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# Staff Papers Series 



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## Acknowledgements

This report provides background information for assessing the role of state government in regional development. It relates to research completed under the Minnesota Agricultural Experiment Station project on Infrastructure Development Alternatives in Rural Areas. The initial reserach has focused on the effects of agricultural and mineral development on local communities and governments as measured by changes in population, employment, income and expenditures. Current work stresses public facility and fiscal requirements of both the resource development and the related economic and demographic growth and change. Financial support of the Minnesota Agxicultural Experiment Station has made possible the compilation and assessment of the statistical series needed in this study.


#### Abstract

State government is an increasingly important source of local government income. State government also is becoming an active co-partner with local governments in public faciltiy investment planning and spending. This report presents statistical series for assessing the level and distribution of State and local governments expenditures and revenues as they relate to capital outlay trends and prospects. Selected statistical series for the U.S., the Upper Midwest states, and Minnesota and two of its substate regions are compared for the historical period since 1965.


## Summary and Conclusions

From the review of published reports on the need for public works infrastructure, and the role of state government in meeting this need, several tentative findings are presented for comment and analysis. These findings relate to each of the seven topical headings of this report.

1. Central issues: While public works investment is a declining proportion of Gross National Product, an equally, if not more important, issue is the proposed investment package -- its need, purpose, location and fiscal implications. Detailed information is lacking, however, for assessing present and future public facility needs and devising truly effective approaches for meeting changing service needs and setting priorities for satisfying the most meritorious of these needs.
2. Estimating and projecting public works investments: Studies to ascertain current trends and future needs in public wooks investments have been initiated in several agencies of federal and state governments, with the most promising effort being the Public Works Investment Study initiated by the U.S. Department of Commerce. This study will examine historical trends of public works investment in the United States over the past 20 years and any possible shifts in those trends. It also will:examine the financing mechanisms that are used to obtain funds for public works investment spending. Past studies have attempted, with varying degrees of success, to measure "need", the most complete being the 1966 Study of the Joint Economic Committee of the U.S. Congress entitled Pub1ic Facility Needs and Financing.
3. Capital outlay comparisons in selected states: Comparison of per capita capital outlays in selected Upper Midwest states shows large state-tostate differences in specific expenditure categories, such as highways. These differences relate to population densities and distribution in the
state. Generally, however, per capita capital outlays were above the U.S. averages for education and highways in Upper Midwest states.
4. Expenditures, revenues and employment of state and local governments in Minnesota: Per capita spending for urban infrastructure lagged behind projected public facility needs in the $1970^{\prime}$ s in both the U.S. and in Minnesota in spite of the income-sensitivity of federal and state government revenue sources. Rapidly expanding employment and payrolls in state and local governments provided strong competition for the additional tax revenues. Federal aids to state and local governments helped reduce the apparent spending gap for public facilities, especially in urban areas.
5. Investment framework plan of the Metropolitan Council: Significant efforts in building mechanisms for setting physical development goals and priorities are reported by the Physical Development Committee of the Metropolitan Council of the Twin Cities (Minneapolis-St. Paul) Metropolitan Area. Its Investment Framework Plan provides for a performance budgeting approach to setting public facility investment priorities and reducing the revenue=expenditure gap for the Metropolitan Area. With above-average per capita capital outlay "needs", the Minneapolis-St. Paul Metropolitan Area faces an increasing revenue-expenditure gap in spite of above-average personal income levels. In 1970, the Minneapolis-St. Paul Metropolitan Area ranked "outstanding" in "quality of life"; indeed its ranking was exceeded by only two other large metropolitan areas in the United States.
6. Non-metropolitan investment strategy: New federal and state initiatives in coordinated investment strategy are being exercised in various states, including North Carolina and Minnesota. These initiatives must confront, however, long-established attitudes and practices in the centralization of power and accountability in the federal system. Substate regional development commissions, which are increasingly viable and effective demonstrations of state-local cooperation in regional public works
investment projects, become focal points for the coordination of federal and state efforts in financing the needed public facilities for the delivery of essential economic and social services. Not only federalstate, but also state-local conflicts emerge, however, as the tremendous variability of economic and social events confronts standardized, traditional approaches in providing essential human services through collective action. Non-metropolitan areas, particularly, experience the high-cost of needed public works investment on the one hand, and on the other, the penalities imposed by distances from high-order social services and income sources which are the substance of high quality-of-life ratings.
7. Private investment and regional development priorities: Economic and social well-being of residents in either metropolitan or non-metropolitan areas depends on job-creating private investment. Many factors besides public facility investment, but principally place-to-place variations in the cost of doing business affect private investment plans. Four important sources of place-to-place cost variability are labor, taxes, energy, and environmental regulation. Public capital outlays affects at least one of these costs, namely, taxes. Benefits are derived from these outlays, however, which ultimately translate into quality of life differentials, which, also, influence location and relocation decisions of businesses and households. Trade-offs among public facility investments will occur when their costs and benefits are assessed against measures of private investment and quality of life returns to the resident population. Each of the substate development regions in Minnesota offers an organizational framework for areawide performance budgeting, not only for public facility investment planning, but also for assessing private investment and quality of life returns to the area. Also, the multiplicity of federal and state agencies that are involved in the funding of public works infrastructure
requires some coordination of specialized, but interdependent, funding programs. This still remains an unmet challenge that acquires a sense of urgency as fiscal resources of local governments decline and those of state government are sought by increasingly larger numbers of local, as well as state, agencies and funding programs.

STATE GOVERNMENT AND REGIONAL DEVELOPMENT $1 /$

Wilbur R. Maki ${ }^{2 /}$

Regional development typically involves growth in employment, income and business activity, which, for the most part, is due to private investment. What affects private investment, therefore, affects regional development.

State government affects regional development through public works, particularly its capital outlays for education, highways, and health care. State governments also assist local governments in financing local utilities, such as water supply, electric, gas supply and transit systems. The state and local public works together provide the basic community facilities for the delivery of essential municipal and social services.

## Central Issues

Over a decade ago, the Joint Economic Committee of the U.S. Congress published its report on public facility needs. 3 / These needs, which were projected for the 10 -year period from 1966 to 1975 , totaled nearly $\$ 500$ billion

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State and Local Public Facility Needs and Finance. Study prepared for the Subcommittee on Economic Progress of the Joint Economic Committee, Congress of the United States, December 1966, U.S. Government Printing Office, Washington, D.C., 1966.
(in current dollars). About two-thirds of these needs were to be met by stato and local governments while private non-profit and investor-owned utilities would provide the remaining one-third. Highways and education accounted for 25 percent and 16 percent of the total, respectively, while health care, hospitals, sewerage, local utilities and other functions roughly split evenly on the remaining 59 percent of the total projected public facility needs.

Since 1966, growth in capital outlays for basic community facilities has lagged behind growth in Gross National Product. The U.S. Department of Commerce Public Works Investment Study, mandated by Section 110 of the Public Works Investment Act of 1977 (P.L. 95.28), addresses this concern. Among the important issues addressed in this study, which can be addressed, also, at the state level, are the following:

1. Is the nation disinvesting in basic community facilities because the share that public works infrastructure (PWI) ${ }^{4 /}$ is of GNP and of total construction is declining and is our national "social capital" becoming depleted?
2. Is the nation keeping up with the changing needs for PWI -- both in a people and a place sense, as national priorities and crucial issues have entered the energy/resources/environmental tradeoff era of the seventies and eighties?
3. Are the acknowledged instances of substitution of "private" for previously "public" investment -- such as in housing developments numbering in the thousands -- representative of PWI, generally?
$4 /$
Public works infrastructure includes highways and other transportation; sewer lines and treatment plants; civil works such as dams, levees, and local flood protection facilities; water supply systems; schools, hospitals, and other health care facilities; public buildings; and airports.
4. Is the real productive value of the current stock of public capital being seriously undermined by favoring new as opposed to maintenance types of investment?
5. To what extent is the current emphasis in looking to Federal financing solutions to repair and renovation an overreaction and to what extent should state and local governments be encouraged to select that mix of PWI which best characterizes their local requirements?

Another approach to public works investment is to view the central issues as two-fold: informational and operational. First, we must know the current status of public works investment -- total amounts and composition and changes in both totals and their distribution by purpose and place. Second, we must devise and test alternative methodologies to measure needs, set priorities among these needs and, finally, implement the priorities in a democratic and publically responsive fashion. Active and cooperative participation of federal, state and local agencies in these operational activities will require a commitment to inter-agency coordination of seperate investment programs. In Minnesota, the regional development commissions can serve an important coordinating function in helping to set and implement public investment priorities.

What emerge as central issues in public works investment depends, in part, on the outcomes of two current controversies. One is the SunbeltSnowbelt split, called sometimes "the second war between the states". The other is the "new Populism" and the fall-out from California Proposition 13. Both point to increasing dependence on state government in regional development. It is for this reason that we view, first, the economic trends towards convergence and centralization among the U.S. regions.

Janet Pack, in a recent study of this issue, concludes that "there is some cause for concern about future growth and development in the highly
industrialized regions of the Northeast stemming from their generally slower rates of growth". She goes on to say that "if such a slowdown were to occur for any extended time period, the fears about the possible decline of older industrial regions might well be realized.-5/

The "new populism", insofar as it results in reduced rates of growth in public financing, will affect both the people and the place dimensions of public works investment. Sharp reductions in state and local government financing may affect capital outlays more than current outlays, which, in turn, may bring forth a new sense of urgency to coordinate public works investment among federal, state and local agencies. ${ }^{6 /}$

Still uncertain is the amount of coupling between public works investment and private investment. Reduced levels of public investment may not affect private investment, especially in communities with special location advantages or disadvantages which are translated into lower or higher costs of doing business. Or, conversely, reduced levels of public investment may affect decisively specific private investments which are extremeiy dependent on the availability of special public facilities, such as water supply, wastewater treatment, and electric supply systems. Both the central and the related issues in public works investment are examined further in the later sections of this report. Next, however, the macro-economic dimensions of state and local public works are presented as a basis for comparison of state and regional levels of capital outlays.

[^1]
## Wstimating and Projecting Public Works Investment

Estimating and projecting public works investment is no easy task. The Joint Economic Committee of the U.S. Congress approached such a task in the mid-1960's with an heretofore unmatched thoroughness of detail. Base year estimates of capital outlays were prepared for 1965 along with projections for the 10 -year period, 1966 to 1975 (table 1). The comparisons of public facility capital outlays of State and local public agencies were derived from extensive survey data. An attempt was made to determine what public facilities were "needed" if certain standards of performance were met for a given population, with due allowance for existing capital plant.

For this study, six major areas of public investment were included: basic community facilities (namely, water, sewer, electric power and gas), transportation facilities, education facilities, health facilities, recreational and cultural facilities, and other public facilities (primarily public safety). A1together, 42 different kinds of public facilities were covered in the study. Levels of capital outlays of state and local governments, and private non-profit and investor-owned utilities were estimated for 1965. Next, the capital requirements of the public facility needs indicated for the $10-$ year period to 1975 were ascertained by over 50 special-purpose agencies, associations and other groups cooperating in the study. Before the individual group findings were reported, they were adjusted to control totals derived from a national econometric model. Basic assumtpions of this model for annual rates of increase in key economic factors were as follows:

| Factor | Actual $1961-65$ | Assumed 1966-75 | Actua 1 $1966-75$ |
| :---: | :---: | :---: | :---: |
| Factor |  | (percent) |  |
| Population | 1.5 | 1.5 | 1.0 |
| Gross nat. prod. | 5.9 | 5.5 | 8.2 |
| Personal income | 5.6 | 5.2 | 8.8 |
| timployment | 1.6 | 1.9 | 1.8 |
| Income deflator | 1.5 | 1.5 | 5.1 |

Table 1. Comparison of public. facility capital outlays of State and local public agencies in 1965 with estimated capital requirements during 1966-76.1/

| Type of Facility | Estimated 1965 | Projected |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | 1970 | 1976 | 1966-75 |
| (mil.dol.) |  |  |  |  |
| Basic community facilities |  |  |  |  |
| 1. Regional \& river basin water supply systems | 2 | 20 | 30 | 170 |
| 2. Public water supply systems | 1,040 | 1,000 | 2,250 | 19,440 |
| 3. Rural-agricultural water supply systems | $2 /$ | 110 | 140 | 1,100 |
| 4. Sanitary sewer collection systems | 385 | 700 | 1,000 | 7,750 |
| 5. Storm sewer systems | 417 | 1,570 | 1,820 | 16,000 |
| 6. Water waste treatment plants | 625 | 940 | 1,240 | 9,830 |
| 7. Solid wastes collection \& disposal facilities | 130 | 210 | 270 | 2,170 |
| Subtotal, water and sewer facflities | 2,699 | 5,450 | 6,840 | 56,460 |
| 8. Electric power | 766 | 1,200 | 1,350 | 12,250 |
| 9. Gas distribution systems | 44 | 60 | 70 | 550 |
| Subtotal, other utilities | 810 | 1,260 | 1,420 | 12,800 |
| Transportation facilities |  |  | - |  |
| 10. Highways, roads and streets | 8,170 | 12,060 | 15,830 | 125,650 |
| 11. Toll bridges, tunnels, and turnpikes | 388 | 380 | 500 | 4,000 |
| 12. Offstreet parking facilities | 102 | 230 | 300 | 2,400 |
| 13. Urban mass transit facilities | 242 | 730 | 960 | 7,600 |
| 14. Airport facilities | 201 | 480 | 530 | 4,980 |
| 15. Marine port factlities | 159 | 40 | 50 | 430 |
| Subtotal, transportation | 8,934 | 13,540 | 17,670 | 141,060 |
| Education facilities |  |  |  |  |
| 16. Public elem. \& second. schools | 3,650 | 4,010 | 5,270 | 41,800 |
| 17. Nonpublic elem. \& second. schools | $2 /$ | 2/ | $2 /$ | $2 /$ |
| 18. Area vocational school factilities | $\underline{2 /}$ | 600 | 700 | 6,300 |
| 19. Academic facilities for higher educ. | 915 | 1,330 | 1,750 | 13,870 |
| 20. College housing \& related serv, facilities | 301 | 520 | 720 | 6,080 |
| 21. Educational television | 6 | 20 | 30 | 230 |
| Subtotal, education facilities | 4,871 | 5,880 | 7,770 | 61,980 |
| Health facilities |  |  |  |  |
| 22. Hospitals |  | $\int 380$ | 480 | 3,930 |
| 23. Clinics \& other outpatient facilities |  |  | 100 | 810 |
| 24. Long-term care factlities |  | 100 | 130 | 1,060 |
| 25. Community metal health centers |  | 140 | 220 | 1,470 |
| 26. Facilities for th mentally retarded | 24 | 110 | 130 | 1,070 |
| 27. Health research facilities | 21 | 180 | 240 | 1,920 |
| 28. Medical \& other health schools | $\underline{2}$ | 280 | 360 | 2,880 |
| Subtotal, health facilities | $\overline{8} 28$ | 1,270 | 1,660 | 13,140 |
| Recreational \& cultural factiities |  |  |  |  |
| 29. State \& Federal outdoor rec. facilities | 313 | 430 | 530 | 4,400 |
| 30. Urban local outdoor recreation facilities | 360 | 1,700 | 2,200 | 17,600 |
| 31. Rural outdoor recreational facilities | $2 /$ | 21 | 2/ | 2/ |
| 32. Neighborhood centers for recreation, etc. | $\underline{2} 1$ | 21 | $\underline{2} /$ | $\underline{21}$ |
| 33. Arenas, auditoriums, exhibition halls | 600 | 690 | 910 | 7,200 |
| 34. Theaters and community art centers | $2 /$ | 350 | 460 | 3,620 |
| 35. Museums | $\underline{14}$ | 30 | 40 | 270 |
| 36. Public libraries | 103 | 190 | 240 | 1,910 |
| Subtotal, recreation \& cultural | 1,490 | 3,390 | 4,353 | 35,000 |
| Other public buildings |  |  |  |  |
| 37. Residential group fare fac. for children | 2/ | 50 | 70 | 560 |
| 38. Armories | 1 | 15 | 15 | 150 |
| 39. Jails and prisons | $2 /$ | 90 | 120 | 920 |
| 40. Fire stations | 101 | 130 | 170 | 1,370 |
| 41. Public office \& court buildings | 218 | 320 | 400 | 3,350 |
| 42. Publicly owned industrial plants | 214 | $2 /$ | $2 /$ | 21 |
| Subtotal, other public buildings | 510 | 705 | 875 | 7,250 |
| All capital outlays | 20,142 | 31,495 | 40,688 | 327,690 |

1/ State and Local Public Facility Needs and Financing. Study prepared for the Subcomittee on Economic Progress of the Joint Economic Committee, Congress of the Untied States, U.S. Government Printing office, Washington, D.C., 1966.

2/ Not avallable.

The underlying assumptions pertained more to the pre-1970 than the post-1970 period. They grossly underestimated the severity of inflation and its consequences on public revenues and expenditures.

The 1966 study findings are summarized by major expenditure categories for later comparisons with corresponding local revenue and expenditures estimates (table 2). Average annual expenditures during the 1966-1975 period are projected at $\$ 32,709,000,000$, approximately two-thirds more than the actual 1965 capital outlays. The state and local capital outlays are projected to more than double -- from $\$ 20.1$ billion in 1965 to $\$ 40.7$ billion in 1975.

The distribution of public facility needs to 1975 differs from its estimated distribution in 1965, as follows:

|  | Estimated |  | Projected |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 1965 | 1970 | 1970 | 1975 |
|  | (percent) |  |  |  |
| Local schools | 18 | 15 | 13 | 13 |
| Institutions of higher educ. | 6 | 9 | 6 | 6 |
| Highways | 42 | 36 | 40 | 40 |
| Health and hospitals | 4 | 3 | 4 | 4 |
| Sewerage | 8 | 5 | 11 | 11 |
| Other general expend. | 10 | 23 | 13 | 13 |
| Water supply systems | 6 | 4 | 6 | 6 |
| Other local utilities | 6 | 8 | 7 | 7 |
| Total | 100 | 100 | 100 | 100 |

For example, 19 percent of the total capital outlay was for local schools in 1965. Needed public facility capital outlays were projected at 13 percent of total capital outalys in 1970 and 1975. Above-average rates of increase in needed facilities were indicated for the basic community facilities -- water, sewerage, and other utilities. Education and highways were to account for reduced shares of total capital outlays, although absolute levels of capital outlays would continue to increase over the 10 -year period.

The reported 1970 public facility capital outlays generally conform with the projected 1970 levels, with the exception of education and highways. A

|  | Estimated |  |  |  | Projected 1/ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1965 1/ |  | 1970 2/ |  | 1970 |  | 1975 |  |
| Expenditure Category | Current | $\begin{array}{r} \hline \text { Constant } \\ 1967 \quad 3 \end{array}$ | / <br> Current | $\begin{gathered} \hline \text { Constant } \\ 1967 \text { 3/ } \end{gathered}$ | t Curren | $\begin{array}{r} \text { Constant } \\ 1967 \text { 3 } \end{array}$ | Current | Constant 1967 3/ |
|  |  |  |  | (mil. dol | 1.) |  |  |  |
| General expenditures: |  |  |  |  |  |  |  |  |
| Education, total | 4,871 | 5,122 | 8,114 | 7,181 | 5,880 | 5,605 | 7,770 | 7,037 |
| Local schools | 3,650 | 3,838 | 4,845 | 4,288 | 4,010 | 3,822 | 5,270 | 4,773 |
| Institutions of higher educ. | 1,221 | 1,284 | 2,926 | 2,598 | 1,870 | 1,783 | 2,500 | 2,264 |
| Highways 4/ | 8,558 | 8,999 | 11,888 | 10,520 | 12,440 | 11,859 | 16,430 | 14,881 |
| Health and hospitals | 828 | 871 | 1,046 | 926 | 1,270 | 1,211 | 1,660 | 1,503 |
| Sewerage | 1,577 | 1,637 | 1,744 | 1,543 | 3,420 | 3,260 | 4,420 | 4,003 |
| Other | 2,000 | 3,155 | 7,680 | 6,797 | 4,095 | 3,903 | 5,326 | 4,824 |
| Total general expenditures | 17,814 | 18,732 | 30,473 | 26,967 | 27,105 | 25,838 | 35,608 | 32,250 |
| Utilities: |  |  |  |  |  |  |  |  |
| Water supply systems | 1,142 | 1,201 | 1,247 | 1,104 | 2,030 | 1,935 | 2,420 | 2,192 |
| Other 5/ | 1,186 | 1,247 | 1,409 | 1,247 | 2,360 | 2,250 | 2,660 | 2,409 |
| Total | 2,328 | 2,448 | 2,656 | 2,351 | 4,390 | 4,185 | 5,080 | 4,601 |
| All government functions | 20,142 | 21,180 | 33,129 | 29,318 | 31,495 | 30,023 | 40,688 | 36,851 |
| Total personal income | 538,690 | 566,446 7 | 798,949 | 707,035 | 694,093 | 677,496 8 | 894,326 | 810,318 |
| of the Joint Economic Committee, Congress of the United States, U.S. Government Printing Office, Washi D.C., 1966. |  |  |  |  |  |  |  |  |
| U.S. Bureau of the Census, Government Finances in 1970-71, U.S. Government Printing Office, Washington 1972;also, 1971-72 and 1972-73 reports. |  |  |  |  |  |  |  |  |
| Personal income deflators of $0.451,1.130$ and 1.525 are used for 1965, 1970 and 1975, respectively, to from current dollars to 1967 dollars. Projected current dollars are based on an assumed income deflat and 1.161 for 1970 and 1975, respectively. |  |  |  |  |  |  |  |  |
| Highways, roads, streets; also tool bridges, tunnels, turnpikes, and offstreet parking are included in study, but not in report on Government Finances in 1970-71. |  |  |  |  |  |  |  |  |
| 5/ Electric, gas supply, and | ransit util | lities. |  |  |  |  |  |  |

higher-than-projected level was reported for education and lower-than-projected level was reported for highways. Part of the lower-than-projected highway share is due to differences in the classification of functional categories between data sources.

Finally, total capital outlays, as a proportion of total personal income, declined from 1965 to 1970 and from 1970 to 1975 in projected total outlays. Estimated public facility capital outalys increased from 3.9 percent of total personal income in 1965 to 4.1 percent of the total in 1970 . It was projected to increase from 4.4 percent of the total real personal income in 1970 to 4.5 percent of the total in 1975. The estimated level in 1970 was 0.3 percent below the projected share "needed" to meet specified performance service levels.

## State and Local Government Capital Outlay Comparisons

The second step in the elaboration of the central issues in public works investment is a comparison of state and local government capital outlays in selected UPper Midwest states (table 3). Reported data in current dollars is converted to 1967 dollars for comparison with the U.S. data series cited earlier. Both the U.S. and the State data are in 1967 (rather than 1965 or current) dollars. For the most part, the actual outlays per person in 1970 compare closely with the projected 1970 levels in the 1966 study.

Differences occur in the functional distribution of total outlays. Capital outlays per person are much higher in the three western states than in the three eastern states in the UPper Midwest. Also, institutions of higher education show higher actual than projected outlays. In Minnesota, and Wisconsin, these outlays are nearly twice the U.S. average.

In later years, inflation takes its toll in capital outlays. Real value per person declines from 1970 to 1975 for highways and education.

| Function and Unit | United States |  | Upper Midwest States ${ }^{2 /}$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Projected ${ }^{1 /}$ | $\text { Estimated }{ }^{2 /}$ | $\begin{aligned} & \text { Michi- Minne- } \\ & \text { gan sota } \\ & \hline \end{aligned}$ | $\begin{gathered} \text { Wiscon- } \\ \text { sin } \\ \hline \end{gathered}$ | Montana | North Dakota | South Dakota |
|  | (dollars) Dakota Dakota |  |  |  |  |  |  |
| All government functions: |  |  |  |  |  |  |  |
| Education, total |  | 35 | $30 \quad 61$ | 50 | 29 |  |  |
| Local schools | 19 | 21 | $20 \quad 38$ | 20 | 11 | 10 | 34 |
| Institutions of higher educ. | 9 | 13 | 923 | 30 | 18 | 22 | 14 |
| Highways | 58 | 52 | $32 \quad 62$ | 42 | 131 | 100 | 90 |
| Health and hospitals | 6 | 5 | 24 | 3 | 4 | 1 | 1 |
| Sewerage | 16 | 8 | 1410 | 10 | 4 | 4 | 1 |
| Other | 20 | 32 | 1935 | 19 | 12 | 17 | 15 |
| Total government | 127 | 132 | 97172 | 124 | 180 | 154 | 141 |
| Local utilities: |  |  |  |  |  |  |  |
| Water supply | 10 | 5 | 5 |  |  |  |  |
| Other | 11 | 6 | 2 | 1 | 0 | 1 | 2 |
| Total utilities | 21 | 12 | 75 | 4 | 4 | 4 | 4 |
| Total | 147 | 144 | 104179 | 128 | 183 | 158 | 145 |

The state comparisons of capital outlays point to at least two sources of variability in the assessment of public facility needs, namely, the business cycle and the state's geography. The composition of industry also is an important factor affecting the vulnerability of local economies to the business cycle.

## Expenditures and Revenues of Minnesota State <br> and Local Government

Expenditures and revenues of Minnesota state and local government are examined, next, with reference to their importance in determining the level and distribution of public facility capital outlays in Minnesota (table 4). Per capita direct general expenditures of state and local government in Minnesota increased sharply from $\$ 728$ in 1980 to $\$ 1,362$ in 1976. Meanwhile, capital outlays declined, as indicated for the selected years.

Minnesota per capita expenditures for education exceed the U.S. average with a difference of 80 to 90 dollars. This is also the margin of difference between the Minnesota and the U.S. total expenditures. Highways expenditures also exceed the U.S. averages -- both current and capital outlays.

Capital outlays as a proportion of total expenditures, by function, vary from less than 10 percent for health and hospitals to more than 60 percent For highways. Capital outlays are declining, however, relative to expenditures increase.

Sources of general revenue of state and local governments in Minnesota correspond with those reported for the Nation as a whole (table 5). However, a slightly greater dependence on own sources is indicated for Minnesota than the rest of Nation.

Total general revenue in Minnesota increased from 17.6 percent of total personal income in 1970 to 21.3 percent in 1976 in Minnesota. This proportion

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[^2]is larger for Minnesota than the U.S., and the difference was increasing until 1975, but declined for Minnesota and increased for the U.S. In 1976, as follows:

| Year | Minnesota | U.S. <br>  <br>  <br> (percent) |
| :--- | :---: | ---: |
| 1970 |  |  |
| 1971 | 17.6 | 17.1 |
| 1972 | 20.0 | 16.8 |
| 1973 | 19.9 | 17.6 |
| 1974 | 20.3 | 17.9 |
| 1975 | 21.3 | 16.8 |
| 1976 | 20.9 | 18.1 |
|  |  | 18.6 |

Public facility capital outlays are related to total revenues of state and local governments insofar as total revenues impose ultimate spending limits on public works. The sources of public revenue are important, also. Some revenue sources, like the highway trust fund, favor a particular kind of new investment. Tax sources also may be specific to a particular function. If they are income-sensitive and, hence, strong revenue generators in periods of rapid economic growth, they could provide additional revenue for public capital outlays.

Total per capita state taxes in Minnesota increased from $\$ 268$ in 1970 to $\$ 625$ in 1977 (table 6). For the U.S., as a whole, the per capita totals were slightly below corresponding Minnesota totals. Only the sales tax was higher for the U.S. than for Minnesota in the 1970 to 1977 period.

The distribution of total state taxes collected is summarized for 1970 and 1977 to show the increasing importance of individual and corporate income taxes and the decreasing importance of specifed sales taxes as follows:
Table 6. Estimated per capita state tax collected, Minnesota, 1970-1977. $1 /$


Total tax receipts as a percent of total personal income increased from seven to nine percent in Minnesota and from six to seven percent in the United States during the 1970 to 1977 period. Thus, while per capita personal income increased 85 percent in Minnesota, for example, total taxes collected increased 133 percent. For the U.S., an 85 percent increase in per capita personal income was accompanied by a 99 percent increase in total state taxes collected.

Minnesota state government has become increasingly dependent on individual and corporate net income taxes which are highly income sensitive. During the 1970-77 period, for example, a 10 percent increase in per capita personal income was associated with a 19 percent increase in individual income taxes collected in both Minnesota and the U.S. Nonetheless, the public facility capital outlay share of total state and local government expenditures declined during this period.

Still another measure of the status of public facility capital outlays in state and local government financing is the level of federal aid to state and local governments (table 7). Total per capita federal assistance to state and local governments increased from $\$ 138$ in 1971 to $\$ 308$ in 1977. These levels compare closely with the U.S. averages.

Public works aid in the list of selected programs is confined primarily to highways and urban fanctions (wastewater treatment, low-rent housing and urban renewal). This aid increased from $\$ 38$ in 1971 to $\$ 74$ in 1977 for Minnesota,
Table 7．Estimated per capita federal aid to state and local governments，Minnesota and U．S．，1971－1977． $1 /$ 2／Medical payments．

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which, also, compares closely with U.S. averages.
When all federal expenditures in Minnesota are totaled, the net balance with all federal taxes is negative (table 8). In 1975, Minnesota residents, business and household, paid out $\$ 238$ more than was received on a per capita basis. The net deficit declined to $\$ 161$ in 1976. Roughly one-half of the deficit was due to the low level of wage and salary payments by the Defartment of Defense.

Federal, state and local government expenditures support over one-quarter million federal, state and local employees and a total monthly payroll in excess of one-quarter billion dollars in 1977 (table 9). The total civilian government payroll in Minnesota doubled from 1970 to 1977 while total civilian government employment increased by 14 percent, from 241,000 in 1970 to 274,000 in 1977. Total civilian government employment as a proportion of the total employed work force increased from 14.9 percent in 1970 to 15.2 percent in 1975 and declined to 14 percent in 1977. While total employment increased 12.4 percent, civilian government employment increased 14.5 percent from 1970 to 1975. Thus, in the first half of the $1970^{\prime}$ s, a 10 percent increase in total employment was accompanied by a 17 percent increase in government employment. Total government employment declined from 1975 to 1977 while total employment increased 7.6 percent.

Total government payroll as a proportion of total earnings of the employed work force increased from 13.7 percent in 1970 to 14.9 percent in 1975 . While total earnings increased 11 percent, government payroll increased 20 percent. Thus, in the 1970-75 period of rapid growth in government employment, a $10-$ percent increase in total earnings was accompanied by an 18 -percent increase in government payroll.

The total state and local government payroll was equivalent to 48 percent of total state and local government expenditures in 1970 and 47 percent of

Table 8. Estimated per capita federal expenditures and taxes and net flow, Minnesota and United States, 1975 and 1976.1/

| Federal Program | Minnesota |  | U.S. |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 1975 | 1976 | 1975 | 1976 |
|  | (dollars) |  |  |  |
| Federal expenditures, total | 1,144 | 1,271. | 1,412 | 1,524 |
| Department of Defense, total | 140 | 206 | 333 | 346 |
| Contracts | 114 | 178 | 201 | 210 |
| Salaries | 26 | 28 | 132 | 136 |
| Highway and sewers | 66 | 53 | 54 | 41 |
| Welfare | 100 | 104 | 115 | 119 |
| Retirement | 366 | 409 | 392 | 449 |
| Federal taxes, total | 1,382 | 1,432 | 1,412 | 1,524 |
| Net flow | -238 | -161 | 0 | 0 |

1/
U.S. Bureau of the Census, Statistical Abstract of the United States: 1977 (98th edition), Washington, D.C., 1977; also, 1978.
U.S. Bureau of the Census, Statistical Abstract of the United States: 1972,(93rd edition), Washington,
D.C., 1972; also later editions for years following 1970 .


 Local schools Education, total Government, total
 Public welfare Highways Health \& hospitals Other education Education, total
Local schools Full time equivalent (thousands): Federal, civilian
State and local Employed work force, total
Government, total Employment (thousands):
 1970-1977.1/
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these expenditures in 1975. The government work force competes strongly with public racility capital outlays for the use of the additional state and local government revenues. On the other hand, total public facility capital outlays in Minnesota exceed the U.S. per capita levels, including those projected in terms of the public facility needs specified in 1966 study of the U.S. Congress cited earlier.

## Investment Framework Plan of the Metropolitan Council

The seven-county Metropolitan Council Region in Minnesota, which accounts for about 50 percent of the State's population and more than 55 percent of the State's personal income payments, is facing rapidly expanding needs in new and renovated public facilities. I/ In 1975, the Physical Development Committee of the Metropolitan Council projected per capita revenues and expenditures of all governments in the seven-county area as follows:

| Year | Expenditures |  | Revenues |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Financing Gap |
| 1975 | 935 |  | 845 |  |
| 1980 | 1,092 |  | 906 | -90 |
| 1985 | 1,154 |  | 942 | -186 |
| 1990 | 1,195 |  | 957 | -212 |
|  |  |  |  |  |

An increasing revenue-expenditure gap was projected, given past trends in local government financing. The Physical Development Committee proposed a new mechanism for balancing expenditures and revenues -- a budget for the Metropolitan Area.

Preparation of an area budget will require the setting of capital expenditure priorities. Projected 1975-1990 capital expenditures, based on given

[^3]service standards and development objectives, are distributed among metropolitan development agencies as follows:

| Agency | Projected 1975-90 capital outlays (mil. dol.) | Projected $0 \& M$ Expenditures |
| :---: | :---: | :---: |
| Metro. Airport Comm. | 220.0 | 17.6 |
| Metro. Waste Control Comm. | 538.3 | 59.2 |
| Parks | 197.9 | 15.8 |
| Metro. Transit Comm. | 241.3 | 173.7 |
| Total | 1,197.5 | 266.3 |

Each dollar of capital outlay incurs additional dollars of current outlay for operation and maintenance of facilities, the largest being the capital outlays for metropolitan transit systems.

In 1972 , capital atlays were 19.2 percent of total local government expenditures in the Twin Cities Metropolitan Area (table 10). The capital share of total expenditures is closer to the high capital shares reported for Atlanta and Seattle than it is to the low capital shares reported for San Francisco and New York City. However, reported capital outlays per person for Mew York City are larger than the Atlanta, Seattle or Minneapolis-St. Paul metropolitan areas, as follows:

| Metropolitan Area |  | Per \$1,000 |
| :--- | :---: | :---: |
|  |  | Per Capita <br> Mersonal Income |
| Minneapolis-St. Paul | 140 |  |
| San Francisco | 87 | 32 |
| (dollars) | 84 | 18 |
| Denver | 110 | 19 |
| Atlanta | 86 | 25 |
| Boston | 139 | 20 |
| Seattle | 160 | 32 |
| New York City |  | 35 |

The Minneapolis-St. Paul and Seattle metropolitan area compare closely in capital outlays per $\$ 1,000$ personal income.

Local public facility capital outlays per person in the Minneapolis-St. Paul
$23$



Metropolitan Area are higher than for the State as a whole, given the additional state government capital outlays for education, highways, health and hospitals, and other public facilities (see, table 3). Per capita personal income also exceeds the State average. In 1972, per capita personal income in the sevencounty Metropolitan Council Region was 18 percent above the Minnesota average, although for the 10 -county Standard Metropolitan Statistical Area (SMSA), shown in table 10 , it was only slightly above the State average.

High per capita regional infrastructure reguirements in the MinneapolisSt. Paul Metropolitan Area, and high personal and business income levels to support high performance investment budgets, make possible high per capita levels of essential economic and social services. Liu finds the MinneapolisSt. Paul Metropolitan Area as outstanding in overall quality of 1ife. 8 / It shares this high ranking with three of six other selected metropolitan areas (table 11). Next to Portland, Oregon and San Jose, California, the MinneapolisSt. Paul Metropolitan Area has the highest overall ranking of all large metropolitan areas in the United States.

Non-Metropolitan Investment Strategies
Non-metropolitan investment is largely in basic community facilities. This extends to education and health facilities and other public buildings in urban centers.

Three federal agencies in North Carolina -- Farmers Home Administration, Department of Labor and Department of Housing and Urban Development -- are re-directing $\$ 1.2$ billion of funds to rural areas and small communities. $9 /$

8/ Ben-Chieh Liu, Quality of Life in the U.S. Metropolitan Areas, 1970, Midwest Research Institute, 425 Volker Blvd., Kansas City, Missouri, 64110, May 1975.

9/
"In Washington, Not Many Answers", Intergovernmental Perspective, Winter 1979, Vol. 5, No. 1, p. 34.
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| $\begin{aligned} & \text { Index } \\ & \text { Component }=1 \end{aligned}$ | Minneapolis- <br> St. Paul | $\begin{aligned} & \text { San Fran- } \\ & \text { cisco } \end{aligned}$ | Denver | Atlanta | Boston | Seattle | New York City |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Economic | B | C | C | A | E | B | B |
| Political | A | B | B | E | A | B | D |
| Environmental | B | B | C | D | D | A | D |
| Health \& Education | A | A | A | D | A | A | C |
| Social | A | A | A | D | B | A | C |
| Overall | A | A | A | D | B | A | E |
| Ben-Chieh Liu, Quality of Life in the U.S. Metropolitan Areas, 1970, Midwest Research Institute, 425 Voelker Blvd., Kansas City, Missouri, 64110, May 1975, p. 10, 11, 52. |  |  |  |  |  |  |  |
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The Farmers Home Administration state office is developing rural investment project priorities for "targeting" state and private sector funds. A HUD demonstration project was set up to eliminate barriers faced by rural areas in obtaining housing and community development monies. Finally, the U.S. Department of Labor is negotiating with state agencies for rural job development projects in targeted localities.

In Minnesota, the Farmers Home Administration is coordinating the funding in its Community Program through the substate regional development districts. This program focuses on low-income areas and cities which are unable to acquire credit for community facilities, such as health-care centers. However, Federal funding for city sewer systems is being channelled through the Pollution Control Agency. The Minnesota Farmers Home Administration will coordinate its substate programs with the Regional Development Commissions through its substate district offices, which will be set up statewide by spring 1979. As a part of this effort, the Governor's Rural Development Council is seeking funding for a benchmark study on "targeting" rural development funds.

Minnesota State government is involved in regional development in small efforts, too, like the Minnesota Community Development Corporation (MCDC). This agency was set up by the Minnesota legislature in 1975 and funded in 1977 with $\$ 500,000$ to provide venture capital for small businesses which are unable to acquire conventional private financing. The program is an ideological extension of cooperative action programs, which are frequently challenged by the Regional Development Commissions. The MCDC efforts are small-scale and generally outside the mainstream of government-sponsored regional development activities. The focus is on small business ventures which typically subscribe to non-profit ideals. Of the 18 proposals reviewed by MCDC, only a handful, however, were accepted for the funding of their planning and administrative
costs. Currently funded by MCDC are HELP Development Corporation in St. Paul; West Bank Community Development Corporation in Minneapolis; Uni-Dale Ma11 on University and Dale in St. Paul; and Four Rivers Community Development Corporation in St. Cloud.

Those critical of the Community Development Corporation approach characterize it as having "a high degree of both social awareness and economic ineptitude". Yet, it offers a small-scale alternative to community economic development which can perform an important role in a widely-supported community investment strategy.

The North Caroline and Minnesota examples highlight the high aspirations of governmental officials and community leaders in achieving the most effective use of the tax dollar in funding public works projects. A large part of the fiscal resource base for state and local public works investment is in the federal government. Use of the substate regional development commissions in "targeting" the flow of these funds to high priority projects will be difficult, therefore given the durability of traditional views on fiscal accountability.

Strong, active participation of local governments in the priority-setting process enlarges greatly the complexity of federal decision-making. This traditional view, moreover, may look at the substate Regional Development Commission as intruding into a long-established decision-making process which protects minority interests and supports broad social concerns on a national scale. Reported conflicts between Community Development Corporations and Regional Development Commissions help sustain doubts about the willingness of local governments to allow for the diversity of approach in federal legislation. Whatever steps are taken towards a "coordinated nonmetropolitan investment strategy" will depend, therefore, on state government initiatives in making effective use of the substate regional development
commissions in their "review and comment" functions, for which purpose the commissions were initially established.

The potential role of substate regional development commissions in implementing a coordinated investment strategy is related to the multiplicity and overlap of federal assistance programs. To illustrate this point, federal programs in 11 functional areas of public works and related private investment in a city of 10,000 to 19,999 population were listed from the Federal Assistance Programs Retrieval System (table 12). A total of 186 federal assistance programs were located for the 11 functional areas. This number was reduced to 112 when adjusted for program duplication. A regional development commission staff could provide information of federal assistance program availability to all units of local government and the staff could, also, develop individual project proposals. Developing the project proposals as part of a coordinated investment strategy is a task that still remains to be done.

The sources and utilization of fiscal resources in non-metropolitan areas is illustrated by the summary fiscal accounts for the seven-county Northwest Region. Total population was 94,579 and total per capita personal income was $\$ 3,003$ in 1970 . Local government receipts totaled $\$ 681$ per person, or approximately 23 percent of the per capital income of its resident population (table 13). Agriculture is the major basic industry in this Region.

In 1970, local governments depended heavily on property taxes as a major local revenue source. Transfer payments, particularly, from state government, were increasing rapidly. School districts received a major portion of both property taxes and transfer payments. Borrowing provided less than 10 percent of total receipts.

Total capital outlays were nearly twice as large as total borrowings in Ho Nurlhwst kosion in 10-0. Roughly 50 percent of capital expendlturn: arere tunded from current local revenue sources.


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Table 12．Estimated mumer of Federal programs availablif in specified agencies for selected public works investment in cities of 10,000 to 19,999

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[^4]Total capital outlays in the Northwest Region was equivalent to $\$ 40$ per $\$ 1,000$ of personal income in 1970 . This was 25 percent higher than the corresponding figure cited earlier for the Minneapolis-St. Paul Metropolitan Area. In spite of the greater per capita effort in funding capital outlays in the Northwest Region, as compared to the Metropolitan Council Region, the quality of life ratings of counties in this region are among the lowest in the State. $10 /$

The coupling between capital outlays and quality of life is not directly demonstrated. At best, it complements the overall location advantages of an area for business and population. Eventually, however, a "quality of life" index is needed to monitor the overall performance of a regional investment strategy.

Private Investment and Regional Development Priorities
Private investment is affected by the level of public works investment, depending upon the kind of public works investment and its method of financing. Two levels of private investment are examined in this report -- the private non-profit and investor-owned utilities and the private sector generally.

Public facility capital outlays of private non-profit and investor-owned organizations are examined in the 1966 study of the Joint Economic Committee of the U.S. Congress (table 14). According to this study, the private organizations account for over one-third of total public facility capital outlays. More than one-third of the total capitaloutlays for electric, gas, education and health care facilities are in the private sector. The proportions are smaller for other public facility groups.
$10 /$
Dannis Duane Braun, Patterns of Living, Social Indicators Research, Mankato, Minnesota, 1977.

Table 14 Estimated and projected public facility capital outlays of private non-profit and investor-owned organizations and all public facility capital outlays in specified public facility groups, U.S., 1965-1975. $1 /$

Public

| Facility |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
| Group | Estimated | Projected |  |  |

Private non-profit and investor-owned organizations:

| Water and sewer | 1.2 | 1.8 | 2.4 | 19.7 |
| :--- | :---: | :---: | ---: | ---: |
| Electric and gas | 5.7 | 7.5 | 8.8 | 72.1 |
| Transportation | .3 | 1.1 | 1.3 | 10.6 |
| Education | 1.0 | 1.9 | 2.4 | 20.2 |
| Health and hospitals | 1.7 | 2.9 | 3.8 | 30.4 |
| Recreational and cultural | 1.0 | 1.8 | 2.2 | 18.1 |
| Other public buildings | 0 | 0 | 0 | .2 |
| Total | 10.0 | 17.0 | 20.9 | 171.3 |

Al1 capita1 outlays;

| Water and sewer | 3.9 | 7.3 | 9.2 | 76.2 |
| :--- | :--- | :--- | :--- | :--- |

Electric and gas
Transportation
Education
Health and hospitals
Recreation and cultural Other public buildings Total
6.5
9.214 .6
$5.9 \quad 7.8$
2.54 .2
$2.5 \quad 5.2$ $.5 \quad .7$
$31.0 \quad 48.6$
76.2
$10.2 \quad 84.9$
$19.0 \quad 151.7$
$10.2 \quad 82.2$
$5.5 \quad 43.5$
$6.6 \quad 53.1$
$.9 \quad 7.5$
$61.6 \quad 499.1$

## $1 /$

State and Local Public Facility Needs and Financing. Study prepared for the Subcommittee on Economic Progress of the Joint Economic Committee, Congress of the United States, U.S. Government Printing Office, Washington, D.C., 1966.

Finally, the coupling of public facility capital outlays and private capital formation generally depends on the importance of particular public facilities in the production process. This coupling may be direct, as in the case of electric power, or it may be indirect, as in the case of hospitals and cultural centers which affect the "quality of life" experienced by area residents. How much of the costs of these facilities is shared by the production unit and how much by the consuming unit will affect the level and incidence of the public facility impact on local business and household residents. These issues require detailed and careful analysis of the relationship of a particular business activity to the financing and location of public facilities.

Recent population trends show a "reverse" migration in process which is resulting in more rapid population growth in non-metropolitan than metropolitan areas. Part of this growth is due to industry relocation from high-cost big-city sites to low-cost rural sites, which, also, are equally, if not more, accessible to major markets. However, part of this growth is due to the place-of-residence choices of a mobile population. In Minnesota, much of the population growth and change is due to residential development outside the seven-county Metropolitan Council Region but within 100 miles of downtown Minneapolis and St. Paul. Much of this population commutes to jobs in the Minneapolis-St. Paul Metropolitan Area and makes use of the metropolitan area infrastructure.

Private investment becomes an important part of a regional investment strategy when industry location investment and employment inducements are included in the composite of goals, objectives, policies and programs in the strategy package. Private investment decision, however, are made on the basis of cost-of-doing-business comparisons at alternative business sites. Major sources of place-to-place cost variation are (1)labor, (2) taxes, (3) energy, and (4) environmental regulation. An effective, comprehensive regional.
investment strategy must take into account these business cost factors, or otherwise the public intervention is too little and too late to affect longrun private investment plans. A high-priority concern in public works investment planning is, therefore, its contribution to the total costs of doing business at a given place, relative to other cost factors and to benefits, like those contributing to a high quality of life. Relationships among these factors will vary and, hence, they require observation of their changing effects on private investment plans.


[^0]:    Paper prepared for use of Plenary Session Pane1, 11th Annual Meeting of the Mid~Continent Regional Science Association Sheraton Ritz Hotel,
    Minneapolis, Minnesota,
    May 31, 1979

[^1]:    5/
    Janet Rothenberg Pack, "Frostbelt and Sunbelt: Convergence Over Time" Intergovernmental Perspective, Fall 1978, Vol. 4, No. 43, 1978, p. 15.
    "1978: The Year of the New Populism", Intergovernmental Perspective, Winter 1979, Vol. 5, No. 1, p. 4-5.

[^2]:    Table 5．Estimated per capita general revenue and debt outstanding of state and local governments，

[^3]:    7/ Metropolitan Council of the Twin Cities Area, Metropolitan Investment Framework, Metropolitan Council, 800 Metro Square Building, 7 th and Robert Streets, St. Pau1, Minnesota, 55101, October 9, 1975.

[^4]:    Table 13．Estimated revenues and expenditures of specified local governments，Northwest Minnesota，1970 1／

