

HIGHWAY IMPROVEMENT A CONTINUING BUSINESS

Within the time measured by not many recent months it has come to me to travel over and to study many thousands of miles of public roads from the highest type of modern pavements to the most primitive of pioneer trails. It has been my good fortune to have contacts and to be instructed in the problems characteristic of the different sections of these United States and the plans and progress being made to meet them by the men whose experience and positions place at their command the most vital and important highway facts. Not at any time or in any section has there been consciously absent from my mind searching and critical analysis of the results of highway expenditures from the standpoint of the advancement of the standards of living and the upbuilding of a nation.

These are the real values by which to measure the results of highway improvement and upon which to rest predictions of the future rate and extent of this business.

This great exposition brought together of highway equipment, materials and specialized products is indicative of the place attained by highway improvement in the construction industry of the country. In size, diversification and manifest interest, all previous road shows are surpassed. So far as I am informed the only other comparable annual expositions in size are the motor shows. The products of these two industries are complementary and in combination form this new great force in our national life, - highway

transport. The number of engineers, contractors, skilled and unskilled workmen engaged, and for the time depending upon the highway program for employment, is very large.

These existing conditions and the fact that expenditures for highway purposes are dependent upon appropriations from public funds are sufficient warrant for an extraordinary interest in the outlook for the immediate future. No proof is needed that any business, large or small, does not carry on unless securely founded. Its possible lifetime and potential growth are measured accurately by its service. And this term is used in its broadest sense, embracing all the factors of demand, extent, cost, quality, time, availability, and substitutes. These and many other factors have an important bearing.

Can therefore conclusions be drawn from existing conditions upon which to predict the future? I think so.

You may or may not agree with the conclusions but there can hardly be a disagreement as to the facts. It must be remembered, however, there may be and doubtless will be wide local variations from any general tendency which do not affect materially the results in the aggregate or on a national scale.

HIGHWAY TRANSPORT -

Highway transport is now nation-wide and its service is daily extending. One of the outstanding principles developed in

the transportation study made by the U. S. Chamber of Commerce is the utility of motor transport in the broad general scheme of transportation. What a remarkable change and crystallization of expert transportation opinion was evidenced in the resolutions of the Transportation Conference called to consider the reports of the several committees of the Chamber which have been working for the past eight months. I quote briefly -

"The motor vehicle has proved its unquestionable value in our economic system ****".

"The congestion of transportation today centers around the terminal areas of our great cities *****".

"Store door delivery by motor truck is the greatest contribution which can be made to the solution of the terminal problem *****".

"Organized motor transport can also relieve the railroads of various forms of uneconomical service ****".

"Outside of the terminal areas it is to the public interest as well as to the interest of the respective carriers, that the economic limitations of each type of carrier be recognized *****".

The above statements are not the full text but an indication of the very definite place assigned motor transport.

HIGHWAY SERVICE -

Inclusive of city streets, it must be plainly evident that

the service of the highway is rapidly being extended to almost every individual. Future developments in transportation will assure general services of a valuable character quite apart from the direct services to the road user.

MOTOR VEHICLE REGISTRATION -

The present registration of motor vehicles is about 13,500,000 and the Bureau now estimates a total registration for 1924 of approximately 15,000,000.

HIGHWAY PROGRAM -

Do not these facts indicate what a tremendous experiment in transportation the American people have undertaken? Consider in all seriousness the accumulative costs of utilizing this rolling stock without adequate highways. There is no longer a question as to the earning capacity of improved highways in saving operating costs and in rendering valuable services but highway transport is not self contained as is rail transportation. The major difference between the two introduces some difficult questions of equitable financing.

An outstanding feature of the road program of the past year has been the publication of the map of the Federal Aid Highway System. Its greatest importance is in the unanswerable fact that the forty-eight States and the Federal Government have defined a major objective and are not working on this gigantic task of road

improvement in a blind or haphazard way. Individual States have been working for years on a systematic program. The building of such a map was possible because of the progress they had already made in the selective processes. Many had never received recognition or credit for their efforts from self-constituted reformers and propagandists. Now we have a national scheme with all the authority of both the State and Federal Governments upholding it.

That this broad definite plan has been completed and adopted will inspire greater confidence in State Legislatures, and in Congress. It will also be subject to attack because of its relatively limited mileage. Examine this plan. It appears comprehensive and so it is. The roads included are all major in importance in each locality and the net work connects practically all county seats, but admittedly there are many miles of importance not included. These must come later. If this country is to succeed with highway transport it must rigidly adhere to systematic planning and building of its highways in the order of their importance.

This is a big country, and roads are intimate affairs, that is, they must be available near at hand. So there is a tremendous mileage. If the whole population of the country were spread out on the legally constituted rural highways, there would only be about thirty persons per mile.

We may divide this big mileage into two general groups:

Group 1. This is composed of the State systems and is largely under State jurisdiction 220,000 miles.

Group 2. This includes all other roads and is largely under county, township, town or district jurisdiction 2,640,000 miles.

This figure, however, is very misleading. A very large percentage of this mileage, while legally dedicated for public highway purposes, has never received any expenditure, is used by little and perhaps no traffic, and will not for an indefinite period, if ever, justify any improvements as a highway.

The total of the two groups is 2,865,000 miles. Consider the chaotic conditions that must exist unless order and system rules.

It is estimated that about 387,000 miles total have been improved to some extent or 13.2 per cent. This is the net accumulation in over a century and this is 93 per cent of the cheaper types. The total paved mileage is placed at about 26,000 miles, 1922 figures.

The Federal Aid Highway System of 170,000 miles as now approved is included in Group 1 and is coincident with about 80 per cent of it. The Bureau estimates there are now about 110,000 miles yet to be improved with roadway surfaces adequate and suited to the traffic needs. If this system is completed in the next ten-year period, there must be an annual program of 11,000 miles of new construction. This is somewhat larger than the mileage of Federal aid roads that has

been completed in any one year including the graded only, which are built as stage construction and are yet to be surfaced.

At the present time there are under construction approximately 15,000 miles of Federal aided roads, estimated total cost \$290,000,000. The Federal aid funds appropriated or authorized are sufficient to continue an average program equal to this amount for approximately two years. At this time there is, in general, no reason to doubt the ability of the States to more than meet the Federal funds to carry on this program. There are some individual States where a greater proportion of the cost of certain roads ought to be borne from Federal funds. In addition to the Federal aid program there will be a continuance of the highway program in the following distinct phases:

1. State and State-aid construction in addition to the Federal program. The combined State and Federal cost of Federal aided projects will probably not be greater than 70 per cent, judging from the past two years, of the total cost of construction carried on under the State jurisdiction.

2. The program of construction designed to take care of specific intense traffic problems must be increased. The supplementary use of trucks within the terminal areas to relieve congestion and speed up transportation will increase rapidly. This will transfer a certain part of the highway program into the terminal areas and to new terminal areas, and the amount of new roadway

construction to take care of this phase of transportation is likely to increase greatly in the near future.

There is also in connection with population centers certain acute problems which will require large expenditures such as the building of roadways to connect with, and distribute traffic from, the new vehicular tunnel between New Jersey and New York, and the re-building and widening of the Boston Post Road east of New York.

We have reached the time where arterial roads must be built connecting business and residential areas and through routes to detour heavy traffic around business and residential districts.

Thus, a large amount of new construction must come at once around the big population centers to take care of the traffic problems which have arisen and it is my judgment that the expenditures for these purposes will largely increase in the near future.

3. For the past three years the total estimates of the Bureau show that the road program has reached practically the billion-dollar mark, including payments on bonds. Of this expenditure about 40 per cent has been expended under the supervision of the State highway departments, and used for the roads in Group 1 as outlined above. About 60 per cent has been expended by local authorities and expended on the roads of Group 2 above. It is my judgment that the local expenditures will be materially decreased, partially because of the completion of important local roads, and partially because of opposition to

land taxes, particularly on the part of the farmer. This change, however, would be only in line with the general tendency which has been very evident in recent years to concentrate more and more the expenditures under the State highway departments and at the same time to increase the jurisdiction of these departments over larger mileages. This tendency is well shown in the following table, showing estimated approximate expenditures since 1904.

RURAL HIGHWAY EXPENDITURES

S T A T E

Years :	Construction	:	Maintenance	:	Total
1904 :	\$:	\$:	\$ 2,549,912
1914 :		:		:	24,220,850
1921 :	291,973,813	:	74,526,746	:	*413,241,662
1922 :	286,600,000	:	73,500,000	:	#429,896,572

* Includes \$46,741,103 for Administration, Engineering & Misc.

Does not include payment for principal and interest on bonds.

L O C A L

Years :	Construction	:	Maintenance	:	Total
1904 :	\$:	\$:	\$ 56,977,258
1914 :		:		:	216,042,934
1921 :	334,991,560	:	174,066,423	:	**623,346,110
1922 :	330,000,000	:	171,500,000	:	468,455,735

** Includes \$114,236,127 for Administration, Engineering & Misc.

GRAND TOTAL FOR STATE AND LOCAL

Years :	Grand Total
1904 :	\$ 59,527,170
1914 :	240,263,784
1921 :	1,036,587,772***
1922 :	898,352,307 #

*** Includes \$161,027,230 for Administration, Engineering and Miscellaneous; If Miscellaneous payments are deducted to get a figure comparable with 1922 and 1923 we get \$911,589,895.

Does not include payment for principal and interest on bonds.

ESTIMATED STATE AND LOCAL FOR 1923 - \$943,139,148 #

Does not include payment for principal and interest on bonds.