease the requirements to the same lower levels applied by neighboring states.

Planning by the Missouri Water Pollution Commission results from completing the request for funds which must be submitted to the Department of the Interior. The groundwork has been laid for pure water in the cities. Water purity is measured as it enters and leaves each major city. Water must be as pure when it leaves a city as when it enters. Agricultural pollution is more difficult to isolate and control. Improved agricultural practices are being studied and implemented by the Water Pollution Commission as well as by the Department of Agriculture.

The Missouri Water Pollution Commission indicates in their yearly plans the use of funds to be spent during the following five years. Such plans are weakened by the fact that they do not include physical needs. Furthermore, federal funds received as contributions to the water pollution programs in Missouri are assumed to be fixed. Based on past experience, such an assumption is unrealistic. Since

physical goals are lacking from the plans, the efficiency of the programs cannot be readily measured.

Three agencies that plan on a regional basis in Missouri are the United States Army, Corps of Engineers, the Missouri Basin Inter-Agency Committee, and the General Services Administration, Office of Space Availability. The Corps of Engineers in Missouri is mainly concerned with flood control. Such an activity is expanded to include agriculture, water supply, water quality, navigation and recreation. Congress initiates a study, which begins with an analysis of the area. Hearings enable the people to voice their opinion concerning the proposed program and serve to assure them from the outset of the importance of their views. After the hearings, an economic and physical analysis of the area is made, in cooperation with other agencies. Benefits in each element of the plan must exceed its cost. The plan explicitly indicates assumptions for both the benefit and cost estimates.

The plans prepared by the Corps of Engineers have specific and detailed goals for each project. The success of these plans is the result of the cooperative effort among the Corps, private individuals and organizations, and federal and state agencies. The plans are flexible, permitting the implementation of several combinations of programs. However, there appears to be spurious accuracies in collecting and projecting data. Furthermore, after the completion of projects, the benefits derived therefrom are not compared with

the benefits mentioned in the original plans. Since such benefits are the basis for the feasibility of the projects, this lack of comparisons seems an unfortunate loss. It is unfortunate that planning by the Corps is carried out only after directives from Congress, and after a disaster occurs. Political power and "acts of God" thus determine the Corps action. It would seem more beneficial if the Corps studied areas prior to the occurrence of catastrophies.

The Missouri Basin Inter-Agency Committee was established in 1945 to coordinate program development in the ten state Missouri River Basin. The Committee is divided into work groups. Each work group is autonomous and is composed of members from federal and state agencies. Planning by the Committee is designed to eliminate friction between the agencies to coordinate the plans of the various work groups throughout the project. The work groups analyze the needs and potential for population, employment, agriculture (including irrigation and flood control), forestry, mining, municipal water supplies, fish and wildlife, recreation, and energy. They recommend action which will enable the needs of the future to be met.

The coordination from the outset of agencies involved in the Missouri Basin Inter-Agency Committee was designed to foster inter-governmental cooperation to arrive at an optimum plan. A large number of projects are recommended, but there is no assurance that they will be implemented. The fact that the Missouri Basin Inter-Agency Committee is an

advisory body weakens its position. Implementation of its plans requires action by federal, state, or local legislators. Thus, political influences are of great importance. However, the good quality of the studies, the favorable publicity for the programs, and the prestige of the members of the Committee encourage positive responses. There is no attempt to compare achievements with goals or to set target dates. Since the Missouri Basin Inter-Agency Committee is not responsible for implementing the plans, they feel that there is little to be gained from such comparisons. This feeling is unfortunate because such information might pressure citizens as well as Congress to act in such a way as to encourage a rational approach to development.

The General Services Administration, Office of Space Management, handles the building space needs of governmental agencies. This Administration plans buildings so they will be economical and conveniently located for employees, government operations, and the general public. Future space needs are indicated by the governmental agencies concerned. The Office of Space Management determines where the space should be sought on the basis of economic studies. The Office of Space Management then determines whether it would be more beneficial to buy or rent a required building on the basis of cost comparisons.

Some of the data collected and used by the General Services Administration are likely to be biased because they are gathered from local private sources. The analysis

determining whether to buy or rent is done in such a way that it is almost certain to result in purchasing a building. Once a building is decided upon there is seldom any flexibility in planning for space needs in that area. The Office indicates that politics plays little part in determining whether or where a building is needed, but many persons disagree with this.

Several federal agencies plan locally in the State of Missouri. These are the Forest Service, the Soil Conservation Service, the National Park Service, the Geological Survey, and the Federal Aviation Administration. The Forest Service plans mainly on the basis of an aerial photographic inventory renewed every decade. The photographs indicate the current condition of the forest, the number and type of trees, and even wildlife activity. Rangers then check the photographic information by inspecting the site. These two sources of data enable the development of a plan for optimum timber management, wildlife, recreation, and fire control. The Forest Service in Missouri also has a long range plan for its personnel as well as a plan for the forest property. Being familiar with these plans, the rangers are able to improve their chances for promotion or to specialize in operations where they are especially interested.

The goals set by the Forest Service are based in part on the philosophy of the Service and in part on the large body of data collected on a recurring basis. Although targets in terms of projects are set in all areas, completion

dates are not specified for the projects necessitating appropriations by Congress. As there is no way to determine the amount of funds to be received in future years, the Service feels that it can not indicate when various projects would be completed. The plans of the Service are flexible, and according to the amounts of funds appropriated to it, alternative plans are implemented by the Service.

The Soil Conservation Service plans on the basis of a soil and conservation needs inventory which is undertaken approximately every ten years. A Conservation Needs Committee, comprised of local people, is established in each county. These Committees indicate various needs in their locality. The county Committee then determines the quantity and quality of land in each major use. The Soil Conservation Service centralizes the Committees' plans and recommends the actions necessary to upgrade the land and increase efficiency.

Goals for specific projects are not set in the plans made by the Soil Conservation Service. The Service attempts to solve problems and develop more efficient farming methods whenever needed. As the Service is advisory, it has no authority to force farmers to comply with their recommendations. Its planning is occasional where target dates cannot be set in advance. Meanwhile, because of the nature of its function, the Soil Conservation Service appears to be free of politics in Missouri.

Although the National Park Service has a central planning division, most of the work needed to formulate their plans is carried out by the personnel stationed in the State. Planning is done for land management, history, visitor comfort, and roads and trails. Dollar figures are seldom indicated in the plan.

The planning goals of the National Park Service change with the analysis of the continuously collected data. Although target dates are set, they are not specifically mentioned in the plan. Similar to the Forest Service, target dates are not presented because of the uncertainty of acquiring funds and the uncertainty of when land could be acquired. Because there are no priorities assigned to the various programs in the plans, the Service feels that it is unnecessary to compare the plan with what is accomplished. However, if priorities were indicated and such comparisons were made, plans would be more meaningful and perhaps Congress would be more receptive to them.

Both the Water Resources Division and the Topographic Division of the United States Geological Survey plan in Missouri. The Water Resources Division cooperates with the State Geologists in studying the water resources of the state. Data on some streams, lakes, reservoirs, aquifers, and springs have been collected for half a century, but often these data are not in comparable forms. Most of the plans done by the Water Resources Division are done in cooperation with other governmental units. This cooperation

is carried out because the federal, state, and local governments can share the expenses and the personnel to achieve their common goals.

Plans of the Water Resources Division set goals for most of its programs. Considerable data are collected on which the plans are based. General target dates are set but since many of the programs are done cooperatively with other agencies, the dates cannot be specific. Similarly, because of the cooperative nature of many of the programs, goals are compared with achievements only occasionally. However, this control is not used as a management tool. Although the water resources programs can be implemented internally, the Division usually relies on other agencies to financially support these programs.

The Topographic Division of the United States Geological Survey prepares detailed maps of the nation. The Topographic Division plans what maps to prepare and the procedure to be used in completing the task. Priorities are given to maps requested by governmental agencies because the requesting governmental unit contributes to the cost of their production. The time available to the Topographic Division after fulfilling the governmental requests is used to revise the old maps. Careful planning is imperative because failure in any of the steps followed in preparing a map may delay its publication by at least six months.

The Topographic Division's goal is the remapping of the United States. The Division does little detailed

analysis in presenting its overall plan. It also has no target date for completing its plan, since changing terrain means that maps continually become outdated. Each map being prepared, however, has specific target dates for each element of the preparation. These dates are continuously checked. Politics do not determine the Division's actions. State and local government map requests are prepared first, followed by maps requested by federal agencies. These unanticipated requests mean that to some extent the targets are set outside the Division.

The planning function of the Federal Aviation Administration Field Office in Missouri is primarily concerned with the maintenance and upgrading of the facilities plus the training of its manpower. Intricate and expensive equipment is constantly being withdrawn because of obsolescence. Plans indicate what new equipment is available, and suggest future purchases. Personnel proficiency and availability is carefully planned. Because the work is highly technical, the Administration plans training programs to enable the regional personnel to carry out its functions smoothly. Regular meetings with regional executives and monthly reports are used to help implement the plan.

The plans of the Federal Aviation Administration Field Offices vary between the equipment, personnel and maintenance sections. Plans for equipment do not include specific target dates. The Offices request the various equipment needed, and as funds become available, the Regional

Office authorizes the purchase of the required items. The Field Offices do not compare achievements with goals, because they feel they cannot implement their plans. In training, the Field Office determines what individuals are to be trained, and the kind of training they should receive. Because of the importance of the work of the Federal Aviation Administration's personnel, these training goals are regularly compared with achievements. The planned goals and targets of the Federal Aviation Administration Field Offices are sufficiently flexible to adapt the plan to the technological change. Data is collected in sufficient detail to enable such changes to be effected smoothly and advantageously.

Although planning is becoming an integral function of governmental agencies, many federal offices in Missouri do not plan on a formal basis. Various reasons are given for the lack of planning. Among them are: planning is unrealistic for the agency; there is a shortage of qualified planners and other personnel; technological change makes planning impossible; political maneuvers are more effective than planning; the agencies are too new to plan; and planning is done outside Missouri.

There are many problems with the planning carried out by federal agencies in Missouri. The agencies recognize many of the weaknesses, and are actively pursuing improvement methods in order to make planning more fruitful. All the agencies that plan have substantially improved their

methods to the point that such plans are now considered necessary management tools for effective action. This has also been the experience in private business. Some of the larger firms have been planning for a quarter of a century or more and only now are their planning departments beginning to run smoothly. Every agency, private or governmental, must expect difficulties when the work begins. They must also expect and demand continued improvement.

As in any new operation there is considerable frustration in planning. A major frustration for the governmental departments is the lack of planners in the federal agencies in Missouri. Planning has grown so rapidly that there are not enough people to staff the offices. Furthermore, there is little agreement on the qualities necessary in a good planner--except that he plans well. As the professions grow, an organization emerges which sets up general procedures and requirements. The American Medical Association, the American Bar Association, and the American Association of Certified Public Accountants are examples of this. However, as yet there is no generally accepted body of planners. The field is open, and much work is done by trial and error. There are, however, some methods which have been proven effective and general principles that can be followed. Some agencies, such as the Department of the Interior, have courses to help train planners. It will take a long time, however, before a sufficient pool of planners and planning knowledge is reached.

Because of the shortage of trained planners and the increasing demand for their services, there is a high turnover of planning personnel in government and business. Little can be done to solve this problem except to provide on the job training as much as possible. The shortage is likely to become more prevalent when planning functions will increase in the future. It is neither the fault of the planners who are looking for better opportunities, nor that of the agencies securing their services. The mobility of planners is typical of educated persons; severe problems emerge when a planner leaves before a program is well under way because it takes considerable time to replace him.

Politics will not be eliminated by planning. The government has been plagued by this problem which seems inherent in the bureaucratic system. This has been the case in some Missouri agencies whether they plan or not. Although well prepared plans may make politics less of a force, there is no assurance that this will be the case.

Appropriating basic funds for more than one year might benefit effective planning. The tendency of Congress to be open fisted one year and tight fisted the next increases the difficulty in setting targets. Plans should, of course, be set up in such a way that government spending can be a meaningful contracyclical force.

Planning in Missouri federal agencies has had a strong start. It is accepted by all individuals who are actively using it and working in it, either through

preparing plans or using the results. Every indication is that planning will continue to improve and expand.

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U.S. Department of Labor, Office of Labor-Management and Welfare Pension Reports. P. Krehbiel, Area Director. St. Louis, Missouri. June, 1967.

U.S. Department of Labor, Wage and Hour and Public Contract Division. James Brown, Investigator. St. Louis, Missouri. June, 1967.

U.S. Department of Transportation, Federal Aviation Administration. R. M. Bolick, Chief of Field Office. Springfield, Missouri. March, 1967.

_____. Frank E. Fraind, Assistant Chief, St. Louis, Missouri. July, 1967.

_____. Bud Raymonds, Tower Chief. St. Louis, Missouri. July, 1967.

_____. J. Templeton, Chief. St. Louis, Missouri. July, 1967.

U.S. Department of Transportation, Federal Highway Administration. Charles Foslin, Planner. Jefferson City, Missouri. March, 1967.

_____. John Ohrn, Planner. Jefferson City, Missouri. March, 1967.

_____. Ralph Phillips, Regional Highway Administrator. Kansas City, Missouri. April, 1967.

_____. William T. Trueblood, Deputy Highway Administrator, Kansas City, Missouri. May, 1967.

U.S. Department of the Treasury, Bureau of Customs. A. Sestrik, Program Advisor. St. Louis, Missouri. June, 1967.

_____. D. M. Yates, Port Director. Kansas City, Missouri. April, 1967.

U.S. Department of the Treasury, Bureau of Narcotics. John J. Kelley, Jr., U.S. Narcotics Agent. Springfield, Missouri. February, 1967.

U.S. Department of the Treasury, Internal Revenue Service. Joe B. Clark, Supervisor. Springfield, Missouri. February, 1967.

_____. George E. Diesel, District Supervisor, Columbia, Missouri. April, 1967.

_____. Leroy U. Thibault, Chief of Audit Division. St. Louis, Missouri. July, 1967.

U.S. Federal Communications Commission. E. J. Bourell, Representative, Kansas City, Missouri. May, 1968.

U.S. Federal Communications Commission, Common Carrier Bureau. Clarence J. P. Henry, Representative. St. Louis, Missouri. June, 1967.

U.S. Federal Mediation and Conciliation Service. Paul Bowers, Regional Director. St. Louis, Missouri. June, 1967.

_____. Charles G. Harding, Commissioner. Kansas City, Missouri. March, 1967.

U.S. General Accounting Office. Marvin E. Gettle, Auditor in Charge. St. Louis, Missouri. June, 1967.

U.S. General Services Administration. Edward Athey, Representative. St. Louis, Missouri. July, 1967.

_____. Richard W. Austin. Regional Director. Kansas City, Missouri. November, 1967.

_____. R. W. Stacy, Acting Regional Administrator. Kansas City, Missouri. September, 1967.

U.S. General Services Administration, Budget Division. Wayne Argenbright, Chief. Kansas City, Missouri. November, December, 1967.

_____. Larry Rice, Assistant to the Chief, Kansas City, Missouri. March, 1968.

U.S. General Services Administration, Federal Supply Service. D. J. Ariagno, Regional Director. Kansas City, Missouri. December, 1967.

U.S. General Services Administration, Property Management and Disposal Service. Sam J. Parker, Regional Director. Kansas City, Missouri. December, 1967.

U.S. General Services Administration, Public Building Service. Earl Lund, Regional Director. Kansas City, Missouri. March, 1968.

_____. R. R. Pomerenke, Chief of Assignment and Utilization Branch. Kansas City, Missouri. March, 1968.

U.S. Interstate Commerce Commission, Bureau of Operations and Compliance. J. P. Werthmann, District Supervisor. St. Louis, Missouri. June, 1967.

U.S. Post Office Department. J. H. Brown, Assistant to the Regional Director. St. Louis, Missouri. July, 1967.

U.S. Post Office Department. John F. Dee, Regional Director. St. Louis, Missouri. July, 1967.

U.S. Post Office Department, Bureau of Transportation. D. P. Haddock, Acting Director. St. Louis, Missouri. July, 1967.

_____. K. J. Schneur, Assistant to the Director. St. Louis, Missouri. July, 1967.

U.S. Post Office Department, Engineering and Facilities Division. Martin J. Deutch, Director. St. Louis, Missouri. July, 1967.

U.S. Post Office Department, Local Services Division. John F. Applegate, Director. St. Louis, Missouri. July, 1967.

U.S. Post Office Department, Mobile Units Division. Charles Oney, Director. St. Louis, Missouri. July, 1967.

U.S. Post Office Department, Postal Systems. Joseph P. Burke, Director. St. Louis, Missouri. July, 1967.

U.S. Post Office Department, Postal Data Center. T. Paul Dicken, Director. St. Louis, Missouri. July, 1967.

U.S. Post Office Department, U.S. Post Office. Claude J. Bakewell, Postmaster. St. Louis, Missouri. July, 1967.

_____. D. R. Bay, Postmaster. Springfield, Missouri. March, 1967.

_____. Vernon Blair, Postmaster. Jefferson City, Missouri. May, 1967.

_____. Thomas Peoples, Director of Planning and Public Relations. Springfield, Missouri. March, 1967.

Veterans Administration, Regional Office. A. J. Carilli, Chief Administrator. St. Louis, Missouri. July, 1967.