

Transcript of informal remarks of Thomas H. MacDonald,
Commissioner of Public Roads, before annual meeting
of Association of Highway Officials of North Atlantic
States, in New York City on February 18, 1943

Gentlemen of the North Atlantic Association of State Highway
Officials: Right at the outset I want to say the most important
thing that I can possibly say to you--that never before have I felt
it so necessary for the State highway departments and the Public
Roads Administration to come closely together and to work out their
problems with mutual understanding and tolerance.

It is my belief that the highway departments must be the main-
stay not only in keeping our highway transport facility operating
during this most critical period in the history of our nation but
also the long-time pull of future highway development, and it is in
the strength, competence and efficiency of the highway departments
that I find the greatest hope and promise for a satisfactory solution
of problems of the present and future.

Looking at the history of the past, I have endeavored to
ascertain the work that has been done in previous years by the high-
way departments. In the 6-year period from 1924 to 1929, the highway
departments in the North Atlantic States had an increase of 9,375
miles in their State highway systems. The construction program dur-
ing that period was nearly 15,000 miles, of which a minimum of 5,500
miles was reconstruction. That long ago, you see, you were already
reconstructing old roads--at least 37 percent of your work was
replacement.

From 1930 to 1935, you had a total construction program of 15,020 miles; but during that period the mileage of State highways actually decreased more than 1,400 miles. So your total program was practically 100 percent replacement.

Now we get to the last period from 1936 to 1941. The mileage under the control of the highway departments remained fairly static; there was an increase of 600 miles only. You had a total construction program through those years of 8,670 miles--virtually all replacement.

You see, the mileage constructed annually was decreasing; the type of construction gradually improving. Average annual construction during the 1936-41 period was 1,445 miles, or nearly 1,100 miles per year less than the average of the preceding period.

In 1941 you had a construction program of about 1,500 miles.

The construction program for 1942 will be much under that.

We do not have the final figures.

The construction program for 1943, of rebuilding or replacing roads, is in the laps of the gods. It depends a lot upon the limitations and restrictions that are placed upon it.

I have endeavored on appropriate occasions to make all of this plain to authorities in Washington--that the highway departments are not building new roads; that they are in general replacing roads that have become obsolete through wear or through inadequate capacity; that in order to keep highway transport operating as an essential part of our war effort, we must replace these obsolete roads.

They have become one of the most serious causes of deterioration in the vehicles which we must keep rolling to carry all types of war personnel and war materiel, either raw or finished.

A survey recently completed in cooperation with State highway departments showed that about 73 percent of the 224,000 workers in 94 war plants in 10 States go to and from work in private automobiles. In general no other type of equipment is available to carry them.

So I think it must be admitted that one of the first requirements in keeping our economy in operation, to say nothing of building it up to the tempo required during the coming year, is to keep our highway transport operating.

Now as for available funds, the appropriations for the fiscal year ending June 30, 1943, provide for this northeastern region of 11 States and the District of Columbia, \$23,000,000 for Federal aid. If we consider this is being expended on a 50-50 basis, you see we would have something like a \$46,000,000 total program. Had there been no interruption, this would probably be a fair measure of the Federal-aid program the States would have under way. In addition, of course, you have the State program which is financed entirely from State funds.

Now as of last December 31, a total of 166 miles of defense road work was approved but not under construction. The cost was estimated at \$25,000,000--\$20,000,000 in Federal funds and the remainder from State funds.

We also had 238 miles of defense-road construction under way at a total cost of \$144,000,000, of which \$36,000,000 was Federal money.

And construction had been completed totaling 433 miles and costing \$35,000,000, of which \$27,000,000 was Federal funds.

All of this totals 837 miles and \$108,000,000 (\$79,000,000 of Federal funds and the remainder State money).

I wish here to interpose an expression of appreciation of this work on defense highways which the State highway departments have carried forward at the request of the Federal Government.

Now, if we take this total defense-roads program extending from inception to completion over a period of two years, we see that it represents an annual average a little in excess of what would be a normal Federal-aid program for a single year under the existing appropriations--\$54,000,000 of defense-road work as against a normal program of about \$46,000,000.

But we come now to the sad part so far as future construction and replacement is concerned. We find that in the future we will not be able to carry forward a large construction program because of the limitations which are imposed.

The limitations which I speak about are the hurdles over which every project must go, and they are pretty high hurdles in many cases.

First, each proposed project financed in whole or in part with Federal funds or requiring critical materials must be certified as essential to the war effort by the War or the Navy Department or by the Governmental Division of the War Production Board. Certification itself is by no means a simple or quick procedure.

Second, each project requiring critical materials must be submitted in the form of a preference-rating application to the War Production Board for approval. WPB then investigates and reaffirms or denies the essentiality of the project.

The preference-rating application for WPB approval goes first to the Governmental Division of WPB. If the project costs less than \$10,000, this division has full authority to approve or deny the application.

But if the project costs \$10,000 or more, the division transmits the application together with its recommendation to the Program Review Board. This board then analyzes the essentiality of the project, and approves or denies the application for a preference rating if the cost ranges from \$10,000 to \$100,000.

But if the project costs from \$100,000 to \$500,000 the board transmits the application with recommendations to the Facility Review Committee. This committee in turn reviews the project and the chairman approves or denies the application.

If, on the other hand, the project costs \$500,000 or more, the Program Review Board transmits the application together with recommendations to the Facility Clearance Board. On this board, all highway projects are sponsored and presented by a member who is a representative of the Office of Civilian Supply of WPB.

But before this representative presents any project to the board, he first refers it to the Office of Civilian Supply where its essentiality is again analyzed in great detail. That is, a project already certified as essential by the Program Review Board of WPB is now treated as a civilian requirement and is reanalyzed by the Office of Civilian Supply. Even access-road projects which have been certified by the War or the Navy Department as essential to the war effort are considered a civilian requirement and are reanalyzed by the Office of Civilian Supply.

If a project application is finally approved by the appropriate board or committee, and the project is given a preference rating, the application must then be reviewed by the Conservation Division to determine whether in its estimation the use of critical materials has been reduced to a minimum, and by a representative of the Army and Navy Munitions Board to determine whether the value of its preference rating meets with his approval.

After this series of reviews, the Public Roads Administration is notified that the project is finally and completely approved or disapproved.

In the meantime, the Public Roads Administration, at the request of WPB, has assembled from the State highway departments and has submitted to the Governmental Division of WPB an estimate of total requirements for maintenance and construction materials for the next quarterly period and for the succeeding 15 months in connection with the Board's Controlled Materials Plan.

This estimate represents the absolute minimum of critical materials which the highway departments have determined must be used during this period to maintain wartime highway transportation at a reasonable level of efficiency. The steel included in the estimate represents about one-tenth the quantity that would be consumed during the same period under normal conditions.

The determination of the amount of steel needed for construction is based on projects previously approved by WPB but not yet under construction, projects in process of being approved, and projects to be submitted for approval during the quarter.

Following the prescribed process, this estimate is forwarded by the Governmental Division to the Office of Civilian Supply in WPB. This office incorporates the estimate for the highway program with estimates for many other programs and presents these over-all estimates with its recommendations to the Requirements Committee of WPB. The Requirements Committee makes an over-all allotment, part of which is finally passed back to the Governmental Division, including an earmarked allotment for the highway program.

So far WPB has been allotting for highways practically the amounts of critical materials which our quarterly estimates indicate will be required. In other words WPB reviews our highway program, considers it in relation to production schedules and requirements of other programs, and makes available the minimum materials we have requested. But our total allotment can be used only on projects individually approved by the various committees and boards during the period covered by the allotment.

Now as a result of this dual system of making quarterly allotments of critical materials for the highway program, and through an intricate and lengthy procedure, reviewing each project, disapproving a portion of those reviewed, and assigning a quota of materials to those approved--as a result of this system we do not get enough projects approved to use up our allotment of critical materials. During the first quarter of this year we will probably be able to use less than half of the total tonnage of steel allotted for highway purposes.

I interpose here a very high appreciation of the tedious and continuous estimates of their requirements which the States have supplied. We would have been lost without them.

That gives you a concrete example of the obstacles that are encountered in putting through the mill a project which we know to be necessary, or all the projects which we are convinced are necessary, and for which allotments of materials are set aside. I now ask you

these questions, which I am asking in Washington at every opportunity: Why make an allotment if the allotted material is not to be available for use even though necessity of the use is repeatedly certified by competent authority? And who, please tell me, if not the highway officials, has the information and the ability to judge the necessity for use of that material allocated by the War Production Board, to keep our highway traffic moving?

This maze through which perhaps a thousand highway construction project applications must pass each quarter, looks much simpler on paper than we find it in practice. Many project applications, for instance, must be routed through all or part of the complicated WPB procedure more than once for amendments to original preference rating orders.

You will recall that long before Pearl Harbor, long before the acute stringency of critical materials appeared--I refer particularly to steel, copper and a few others that are essential to our construction program--we sent out and had accepted by the State highway departments a memorandum which was later the basis of an agreement with WPB, which placed highway projects in different classes, according to importance. After working along that line and getting preference ratings on a very considerable number of projects, we found we had a new set of priority classifications superimposed upon those original ones and practically superseding them. So it was necessary to make a determined effort to raise former A-2 to A-10 ratings for important projects up to A-1 and then

into the new AA ratings so they would actually enable us to get some materials.

Now, we find that projects that won those higher ratings are to be reviewed, and right now they are being reviewed by the Facility Review Committee of WPB to weigh once again their essentiality, and right now that committee is revoking the ratings previously granted and ordering the stoppage of work wherever the chairman of the committee deems the project to be unessential. And these work stoppages, I may add, are ordered without accepting any responsibility for damage claims resulting from such action.

There is a touch of ironic humor in the fact that it is the certificates of essentiality issued by the WPB itself for projects it has previously found to be necessary for the maintenance of our main arteries of commerce--it is these very WPB certificates that under this review have been most questioned. That is, a unit of the WPB, reviewing all road projects, has raised more question about projects approved by another unit of the same agency than about those certified by the War and the Navy Departments. Yet there has been substantially more evidence of the necessity for maintaining the arterial roads certified by the WPB than for constructing some of the access roads, certified by the War Department and approved by the new WPB unit without question. That is just one of the eccentricities of the business with which we are dealing.

The principal reason for our difficulty in getting highway projects approved is the consistent failure on the part of the War Production Board to appreciate, first, that the operation, maintenance and repair of the highway system has a direct relation to the war effort and, second, that the established organizations of the State highway departments and the Public Roads Administration can and should be utilized--and, I interpose--with an element of faith in their integrity, to the maximum extent in the war effort.

We have constantly had to deal with an attitude of mind which regards any and all highway work as nonessential, an attitude that takes no account of such facts as I recited a few moments ago, that 73 percent of the workers in 94 factories in 10 States are going to and coming from their places of employment in private automobiles.

Or that nearly 750 war plants in Michigan are receiving, on the average, about 65 percent of their materials by truck and shipping out about 69 percent of their finished products by truck.

Or that motor busses are providing about two-thirds as much passenger transportation as all types of rail facilities, and that trucks are hauling about one-fourth as many ton-miles of freight as the railroads. It's mainly local freight and local passenger travel--the short-haul movement--that the trucks and busses are handling, and by the same token it is freight and passenger travel that the railroads simply cannot begin to deal with, overloaded as they are already with their own special field of long-haul transportation.

How, in view of this attitude, it is going to be possible for Public Roads or the State Highway departments ever to establish the conviction that a highway is important, is beyond me. The only course I could think of as offering a possibility of success was to make a very earnest plea to the Association of State Highway Officials to maintain for some weeks in Washington--beginning now--a representative committee of the State highway departments to try their persuasive ability on the powers-that-be. The Executive Committee acceded, and Mr. Gentry, President of the Association, is in Washington.

Added to the present complications, we have now a complete rearrangement of the WPB setup in prospect in connection with the Controlled Materials Plan. So I do not know whether the processes which we have been following to obtain the approval of highway projects will be the same tomorrow as they were yesterday.

I am hoping we will be able--I have been attacking the problem, have been pleading most earnestly--to get acceptance of the principle that the State highway departments in this country are loyal and patriotic and just as much concerned with doing the things necessary to win the war as any other individual or organization, and furthermore that if they were convinced that every pound of steel manufactured was necessary for a specific war purpose, they would say, "All right we will get along without a single pound of steel."

But, since we have a certain tonnage of steel that can be spared from the direct war program, I have proposed that we set up between the State highway departments (represented by the Executive Committee of the National Association) and the Public Roads Administration, a committee to sift all highway projects and to determine where available material which has been allocated to highway use by WFB can best be used to assist the war effort. I have emphasized that no committee of civilians or of officers of either of the armed forces who have had no contact with highway transport is able to make that determination or to make it with a keener sense of patriotic duty, than our committee. I know we would have the united support of the State highway departments in doing the job in that way.

The whole theory behind the principle I am attempting to establish is that when a determination is made of the amount of controlled materials that can be spared to keep highway transport rolling--when that one fact is determined, then we who are responsible for highway maintenance and for the upkeep and reconstruction of weak highways and bridges will place that available material in the places where it will do the most good. It seems to me that is a very simple and a very sound principle.

We are not going into any uncharted field in any of this. Through the cooperation of the State highway departments, it has been possible to develop a better appraisal of the highway needs of this country than of any of the thousand other elements that go to make up

the war effort. The needs within the highway field are far more completely charted than those of any of a thousand other elements, as a result of the careful surveys previously authorized by the roads committees of Congress for defense purposes.

Now that is the principle we are working on. We hope we have made some progress towards its acceptance. We hope that shortly your departments and the other State highway departments of the country will be represented by a committee of the Executive Committee of the Association of State Highway Officials that will be called upon to look at these projects and to help sift them.

During the past year, on projects other than those which have had to be processed because they require critical materials, we have had a certain leeway. The story behind this is known to those of you who happened to be present at the committee hearings conducted by Chairman Cartright. By reason of certain circumstances that developed in Oklahoma, we have lost Chairman Cartright, one of the strongest friends and supporters of the highway work under our system that we have ever had. He called a hearing on the famous L-41 order, an order that was written overnight and put into operation overnight, and that put a virtual stop to all highway construction not requiring preference rating orders.

As a result of that hearing, the effect of the L-41 order was modified for highway purposes. So during the last year we had a very

free hand with projects which did not require critical materials. The States have taken full advantage of this, and so have the other subdivisions of government. There were no limitations, and no requirements other than that of reporting construction undertaken. On the average during the past year, \$10,000,000 of such new work has been placed under construction each month.

Another revision of the order is now proposed, and in this proposal I must say there is much fairness and much common sense. 1/ Undoubtedly you have seen road work going on in places, particularly on county roads, which is much less essential than work which should be done on the State highways. While it does not involve critical materials, this work does involve the use of skilled operators of equipment--manpower which has become a critical element--and materials which may be more needed on other highways.

The proposed revised order would decentralize authority for approving all road construction projects which meet all of the following requirements: (1) No priorities assistance necessary; (2) will cost not more than \$100,000, and (3) funds are available without official certification of the work as to its essentiality to the war effort.

As to such projects, an application for authority to begin construction would be submitted through the State highway departments to the appropriate district engineer of the Public Roads Administration. The latter would review the application and make a recommendation to

1/ Revised order put into effect by War Production Board on March 17.

the regional officer of the War Production Board, basing the recommendation on availability of labor, construction machinery, and materials, and other pertinent facts.

The regional officer of WPB in turn would review the application, consider the district engineer's recommendation, and then either issue a letter of denial or an authorization for construction.

I hope that I am making this clear--that projects which heretofore under Authority to Construct L-41-600 could be started without specific authority, would, under the revised order, have to pass through the State highway departments, the district office of the Public Roads Administration, and the regional office of the War Production Board for authorization to start construction.

Now there is a division of opinion among highway people with whom we have corresponded as to the desirability of this revision of L-41. I repeat that I think it a very fair and reasonable arrangement. I think it is the aim of the Construction Division of WPB to make it an order that will not work hardships, but yet will maintain effective control over the use of materials and our construction plant.

Passing on to the matter of bituminous materials, I think that under the circumstances a fair record was made in administering the restrictions imposed on their use. This experience affords a good

illustration of what I have been trying to say, that if the allocation of materials, to the extent they are available, is left in the hands of the people who are responsible for the results obtained, the materials will be better used and the processes will work more efficiently than if the allocation rests with people whose previous interests have been entirely outside the sphere of highway transport.

I regretted the necessity imposed upon us for canceling certificates for bituminous material that had been issued but not used during the past year, but we seemed to have no alternative.

During the past year, in the nine New England and Middle Atlantic States, certificates were issued for a total of 747,000 tons of bituminous road materials. Of this amount, 33 percent was for construction and 67 percent for maintenance. Twenty-five percent of this material was asphalt and 75 percent, tar. The total quantity certified was 76 percent of the quantities requested.

In the 17 States of the Atlantic Seaboard area, more than 1,000,000 tons of bituminous material were certified. That represents 73 percent of the quantities requested, a percentage somewhat less than that certified in the northeastern States.

I realize that the States and the communities had already reduced their requirements to what they thought were essential, but it was necessary for us to make a further reduction and to certify only a little more than three-quarters of the minimum requirements as indicated to us

by the States and through the States by the local communities. I appreciate the assistance given us by the State highway departments in handling and transmitting the applications of the counties, municipalities, and other local agencies.

During January of this year certificates were issued for 131,000 tons of bituminous material for use in the Atlantic Seaboard area. This was about 13 percent of the total quantity certified in 1942. It was nearly 99 percent of the total quantity requested. Thirty-one percent of the tonnage certified in January was for construction, and 69 percent for maintenance.

For use in the nine New England and Middle Atlantic States, represented in this audience, certificates were issued in January for 59,000 tons, or about 8 percent of the total quantity certified for use in the same area during 1942. Of the total certified 20 percent was for construction and 80 percent for maintenance. You see how sharply we are beginning to feel the impact of maintenance requirements.

The records as of January 31, 1943, indicate that no certificates had been issued for materials for use in two of these northeastern States. It would be desirable to submit applications, particularly for maintenance materials, as promptly as possible in order to avoid unnecessary delay in securing these materials when the need for them arises.

With respect to the quantity of bituminous materials that will be available for use in the Atlantic Seaboard area during 1943, the outlook now is uncertain. It is not possible to make any dependable estimate. It is probable that the supply will not be greater than in 1942. There is a distinct possibility that it may be somewhat less. In 1942, the larger part of the materials available were used for maintenance. It is indicated that in 1943 it will be necessary to use an even larger percentage for maintenance.

So, the word I would like to leave with you on this subject of bituminous materials for maintenance is: Let us have your applications for certificates just as early as you possibly can so we will be able not only to process them without delay but also to make a determined fight for this matter of maintenance.

In fact, the better you estimate also your requirements for skilled operators and equipment and the sooner you let us have your estimates, the better we will be able to serve you in Washington in bringing about a realization that maintenance must be kept up and must be considered an essential part of the war effort. In maintenance lies the only hope of keeping highway transportation operating during the coming year.

I have the feeling that there will finally come a recognition of what a tremendous part highway transport has played in the whole operation of production and distribution. In fact, after months of

building new factories and of obtaining supplies and materials at an increasing rate, it must, I think, have been brought home to all of us that the worst bottleneck now is transportation.

In that connection, it is my judgment that many of the States in this territory have wheel loads fixed by their Legislatures that are too high. They ought to be readjusted downward. I do not see how we can provide a system of roads generally that will accommodate traffic on an interstate basis at a higher rate of loading than 18,000 pounds per axle. Along with that goes the loading on the tires.

After a study made last summer at several hundred loadometer stations in cooperation with State highway departments, we found that the majority of truckers are doing a patriotic job of loading their trucks within the limits of the 18,000-pound axle load and, furthermore, are loading them well within the limits of their tire capacity. That is, we found that about 63 percent of the trucks are loaded within the rated capacity of their tires.

But nothing deteriorates rubber more rapidly than high speed and overloading. If we can take as authentic the investigations that have been made by one of the largest rubber producers--the Goodyear Company--we must conclude that to get the greatest amount of haulage out of tires, they should not be loaded beyond 90 percent of their rated capacity. Yet we find tires on the roads today that are loaded far beyond that, up to 150 percent and even 200 percent of their

rated capacity. Now, the trucker who does that is simply deluding himself. He is wearing out his tires--tires that he may not be able to replace--and he is not getting in the long run as great a ton-mileage of pay load with those tires as he would obtain if he were loading on the basis of from 50 to 90 percent of the rated capacity. In making this statement I am considering only loads, tire life and the highway. I am not undertaking to determine the overloading that may be tolerated because of manpower shortage. I am only pointing out that the price for overloading must be paid in rubber.

I wouldn't want to point a finger at any one here, but I think you will all agree that highway departments in a hurry to get a job done have been among the worst overloaders that we have ever had, and certainly contractors building our roads have rated right up near the top of the class in that sort of thing.

So it is up to the executives of the highway departments to conserve rubber, one of the critical things necessary to keep their equipment operating. It is their duty to see that the tires used on their maintenance equipment are not overloaded.

There is another essential element in keeping our highways in operating order for the duration, and that is the efficient shop foreman. The question of deferment from other kinds of service can well be raised in the case of the foreman who is able to keep maintenance equipment of the State highway department in top working condition.

I had the privilege recently of listening to an illustrated talk by the Timken Roller Bearing people on the subject of maintenance of equipment. I suspect that the dealers in your respective communities would have access to these same slides, and to a lot of other material on keeping maintenance equipment operating in top order.

Just one word about the future planning of our program. There has been some question raised about the use of advance planning funds and the type of projects that we will approve. Frankly, we have been attempting to hold this allocation to advance planning of projects that are out of the ordinary run of projects. We have been attempting to get the sights set a little higher to do some of the hard things that the highway departments and we, ourselves, know we need to do to get alternate routes around cities and to get proper routes into and through cities. We have sidestepped these things in the past because we knew there would be some community opposition and because some land would be hard to secure.

We are trying to use the planning fund to help the States make studies and do the engineering work necessary to prepare projects for contracts that will be ready to let after the war, just in case the Federal Government undertakes a large construction program for the relief of unemployment. I know there isn't a man in this audience who wants to see a repetition of the expenditure of four billion dollars under an improvised type of program. If we are going to spend four billion dollars or one billion dollars or any number of dollars in a relief program by the Federal Government, we want it to be spent where it will be of everlasting benefit to the communities.

I would like to see future construction of the type that has been started in the City of New York under Commissioner Moses. The other

day I had an opportunity to go over the projects that are in the making in this particular area. Along one of the stretches down in Brooklyn near the Navy Yard a development that impressed me particularly was one through an old decadent district that wasn't worth the mortgages on it. A new arterial highway had been opened that was integral with the rest of the planning for this particular area, and along the way there was a large new housing development built by private capital. This particular spot has been transformed from a decadent area into a desirable section for people to live in.

Now if there is one thing we engineers ought to do in lifting ourselves above the job of carrying a transit over our shoulders, or making plans at a desk, or supervising actual construction, it is to plan the kind of work that will pay for itself. As I see it, that should be our goal. Merely to build highways is not the objective. Our aim should be to create values by means of the highways we build. We're trying to apply the planning fund to the creation of values which will justify the expenditures we're making for roads. There never was a time when we needed so much intelligence and so much scientific effort exerted through the highway departments as we need right now.