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A CASE OF RAPID URBANIZATION:
MISSOULA'S SEWAGE PROBLEM

by

Deborah Roseboom

and

Robert Kircher

B. A., Idaho State University, 1968

B. A., Texas State University, 1968

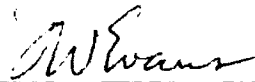
Presented in partial fulfillment of the requirements for the degree of

Master of Urban Studies

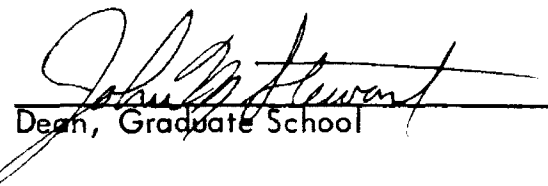
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FORWARD

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The authors of this paper assume full responsibility for any shortcomings or mistakes.

Robert E. Kircher

Deborah Roseboom

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INTRODUCTION

The Missoula Interlocal Cooperation Commission exists to enhance the cooperation between city and county governments. As stated in the Revised Codes of the State of Montana, Title 11, Chapter 44, the Commission's mandate is to study the operation of local governmental units and to propose solutions to local problems that cut across city-county boundaries. One of the most important of these interlocal problems in the Missoula urban area is connected with sewer services. At the request of the Commission, this study of sewer services in the city of Missoula and its adjacent unincorporated urban areas was undertaken.

The basic purpose of this study was to examine the operational problems that have been encountered in the present sewer systems in the Missoula urban area and to present a clearer understanding of the legal, fiscal, and demographic phenomena that are related to these problems. It will be shown that the solutions to many of these problems are embodied in already existing municipal, county, state and federal regulations and provisions.

The problem of providing urban sewer services does not exist as an isolated phenomenon. It exists in an interrelated network of economic, political and social factors. In particular, providing sewer services has been exacerbated by the fact that urban growth has occurred outside city boundaries. The residents of these unincorporated urban areas desire all the modern

conveniences of sewer services, however, local government is the county, not the central city. Because it is urban, the service itself is a complication of the respective special characteristics of the municipal and county governments at the present time. Service itself implies providing people with conveniences. What gets in the way of providing these services is the disability of both city and county governments to work together; far from an unwillingness on their parts, this disability results from the legacy of an ever-aging structure of built-in limitations. What in effect sets in is a kind of temporary paralysis. History lends accustomed ways of doing things. As body muscles are trained to respond, the sudden and frequent appearance of new kinds of problems and unfamiliar tools for dealing with them bring to the social body a kind of muscle fatigue; it fails to get the job done, even though great effort is put into the task.

As general kinds of problems, what the people of the city and county of Missoula face are not unlike those encountered every day by people in thousands of cities and counties across the United States. One aspect of increasing urbanization anywhere is the rapid growth of population in concentrated areas. These increased numbers require that their local and state governments be responsive to their needs. To do so requires as complete as possible an understanding of the needs for those services that will facilitate the comfort of this ever expanding population. This in turn means a new attitude towards the meaning of urban life. In Missoula this requires a recognition that urbanization

is taking place. What was a good sound approach to problems in 1920 is not an equally good sound approach in 1970 and the door must be left open to 1990 and beyond.

When things change in size, they need to change in structure, and this includes urban areas. As size changes, the abilities of social organizations to cope with their problems in a cooperative manner change, too. The agents of cooperation, in any case, are the citizens' desires and abilities to create governmental units that can best provide for changing social situations. Social organization is more than political boundaries or governmental units existing side by side; it is people living together and cooperating with one another, regardless of whether they live in the same or adjoining political units. The issue of sewer services in an urban area encompasses the whole matter of recognition by the people affected.

The strength of an urbanizing area in solving its problems, both present and future, lies in its ability to create a viable and effective planning organization. It is inconceivable that areas undergoing rapid population increases can sustain themselves in this day and age if every effort is not taken to consider the problems of the area. To deal effectively with these problems the governmental structure must be such that it is open to broad involvement of citizen participation in conjunction with those persons who possess the expertise needed to help in achieving a satisfactory social and political life. The Missoula area experiences this kind of a problem with respect to its sewer system,

a problem that will be accentuated as the urbanizing process continues.

At present the two governmental units of city and county are grappling with problems urban in nature that concern both. When citizens demand services that their local government fails to provide, relief is sought from higher levels of government or through the use of special governmental districts. In an effort to avoid continuing a past tradition of piecemeal handling of these problems, local governmental structure must have the flexibility that is sufficient to create solutions. Various means of attaining this flexibility will be examined in this paper.

Most of the statutory remedies for problems dealing with the need for providing sewage treatment and disposal services are predicated on the absence of any existing facilities. This is not the case in Missoula. The municipality has the facilities, but people living in the unincorporated area do not have access to them. The present study treats both the legal remedies and the existing circumstances which will accommodate the urban area.

It is important that several definitions be made at the outset in order to effect clarity. Sewage is the water supply of a town after it has been used. Sewerage is a system, including pipes and trunk lines and treatment plants, through which sewage moves. Sewer services are those services connected with extending municipal sewer to a resident. The Revised Codes of Montana is a nine-volume work of state statutes, following their 1947 revision, and including any changes or amendments made by the legislature

after that time.

The concept urbanization appears frequently in this paper. A few words should be said about its meaning. It conveys the idea of an increasing number of people in a concentrated area. Urbanization has to do with the increasing complexity of everyday life. One of the effects of urbanization is the increased difficulty in providing needed services. The search for efficiency in an increasingly complicated situation is the central problem and from it comes the necessity for greater cooperation among the parties involved.

The order of the topics in this paper follows a form that is logical in relation to the nature of the problems dealt with. First, the legal framework in which sewer services must be rendered in accord with federal, state and local standards is discussed. Following this, the various aspects of financing sewerage projects are examined. From a cost projection standpoint reference was made to the Clark and Groff study, the Capital Improvements Program, the Comprehensive Development Plan, all federal programs regarding sewerage development, the Revised Codes of Montana concerning special improvement district funding and the issuance of bonds that would serve in defraying the expenses of any sewerage improvement. Next, the sewerage facilities in the city and county of Missoula are described, and specific examples are cited of existing and potential problems and their possible solutions are discussed. For technical information with regard to sewer facilities heavy reliance was placed upon the 1968 Peterson study of storm sewers and sanitary needs. Finally, the

legal options available in the Montana statutes that might effect solutions to these problems are presented, and the unique aspects of the Missoula sewer system's problems are examined with respect to each of the options discussed.

Some of the data in this study was obtained through interviews with city and county officials who play key roles in dealing with sewerage problems. Because a very wide range of information was required from these respondents, no standardized set of questions was developed.

Among the references cited, the Peterson study deserves special mention. Its value, in great measure, resulted from the approach it took. Its author showed a well developed understanding of the meaning of urbanization with projections to the year 1988. The area of his projection does not follow conventional political boundaries. Rather, his study area--like this one--was drawn in view of the present and anticipated needs of an urbanizing Missoula area.

PART I

**LEGAL AND FINANCIAL PROVISIONS FOR
SEWER SYSTEMS DEVELOPMENT**

LEGAL PROVISIONS FOR SEWER SYSTEMS DEVELOPMENT

Laws provide the tools necessary to remedy problems. As water pollution has increased and become a nuisance, laws have been passed by federal, state and local governments to impose standards and implement programs to control the quality of water. The building and regulation of sewer systems is directly related to the regulation of waterways because sewage is one of the greatest contributors to water pollution.

Federal Provisions

The federal government began water pollution control in 1948 with the Water Pollution Act. Since that time the act has been gradually expanded through amendments in 1956, 1961 and 1965. The government has five concerns with regard to water pollution control: 1) Support for research to discover new and better methods of waste disposal; 2) Technical services and counsel to the states; 3) Grants to the states; 4) Construction grants to help finance new municipal disposal facilities; 5) Enforcement of pollution controls on interstate or navigable waters.¹ The guiding policy of the Water Pollution Control Act was stated as follows, "It is hereby declared to be the policy of Congress to recognize, preserve and protect the primary responsibilities and rights of the states in preventing and controlling water pollution."²

The 1965 amendment to the Act establishes a Federal Water Pollution Control Administration as a separate agency in the Department of Health, Education and Welfare. Since then the authority has been transferred to the Department of the Interior. Under the amendment this agency enforces the requirements established for the quality of water of interstate waterways. Under a recent provision, a state pollution control agency may establish quality standards applicable to interstate waters and adopt plans for their enforcement. If approved by the Secretary of the Interior, as consistent with the criteria established in the amendment to the Water Pollution Control Act, the state standards become the governing regulation enforced by the federal administration in that state. Montana has adopted standards which have been approved by the federal government.

State Provisions for Pollution Control

In Montana water conservation is declared by law to be a state purpose (11-8901.* The State Health Department has general supervision over all state waters used for a public water supply and can adopt rules and standards and issue orders to prevent pollution (69-4903). Under state law no municipality in Montana may operate, construct or modify a disposal system which discharges into state water, increasing the volume or strength of sewage,

*Unless otherwise indicated, all parenthetically enclosed numbers refer to the title, chapter and section of the Revised Codes of Montana, 1947.

industrial waste or other wastes into the state water without a current permit from the State Department of Health (60-4806). Upon complaint to the Department, the state will investigate any claims of water pollution and consult with municipal authorities on the construction of systems of water supply, drainage, waste water and sewage (69-4904). Existing statutes, as amended by the legislature, make it possible for complaints to be filed by one person, as well as public agencies, institutions and industries (69-4905).

Examples of regulations enforced by the State Board of Health include that all water and waste treatment plants and waste distribution systems must be supervised by an operator whose competence is certified by the Director of the Division of Environmental Sanitation of the State Board of Health (69-59). In 1961 Montana, one of the first three states to do so, adopted standards for water and sewer facilities for subdivisions with which all Montana communities must comply. These laws provide guidelines for submitting plans, for submission of water and sewerage plans to the State Department of Health and for percolation tests in subdivisions. Criteria for individual water supply systems and sewage disposal systems are also described.

Three boards formulate policy regarding the protection, use and appropriation of state water. The State Water Resources Board coordinates the use and development of state water resources and prepares a comprehensive, coordinated water resources plan. Further, the state statutes provide for a Public Service Commission to regulate waste and sewer systems (11-220.1). The State

Water Pollution Control Council formulates the standards for use of waterways in Montana under the Federal Water Pollution Control Act .

Municipal and City-County Legal Provisions for Sewer Systems

Municipal. State statutes give municipalities jurisdiction over the territory occupied by their public works and over the source of the stream from which municipal water is taken. The municipality must enforce sanitary ordinances and regulations necessary to make its powers effective (11-966 4). The municipal governing body regulates building of sewer systems and investigates dangerous conditions. It is also allowed to fix rates for services furnished by the sewer system and to issue revenue bonds on the basis of sewer revenue to pay for the cost of construction, reconstruction, improvements or additions (11-2221).

On the basis of the broad powers delegated to municipalities for the regulation of sewage disposal the Missoula City Council has formulated an annexation policy regarding the extension of a municipal sewer service. Feeling that no citizen should benefit from municipal sewer service unless he is a resident of the corporate city, the council refuses to extend to that person or persons municipal sewer service. A five-member committee studies municipal sewerage needs and formulates policy concerning service and takes these as recommendations back to the other members of the city council.

City-County Health Board. This board was created in Missoula in 1967 to facilitate city-county cooperation in health matters. Included in its duties is the enforcement of State Board of Health regulations for municipal and county sewer systems. The City-County Health Board inspects problems only as they occur. All new installations of wells, septic tanks and cesspools must receive its approval. Also, when a house is offered for sale in an unincorporated area, the Board inspects the well to see if it complies with pollution standards. If a problem exists, the house cannot be sold until that problem is solved. Further, the City-County Health Board is able to regulate the development of subdivisions by requiring that before plans for a subdivision can be filed a soil sample must be sent to the State Board of Health. The State Board must approve the soil sample as adaptable to the development of sewer systems before any building may commence. The City-County Health Board has the power to fine violators of health standards or issue restraining orders against them.

FINANCES FOR SANITARY SEWER FACILITIES

The laws which authorize the development of systems need to be supported by enabling provisions, especially with respect to financial aspects.

Following is a discussion of federal, state and local financial resources that can be used by cities and states to construct and maintain sewer systems. Included is a brief description of each program and the legal authorization for it. The programs which Missoula has utilized are indicated.

Federal Financial Aids

Grants made by the federal government to help with sewer systems date back to 1956 when Public Law 660, the Water Pollution Control Act, authorized grants for the construction of municipal waste treatment systems and for the construction of municipal waste treatment systems and for support of state and interstate agency programs. In 1961 amendments to this Act increased the authorizations of both of these original grant programs and activated other grants for further research. The Water Quality Act of 1965 (Public Law 89-234) brought sweeping changes in the Water Pollution Control Act and further liberalized the construction grants for sewer systems. It initiated a special grant program which supported research and development to demonstrate new and improved ways to control pollution from combined storm and sanitary sewer systems. The latest amendments to the Federal Water Pollution Control Act came

with the 1966 enactment of the Clean Water Restoration Act (Public Law 89-753). It expanded monies available for treatment works and research and development.

Grants are available under these federal laws for the funding of specific programs. Grants for comprehensive basin planning are available to help pay a portion, but not more than fifty per cent, of the operating costs of administrative agencies which are developing comprehensive water quality control and pollution abatement plans for river basins or portions thereof. Training grants are awarded to universities, colleges and other public and private institutions to expand the base of training and education in the causes, control and prevention of water pollution. It is hoped that the professional, scientific and technical manpower in this field will be increased by these grants. Research fellowships are awarded to individuals for specialized research training. Grants and contracts are awarded to support and promote the coordination of research, development and demonstration projects in this same area. Specific amounts of money are stipulated by Congress under the Federal Water Pollution Control Act according to the project applied for.

There are federal grants available to state and interstate agencies to assist in meeting the costs of establishing and maintaining adequate measures for the prevention and control of water pollution, including the training of public agency personnel. An annual appropriation of \$410,000,000 is authorized through 1971. The matching requirements are based on per capita income by

state, although the federal share cannot exceed $66 \frac{2}{3}$ per cent nor be less than $33 \frac{1}{3}$ per cent.

Under the Federal Water Pollution Control Act grants are also available for waste treatment works construction including intercepting and outfall sewers. One billion dollars has been authorized for the fiscal year 1970 and this amount has been increased by \$250,000,000 for the fiscal year 1971. Section 8 (b) of the same act as amended by the Clean Water Restoration Act of 1966 specifies that prior to July 1, 1967, a grant may not exceed thirty per cent of the estimated cost of multimunicipal projects. After July 1, 1967 dollar limitations were removed and the grant may be forty per cent if the state will contribute at least thirty per cent, and fifty per cent if the state contributes twenty-five per cent and if the project is in conformity with enforceable water quality standards. In metropolitan areas the grant may be increased ten per cent if the project is in conformity with a comprehensive metropolitan plan. Grantees are required to pay all costs not covered by the federal grant and to assure proper and efficient operation of the treatment works after completion.

Other federal grants are available under the Department of Housing and Urban Development. It has a Water and Sewer Facilities Grant Program, the purpose of which is to ". . . assist communities in the construction of adequate basic water and sewer facilities needed to promote the efficient and orderly growth and development of communities . . ." ³ Under section 702 of the Housing and Urban Development Act of 1965 (Public Law 89-117) the

Department of Housing and Urban Development is authorized to assist local public bodies and agencies in financing specific projects for basic water and sewer facilities. Direct grants, not to exceed fifty per cent, are available to local public bodies and agencies to finance the cost of constructing new water and sewer projects, or the cost of enlarging or improving existing facilities. Grant funds may not be used to finance ordinary repairs or maintenance of existing facilities, to refund outstanding bonds held by private or other investors or to liquidate other liabilities of the applicant, or to finance the purchase of facilities already existing. If existing facilities are to be incorporated in a larger unified or coordinated system, part of the government grant may be used to finance the connection of the existing facilities to the larger system, including such improvements as are necessary.

Grants are available under the Department of Housing and Urban Development to help finance specific projects for basic water and sewer facilities. Water facilities include works to store, supply, treat, purify or distribute water of sufficient quantity and quality for domestic, commercial and industrial use. Sewer facilities include sanitary sewer systems for the collection, transmission and discharge of liquid wastes (but not treatment works eligible for assistance under the Federal Water Pollution Control Act) and storm sewer systems for the collection, transmission and discharge of storm water caused by rainfall or ground water runoff. The basic parts of a water or sewer facility for which a grant may be made include all parts of the water or

sewer facility except building or household connections and local distribution or collection laterals.

A grant may be made for a water or sewer facilities project if it is determined that the proposed project is necessary and will contribute to the improvement of the health or living standards of the people to be served. In addition, the project must be:

1. Designed so that an adequate capacity will be available to serve the reasonably foreseeable growth needs of the area.
2. Consistent with a program for a unified or officially coordinated area-wide water or sewer facilities system as part of the comprehensively planned development of the area.
3. Necessary to orderly community development.⁴

Approval of a grant will depend in part upon the applicant's showing that it will be able to provide the funds required to finance the balance of the project cost. Prior to approval, the Department of Health, Education and Welfare must certify to the HUD Secretary that any waste material carried by such facility will be adequately treated before it is discharged into any public waterway.

The Department of Housing and Urban Development has related programs for financing sewer systems development in all of their stages. HUD provides interest-free loans to assist planning for individual public works and for area-wide and long range projects which will help communities deal with their total needs. All types of public works are eligible. The loan is repayable to HUD upon start of construction of the planned public work. HUD also has grants for advance acquisition of land to encourage communities to acquire

land for future construction of public works and facilities in a planned and orderly fashion. Grants may not exceed five years and the amount cannot exceed the interest charges on the loan incurred to finance the acquisition of the land.

Another program provides long-term loans for the construction of needed public facilities such as sewer or water facilities. Units of local or state government may apply for this loan only for use in expenses not covered by other programs. The term of the loan may be up to forty years. In addition HUD offers urban planning grants to foster good community, metropolitan, area, regional and state-wide comprehensive development planning. The federal grant covers two-thirds of the cost of the work while the local share is one-third. Cities with populations less than 50,000 may apply.

The final type of federal aid available for the development of sewer facilities was authorized by the Economic Development Act of 1965 which provides grants of up to fifty per cent of the cost for public works and development facilities. Projects in economically depressed areas may receive supplementary grants of up to a total of eighty per cent of the cost of the project. Public works which provide such facilities as water and sewer systems, access roads, etc. that may encourage industrial development are eligible. One of the goals of this program is to increase long-term employment in the area.

Missoula's Use of Federal Aid

All applications for federal grants regarding sewer systems must be initiated in the local community. After following prescribed guidelines for making applications, the local agency sends its application to the Missoula City-County Planning Board for approval. It is then forwarded to the Federal Coordinator for the State Board of Health who must then approve the grant proposal if it is to be sent to the appropriate federal offices for review.

In the past Missoula has utilized several grant programs. The primary treatment plant was financed by a thirty per cent grant under the Federal Water Pollution Control Administration. Other applications for improvements on the treatment plant have been made and granted since 1962. Planning grants have also been obtained to prepare such reports as the Capital Improvements Program.⁵

Some general financial planning for use of federal grants has been examined in such reports as the Capital Improvements Program and the Peterson Study. However, there is a noticeable lack of information about specific federal programs available. Each department in the Missoula City and County governments is required to know about and make separate applications for federal programs which are pertinent to the best functioning of its office. Missoula does not have a federal coordinator whose responsibility it would be to use his awareness of all federal financial resources to the best advantage in gaining grants for Missoula city and county government departments. A practical procedure for Missoula would be to provide for a continuous inventory and

evaluation of all federal programs applicable to the Missoula urban area. A convenient and current source of information about federal monies would enhance each department's opportunity to make grant proposals rapidly and with accuracy.

State Financial Aid

As previously mentioned, the State Board of Health has supervision over all state waters and can adopt rules and standards and issue orders regarding these standards. All plans for public water and sewer facilities in municipalities and subdivisions must be submitted for approval to the Board (69-59). The regulations issued by the State Board of Health determine to a large degree what programs are administered in the local community and how much money is to be spent. The Board reviews all grant proposals and determines whether they are suitable for federal assistance. Further, it controls and administers all state funds appropriated to local Montana communities for participation in Federal Water Pollution Control Commission grant programs. State funds to a community may not exceed twenty-five per cent of the total cost of the project.⁶ In Montana, no appropriation has been made under this law to date. The Board of Health will request a budget of \$6,000,000 at the next legislative session. There are no funds available to aid local communities other than the matching funds provided for by this law.

Because of the great amount of control exercised by the State Board of Health as a policy maker and administrator regarding sewer systems, it is necessary to be familiar with their policies and trends in applying for State approval and financial aid.

Local Use of State Funds

Three barriers exist on the state level which halt local development of sewer systems to date. First, since no appropriation has been made under the law providing state matching funds, Missoula has not been able to apply for federal money to aid in construction of the secondary sewage treatment plant scheduled for 1972. Secondly, in June of 1969, the United States Supreme Court invalidated Montana's revenue raising laws.⁷ Both the Revenue Bond Act (11-2402) and the General Obligation Bond Act (11-2320) were rendered inoperative until voting eligibility on bond issues is revised. Montana law states that only freeholders may vote on such issues, while the Supreme Court has ruled that all registered voters should be eligible. Last, the State's six per cent current rate of interest is a barrier to effective local fund raising. The rate is too low to be attractive to buyers, thus making it difficult for local governments to sell the number of bonds required for planned projects. In the next legislative session it will be necessary for the Missoula community to take an active interest in the bills which seek to change the bonding laws, to alter the interest rate and to raise appropriations for state matching funds.

Local Provisions for Financing Sewer Systems

Sewers are classified into public, district and private. Each classification has different functions and sources of revenue. "Public sewers may be constructed along the principal course of drainage under the regulations the (city) council may prescribe, and the (city) council may construct branches and extensions of sewers as expedient" (11-2216). When public sewer systems and treatment plants are built, the local taxpayer is assessed the major portion of the cost through various types of taxation.

Levies. Most of the money is collected from the taxpayer through the mill levy on property. After approval of a final budget the city council is authorized to fix a tax levy for each fund not exceeding the limit prescribed by law. The total of the mills levied for each fund equals the amount of property taxes an individual must pay for one year. The sum of the tax collected is applied in paying for bonds due, operating expenses and new projects.

Bonds. To finance special projects municipalities are authorized to sell bonds. The constitutional limit on the debt is five per cent of the value of taxable property ascertained by the last assessment for the state and county. The state legislature may extend this limit by allowing municipalities to assume additional debt.⁸ Bonds issued by municipalities for sewer systems construction are the general obligation, the revenue, sewer system revenue and the special improvement district bond. As earlier mentioned, bond laws restricting those except freeholders from voting are now unconstitutional.

All bonds issued by any state government unit are to be paid by amortization (even payments of principal and interest) if such can be sold at reasonable rates of interest. If not, then serial bonds (diminishing payments as interest decreases) may be issued in lieu of the amortization (79-1704).

General obligation bonds may not exceed five per cent of the total value of taxable property of the municipality and are its legal obligation to be paid promptly as principal and interest become due (11-2320). Further, the obligation bond must be paid in twenty years (11-2305). To construct a sewer system additional debt may be incurred by ten per cent over the normal five per cent of the total value of taxable property in the municipality. This bond is issued by a petition of twenty per cent of the registered voters presented to the city council and followed by a general or special election whereupon it is passed by no less than forty per cent of all registered voters (75-3937 and 11-2311).

Unlike the above, revenue bonds do not pledge the general credit of the municipality as both principal and interest are payable from income and funds the municipality derived from revenue-producing facilities and services. Under Title II, Chapter 24, of the Revised Codes, municipalities may issue revenue bonds for water and sewer systems. Sewer revenue bonds are sold when authorized by a majority of the taxpayers. Revenue bonds bear interest of not more than six per cent, mature no later than four years after issuance and must be sold publicly after proper notice, unless sold to a federal agency (11-2404).

District sewers, a second classification, accomplish the purpose of a complete system less the discharge carried away by the main trunk-line (public sewerage). The district sewer serves a specific geographical area as characterized and paid for under the provisions of the special improvement district.

Special Improvement District. Improvements for a neighborhood are usually financed through the creation of a special improvement district ". . . to construct or reconstruct sewers, ditches, drains, conduits and channels for sanitary and drainage purposes with outlets, cesspools, manholes, catchbasins, flush tanks, septic tanks, connecting sewers and other appurtenances"

(11-2202). Too, it must be noted here that counties in Montana follow similar guidelines (16-1601) though referred to as rural improvement districts.

Usually an individual or a group decides the need for an improvement in their area and, depending on their corporate boundary petition, either the city council or the board of county commissioners creates the necessary district. The council or the commissioners must pass a resolution of intention designating the number of the district, describing its boundaries, stating the general character of the improvements to be made and estimating its cost (11-2204 and 16-1602). The council or the commissioners must give notice of the resolution for five consecutive days in a local newspaper. Each person owning real property within the proposed district must be given notice describing the improvement, the boundaries and the date for the hearing of protests. Within fifteen days after the first publication of the notice of resolution, any property owner in the district

to be assessed may make written protest to be filed with the city or county clerk (11-2206 and 16-1604).

The city council or the county commissioners must hear all protests and if those protests exceed seventy-five per cent of the property owners in the district, the resolution must be halted. Should there be insufficient protests, the council or the commissioners may order the improvements to be made (11-2207 and 16-1605). A notice calling for bids is to be published at least twice in local newspapers (11-2209). When the contract proceedings have been finalized the council or commission passes a resolution to assess all property in the district. The assessment is levied on the area according to the front foot basis on each land-owner's property. All costs incurred in the construction of the improvement are defrayed by special improvement bonds retired by revenue from the assessments laid against property in the district. Payments by district residents are in equal installments spread over not more than a twenty-year period (11-2214, 11-2222, 11-2224, and 16-1611, 16-1612, 16-1619 and 16-1620).

Sewer Rent Fee. Municipal residents pay for sewer service with a sewer rent fee. The municipality has an ordinance ". . . providing for the assessment and collection of charges for sewer service for all users of the sewer system in the city of Missoula for the purpose of defraying the cost of plant and system operation, maintenance, replacement and improvement."⁹ The ordinance stipulates that recipients of municipal sewer service shall be regarded as having

contracted with the municipality for that purpose and agreed to pay the sewer charges and comply with the regulations. Under this ordinance, municipalities are authorized to assess property for sewer use after completion of sewerage installation in an area after sixty days, regardless of whether the resident is actually connected with the sewer. Sewer charges are paid quarterly according to the classification of the building, based on the number of people using the sewer system in that structure and the projected volume of sewage they will generate. Separate charges are made for schools, public buildings, hospitals, etc. The sewer charge is utility revenue and must be used to finance specific public projects. For instance, sewer utility revenue financed much of the new city hall. Utility revenue can also be used as a matching fund from the city in applying for federal grants. Further, it is possible to sell revenue bonds on the basis of this income. As private sewers are operated exclusive of the municipal system they are not considered in the municipality's utility revenues, however, they are inspected for those standards appropriate to insure public health.

Missoula's Use of Local Financial Resources for Sewer Systems

Residents of the municipality were taxed 60.340 mills in 1969. Of this budget 5.86 mills were levied to pay sewer bonds. In 1970 two general obligation bonds exist to finance the primary sewage treatment plant. One bond was issued in January of 1961 for \$1,700,000 over a twenty-year period at 3.092 per cent rate of interest. The other sewer bond issued in June of 1964 for \$500,000 over a twenty-year period at 3.05 per cent rate of interest.

The remaining debt in 1970 is \$151,111.¹⁰ Income from sewer rent charges was \$184,000 in 1969.¹¹ Sewer revenue is estimated to comprise an average of 9.5 per cent of the total operating municipal income. Projected sewer receipts assume no change in the annual sewer rent fees.¹² A sewer revenue surplus in excess of sewer department expenses has been attained. These funds have been earmarked for specific projects.

Future Finances

The municipal sewer system will be greatly expanded and repaired in the near future. The cost projections made in the Capital Improvements Program indicate that future revenues will come from a combination of federal aid, general obligation bonds, general revenue, private sources, state aid and utility revenue. Contacts should be maintained with the federal coordinator in Helena who is aware of the possibilities for future fundings. The possibility of using revenue bonds for certain projects instead of general obligation bonds could be considered. Probably the most important factor in sound financing planning is pointed out in the summary of the Capital Improvements Program, which reads:

The dynamics associated with growth of both city and county should be surveyed as to its overall effect on the Missoula community. Separate political subdivisions should not be allowed to interfere with with long-range programming of capital improvements and the services rendered to the entire community.¹³

PART II

SEWERAGE FACILITIES IN THE MISSOULA URBAN AREA

THE SEWER SYSTEM IN THE CITY OF MISSOULA

The preceding sections described the legal and financial guidelines which may and/or must be used by the Missoula municipality to establish and operate its sewer system. As each city adapts available laws to specific area needs and resources, a sewer system develops that is identifiable by physical facilities, operational strengths and weaknesses and political problems.

The Sanitary Sewer System

Sixty-three per cent of the incorporated area of Missoula is served by a series of fifty-five miles of trunk and lateral lines. This system basically uses the principle of gravity flow; however, there are four lift stations at problem areas. The older lines in the collection system are clay pipes, seventy years old. They could serve adequately for many years if undisturbed by construction or earth tremors but due to their age and construction they must be considered in future improvement plans. The map included at the end of this paper shows the entire collection system as it now exists. About thirty-seven per cent of the area within the city limits does not have interceptor trunks, mains or laterals.

The Storm Sewer System

There are a total of fifty-five blocks of functioning storm sewers in the city of Missoula, mostly located in the central business district. The problems created by the shortage of storm sewers is explained in the Comprehensive

Development Plan for Missoula:

Because of the lack of an area-wide system, severe drainage problems arise during periods of heavy rainfall or snow runoffs. These conditions result in accumulation of deep water at street intersections and numerous low spots throughout the area. Additionally, standing water speeds up the deterioration of surfaced and graveled streets to a point where paving can only be expected to last but a few short years.¹⁴

Since proper streets cannot be built without a good drainage system, the Missoula Street Department has been constructing sumps as an alternative method to area-wide storm sewers. Sumps depend on the horizontal percolation effect of the underground water table for water removal. Sumps are not permanent or satisfactory over a long period of time. They are being used in Missoula because the need to tear up the entire length of a street when installing storm sewer lines makes the cost of building the more efficient area-wide system prohibitive. The sumps are considered satisfactory because of the large filter bed system of gravel in the sub-strata of Missoula and because the manholes used as sumps are constructed such that they can serve as intermediate collectors and turning points for sewage if a storm sewer system is built.

The Primary Treatment Plant

In 1951 the State Board of Health adopted a policy which reads as follows:

It shall be the policy of the Board of Health to require treatment of the sewage of all municipalities before discharge into any water course within the state, such treatment to consist of removal of a minimum of 50 per cent of the suspended solids. On certain critical locations a higher degree of treatment may be required.¹⁵

As a result of this policy, the city of Missoula proceeded to construct a primary treatment plant. A study was made by Clark and Groff, engineers, which determined pollution levels for Missoula, predicted population increases, and described topographic conditions.¹⁶ On the basis of their findings they recommended the best type of treatment facility for Missoula and the most desirable location for it. Thirty per cent of the cost of constructing such a treatment facility was financed by a federal grant under the Water Pollution Control Law, while seventy per cent was paid by a general obligation bond authorized in a general election. The mechanical treatment plant was constructed in 1963 on the Clark Fork River, two miles downstream from the Missoula central business district. The plant treats an average of 4.0 million gallons per day, considerably below its daily capacity of 9.0 million gallons. The Peterson study states, "The overall operation performance of the water pollution control plant is on a par with the national average for primary type plants."¹⁷

Sewerage Needs and Future Plans

Both the Peterson Study and the Capital Improvements Program provide descriptions and cost estimates for planned improvements to the present sewer facilities. Highest priority will be given to the construction of a secondary treatment plant. The present primary treatment plant does not adequately reduce the biochemical oxygen demand (BOD), a measure used to indicate dangerous levels of bacteria.¹⁸ The State Board of Health has decided that Missoula should install a secondary treatment plant by 1972 to reduce the BOD of the discharge

into the Clark Fork River to five per cent. The primary treatment plant was constructed with equipment necessary to easily accommodate the hookup of the secondary treatment plant. The activated sludge process to be used in secondary treatment removes larger wastes in settling tanks, mixes the remainder with activated sludge and sends it to settling tanks again. Estimated to cost \$830,000, the secondary treatment plant will be built in two phases. The first phase, costing \$500,000, will include blowers, aereators and clarifiers and a thickener tank necessary for initial secondary processing. The second phase, estimated to cost \$330,000, will complete the secondary treatment system with the addition of a digester and additional clarifiers. Federal and state funds will constitute about eighty per cent of the funds needed to construct the secondary treatment plant.

Other sewerage plans exist for trunk replacements, new trunks and trunk connections to unsewered areas and storm sewers. Implementation of these plans will be determined by relative need for the project and financial feasibility indicated by the amount of local, state and federal funds available.

SEWERAGE PROBLEMS OF UNINCORPORATED AREAS SURROUNDING MISSOULA

Missoula is experiencing two trends evident all over the United States rapid urbanization and suburbanization. Rapid urbanization is characterized by a sudden increase in the population of the urban area. As Peterson explained in delineating the study area for his analysis of the Missoula sewer system, there has been a centralizing trend toward the area shown on the map. Peterson says that between the years 1930 and 1960 county population living inside the study area rose by 23,400 while the area outside the study area decreased in population.¹⁹ At the same time suburbanization, settling in locations outside the city limits, has occurred. Peterson notes that the percentage of population living within the city limits has decreased from ninety per cent to sixty-six per cent from 1930 to 1960.²⁰ Recognizing urbanization and suburbanization, Peterson could not limit his study area by conventional boundaries. He felt that the future of Missoula's sanitary sewer and disposal system would be directly affected by growth and problems of the suburban area, therefore he included land expected to be developed over the next two decades. The following section deals with specific physical and political problems which are being encountered in suburbs included in the study area.

Present Sanitary Sewer Facilities in Unincorporated Areas

The people living in the unincorporated areas of Missoula have, for the most part, individual sewer systems utilizing a cesspool and septic tank. This method of sewage treatment works well for a majority of households because of adequate subsoil drainage. Most problems occur when a cesspool or septic tank breaks down. Only one household is affected and the problem is quickly solved by repair or new installation. Often residents of the unincorporated areas are not interested in obtaining city sewer service because their own sewers function efficiently and economically. The greatest problems will be encountered when residential density becomes too great to accommodate safe septic tank systems.

Special Problems

There are sections of the unincorporated urban area in Missoula County which do not have adequate subsoil drainage necessary for building and maintaining septic tanks or cesspools over a long period of time. The sewer may back up and run down the streets or surface on other property, posing a definite health threat. The chemical composition of the soil in some areas causes electrolysis, a chemical reaction which destroys the sewer pipe. Poor installations often quicken sewerage breakdown. When these problems occur on a neighborhood scale, solution on the same scale must be sought.

Several alternatives exist to those in unincorporated areas wishing to resolve sewerage malfunctions. The Fairview subdivision decided to annex

themselves to the city and created a special improvement district to install the laterals necessary to connect with city lines. The residents of Lincoln Hills chose another alternative. After an unsuccessful attempt to become annexed to the city of Missoula, they built their own sewage treatment system. The lagoon method used requires large acreage where sewage is channeled to settle. It was approved by the State Board of Health and at present is adequate to handle their sewage needs. Because of the space needed to make the lagoon function effectively, it has a limited capacity that cannot be expanded to adequately absorb future development in the area.

The most immediate and acute sewage problem in the unincorporated areas of the county exists south of 39th Street. Known as the South Hills addition, it extends from Fairview on the west to Hyde Park on the east. Residents of the area are aware of their needs. Members of the Greater Southwest Missoula Neighborhood Association commented, "We have a real problem with sewage here. You can't believe how many homes are being redug. If you get seven years in this area from your septic tank, you've done real well." As in other areas, the failure of septic tanks has created a health problem. In fact, the City-County Health Board has placed a ban on home-building on property above the existing South Hills homes until the sewage problem is solved.

The residents in the South Hills have dealt with their sewage problems by individual household. After the ban on construction they recognized that they would have to seek a solution on a neighborhood scale. They are presently

exploring alternatives to annexation to the city or construction of their own neighborhood sewer system.

THE COUNTY SEWER PROBLEM AS A POLITICAL ISSUE

As residential habits change from rural to urban and urban to suburban, city and county are suddenly faced with unprecedented problems in providing adequate services. The problems of the city and the county in urbanized areas are often difficult to separate by political boundaries because many of them are similar or have direct effects in each other. Existing laws often do not contain provisions for city-county cooperation or consideration of the urban area as a whole. When the citizens of an area such as South Hills seek ways of gaining effective sewer service without annexation, they are faced with a complex of political issues stemming from the existence of two governments--city and county--that have separate constituents to service.

The City

The city of Missoula as a government unit is responsible to the people within its boundaries. City residents pay twenty-five per cent more taxes than do county residents in return for municipal services. These services include street construction and maintenance, parks, library, cemetery, sewage disposal and other functions. Many county residents benefit from city services without paying for them. One city councilman remarked, "All people living outside the city have a good deal." County residents use city streets for transportation to work and shopping areas. They utilize city recreation facilities such as parks, ballfields and swimming pools. The cemetery and library are also used by county

residents. Residents of the city of Missoula pay for the greater share of financing the City-County Health Board and the City-County Planning Board while the county utilizes their services more.²¹ Since city residents pay county taxes also, they pay twice for these consolidated boards. The only manner in which the city gains revenue from suburbs is by annexing them. Since the city does not own the municipal water supply--which could work as a very effective lever for annexation--it must rely upon the sewer system, its only municipal utility, to entice outlying areas to want to annex. The city therefore refuses to extend sewer services to anyone outside the city limits until they are willing to be annexed to the city. Another official expressed the sentiment behind the policy this way, "The county residents want to hook in, but don't want to pay the consequences." Members of city government feel that annexation could have manifest benefits for county residents. A considerable reduction in fire insurance rates occurs upon annexation. Zoning control is available and the park department can develop areas for recreational purposes.

The County

The county government must be responsive to the needs of all the people within county boundaries. Therefore, they hear demands from a constituency ranging from urban residents to rural farmers. County commissions are limited as to the action they can take on an issue because they are considered to be an administrative body for the state and have not been given legislative powers. Before action can be taken in most instances, the people must bring

the issue to the commissioners in a petition; then the commissioners vote. A county commissioner felt that a number of city problems arise because of the lack of power of the commissioners. He said, "For example, we don't have teeth under the subdivision laws so when the city does annex a county suburb, it has a good subdivision. We can't even demand a drainage system or curbing."

The urban residents of the unincorporated areas of the county have definite feelings regarding annexation to the city. They ask, "What can the city do for us? If we were annexed to the city in order to get a sewer system, we still have to pay for it," (referring to the necessity to create an SID and pay hook-up charges). For the most part, they are satisfied with services available to them through the county and do not feel sewer service is worth a twenty-five per cent increase in their taxes. As the city sanitarian explained, "The wells and sewage systems are good in most of the county. Why come into the city?" Even in the areas faced by serious sewage problems, the people are looking for alternatives to annexation.

The city is faced with spiraling costs and increasing taxes and the best way to increase available revenue without raising taxes is to annex suburban areas. At the same time, urban county residents do not want to increase their taxes or to be annexed, but do need and desire services which the county government cannot give them readily, especially sewer services. This situation exists by virtue of annexation and tax laws which were made for small cities and

and large rural counties, not in anticipation of the rapid population increase of cities and the subsequent needs for services in newly built-up areas. The city is unable to annex outlying areas without the consent of the freeholders unless the area is surrounded on three sides by the city (11-507). It is also unable to annex industrial or agricultural property (11-4030). These laws protect the rights of county landowners but also make it almost impossible for the city to expand its boundaries when the need arises. The tax laws were made when the city limits were a clear boundary between urban and rural areas. Urban residents were required to pay higher taxes because they required specialized services. Rural residents had an agricultural economy based on large acreage and low population density. Self-sufficient people in the rural areas did not need or desire city services. Now that economic activity and population density have changed the needs for services the laws have not changed accordingly. On issues such as providing sewer services the city and county often reach an impasse in trying to deal with the problem within existing governmental structures.

The following section deals with options now available under existing laws which could facilitate city-county cooperation regarding sewer service. Changes are suggested which could strengthen available laws and create more viable relationships between city and county governments.

PART III

OPTIONS TO THE EXISTING MUNICIPAL SEWER SYSTEM

LEGAL OPTIONS

Any legal options that might be selected for Missoula city-county cooperation must depend upon the tax base for support and be implemented through political cooperation. All options considered would necessarily include special improvement district provisions, as explained earlier. The options are already set forth in the Montana statutes, but due to the nature of Missoula's circumstances they must be viewed in the particular manner in which they would be applied. Following the explanation of each option will be a "special conditions" section relating that option to the Missoula urban area.

Metropolitan Storm and/or Sanitary Sewer District

The statutes provide for the creation of a metropolitan sewer district (16-4401). The requirement for such reads, "Whenever the public convenience and necessity may require the construction of sanitary and/or storm sewer systems within any county, and which said sanitary and/or storm sewer systems would serve the inhabitants of any city or town within said county, the board of county commissioners with the approval of the of the city or town council may create metropolitan sanitary and/or storm sewer districts." (16-4401). Before the metropolitan district could be created, the board of county commissioners must pass a resolution which explains the district's necessity, a general description of the land to be included in the district, the general character of the sanitary and/or storm sewer system and its proposed location, the name of the engineer who

has charge of the work and last, the approximate cost to be encountered in creating the district.

After the resolution has been passed the county commissioners must submit a copy of it to the "executive head of a city or town within the proposed district" (16-4402). It is then the object of the city or town's executive head to consider the resolution based on the information it contains and other pertinent matters as might affect the municipality should the district be approved at this point. Should the executive not concur with the resolution the board of county commissioners "shall have no authority to proceed further with the creation of the district." (16-4402). If the city has seen fit to concur with the resolution, the board of county commissioners must then make notice of its passage and for ten consecutive days publish this information in the daily newspaper or in two issues of a weekly newspaper nearest to the place where such an improvement is to be created. Further, this information shall be posted within the boundaries of such a special improvement district. A copy of the information is to be posted in three public places and a copy mailed to each person, firm or corporation, or the agents of such a person, firm or corporation owning property within the proposed district.

The notice of this information must again include the general character of the improvement and its estimated cost and state the time and place where the county commissioners will hear and pass upon all protests that may be made against the creation of such a district. This same notice must also refer to the

resolution on file in the office of the county clerk as to the description of its boundaries.

The statutes further state that at any time within thirty days after the date of the first issuance and publication of the resolution, after it has been passed, any owner of property liable to be assessed may protest against the proposed work (16-4403). The protest must be made in writing and delivered to the county clerk. The clerk will date the receipt of the protest and at the next regular meeting of the board of county commissioners, after the thirty-day period offered for protest, the board will proceed to hear and pass upon these protests. The decision of the board of county commissioners is final and conclusive, but should fifty per cent of the owners in the proposed area oppose or protest the district, then no further proceedings shall be taken by the board of county commissioners. So that care is taken in determining whether sufficient protests have been filed, the board of county commissioners considers any property owned by the city, county and school districts as part of the proposed improvement area if the boundaries of that area include them.

Upon consideration of the protests delivered to the county clerk within the prescribed thirty-day period, the county commissioners, should they have judged the protests to have been insufficient, or should they have overruled them, may then pass a resolution creating the metropolitan sewer district in accord with the original resolution of intention. At this point, the county commissioners have acquired jurisdiction to order that the improvement work begin

as soon as the assessment procedures have been satisfied.

The board of county commissioners is obligated to apply for and receive from the federal government on behalf of the metropolitan sewer district any monies that may be appropriated by the Congress for aiding in the local public works project, and too, the county commissioners may borrow from the federal government any funds available for assisting in the planning or financing of the local works project, and repay the same out of monies received from the tax levy provided for in the metropolitan sanitary and/or storm sewer act (16-4412). The assessment procedure for the district follows the same guideline that all rural improvement assessments do (16-4415). The payment of the assessment to defray the cost of constructing improvements in the resolved metropolitan sewer district cannot be spread over a term of more than twenty years, and these payments are to be made in equal installments. After the board of county commissioners has assessed the entire improvement district, by resolution it can levy and assess a tax upon all property in the improvement district. The resolution must be signed by the chairman of the board of county commissioners and kept on file in the office of the county clerk, subject to inspection (16-4408).

The board of county commissioners had then become the ex-officio commissioners of the metropolitan sewer district formed under the provisions of the act, and they will have sole and complete jurisdiction over all drainage structures and treatment plants which are now or may in the future be built within the district. The commission is responsible for the proper functioning and

maintenance thereof, and for the condition of maintenance of all publically owned streets, alleys, land and parks or other thoroughfares within the boundaries of the district, insofar as they may be affected by the improvements (16-4411).

It is also the responsibility of the board of county commissioners to complete a detailed budget for the operation and maintenance of the district, showing all the income and expenditures for the year prior to the hearing and all estimated income and expenditures for the next ensuing year. All county budget laws are applicable to the district (16-4416.3). It is the charge of the county commissioners to have on file in the county clerk's office all budgetary and necessary financial data pertaining to the district.

Special Conditions

There are certain considerations that need to be underscored concerning this metropolitan scheme as it pertains to the particular relationship between the city and county governments of Missoula. As would be the case should the county government propose a metropolitan sewer district, it would no doubt seek the most pragmatic approach to the creation of such. The act was initially written to create a district where none existed in either the city or county but, as is, the City of Missoula does operate a storm and sanitary sewer district with treatment plant facilities. Should the county desire a metropolitan system it would call for some rather unique adjustments between the respective governments for the city to concur with the county's proposal.

Arrangements that would become apparent as concurrent proceedings got under way would include the necessary financial adjustments the municipality would seek to secure in offering any of its facilities to the county to enhance the practicality of the scheme. As the municipality would own and control some of the major trunk lines which the county would need, adjustments would be necessary in order to render the use of these lines amenable to municipal finances. Further, the county could utilize the service of the municipality's treatment plant though certain financial adjustments would be necessary here also. In effect, the municipality could seek to lower the cost of the sewer service to its present users by defraying that expense to a wider taxable base. It may be such that the general bond issue which brought the municipal system into existence could be altered to the extent that it would proportionately include those in the new metropolitan district. Some special form of investigation would probably ensue on behalf of the municipality to ascertain as rigorously as possible the cost-ratio figures that would come into play were such to occur. It is obvious that when circumstances present themselves as necessities for the creation of a municipal secondary treatment plant the metropolitan district would to a considerable degree play a role in defraying its cost. Generally speaking, the municipality would provide that the new district not include any portion of the incorporated area or that the county in any of its boundary change measures (16-4416) include any part of the municipality.

The joint cooperation between the city and county on this matter, as provided for in the Montana statutes, (16-44 and 16-45), would greatly enhance the planning efforts of Missoula county at present and in the future and may open avenues for cooperation concerning other matters dealing with effective planning policies and decisions.

County Storm and/or Sanitary Sewer District

This option to present sewer facilities provides that the county sewer district may be organized and incorporated and managed as expressly provided and may exercise the powers expressly granted or necessarily implied (16-4501). The people of any county or counties, or portion of a city or county, or any combination of these political divisions whether such portion includes unincorporated territory or not in the state of Montana, may organize a county sewer district (16-4502). It is necessary that those persons desiring such a district in accord with this act must present a petition at a regular meeting of the board of county commissioners. The petition must be signed by the registered voters within the boundaries of the proposed district and the signatures equal in number to at least ten per cent of the registered voters of a territory included in the proposed district. If the territory includes a district that lies in more than one county the petition must include ten per cent of the registered voters within that county as accords the proposed district.

The petition must set forth and describe the proposed boundaries of the district and request that the district be incorporated as provided in the act. The

text of the petition must be published for ten consecutive days in a daily newspaper or in two issues of a weekly paper printed and published in every county in which the district's territory lies, together with a notice stating the time of the meeting at which the petition will be presented. The publication allows for all interested persons to appear and be heard (16-4504). The county board of commissioners must hear the petition and those appearing together with written protests that must have been filed with the county clerk and recorder prior to the hearing by or on behalf of owners of taxable property situated within the boundaries of the proposed district. On the final hearing the board will make such changes in the proposed boundaries which are within the county which may be deemed advisable and, too, the board must define and establish these boundaries, but the board cannot modify them to exclude from the proposed district any territory which would be benefited by the formation of the district. The petition's hearing by the board must determine whether or not the petition complies with the requirements of the provisions of the act and for that purpose the board must hear all competent and relevant testimony offered in support or opposition to it. "The findings of the board of commissioners concerning the petition shall be final and conclusive against all persons . . ." (16-4505).

At the final determination of the boundaries of the district the board of county commissioners of each county in which the district lies will give notice of an election to be held in the proposed district for determining whether the district will be incorporated. The election will be held not more than sixty days from

the date of the final hearing of the petition. The notice of the election must describe the boundaries established and follow all requirements as noted.

If the majority of votes cast in this election in municipal corporation or its part and in the unincorporated territory of the county included in the district are in favor of organizing such a county sewer district, the board of each county declares the territory enclosed within the proposed boundaries duly organized.

Ninety days after the authorization of the proposed district, an election of a board of commissioners must be held that accord the stipulations of the act (16-4506). In all cases where the boundaries of the new district include any existing municipality or municipalities, the board of directors--in addition to the prescribed five--consists of one additional director for each of the municipalities. Each additional director will be appointed by the executive head of the respective municipalities. If there are any unincorporated territories within the district, the additional director will be appointed by the board of commissioners of each county containing any part of that district. The directors first elected after the passage of this act will hold office only until the election and qualification of their successors, who will then hold office four years from the date of their election.

The provisions of the law relating to the qualifications of electors, the manner of voting, the duties of elected officials, the canvassing of returns, and all other particulars in respect to the management of general elections, so far as may be applicable, govern all district elections (16-4508). Where a corporation

owns taxable property within the boundaries of the district, the president, vice president, or secretary of the corporation is entitled to cast a vote on behalf of the corporation. Any elector owning taxable property within the district need not reside there in order to vote. The county boards of commissioners canvass the returns of the first election and the election thereafter within four days following any district election, including any district bond election.

The board of directors is the governing body of such a district (16-4510). A majority of the board of directors constitutes a quorum for the transaction of all that board's business and its directors establish the rules for its procedures. This board acts only by ordinance and/or resolution (16-4511).

Any district incorporated has the power to sue and be sued and to hold property. It may take property by grant or purchase, gift, devise or lease within or without the district in order to fully exercise its power. It also retains the power to lease property from any person, firm or public or private corporation. It has the power to sell water for household or domestic use or other similar purpose.

The board of directors in furnishing sewer service fixes a rate, rent or other charges as will pay the operating expenses of the district, provide for repairs and depreciation of the works, pay the interest on any bonded debt and provide a sinking or other fund for the payment of the principle of such a debt as it may become due (16-4526). The board of directors may issue bonds after approval by sixty per cent of the electors (16-45-7 to 16-4523). The board

may fix rates to pay the operating expenses, the interest on any bonded debt and provide for the payment of the principle of the debt (16-4526). The county commissioners may levy district water and/or sewer taxes to pay the interest and principle on any bonded debt and to establish a reserve fund. Each lot may be assessed, according to that area in the proposed district, in the proportion that it bears to the total area of all land to be assessed; or it may be assessed in the proportion that its taxable valuation bears to the total taxable valuation of all the land assessed (16-4527).

Special Conditions. Unlike the metropolitan scheme, this act provides for the initiation of a sewer district operated and controlled solely by the county; however, much like those special conditions previously offered there are certain adjustments available with the municipal government that could well prove beneficial to the creation of a county district. Should the county decide to create a water and/or sewer district pursuant to the act (16-45) it would necessarily consider those sewer facilities that already exist.

That county would in effect be creating a district exclusive of the municipality's, but to enhance the economic practicality of this district it seems feasible that it would consult the municipality concerning some cooperative effort to offset needless expense. The Peterson study has pointed out that the municipality's treatment plant has the capacity to facilitate an increased flow of sewage to include an area much larger than that within the municipal boundary. Should the county create its own district in the near future it appears

inadvisable that they incur debt for another treatment plant. An attempt to join with the municipality under some cooperative economic agreement for the use of its plant would suggest itself at this point. Further, depending upon the boundary of the district to be created, there are certain areas lying in a contiguous position to the municipal boundary that are in need of a better quality sewer service that could be provided by the new district. Since these areas are located on or near the municipality's major trunk lines it would be more expedient for the county to contract with the city for use of its lines than to build new ones. As speculated earlier, cooperative arrangements of this kind would increase the likelihood of further problem-solving with regard to policies and decisions affecting the lives of residents in the urban area, not only at present but in the future as well.

City-County Consolidation

As provided in the statutes, this option, if effected, would open necessary governmental channels to alter or improve the existing sewer service in the county, as well as any urban area a part of that county. The act itself has far broader implications as it merges or consolidates all cities and towns into one governmental unit within the geographic unit of the former county (1103401). The plan is initiated by a petition from twenty per cent of the electors in that county and submitted to the county clerk. The clerk validates the signatures on the petition and submits it to the county board of commissioners, whereupon

they call a special election which requires a fifty-one per cent majority for passage (11-3405).

Should that majority vote be forthcoming, old forms of government in the county would be abandoned and a new consolidated municipality would exist. The powers of the new municipality are such that it would exercise all other powers that are now or hereafter conferred upon counties, cities and towns by laws of the state (11-3406). This new government by virtue of its class as a municipality would assume a commission form (11-3407). It would be the charge of this commission to perform all the necessary functions which cities, counties and towns perform with the jurisdiction to act with all powers granted to any municipal corporation and government.

Under such an arrangement a new tax structure would include a levy upon all property within the newly authorized municipality so as to defray current expenses, including salaries otherwise unprovided for in excess of the maximum levies prescribed by law for purposes of consolidation as accords this act (11-3455). Of the districts comprising new municipalities, any that had incurred debt prior to the creation of the government will continue to pay that debt as would any special district. The tax levy for the debt of the municipality as a whole, and the tax levy of the debt of each such district, must be a separate levy and distinct from all other tax levies.

Any future construction of public works in the new municipality is to be considered under the municipality's powers to create a special improvement

district (11-3527). The assessments made and the defrayment of expenses in any special improvement district would necessarily follow the same guidelines as prescribed by the general provisions in the Montana statutes, as referred to earlier in this paper (11-2202).

Special Conditions. Merging of city and county governments has proven successful in other areas of the United States but again, due to Missoula's particular circumstances, a consolidation plan would encounter certain difficulties.²² Hypothetically, it would be possible for municipal residents, as county electors, to garner the necessary twenty per cent required to submit a petition and initiate election proceedings. It seems that were such a proposal sought in Missoula County it would come from municipal residents as they are both city and county taxpayers in the hope of relieving some of this burden. Further, it seems possible that should an election provide the required majority vote favoring consolidation, municipal residents would in time realize a substantial decrease in their yearly taxes as this new form of government would considerably broaden the tax base. Any debts previously incurred by the former municipality would continue to be paid by those residents under the provisions of a special improvement district and the same applies to any debts incurred by county residents prior to consolidation.

One of the possible benefits of this option is that it would unite government, thereby eliminating duplication of services as it would erase existing barriers to such a goal. This would facilitate planning efforts in the solution of

problems, regardless of their scope or nature. Certain arrangements would be made in an effort to defray old and new sewer service costs. It is reasonable to assume that these would come about inevitably as a result of urbanizing trends.

Special Municipal Charter Act

Article 16, section 7 of the Montana State Constitution states that the legislature may, by general or special law, provide any plan, kind, manner or form of municipal government for counties, or counties and cities whenever deemed necessary or advisable, and it may abolish city or town governments as units, consolidate or merge cities and county under one municipal government. It is further provided that the state legislature provide for the arrangement of the structure of any municipal governments formed under this section of the constitution.

Special Conditions. A problem arises in trying to find direction under this act. The nature of the act itself is so general that an attempt to create a new form of government encounters an absence of structural and organizational character. These are primary considerations in forming any government.

Taken from another standpoint, the general nature of this act might be construed as flexibility that would accord success in the city of Missoula. The city-county option dictates the formation of a commission-manager form of government. Missoula has experienced this form of government and it is said to have not been successful; it was in fact abandoned.²³ Under the special ch

act, there would be no necessity of adopting this or any other plan which might be deemed undesirable by the citizens. The greater Missoula urban area may well consider this alternative as viable.

Other Considerations

The Advisory Commission on Intergovernmental Relations, established by an act of Congress in September, 1965, has proffered certain legislative recommendations that would enhance the facility of local governments to better provide services to people in urban areas. Certain of these recommendations suggest themselves as further options to remedy problems that exist in the Missoula urban area. More specifically, these options in some cases--like those already mentioned--involve broad structural changes in city and/or county government; as well, there are those who only seek a more practical sharing of individual functions and responsibilities by those same two governments.

The issue of sewer service in an urban area engages questions of both a legal nature and a political authority at either levels of the city or county governments. The commission's proposals account for these questions through legislative measures but at the same time only deal indirectly with sewer service under the broader titles "urban function" or "public service." The commission proposes that states adopt one of the two principle approaches for exercising surveillance over local government boundary adjustments and standards for annexation.²⁴

tion.

By placing local boundary adjustment powers in the hands of a state agency, the state legislature could establish standards of economic, geographic, and political viability to guide local agency decisions. Some of the factors that would be considered in evaluating the viability of local governments would include: jurisdictions large enough to cope adequately with the forces that create the problems to be met; the ability to raise adequate revenues equitably; the flexibility to adjust governmental boundaries; organization as a general purpose rather than single purpose governments to handle problems; the adequacy of an area, regarding its urbanization, to permit economies of scale; and accessibility and popular control by the people.

In this same proposal are included legislative standards for annexation phrased in such a manner to reflect a broad policy allowing for the consideration of "unusual factors" which might require boundary adjustments due to any actual urbanization. The requisites for annexation regard population increase since minimum size requirements for incorporation in densely populated areas should probably differ from those for a sparsely populated section. This legislation would make it possible for local governments in urbanizing areas to increase their effectiveness in dealing with the problems that could very well arise. In the Missoula area should a new criterion be applied to annexation standards it would seem feasible that present difficulties in approaching some agreement with the rapidly growing areas could be reached on these or similar grounds.²⁵

Further contained in this recommendation is suggested a new criterion for municipal dissolution based on the ratio of assessed valuation to the number of residents and the per capita cost of providing public services. With the increasing number of residents just outside the municipal boundary of Missoula, both the above mentioned criteria could play a significant role in affairs regarding the relationship between the municipality and the unincorporated area. Should those public services offered by the municipality undergo an ever increasing use by non-municipal residents the cost of public services for the municipality would become a hardship. Too, should the number of residents just outside the municipal boundary increase to a point that the lack of efficient public service in the area becomes a hazard, these recommended standards provide the authorization necessary for the creation of either a new municipal form of government to handle these problems or giving responsibility for these services--in Missoula's case--to the county government. To all these points the advisory commission also stipulates in its recommendation a viable structure a state board or agency could assume in working with these matters.

In another proposal the commission recommends what it calls a "package of permissive powers" for the county performance of urban functions. The alternatives of the package provide that an "urban county approach" may refer to any one of several developments. One is the piecemeal transfer of individual functions from other local governments to the county. Another is to permit the county, on its own initiative, to perform certain functions and services of a

municipal character throughout all or part of its jurisdiction.²⁶ Fortunately, the Montana statutes provide this flexibility in one way or another as explained earlier in connection with the legal options. It is in this case only for the interested parties to bring to bear the necessary insight and political pressure for agreements that would solve the problem or problems. What seems easily attainable by an objective third party is not always the case with those parties or persons actually involved in the process.

It is not always necessary that the state or federal government be the final arbiter or the last word on any agreements that local governmental units make concerning cooperative efforts initiated at the local level, as the Inter-local Agreement Act exists for this specific purpose (16-4901). Hence, it is within the capability of the local units to solve problems that accord their mutual satisfaction. The Act permits local governmental units to make the most efficient use of their powers by enabling them to cooperate with other local governmental units on a basis of mutual advantage and thereby to provide services and facilities in a manner pursuant to forms of governmental organization that will accord best with geographic, economic, population and other factors influencing the needs and development of local communities. Under this act local governments, the city and county, are allowed five main types of inter-local cooperative arrangements: informal cooperation, mutual aid, service contracts, joint service functions, and regional councils of government. Should any of these authorized arrangements be forthcoming, the information provided

in this paper could serve as an outline for putting the several problems that would arise into perspective .

Examples of governmental reorganization in urban areas are available in a publication by the National Association of Counties.²⁶ Storm and sanitary sewer services are among their accomplishments .

SUMMARY

The foremost problem at the present time is how to provide sewer service in the unincorporated areas contiguous with the municipal boundary. Those areas by statute may construct their own service and treatment facilities, however, the Peterson study shows the existing municipal sewer system is adequate to handle their needs. Exclusive construction of sewerage for them would be inadvisable in economic terms and would create unnecessary legal and political complications. An effectively planned and operated urban sewerage scheme would constitute a more pragmatic approach not only meeting present needs but those of the future as well. Perhaps a freer exchange of pertinent information among those directly involved would yield a necessary step towards the formulation of policies amenable to change.

This study has shown that the problems surrounding municipal sewer service and its extension to the greater urban area are complicated by the social setting in which they exist—a setting that embodies political, legal and economic factors. With the urbanizing trend Missoula displays there are no easy solutions which can be used to provide for the needs of the entire area. The energies required in solving extant problems and providing for the method of their solution is a matter of approach not befitting anything ready-made.

To move towards the solution of the sewerage problem requires the collection of information concerning the types of problems of various areas to be served. This information should be made available in a centralized location in order that government and interested citizens have access to it. A steadily accumulating, systematized or indexed inventory of all federal and state programs that apply to local and metropolitan sewer systems should be maintained. This information should include research conducted by engineers, government committees and citizen groups. Further, close liaison with the State Board of Health's federal coordinator would enhance knowledge about the availability of current and expected federal monies for sewer system development. As earlier stated, sewerage development at present has been halted due to the need for a revision in voting requirements. Without this revision and the unattractive rate of interest on bonds for sewerage construction, effective progress is hindered.

All of the changes which can be made to increase the effectiveness of Missoula's sewerage system must be made by people. The political viewpoints, knowledge and initiative of citizens and government officials and employees will determine what kind of changes will be made and when. It is the mandate of these people to be fully aware of their particular needs, framed in the context of the needs of the whole community. This awareness could facilitate a correction of problems which would benefit the urban area of Missoula.

FOOTNOTES

1. Ted L. Willrich and N. William Hines, eds., Water Pollution Control and Abatement (Ames, Iowa: Iowa State University Press, 1967), p. 63.
2. *Ibid.*, p. 64.
3. Department of Housing and Urban Development, Water and Sewer Facilities Grant Program, HUD Program Guide 66-1 (Washington, D. C.: U. S. Government Printing Office, 1966), p. 1.
4. *Ibid.*, p. 2.
5. Missoula City-County Planning Board, Capital Improvements Program, 1968-1988, by Clark, Coleman, Rupeiks, Inc., (December, 1968).
6. Laws of Montana, 1969, Chapter 165.
7. *Cipriano vs. City of Houma*, 286 Fed. Sup. 826, 395 U. S. 701 (1969)0.
8. Constitution of the State of Montana, Article XIII, Section 6.
9. City of Missoula, Montana, Ordinance No. 987.
10. Missoula City-County Planning Board, Capital Improvements Program, p. 37.
11. Missoula, Montana, Municipal Budget, 1969-1970, p. 58.
12. Missoula City-County Planning Board, Capital Improvements Program, p. 64.
13. *Ibid.*, p. 61.
14. Missoula City-County Planning Board, Comprehensive Development Plan for Missoula, Montana, by Clark, Coleman & Rupeiks, Inc. (April 24, 1967), p. 37.

15. Missoula City-County Planning Board, Storm and Sanitary Sewer Facilities Study, by Peterson Engineering Co. (1968), p. 74.
16. City Commission of Missoula, Pollution Abatement of the Clark Fork River, by Clark and Groff Engineers (1958).
17. Missoula City-County Planning Board, Storm and Sanitary Sewer Facilities Study, p. 40.
18. Robert Haverfield, Plant Operator, private interview held at primary sewage treatment plant, Missoula, Montana, July 7, 1970.
19. Missoula City-County Planning Board, Storm and Sanitary Sewer Facilities Study, p. 6.
20. Ibid.
21. Steve Petrini, City-County Planner, private interview held at the City-County Planning Office, Missoula, Montana, June 22, 1970.
22. National Association of Counties, Metropolitan Reorganization Elsewhere (Washington, D. C.: U. S. Government Printing Office, 1970), p. 49.
23. Katherine Payne, City Councilwoman, private interview held at 112 Pattee Creek Drive, Missoula, Montana, July 15, 1970.
24. Advisory Commission on Intergovernmental Relations, 1970 Accumulative State Legislative Program, No. 31-91-60, "State Authority Over Municipal and Special District Boundary Adjustments," (Washington, D. C.: U. S. Government Printing Office, 1970), p. 1.
25. Ibid., p. 2.
26. Advisory Commission on Intergovernmental Relations, 1970 Accumulative State Legislative Program, No. 31-13-10, "County Performance of Urban Functions," (Washington, D. C.: U. S. Government Printing Office, 1970), p. 2.

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