

Should Highway Construction Be Accelerated Now?

BURT L. KNOWLES

Associated General Contractors of America
Washington, D. C.

The nation's highways are the blood streams of our commerce and industry. Their continued and accelerated construction, improvement, and maintenance are as essential to a sound and healthy body-politic as is a sound and healthy circulatory system to the human body, and nothing should be permitted to interfere with or hamper the orderly development of the nation's highway system.

It seems important to consider for a moment just what is meant by this metaphorical allusion. Consider the strategic importance of our roads. When it becomes necessary to improve the nation's defenses, when public consciousness becomes aware of the need of an adequate air force, a larger and more modern navy, a bigger army, the cost of these items becomes a factor of relative insignificance. Every energy is expended to produce them and with all possible speed.

In the recent war emergency when our railroads were found inadequate and overland transportation by motor vehicle was found to be a necessity, the construction and maintenance of our highways was in many instances given tardy consideration and all too frequently was neglected entirely. According to military authorities, the rapid and efficient movement of German troops and supplies over the excellent highways which Hitler had constructed as a part of his program of preparation for the conflict contributed immeasurably to the early success enjoyed by German arms. The lack of super-highway transportation was felt immediately when the Germans were operating on foreign soil with inadequate roads. Let us, therefore, realize the importance of our system of roads as a weapon of national defense.

IMPORTANCE OF ROADS IN OUR ECONOMY

That good roads have become increasingly essential to the development of the nation's social and educational well-being is very apparent,

especially to those residing in rural and semi-rural communities. The school bus that takes our children to and from school, the rural mail carrier, and the other thousand and one delivery and communications services which have been made available to our country dwellers, and the development of wholesome neighborhood relations in rural areas, would not be possible were it not for our improved highway system.

It is impossible to overemphasize the necessity of building increased safety into our highways. It is a well-known and universally-admitted fact that highway improvement has lagged far behind developments in vehicular transportation. Shopping centers are moving out of the urban centers into rural areas, so that the housewife will have to use the family car for her marketing and other trading. Transportation of industrial workers to and from plants in the outlying districts poses a serious problem. A visit to any of the large factories in your state at the time of a change of shift or at the close of the employment period will disclose the inadequate road facilities which exist in most industrial localities. Each automobile usually carries a number of workers, and an accident to one vehicle may involve many persons in serious difficulties.

State Senator Ralph Collier of California aptly stated a year ago in a report to the California State Legislature: "The efficiency of modern life, whether in business or recreation, is measured in terms of how long it takes to move from place to place; how much it costs in dollars and cents; and how much it costs in life, limb, and personal exasperation." He goes on to say (and I wonder if the California State Chamber of Commerce was listening): "Our present highway plant is grossly deficient. It kills and maims people at seemingly insatiable rates in the face of demonstrated fact that engineering and enforcement can rid highway use of its major hazards." A study of the bulletins and other publications of the Automotive Safety Foundation will amply confirm the statements made by Senator Collier, which are equally applicable to many other states.

The economic importance of a superior highway system is entirely obvious to most of us, but unfortunately it is not so apparent to the public consciousness. To John Q. Public, generally speaking, a road is a road; and even though it may be rough and uncomfortable to ride on, if he can get from place to place on it, it serves his purpose fairly well. Little does he realize the cost to industry and commerce—and eventually of course to him—of the rough surface, the narrow right-of-way, the heavy grades, the needless curves, the dangerous intersections, and the constant need of maintenance. To many, the

cost per mile of modern well-engineered and well-constructed highway seems tremendous—I almost said outrageous.

I well remember the cost of the first really large highway contract that I received. It was for several miles of a divided super-highway, two lanes on each side. The project included four somewhat costly bridges and a railroad underpass. When I had completed my estimate, I was quite appalled to discover that my bid indicated a cost of a little more than \$200,000 per mile and that this figure of course did not include engineering or the purchase of right-of-way and other incidental expenses borne by the state. But when I started to calculate the cash return to the taxpayers and highway users based upon the average daily traffic count on that road, figuring every item most conservatively and knowing well that there was no possible way of including the value of a multitude of intangibles, I saw at once that no investment can be made by any state, county, or municipality which is as safe and popular and with such a cash yield as that made in good modern highways.

The operator of a fleet of trucks is made constantly aware of the economies he experiences in the maintenance of his vehicles. The industrialist, who is becoming increasingly dependent upon motor vehicular transportation of the raw materials to his plant and the finished product to his customer, knows full well that permanent and safe high-speed highways are essential to his economical and efficient operation. The wholesale vendors and the retail distributors of perishable food products realize their well-nigh entire dependence upon such highways for the rapid transportation of their products.

Commerce and industry take it for granted that our highways will be developed with the utmost efficiency, and so assured are they of this fact that their progress of invention, design, and expansion are carried on without the least doubt concerning the circumstances related to highway transportation. The manufacturer of motor cars and trucks, as he designs his products for ever-increasing speed, comfort and convenience, assumes with absolute assurance that perfect highways designed and maintained to produce safe driving conditions will without question be available.

ROAD IMPROVEMENT LAGS BEHIND DEMAND

But what is the truth of the matter? Generally speaking, throughout the nation our program of highway construction is far behind in the parade of progress, instead of being in the lead, or at least well up toward the front as it logically should be. It is an undeniable fact

that the motor vehicle improvement, and the demands for increased speed, comfort, and safety in highway transportation have far outstripped the nation's program of highway construction.

Let us look for a moment at the causes of the lag. We can logically and properly lay some of the blame upon World War II. We know only too well that many materials and much of the necessary personnel were not for several years available for construction work which was not directly essential to production for war. However, we cannot afford to let the matter rest there. From the beginning of the highway history there has always existed a gap between vehicular development and highway construction which, although it has been narrowed considerably from time to time, has never been bridged.

Beyond reasonable doubt, the reason why highway construction has failed to keep pace with the increasing demands that have been made upon it by advancing developments in all other fields of endeavor is a lack of public understanding of the problems involved, the cost factors, and the urgency of the solution of the problems. After all, the public pays for the roads.

Having become convinced of the tremendous and immediate importance of an adequate highway system and having placed at least most of the responsibility for the deficiencies in our roads, may we not with propriety consider one other cause for this deficiency. Unquestionably, the highway industry (and I use the term in its broadest sense), which includes all of us here, has not done the best possible public relations promotion job. If we had, John Q. Public would have a fuller understanding of the situation and would be more amenable to our suggestions that it is time for him to "come across".

HIGHWAY CONSTRUCTION INDUSTRY IS A TEAM

However, the highway construction industry is a magnificent team of all-star performers whose accomplishments during the last war have excited the unbridled admiration of friend and enemy alike. Too often these days one hears the comment that the construction industry is out of date, unprogressive, unwilling to utilize modern methods of design and operation. In the field of engineering and design, where might one be expected to find the ingenuity and versatility manifest in the designs for air fields and other structures that transformed almost overnight the swamps and jungles of Pacific Islands into beehives of scientific war activity, where, except in these United States, can one find the heavy construction equipment which is produced by American manufacturers? When man wanted to de-

scribe something that was impossible, he likened it to moving mountains. That job is now a simple one and a most common occurrence with the amazing earthmoving equipment that the manufacturers have made available to us.

Similar progress has been made in the development of construction materials. We owe much to the cement and steel and other industries that have placed in our hands the things needed to create the miracles of modern construction.

Now a few words about the contractor, admittedly a rather important member of this all-star team. Nowhere on earth have men attempted such stupendous feats of construction as have been accomplished by American contractors in this country and abroad. Imagine if you can, a six-million-dollar contract for an airfield to be used as a base for aerial bombing practice. Some of the items in the contract were a take-off strip, concrete-paved, 300 feet wide and 5,000 feet long; two asphalt paved runways, 150 feet wide and 10,000 feet long; 15,000 feet of soil-cement taxi-ways; 240 temporary barracks, mess halls, and other structures; twelve miles of asphalt-paved access road and twelve miles of 8-inch water line, a receiving reservoir, etc. Six American contractors pooled their physical and engineering resources to complete this contract in the amazing time of thirty-five 24-hour working days. This is only one example of thousands of construction miracles that American contractors are constantly taking in stride. This, then, is the team that can build the nation's highways.

President Truman said recently that there is a backlog of 75 billions in public works which the country really needs. A very large part of this is roads. If spread over a fifteen-year period, the program calls for an annual outlay of five billion dollars.

Now what should be done to condition this all-star team for the game ahead? Such a program as has been outlined requires adequate engineering personnel. Many of our states are now experiencing a serious shortage of engineers, and the cause of this lack is too low a scale of salaries. If required education and experience and responsibility-load are the proper criteria to be employed in evaluating professional service, then it is my firm conviction that engineers and teachers are recompensed for their services most inadequately. Failure of our political subdivisions to pay adequate salaries to their engineers might well cause serious delays in carrying out the highway program. This condition has already been experienced in many states.

Equipment and material producers should make every effort to maintain prices at as low a level as possible consistent with reasonable

earnings. They should also do everything in their power to improve production schedules so that there may be ample supplies of the necessary materials to meet the contractors' needs. In this connection, every effort should be made to hold to a minimum the amounts of critical materials that are exported to foreign markets.

Already many of our highway and bridge projects have experienced serious delays on this account. Reinforcing rods and cement have been in very short supply and our Association has made some progress in cutting export quotas of reinforcing bars in particular.

Contractors should make every possible effort to see that a reasonable number of competitive bids are submitted on the projects advertised. They should avoid unbalanced bidding and should keep their prices as low as is consistent with a reasonable profit.

Every member of this team should keep it constantly in mind that the maintenance of a financially sound and efficient construction industry is essential to the production of sound, permanent, safe, and efficient highways.

Having established the immediate need for our program and organized and trained our all-star team for its performance, our next task is to sell the tickets to the public.

PERSPECTIVE ON COSTS

Quite naturally in times like these, the sales resistance will focus on what the public considers excessive costs. It is, therefore, very important to have at our command the true facts concerning highway construction costs in order to be able to accelerate the program now. To fail to take immediate steps needed to keep this great industrial team functioning efficiently because of high costs would be like refusing to eat because food prices are high, or to put on an overcoat because they are expensive.

Specifically, construction costs have increased less since December 31, 1945, than the composite index for wholesale prices of all commodities. It is an established fact that the increase in wholesale commodity prices since 1945 is 49%, while the cost per composite mile of highway construction has risen only 28% in the same period.

Nation-wide surveys which have been made during the past few months by the A.G.C. have brought out the fact that there is a definite trend toward the leveling off of road construction costs. Should there be any increases, however, which will be slight if any, it should be made clear that the losses in returns to the community

from the delayed investment of public funds in good roads will be far in excess of any increased cost.

To function at maximum efficiency this all-star team must be kept well-nourished and busy. The highway construction industry must be maintained in a sound and healthy condition in order to produce sound, economically-built highways to meet the commercial, industrial, educational and strategic needs of the community.

The development of these blood streams must keep pace with national growth in every field. The engineering forces have the ability and experience; the materials and equipment manufacturers are well under way; and the contractors can do the job. Our principal and immediate task is to convince the public consciousness that "now is the accepted time" to accelerate the highway construction program.