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# FEDERAL AID FOR DEVELOPING MICHIGAN'S HIGHWAYS

STATEMENT OF  
CHARLES M. ZIEGLER  
STATE HIGHWAY COMMISSIONER

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BEFORE THE  
HOUSE COMMITTEE ON PUBLIC WORKS

MARCH 1950

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F O R   D E V E L O P I N G  
M I C H I G A N ' S   H I G H W A Y S

Statement of

CHARLES M. ZIEGLER

State Highway Commissioner

Before the

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WASHINGTON, D. C.

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PERTINENT FACTS CONCERNING

FEDERAL AID FOR DEVELOPING MICHIGAN'S HIGHWAYS

1. Michigan highway traffic has increased from 15 billion vehicle miles in 1941 to 20 billion vehicle miles in 1949 - a 33 1/3 percent rise.
2. 73 percent of all industrial plant traffic in Michigan is by highway.
3. Existing state trunkline facilities in Michigan are depreciating at the rate of \$31.4 millions each year.
4. Inflated costs have reduced actual annual construction on the state trunklines 22 percent since 1930.
5. 49,000 miles of Michigan's roads and streets are now intolerably deficient:
  - 6,440 miles on state trunkline system
  - 38,177 miles on county road systems
  - 4,368 miles on city and village streets.
6. 11,000 of these intolerably deficient miles are on Federal Aid routes.
7. \$1.4 billions will be cost of correcting these Michigan highway deficiencies:
  - \$553.0 millions on rural state trunklines
  - 298.0 millions on county roads
  - 537.1 millions on city and village streets.
8. 70 percent of these reconstruction expenditures must be made on Federal Aid routes:
  - \$528.2 millions on rural state trunklines
  - 67.5 millions on primary county roads
  - 373.0 millions on urban trunkline routes.
9. Federal Aid has been established for a third of a century and has become a basic part of highway support.
10. Federal Aid funds paid 31 percent of Michigan's state trunkline construction costs in 1930 and 41 percent in 1949.
11. Postwar Federal Aid policy has been shaped to meet the increased reconstruction needs of major highway systems.
12. Reconstruction of the nation's major highways to adequate standards depends on the continuation of the Federal Aid policy.

## FEDERAL AID FOR DEVELOPING MICHIGAN'S HIGHWAYS

Michigan is vitally interested in the legislation carrying on the policy of Federal Aid to highways which is now before this Congress. In supporting the continuation of this established policy, Michigan speaks as a state whose importance in the national economy and in national defense gives its highway transportation needs a national significance.

Michigan is one of the key states in the country's economic and social structure. It is seventh in population, fifth in manufacturing and, of course, first in automotive production. Its industry is readily geared to military requirements and during the recent war it made notable contributions to the national defense.

The popularity of Michigan's many outdoor recreational resources makes it the Mecca for vacationists from a considerable portion of inland America; a big and growing tourist industry has been built on this recreational travel. In some phases of its prosperous agriculture--particularly fruit, beans, dairy products, and certain vegetables--Michigan crops are substantial items in the nation's food supply.

To all these interests, highway transportation is indispensable. Farmers have adjusted their production and marketing operations as well as their entire way of life to the services of the motor vehicle. Motor car travel is the foundation of the present day recreational industry. The essential assembly line integration of the processes of mass production is planned on the basis of, and is mostly accomplished by highway transportation between industrial plants.

It has been estimated that 73 percent of the movement of parts to and products from Michigan's factories is carried by highway transport trucks; in Washtenaw County, the ratio is 82 percent. Seventy percent of the industrial workers in these plants use their own cars to reach their jobs. The development of all the state's industrial and market cities has been premised on the existence or provision of adequate highways and highway transportation.

In citing these facts in support of continued Federal Aid, I do not speak for a state whose dependence on highways is unique; that dependence exists in practically equal measure from one end of the country to the other. Nor do I speak for a state which has neglected its highway needs and now seeks a means to make up for its own dereliction.

I am urging Congress to continue Federal Aid for highway development for the same reasons that representatives from every one of the 49 other states, territories, and dependencies, are urging it:

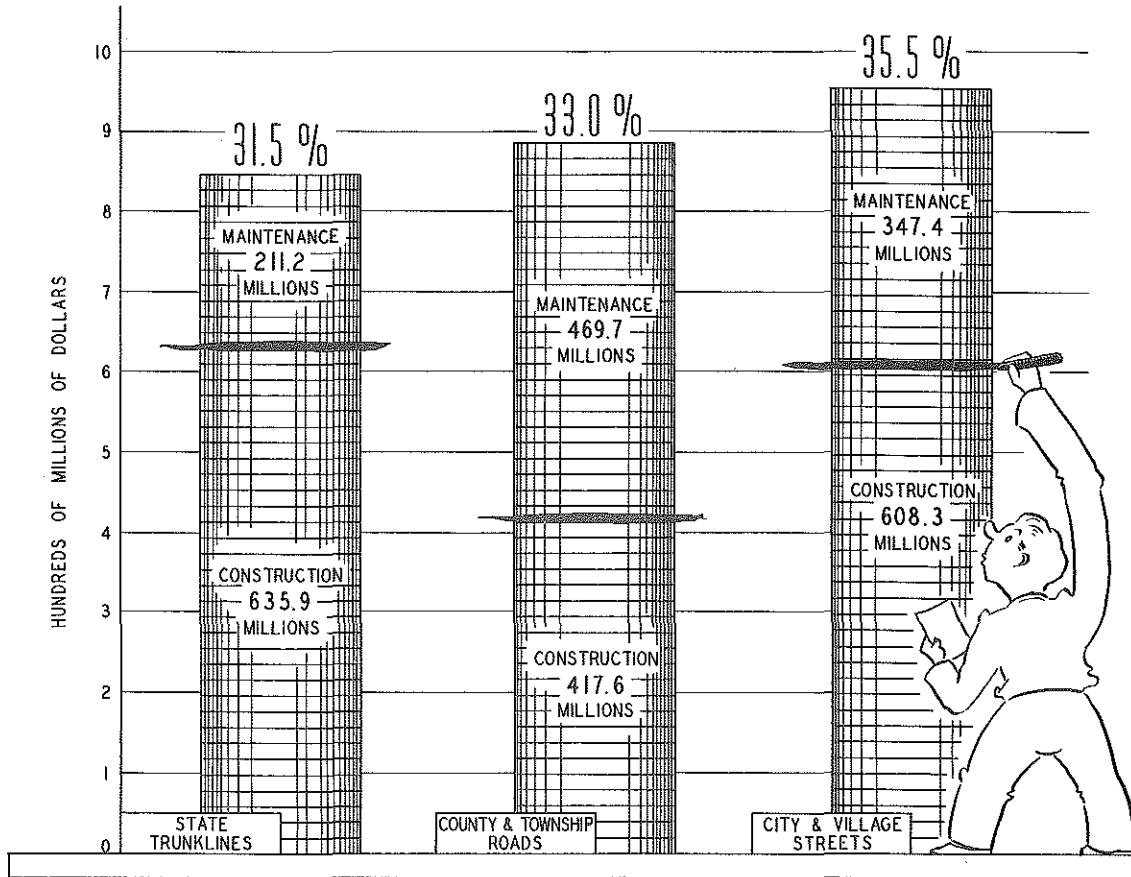
Because for forty years the growth of motor vehicle travel has exceeded in both volume and importance, the predictions of the best informed transportation experts;

Because during the last twenty years, this traffic has created highway investment requirements which have consistently exceeded the funds provided by local, state, and Federal governments for highway purposes;

Because Federal Aid has become and must continue to be an integral and essential element in any plans for the rehabilitation and further development of the nation's basic highway network; and,

Because fully adequate basic highways are necessary to assure the nation's economic well-being and military defense.

## MICHIGAN HAS SPENT \$2.7 BILLIONS ON ROADS AND STREETS IN THE PAST 35 YEARS



Michigan early recognized its responsibility for providing the improved roads demanded by the growing usage of the motor vehicle.

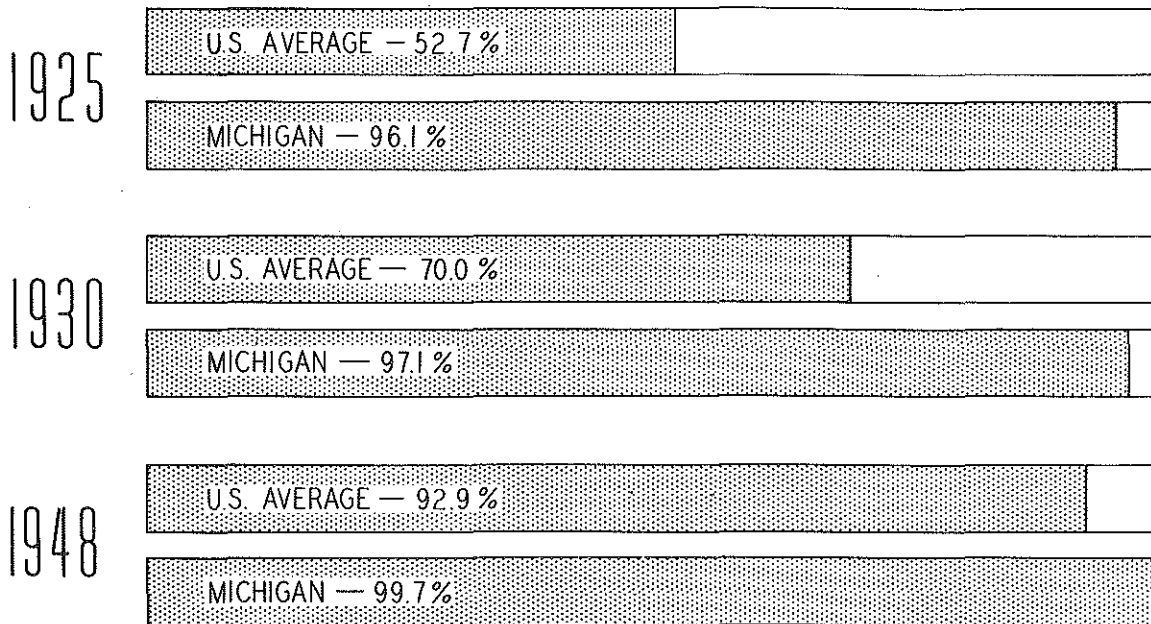
During the past 35 years, state, county, and local governments in Michigan have spent the sum of \$2,690,000,000 on roads and streets. Although there were large emergency grants of Federal funds to Michigan highways during the depression and war periods, almost 85 percent of this huge total was provided by Michigan people paying state and local taxes, principally motor vehicle taxes.

The improvements brought about by this expenditure put Michigan in the forefront of highway improvement. As early as 1925, the state had

surfaced more than 96 percent of its rural trunkline mileage with gravel or better, while the average state had surfaced a little more than half of such mileage. Even today, the state is ahead of the national average.

## MICHIGAN HAS BEEN A LEADER IN SURFACING STATE TRUNKLINE HIGHWAYS

PERCENT OF RURAL STATE TRUNKLINES SURFACED WITH GRAVEL OR BETTER



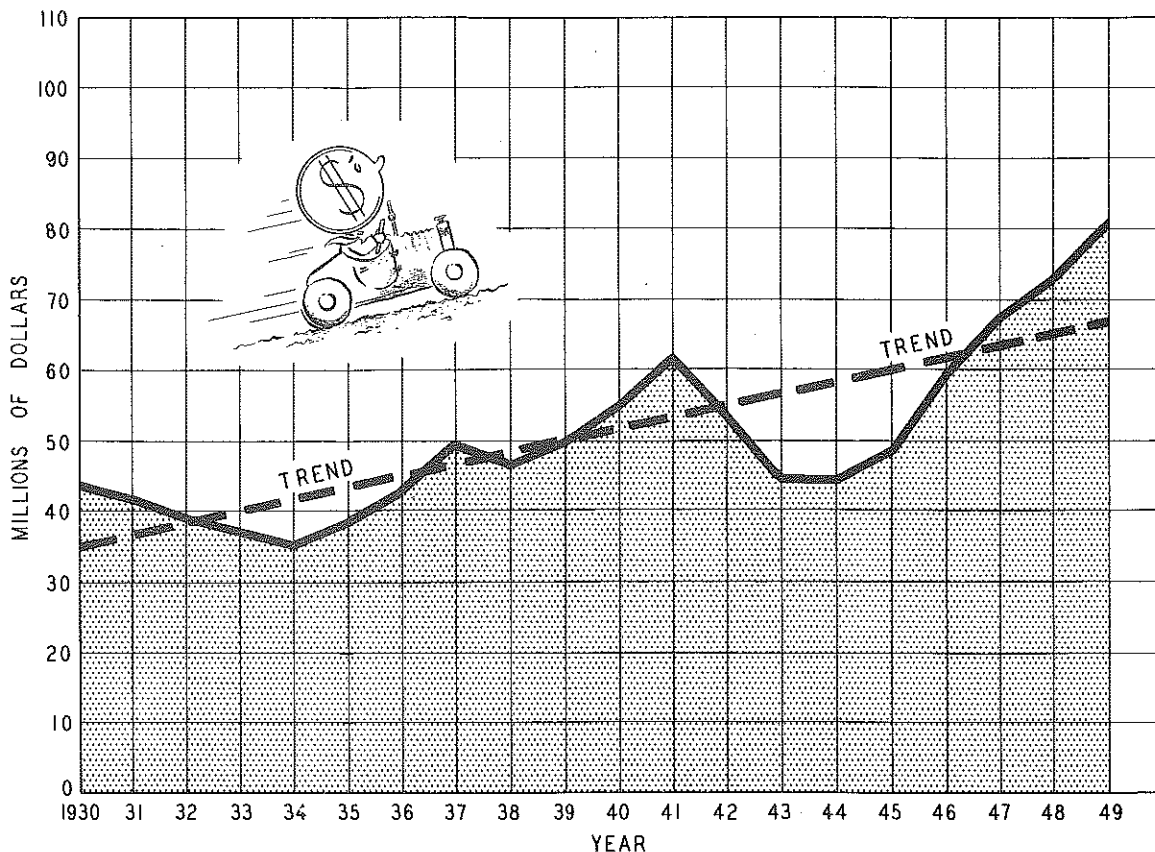
Motor vehicle tax revenues have been the principal source of Michigan highway funds since 1925 when the gasoline tax was first imposed. They have been practically the sole source of such funds since 1931 when most general and local property tax revenues were withdrawn from highway support.

The state has a constitutional provision requiring that all the revenues from motor vehicle and motor fuel imposts be devoted to highway purposes. For that reason in 1948 Michigan was sixth among the states in the amount of these highway user revenues expended on highways.

The amounts of revenue from motor vehicle taxes have increased rapidly from the time these taxes were established. Although annual collections have varied according to current conditions, the over-all trend has been and continues to be upward. For example, these revenues amounted to \$46,000,000 in 1930 and to \$80,000,000 in 1949, an increase of 82 percent.

However, two facts should be noted. In the first place, during the war years restrictions of various kinds drastically reduced gasoline tax collections, which provide the only state-raised funds for the trunkline

## INCREASING TRAFFIC PRODUCES MORE MOTOR VEHICLE REVENUE

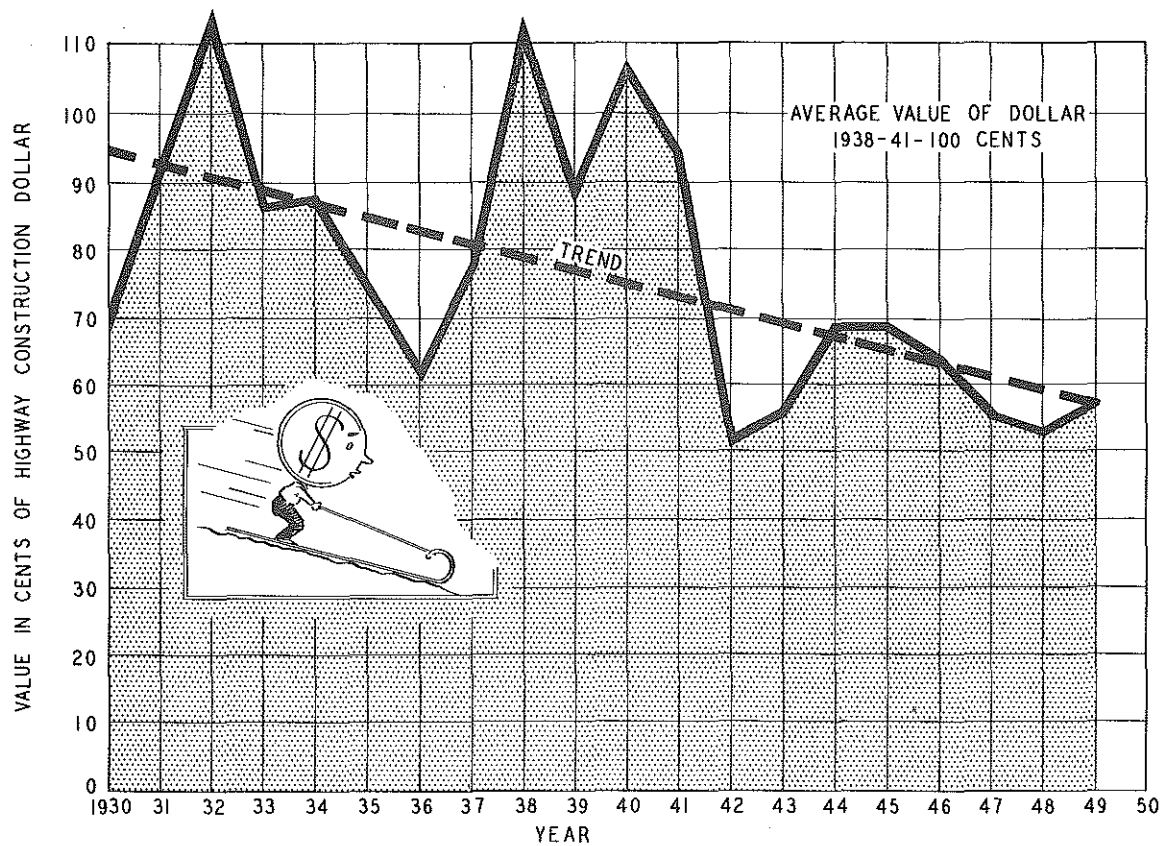




highways. In the second place, during the postwar period when collections were rising to new high levels, there has been an accompanying inflation of the costs of all kinds of highway work, especially construction.

As a result of the wartime restrictions, there was a huge deficit of highway construction piled on top of the inadequacies which had accumulated during the depression years. As a result of postwar inflation, the purchasing power of the highway dollar has declined rapidly. In terms of

## MICHIGAN MUST MEET ITS HIGHWAY NEEDS WITH DEPRECIATING DOLLARS

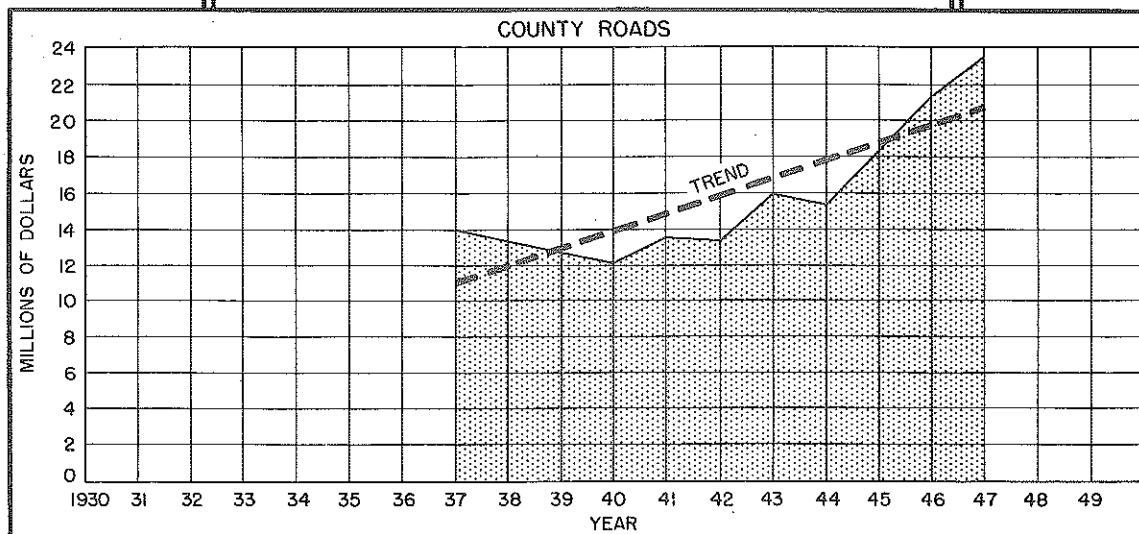
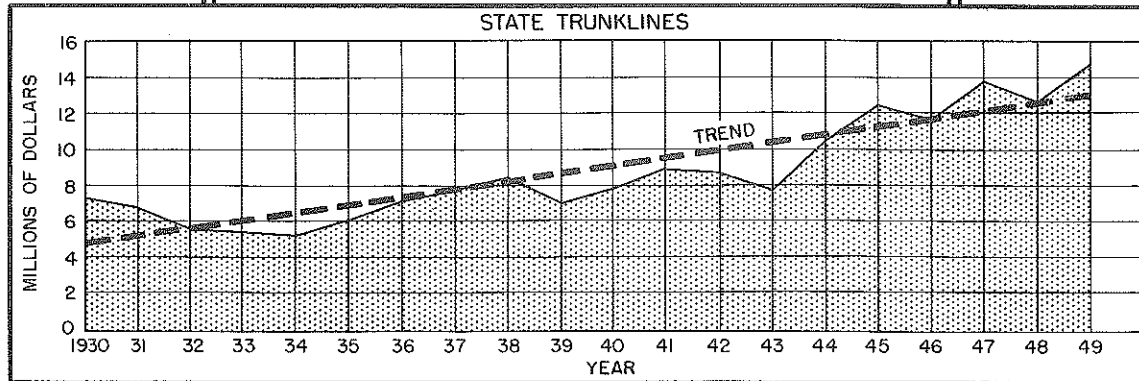


its average purchasing value in the period 1938-41, the 1949 highway dollar bought only 57 cents worth of construction.

Obviously, the depreciating value of the dollar is a factor which must be taken into account in considering the fiscal support of highways.

# WORN OUT HIGHWAYS REQUIRE MORE UPKEEP

## MAINTENANCE EXPENDITURES



An additional factor has limited the funds for highway construction in Michigan. That is the greatly increased part of available funds which it has been necessary to divert to the maintenance of existing facilities. In the past twenty years maintenance expenditures have increased from \$4.7 millions in 1930 to \$13.1 millions in 1949.

This rise in the cost of maintenance has been caused by three important trends in highway operation. The first is the accumulating deficit of construction because of the lack of funds. This lack started

in the depression and was accentuated during the war years. As a result, old and worn out road surfaces now require more upkeep.

The second trend is the rising standard of maintenance service expected by the traveling public and provided by the highway agencies. On the state trunkline system and on many of the county and city systems this includes better maintenance of surfaces, shoulders, and rights-of-way, and extension of ice control operations to larger mileages.

The third and possibly the most important trend is the enormous over-all growth of highway traffic. In spite of economic handicaps in hard times and regulatory restrictions in the war emergency, there has been an increase of traffic in the 20-year period 1930-1949 amounting to 100 percent. The upsurge of travel since the war reached 20 billion vehicle miles last year as compared with 15 billion vehicle miles in 1941--an increase of  $33 \frac{1}{3}$  percent in eight years.

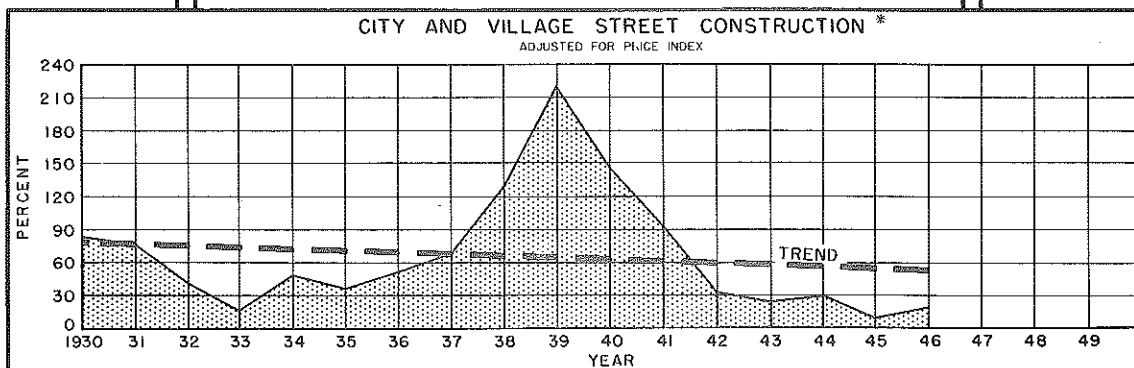
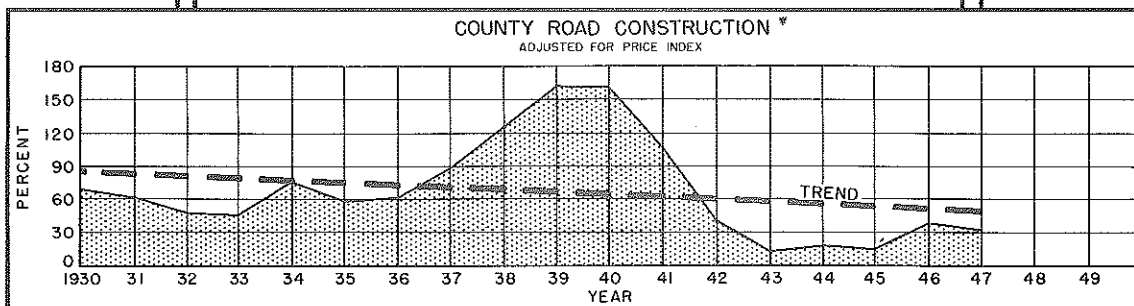
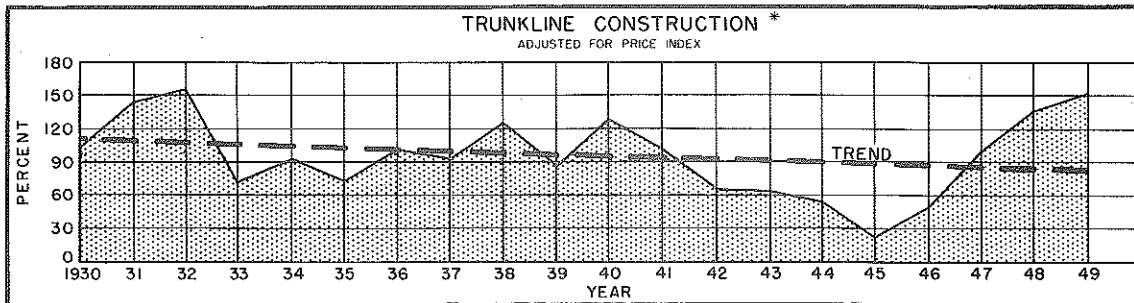
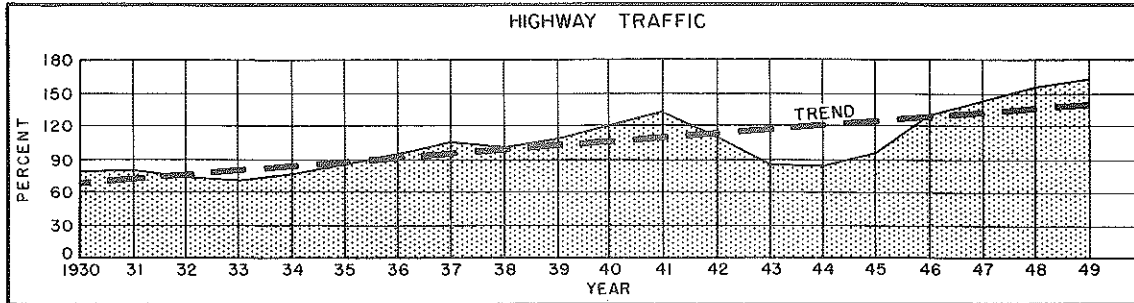
The expanding volumes of highway traffic have increased the rate of wear on roadway surfaces and created higher requirements for highway maintenance. But they have also done more than that.

On many miles of the most traveled trunklines and trunkline streets, these expanding volumes have exceeded the capacity of the existing facilities. Congestion, delays, and hazards have resulted which can be remedied only by the construction of new roadways or by building additional lanes on existing roadways.

But during these same years when mounting traffic was demanding more and improved pavements and structures, factors which have been cited were operating to reduce the volume of the construction which alone could produce the needed relief.

# MOUNTING TRAFFIC VOLUMES AND DECLINING CONSTRUCTION ACCOUNT FOR ACCUMULATED HIGHWAY DEFICIENCIES

TRAFFIC VOLUMES AND CONSTRUCTION EXPENDITURES  
1935-1939=100%



\* YEARS 1934-1942 REFLECT INCLUDED FEDERAL RELIEF EXPENDITURES

The two trends - the rising costs of construction and of all other kinds of highway work, and the increasing maintenance expenditures required to keep the present highway plant in service - have combined to actually reduce the physical volume of construction. This reduction persists, in spite of greater dollar expenditures.

The accompanying chart graphically contrasts the rising trend of highway travel with the declining trend of real construction accomplishment during the 20-year period 1930 to 1949. It shows that, while traffic has doubled, the real amount of annual construction on the state trunkline system has declined by 22 percent. Due to other and special factors, the indicated rates of decline were even greater on county roads and city and village streets.

Deficit highway operation is bound to result in a piling up of construction needs and of future financial construction obligations. Michigan has a record of the amount of these accumulated inadequacies and obligations as they pertain to the state trunklines and the other road and street systems.

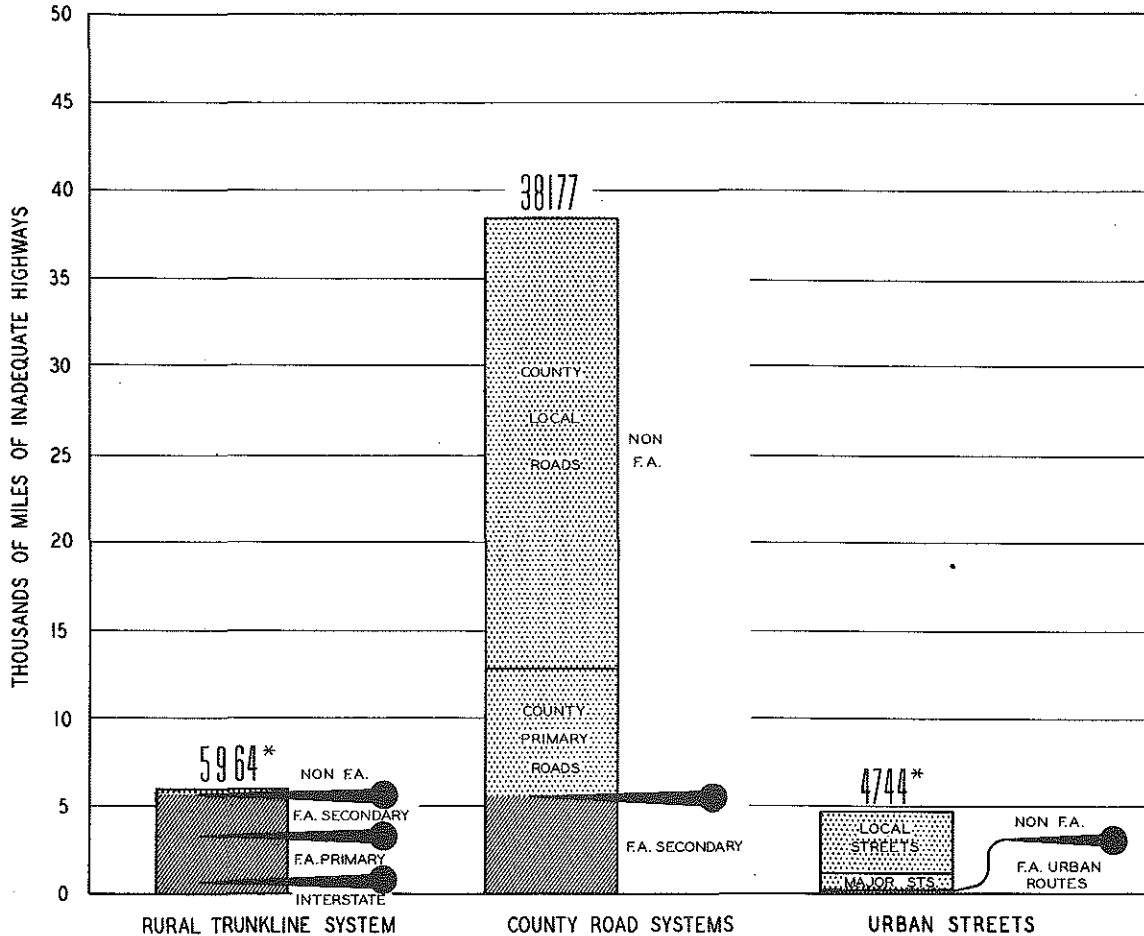
In 1946-7 a study was made of Michigan highways. It embraced all phases of the subject: highway usage, finance, administration, and the conditions and needs of the various classifications of roadways. Like similar studies in several other states, it was directed by a committee representative of all classes of highway user and administrative interests. It drew up a report, "Highway Needs in Michigan," which throws a revealing light on the effects of the trends and conditions which have been described in the present statement.

**DEFICIENT SECTIONS OF RURAL STATE TRUNKLINES AS  
DETERMINED AND REPORTED BY HIGHWAY STUDY COMMITTEE**



# 49,000 MILES OF MICHIGAN ROADS AND STREETS ARE BELOW TOLERABLE STANDARDS

NEARLY 11,000 OF THESE MILES  ARE ON FEDERAL AID SYSTEMS



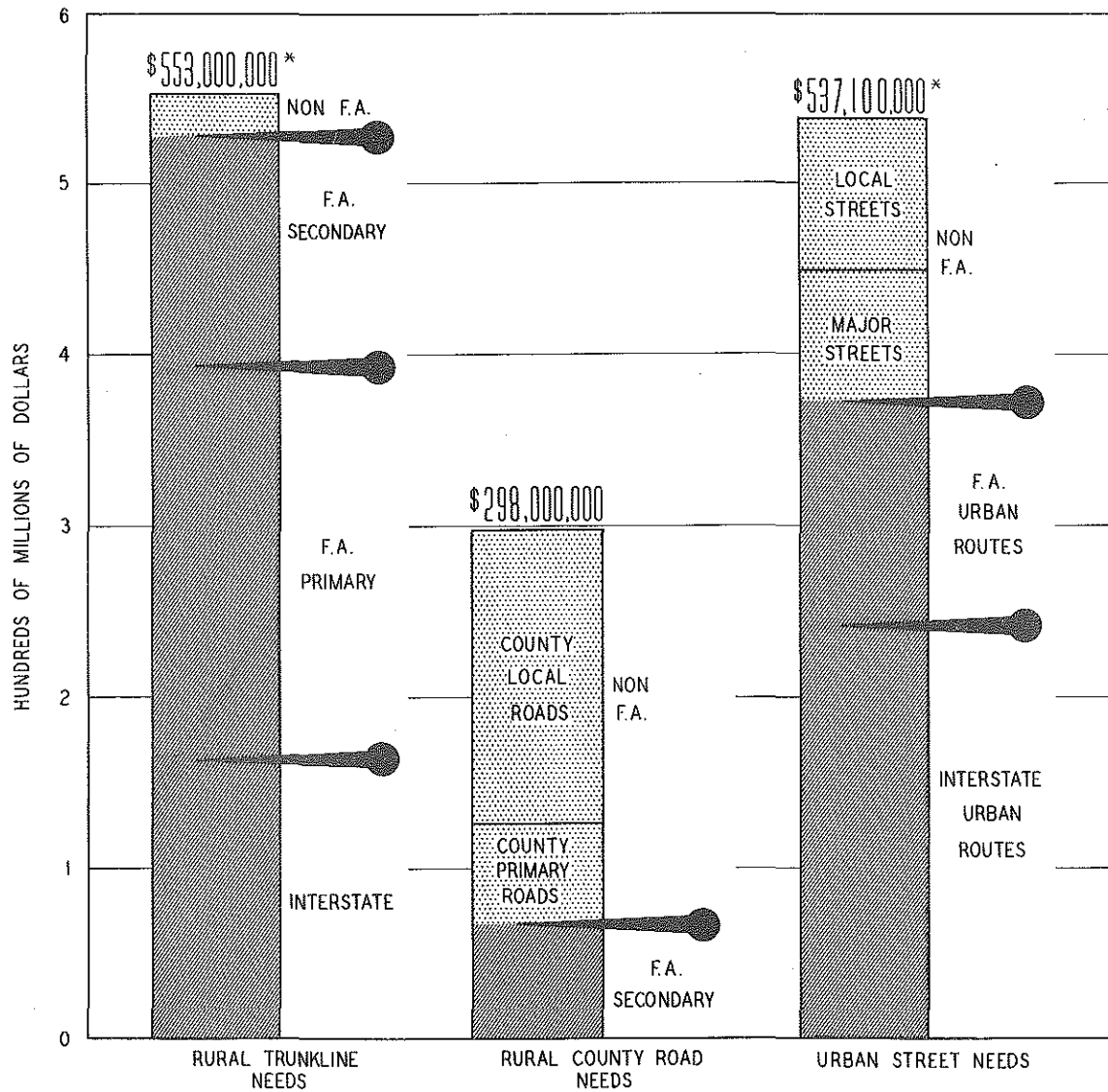
\*Trunkline streets in cities and villages of 5000 and under, are included in rural trunkline mileage.

The study found and reported that 49,065 miles of roads and streets, or 46 percent of the state's total mileage as well as over 2000 bridge structures, were inadequate. Included in this total are 6440 miles of rural and urban state trunklines, or 70 percent of the state trunkline system.

It should be clearly understood that these reported mileages

# \$ 1.4 BILLIONS ARE NEEDED TO CORRECT EXISTING INADEQUACIES

70% OF THE NEEDS  ARE ON FEDERAL AID SYSTEMS



\*Trunkline street needs in cities and villages of 5000 and under, are included under rural trunklines.

of deficient highways, large as they are, in actual fact are very conservative. The measure of "tolerable standards" was used to determine the adequacy of all roads and streets. In other words, no



roadway delivering minimum acceptable service to its traffic was listed as deficient.

Further evidence that the deficiencies reported on Michigan's highways are in no sense unique, is found in the fact that they are substantially below the average of the seven states which have completed similar highway studies. This also indicates that these details of Michigan road and street adequacy may be accepted as typical of conditions, not in the worst, but in the better than average states.

The cost of remedying these deficient roads and streets was reported by the highway study to be \$1,388 millions. This cost provides for replacing deficient roadways with facilities needed to serve the traffic involved. The computation of expenditures required to restore Michigan highways was based on a determination of unit costs of construction during the contemplated 15-year period of reconstruction.

Nearly 11,000 of the 49,065 miles of deficient highways are on the Federal Aid Primary, Secondary, Urban and Interstate Systems. This Federal Aid mileage is only 22 percent of the total, but these routes were selected for their traffic-carrying importance and such routes necessarily require the higher types of improvement. As a result, the cost of rebuilding them is estimated to be \$969 millions, or 70 percent of the estimated cost of correcting all deficiencies.

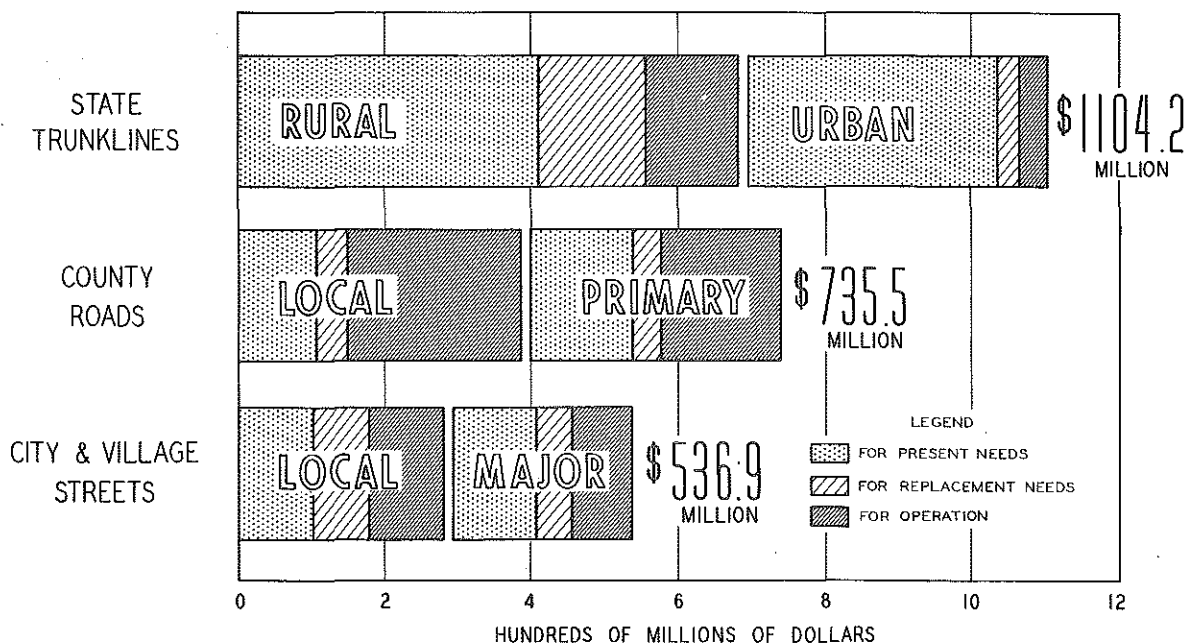
The nature and service of the state trunkline system is such that most of its mileage is included in one or another of the Federal Aid Systems. Of the 5964 miles of deficient trunklines in rural areas and in small cities and villages, 5579 miles are Federal Aid routes. These account for 95.5 percent of the estimated costs of correcting

deficiencies on these trunklines. In the cities of more than 5000 population, Federal Aid routes account for practically all of the indicated costs of correction.

When Michigan highway agencies undertake the contemplated 15-year rehabilitation program, the total requirements of the program will not be limited to the costs of correcting existing deficiencies.

## \$ 2.4 BILLIONS ARE NEEDED FOR MICHIGAN HIGHWAYS IN NEXT 15 YEARS

1.4 BILLIONS TO CORRECT EXISTING DEFICIENCIES  
1.0 BILLION FOR REPLACEMENTS AND OPERATION



During the progress of the program it would be necessary to operate the highway plant. In addition, it would be necessary to build facilities in place of those which, though tolerably adequate now, would become deficient during the program period.

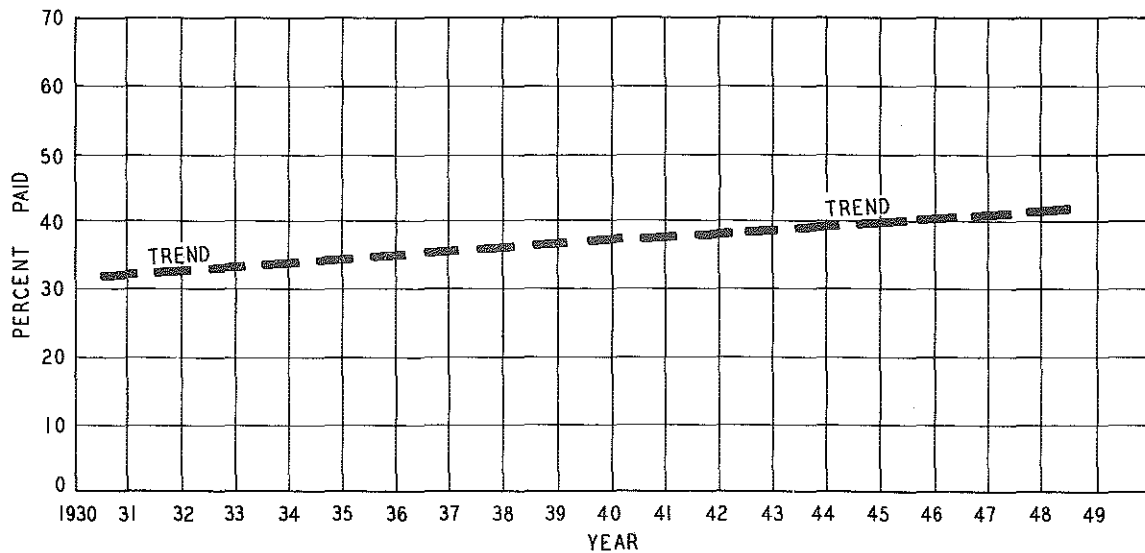
It is estimated that these operating and replacement costs would amount to one billion dollars in 15 years. This, added to the \$1.4 billions required to correct the existing deficiencies, would bring

the total needs of Michigan highways for the program period to \$2.4 billions.

Of these total needs, approximately \$1.1 billions would be required by the state trunkline routes in rural and urban areas. As has been pointed out, all but a very small portion of these state trunkline requirements are on routes which have been designated as parts of the Federal Aid Primary, Secondary, Urban and Interstate Systems in Michigan.

## FEDERAL AID IS AN INCREASING FACTOR IN THE IMPROVEMENT OF MICHIGAN HIGHWAYS

TREND OF CONSTRUCTION COSTS PAID WITH FEDERAL AID FUNDS



Federal Aid to highways has been an important factor in the development of the Michigan state trunkline highway system during the third of a century since the policy was adopted in 1916. It has served to integrate and improve administrative and engineering procedures and standards. And, of course, provision of Federal funds has aided and hastened the development process.

During the 33 years that the policy has been operative, the funds received under successive Federal Aid allotment have made up an increasing proportion of the money used for state trunkline construction.

The accompanying graph shows the trend of this relationship. The trend line is computed from two-year averages of the percentage of total State Highway Department construction expenditures that were paid by Federal Aid funds. It reveals that the trend of Federal contribution has risen from 31 percent in 1930 to 41 percent in 1949.

#### CONCLUSION

During the past 45 years, Michigan has made great contributions of effort and money to the development of its highways. During the past 20 years, these contributions have not sufficed to keep pace with the tremendous expansion of highway travel nor with the changes in highway requirements which growing dependence on the motor vehicle has brought about.

Michigan highway agencies, and the State Highway Department in particular, are faced with the task of correcting by construction the enormous total of highway deficiencies which have accumulated during the depression and wartime years. From the nature of the case, the bulk of these deficiencies exist on those major roads and streets which are included in the Interstate Highway System and the Federal Aid Primary and Secondary Systems.

The records of past years amply prove the ability of the state's highway administrative agencies and of the Michigan highway construction industry to undertake and accomplish the work involved in this essential

rehabilitation program. But the feasibility of any such program depends on adequate financial support.

Federal Aid funds have become an accustomed and vital part of the fiscal structure supporting highway improvement not only in Michigan but throughout the country. They are designated for use on the major highway routes where the most serious and most costly deficiencies exist.

Federal Aid is essential for improving Michigan's and the nation's highways to acceptable standards of adequacy. I earnestly recommend that the policy be continued.