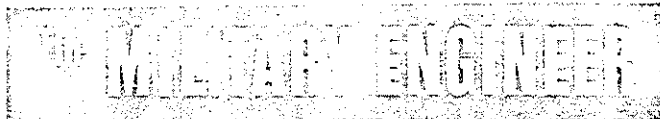


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National defense and roads
Roads - Value

Highways and National Defense

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BEGINNING in the early days of the Federal-aid highway program, and continuing through the years, there has been a close link between American highways and national defense which has been of inestimable importance in strengthening the country's security.

As far back as 1922, the Bureau of Public Roads sought the advice of the War Department as to which roads should be considered of strategic importance in the event of war. This was only six years after the enactment of the Federal-Aid Highway Act of 1916, which established the existing pattern of Federal financial assistance to States for highway improvements. The War Department supplied a map of the United States on which were marked highways of strategic value. This map, signed by Gen. John J. Pershing, became known as the Pershing Map. The indicated roads have since been substantially improved as part of the Federal-aid system.

From time to time in the years that followed, the Bureau of Public Roads, which is now the Federal Highway Administration, and the War Department (now the Department of the Army) have consulted with each other on the defense highway needs.

MILITARY CONSIDERATIONS

In 1940, President Roosevelt requested the Federal Works Agency Administrator to have a survey made of highway facilities in order to assure the adequacy of the highway system to meet the needs of national defense. The President asked that the Advisory Commission to the Council of National Defense and the War and Navy Departments co-operate with the Public Roads Administration on the survey and advise him as to steps to be taken. He emphasized that particular attention be given to the strength of bridges, the width of strategic roads, adequacy of ingress to

and egress from urban centers, and the servicing of existing and proposed Army, Navy, and Air bases. The resulting survey report submitted in 1941 recommended two programs of highway improvements as necessary to correct deficiencies then current.

The first was a program to supply highway facilities for specific defense operations then developing. The second was for essential improvements of the strategic network designated by the War and Navy Departments as of principal importance from the standpoint of defense. The network consisted of 78,800 miles of main trunk roads including routes joining all important centers of defense industry, and all military and naval concentration points.

Three years later, Congress, in the Federal-Aid Highway Act of 1944, created the National System of Interstate Highways which authorized the designation of a network of 40,000 miles of limited access highways. The mileage subsequently was raised to 42,500. The Act provided for a system "so located as to connect by routes as direct as practicable the principal metropolitan areas, cities, and industrial centers, to serve the national defense, and to connect at suitable border points with routes of continental importance in the Dominion of Canada and the Republic of Mexico." To give emphasis to the defense aspect of the system, the name was changed to the National System of Interstate and Defense Highways.

During the ensuing years, the relationship between highways and national defense was not neglected. The Federal-Aid Highway Act of 1948 directed the Commissioner of Public Roads to study the status of improvement of the Interstate System, and to invite suggestions from the Secretary of Defense and the National Security Resources Board on defense needs.

In a report to Congress in 1949, the strategic importance of the Interstate System was emphasized. It

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pointed out that the military establishment considered that a relatively small connected system of interstate highways constructed to the highest design standards was essential to the national defense, and should be planned and constructed during peacetime.

The size of the Interstate System has overshadowed another important defense-oriented highway program that has been going on for three decades. This is the access road program which provides for improvements to serve defense installations and activities. The Federal Highway Administration evaluates access road needs, and helps to provide improvements with funds transferred from defense agencies.

In the early 1960's, at the request of the Department of Defense, the Bureau of Public Roads assigned an engineer as a member of a site selection team to explore the feasibility of proposed locations for Air Force ballistic missile complexes. Subsequently, the Bureau handled the construction of 1,070 miles of temporary haul roads for construction purposes at Atlas, Titan, and Minuteman installations. Permanent improvements totaling 3,700 miles were completed to serve the operational needs of these installations.

The Department of Defense-Federal Highway Administration (DOD-FHWA) co-ordination is continuing. Under the Safeguard antiballistic missile program, the FHWA, with the Department of the Army, is locating and building access roads to serve the operational traffic at Safeguard installations. And now, under the provisions of the Military Construction Authorization Act of 1971, the FHWA is co-operating with DOD on a priority basis to assist communities near Safeguard ABM complexes to meet the costs of increased public highway facilities which are now required because of the construction or operation of the Safeguard system. The two agencies worked together to guarantee that design standards of the Interstate and Federal-aid primary systems would meet military needs.

INDUSTRIAL AND ECONOMIC EFFECTS

The degree to which the national security is dependent on highway transportation cannot be overstated. Industrial plants producing military and defense supplies, as well as the military installations themselves, would be crippled without adequate highway facilities. In effect, highways have become an adjunct of industry's production line, taking a vital part in the conversion of raw materials to finished products. It is estimated that almost 4,000,000 persons are employed in defense-oriented industries, with most of them relying on motor vehicles to get to and from their jobs. DOD alone has 200,000 vehicles which re-

quire adequate highway capacity for their operation.

Another defense benefit that stems from the highway program is the contribution it makes to the nation's economy. It is axiomatic that the strength of a nation's defense depends largely on the health of its economy.

The highways have been a major factor in the well-being of this country, whether in peace or in war. This is exemplified by the Interstate System, one of the most ambitious construction programs ever undertaken, and the best highway transportation system yet built by man. Although it will not be completed for about another five years, it is already having a tremendous effect on the economy as well as virtually every facet of American life. With about 32,000 miles of the network of limited access roads open to traffic, the System has been proved a prudent investment—an investment in strengthened national defense, in lives saved, in more efficient transportation, in socio-economic benefits, in reduced travel time, and in lower operating and accident costs. Because it is designed and built for safety and efficiency, the Interstate System is almost twice as safe as conventional roads. It is estimated that when it is finished the System will save almost 8,000 lives annually.

Although the Interstate System was created in 1944, it was 12 years later that the Federal-Aid Highway Act of 1956 launched full-scale construction of the System, and the Highway Revenue Act established the Highway Trust Fund to finance the Federal share of highway improvements for both the Interstate System and the other Federally aided projects on the primary and secondary systems and their urban extensions.

Prior to 1956, Federal-aid funds had come from the general treasury, and Federal excise taxes on motor fuels and vehicles had been placed in the general funds. There had been no connection between highway-related excise tax revenues and disbursements for highway aid. The Highway Revenue Act changed this by designating the revenues of some of the highway-related excise taxes for the Highway Trust Fund, which was made the sole source of money for the Federal share of the highway program. The program was put on a pay-as-you-go basis, with the highway user paying the cost.

The highway user pays the 90 percent Federal share of the cost of the System, and, in most cases, he also pays the States' 10 percent share. It is one of the few programs in which the taxpayer gets his money back with interest, because of the benefits he derives from it. The System extends the distance from which workers may commute to jobs. The highways influence land use and development. Their effect generally is

“A modern highway . . . a good neighbor . . .”

“... highways have become an adjunct of industry's production line ...”

to increase demand and prices for land in their vicinity. The Interstate highways are also a boon to residential areas, diverting traffic from the streets to Interstate routes, and thus decreasing traffic congestion and aiding mobility for the neighborhood shopper.

SOCIAL BENEFITS

Social benefits of highway transportation include the opportunity for wider choice of residence, easier and quicker access to parks, cultural and recreational centers, and greater accessibility of schools, hospitals, and churches.

So effective is the System in shrinking distances that a 2,880-mile journey from New York to Los Angeles, which took an average of 79 hours of travel in 1956, now takes 62 hours by using Interstate routes in the same general corridor, a 17-hour reduction in travel time. Speed, which determines travel time, has been increased from an average of 36 miles per hour in selected corridors in 1956 to 46 miles per hour today in the same corridors which include parts of completed Interstate highways. When the System is completed within these corridors, the average speed, excluding stops, will increase to between 50 and 60 miles per hour.

With all of the benefits, there has been little increase in total road mileage over the years. In the past 50 years it has grown from 3,100,000 to 3,700,000 miles. And less than half of these miles are paved, although it is the improvement of existing roads that has preoccupied the highway program since 1916. The result has been greatly increased vehicle-moving efficiency. For example, it has been found that when a new Interstate System freeway is opened parallel to an old existing road, traffic on the old roads drops an average of 50 percent or more, and remains at that level for up to 10 years.

The opening of the Interstate segments actually permits more traffic in the corridor—an average increase of 7 percent—and this increase is absorbed by the new Interstate road in addition to the average 50 percent of the traffic that formerly used the old road.

While working for improved transportation, highway planners have been concerned with preserving the natural environment and in using their highway projects to improve it. Environmental considerations have included erosion control, relocation assistance, beautification, rest areas, landscaping, and the creation of lakes and game refuges, as well as special design features such as depressed roadways to reduce noise. Top priority is given by FHWA to the exercise of social responsibility in the location, design, and construction of highways. Protection and enhance-

ment of public parks, recreation lands, wildlife and waterfowl habitats, and historical sites are important elements in every highway project.

SCOPE OF THE PROBLEM

Despite the allegations loudly voiced by a few opponents, a modern highway can be a good neighbor while, at the same time, it fulfills a basic need for the safe and efficient movement of both people and goods. A fact to ponder is that today there are 109,000,000 motor vehicles traveling 1 trillion 125 billion vehicle-miles a year, and by 1985—only 14 years from now—there will perhaps be 146,000,000 vehicles traveling 1 trillion 500 billion vehicle-miles. The nation's transportation problem is too gigantic to be solved by a single mode. All modes must be used if the country is not to bog down in traffic congestion. When the Interstate System is completed, it will constitute a little more than 1 percent of the 3,700,000 miles of roads and streets, but will carry 20 percent of the country's traffic. This is a big contribution, but it still leaves 80 percent that will have to look elsewhere.

There are areas of the country where it is not socially desirable to undertake huge construction projects to provide additional capacity. This is particularly true in urban areas where morning and evening peak-hour commuter traffic must be handled. In these cases the challenge is not so much to increase the vehicle-moving capacity of highway facilities, as it is to increase their people-moving capacity. Several experimental projects to promote the use of bus mass transit as a substitute for car travel have been launched by the FHWA. One experiment is in the suburban Virginia area of Washington, D. C., where an 11-mile-long exclusive bus lane has been opened on Interstate 95. Commuters are saving as much as 30 minutes and, as a result, bus patronage is increasing.

A telling blow can be struck against peak-hour congestion by using buses which increase the productivity of highway facilities. The population of suburban-urban areas is expected to increase some 40 to 50 percent by 1990, boosting vehicular travel in these areas by about 75 percent. And the only mass transit that most of these areas will have is bus transportation.

The country's transportation problems are not easy to solve but highways are making a real contribution. Perhaps in the distant future there will be hitherto unknown modes of transportation that will make highways obsolete. But until that day arrives, the highway transportation system must be kept in top condition for its primary functions of moving people and goods efficiently and safely, and serving the national defense.

“... the System has been proved a prudent investment ...”