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Luncheon Address The Federal-Aid Highway Act

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Transportation has always played a vital role in human affairs, and nowhere on earth has movement of goods and people reached the scale and importance achieved here in the United States. We all know that today highway transport and motor vehicles occupy the center of the transportation stage.

And therein lies the real significance of the Federal-Aid Highway Act of 1956. It is indeed a milestone in transportation history. Yet for all its tremendous scope this Act does not represent a startling new venture by the Federal Government. It might surprise you to learn that the 1956 Act is the 29th amendment of a measure originally passed on July 11, 1916, nearly 41 years ago!

Obviously then, that original legislation was very soundly conceived. Although it has been amended and supplemented many times, just as its counterpart, the internal combustion engine, powered by petroleum, has been vastly improved, the basic principles of that 1916 Act still constitute the foundation on which all subsequent revisions have been made—even including the newest 1956 Act.

Here are some of the principles of the cooperative Federal-State highway program which has long been an outstanding example of sound Federal-State relations.

Under that program, and still continuing, Federal grants to the States are apportioned according to a legal formula which gives weight to the relative area, population, and rural mail-route mileage in each State. These Federal grants for high-

way construction must be matched by the States with their own money. In the continuing program these regular, or ABC funds as we call them, are matched on a 50-50 basis. The States were given the initiative and prerogative in selecting the roads to be improved and the type of improvement. They are responsible for surveys, plans and specifications, for letting contracts, and for supervision of construction—all subject to approval by the Bureau of Public Roads. Maintenance of the roads built with Federal-aid is an obligation of the States.

While legislation since 1916 has authorized increasing amounts of money, the Federal-Aid Road Act of 1916 has remained the fundamental basis for operation of this mutual Federal-State highway program.

One of the most important early amendments was contained in the Federal Highway Act of 1921 which required the State highway departments, in cooperation with the Bureau of Public Roads, to designate a system to include the principal interstate and intercounty roads, but limited to 7 percent of the total mileage of rural roads then existing. The use of Federal funds was thereafter restricted to this system. Every route in this network was proposed by a State highway department. The Bureau of Public Roads then brought the States together in regional groups to arrange the meeting of routes at State lines thus to assure a coordinated system of primary roads for the entire country.

This far-sighted step was taken at the

beginning years of the movement when total motor vehicle registrations were less than 10.5 million and when transcontinental travel by automobile was indeed a venturesome and almost unheard of undertaking. Today the motorist whose route criss-crosses State lines and often spans the continent might well reflect that these smoothly interconnecting State networks did not just happen—because behind them lies an immense amount of careful planning, years of cooperative effort, and much legislation wisely put together.

Between the two World Wars a vast Federal-aid network of highways was being built up. Most of this consisted of two-lane roads designed with the idea of catching up with the existing and growing traffic demands. Few roads were built at that time with the long-range future in mind.

But under the impact of steadily increasing traffic volumes, many sections of this primary system became inadequate—this was especially true of those heavily traveled routes serving large cities and industrial areas. By the end of 1941, nearly 35 million cars, trucks and busses were on the move, forming an endless stream of traffic over the busier routes. With wartime travel restrictions, highway problems multiplied.

The Federal-Aid Highway Act of 1944 enacted with an eye in the resumption of work at the war's end took three important and much-needed steps. First, it authorized the first specific funds for Federal-aid in urban areas; second, it provided for the selection of a Federal-aid secondary system of the farm-to-market roads; and third, it called upon the States and the Bureau of Public Roads to designate a National System of Interstate Highways connecting the important cities and industrial centers of the country.

This system was limited by law to a maximum extent of 40,000 miles and was to be so selected as to connect by routes as direct as practicable the principal metropolitan areas, industrial centers, border connections of international importance, and serve the national defense. This directive of the Congress was not

based upon a "hunch"—or some scheme for post-war made work. Rather it was the culmination of a number of years of careful study of the growing highway transport needs of our nation by foremost students of the problem who recognized that the attempts of the 30's to keep pace with the avalanche of highway growth needs was not enough—a bold step was needed to build ahead. The Interregional Highways report to the Congress in 1944 forms the charter of the famous FAH Act of 1956—the basic principles of that report are the strong points of the '56 Act—a limited connected system of maximum traffic service—built to high standards of alignment, grade, and cross section—with room for future expansion—with access control—and tied together with the other highway systems to form a united network embracing the entire country. The 1944 report was actually about 7 years in making—and another 12 in being implemented.

The need for a nationwide network of main arterics, built to high standards and serving the entire country, had been accumulating for many years. The experience of World War II heavily underscored this need and focused attention on the vital role such a highway system plays in defense. And by defense I mean not merely the movement of military personnel and military goods. We learned then that these highways serve as an integral part of our vast industrial assembly line carrying all of the array of raw materials, goods in process and finished products that are characteristic of modern industry, essential to both our peacetime and civil and military economy.

By 1947 the States and the Bureau of Public Roads, in close consultation with the military, had selected most of the routes which were to make up the 40,000-mile Interstate System as originally authorized and the job of selection was completed in 1955.

This period of planning was essential, but it could not build the needed roads because there was no provision for funds or at that time—even the prospect—of funds to complete the system in any rea-

sonable period of time. Meanwhile, traffic pressures, traffic accidents, congestion and delay, continued to mount in a spectacular spiral.

Fortunately, however, at the same time a number of modern highways and expressways were built embodying the design features called for in the report previously mentioned which provided much greater comfort, safety, and permitted free-flowing traffic. Many of these were toll roads with their now familiar but essential feature: controlled access. While I doubt if the average user was familiar with the term, I'm sure it was the controlled access feature which drew him to these toll roads.

They were by no means a highway system or network, but it is no exaggeration to say that these facilities, built to high standards, showed millions of motorists what a really fine road can mean in heavily trafficked areas. Undoubtedly these "demonstration roads," if I may use that old term, provided the much-needed example, and whetted the American appetite for improved highway transport with more of the same. They likewise proved conclusively that the motorist was willing to pay a little more to get a better facility.

Then in 1954, Congress called for a new inventory of the Nation's highway needs and President Eisenhower's urgent message to the Governors' Conference in June of that year proclaimed the overwhelming need for a greatly enlarged highway improvement program.

As finally enacted, the Federal-Aid Highway Act of 1956 does indeed embrace the "Grand Design" which the President envisaged in his message to the Governors. It also reflects the long and patient efforts of the 84th Congress, highway officials, engineers, and the many individuals and organizations, who firmly supported the new program. This far-reaching legislation is likewise a direct by-product of the close and long-sustained relation between the Federal Government and our State highway departments. It is truly a fitting tribute to 40 years of cooperation and hard work in the Federal-State highway partnerships.

By the same token, the 1956 Act pre-

sents to us the greatest challenge that State and Federal highway officials have ever faced. To carry this new program forward, to keep it on schedule and to complete it to the standard which Congress has set will require all of the vision, energy, integrity and high purpose that we can muster.

One very important provision of the 1956 Act is directly tied to the principles which I have stressed. That is, of course, the great emphasis which this bill gives to the highway system concept. The bulk of the funds provided by the Act is for the completion in a 13- to 16-year period of the designated interstate highway system of specified length and general location and built to prescribed standards. For the first time we have been enabled to set out to build a specific highway system in a given time interval to a given standard.

While this is an important added concept and purpose never before available to us, it adheres to and is based on the 1921 principle—repeated in 1944 and 1956—that we should relate our construction effort to a closed system that interconnects the principal metropolitan areas, cities and industrial centers and, of course, serves the national defense. All of the \$25 billion authorized by Section 108 of the Act must be put on this system—it cannot be diverted elsewhere.

No matter how we measure it, in miles or money, the figures are hard to grasp. The huge Federal grant, plus some 2.6 billion dollars in matching funds from the States will provide for a 13- to 16-year construction program designed to modernize a 40,000-mile network connecting 90 percent of the nation's principal cities and industrial centers from coast to coast.

Design standards and other features of the Interstate System are in keeping with its principal long-range functions:

1. To interconnect commercial and industrial centers from coast to coast.
2. To serve the multiple needs of highway users in thousands of communities adjacent to these traffic corridors.
3. To provide swifter, safer, more efficient movement of goods and people

within large urban areas.

4. To strengthen the nation's defense and add to its survival potential in the event of nuclear warfare.

Notice that I mentioned the long-range functions of this program. For the first time the 1956 Act legislatively requires engineers to design for specific future traffic loads—the types and volumes of traffic forecast for the system in 1975. Thus we are required to look nearly 20 years ahead, when more than 100 million passenger cars, trucks large and small, and buses are anticipated—an increase of more than 50 percent over the 65 million in use today.

We must reckon with close to a trillion vehicle miles of travel each year against present totals of about 650 billion.

And, we must constantly bear in mind one of the most amazing phenomenons of this or any other age. I refer, of course, to the steady trend toward urbanization which has featured the last decade or two in this country. In countless communities motor vehicles provide the only effective means of transportation to meet the endless and varied needs of individuals, commerce and industry.

Consider if you will, the wide range of problems posed by the changing patterns of urban, suburban, and rural settlement in the United States. It is a growing, dynamic pattern, unique in history.

Motor vehicles have made this pattern possible and highway transportation holds the key to its future progress. By the same token, fulfillment of the new highway program is not a mere matter of design, engineering and construction. It is a task for all of us.

The agenda of this Workshop Conference shows how far-reaching your own interests are. Though you are thoroughly familiar with the concept, I want to enlarge on one feature of the 1956 Act which is all-important—the control of access on projects that are approved for the Interstate System.

To some people the phrase access control suggests an unwelcome, arbitrary restriction on the motorists' right to go where he pleases, as he pleases. In reality

it means much greater freedom for the vast majority of users—that is the basic purpose of all traffic regulations. Planned access means that every car, bus or truck entering or leaving these trunklines will move along special facilities designed to channel vehicles in and out of the through traffic streams. Planned access provides cloverleaves, overpasses and underpasses, as well as ramps and carefully designed interchanges to insure the swift, efficient movement of all vehicles. These structures and the traffic patterns which result may be compared to the orderly system of entrances, aisles and exits that you find in a well planned theatre, drive-in movie, or athletic stadium. Without such controls the free steady flow of traffic would be impossible.

Random access with its inevitable combinations of frequent intersecting side roads and roadside business fronting on the highway soon turns the average busy thoroughfare into a congested, slow-moving welter of traffic hazards—“controlled” by a string of red lights. Such highways, without planned access, grow obsolete long before they wear out—they have been correctly called a tragic example of controlled confusion. As this condition grows more and more aggravated, traffic dangers are multiplied many times over. We have conclusive proof that the controlled access type of highway about which I have been talking is a life saver as well as a money saver. Fatality rates are reduced 70 percent at least.

Last year traffic accidents claimed 40,000 lives on our roads and streets. This nationwide panorama of sudden death unfolding day by day is one of the most shocking facts of American life. But even that is not the whole story. Last year another 1,350,000 men, women, and children were injured, many of whom were left hopelessly crippled, with more than 100,000 suffering some kind of permanent physical impairment.

Dollarwise, the National Safety Council has set an annual price tag of nearly \$5 billion on traffic accidents.

The Automotive Safety Foundation estimates that modernization of the Inter-

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state System alone will save close to 4,000 lives a year.

As for the cost of congestion and traffic delays, the Automobile Manufacturers Association estimates that when the Interstate network is completed highway users will save \$550 million a year in vehicle operating costs; \$725 million in accident reduction, and \$825 million in time losses by commercial vehicles. \$2 billion and 4,000 lives saved each year is indeed a handsome dividend on our average motorist's investment of about 75 cents a month!

The safety factor alone should be decisive in fixing high standards for this new network, but planned access has many other advantages. In positive terms of economic growth and expansion we can point to widespread and often sensational developments that follow in the wake of modern expressways.

Right here let me go back to a point which I stressed earlier in this talk—the growth of the highway system concept. Prior to the passage of the Federal-aid secondary system—there were few States having meaningful laws for the effective classification of local roads into transportation systems. For many counties the Federal requirement was their first introduction to the system concept.

Happily public understanding and acceptance of the system concept has grown year by year. In many instances this developing cooperation has made it possible for the counties to substitute the engineering approach for the so-called horse-sense approach in local road building. The pattern has become one of step-by-step State-county cooperation in a professional program carried on by and between professionals.

We are fortunate indeed that this State-county working relation has developed to the present point—now that the new Federal Highway Program is under way. We shall need those close working contacts.

Now, let us see how the toll facilities which you have already built fit into this highway program.

As you know, Section 113 of the 1956 Act permits the integration into the Inter-

state System of toll roads which promote the development of that system. It also allows expenditure on Interstate System projects leading directly into any toll road on the Interstate System—provided that such approach projects can be approved only when the section of toll road will ultimately become free to the public and there is an alternate free road available to the public.

It has been stated many times that there is no intention in this program of building any Interstate routes paralleling a toll road which will adequately serve the public until 1975. Such a policy is based not only on consideration for the huge private investments in these facilities but also on the simple fact that to do otherwise is a waste of resources, whether those be private or public.

You also know that the 1956 Act directed the Department of Commerce, in cooperation with the highway departments and other agencies, to make a study of all highways on the Interstate System, both toll and free, that have been built to standards required for the Interstate System. This report will include "all related factors of cost, depreciation, participation of Federal funds, and any other items relevant thereto." The report, which must be submitted to Congress not later than January 12, 1958, will be used by the Congress "to determine whether or not the Federal Government should equitably reimburse any State for a portion of a highway which is on the Interstate System, whether toll or free, the construction of which has been completed subsequent to August 2, 1947, or which is either in actual use or under construction by contract, for completion, awarded not later than June 30, 1957." We expect shortly to contact many of you through the highway departments in carrying out this Congressional directive.

So far a great many sections of toll roads, either completed or under construction, have been approved for inclusion in the National System of Interstate and Defense Highways. The total is just under 2,050 miles and includes all or portions of such well known facilities as

the New York Thruway, the Eden Expressway in Chicago, Oklahoma's Turner Turnpike, the Ohio Turnpike, and the Richmond-Petersburg Turnpike in Virginia, and many others. Some additional mileage is still under consideration.

The dramatic scope and urgency of the Interstate program invite superlatives—it is by far the greatest volume public work ever undertaken by mankind. But you and I know that this key network cannot realize its full potential unless our other road systems are brought up to par.

Congress fully recognized this fact. Witness the increased authorizations for regular Federal-aid in the 1956 Act.

The regular ABC funds are provided for the improvement of two principal systems — the 235,000-mile Federal-aid primary system, which includes the interstate network, and the Federal-aid secondary system, consisting of 520,000 miles. This 755,000-mile total is eligible for improvement with Federal-aid funds.

The 1956 Act provides for about a 60 percent increase in Federal funds for these two systems over and above the average of \$500 million made available annually for the first nine years following World War II. Funds in the amount of \$825 million have been provided for the regular Federal-aid highways for the present fiscal year; \$850 million will be available for 1958, and \$875 million for the fiscal year 1959. These increases, coupled with the fact that the apportionment of Interstate money will release ABC funds that would otherwise be used on the Interstate System, provides for very substantial

improvement to the regular systems, in addition to the Interstate program.

Needless to say, all of these systems are interdependent. Traffic switches back and forth, from one to the other, endlessly. Each enhances and serves to complement the other. The same can be said of the 2,645,000 miles of roads and streets that lie outside the limits of the Federal-aid systems. If they are neglected the entire country will suffer.

Well, now that the new program is more than 11 months under way, how are we coming? Are we really rolling? Are we on schedule? The record shows that as of June 7, 1957, contracts have been advertised and funds obligated totaling more than two billion dollars as Federal-aid on the primary, secondary and Interstate Systems. On the Interstate System alone, 540 construction contracts aggregating nearly \$600 million in Federal cost have been awarded for 1,400 miles of magnificent new highway — included are contracts for more than 1,200 bridges. By June 1 of this year 19 states had committed all of their 1957 Interstate funds and were moving ahead on the 1958 monies.

We regard this as an excellent beginning, but it is just that — a beginning. We are laying the groundwork for tomorrow's highway systems, but we are doing much more than that. We are also setting the pattern for tomorrow's way of life in countless communities across this great nation. That is the real measure of our responsibility as public officials, as engineers — and as American citizens!