

# REPORT OF COMMITTEE ON HIGHWAY FINANCE

HARRY J KIRK, *Chairman*

*Director of Highways, Ohio*

A combination of circumstances contributed to a very late start on work by the Highway Finance Committee for 1928. It was deemed advisable, therefore, not to undertake anything very comprehensive and which could not show tangible results before the annual meeting. The material presented here is, therefore, very modest in comparison with some of the very thorough studies of highway finance problems contributed by this committee in the past.

The writer's intimate connection with the administration of highway affairs in Ohio for many years past suggested the following letter which was sent to all State Highway Departments in the United States

September 17, 1928

"TO ALL STATE HIGHWAY DEPARTMENTS

RE Investigation by Finance Committee of Highway  
Research Board of National Research Council of Ways  
and Means used in promoting revenue measures for  
highway financing

Dear Sir

Your cooperation is asked in compiling for your own state material on the above subject

Within recent years there has been a remarkable growth in highway research. Studies have been made of the value of many materials, various methods of manipulation, the effect of the elements, the relation of highway design to traffic needs, and many other projects. Reams of data have been collected, mostly of great value if properly disseminated and actually put into practice.

The big question, however, that often rises up to haunt the highway administrator is, "How shall we get funds to meet our highway needs?" Futile are all these researches unless revenue measures are enacted to provide the where-with-all to build and repair the highways so insistently demanded by an ever increasing motor vehicle traffic.

It would, therefore, appear that the knowledge of how highway revenue measures have been successfully promoted, could be put to good use wherever road funds are inadequate for traffic needs.

It is the object of this communication to enlist your cooperation in transmitting to us for your state an informal report on the ways and means used in the past to put over road revenue measures. You might also care to take the negative side of this question and tell of some of the failures to put over finance measures and the why of these failures.

We believe the knowledge of how this job has been done successfully and perhaps the reasons for its failure throughout our country could be used to a valuable purpose in many places.

If you do not have the time yourself, turn it over to some good roads enthusiast

who has been in the fore-front of the fight and is equipped to give an accurate account of how it was done. A good plan would be to review the history of highway revenue measures now in effect in your state. Emphasize methods used in promoting them which may be unique. Identify the organizations and elements which have opposed road finance measures. Such information may prove of value elsewhere.

The line of investigation suggested here should not take a great amount of time. It can be furnished best and quickest by someone who knows the subject, who has put much of his own efforts into the fight and then has the enthusiasm to give it the attention it deserves.

If there is anything confidential about your own report, it will be incorporated in our committee report without identifying it with your state.

We should have your reply by October 15th, and sooner will not offend us.

The only way we can repay you for your efforts is in the value our complete report will be to you when published in the proceedings of the Highway Research Board.

Let us have your cooperation.

Very truly yours,  
(Signed) HARRY J. KIRK,  
*Chairman, Committee on Highway Finance,  
Highway Research Board*

Replies were received from twenty-nine states. Eight of these, however, confined themselves entirely to discussing the nature of the revenue measures in force in their respective states and said nothing about the means used in promoting them or the identification of the forces for or against them, which was the subject of the inquiry.

Following are the high points in the replies received, the states being listed in alphabetical order.

California—Reply by B. B. Meek, Director, Department of Public Works.

In 1921 a 2¢ gasoline tax was proposed by the State Highway Commission.

“In 1921 there was considerable friction between the State Highway Commission and several powerful interests in the State with the result that no action was taken by the Legislature of that year.”

A measure to increase the gas tax to 3¢ passed the state legislature in 1925.

“Owing to the opposition, however, of influential interests which at that time were opposed to assessing motorists for new construction and which were also desirous of securing a specific allocation of the revenue between northerly and southerly parts of the State, the Governor of that year vetoed the measure.”

California now has ample revenues for the maintenance, reconstruction and construction of State highways.

The opposition which existed in past years to assessing the motorists for revenue to carry on new construction seems to have been effectively overcome.

There is a tendency, however, on the part of the cities to demand a share in the revenue for the maintenance of streets forming links in the State Highway System. In all probability this demand will be vigorously opposed by State authorities, at least until such time as the State highway system is more nearly completed than it is at the present time."

Connecticut—Reply by John A Macdonald, State Highway Commissioner

"The State Highway Department of Connecticut has never had any trouble in promoting—if you may call it that—finances for highways.

It has always been the understood fact in this State that we received the full fees for registration of motor vehicles and the gasoline tax, for highways.

There have never been any bond issues, so we have never had any campaign along this line.

Insofar as I know, we have never failed to raise the proper amount of funds, nor have we ever had occasion to promote in any way a road program. Our only difficulty is keeping it within a reasonable comparison with the other expenditures of the State."

Delaware—Reply by W. W. Mack, Secretary, State Highway Department

"There have been no organizations which have either opposed or promoted highway legislation in this State. There was a wide-spread acknowledgment of the need of improved roads in the State previous to the passage of the State Highway Law, which was very carefully drawn and contained very valuable provisions. I think the secret of our financial sufficiency has been due largely to the fact that we had no system of old or unimproved roads to maintain during the period of our greatest construction activities and that also, during that period, there was no diversion of the sources of revenue to lesser political subdivisions or for any other purpose."

Idaho—Reply by R. H. Shoemaker, Office Engineer, Department of Public Works

There was nothing given on methods used in promoting revenue measures.

This is one of the few States which mention having at one time a general state property tax for road purposes, since repealed.

"In 1919 a 2 mill tax was levied for State Highway purposes. This was repealed in 1921 and replaced by a 9 mill tax, which in turn was repealed in 1923."

Iowa—Reply by C Coykendall, Administration Engineer, State Highway Commission.

On November 6, 1928, the people of Iowa passed favorably on a one hundred million dollar state bond issue. This is the first state bond issue in Iowa, although most of the counties have sold bonds for primary road improvement.

“A great variety of methods have been used in promoting county bond issues. In counties having a large urban population the bond issues, as a rule, have been put over with very little trouble. The city and town population has always shown a much more progressive stand on matters of this kind than has the rural population. In the larger cities or counties having a large urban population, about the only thing necessary has been to get the civic organizations or luncheon clubs back of the proposition, give it some newspaper publicity and on election date have the political organizations actively supporting the measure.

In other counties, however, where the rural vote predominates, more extensive campaign methods have been necessary. The best results in communities of this kind have been obtained where the political organization of the county got back of the proposed measure. If the leading men throughout the county who to a large degree influenced the vote of the county, can be sold on the proposition, very little additional work is necessary. We have observed campaigns conducted in this manner succeed by a vote as high as 6 or 7 to one in favor of the proposed measure, whereas other counties lacking such an organization or failing to utilize same have failed to carry the measure.

It is our judgment that elaborate speaking campaigns in favor of a measure are generally not very successful. Where public meetings are called and opponents as well as supporters of the proposed measure are given opportunity to talk, so many contradictory statements are made that the average voter becomes befuddled and decides that he had better play safe and vote against the measure.

In connection with our proposed state bond issue election on November 6th we have a state-wide Good Roads Association that sponsored the measure. This Association is headed by a paid secretary at Des Moines and county organizations throughout the State. During the summer and fall we furnished speakers at a great many meetings of civic and luncheon clubs. We believe that meetings of this kind are beneficial. The attendance at such meetings is usually of high grade people who are honestly desirous of securing information regarding the measure. They in turn are in position to disseminate this information widely and we believe that much good work is being accomplished by means of these meetings.

A newspaper advertising program was also planned for the last few

weeks of the campaign in which we endeavored to show in each county the advantages that that particular county could hope to gain from the passage of the state bond issue ”

Kentucky—Reply by J S Watkins, State Highway Engineer

“It has been our experience, and it is our judgment, that a tax on the fuel and motors used on the highways, and paid by the owners, or those who ride in the cars, and use the roads, was bound to become more and more the chief means of creating a State Road Fund here and everywhere, and that such a tax would become, necessarily, not only the most equitable, but finally, therefore, the most acceptable

When the proposition to increase the three cent gasoline tax to five cents was first broached, just after the bond failure, and just preceding the Legislative session beginning in January, 1926, even the most sanguine friends of the proposal doubted both its wisdom and success, but the facts, and all the facts were fully, candidly and thoroughly presented by the Department, the Commissioners, and all interested in better roads, to the Press of the State, to the newly elected legislators, and to the public generally These were told, without restriction or equivocation, all the facts as to the financial difficulties of the Highway Department, and the handicaps because of lack of funds that had resulted because of previous unwise administration, hostile litigation and failure of the bond issue In other words, the Press, the public and the legislators were fully taken into the confidence of those who asked for the increase in tax, and, despite the hard fight from every angle, by a determined opposition, the increased tax bill finally carried by a vote of five to one in the House and an even larger proportion in the Senate

The fight against it was not ended Immediate plans to divert parts of the resulting funds to the counties and municipal sub-divisions and to reduce the existing license fees charged on motor vehicles, were put into motion, but when the public again was candidly given the facts, and was made to understand that these reforms were to come, and could come, but must wait until the fast increasing mileage of good roads and their use began to show proportionate increase in the gas tax fund, they again believed what they were told, and on every vote in and out of the General Assembly, have sided with the Highway Department, and the plans which it continues to publish without concealment

But, to return to the main question, or chief request of your committee as to the ‘ways and means used in the past to put over road revenue measures,’ I would say that it has been our policy to give to the public, frankly and candidly, all the facts and conditions confronting the Department, and to leave to them the ratification of the solutions suggested by us for the road problems, which are always as much theirs as they are ours ”

Maine—Reply by Lucius D Barrows, Chief Engineer, State Highway Commission

The reply was confined to an outline of the kind of revenue measures rather than the means used in promoting them

“The Maine Automobile Association has taken a very active part in all campaigns for bond issue and it is quite apparent that either a large bond issue or some other means must be found the coming year if Maine is to keep up its road program The legislature convenes in January and already the newspapers have raised the question as to where the money will come from and have called attention to the necessity of construction in all parts of the state, which will make it necessary to have much more money than the state ever had before ”

Massachusetts—Reply by A W Dean, Chief Highway Engineer, Department of Public Works

“Massachusetts started her highway appropriations in 1894 as a result of agitation at that time for better roads not only for horse-drawn vehicles but for bicycles, and from that time until the present day it has not been necessary to use any broad effort or propaganda or promotion in order to secure gradually increasing appropriations each year

The traveling public does the boosting in this state, and as there is an average of one automobile per family here in Massachusetts, the boosters are very numerous ”

Michigan—Reply by V R Burton, Engineer of Research and Statistics, State Highway Department

“This is a rather difficult subject on which to give any definite statement The most effective means used in the promotion of our highway revenue measures, has been the individual work of friends of the Highway Department among the legislature, who had the power to decide as to whether or not these revenue measures should be granted This sounds rather fundamental, but as a matter of fact, the last highway revenue measure was passed in exactly this way, in spite of the fact that the newspapers of our larger cities were, if not actually hostile to the measure, at least only very luke-warm, and the violent opposition of the automobile club in Detroit went so far as to carry the matter into the court

So far as any definite campaign has been concerned, it has never been necessary in this state for any widespread or organized effort to put across appropriations sufficient to enable the Highway Department to carry on its work The legislature has, in general, been very generous with us and have met the increasing demands of modern traffic in an exceptionally broad-visioned way ”

Minnesota—Reply by J T Ellison, Chief Engineer, Department of Highways

“There has not been up to the present time any statewide organization or any centralizing opposition to the plans of the Highway Department for increased revenue. It has usually failed if opposed by the Legislature more because there was not enough active support rather than because of any active organization opposition. The Members of the Legislature have for the past several Sessions been working on a rather economical plan, and for that reason have fought shy of anything which might tend to increase taxation. Minnesota of course is primarily an agricultural state, and the financial conditions here have not been any too good during the past years. I believe that we will have a better chance of securing additional revenue at the next Session, than has been the case at any of the Sessions which have been held during the past four or six years.”

Mississippi—Reply by G A Draper, State Highway Engineer, State Highway Department

“We regret to do so, but must state that Mississippi has no State Highway revenue, all funds are provided by the individual counties, mostly from county bond issues. We match county funds with Federal Aid as far as possible and the State is responsible for the maintenance of such roads as have been accepted by the Department as up to standard.”

Montana—Reply by R D Rader, State Highway Engineer, State Highway Commission

“The present highway program is financed by a three cent gasoline tax which was passed by a vote of the people about two years ago. This was a very popular measure, passing by almost a four to one majority. The Automobile Association sponsored the measure, carrying on a publicity campaign in the press and also by means of public speeches.

The only attempt which was ever made in this state to pass special legislation for road purposes, so far as I know, was a five million dollar bond issue which was put up to the people at the general election about six years ago. This failed due to the lack of education and publicity.

At present the Automobile Association is sponsoring a bill which it is proposed to submit to the next legislature, increasing the gas tax from 3¢ to 5¢. This, we believe, has a good chance of passing the legislature, although it is too early yet to make any accurate prediction.”

Nebraska—Reply by R L Cochran, State Engineer, Department of Public Works

"We have never had in this state any campaign carried on for the purpose of voting bonds for highway financing, our entire state revenue coming from the 2 cent gas tax and 30 per cent of the auto registration fees

This was promoted by the Good Roads Association in the way of advertising, however, it did not require much of a campaign to put it over for the reason that in 1925, when it was enacted, most everybody was sold on the idea of a gas tax for financing highway improvements. At the present time, there is more or less of a campaign carried on by the Good Roads Association of this State to increase the gas tax."

Nevada—Reply by James M. Leonard, Virginia City, Nevada.

"I think that one of the very important reasons that the State Highway Department of Nevada was able to function was because of the publication of the Nevada Highway News. The following, taken from the first issue of the paper, summarizes briefly the aim and purpose of the publication:

"The public oftentimes views the lack of publicity given the progress of big public enterprises as an effort to secretiveness on the part of those in authority. Such is not the fact.

We of the Department of Highways are aware that the citizens of Nevada are entitled to know all that there is to know of this Department. We have never had a hesitancy to give out information, but generally the means of dissemination has been such as to reach but a few scattered people or those of one community.

There are those who would give misinformation—some through ignorance and others for a purpose. This misinformation is in some degree ruinous to any organization and is not conducive to the efficient carrying on of any public enterprise.

We of Nevada have inaugurated a great State highway building program to extend through the years to come—the responsibility for which is founded in a definite organization which must have the confidence of the public for whom it is working.

To meet the obligation of keeping our public fully informed and to avoid the bad consequences of not doing so, we have decided to issue every two weeks a small inexpensive pamphlet similar to this one.

In entering upon this feature of our work, which is somewhat foreign to the profession of road-building, but a necessary part thereof, we present to you the first issue of our pamphlet with the hope that it will be viewed as a sincere effort for but the one purpose.

When the publication was first started we did not know how it would be received by the public, but written requests to be placed on the mailing list doubled and trebled our circulation after our first issue. The paper was published for the period of ten years or all of the time.



I was a member of the Board of Directors. It served a wonderful purpose in acquainting the people of Nevada with the conditions surrounding the work and progress of construction in the various counties. A map, which was continually kept up-to-date, was printed in each issue. It showed the 7% system, it showed the completed sections, the sections under contract, and gave a detailed statement of the status of the year's program. It gave a statement of the number of miles of each type of road completed, with a list of the contracts under construction and projects under way not contracted. It also gave a list of surveys completed and a list of the projects on which surveys were under way. We kept continually before the public of our State the fact that probably no other agency plays such an important part in the development of a state and more favorably advertises it to other sections of the country than good roads.

As the roads were rapidly built, the problem of maintenance was an early one to be met and provided for. The gasoline Tax promised the easiest solution of that problem and legislation was had in 1923 levying a tax of 2¢ per gallon. A later legislature increased this tax to 4¢ per gallon. It is unquestionable that this form of taxation is the fairest and most equitable yet proposed for raising funds required to maintain highways throughout the nation."

Nevada with an area fourth largest of all the States, 87½% of which is still Federal owned land, and the smallest population, less than 80,000 in 1920, has a highway problem all its own.

New Hampshire—Reply by F. E. Everett, Commissioner Highway Department

Mr. Everett confined his reply to an outline of highway finance measures in his State. He concluded by saying, "Up to this time there has been very much opposition to a bond issue and a strong sentiment for the pay-as-you-go policy, but the public is beginning to realize now that they cannot finance a hard surface program which is most imperative at the present time, without recourse to a bond issue."

New Mexico—Reply by W. C. Davidson, State Highway Engineer, State Highway Department

"1 One and One-half Mill Property Levy. There is much opposition on the part of taxing officials and the tax payers in this State to large levies on property for road improvements. The present levy of one and one-half mills on all taxable property is authorized by Chapter 38, Laws of 1917. The full one and one-half mills has not always been assessed under the 1917 law, because of opposition on the part of the tax payers, as represented by the Tax Payers Association.

"2 Motor Vehicle Registration Fees. The motor vehicle registration

law is a natural outgrowth of the use of the automobile and the numerous amendments to the original law, for the purpose of perfecting it, have met with no serious opposition in the legislative sessions

"3 Five Cent Gasoline Tax This tax, recognized as the most equitable taxing method yet devised for raising funds for road construction and maintenance, has met with little opposition on the part of the public. Oil companies and gasoline dispensers largely form the opposition. Various oil companies offered opposition in every endeavor to adopt or to raise this tax but public approval put it over, the legislative bodies being guided by public opinion. The State Highway Commission was active during the legislative sessions in the interest of the gasoline tax. After the original tax was imposed, the oil companies initiated legal action in the endeavor to have the Act declared unconstitutional. This effort failed.

"4 Two Million Dollar Bond Issue of 1921 The Legislature of 1921 passed, on the recommendation of State Highway Commission, an amendment to the State Constitution, authorizing a State Bond Issue of \$2,000,000 for road improvements. The State Highway Department was largely instrumental in winning the public's approval on this measure. Information on roads, the need of improved roads and other arguments for the Bond Issue were given to the press and mailed to the voters. The result of the publicity campaign was reflected in the vote.

"This concludes the brief history of financing for highway improvements in New Mexico. The most equitable method, we believe, is the gasoline tax, and we feel, further, that the public is behind us in this stand."

North Carolina—Reply by Frank Page, Chairman, State Highway Commission

"The North Carolina Highway Department has been financed since 1921 by a bond issue totaling at this time \$115,000,000. The interest serial payments, money for overhead expenses of the Highway Commission, and maintenance funds are furnished by the automobile license fee plus a 4¢ gas tax.

"The North Carolina citizens are not different from any other normal United States citizens in the fact that we seriously object to paying tax, but I think it is a true statement when I say that no North Carolinian, who actually uses the roads objects to either automobile license fees or the gas tax, since they know that this money is going into the improvement of the highway, and thereby giving them, the users, a direct benefit."

"Ohio—Notes by Harry J. Kirk, Director, Department of Highways

"Ohio as a State has never issued any highway bonds. All counties

have done so to meet state aid. The State raises its funds from a portion of the auto license and gas tax supplemented by Federal funds.

"The time was, fifteen or twenty years ago, when there was much opposition to good roads. That day has passed. The only argument now is on the question as to division of costs. From 1913 to 1923 the State's funds for new construction were raised by a property levy. This was originally promoted by the Ohio Good Roads Federation and other bodies. All firms interested in the sale of road building materials, contractors who handle road work, bonding companies, manufacturers of road building equipment, have never failed to push every measure designed to increase highway revenues.

"The state-wide levy for road purposes was finally repealed due chiefly to rural opposition. Farmers' organizations have been foremost in the support of the gasoline tax. The original gasoline tax, enacted in 1925 and the increase to 3¢ in 1927, were both vigorously opposed by the State Automobile Association. Oil companies were also active in opposing the gas tax.

The Ohio Good Roads Federation with a state-wide membership has been one of the chief promoters of highway revenue measures. The Ohio Contractors Association has also done very effective work.

As stated above, the chief bone of contention today is on who shall pay the bill. There was a time in Ohio, not so many years ago, when the whole bill for roads was paid by property taxes. The cost in recent years has been put on the road user more and more, and it looks like it would not be long before all road revenues would come from motor vehicle taxes.

South Carolina—Reply by Ben M. Sawyer, Chief Highway Commissioner.

"The 'County Rights' feeling in this State has been and is widely evident, and I believe it has been largely responsible for the opposition shown against the State bond issues for the construction of the State Highway System that have been proposed from time to time."

Virginia—Reply by C. S. Mullen, Chief Engineer, Department of Highways.

"The question of highway financing in Virginia did not become acute until about 1920, when it was seen that with all of the available sources of revenue the total amount available each year would be inadequate to the proper prosecution of construction on the State Highway System of over 3,000 miles. It became necessary to stage a campaign to educate the people, looking to a change in the State Constitution in order to put the State in a position to issue bonds for highway purposes. This campaign was conducted by the Virginia Good Roads Association, and

was a complete success, the popular vote on the change in the Constitution being carried by approximately 60,000

Then, for some reason, probably the people were surfeited with war financing and liberty bonds, the sentiment of the people in the State changed and when two suggested schemes of financing were put before them in the shape of bonds as one alternative and 'Pay-as-you-go' predicated on a fuel tax, as the other, the prejudice of the people against bonds, defeated the proposal for a \$50,000,000 bond issue, and adopted the 'Pay-as-you-go' plan, placing a 3¢ tax on gasoline "

West Virginia—Reply by C P Fortney, Chairman, State Road Commission

The state constitution was amended at the general election in 1920 to permit the state to construct roads

"The vote on the amendment was preceded by a campaign of education extending over a period of nearly a year This campaign was conducted chiefly by the West Virginia Good Roads Federation, which included in its membership men and women of all classes and occupations The expenses were paid by voluntary contributions, the total of which was approximately fifty thousand dollars

The newspapers were the chief battle ground, but this means of publicity was extensively supplemented by pamphlets There was a well organized speakers bureau, and moving picture films and slides were used to good advantage in a limited way The organization was extended to every county and community, and the facts favorable to the amendment were placed before virtually every voter in the State

There was considerable opposition, some of which was decidedly bitter As the plan was entirely new and untried, various theories were advanced as to why it could not be a success. One of the main arguments against the bonds was that a pay-as-you-go plan would be preferable, since it would not saddle the people with a debt that would continue for many years, and would not involved interest charge However, the supporters of this plan were not able to show how the large sums necessary for the pay-as-you-go plan could be raised each year Most of the opposition was sincere, and was led by several men and newspapers of considerable prominence Strong factors in favor of the amendment were the virtually unanimous demand for better roads, and the successful expenditure of state and federal aid during the four year period immediately preceding the campaign The majority for the amendment was almost two to one

No strong opposition has ever developed to the increases made in the gasoline tax rate—1923, 2¢—1925, 3½¢—1927, 4¢

A campaign of an educational nature is now being carried on, principally by the West Virginia Good Roads Association, by means of

newspapers, pamphlets, and speakers There is no organized opposition and sentiment appears to be generally favorable to the proposition The fact that no property tax has ever been levied on account of the State road system, and that the additional bonds can be financed without a property tax, is a powerful argument in favor of the amendment

Note —The bond issue carried on November 6, 1928

#### THE FORCES FOR AND AGAINST HIGHWAY REVENUE MEASURES

One of the most interesting features of this investigation is the manner in which different organizations line up on highway finance measures

Take the stand on the gasoline tax—in states having large cities and where there are strong automobile clubs, we find that their organizations form the chief opposition This applies to the original enactment of the tax and to subsequent moves to increase it Examples of this are found in California, Michigan and Ohio These states stand well at the top in motor vehicle registration

On the other hand in sparsely populated states, as Montana, we find the Automobile Associations the leader in promoting a gas tax and now engaged in a campaign to increase it

Oil companies are generally found in the forefront of the opposition to the gasoline tax

Public opinion generally in all the states seems to regard the gas tax as the most equitable means of raising funds for road maintenance and construction

On the question of the bond issue verus the pay-as-you-go plan the argument waxed warm in many states

It seems to be easier to sell the people of the larger cities and towns on the bond issue plan than the population in the rural districts In these latter areas it is necessary to put on a more intensive campaign of publicity in newspapers and in other ways Some places report that public speeches are effective One authority says that public meetings, where both sides are presented and objections to details of a proposal brought out, are a hindrance rather than a help in putting over bond issues

The pay-as-you-go plan seems to secure a majority of its advocates in the rural areas, although there are notable exceptions to this

The "County Rights" feeling seems to have hampered comprehensive road programs in some of our southern states In New England they seem to have reached a sort of self satisfied condition due to most of the roads being improved which makes large bond issues such as we find in Illinois, Iowa and in Missouri out of the question

#### WAYS AND MEANS OF PROMOTING HIGHWAY REVENUE MEASURES

A thorough and continuous plan of publicity on highway activities seems to be the surest means of gaining and holding popular support for a highway program.

This publicity of course is generally and largely through the newspapers. Many state highway departments publish a magazine of their own for this purpose.

Where bond issues or other measures are submitted to a vote of all the people there are many instances of rather elaborate organizations to insure success. The campaign for the bond issues in West Virginia and Missouri this last fall furnish good examples of this. The failure of the bond issue in Pennsylvania at the same election shows what always happens when forces are divided. Where measures stand or fall on the vote of members of the state legislature the most effective work is done by the individual friends of a bigger highway program with the legislators themselves. It was pointed out that this means was successful in Michigan in spite of big city newspaper and automobile Club opposition.

In very many states there are Good Roads Associations with a state wide membership which have taken the lead in fathering highway finance measures.

It may be too self evident to give expression to the idea but nevertheless it is repeated here that the surest way to put over a measure is to get the leaders of public opinion in favor of it and working for it. That in a very general way is the lesson to draw from this investigation.

Special attention is called here to the replies received from Iowa, Nevada and West Virginia quoted above in detail. These give a very interesting description of the ways and means used in promoting highway finance measures in three widely separated states.

The material contained here is presented in the hope that it will be of some little help to those highway administrators who face the problem of promoting increased revenues for highway purposes. Having the finances it will then be possible to put into practice the valuable discoveries, along all lines of highway research which have been so successfully prosecuted in recent years.

#### SUGGESTED FURTHER RESEARCH IN HIGHWAY FINANCE

There are two lines of investigation which might be carried out with profitable results.

First—An investigation of actual experience with different methods of financing road improvements. The two papers presented here today—one by Mr. Cutler of Missouri on "The Bond Issue Plan"—the other by Mr. Donaghey on "The Pay-As-You-Go Plan"—will indicate the possibilities of such research. There has been sufficient experience now in many states to find out the effect of the plan used on taxes in general, on land values, on cost of highway transportation, on various industries, etc.

Second—An investigation of the principles which should govern the distribution of motor vehicle or motor fuel taxes to the states, counties

and cities. In many states all motor vehicle taxes, license or gas, go to the state for state roads. In some states it is distributed among the counties and cities. In some states part of it is used for other than road purposes. There is a growing tendency for the cities and other smaller taxing units to demand a share in these taxes. It would appear that it cannot always be resisted. How much should go to the state? How much to the cities? How much to the counties? This is the chief bone of contention today in many states when gas tax increases are up for consideration. It would seem that a thorough study of this question would prove of great value.

The Committee will be grateful for any suggestions or comments on the two subjects noted above or any others that appeal as desirable lines of investigation.

## FINANCING A STATE ROAD SYSTEM WITH BONDS<sup>1</sup>

T H CUTLER

*Chief Engineer, Missouri State Highway Department*

Inasmuch as a great deal of money is now going into road investments, it behooves us to consider the soundness of the various plans for financing state highway programs. It is desirable that we first look for the basic principle underlying highway development.

The highway, as well as the motor vehicle, is a part of the transportation machine. While we recognize the many social advantages coming from the development of the highway system, we find it difficult to measure their value in concrete terms. It is likely, however, that these social advantages exceed in their total value the economic advantages. We can, however, measure the economic advantages coming from the development of a state highway system by the saving which results therefrom to the traveling public. The value of the social advantages would, of course, be additional to that of the economic advantages.

Let us start this discussion by the assumption that every state has a contemplated road program. This program may be the reconstruction of part or nearly all of its present system or the widening of certain parts of its system to more nearly fit and keep pace with the constantly growing traffic needs. Or this program may mean the grading, bridging and surfacing of a system which is still partly in a dirt road stage.

<sup>1</sup> This paper was arranged for by the Committee on Highway Finance in order to stimulate discussion of this important topic. The opinions and conclusions are those of the author, and have not been endorsed by the Committee.