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# FINANCING A PROPOSED HIGHWAY PROGRAM IN MINNESOTA

*A Report to the  
Minnesota Highway Study Commission*

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October 1, 1954

Minnesota Highway Study Commission  
State Capitol  
St. Paul, Minnesota

Gentlemen:

We are pleased to submit herewith our final report "Financing a Proposed Highway Program in Minnesota," which has been prepared in accordance with the provisions of our contract with the Commission dated August 17, 1953 and the amendment thereto dated June 4, 1954.

As a part of our contractual obligation and also as a result of discussions and specific questions raised at Commission meetings, we have prepared and submitted, on other occasions, the following documents which augment the information contained in this final report:

1. "A Compilation of Material Pertaining to the Financing of Highways in Minnesota," submitted to the Commission in October, 1953; further extended and revised and resubmitted in February 1954.
2. A series of thirteen memoranda dealing with specific highway subjects. These were issued to the Commission serially between November 1953 and March 1954.
3. A report on "Basic Considerations in Financing Minnesota's Highways," prepared for the February 15, 1954 Commission meeting.

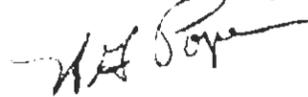
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4. An interim report on "Financing a Proposed Highway Program in Minnesota," submitted at the August 16, 1954 meeting of the Commission.
5. A report entitled "An Incremental Cost Analysis Based Upon the Ten Year ASF Proposed Program," submitted in August, 1954.

It seems appropriate to note that this study was financed jointly by the U.S. Bureau of Public Roads and the Minnesota State Highway Department as Highway Planning Project I (18). Also, we gratefully acknowledge the cooperation of Mr. Lloyd Wilkes, Secretary to the Commission, and his staff, and of the State Highway Department, and particularly its Planning Division, in assisting us throughout the course of these studies.

Yours very truly,



Executive Director

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## INTRODUCTION

The purpose of this report is to assist the Highway Study Commission created by the Legislature in 1953 in developing an adequate fiscal structure for the types of highway systems desired by the people of Minnesota.

During the last twenty years much attention has been given to highway problems within the state. Notwithstanding the merits of the various appraisals which have been made, it is evident that many basic road problems still remain to be solved.

Minnesota was one of the earliest states to adopt the principle of "good roads." In 1898 a constitutional amendment was endorsed by the electorate to provide state assistance for the construction of public roads and bridges. A little more than two decades later, in 1920, a constitutional amendment was adopted providing for the construction and maintenance by the state of a suitable primary highway system between major centers of population, and for the financial support of this system. Through the adoption of this amendment, the people of Minnesota were the first to dedicate all highway user revenues to highway purposes. Under the 1920 amendment, Minnesota has developed reasonably good roads for the movement of passengers and cargo between principal points of municipal and rural occupation and interest.

Unfortunately the constitutional provisions which relate to highways in Minnesota have become obsolete; they are unduly restrictive and hamper the further development of an integrated highway and street system; and they prevent an equitable distribution of highway user revenues between the state and local jurisdictions. The same assertion may be made with equal validity with respect to highway statutes which complement the constitutional provisions. This report calls attention to these weaknesses and advocates a rethinking of the extent to which details should be specified in the constitution and the latitude which should be left to legislative and administrative processes in order to provide a desirable degree of flexibility to meet fast changing transportation requirements.

Highway needs in Minnesota have been determined in detail by the Automotive Safety Foundation and a report thereon has been submitted

separately to the Commission. Among the basic conclusions shown in the needs appraisal is that there should be a shift in emphasis from rural to municipal highway construction and that there should be a general reclassification of the several road systems in the state. The reclassification involves the shifting between systems of many miles of existing highways. This report is devoted primarily to the development of fiscal arrangements which would satisfy the reported construction and maintenance needs. It is based upon calculations and vehicle mile statistics derived from the needs study. This report sets forth what is considered to be a satisfactory guide to an adequate revenue structure, suggests the portions of the cost which should be borne by the various classes of highway users and by others, and provides the basis for an equitable division of highway user revenues among the jurisdictions responsible for the various segments of the total highway program. Recognizing that constitutional amendment is not possible immediately, this report also includes suggestions for an interim program directed toward satisfying program needs to the extent possible under existing constitutional limitations.

The scope of this fiscal study, as authorized by the Highway Study Commission, was limited to highway financing methods. Attention was not given to such factors as the over-all effect on unit costs of travel for automobiles and common carriers due to improved highway design, or savings to the economy as a whole through potentially lower costs for the distribution of commodities. Similarly, no consideration was given to the possible effect of changes in highway standards and the elimination of traffic congestion upon existing relationships between railroad, air cargo, and highway transport. The results of other studies indicate that the above factors are affected by material improvements in the highway systems.

## I. CONSTITUTIONAL AND STATUTORY PROVISIONS RELATED TO FINANCING THE HIGHWAY SYSTEMS

The Minnesota State Constitution, adopted in 1857, was amended in 1898 to establish a State Road and Bridge Fund and to provide financial support for local roads and bridges. In 1912 it was revised to provide for a one mill levy on all property in the state and stipulated that no county should receive in any one year more than three per cent nor less than one-half of one per cent of the funds accumulated for local highway purposes. This latter provision has since remained unchanged.

In 1920, this document was amended to establish a state trunk highway system and to provide for its financing through a levy of taxes on motor vehicles on a more onerous basis than other personal property. An amendment passed in 1924 and revised in 1928 provided for a motor fuel tax with the stipulation that two-thirds of the proceeds of the tax should be for state use on highways and that one-third of the proceeds of the tax should be reserved for county highway purposes. The 1920, 1924 and 1928 amendments are still in effect.

Each of the amendments mentioned represents a recognition of the importance of highway transportation to Minnesota but at times when the number of automobiles and trucks were small and by modern standards moved slowly. The original purpose of these amendments has been served; they are now obsolete in whole or part because of the tremendous growth of highway transportation. This fact has been recognized. Amendments designed to liberalize the fiscal provisions of the constitution were proposed in 1948, 1950 and 1952. Each of these amendments failed of passage.

The Minnesota statutes relating to highways date back to the 19th Century. As highway transportation has changed, the statutes have, within constitutional limits, been revised.

The purpose of this report section is to review the constitutional and statutory provisions relating to the financing of the highway systems and to recommend changes needed to provide flexibility under changing highway conditions.

### Constitutional Provisions

The constitution of Minnesota, like any other state is, and should be, a basic document, adopted by the people, to define the authority and responsibility of state government, to establish the plan of government, and to set forth fundamental rules and regulations for its management. The State Constitution of Minnesota goes further than other state constitutions in spelling out rules of procedure for the dedication of funds. As a matter of fact, approximately 80 per cent of the revenues of the state are dedicated. In the not too distant future this question may become so vital as to require different types of constitutional provisions. The Minnesota state constitution prescribes highway policies in more detail than does the constitution of any other state. The result has been that it has not been possible for the legislature to cope with changing times and needs and to make proper redistributions of highway funds to meet changing highway fiscal requirements nor to give recognition to the need for improvement particularly of urban extensions of trunk highways and arterial municipal streets.

It is clearly desirable to amend the Minnesota constitution to remove restrictive sections and to permit the enactment of legislation at such times and on such occasions as necessary to fit changing highway conditions. The best way in which to change the constitution, from a highway fiscal standpoint, is to remove restrictive features and provide for highway revenue control and distribution by statute. If this approach is used the revisions described in the following paragraphs should be made.

#### Section 5, Article IX

This section sets limitations on state debt, provides for motor fuel taxes and prescribes that two-thirds of the proceeds of motor fuel taxes shall be credited to the Trunk Highway Fund (for state use) and the other one-third shall be credited to the State Road and Bridge Fund (for distribution to the counties).

It would be desirable to delete the two-thirds and one-third formula and to provide that all proceeds from motor fuel taxes be placed in a State Highway Fund, as indicated under the heading Section 2, Article XVI.

Section 16, Article IX

This section establishes the State Road and Bridge Fund and prescribes that to it shall be credited all monies accruing from the income from investments in the Internal Improvement Land Fund. It also specifies that the legislature may add to the State Road and Bridge Fund (for local road and bridge purposes) by levying annually a tax, not to exceed one mill, on all taxable property within the state; and further provides that no county shall receive more than three per cent or less than one-half of one per cent of the monies thus provided during any one year.

It would be desirable to rescind this section in its entirety because all of its pertinent provisions can be included in Section 2 of Article XVI as indicated below.

Section 2, Article XVI

Section 2 of Article XVI establishes a Trunk Highway Sinking Fund to consist of any tax imposed upon motor vehicles and provides that monies in the fund shall be used for the payment of principal and interest on any bonds issued for trunk highway purposes. This section also establishes a Trunk Highway Fund to be used for the construction and maintenance of the trunk highway system and prescribes that monies in excess of debt service requirements shall be transferred from the Trunk Highway Sinking Fund to the Trunk Highway Fund. It further prescribes that any county may be reimbursed from the Trunk Highway Fund, subject to legislative approval, for money expended subsequent to February 1, 1919, on the trunk highway system.

This section should be amended to provide:

1. For the creation of a State Highway Fund to consist of the proceeds of taxes imposed

by the state upon motor vehicles; the proceeds of motor fuel taxes (Section 5 of Article IX, as revised above); all monies accruing from investments in the Internal Improvement Land Fund; and such other monies as the legislature may provide from tax levies or from other sources not dedicated to other purposes by the constitution.

The establishment of a State Highway Fund is deemed advisable for controlling the receipt and disbursement of all highway revenues collected by the state.

2. That monies accumulated in the State Highway Fund be used for road purposes only and that such monies be apportioned annually among the state, the counties, and the municipalities on an equitable basis to be prescribed by the legislature.

It is considered necessary that the division of highway user revenues among the major classes of jurisdictions be a statutory rather than a constitutional provision so that prompt action may be taken to cope with changing highway circumstances.

3. That the highway revenues allocated for state highways and the proceeds of any bond issues for trunk highway purposes be credited to a Trunk Highway Fund; that monies in the Trunk Highway Fund be used for the payment of principal and interest on any trunk highway bonds which may have been issued; and that any monies in excess of such debt service requirements be used solely for the construction, maintenance, and operation of trunk highways.

The revision in this instance would provide for the elimination of the Trunk Highway Sinking Fund which has no modern accounting significance. The obsolete provisions related to the reimbursement of counties for work performed on the trunk highway system subsequent to February 1, 1919, should also be eliminated.

4. That the monies allocated from the State Highway Fund for counties and municipalities be credited to a State Road and Bridge Fund; and that such monies be apportioned annually between counties and municipalities for road and bridge work on an equitable basis to be prescribed by the legislature.

This change is in conformity with the general principle that division of highway user revenues should be a legislative rather than a constitutional provision and provides that municipalities may be apportioned a share of highway user revenues.

### Section 3, Article XVI

Section 3 of Article XVI authorizes the legislature to levy taxes on motor vehicles (using the public highways) upon a more onerous basis than upon other personal property; provides that such taxes shall be in lieu of all other taxes (except wheelage taxes which may be imposed by municipalities); prescribes that the vehicle taxes may be imposed upon the motor vehicles of companies which pay gross earnings taxes; provides that the motor vehicles of non-residents of the state may be exempted from the tax; and stipulates that the proceeds of such taxes shall be paid into the Trunk Highway Sinking Fund.

This section shall be amended to provide that motor vehicle taxes be credited to the proposed new State Highway Fund to which reference is made above.

Section 4, Article XVI

Section 4 of Article XVI provides that subject to the approval of the legislature, bonds may be issued for trunk highway purposes; that the amount of bonds which may be issued in any one calendar year may not exceed ten million dollars; that the amount of outstanding bonds may not exceed seventy five million dollars; that the proceeds of such bonds shall be credited to the Trunk Highway Fund; that bonds shall not be sold for a term exceeding twenty years, and that they shall not bear interest at a rate exceeding five per cent; and that if the monies available in the Trunk Highway Sinking Fund are insufficient to pay principal and interest on outstanding bonds, the legislature may levy a property tax in an amount sufficient to meet the deficiency, or appropriate to the Trunk Highway Sinking Fund any monies available in the state treasury that are not otherwise appropriated.

This section should be revised to eliminate unrealistic debt limitations and to provide that trunk highway bonds may be issued in reasonable amounts as prescribed by the legislature. A suitable legislative restriction would be a ratio between the amount of annual principal and interest payments and the amount of highway user revenue receipts. It should also be revised to prescribe that principal and interest payments be made from the Trunk Highway Fund in line with the fund changes suggested above, or from other appropriate funds as the legislature may determine. A further desirable revision would be to provide specifically for revenue bonds so that toll roads may be developed if and when such highway facilities are considered desirable.

Section 1 of Article XVI of the constitution prescribes in some detail the extent and location of the trunk highway routes which were considered necessary when the Trunk Highway Amendment was adopted in 1920. The same section provides the basis on which the legislature may add additional routes to the trunk highway system. It is a moot

question whether the constitution should have ever prescribed specific highway routes. If that be accepted as necessary, however, a constitutional modification to provide for the abandonment of trunk highway routes under justifiable circumstances is equally sensible.

In summary, the preferable plan for amending the highway provisions of the constitution has the following objectives:

1. The establishment of a single State Highway Fund to control the collection and disbursement of all highway user revenues.
2. The clarification of the eligibility of municipalities for apportionments from highway user revenues.
3. The distribution of highway user revenues between the state and local jurisdictions on a statutory rather than on a constitutional basis.
4. The elimination of the non-significant Trunk Highway Sinking Fund.
5. The liberalization of provisions relating to highway bond issues.
6. The rescission of the provisions which prescribe specific trunk highway routes, or at least modification to provide for abandonment of trunk highway routes under justifiable circumstances.

#### Statutory Provisions

Legislation on highway matters in Minnesota is complicated--perhaps more so than statutes on other governmental functions--and is somewhat confusing. The situation has developed over a long period of years because the legislature has enacted laws of special application and because existing legislation is not always modified to conform with new statutes. The situation is well described by the Revisor of Statutes who in the 1949 edition of the Minnesota Statutes makes the statement that laws of special application are not made available in one place

because they "would comprise at least four additional volumes of statutes" and that the statutes contain laws no longer applicable because "the revisor lacks authority to pass upon the repeal of a statute by implication, except when the implication is clear and unmistakable."

There are many examples of special highway laws which apply to only one county. In one instance, a law passed in 1951<sup>1/</sup> specified that it applied to all counties with a population of not less than 26,000 or more than 28,000; in 1953 this law had to be amended<sup>2/</sup> to read not less than 28,000 population nor more than 30,000, since 1950 population figures for the county in question had in the meantime become available.

Laws governing the extension of state and county aid roads through municipalities apparently have been passed without a detailed appraisal of highway laws already in existence, with the result that the legal responsibilities of local jurisdictions with respect to roads have been made extremely confusing.

Laws necessarily supplement existing constitutional limitations, and if the constitution is amended as suggested above, present statutes pertaining to highways would have to be revised. To illustrate the revisions which would be advisable, reference is made to the 1949 Minnesota Revised Statutes, Section 160.12, Trunk Highway Sinking Fund. This section prescribes in general that:

1. Motor vehicle tax proceeds shall constitute the Trunk Highway Sinking Fund.
2. The Commissioner of Highways, the State Auditor, and the State Treasurer shall meet annually and determine the amount of money required for current year payments of principal and interest on trunk highway bonds.
3. Money in excess of such debt service requirements shall be transferred from the Trunk Highway Sinking Fund to the Trunk Highway Fund.

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<sup>1/</sup>Chapter 238.

<sup>2/</sup>Chapter 312.

4. Not less than 40 per cent of the money transferred to the Trunk Highway Fund shall be set aside for trunk highway maintenance.
5. Not more than four per cent of the money set aside for trunk highway maintenance shall be expended in any one county.
6. Proceeds from the sale of bonds for trunk highway purposes, federal aid highway funds, license fees imposed upon motor vehicles or operators of motor vehicles (except municipal wheelage taxes) and such other monies as are appropriated or allotted therefor shall be credited to the Trunk Highway Fund.
7. Money set apart for the payment of principal and interest on trunk highway bonds shall be invested and the earnings of such investments shall be credited to the proper fund.

If the constitution is amended as suggested, Section 160.12 might well be revised to prescribe the highway fiscal policy of the state. It could be amended to:

1. Confirm the establishment of a State Highway Fund, a new Trunk Highway Fund, and a new State Road and Bridge Fund.
2. Prescribe that motor vehicle fees (net), motor fuel taxes (net), and the other miscellaneous revenues (net) which are dedicated to highway purposes shall be credited to the State Highway Fund.
3. Eliminate the Trunk Highway Sinking Fund.
4. Delete the 40 per cent minimum allotment for trunk highway maintenance expenditures.
5. Remove the four per cent limitation on trunk highway maintenance expenditures within a particular county.
6. Remove the reference to wheelage taxes.

7. Provide for the investment of moneys in the Trunk Highway Fund.
8. Prescribe the formula to be used in apportioning between the state and local jurisdictions the monies available in the State Highway Fund, and specify the dates on which such apportionments shall be made.
9. Prescribe the formula to be used in distributing monies among local jurisdictions.
10. Specify what proportion of the monies allocated to local jurisdictions shall be expended in accordance with standards prescribed by the Commissioner of Highways.
11. Provide that, under emergency highway circumstances, both the state and local jurisdictions may petition for special allocations from funds which have been accumulated or set aside in the State Highway Fund, which petitions may be granted by the Commissioner of Highways with the approval of the Governor.

It will be noted the suggested revisions to Section 160.12 which are outlined above include deletions from, as well as additions to, existing legislation. The deletions are proposed in the interest of good highway management. The additions are suggested to provide the basis for an equitable distribution of highway user revenues and to permit prompt legislative and executive action under changing highway conditions. Section 160.12 could not be revised as suggested until action is taken on amending the constitution. There is no need, however, to await the adoption of constitutional amendments before proceeding to revise existing complicated and confusing highway laws, keeping in mind the following objectives:

1. Providing legislation which is general in scope to lessen the legislative burden and expense involved in enacting laws of individual and special interest.
2. Deleting obsolete provisions and consolidating similar provisions now contained in different chapters and sections.

3. Eliminating statutes which lack significance (such as the obsolete town road dragging law).
4. Removing mill restrictions on local tax levies for road purposes so that the local jurisdictions can themselves better equate their road requirements and resources.
5. Permitting full cooperation between all highway jurisdictions on road matters under mutually satisfactory financial arrangements.
6. Establishing equitable apportionment formulas for the distribution of highway user revenues among jurisdictions insofar as this can be done under present constitutional limitations.

In general the problem is to bring the whole legal framework in line with current highway conditions. In so doing, specific attention should be given from a fiscal standpoint to the highway laws contained in the Chapters of the Minnesota Statutes which are outlined in Exhibit I.

## Exhibit I

## MINNESOTA HIGHWAY FISCAL STATUTES REQUIRING REVIEW

Chapter	Title
160	General Provisions Relating to Roads
161	Department of Highways
162	County Roads
163	Town Roads
164	Bridges on Roads
166	Roads or Cartways Jointly Constructed or Improved
168	Motor Vehicles
171	Drivers Licenses
221	Motor Vehicle Transportation for Hire; Common Carriers; Contract Carriers
270	Department of Taxation
272	General Provisions Relating to Taxation
273	Taxes; Listing and Assessment
275	Levy and Extension of Taxes
296	Tax on Gasoline and Gasoline Substitutes
366	Town Board and Board of Audit
368	Special Provisions, Towns
373	Powers, Duties, and Privileges, Counties
412	Villages Incorporated under R. L. 1905, Chapter 9
426	Finance and Taxation, Cities and Villages
428	Public Improvements, Cities of Second or Third Class
429	Public Improvements, Villages, Boroughs, or Cities of Fourth Class
430	Land for Streets and Parks (Elwell Law), Cities and Villages
434	Pavements, Curbs, and Gutters, Cities and Villages
440	Work or Works On or In Streets, Cities and Villages
441	Streets, Bridges, Cities and Villages

## II. FINANCIAL SUPPORT OF THE HIGHWAY PROGRAM

In Minnesota as in most other states, highways are financed with funds derived from highway user taxes based upon vehicle fees and motor fuel consumption, from property taxes and miscellaneous receipts, and from federal aid. In many instances bonds have been issued to provide funds to improve highways; such bonds have been retired using revenues derived from both highway user and property tax sources.

The expenditures for highway programs in Minnesota during the calendar year 1952 for all levels of government totaled \$142,366,000 plus certain minor tax collection costs; revenues from highway user taxes amounted to approximately \$65,000,000 of this total. These latter revenues were derived from a five cent tax on motor fuel consumed on the highways and a motor vehicle tax based on vehicle weight but so adjusted as to retain the original constitutional concept of an "in lieu of personal property tax" through the application of a depreciation schedule.

To satisfy the highway needs of Minnesota, as determined by studies independently conducted and submitted to the Commission by the Automotive Safety Foundation,<sup>1</sup> the annual expenditure requirements will depend largely upon how rapidly current deficiencies must be corrected. The average annual expenditures indicated by the needs study are as follows:

Program (Years)	Average Annual Expenditure Rate	Increase or Decrease in Annual Expenditure Rates Compared with 1952
5	\$257,851,000	+ \$119,387,000
10	175,861,000	+ 37,397,000
15	150,610,000	+ 12,146,000
20	136,715,000	- 1,749,000

There are many obvious difficulties in carrying out a five year program. For example, there are difficulties involved in gearing the engineering planning, design, and construction facilities to such an increase in pace for a short period; in obtaining reasonable unit construction costs; and in sharply increasing taxes (by more than 80 per cent), probably coupled

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<sup>1</sup>/Highway Transportation in Minnesota--An Engineering Analysis, transmitted to the Minnesota Highway Study Commission on September 15, 1954.

with large borrowings, over a relatively short period. On the other hand, observation of changes in motor vehicles and trucks, and consequently the standards of highway design and construction, over the past 20 years, and changes which have occurred in the economy as a whole, suggest that the proposed 20 year program is too long. It is reasonable to assume that reappraisals of highway needs and financial arrangements would be warranted within that period.

The average amounts which, according to the Automotive Safety Foundation, are required annually to finance the 10 and 15 year programs of highway improvement and maintenance are shown in Exhibit II. Adoption of the 10 year program would require additional financial support. With authorized and expected increases in federal aid, and anticipated increases in motor vehicle registrations and motor fuel consumption, the 15 year program could be supported largely by existing levels of locally raised total revenues.

The action of the Legislature in creating the Special Highway Study Commission and the tenor of discussions of the Commission since its inception imply the desirability of correcting highway deficiencies at a somewhat accelerated rate. It is recommended that consideration be given to the 10 year program. A 10 year period would provide sufficient time for the planning, supervision, and accomplishment of the improvements deemed necessary; better competition among contractors would be promoted than if a shorter and more intensive program were selected. There is a question also as to how long current deficiencies can be tolerated. A materially longer program, based upon present costs and design standards, may become obsolete before its completion. In other states where needs studies have been undertaken, resurveys have, in many instances, been conducted at even more frequent intervals than 10 years.

The needs study indicates that an average annual expenditure of \$175,861,000 would be required over a 10 year period to bring the highway systems up to date, to provide for replacements which will be needed within that period, and to pay for adequate maintenance of the road systems. This figure does not include \$5,784,000 per year which must be added for financing the cost of tax collection, state safety programs, and state and local traffic regulation. The total requirements would therefore average \$181,645,000 annually. Needs have been based upon increases in traffic volume; the increase from 1953 to 1965 is estimated at about 30 per cent. This will be reflected in a corresponding increase in the number of vehicles in the state and in greater motor fuel consumption. On this premise it is not necessary to raise the total average amount in the first year

Exhibit II

AVERAGE ANNUAL EXPENDITURES REQUIRED  
TO FINANCE HIGHWAY NEEDS IN MINNESOTA  
IN TEN YEAR AND FIFTEEN YEAR PROGRAMS  
AND 1952 PROGRAM COSTS

System Designation	Classification Proposed in Needs Study		Present Classification		Program Costs (Present Classification)
	10 Year Program		15 Year Program		
	10 Year Program	15 Year Program	10 Year Program	15 Year Program	
State Trunks					
Rural	\$ 38,194,000	\$ 32,545,000	\$ 46,494,000	\$ 38,890,000	\$ 57,305,000
Urban	32,103,000	26,842,000	33,542,000	27,952,000	11,379,000
Total	\$ 70,297,000	\$ 59,387,000	\$ 80,036,000	\$ 66,842,000	\$ 68,684,000
State Aid			22,368,000	19,450,000	20,925,000
County Roads					
County Aid and County			22,562,000	19,399,000	12,837,000
Total County	44,970,000	38,067,000	\$ 44,930,000	\$ 38,849,000	\$ 33,762,000
Township Roads	21,994,000	18,627,000	13,734,000	11,500,000	12,266,000
City Streets	38,600,000	34,529,000	37,161,000	33,419,000	27,654,000
Total Roads and Streets	\$ 175,861,000	\$ 150,610,000	\$ 175,861,000	\$ 150,610,000	\$ 142,366,000 <sup>a/</sup>
Federal Aid	20,688,000	20,688,000	20,688,000	20,688,000	13,316,000
State and Local Funds Needed	\$ 155,173,000	\$ 129,922,000	\$ 155,173,000	\$ 129,922,000	\$ 129,050,000

<sup>a/</sup>The 1952 program costs used in these computations include the administrative costs of the Highway Safety Division, the expenditures of the State Highway Patrol and local expenditures for traffic regulation. The figure comparable to the totals shown in the other columns would be \$138,714,000.

Source: All estimates of future costs provided by Automotive Safety Foundation in its report Highway Transportation in Minnesota--An Engineering Analysis.

of the program. By increasing revenues in the first program year approximately 15 per cent above current (1954) levels to about \$164,000,000, revenues would increase sufficiently in each subsequent year to finance the total 10 year program without further changes in the tax structure.

The purpose of this report section is to discuss the division of these costs between highway users and other taxpayers and to suggest a plan for the assignment of that portion to be paid by highway users to various segments within that group.

### Division of Responsibility Between Highway Users and Others

The problem of equitably dividing tax responsibility between the various groups who are beneficiaries of highway service is a very difficult one. The competition for the tax dollar has become increasingly acute as governments at all levels have added new services, as demands for higher standards of operation have been advanced and accepted, and as existing sources of governmental income have been exploited to the point of diminishing return or, as in the case of the property tax, to a point at which it is politically inexpedient to increase the burden materially.

### Methods of Assigning Cost Responsibility

Considerable research has been conducted in recent years to determine the most equitable division of cost responsibilities for highway construction and maintenance between the road user and other segments of the economy. The methods most frequently proposed to accomplish this purpose are as follows:

1. Added Expenditure. The cost of roads before motor vehicles became significant is computed as the proper charge against property and the general public. Any additional costs of highways are borne by highway users.
2. Restricted Capacity. The potential amount of highway user revenue lost as a result of reduced capacity caused by unlimited access to highways is considered as the charge against the property owner and general public. All remaining costs after subtracting the property charge are borne by the highway user.

3. Standard Cost. The highway user charge that will pay for a standard road is determined on a unit of travel basis. This charge is then applied to the travel on all systems and the remaining highway costs are borne by the other groups.
4. Predominant Use. The cost of highways used predominantly by through traffic is charged against the highway user, and the cost of highways used predominantly by local traffic is charged against the property owner.
5. Relative Use. The cost of each highway is divided between highway user, general public, and property owner in proportion to the amount of local, neighborhood, and through traffic on the highway.
6. Earnings Credit. The highway user charge necessary to pay for the heavier traveled highways is applied to all systems and the remaining costs are temporarily assigned to property owners. Then the property charge necessary to pay for the lighter traveled roads is applied to all systems and the remaining costs are temporarily assigned to highway users. The two results are then averaged.

In each of these methods a highway is nominally considered as a utility and the charges against beneficiaries are computed in one of two ways.

1. The charges against one group of beneficiaries are computed and the balance of the costs are left for payment by other groups.
2. The charges against each group of beneficiaries are computed separately.

All of the methods cited have been applied by highway researchers in an effort to reduce the assignment of highway cost responsibility to a mathematical formula. The application of these methods is made difficult usually by the unavailability of basic information. This is true even in Minnesota where, as compared to other states, more than the average amount of highway data have been developed.

### Earnings Credit Analysis

From among the methods mentioned above, more data are available for the computation by the earnings credit method than any other, and this method was selected for the purpose of making mathematical analyses of cost responsibility in this fiscal study. This method produces solutions which compare reasonably well with those obtained in its application to other existing state road and street systems. It embodies the following division of highway fiscal responsibilities among beneficiaries:<sup>2/</sup>

1. Applying to all highway systems the highway user charges required to pay for the heavier traveled highways (on a vehicle mile basis); the remaining costs represent the nonmotor-vehicle share of tax responsibility. Under this approach it is assumed that the costs of the heavier traveled highways will be borne entirely by the highway user.
2. Applying to all highway systems the property or other taxes necessary to pay for the lighter traveled roads (on a cost per mile basis) and then allocating the balance of the costs to highway users. This approach assumes that no highway user funds are to be used for the lighter traveled roads.
3. Averaging the results obtained in 1 and 2 above to give an end result.

Applications of the earnings credit method to the 1952 actual program costs and the 10 and 15 year programs developed in the needs study for both existing and proposed highway system classifications are shown on a percentage basis in Exhibits III, IV, V, VI, and VII. A comparison of the results obtained for 1952 data, and for the 10 and 15 year programs as proposed by ASF is summarized below:

<u>Program</u>	<u>Highway User Share (Per Cent)</u>	<u>Other Sources (Per Cent)</u>
1952 Actual	56.4	43.6
1952 Calculated	68.6	31.4
10 Year Proposed Classification	58.2	41.8
15 Year Proposed Classification	56.4	43.6
10 Year Plan, Existing Classification	64.5	35.5
15 Year Plan, Existing Classification	61.6	38.4

<sup>2/</sup>A more complete description of the earnings credit method of distributing highway costs is contained in materials prepared by the U. S. Public Roads Administration for the Highway Research Board Committee on Highway Finance and Taxation, 1949.

Exhibit III

ACTUAL PERCENTAGE DISTRIBUTION OF MINNESOTA HIGHWAY PROGRAM COSTS  
IN 1952, BY SOURCES OF FUNDS AND BY JURISDICTIONS, AND  
AS CALCULATED ON BASIS OF EARNINGS CREDIT ANALYSIS

Jurisdiction	DISTRIBUTION BY JURISDICTIONS						Total Calculated and Actual
	Federal Aid		Highway User Taxes		Other Sources		
	Calculated	Actual	Calculated	Actual	Calculated	Actual	
State	62.8	62.8	67.4	82.1	1.6	1.1	48.3
Counties and Towns	32.5	32.5	23.8	17.9	50.8	50.9	32.3
Cities	4.7	4.7	8.8	0.0	47.6	48.0	19.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Jurisdiction	DISTRIBUTION BY REVENUE SOURCES						Total Calculated and Actual
	Federal Aid		Highway User Taxes		Other Sources		
	Calculated	Actual	Calculated	Actual	Calculated	Actual	
State	12.2	12.2	86.9	86.9	0.9	0.9	100.0
Counties and Towns	9.4	9.4	45.9	28.4	44.7	62.2	100.0
Cities	2.3	2.3	28.1	0.0	69.6	97.7	100.0
Total	9.4	9.4	62.2	51.1	28.4	39.5	100.0

EARNINGS CREDIT ANALYSIS  
 BASED UPON PROPOSED TEN YEAR PROGRAM COSTS WITH REVISED HIGHWAY CLASSIFICATIONS  
 AND COMPARISON WITH 1952 PROGRAM COSTS

Jurisdiction	DISTRIBUTION BY JURISDICTION - PERCENTAGE BASIS						
	Federal Aid Calculated	1952	Highway User Taxes Calculated	1952	Other Sources Calculated	1952	Total
Rural	39.2	53.0	33.3	68.2	0.0	1.1	21.7
Urban	32.9	9.8	19.0	13.9	12.6	0.0	18.2
Total State	72.1	62.8	52.3	82.1	12.6	1.1	39.9
Counties and Towns	27.9	32.5	24.3	17.9	60.5	50.9	38.1
Cities	0.0	4.7	23.4	0.0	26.9	48.0	22.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Jurisdiction	DISTRIBUTION BY REVENUE SOURCE - PERCENTAGE BASIS						
	Federal Aid Calculated	1952	Highway User Taxes Calculated	1952	Other Sources Calculated	1952	Total
Rural	21.2	12.3	78.8	86.6	0.0	1.1	100.0
Urban	21.2	11.4	53.4	88.6	25.4	0.0	100.0
Counties and Towns	8.6	9.4	32.8	28.4	58.6	62.2	100.0
Cities	0.0	2.3	54.8	0.0	45.2	97.7	100.0
Total	11.8	9.4	51.3	51.1	36.9	39.5	100.0

Exhibit V

EARNINGS CREDIT ANALYSIS  
 BASED UPON TEN YEAR PROGRAM COSTS WITH EXISTING HIGHWAY CLASSIFICATIONS  
 AND COMPARISON WITH 1952 PROGRAM COSTS

Jurisdiction State	DISTRIBUTION BY JURISDICTION - PERCENTAGE BASIS						
	Federal Aid Calculated	1952	Highway User Taxes Calculated	1952	Other Sources Calculated	1952	Total
Rural	41.9	53.0	37.8	68.2	0.0	1.1	26.4
Urban	30.2	9.8	18.7	13.9	15.7	0.0	19.1
Total State	72.1	62.8	56.5	82.1	15.7	1.1	45.5
Counties and Towns	27.9	32.5	21.1	17.9	57.6	50.9	33.4
Cities	0.0	4.7	22.4	0.0	26.7	48.0	21.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Jurisdiction State	DISTRIBUTION BY REVENUE SOURCES - PERCENTAGE BASIS						
	Federal Aid Calculated	1952	Highway User Taxes Calculated	1952	Other Sources Calculated	1952	Total
Rural	18.6	12.3	81.4	86.6	0.0	1.1	100.0
Urban	18.6	11.4	55.6	88.6	25.8	0.0	100.0
Counties and Towns	9.9	9.4	36.0	28.4	54.1	62.2	100.0
Cities	0.0	2.3	60.4	0.0	39.6	97.7	100.0
Total	11.8	9.4	56.9	51.1	31.3	39.5	100.0

Exhibit VI

EARNINGS CREDIT ANALYSIS  
 BASED UPON PROPOSED FIFTEEN YEAR PROGRAM COSTS WITH REVISED HIGHWAY CLASSIFICATIONS  
 AND COMPARISON WITH 1952 PROGRAM COSTS

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Jurisdiction	DISTRIBUTION BY JURISDICTION - PERCENTAGE BASIS						
	Federal Aid		Highway User Taxes		Other Sources		
	Calculated	1952	Calculated	1952	Calculated	1952	
Rural	39.5	53.0	33.3	68.2	0.0	1.1	21.6
Urban	32.6	9.8	19.0	13.9	10.9	0.0	17.8
Total State	72.1	62.8	52.3	82.1	10.9	1.1	39.4
Counties and Towns	27.9	32.5	24.3	17.9	58.5	50.9	37.7
Cities	0.0	4.7	23.4	0.0	30.6	48.0	22.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Jurisdiction	DISTRIBUTION BY REVENUE SOURCE - PERCENTAGE BASIS						
	Federal Aid		Highway User Taxes		Other Sources		
	Calculated	1952	Calculated	1952	Calculated	1952	
Rural	25.1	12.3	74.9	86.6	0.0	1.1	100.0
Urban	25.1	11.4	51.9	88.6	23.0	0.0	100.0
Counties and Towns	10.2	9.4	31.4	28.4	58.4	62.2	100.0
Cities	0.0	2.3	49.8	0.0	50.2	97.7	100.0
Total	13.7	9.4	48.7	51.1	37.6	39.5	100.0

Exhibit VII

EARNINGS CREDIT ANALYSIS  
 BASED UPON FIFTEEN YEAR PROGRAM COSTS WITH EXISTING HIGHWAY CLASSIFICATIONS  
 AND COMPARISON WITH 1952 PROGRAM COSTS

Jurisdiction State	DISTRIBUTION BY JURISDICTION - PERCENTAGE BASIS						
	Federal Aid Calculated	1952	Highway User Taxes Calculated	1952	Other Sources Calculated	1952	Total
Rural	41.9	53.0	37.7	68.2	0.0	1.1	25.8
Urban	30.1	9.8	18.4	13.9	14.1	0.0	18.6
Total State	72.0	62.8	56.1	82.1	14.1	1.1	44.4
Counties and Towns	28.0	32.5	21.8	17.9	54.3	50.9	33.4
Cities	0.0	4.7	22.1	0.0	31.6	48.0	22.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Jurisdiction State	DISTRIBUTION BY REVENUE SOURCE - PERCENTAGE BASIS						
	Federal Aid Calculated	1952	Highway User Taxes Calculated	1952	Other Sources Calculated	1952	Total
Rural	22.3	12.3	77.7	86.6	0.0	1.1	100.0
Urban	22.3	11.4	52.6	88.6	25.1	0.0	100.0
Counties and Towns	11.5	9.4	34.8	28.4	53.7	62.2	100.0
Cities	0.0	2.3	53.0	0.0	47.0	97.7	100.0 <sup>23</sup>
Total	13.7	9.4	53.2	51.1	33.1	39.5	100.0

A comparison of program costs and sources of funds for the 1952 and the 10 year programs, by dollar amounts, is charted in Exhibit VIII. In this exhibit, the amounts for state, county, municipal, and other local road purposes are shown separately.

Full reliance cannot be placed upon any mathematical formula for assigning highway cost responsibility; variables may be introduced which distort the formula factors and thereby produce impracticable results. For example, applying the same formula to the existing and proposed reclassification of highway systems injects several variables. Under the reclassification, the rural trunk line system would be reduced by nearly 30 per cent, the county roads by nearly 27 per cent, and other local mileage would be correspondingly increased. At the same time traffic volume on the trunk line system would be reduced only 8 per cent. These changes would materially affect the percentages derived by the earnings credit formula.

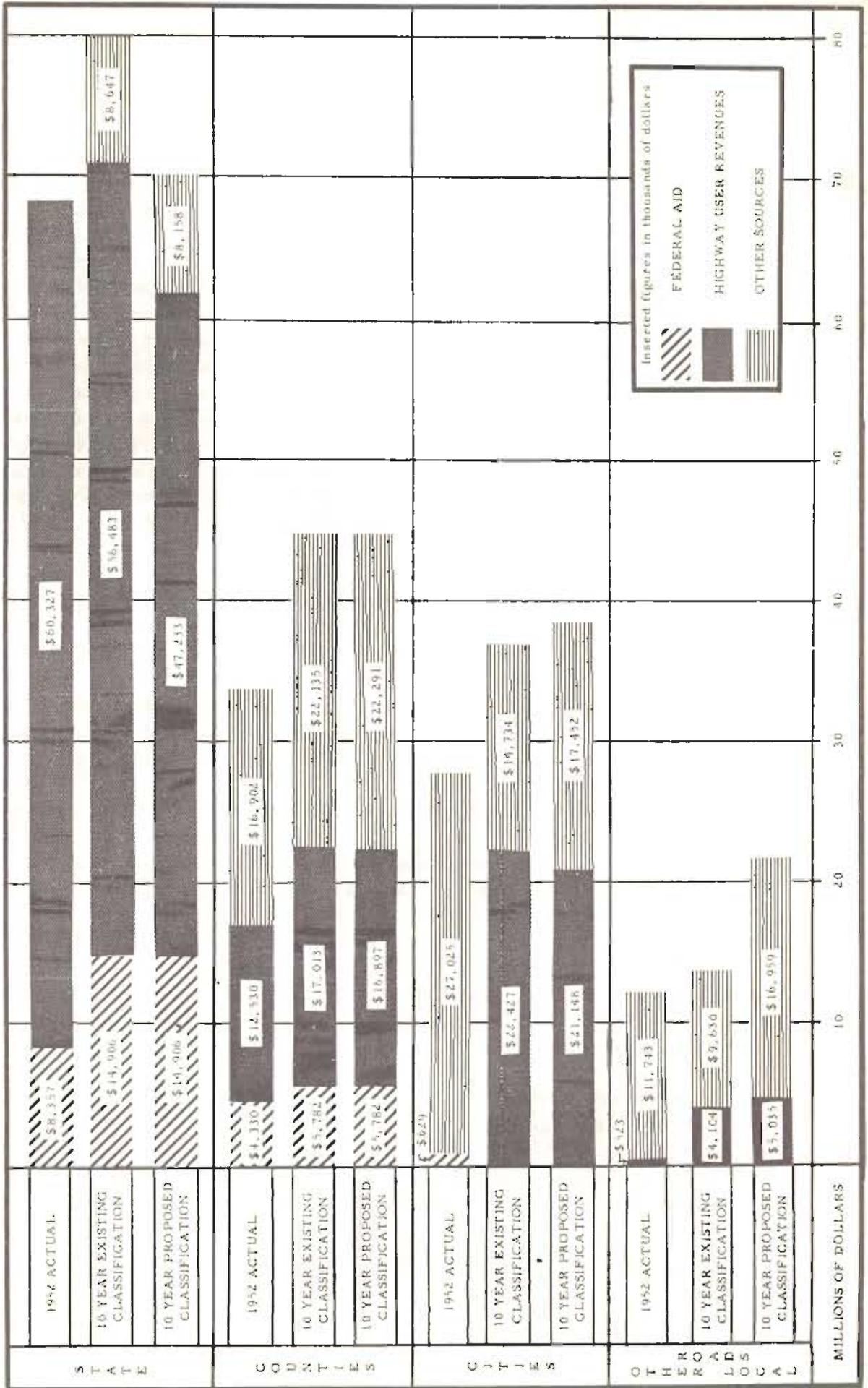
It is not contended that this method produces the ultimate or optimum of equitability, but it is useful as a reasonably accurate guide. Applied to the 1952 program costs in Minnesota and to the plans to meet highway needs in 10 and 15 year programs on the basis of the existing road systems, it produces comparable results just as it has in other states when applied to existing highway systems. When costs of tax collection, the administration of state safety programs and state and local traffic regulation costs are added, the average amount which should be borne by the highway users is 65.8 per cent.

There are a number of other practical factors to be considered in assigning highway cost responsibility. Traditionally, local governments have depended upon property taxes to a considerable degree to finance the variety of functions for which they are responsible. The earnings credit computations reflect current construction needs plus operating and maintenance costs to be financed in the future but do not give credit for the very large amounts which property taxes have provided in the past to bring the urban and rural highway systems up to their present stage of development.

The application of a pure utility theory of highway financing would mean that all or at the very least almost all highway costs--excluding the costs for purely property access roads--would be borne by highway users, in the same sense that the costs of electricity and water and other utilities are charged against those who benefit directly from them. The utility theory is inherent in the arguments of the proponents of anti-diversionary restrictions on highway user taxes. The virtue of the earnings credit

Exhibit VIII

COMPARISON OF PROGRAM COSTS AND SOURCES OF FUNDS  
FOR MINNESOTA'S 1952 HIGHWAY PROGRAM AND AVERAGE  
ANNUAL COSTS FOR PROPOSED 10 YEAR PROGRAMS\*



\*Based on annual average costs as shown by needs study and earnings credit analysis made in fiscal study.

method of assigning costs among taxpayer groups lies not in either the finality or logic of its conclusion, but in the fact that, for the various alternatives presented to Minnesota, a somewhat larger share of the financial burden of an expanded program is assessed against the principal beneficiaries, the highway users, rather than against real property owners. Highways were originally constructed as a convenience, and their financing fell into the traditional pattern, along with other governmental services, of being assessed against real property. But now that highway transportation has assumed a business or economic entity of its own, one unrelated to real property, it is logical that it assume at least a greater share of its own financing. The recognition of this fact is nowhere more obvious than in the current, national recognition of the toll road method of highway finance--the pure application of the utility theory to highway economics. It does not appear that the property tax potential in Minnesota is great enough to insure any substantial additional increment of financial support for highways.

The state itself is hard pressed for revenues with which to continue the services desired by the public. Additional funds could be used to good advantage for such important state obligations as education, public welfare, mental health, and conservation programs. There is little chance that the state could contribute from its general funds to provide financial assistance for highway improvements even if, as indicated in Section I, a large proportion of its funds were not dedicated for specific purposes.

Minnesota was the first state to dedicate highway user revenues exclusively to highway purposes. Such dedication implies acceptance of the utility theory which, if pursued to the mathematical extreme, would mean charging all highway costs to highway users; this, despite the fact that obviously there are highway beneficiaries other than highway users. The Minnesota Legislature has expressed adherence to this general principle by increasing the tax rate on motor fuel from the original 2 cents to the present 5 cents per gallon. Motor vehicle taxes have followed the same general pattern of increases. Similar trends have been experienced throughout the United States.

Increases in highway costs, except for the general effects of inflation, are largely the result of new standards of design--lesser grades, longer horizontal and vertical sight distances, better foundations and drainage, and thicker and smoother pavements--made necessary by heavier, longer, and more comfortable automobiles, trucks, and buses traveling at greater speeds.

All the factors mentioned above point to the conclusion that highway users should pay an increasing share of total highway costs. In arranging for the financing of the needs program it would be reasonable, on the basis of the analysis of existing road systems, to conclude that the highway users should assume about 65 per cent of the total construction, operation, and maintenance costs.

### Division of Responsibility Among Highway Users

Taxes on highway users have evolved into a fairly uniform pattern throughout the United States. All states levy a motor fuel tax and provide for the licensing of automobiles, trucks, and buses. Motor vehicle taxes are sometimes combined with license fees but are normally based upon the weight of the vehicle. In addition, motor vehicle operators are licensed in all but one state and, in some, revenues from other related sources are used for highway purposes. Except for motor fuel and vehicle taxes, the fee schedules, as in Minnesota, are designed to cover little more than the cost of their administration. In Minnesota, as in most other states, the costs of tax collections and refunds are deducted from gross revenues received and the balance is deposited and used for highway purposes.

Local governments normally share in state levied motor fuel and motor vehicle taxes and, in many instances, use revenues from traffic fines and parking meters for highway and related purposes.

### Methods of Assigning Cost Responsibility

Although the pattern of taxation as outlined above is generally uniform, the rates of taxation and their impact upon various classes of highway users vary widely between states. Researchers in this field have developed a number of criteria for the assignment of responsibility between classes of highway users, the most common of which are mentioned below:

Cost Increments. Under this method, heavier vehicles are charged with the cost of the more expensive roadways needed to support them. Depending on the type of cost, the charge is made according to number of vehicles, number of vehicle miles, and number of miles traveled with successively heavier loads.

Gross Ton Mile. Highway costs are divided among users on the basis of ton miles traveled by each class of user.

Operating Cost. Highway costs are divided among users on the basis of the relative cost of vehicle operation.

Differential Benefits. Highway costs are divided among users on the basis of savings in time and operation as a result of highway expenditures.

Space Time. Highway costs are divided among users on the basis of the highway space needed by each type of vehicle multiplied by the time it takes each vehicle to cover the space.

Each of the above solutions has been the subject of criticism by researchers and vested interests among the highway user groups on the basis that insufficient valid data are available to give credence to the end result. The Highway Study Commission has reviewed all these methods and has agreed that the incremental cost theory is the most valid and that data are sufficiently available to apply to the Minnesota situation.

#### Incremental Cost Analysis

The incremental cost method of assigning highway costs responsibility, recommended to be used in Minnesota, was defined in 1933 in a report issued by the Joint Committee of Railroads and Highway Users from which the following statement is quoted:

"The basic cost of constructing, improving, and maintaining a given highway should be determined from a highway designed for private passenger vehicles and other vehicles commensurate therewith. All vehicles using such highways should pay their proportionate share of that total as a tax base. The total additional cost of construction, improvements, and maintenance to make a road suitable for a type of vehicle requiring such additional cost should be shared by each vehicle of that type and each vehicle of greater size. Thus, each vehicle should share in the base cost plus all increments of cost up to and including cost required by it."<sup>3/</sup>

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<sup>3/</sup>Source: Here quoted from The Ohio Incremental Study, a paper prepared for presentation at the 32nd Annual Meeting of the Highway Research Board by D. F. Pancoast.

The basic philosophy upon which this method is based is described in the following excerpts from a report presented to the Director of the Ohio State Department of Highways, December 1953:<sup>4/</sup>

"The 'incremental' or 'differential costs' method is a procedure for allocating highway costs equitably among different types and weights of vehicles. It is based upon the simple idea that a vehicle using a highway should pay its share of the cost of those components of the highway which it needs and should not pay for those components from which it receives no benefit.

"A simple example is the thickness of concrete pavement. If a typical two-axle truck weighing 6,000 lb. loaded, requires a pavement four inches thick and a similar vehicle weighing 13,000 lb. requires a 7-inch pavement then, in allocating the costs of a 9-inch thick pavement, the first truck should pay only its share of the cost of the first four inches as the remaining five inches is of no benefit to it. The second vehicle, however, should pay its share of the costs of the first four inches plus its share of the second increment of three inches. The cost of the additional increment of two inches should be borne by vehicles heavier than the two cited.

"Considering the case of the second vehicle more carefully, it may be found that only a part of its travel on this pavement is done while loaded. If its empty weight is, say, 5,000 lb., then for such use of the pavement it should pay only its share of the cost of the basic four inches. Its share of the second increment of cost should be figured only on the miles it operates at a gross weight requiring the second increment of pavement thickness.

"Of course, no vehicle should be charged for any component of a highway which it never travels on.

"Similar increments of increased cost are those due to the increased pavement lane and shoulder widths needed

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<sup>4/</sup>Source: Allocation of Highway Costs in Ohio, by D. F. Pancoast.

by 8-foot-wide trucks as compared to 6-foot-wide passenger cars.

"Less obvious, but still important, are the increased maintenance costs necessitated by heavier vehicles.

"It is important to note that the incremental method is used only for allocating the motor-vehicle share of highway costs. What that share should be, as compared to the share to be borne by abutting property, the general government, or other beneficiaries of highways, must first be determined by other means."

The detailed method used in making the incremental cost analysis in Minnesota involved the following steps:

1. The classification of highways into groups having similar traffic characteristics and in turn similar construction standards.
2. Classifying highway costs into three groups:
  - a. Those costs attributable to traffic density and weight (such as the cost of base construction and surface maintenance).
  - b. Those costs attributable only to traffic density (such as pavement striping).
  - c. Those costs attributable to neither frequency nor weight (such as the cost of administration).
3. Establishing the amount of each of the various costs attributable to weight (by weight brackets).
4. Determining the amount of travel by each vehicle class on the designated highway systems.

#### Determinations from Incremental Cost Analysis

Using the above method, an analysis was made on the basis of the 1952 program costs, traffic volume, registration statistics, and road

classification. This analysis indicated that highway users operating heavy gross weight vehicles were not paying their full share of highway program costs. A second incremental cost analysis, based upon the proposed re-classified road system in the 10 year program indicated by the needs study was submitted in a separate document to the Commission last August,<sup>5/</sup> This analysis also indicated that the operators of heavy vehicles should contribute a greater share of the total needed to support highways in Minnesota.

In the incremental cost analysis of the 10 year plan, the portion of the total costs to be borne by highway users (58.2 per cent before adding certain administrative and traffic regulation costs) was taken from the earnings credit computations and the cost for the first year was derived by adjusting the average annual cost estimates by a factor (1 + 1.115). Estimated increases in registrations and motor fuel consumption would provide sufficient revenues in future years to finance the 10 year program. Other costs, including tax collection, safety program administration and state and local traffic regulation, were added. The results of this calculation are shown in Exhibit IX. Under this plan, the total to be raised from highway users would be \$86,782,000 of which \$84,650,000 would be distributed to state, county, and municipal jurisdictions. The division of charges assigned to the several classes of vehicles derived from the incremental cost analysis and a comparison with similar charges made in 1953 appears in Exhibit X. It will be noted that automobiles and farm trucks would pay a lesser percentage than provided for under the present schedule and other classes of vehicles would pay proportionately more.

Existing legislation provides for the payment of highway user taxes through motor fuel and motor vehicle taxes. For proper administration of the tax program proposed herein, legislation should be revised to provide for a motor fuel tax, a vehicle registration fee, and a weight tax. Most other states are following this pattern. The recommended tax structure is as follows:

Registration Fee. This fee, paid at the time of licensing, would cover basic costs of administration. An annual registration fee of \$3.00 would be collected for every vehicle domiciled in the state, for each diesel burning vehicle traveling within the state and for each vehicle with a gross weight of 20,000 pounds or more traveling in the state.

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<sup>5/</sup>An Incremental Cost Analysis Based Upon the Ten Year ASF Proposed Highway Program, by Public Administration Service. Submitted to the Commission August 16, 1954.

Exhibit IX

ADJUSTMENT OF PROGRAM COSTS AS INDICATED BY NEEDS STUDY  
FROM AVERAGE YEARLY COSTS TO FIRST YEAR COSTS

	10 Year Reclassified System (Thousands of Dollars)			First Year Distribution Jurisdictions
	Annual Program Cost Less Federal Aid	First Year Cost	First Year Cost to Highway Users	
State	\$ 55,391	\$ 49,678	\$ 42,361	\$ 44,013
Counties and Townships	61,182	54,872	19,670	19,670
Cities	38,600	34,619	18,967	20,967
Total Needs	<u>\$ 155,173</u>	<u>\$ 139,169</u>	<u>\$ 80,998</u>	
Safety Division Administration (State)	--	245	245	---
Highway Patrol (State)	--	1,407	1,407	---
Local Traffic Police (City)	--	2,000	2,000	---
Total for Highway Jurisdictions	--	<u>\$ 142,821</u>	<u>\$ 84,650</u>	<u>\$ 84,650</u>
Motor Vehicle Administration	--	--	1,166	---
Fuel Tax Administration	--	--	422	---
Total for Vehicle Tax Support	--	--	<u>\$ 86,238</u>	---
Drivers License Administration	--	--	544	---
Total from Highway Users	--	--	<u>\$ 86,782</u>	---
Federal Aid	--	20,688	---	---
Total First Year Highway Program	--	<u>\$ 163,509</u>		

Exhibit X

AMOUNTS AND PER CENT OF TOTAL CHARGES  
TO BE COLLECTED FROM EACH CLASS OF HIGHWAY USER  
(COMPUTED BY INCREMENTAL COST ANALYSIS),  
AND COMPARISON WITH 1953 VEHICLE CHARGES

	Proposed Vehicle Charge (Ten Year Proposed Program)	Per Cent of Proposed Vehicle Charge	1953 Vehicle Charge	Per Cent of 1953 Vehicle Charge
Automobiles	\$ 53,672,697	61.85	\$48,634,063	70.85
Farm Trucks (T)	3,580,495	4.12	3,250,534	4.73
Commercial Trucks (Y)	12,831,941	14.79	( )	( )
Commercial Truck Tractors (Y)	6,392,017	7.36	( 13,942,021	( 20.31
Commerical Semitrailers (YZ)	6,851,019	7.89	( )	( )
Intercity Buses (IC)	1,022,825	1.18	1,347,279	1.96
School Buses (BY)	241,994	.28	380,595	.55
City Buses (BY)	1,554,791	1.79	( )	( )
Urban Trucks (U)	117,486	.14	( )	( )
Urban Truck Tractors (U)	65,761	.08	146,493	.21
Urban Semitrailers (UZ)	41,302	.05	( )	( )
House Trailers (HZ)	18,201	.02	16,453	.02
Trailers (Z)	86,679	.10	154,485	.22
Farm Trailers (TZ)	120,890	.14	117,125	.17
Personal Trailers (\$Z)	136,223	.16	54,252	.08
Motorcycles and Motorscooters (MC and MBS)	47,283	.05	41,865	.06
Total	<u>\$86,781,604</u>	<u>100.00</u>	<u>\$68,664,968</u>	<u>100.00</u>

Gasoline Tax. A fuel tax is equitable because it measures use. The ideal fuel tax rate is one in which the group of vehicles with the smallest charge for highway costs can pay the total charge (except for the registration fee) through this tax. Automobiles would reach this point with an \$0.08 per gallon tax rate. In the schedule used, a tax of \$0.07 would be collected on each gallon of gas consumed on the public highways. A vehicle burning diesel fuel which pays the weight distance tax, should be charged 50 per cent more per mile than gasoline burning trucks. The same end result would be attained by increasing the diesel fuel tax to \$0.10 per gallon; this would be more equitable also for the owners of lighter trucks who should pay their weight tax at the time the license fee is paid.

Weight Tax. The weight tax would be used to obtain that part of the charge against each group of vehicles which remain after the registration fee and an allowance or credit has been given for gasoline tax payments. The weight tax would be based on maximum declared gross weight for all classes of vehicles. No vehicle should be allowed to register for more than the legal load limit. Age depreciation allowances would not be permitted, since the rates are based on highway use --not on vehicle value. Exhibit XI shows the weight tax to be assessed against each class of vehicles. From the table it can be readily seen that the heavy vehicles would pay a relatively large tax. To be equitable, therefore, two methods of collection are proposed:

1. Those vehicles liable for a weight tax of less than \$500 would pay the weight tax at the same time as the registration fee is paid.
2. Those vehicles liable for a weight tax of more than \$500 would pay the tax on a pay-as-you-go or mileage basis according to the schedule outlined in Exhibit XII. Under this schedule a 35,000 pound tandem axle Y class truck tractor pulling a 28,000 pound tandem axle YZ class semitrailer would pay a tax of \$0.037 for each mile of travel.

Exhibit XI

CALCULATED WEIGHT TAX RATES FOR SELECTED VEHICLES  
TO BE USED WITH AN ASSUMED \$0.07 PER GALLON GASOLINE TAX AND A \$3.00 REGISTRATION FEE

	Declared Gross Weight						
	Under 7,000 \$ 10.00	10,000	15,000	20,000	25,000	30,000	35,000
Automobiles							
Farm Trucks (T)							
Single Axle	2.00	\$ 12.50	\$ 50.50	\$ 116.00	\$ 183.50	\$ 251.00	\$ 318.50
Tandem Axle	1.00	8.50	21.00	49.50	98.50	148.50	198.50
Commercial Trucks (Y)							
Single Axle	8.00	32.00	72.00	130.00	210.00	290.00	370.00
Tandem Axle	37.00	70.00	125.00	180.00	235.00	369.00	559.00
Commercial Truck Tractors (Y)							
Single Axle	337.00	350.50	373.00	474.00	594.00	789.00	1,094.00
Tandem Axle	77.00	89.00	109.00	129.00	197.00	437.00	882.00
Commercial Semitrailers (YZ)							
Single Axle	190.00	217.00	262.00				
Tandem Axle	80.00	107.00	152.00	280.00	530.00	780.00	
Intercity Buses (IC)	9.00	50.00	354.00	1,359.00	2,364.00	3,369.00	4,374.00
School Buses (BY)	1.50	23.50	61.50	99.00	136.50	174.00	210.00
City Buses (BY)	32.00	275.00	546.00	778.00	1,011.00	1,243.00	1,470.00
Urban Trucks (U)							
Single Axle	7.50	26.50	58.00	130.00	368.00	778.00	
Tandem Axle	2.00	3.00	26.00	50.00	82.50	115.00	147.50

## Exhibit XI--continued

	Declared Gross Weight						
	Under 7,000	10,000	15,000	20,000	25,000	30,000	35,000
Urban Truck Tractors (U)							
Single Axle	\$ 70.00	\$ 77.50	\$ 90.00	\$ 102.50	\$ 115.00	\$ 127.50	\$ 140.00
Tandem Axle	103.00	110.50	123.00	135.50	148.00	160.50	173.00
Urban Semitrailers (UZ)							
Single Axle	10.00	31.00	66.00	101.00			
Tandem Axle	2.00	23.00	58.00	93.00	128.00	163.00	
House Trailers (HZ)	3.50						
Trailers (Z)	4.00	13.00	18.00	23.00	28.00	33.00	38.00
Farm Trailers (FZ)	3.50	6.50	11.50	16.50	21.50	26.50	31.50
Personal Trailers (\$Z)							
Motorcycles and Motorscooters (MC and MBS)	0.50						

## Exhibit XI--continued

## Footnotes Showing the Method of Computing Weight Tax

These rates are based on the assumption that no vehicle will be registered to carry more than a legal load, except by special Highway Department permit. For each special trip so permitted, the fee should be the tax for a maximum weight of that class of vehicle.

Automobiles

Flat rate of \$10.00.

Farm Trucks (T) Single Axle

Flat rate of \$2.00 plus \$.35 per hundred weight of declared gross weight over 7,000 pounds. Over 14,000 pounds a flat rate of \$35.00 plus \$1.35 per hundred weight over 14,000 pounds. (Note: T trucks are currently registered by empty weight).

Farm Trucks (T) Tandem Axle

Flat rate of \$1.00 plus \$.25 per hundred weight of declared gross weight over 7,000 pounds. Over 18,000 pounds a flat rate of \$28.50 plus \$1.00 per hundred weight over 18,000 pounds.

Commercial Trucks (Y) Single Axle

Flat rate of \$8.00 plus \$.80 per hundred weight of declared gross weight over 7,000 pounds. Over 18,000 pounds a flat rate of \$98.00 plus \$1.60 per hundred weight over 18,000 pounds.

Commercial Trucks (Y) Tandem Axle

Flat rate of \$37.00 plus \$1.10 per hundred weight of declared gross weight over 7,000 pounds. Over 27,000 pounds a flat rate of \$255.00 plus \$3.80 per hundred weight over 27,000 pounds.

Commercial Truck Tractors (Y) Single Axle

Flat rate of \$337.00 plus \$.45 per hundred weight of declared gross weight over 7,000 pounds. Over 16,000 pounds a flat rate of \$378.00 plus \$2.40 per hundred weight over 16,000 pounds. Over 28,000 pounds a flat rate of \$667.00 plus \$6.10 per hundred weight over 28,000 pounds.

Commercial Truck Tractors (Y) Tandem Axle

Flat rate of \$77.00 plus \$.40 per hundred weight of declared gross weight over 7,000 pounds. Over 22,000 pounds a flat rate of \$137.00 plus \$2.00 per hundred weight over 22,000 pounds. Over 28,000 pounds a flat rate of \$259.00 plus \$8.90 per hundred weight over 28,000 pounds.

## Exhibit XI--continued

Commercial Semitrailers (YZ) Single Axle

Flat rate of \$195.00 plus \$.90 per hundred weight of declared gross weight over 7,000 pounds.

Commercial Semitrailers (YZ) Tandem Axle

Flat rate of \$80.00 plus \$.90 per hundred weight of declared gross weight over 7,000 pounds. Over 18,000 pounds, a flat rate of \$180.00 plus \$5.00 per hundred weight over 18,000 pounds.

Intercity Buses (IC)

Flat rate of \$9.00 plus \$2.05 per hundred weight of declared gross weight over 7,000 pounds. Over 14,000 pounds, a flat rate of \$153.00 plus \$20.10 per hundred weight over 14,000 pounds.

School Buses (BY)

Flat rate of \$1.50 plus \$.75 per hundred weight of declared gross weight over 7,000 pounds.

City Buses (BY)

Flat rate of \$32.00 plus \$8.10 per hundred weight of declared gross weight over 7,000 pounds. Over 11,000 pounds, a flat rate of \$360.00 plus \$4.65 per hundred weight over 11,000 pounds.

Urban Trucks (U) Single Axle

Flat rate of \$7.50 plus \$.65 per hundred weight of declared gross weight over 7,000 pounds. Over 18,000 pounds, a flat rate of \$77.00 plus \$2.65 per hundred weight over 18,000 pounds.

Urban Trucks (U) Tandem Axle

Flat rate of \$2.00 plus \$.30 per hundred weight of declared gross weight over 7,000 pounds. Over 18,000 pounds, a flat rate of \$37.00 plus \$.65 per hundred weight over 18,000 pounds.

Urban Truck Tractors (U) Single Axle

Flat rate of \$72.50 plus \$.25 per hundred weight of declared gross weight over 7,000 pounds.

Urban Truck Tractors (U) Tandem Axle

Flat rate of \$103.00 plus \$.25 per hundred weight of declared gross weight over 7,000 pounds.

## Exhibit XI--continued

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Urban Semitrailers (UZ) Single Axle

Flat rate of \$10.00 plus \$.70 per hundred weight of declared gross weight over 7,000 pounds.

Urban Semitrailers (UZ) Tandem Axle

Flat rate of \$2.00 plus \$.70 per hundred weight of declared gross weight over 7,000 pounds.

House Trailers (HZ)

Flat rate of \$3.50.

Trailers (Z)

Flat rate of \$4.00 under 7,000 pounds gross weight. Over 7,000 pounds, a flat rate of \$10.00 plus \$.10 per hundred weight over 7,000 pounds.

Farm Trailers (TZ)

Flat rate of \$3.50 under 7,000 pounds. Over 7,000 pounds, a flat rate of \$3.50 plus \$.10 per hundred weight over 7,000 pounds.

Personal Trailers (\$Z)

No tax, registration fee only.

Motorcycles and Motorscooters (MC and MBS)

Flat rate of \$.50.

## Exhibit XII

PROPOSED RATES FOR CLASSES OF VEHICLES  
 PAYING THEIR WEIGHT TAX ON A  
 "PAY-AS-YOU-GO" OR WEIGHT  
 DISTANCE BASIS

<u>Vehicle Groups</u>	<u>Calculated Weight Tax Rates Per Mile (Dollars)</u>
Commercial Trucks (Y)	
23-31,000 Single	.010
23-31,000 Tandem	.010
31-45,000 T	.015
Commercial Truck Tractors (Y)	
19-25,000 S	.010
25-31,000 S	.013
31-45,000 S	.020
31-45,000 T	.018
Commercial Semitrailers (YZ)	
0-18,000 S	.012
over 18,000 T	.019
Inter City Buses (IC)	
21-25,000	.025
over 25,000	.028
City Buses (BY)	
7-1,500	.020
15-25,000	.033
25-41,000	.043
over 41,000	.048

There have been some protests against the establishment of the weight distance tax in favor of other solutions. The assumption is made that it is a penalty tax. As proposed here, it is not a penalty nor a third structure tax, but rather a pay-as-you-go method of collecting the weight tax. Another stated objection is that record keeping would be unduly costly. The alternatives suggested include registration of some trucks from each fleet in each state in proportion to the mileage traveled and the payment of fuel taxes for fuel used in each state. Quite apart from the difficulties imposed upon a three truck owner who operates in five states in meeting such a requirement, the alternatives ignore the fact that distance and fuel consumption records would have to be kept at the same level of detail as recommended above in order to compute the total miles traveled in each state.

Reciprocity. Reciprocal arrangements on highway fees between the states present a complicated problem, but one which is not insurmountable. At such time as a weight distance tax is imposed, it would be necessary for the state to assure itself that the governors and key officials in other states understand the basis of charges made to out-of-state vehicles. It is suggested that the state statutes should include the following provisions regarding out-of-state vehicles:

1. Persons would be liable for the fuel tax on more than 20 gallons of gasoline or diesel fuel brought into the state and on all motor fuel purchased in the state.
2. Passenger cars and buses and trucks having a maximum declared gross weight of less than 20,000 pounds would not be registered or taxed.
3. All trucks and buses having a maximum declared gross weight of more than 20,000 pounds would be required to register and pay the registration fee. Within this class, no weight distance tax would be required of vehicles which pay their weight tax in a lump sum under Minnesota law.
4. For those types of vehicles required to pay the weight distance tax:
  - a. The same records would be required and the weight distance tax would be paid as if the vehicle were domiciled in Minnesota.

- b. Annually, the state would refund the weight distance taxes paid up to the amount of weight taxes paid in the state of domicile.

Reciprocity with other states levying weight distance taxes would be automatic. Problems of registration and enforcement and the audit of small accounts are inherent in any system that can be devised. Controls over these phases of the problem can be effected by clearly labeling the trucks requiring registration and developing an adequate patrol system.

#### Application to Other Programs Considered for Adoption

Detailed studies have been made and presented in this report based primarily upon the reclassification of the highway systems as set forth in the 10 year program outlined in the study of highway needs. If the Commission and the State Legislature and the people of the state, through their vote upon constitutional amendments, decide against the proposed reclassification, the amounts needed by the state, the counties, and the municipalities will be changed. A number of assumptions made in these studies can be changed by administrative directive or by legislative action; for example, the proportion of federal aid to be used on urban or rural highways, the motor fuel tax rate, and motor vehicle or weight tax rates. Computation of a long series of alternatives would serve no useful purpose until the Commission has determined upon a plan of action for presentation to the legislature. Certain comparisons may, however, be useful to the Commission as a guide.

1. Most of the federal aid funds can be used on any part of the federal aid system of highways, rural or urban, with the approval of the Bureau of Public Roads. The portion designated for aid to secondary roads may be used on state trunk lines or county roads in the approved secondary road system. In the studies outlined in this report it was assumed that primary federal aid would be divided between urban and rural sections in proportion to needs study conclusions.
2. In this report, the same emphasis was laid upon the correction of traffic problems in urban areas as was indicated in the needs study.
3. In the incremental cost analysis, submitted separately and discussed in this report, the proportion of total

costs to be borne by the highway users was 59.5 per cent. If this proportion is increased to 65 per cent, as recommended, the costs to each class of highway user would increase approximately 10 per cent. If the existing rather than the proposed revision of road system classification is used, the proportion of funds assigned to the state, the counties and the municipalities would change. The degree of change between the various programs studied is shown in Exhibits IV and V.

4. To compute the gasoline tax credit in the incremental cost analysis, a 7 cent per gallon tax rate was used. If a 6 cent rate were adopted and the same registration fee were applied, the weight tax to be paid by various classes of vehicles would be increased as illustrated by the examples shown in the following tabulation. Other classes would be affected in a similar manner.

Type of Vehicle	\$0.07 Gas Tax	\$0.06 Gas Tax
Automobiles	\$ 10.00	\$ 16.00
Commercial Trucks (Y) 13,000 to 23,000 pounds Tandem Axle	157.00	179.00
Commercial Truck Tractor (Y) 35,000 pounds Tandem Axle	0.018 per mile	0.020 per mile
Commercial Semitrailer (YZ) 28,000 pounds Tandem Axle	0.019 per mile	0.020 per mile

When the Commission has determined what program is to be recommended for legislative action, it would be desirable to recompute the affected phases of these presentations. As experience is gained under the adopted plan, more data will become available; recomputations should be made at intervals of five years or less to assure continuing equity between highway users and other taxpayers and among the classes within the user group.

### III. DISTRIBUTION OF HIGHWAY REVENUES

The distribution of highway revenues in the future will be governed by actions taken by the Commission, the Legislature, and eventually by the people of the state. The needs study contemplates major shifts in emphasis in highway improvement and maintenance not only on the trunk highway system, which can be accomplished administratively under present laws, but also in the counties and municipalities. The State Constitution does not provide for the direct distribution of highway revenues to municipalities; distribution to the counties is inflexible and does not reflect changing county needs. The needs study proposals cannot be implemented fully without constitutional amendment and corresponding changes in the statutes. The tax structure and tax collection procedures are established by the Legislature and could be revised to meet desirable changes within constitutional limits.

In this report section, the calculation of the amounts of highway user revenues to be distributed to the State Highway Department, the counties and the municipalities is based upon the proposed reclassification of road systems under the 10 year program. The amounts to be distributed from highway user revenues in the first year of the program as shown in Exhibit IX would be as follows:

To the State Highway Department	\$44,013,000
To the Counties	19,670,000
To the Municipalities	<u>20,967,000</u>
Total	<u>\$84,650,000</u>

These amounts would necessarily be different if a program other than that mentioned above were adopted. For example, under the proposed 10 year program without reclassification, the State Highway Department would need a larger share of highway user revenues because it would retain jurisdiction over approximately 3,000 miles of trunk highways which, under the reclassification plan, would be transferred to county control. The amounts to be allocated to the counties and the municipalities would also vary, depending upon the program selected.

The share of highway user revenues for each jurisdiction for the 10 and 15 year programs is shown on a percentage basis in Exhibits IV, V, VI, and VII.

Responsibility for the administration and distribution of highway user revenues should be vested in the State Highway Department. The control fund arrangement suggested in Section I of this report should be used as soon as the constitution is amended.

#### Distribution to Counties

All the funds allotted to local rural highway systems should be administered by the counties. No direct allocations should be made to townships but there should continue to be permissive legislation whereby the counties may provide funds to the townships and render highway service for them.

The primary objective in designing a formula for distribution of funds among the 87 counties is the recognition of relative need. The estimates of immediate requirements outlined in the needs study should not weigh heavily in the distribution formula because current deficiencies may reflect, in part, differences in policy among counties in the use of funds received in recent years. This information has been used, however, as a guide.

In all counties, it is necessary to provide adequate administrative and engineering services and good records systems; at present price levels it is estimated that such services could be provided for a minimum of approximately \$20,000 per year. Bridges comprise a major cost on rural highways, and the total span of bridges varies among counties. Vehicle miles of travel is a good index of relative need for highway improvements and maintenance, but it is recognized that many roads must be maintained all the year in spite of low traffic counts as, for example, school bus routes and mail routes. Data are not currently available on the last two factors mentioned; it would be better to use mail and school bus route mileage than county primary road mileage as a factor, particularly in order to reduce the temptation to add to primary road mileage merely to get additional funds. Some recognition should be given to differences in construction costs, topography, and such items as snow and ice control. It appears that variations throughout the state in the unit cost of gravel reflect these differences with few exceptions.

Other factors such as area, population, number of vehicle registrations, and assessed valuation which have been used by some states in distributing highway user revenues were carefully considered in developing a county distribution formula for Minnesota. It was found that these factors either bore no relation to relative need or could not be applied in a manner to produce equitable results.

The formula suggested for distribution of highway funds among the counties is as follows:

Administrative Allowance. Nine per cent of the total amount shall be divided equally to the counties.

Bridge Allowance. Nine per cent of the total amount shall be distributed to the counties in the proportion which the number of feet of bridges with a span of more than 20 feet on rural non-trunk highways in each county bears to the total number of feet of such bridges in all the counties.

Vehicle Mile Factor. Eighty per cent of the remaining funds shall be distributed to the counties in the proportion which the number of vehicle miles traveled on rural non-trunk highways in each county bears to the total number of vehicle miles traveled on such highways in all the counties.

Road Mileage Factor. The remaining funds shall be distributed to the counties in the proportion which the number of miles of county primary roads, modified by the unit cost of gravel in each county as determined by the State Highway Department, bears to the total number of miles of county primary roads, modified in the same manner, in all the counties.

Computation of the mail and school bus mileage in each county and the use of one or both of these mileages rather than miles of county primary roads is recommended. No provision is made in the distribution formula for emergencies. It is suggested that provision be made in the statutes that the State Highway Commissioner, with the approval of the Governor, be authorized to allocate, out of total funds available to the counties, such amounts as may be necessary to repair damages due to floods and other causes beyond the control of the counties.

Exhibit XIII indicates the distribution to each county based upon the formula outlined above and using the 10 year program under the proposed reclassification of highways. Adoption of one of the other alternative programs would of course involve a recalculation of the amounts due each county.

#### Distribution to Municipalities

Very little information is available as to relative needs among the municipalities for street maintenance and improvements. A very small amount of highway user funds has been made available to municipalities in Minnesota. The needs study indicates that the total requirements are great. Because the amounts of money which should be distributed to the municipalities are large, as indicated previously, and because adequate data are necessary in order to plan an effective street improvement program, it is recommended that a reasonable amount of these funds be set aside for planning purposes and to aid municipalities in special traffic and engineering problems. The amount determined upon should be held in reserve by the State Highway Commissioner for this program of assistance. As in the case of rural highway systems, traffic volume is a good index of relative need for municipal street construction and maintenance. Vehicle mile computations have been made available by major population groups. The formula for distribution of these revenues to municipalities takes this factor into account. The initial distribution formula suggested is as follows:

Planning Factor. One-half of one per cent of the total funds available should be reserved to the State Highway Department and made available to municipalities for the development of information needed to plan an adequate street improvement and maintenance program and to make it possible for municipalities to obtain technical assistance on traffic, engineering, and management problems.

Traffic Volume and Population Factor. The remaining funds should be divided among municipalities of more than 100,000 population, the municipalities of 5,000 to 100,000 population, and the municipalities of less than 5,000 population in direct proportion to the number of vehicle miles of travel on their respective systems of

Exhibit XIII

DISTRIBUTION OF HIGHWAY USER FUNDS TO COUNTIES  
BASED UPON 10 YEAR PROPOSED HIGHWAY PROGRAM/  
COMPARISON WITH 1954 ALLOCATIONS

	Administrative Allowance	Bridge Allowance	Vehicle Mile Allocation	Adjusted Mileage Allocation	Total	Total 1954 Allocation
	\$	\$	\$	\$	\$	\$
Aitkin	20,350	12,870	186,080	46,950	266,250	164,308
Anoka	20,350	5,948	122,453	25,722	174,473	112,673
Becker	20,350	5,307	154,557	39,072	219,286	170,345
Beltrami	20,350	7,102	129,189	58,204	214,845	200,208
Benton	20,350	11,127	73,756	25,240	130,473	116,945
Big Stone	20,350	1,154	58,207	17,042	96,753	116,945
Blue Earth	20,350	39,738	258,184	49,040	367,312	242,766
Brown	20,350	30,740	155,009	29,822	235,921	162,862
Carlton	20,350	14,152	132,427	32,478	199,407	109,445
Carver	20,350	9,922	139,241	25,000	194,513	119,445
Cass	20,350	17,434	144,144	70,342	252,270	217,467
Chippewa	20,350	23,792	111,821	22,346	178,309	122,293
Chisago	20,350	3,794	77,704	23,714	125,562	119,445
Clay	20,350	47,865	171,602	35,774	275,591	180,104
Clearwater	20,350	3,769	86,956	39,472	150,547	114,445
Cook	20,350	3,102	38,517	15,432	77,401	109,445
Cottonwood	20,350	20,920	156,428	38,268	235,964	126,838
Crow Wing	20,350	11,588	174,028	40,198	246,164	168,919
Dakota	20,350	11,173	166,299	31,190	229,012	182,846
Dodge	20,350	19,382	107,137	32,156	179,025	109,445
Douglas	20,350	5,333	122,337	28,136	176,156	134,559
Faribault	20,350	35,995	236,300	40,598	333,243	158,448
Fillmore	20,350	48,994	160,970	53,540	283,854	188,410
Freeborn	20,350	12,460	226,198	49,120	308,128	176,126
Goodhue	20,350	33,534	146,879	36,178	236,941	186,348
Grant	20,350	4,974	72,234	20,578	118,136	109,445
Hennepin	20,350	45,276	538,213	39,632	643,471	423,792
Houston	20,350	32,790	90,337	33,764	177,241	154,046

Exhibit XIII -- continued

	Administrative		Bridge		Vehicle Mile		Adjusted Mileage		Total		Total 1954	
	Allowance	\$	Allowance	\$	Allocation	\$	Allocation	\$	Total	\$	Allocation	\$
Hubbard	20,350		4,435		93,124		44,778		162,687		137,059	
Isanti	20,350		7,384		76,982		23,874		128,590		119,445	
Itasca	20,350		46,738		221,951		99,200		388,239		230,549	
Jackson	20,350		28,330		170,918		37,382		256,980		125,291	
Kanabec	20,350		10,383		49,562		23,398		103,693		116,945	
Kandiyohi	20,350		7,537		196,015		35,614		259,516		166,261	
Kittson	20,350		21,572		104,879		52,736		199,537		137,059	
Koochiching	20,350		21,049		47,665		27,014		116,078		208,437	
Lac Qui Parle	20,350		31,740		113,240		26,688		192,018		144,633	
Lake	20,350		7,666		43,342		21,864		93,222		113,293	
Lake of the Woods	20,350		10,563		44,388		25,726		101,027		146,744	
Le Sueur	20,350		5,768		155,744		29,182		211,044		120,173	
Lincoln	20,350		7,050		100,943		22,426		150,769		116,945	
Lyon	20,350		23,100		139,563		24,116		207,129		143,476	
McLeod	20,350		13,716		157,950		17,926		209,942		139,658	
Mahnomen	20,350		6,307		44,039		17,280		87,976		116,945	
Marshall	20,350		34,349		188,402		87,626		330,727		214,289	
Martin	20,350		23,407		202,532		32,962		279,251		163,478	
Meeker	20,350		11,896		156,931		24,194		213,371		140,361	
Mille Lacs	20,350		11,357		54,194		21,462		107,363		114,445	
Morrison	20,350		24,181		174,738		51,372		270,641		181,758	
Mower	20,350		57,658		182,880		46,788		307,676		205,998	
Murray	20,350		15,280		147,912		28,456		211,998		113,573	
Nicollet	20,350		1,974		112,376		26,606		161,306		125,401	
Nobles	20,350		29,535		168,738		37,462		256,085		143,221	
Norman	20,350		34,201		146,738		52,978		254,267		146,818	
Olmsted	20,350		25,535		166,944		38,346		251,175		208,662	
Otter Tail	20,350		20,618		339,682		78,140		458,790		336,622	
Pennington	20,350		8,614		62,866		28,622		120,452		116,945	
Pine	20,350		17,434		139,473		50,084		227,341		185,839	
Pipestone	20,350		16,331		100,569		18,406		155,656		109,445	
Polk	20,350		42,789		263,784		110,214		437,137		273,006	

## Exhibit XIII--continued

	Administrative Allowance	Bridge Allowance	Vehicle Mile Allocation	Adjusted Mileage Allocation	Total	Total 1954 Allocation
Pope	\$ 20,350	\$ 4,999	\$ 100,428	\$ 14,388	\$ 140,165	\$ 116,945
Ramsey	20,350	6,461	225,538	13,180	265,529	423,792
Red Lake	20,350	13,229	60,375	27,894	121,848	109,445
Redwood	20,350	39,303	249,126	34,326	343,105	178,121
Renville	20,350	18,818	212,067	40,920	292,155	177,883
Rice	20,350	16,177	153,860	30,706	221,093	158,663
Rock	20,350	31,791	105,756	26,046	183,943	109,445
Roseau	20,350	20,895	128,970	64,634	234,849	197,295
St. Louis	20,350	130,023	611,028	169,458	930,859	423,792
Scott	20,350	13,142	102,311	19,290	155,093	116,945
Sherburne	20,350	15,767	72,234	18,730	127,081	109,445
Sibley	20,350	14,937	150,595	29,500	215,382	121,048
Stearns	20,350	30,827	303,126	60,776	415,079	290,640
Steele	20,350	16,665	108,970	30,788	176,773	129,103
Stevens	20,350	6,076	94,169	20,336	140,931	109,445
Swift	20,350	16,870	133,808	31,032	202,060	121,673
Todd	20,350	15,254	190,738	47,832	274,174	187,611
Traverse	20,350	13,973	69,962	23,152	127,437	113,445
Wabasha	20,350	26,945	76,659	27,330	151,284	169,358
Wadena	20,350	14,639	93,175	25,240	153,404	119,874
Waseca	20,350	14,280	139,111	27,330	201,071	116,059
Washington	20,350	4,076	119,846	18,890	163,162	118,443
Watonwan	20,350	23,843	118,737	25,640	188,570	109,445
Wilkin	20,350	36,124	124,492	28,778	209,744	122,357
Winona	20,350	26,176	145,163	36,016	227,705	226,171
Wright	20,350	17,998	228,442	40,436	307,226	174,012
Yellow Medicine	20,350	32,279	178,442	31,272	262,343	143,308
	\$1,770,450	\$1,770,300	\$12,903,400	\$3,225,850	\$19,670,000	\$14,142,308

a/10 year program with road systems reclassified as indicated by needs study.

non-trunk highway streets. Within each population group, the municipalities shall share in the highway revenues in the proportion which the population of each municipality bears to the total population within the group.

Distribution of highway user revenues to municipalities based upon the formula outlined above would be as indicated by Exhibit XIV. After allowance has been made for the one-half of one per cent planning factor, the formula would provide municipalities above 100,000 population with highway user revenues of \$11.85 per capita; municipalities of 5,000 to 100,000 with \$9.60 per capita; and municipalities of less than 5,000 population with \$8.12 per capita. As in the case of the counties, the distribution is based upon a 10 year program with street systems reclassified as indicated by the needs study.

The suggested formula might be made more accurate and equitable in the future when traffic data are developed by additional population groupings and when detailed information on arterial and total street mileage is made available for use as formula factors.

## Exhibit XIV

SUGGESTED DISTRIBUTION OF HIGHWAY USER REVENUES TO MUNICIPALITIES  
BASED UPON 10 YEAR PROPOSED PROGRAM<sup>a/</sup>

<u>Population Group</u>	<u>Population</u>	<u>Vehicle Miles Per Cent</u>	<u>Share Highway User Revenues</u>	<u>Per Capita Amount</u>
<u>Over 100,000</u>				
Duluth	104,510		\$ 1,238,308	\$11.85
Minneapolis	521,720		6,181,703	11.85
St. Paul	311,350		3,689,092	11.85
Subtotal	<u>937,580</u>	<u>53.25</u>	<u>\$11,109,103</u>	<u>\$11.85</u>
<u>5,000 to 100,000</u>				
Subtotal	<u>550,720</u>	<u>25.35</u>	<u>\$ 5,288,559</u>	<u>\$ 9.60</u>
<u>Under 5,000</u>				
Subtotal	<u>549,560</u>	<u>21.40</u>	<u>\$ 4,464,503</u>	<u>\$ 8.12</u>
Total	<u>2,037,860</u>	<u>100.00</u>	<u>\$20,862,165<sup>b/</sup></u>	<u>\$10.24</u>

<sup>a/</sup>10 Year Program with street systems reclassified as indicated by needs study.

<sup>b/</sup>Total municipal share after reserving one-half of one per cent for planning.

#### IV. A SUGGESTED INTERIM PROGRAM

In its recent deliberations, the Commission has decided against requesting a special session of the State Legislature to consider offering highway amendments to the State Constitution for the 1954 fall elections. For a period of at least two years, the highway program must therefore be carried on under existing constitutional limitations.

The purpose of this report section is to suggest a plan, within the framework of the present constitution, through which progress can be made in the direction of satisfying the basic objectives outlined in the report on the needs study and in this report on fiscal arrangements. The following suggestions should not be considered as a long-term substitute for correcting constitutional deficiencies.

The Attorney General has recently ruled that highways incorporated in the state trunk line system by the State Legislature may not be removed from the system except by constitutional amendment. Consequently, for this and other reasons, the existing classification of roads must continue to be used pending constitutional amendment. Similarly, the distribution of revenues from motor fuel taxes must continue on the basis of two-thirds to the state and one-third to the counties, without any direct distribution to municipalities.

It is possible, however, under the existing constitutional provisions, statutes, and federal regulations to change the emphasis on trunk line construction from rural to urban areas where the greatest need is indicated; to change the motor fuel tax rate and motor vehicle fee schedules; to adhere to the constitutional limits for distribution of motor vehicle revenues, and to use a part of the state's share of motor vehicle revenues for financing urban trunk line costs. Some of these measures can be accomplished by administrative directive; others require legislative action.

To satisfy the needs for the 10 year program under the existing road system classification, first year costs must be computed in the same manner as shown in Exhibit IX. The first year costs are as follows (expressed in thousands of dollars):

	Annual Program Cost Less <u>Federal Aid</u>	First Year Cost	First Year Cost to Highway Users	First Year Distribution Jurisdictions
State	\$ 65,130	\$ 58,413	\$ 50,657	\$ 52,309
Counties and Townships	52,882	47,428	18,939	18,939
Cities	37,161	33,327	20,114	22,114
Total Needs	<u>\$ 155,173</u>	<u>\$ 139,168</u>	<u>\$ 89,710</u>	<u>\$ 93,362</u>

Until the constitution is changed to permit the apportionment of highway user revenues to municipalities, it is unnecessary to raise the total amount, \$93,362,000, from highway users. A sufficient amount should be raised, however, to substantially satisfy the needs of the other levels of government.

The Legislature has the power to change the gasoline tax rate. In 1953-54, each cent of gasoline tax produced \$8,500,000; with anticipated increases in vehicle miles of travel, each one cent of motor fuel tax in 1955 should produce approximately \$9,000,000 in revenue. If the gasoline tax were increased from 5 cents to 6 cents per gallon, the revenues from this source should total approximately \$54,000,000 per year. By constitutional provision one-third of this amount, \$18,000,000, would be distributed to the counties. This would nearly satisfy the reported needs of the counties without placing an appreciable additional burden on property taxes.

The Legislature also has the power to revise the existing motor vehicle fee schedule. If this statute were revised to provide for a \$3.00 vehicle registration fee, which would produce about \$4,000,000 per year, and for a weight tax on vehicles conforming in principle to that discussed in Section II of this report, totalling \$20,000,000 (the 1953-54 revenue from the motor vehicle tax was \$28,613,000), the total revenues to the State Highway Department, including two-thirds of the gasoline tax, would approximate \$60,000,000 per year. Within this total, the first year requirements for rural and urban state trunk lines would be entirely satisfied and there would be an excess of about \$7,691,000.

This excess could be used to finance the share of urban trunk highway costs which would normally be provided out of local revenues. Assisting municipalities in this indirect manner can be accomplished

under present laws and regulations. Further, the State Highway Department negotiates annual contracts with municipalities for the maintenance of state trunk lines within their corporate limits. At present these contracts are written on the basis of providing approximately \$800 per mile of street. As a part of the needs study, municipal officials have produced data showing that their annual maintenance cost of urban trunk lines totals about \$4,000 per mile. The State Highway Commissioner could negotiate new contracts for this service on a more liberal basis. Although these indirect types of assistance to municipalities would be in the right direction, they represent a poor substitute for the \$22,000,000 per year which the municipalities should share directly in highway user revenues in the same manner as they are now distributed by constitutional provision to the state and the counties.

The Legislature has the power to change the distribution of highway user revenues among the counties. The distribution shown in Exhibit XIII is based upon the 10 year program with road systems reclassified as indicated in the needs study. Inasmuch as the total amount to be distributed to counties under the existing road system classification is approximately the same, this distribution among the counties could logically be used as a base. The constitution provides that no county shall receive more than three per cent nor less than one-half of one per cent of the total. The statutes, which can be revised, provide for a minimum of one per cent. The distribution shown in Exhibit XIII cannot be followed precisely because Hennipin and St. Louis Counties should receive more than three per cent of the total and Big Stone, Cook, Lake, and Mahnomen Counties should receive less than one-half of one per cent of the total. It is suggested that the statutes be revised to provide for the constitutional maximum and minimum and that any excess remaining because of these limitations be distributed to the other counties by the State Highway Commissioner on the basis of relative need.