

THE IOWA ROAD STUDY COMMITTEE

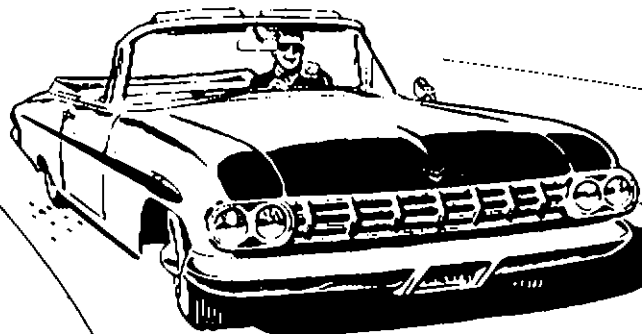
an Interim Committee Created by House Joint Resolution 12
of the 58th General Assembly in 1959

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This is a summary of the complete report entitled *Financing Iowa's Highways*, produced by Public Administration Service in accordance with the terms of its contract, dated October 15, 1959, with the Iowa State Highway Commission, the Bureau of Public Roads participating.

This fiscal study was done in conjunction with an engineering needs study performed by the Automotive Safety Foundation.

Participants in the project included James V. Coyne, as resident supervisor, Ralph A. De Santis, and Harlow R. Richardson, all of our staff. Special consultants included C. D. Andre, David J. Bauer, Charles R. Lockyer, Allan Olsen, and William D. Ross. Thomas R. Jacobi acted as project supervisor and the work was conducted under the general direction of John D. Corcoran, Associate Director.

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INTRODUCTION

Financial demands on Iowa's resources in support of its 111,500 mile road and street system, the sixth largest in the Nation, have become greater and greater in recent years. Not only have highway expenditures increased, but the highway portion of total state general expenditures has increased from 34 per cent in 1955 to 41 per cent in 1959.

Recognizing the need for comprehensive highway planning, the State Legislature authorized the companion engineering needs and fiscal studies relating to the highways of Iowa. This report summarizes the results of the fiscal study which analyzed the capacity of the State, counties, and municipalities to support highway needs for the 10, 15, and 20 year catch up programs as determined by the engineering study.

Financing the alternative programs developed by the needs study is related in this study to the separate jurisdictional levels, taking into account present and probable future revenues and economic development. Particular attention has been given to the relative size, use, and requirements of the several systems in suggestions for the apportionment of highway user revenues among the various levels of government. Cognizance has been taken of the flow of population from the rural to urban areas to the extent that at present two-thirds of the people live in municipalities.

Accomplishment of a balanced fiscal program in Iowa is complicated by the fact that over 50 per cent of the total

road and street mileage in the State is made up of local county roads which carry less than 5 per cent of the total traffic.

Total highway needs in Iowa, according to estimates of the engineering study, will require average expenditures of about \$280 million a year for the next 20 years. This compares with current 1960 revenues amounting to \$220 million and estimated annual average revenues during the 1961-1980 program period of \$258 million if the present tax structure is not changed. The average annual deficit, including debt service on outstanding municipal street bonds, will be about \$22 million.

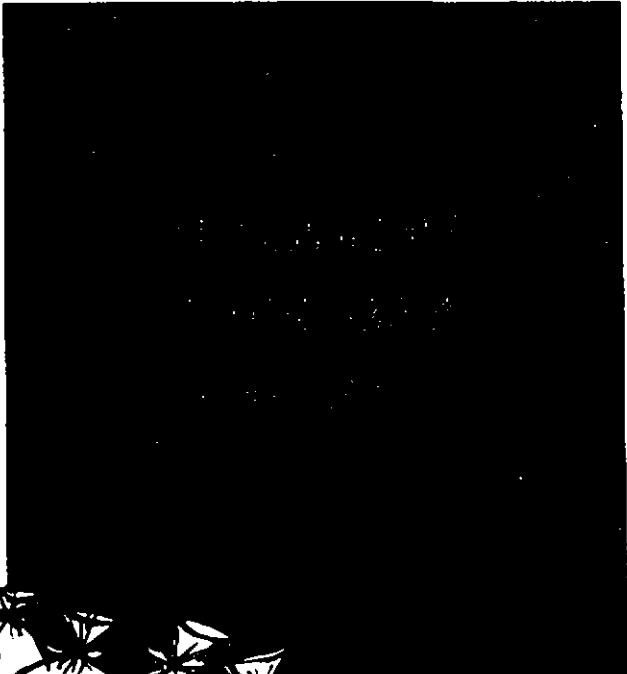
Total 20 year program requirements for the alternative catch up periods compared to estimated revenues at present rates are as follows:

MILLIONS OF DOLLARS 1961-1980

Catch Up Period	Cost	Revenue	Deficit
10 Year	\$5,594	\$5,162	\$432
15 Year	5,578	5,162	416
20 Year	5,560	5,162	398

Cost figures do not include municipal debt service estimated at a total of \$42 million or \$2 million per year for the 20 year period.

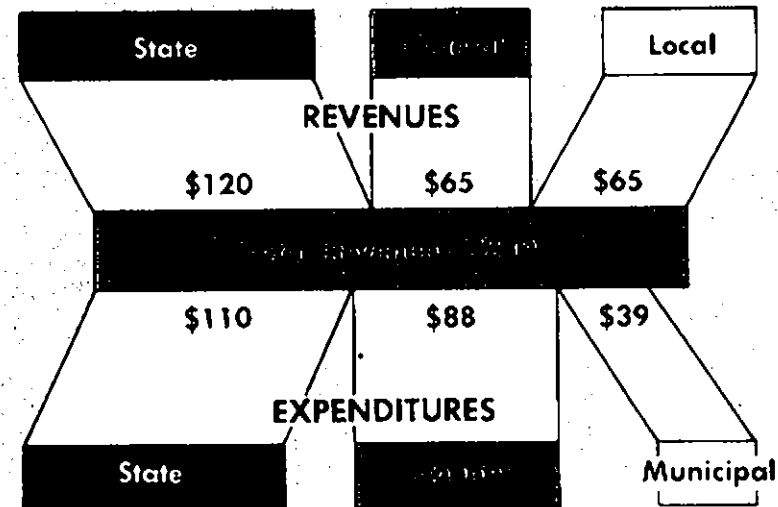
Several alternatives are available in balancing requirements against funds: user and property tax rates can be raised; long-term borrowing can be utilized; proposed programs can be curtailed; or some combination of these can be developed.



State imposts on the users of highways through motor fuel taxation, motor vehicle registration fees, the use tax on new motor vehicles and trailers, and ten per cent of the sales tax, which approximates the receipts from the motor vehicle group, are currently producing more than \$120 million annually in highway revenues. Federal Aid receipts in 1959 were temporarily at a peak of more than \$65 million. Local support of highways, primarily through property taxes and special assessments, produced another \$65 million. Total 1959 highway revenues amounted to \$250 million.

Road and street expenditures in 1959 totaled almost \$240 million: \$110 million-state, \$88 million-county, and \$39 million-municipal.

Financing Iowa's Highways



Millions of Dollars
1959

PRESENT SYSTEM RESPONSIBILITY

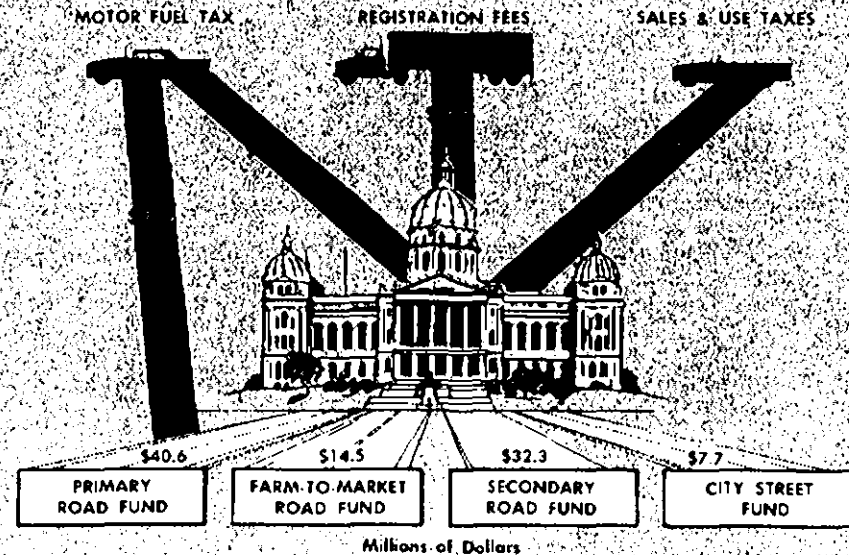
The State Highway Commission is responsible for some 9,800 miles of State Primary system including 700 miles of the Interstate network. The State and the counties administer the 34,000 mile Farm-to-Market system and the counties alone are responsible for 56,700 miles of local secondary roads. The municipalities are responsible for some 10,800 miles of streets. State park and institutional roads comprise less than 300 miles of roads for which the Highway Commission was made responsible by the General Assembly in 1959.

ALLOCATION OF USER REVENUES

The State imposes on highway users, with the exception of two cents of the gasoline tax which is allocated directly to the Primary Road Fund, are placed in the Road Use Tax Fund. Distribution from this fund, after two per cent of it is given to the cities, is as follows: 42 per cent to the Primary Road Fund, 15 per cent to the Farm-to-Market Road Fund, 35 per cent to the Secondary Road Fund, and 8 per cent to the City Street Fund. User revenues are distributed among the counties, 60 per cent on the basis of area and 40 per cent on a need or equalization basis. The distribution among municipalities is on a population basis.

Existing System Mileage

System	Miles
State	
Interstate	711
Other Primary	9,226
County	
Farm-to-Market	33,973
Local Secondary	56,714
Municipal	
Streets	10,767
Other	
State Park	124
Institutional	150
Total	111,515



1959 User Tax Support of Highways

FEDERAL AID

Federal Aid is applicable to some 42,000 miles of highways of the State. The State is reimbursed for designated and approved expenditures on these Federal Aid systems by the U. S. Government through the Bureau of Public Roads. These monies accrue to the State Primary Road Fund and to the Farm-to-Market Road Fund. In 1959, some \$58 million went to the Primary Road Fund and almost \$10 million went to the Farm-to-Market Road Fund.

Road and Street Expenditures

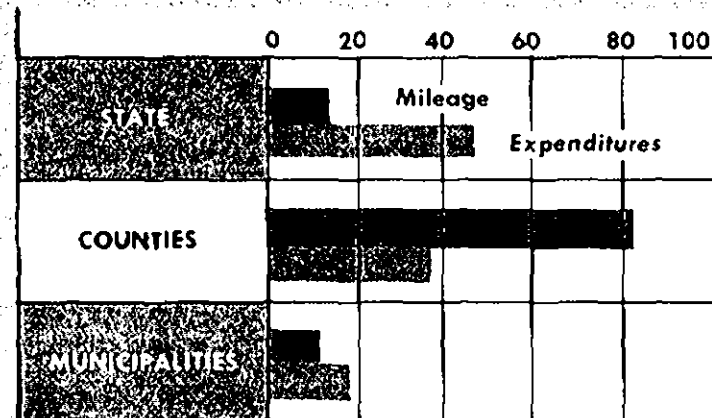
Almost \$240 million were spent on Iowa's roads and streets in 1959:

System	Miles		Expenditures	
	Total	Per Cent.	\$ Millions	Per Cent.
State	9,800	9	\$110	46
Counties	90,700	81	88	37
Municipalities	10,800	10	39	17
Total	111,300	100	\$237	100

LOCAL REVENUES

County local road revenues, consisting principally of property taxes, amounted to about \$34 million in 1959. Municipal local street revenues, totaling about \$32 million in that year, included \$18 million in property taxes, \$10 million in new borrowings, and \$4 million in miscellaneous revenue, half of which came from parking meters. Total county debt for road purposes is currently less than \$3 million as compared to municipal debt for street purposes amounting to almost \$40 million.

Percentage of State Totals



1959

COMPARISONS WITH OTHER STATES

Iowa utilized 41 per cent of its total general expenditures on highways in 1959 as compared to 30 per cent in Missouri, 45 per cent in Nebraska, and the national average for all states of 29 per cent. The State and its local jurisdictions spent 28 per cent of funds available for all governmental purposes on roads and streets in 1958 as compared to the national average of 19 per cent.

Motor Fuel Tax Comparisons

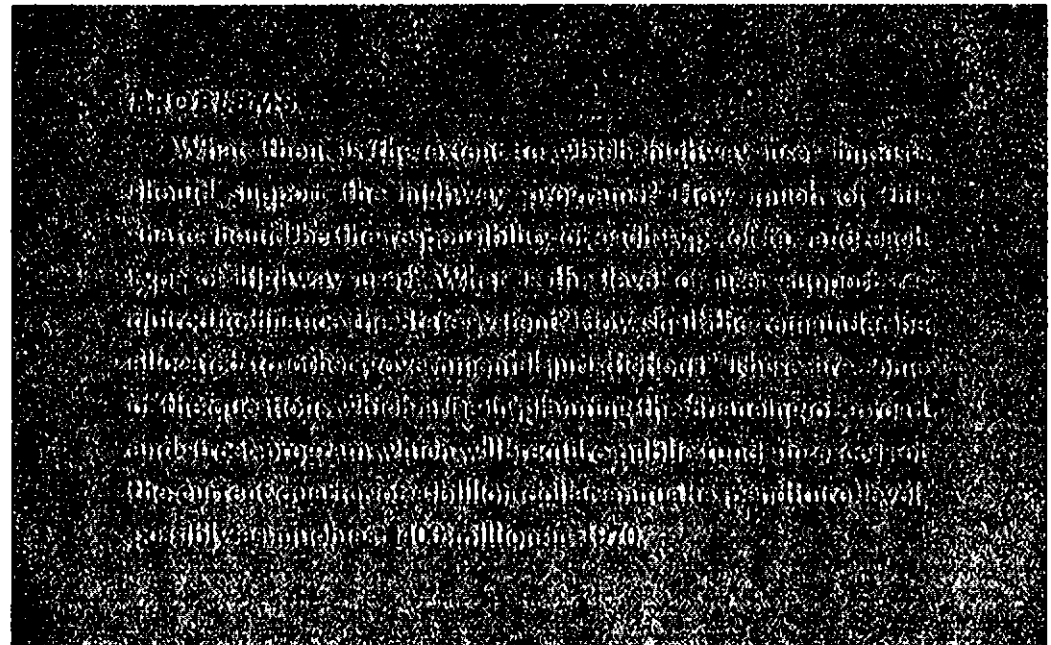
State	Cents Per Gallon							
	0	1	2	3	4	5	6	7
IOWA								
Illinois								
Kansas								
Minnesota								
Missouri								
Nebraska								
South Dakota								
Wisconsin								

1960

Iowa's motor fuel tax receipts in 1958 were relatively high in comparisons with neighboring states.

Iowa derived a higher average revenue per vehicle from motor vehicle licenses in 1959 than any of its neighbors. Iowa's average of \$37 exceeded South Dakota's next highest figure of \$33 and Nebraska's minimum figure of only \$17.

In allocating 41 per cent of user revenues to its counties and 7 per cent to its municipalities in 1958, Iowa topped the list among its neighbors in county allocations and was below the median in the group as regards its allocations to cities and towns.



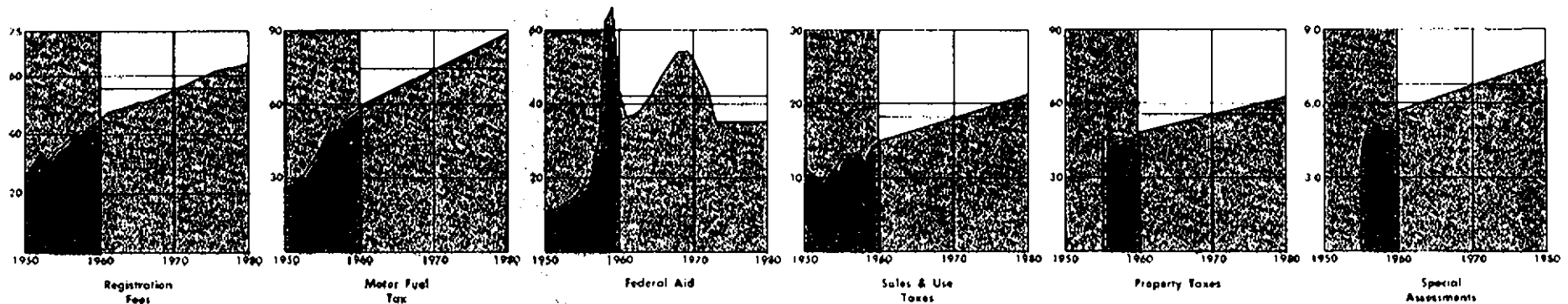
II

NEEDS AND REVENUES

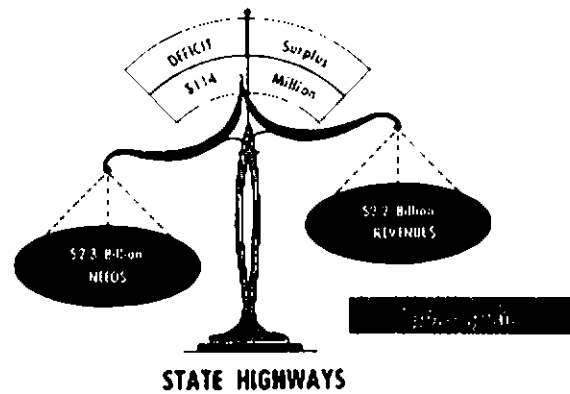
The engineering study has reported separately on the condition of Iowa's roads and streets and the costs of bringing them to desirable standards by 1980. This fiscal study projects the revenues which can be expected in future years from current sources at existing rates and compares the revenues with the expenditure requirements. The total twenty year needs of all systems were reported to be in excess of 5.5 billion dollars, but current revenue sources will produce less than 5.2 billion dollars in the same period.

Annual average expenditures could vary from \$278 to \$350 million depending on what catch up program is adopted. Total deficits would range from \$398 million to \$432 million for an annual average of about \$20 million not including municipal street debt service.

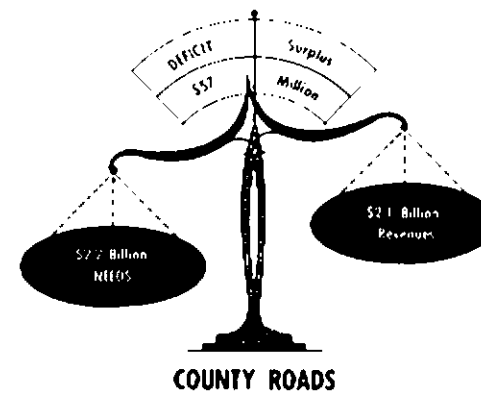
Revenue Forecasts



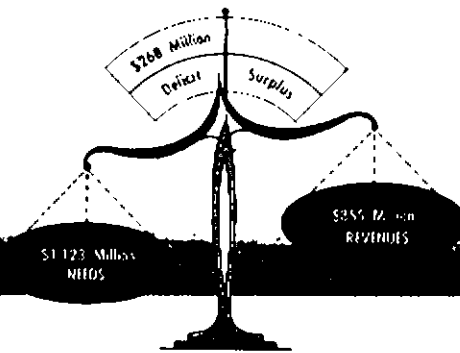
*All Figures Are in Millions of Dollars



The engineering study recommended that state highways be divided into two classifications: Primary Roads and Local Service Roads. The twenty year needs of these combined systems were reported to total more than \$2.3 billion. Revenues from Federal Aid, two cents of gasoline tax, and 42 per cent of all other user revenues, are expected to produce only about \$2.2 billion in the 1961-1980 period, leaving a net deficit of \$114 million, or \$5.7 million per year. If the state highway system in Iowa is to be supported from highway user taxes and Federal Aid, it becomes obvious that some adjustment is required in the present use tax allocation formula.



The engineering study recommends that the county roads be divided into three classifications: County Trunk, County Feeder, and County Local. The total twenty year needs of these systems were reported to be \$644 million, \$694 million, and \$819 million, respectively, for a combined total of \$2,157 million. Revenues from county property taxes for road purposes at current rates, and a continuation of the 50 per cent allocation of the Road Use Tax Fund to the counties, can be expected to produce only \$2,100 million in the next twenty years, leaving a total deficit of \$57 million. The counties, then, will need about half as much in additional revenue as the State if the present user allocation formula is retained.



QUERIES

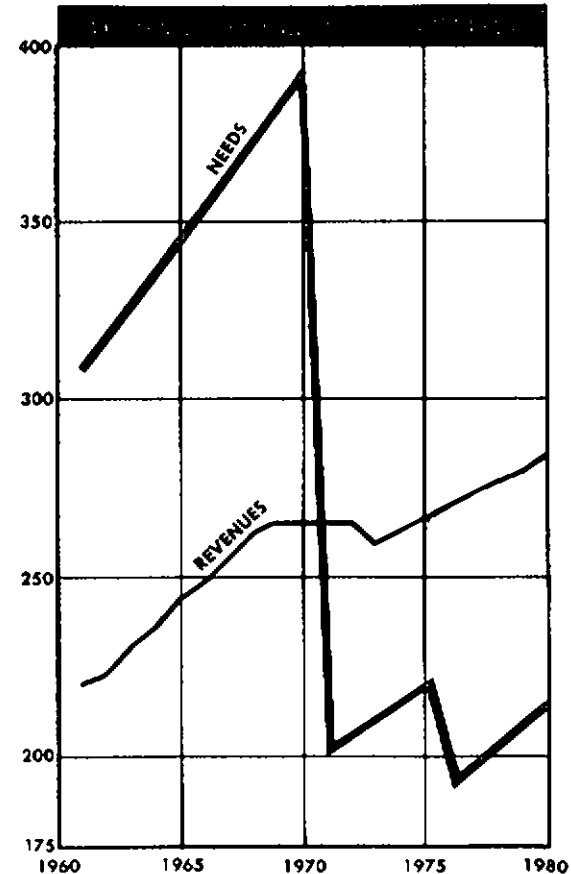
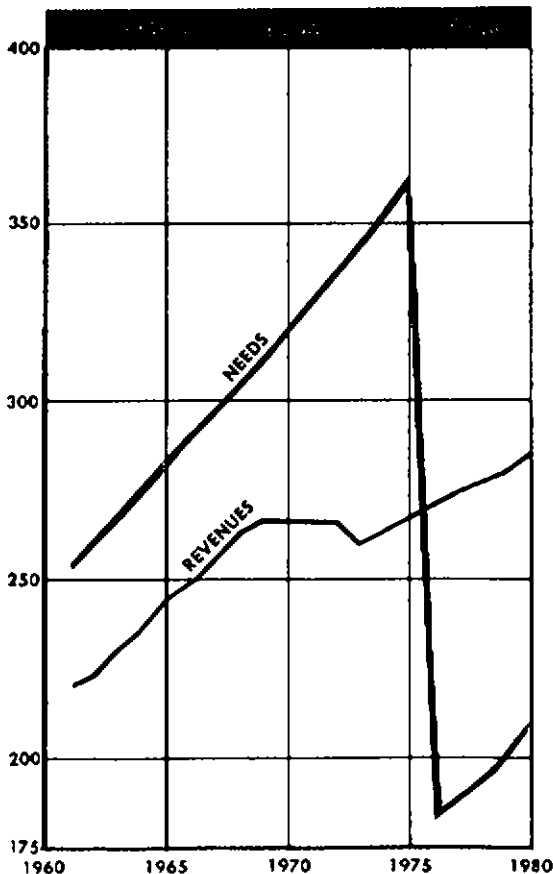
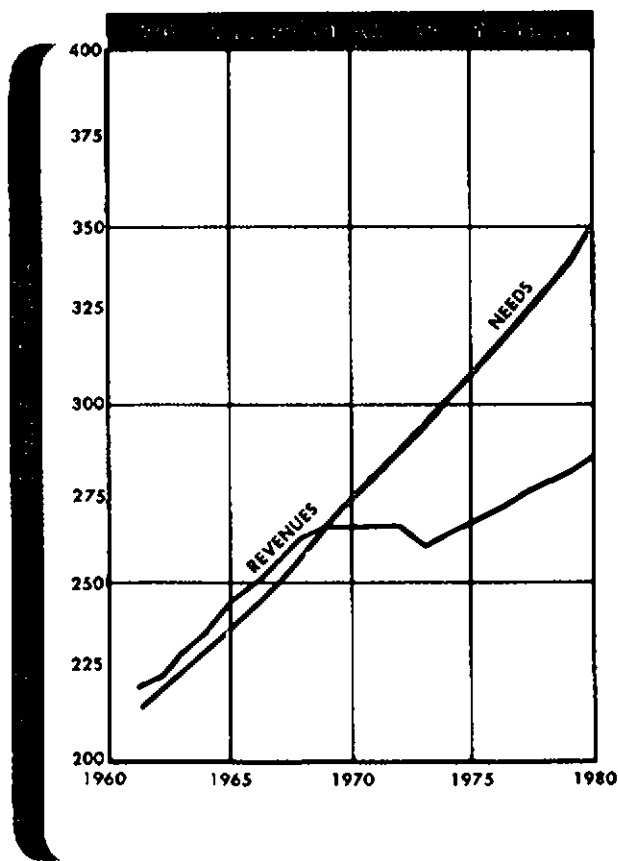
All streets in urban areas, except the extensions of state highways, have been referred to as city and town streets, but heretofore there has been no statutory classification of them. The engineering study recommends that these streets be divided into two classifications: City Arterial and City Access. The twenty year needs of these streets was reported to be about \$1.1 billion, exclusive of an estimated \$42 million required to pay the interest on street debt already incurred. Revenues from urban property taxes,

special assessments, parking meter receipts, and miscellaneous items, together with the eight per cent of the Road Use Tax Fund and the temporary two per cent before distribution, can be expected to produce only \$855 million in the same period, leaving a net deficit of more than \$268 million.

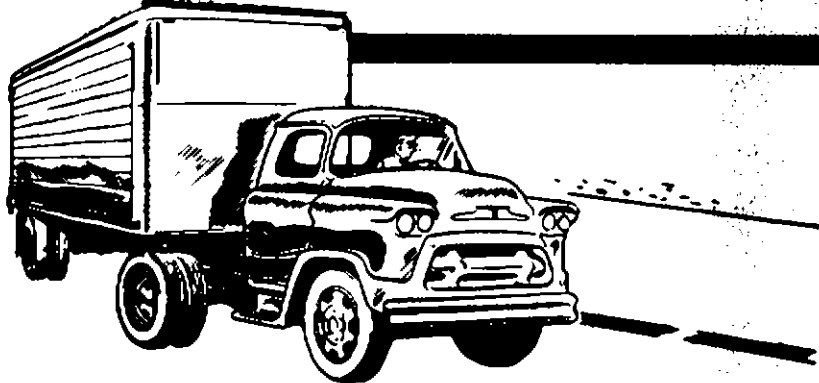
This is about \$100 million more than the combined state and county deficits on the basis of the present distribution of highway user tax revenues.

Total twenty year deficits for all of the systems do not vary significantly regardless of the time schedule for catching up on the backlog of highway, road, and street deficiencies. The alternative construction programs suggested by the engineering study result in significant annual deficits or surpluses, however, since the normal revenue pattern remains the same in spite of proposed expenditure pattern variations. It may be desirable to use fast catch up programs in Iowa to reduce travel

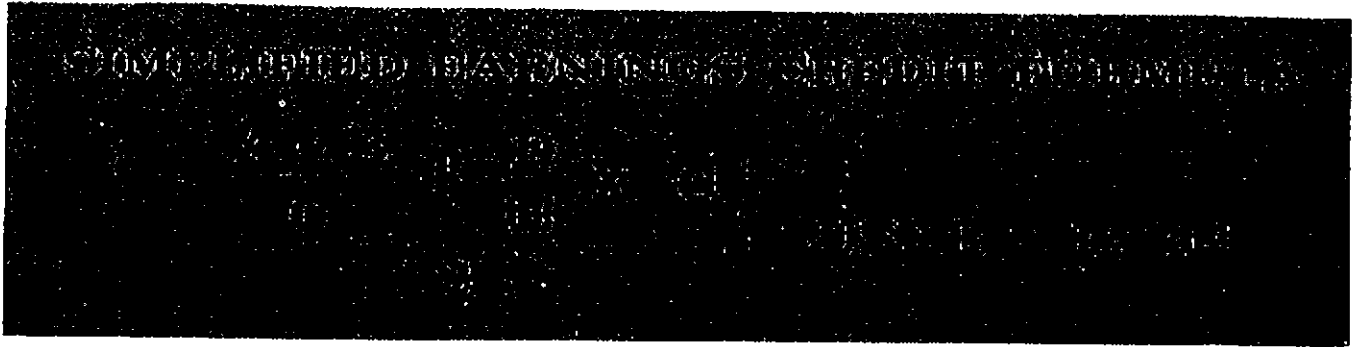
time, motor vehicle operating expense, and excessive accident rates. If so, it will become necessary either to increase user taxes or to borrow money in the earlier years of the program when costs will be high, and to retire the debt in the later years of the program when revenue surpluses will be available. No matter what program is used, however, the total \$440 million deficit will still exist if present revenue rates are maintained.



COST AND TAX RESPONSIBILITIES



Adjustment of the existing revenue structure to meet the highway, road, and street needs of Iowa in the next twenty years requires serious consideration of the relative benefits which highways provide. It is generally agreed that highway costs should be borne to a considerable degree by taxes on the direct users of highways, but it is also recognized that there are benefits resulting from an adequate network of roads and streets which accrue to others than the owners and operators of motor vehicles. Highway users benefit from highway development through time savings, increased travel convenience, and decreased costs of motor vehicle operation. Property owners benefit by improved access to their land and by improved egress from their land to the markets. The general public, in addition to its role as road users or property owners, benefits from highway development through better service from such public vehicles as fire trucks, police cars, ambulances, mail trucks, and school buses, and also from increased economic activity. Determinations must be made as to what extent highway costs are incurred for each of these classes of highway beneficiaries, and how they are meeting their share of costs under the existing tax structure.



A = Average annual state highway costs
 B = Average annual Federal Aid receipts
 C = Estimated mid-program travel on state system

D = Average annual cost of least heavily traveled system
 E = Mid-program mileage of least heavily traveled system

The people of Iowa as highway users contribute more to the cost of highways in using them than they do in any other capacity. In order to determine how much they should pay for the use of Iowa's roads and streets, it is assumed that highway user taxes, combined with Federal Aid, should fully support the state system. It is further presumed that the user share of cost responsibility is being met if the revenue which will be produced from current user imposts, distributed to the State on a travel basis together with

Federal Aid, will fully support the state system. Projections of total user revenues indicate that the current user tax structure is more than adequate to meet the needs of the state system as determined by the engineering study.

Of several methods which have been used by highway economists to determine the user share of responsibility for highways, the earnings credit solution had ready application in Iowa and was used in the fiscal study.

While highway users, as a group, may be meeting their full share of cost and tax responsibility for highways, it does not necessarily follow that this responsibility is shared equitably by the several classes of highway users. To determine the equity among types of vehicles, a theoretical road was designed and priced which would withstand Iowa's climatic conditions and would have the structural strength to carry only the lighter vehicles. The cost responsibility of this highway was assigned to all vehicles regardless of size, weight, or travel. Then the costs were computed for improving this basic road to with-

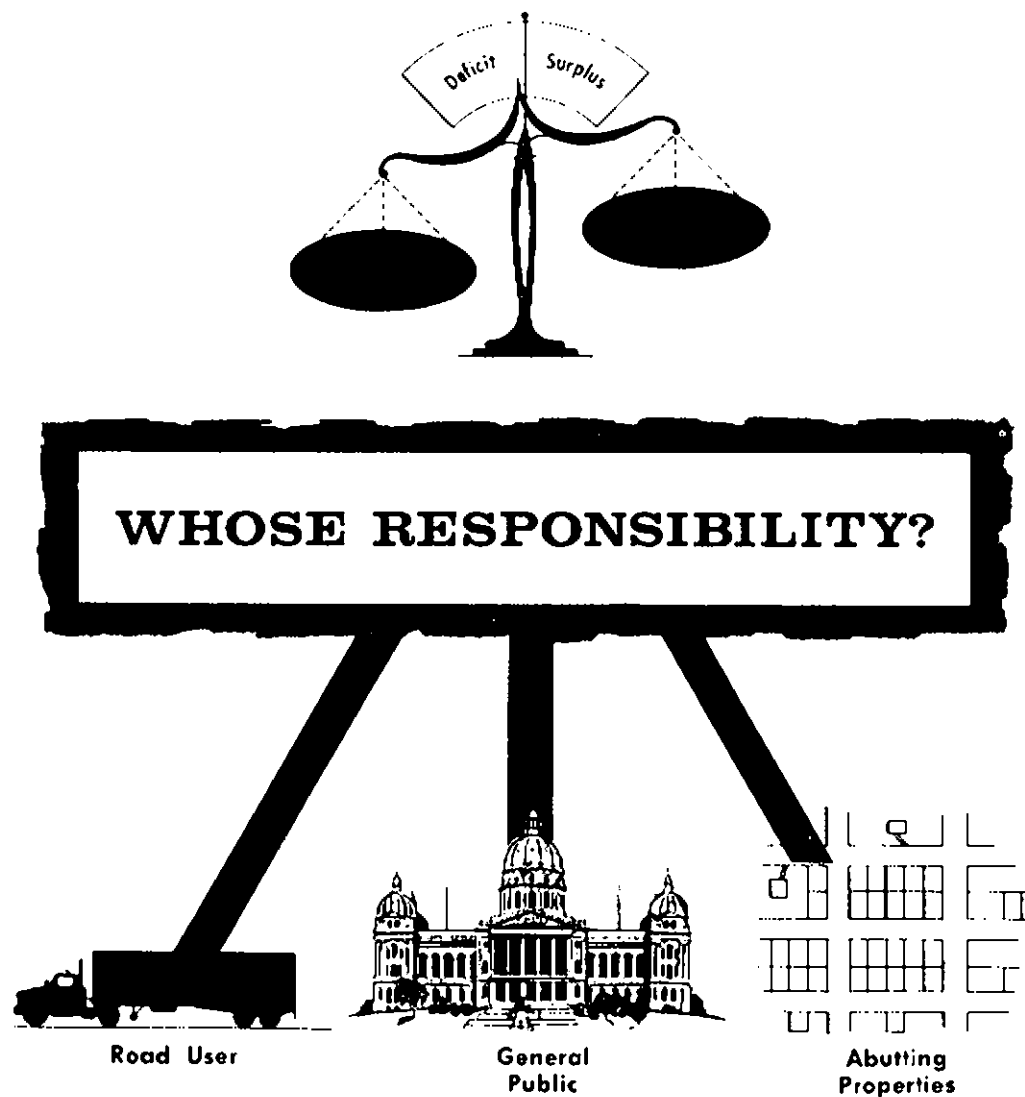
stand increasing increments of size, weight, and travel and the additional costs were assigned as the responsibility of those vehicles for which they are incurred. The user tax amount produced by each type of vehicle under the current tax structure was deducted from the responsibility for highway costs assigned to each type so that the difference indicated the direction of adjustment required to effect equity among highway users in the sharing of user tax responsibilities. This analysis in Iowa indicated generally that semi-trailers are not meeting their responsibility, and that passenger cars are paying more than their share.

ALL AXLES SHARE IN COST OF BASIC ROAD

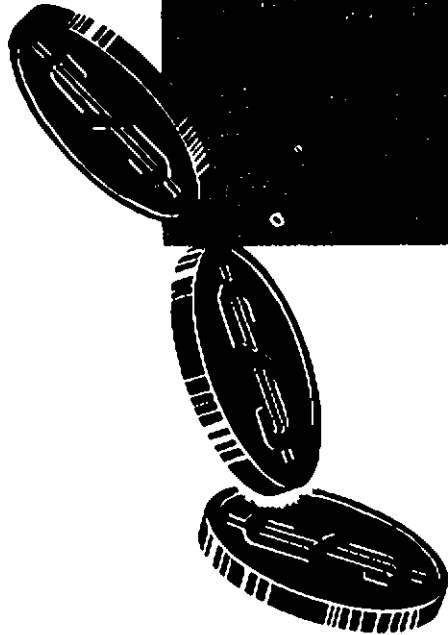
MEDIUM & HEAVY AXLES SHARE COST OF THIS INCREMENT

HEAVY AXLES BEAR COST OF THIS INCREMENT

Once it has been determined that the amount by which the current tax structure fails to produce revenue to meet the measured needs is not a user responsibility according to normal measures of equity, it then becomes a question whether the property taxpayers or the general public should make up the deficit. There are sound arguments and rebuttals for either case, but no detailed analysis of property taxation is necessary to determine that this source is currently making a nearly maximum effort. If the legislature considers the deficit a responsibility of the general public, some expenditure of state general funds for road and street purposes is indicated.

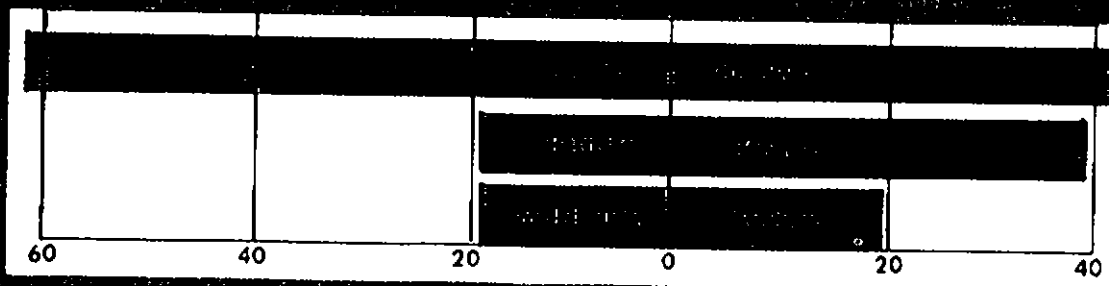


While a continuation of the current level of highway user taxation will provide sufficient revenue to support the state system, such an amount will not become available to the State without an adjustment of the formula for the sharing of user revenues among the governmental jurisdictions. If the State requires an additional \$114 million over the twenty year program period it will have to retain 55 per cent of all of the user imposts it levies, leaving only 45 per cent to be shared with the county and municipal jurisdictions. How much of this share should be allocated to each of the two levels of government, to each of the five road and street systems, and to each of the more than a thousand units of government in Iowa requires comparisons of needs, benefits, and travel.



The most equitable method of dividing the remaining 45 per cent of user revenues between the county and the municipal jurisdictions would appear to be on the basis of travel, since it is the most direct measure of the value of roads and streets to the highway users. An element of inequity is introduced, however, when the volume of traffic on urban arterials may result in municipalities being allocated revenues in excess of their needs while the counties could not meet the needs of even their most heavily traveled system with the share of funds they would receive on an unadjusted travel basis.

Needs, then, become the most reasonable factor, and on this basis the counties, which have twice the dollar needs of the cities and towns, get twice the user revenue, or 30 per cent of the total. Under this formula, the State can meet its needs and the municipal deficit will be reduced to a level which can be met from current sources. The counties will not be able to meet their needs, however, even though they are allocated twice as much user revenue as the municipalities. The major deficit, whether the allocation is made on a needs basis or a travel basis, remains at the county level, and it is the counties which will require support from other than user tax or property tax sources to meet their road needs.



It is recognized that needs may reflect an historically inadequate effort or poor administration, and distribution of user revenues solely on the basis of needs may tend to favor the inefficient unit at the expense of the efficient one. The past is not so important as the future in the approach to this problem, so that the accurately determined needs provide the best basis for future apportionments.

In determining how the 30 per cent county share of user revenues should be divided among the three recommended systems and the 15 per cent municipal share between the two street systems, another factor, benefits, is considered. Highway users benefit in varying degrees from each type of road or street system. In the case of state highways, where the use is predominantly of a through traffic nature, all responsibility other than Federal Aid was assigned to

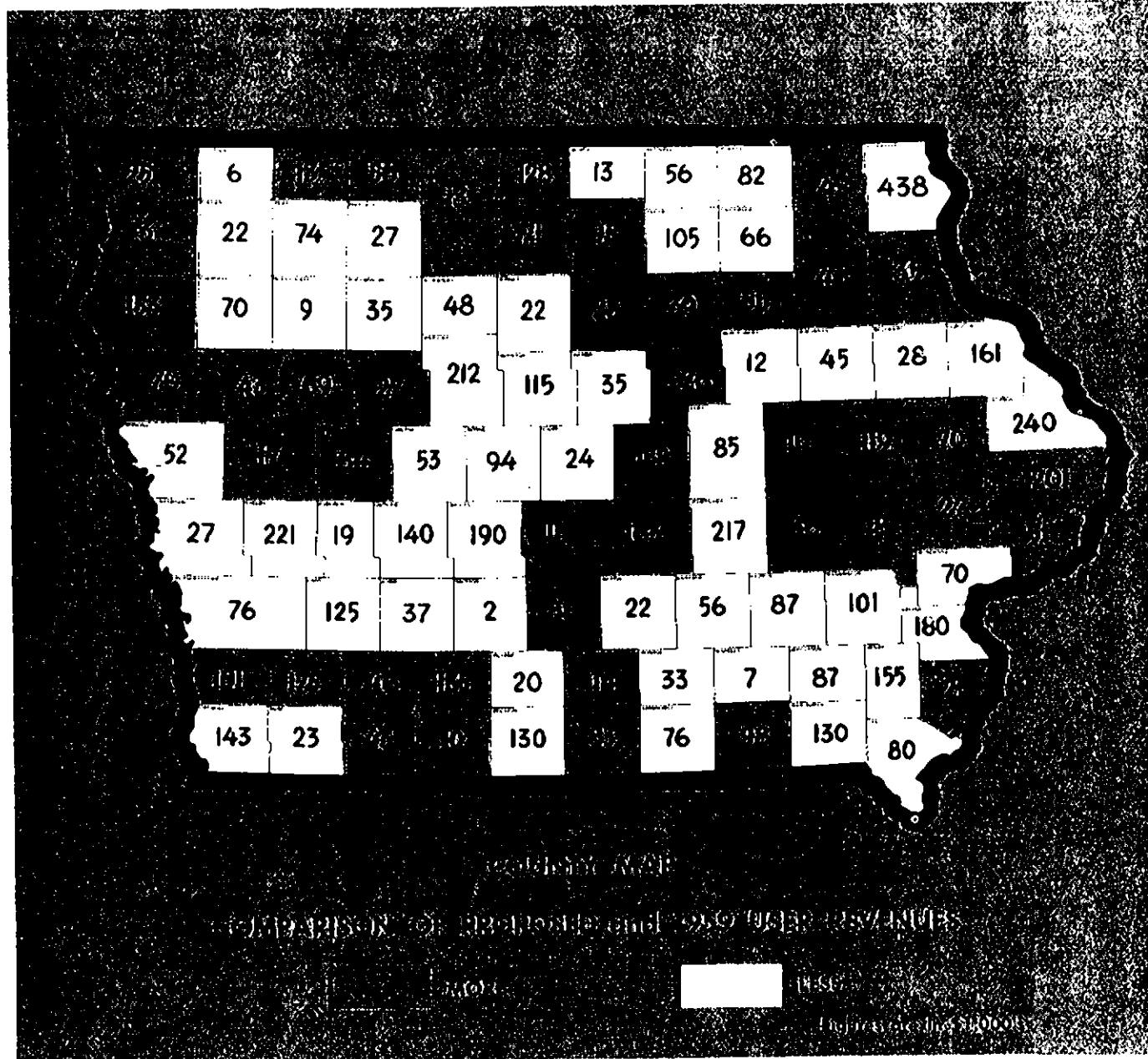
highway users. The county trunk system is primarily the through system in the counties and the arterial system the through system in municipalities; consequently, the cost of these systems is essentially a user responsibility. The county feeder system can be assumed to benefit through and local travel almost equally. The county local system and the municipal access systems serve principally for access and are essentially a property responsibility.

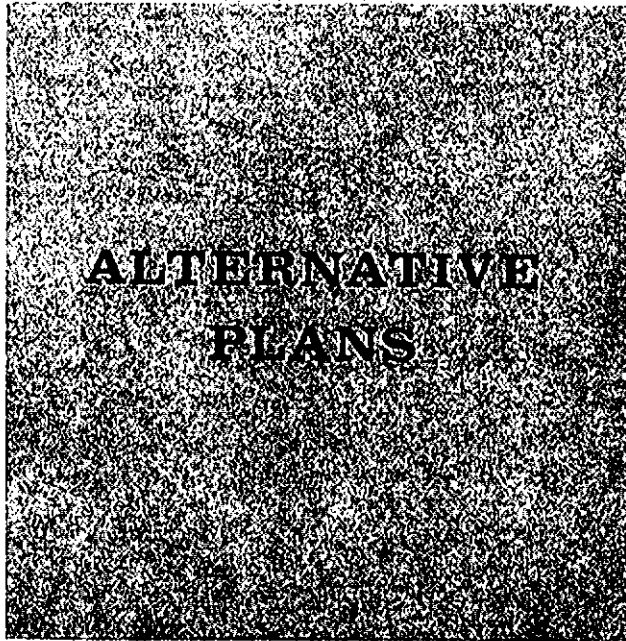
	PERCENTAGE OF USER RESPONSIBILITY	REQUIRED PERCENTAGE OF TOTAL STATE USER REVENUES	
State Primary	100	52	
State Local Service	100	3	55
County Trunk	90	16	
County Feeder	40	9	
County Local	20	5	30
Municipal Arterial	75	11	
Municipal Access	20	4	15
			100

*Refers to responsibility for net program costs, exclusive of Federal Aid.

It is recommended that the distribution of user revenues to the individual jurisdictions be based upon needs. This is a relatively simple matter in the case of counties, where the needs of each county have been separately reported by the engineering study. For each of three county systems, it is suggested that the funds allocated to the system be apportioned among the counties in the same ratio as the needs of the individual county to total county needs.

Since needs data are available for the cities and towns only on a population group basis, it is suggested that the funds allocated to each of the two municipal systems be apportioned among population groups of cities in the ratio of the needs of each group to total municipal needs. The distribution among the individual cities and towns within each population group would be in the proportion that the population of the municipality bears to the total population of each group. The population factor is introduced here only because data for more equitable bases, such as needs or system mileages, were not produced by the needs study for the individual cities and towns.



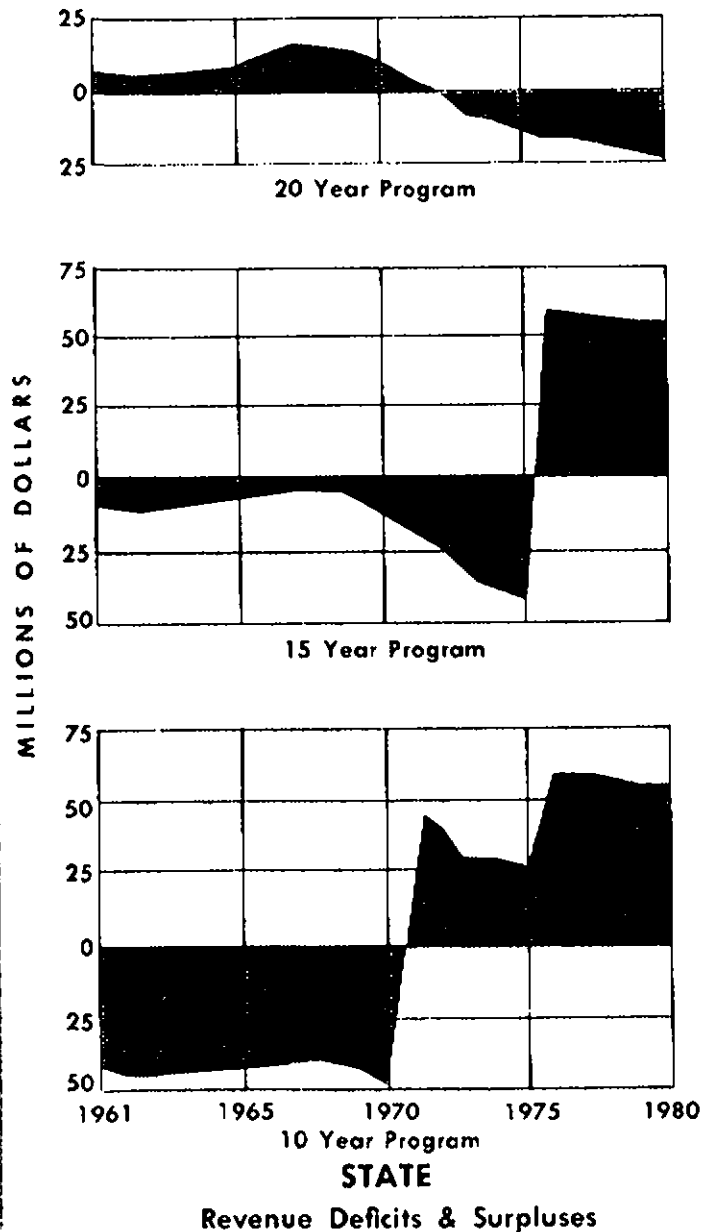


The highway needs, as reported by the engineering study, involve three different time periods for overcoming the current backlog of deficiencies in all systems. The 20 year plan involves no speed up in construction and provides for the correction of current and interim accumulating deficiencies during that period. In the second alternative, the deficiencies are to be corrected in 15 years, with normal activities extended over the 20 year period. The third

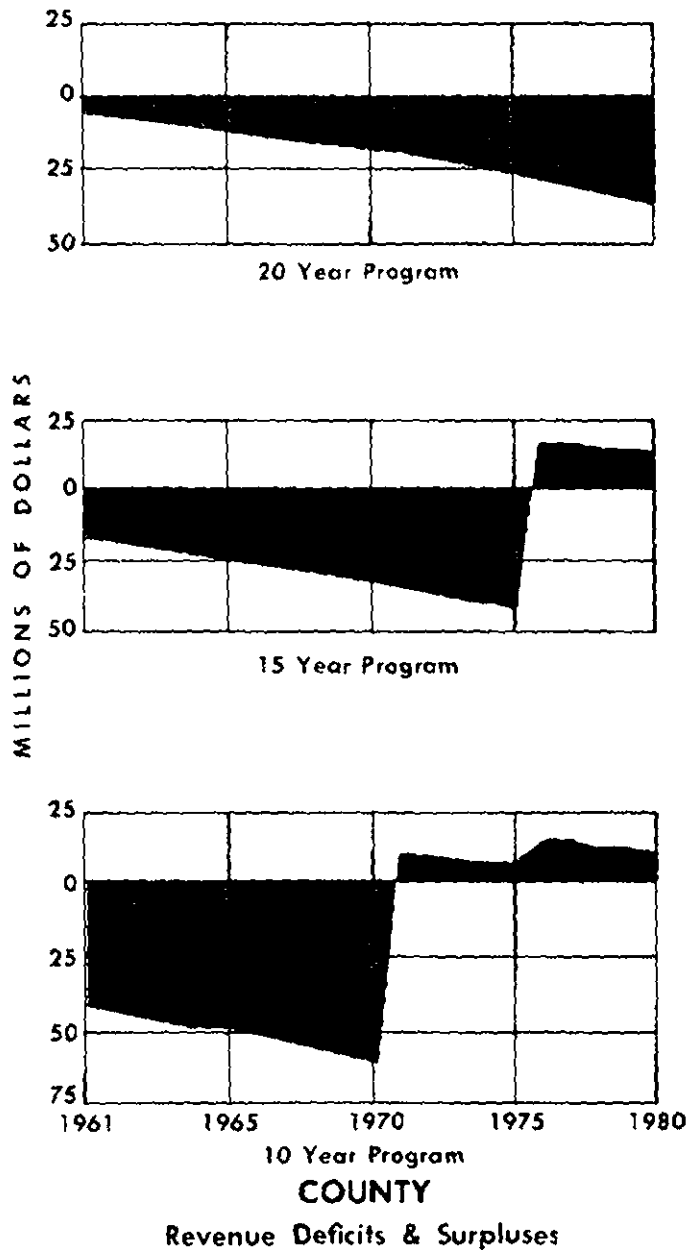
alternative calls for a 10 year catch up period so that costs during the first 10 years are quite high, but once the backlog is eliminated, costs drop off to a normal level necessary to meet replacements and developing deficiencies.

Plans for financing the road and street systems for which the State, counties, and municipalities are responsible must be developed on the basis of careful consideration of the importance and deficiencies of each system and the financial capacities of the several jurisdictions. The needs programs have been developed by the engineering study, as indicated, in such a way as to permit considerable flexibility in the determination of sound and practical fiscal plans. Adequate highways are unquestionably contributory to the economic well being of the State and are essential to its agricultural and industrial needs. On the other hand, the economic realities of public finance make it unwise to attempt to finance a comprehensive road building program in too brief a period of time. Even though the slogan "it pays — it does not cost to build adequate highways" has relevance, the job cannot be done more rapidly than the fiscal capacity of the units of government will permit.

In the discussion of alternative financing plans, where reference is made to deficits and surpluses it must be borne in mind that these are the result of an assumed continuation of user revenues at present rates, of the distribution of these revenues on the basis of the recommended formula, and of Federal Aid and nonuser highway support at the levels forecast.

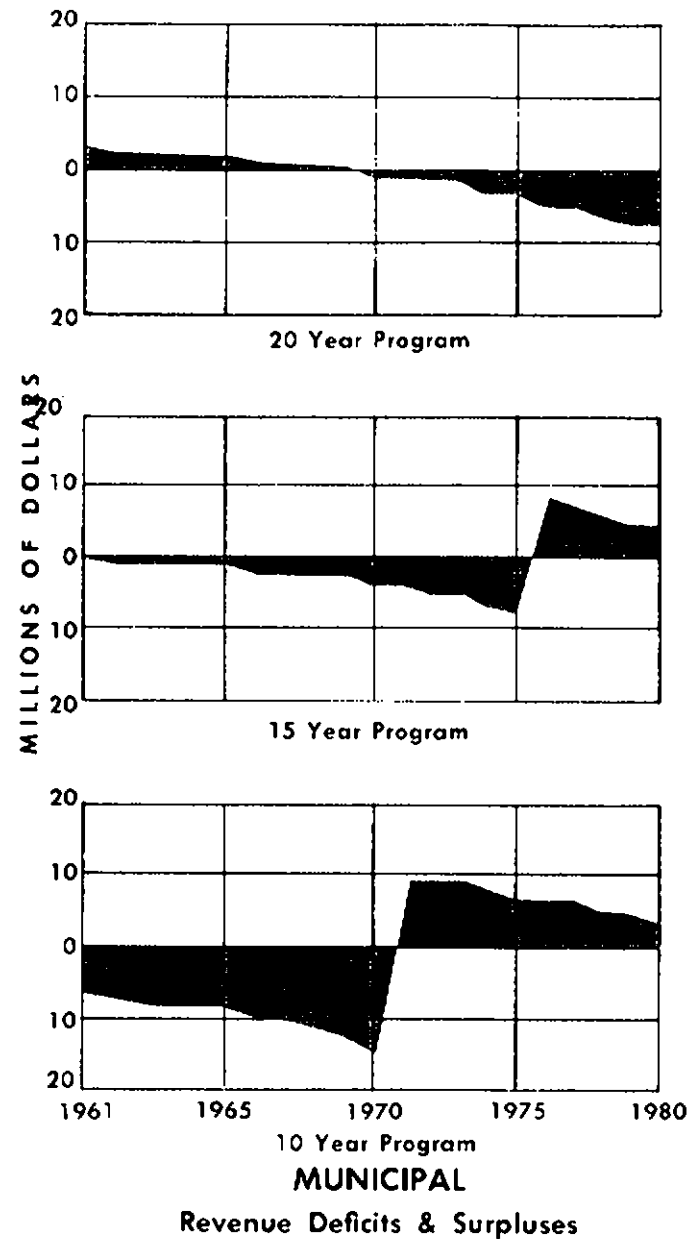


There will be a surplus of revenue for the 20 year state program through 1972 and annual deficits from then until 1980, resulting in a total net surplus of more than \$21 million. The 20 year net surplus will be increased if highway deficiencies are overcome in shorter construction periods but annual financing deficits will occur in the earlier program years. In the 15 year catch up plan there will be deficits through 1975, and in the 10 year plan there will be substantial deficits through 1970. None of the plans would require increased user taxes but the borrowing, if the decision is to borrow rather than increase rates, necessary to overcome the early year deficits of either the 10 or 15 year plans could be repaid within several years after the end of the 20 year program period. Financing the 15 year program would entail the issuance of some \$310 million in bonds and at 3 per cent interest the payment of some \$80 million in interest.



No standard plan can be recommended for all counties, except that the program for the county local system should be extended over 20 years in all cases. Individual counties may select the earlier catch up programs for trunk or feeder roads if deficiencies are intolerable and bond financing is possible. Combining all these systems, but including only a 20 year program for the local system in all instances, the counties as a group would have annual deficits throughout the 20 year program period and an annual average deficit of over \$19 million. There would be a surplus in the last 5 years if the 15 year plan were adopted and in the second 10 years if the 10 year plan were adopted. Legislative action to overcome the overall deficit, by making revenues available to the counties from other than highway user or property tax sources, would result in annual surpluses in the early years of the 20 year program and probably enable most counties to adopt the 15 year catch up plan without borrowing.

As in the case of counties, no standard plan can meet the requirements of each individual city and town in Iowa, and each community must select the program which best meets its needs. The municipalities as a group would have revenue surpluses in the first 9 years of the 20 year program and a deficit in the remaining years. There would be surpluses in the final 5 years if the 15 year program were adopted and in the second 10 years if a 10 year program were adopted. Most cities and towns should be able to finance one of the more rapid catch up programs with no greater borrowing effort than has been exerted in recent years.



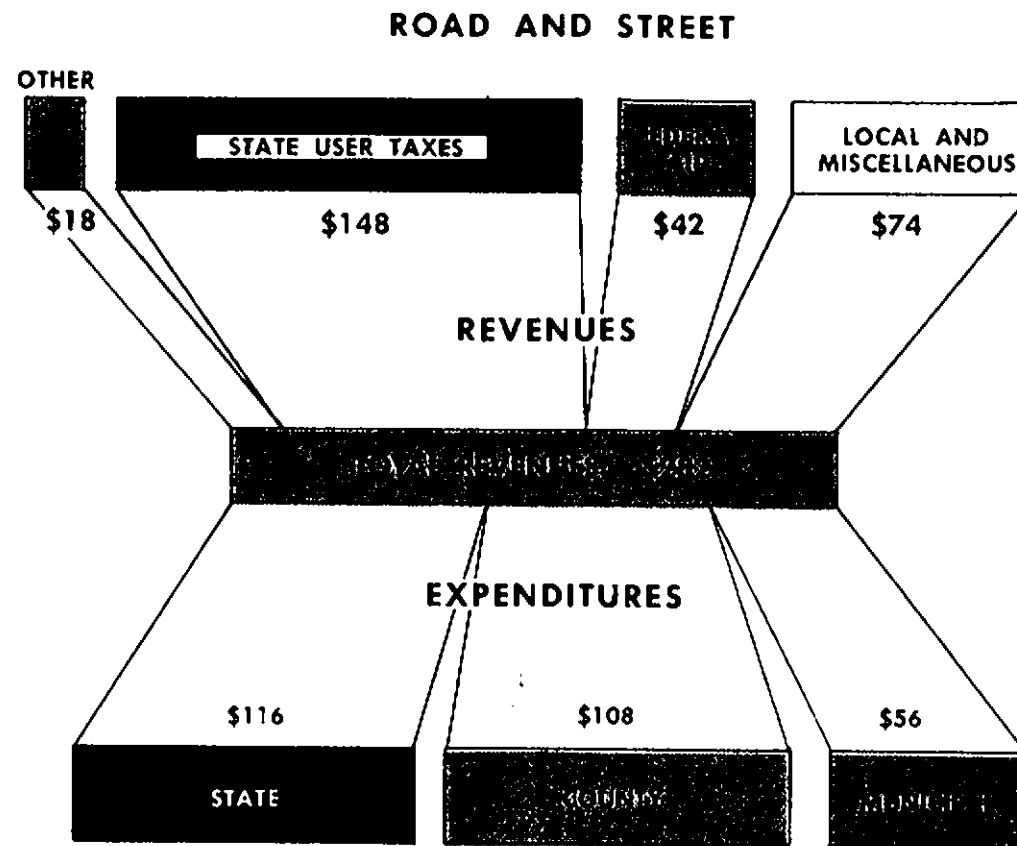
The most comprehensive road study ever made in the State of Iowa was brought about through legislative action, and it will take legislative action to accomplish the planned and orderly development of Iowa's highways, roads, and streets. There must be public understanding, however, of the problems which face the General Assembly in making decisions which will be in the best interest of all levels of Iowa government.

It must be recognized that there is no popular method of raising revenues to finance the operations of government and that there is no convenient way of making up the deficit to meet highway needs. There is no untapped reservoir of public monies available for spending; there is no pat formula for providing each level of government with all of the funds it needs. Local and special interests cannot be substituted for the general public interest in the implementation of a road and street program which affects every individual, every business, and every industry in Iowa.

Perhaps the most pressing problem facing Iowa's legislators is the equitable distribution of user funds

among the several governmental jurisdictions which share the responsibility for Iowa's extensive network of highways, roads, and streets. This study has introduced needs, travel, and benefit factors to guide the General Assembly in making determinations which historically were dependent upon custom, pressure groups, and convenience.

An equally difficult problem to solve is that of providing funds to overcome the deficit between highway needs and projected revenues. If it is the judgment of the Legislature that the general public responsibility for the extensive system of local rural roads is not being met, the support of county roads from state general funds requires increases in general fund revenues. If the deficit is determined to be an abutting property responsibility, the elimination of the agricultural refunds on gasoline taxes would provide a reasonable new source of road revenues. These refunds, which accrue primarily to the direct beneficiaries of local rural roads, would average about



MILLIONS OF DOLLARS

AVERAGE 20 YEAR CATCH UP PROGRAM

1961 - 1980

\$18 million annually during the 1961-1980 program period and represent about 20 per cent of gross total motor fuel tax receipts. Only two other states in the Nation have higher refund or exemption ratios.

It must also be recognized that while highway users are meeting their cost responsibility under the existing user tax structure, it is they who will benefit most from an adequate network of highways, and they therefore may be required to make an even greater tax effort until the backlog of road deficiencies is overcome.

Other legislative action should include the continuation of the two temporary one cent gasoline taxes, the elimination of temporary allocations from the Road Use Tax Fund, the repeal of legislation contradictory to a new Road Use Tax Fund allocation formula, and the adoption of administrative controls necessary to assure effective use of road and street revenues by the State, the counties, and the municipalities.

