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## Federal Aspects of the Interstate Highway Program

David R. Levin

*Chief, Highway and Land Administration Division, Bureau of Public Roads, US Department of Commerce*

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Leading Articles

## FEDERAL ASPECTS OF THE INTERSTATE HIGHWAY PROGRAM

David R. Levin\*

*The Federal Interstate Highway Act of 1956 and the supplemental Act of 1958 have brought about a revolution in highway planning and construction. Evidence of this new highway program may presently be seen in every state. In the following article, the author excellently explains the intent and rationale of the program. It is "must" reading for every attorney, if only for the purpose of obtaining a better understanding of the changing highway upon which he travels.*

*The Editors*

### I. INTRODUCTION

Man is constantly seeking to conquer distance and time. He desires to span the earth's surface in less and less time so as to facilitate his basic objective of satisfying his wants more efficiently. In terms of surface transportation, he is striving to bridge the greatest possible distance in the least amount of time, and at the lowest possible cost.

Efforts to improve public ways started early. One of the first overland routes in the American Colonies was the Connecticut Path, an Indian trail connecting Boston with Hartford, via Springfield, used as early as 1633. This route and two alternatives later became known as the Boston Post Roads. Post riders began carrying mail along this route in 1673.

Other roads, equally as famous, were pushed through the wilderness. In 1775, Daniel Boone blazed the Wilderness Trail through the Cumberland Gap to the fertile lands on the Ohio,

\* Chief, Highway and Land Administration Division. The Bureau of Public Roads, Department of Commerce, Washington, D.C.; Secretary of the Committee on Highways Laws, Highway Research Board; Chairman, Committee on Condemnation and Condemnation Procedure, American Bar Association; Secretary, Committee on Right-of-Way, American Association of State Highway Officials; and Chairman, Committee on Land Acquisition, Highway Research Board.

Cumberland, and Kentucky Rivers. Some years later, in 1806, the Federal Government, in its first major road-building venture, undertook the improvement of one of the most important of these westward routes called the National Pike. The famous Santa Fe Trail, and others followed. These historic surface trails were not really public roads at all, in the sense in which we know them today.<sup>1</sup>

## II. HISTORY OF FEDERAL-AID HIGHWAY LEGISLATION

For many years, purely local support was the only means of fostering public road improvement. But in 1891, New Jersey initiated the first program of State-aid to counties for road building. Two years later, Congress created the Office of Road Inquiry at the Federal level. Its responsibility was merely to study roadbuilding methods, disseminate information on the subject, and build short "object-lesson" roads throughout the Nation. Gradually, more and more States entered into the highway building activity, but only with respect to the more important trunk highways.

Congress recognized the desirability of fostering highway improvement by providing that upon the admission of certain States to the Union<sup>2</sup> five percent of the funds accruing to the Federal Treasury from the sale of public lands should be applied to the building of roads within, and leading to, these States.

The first Federal-aid highway act, passed in 1916, created the Federal-State partnership in road building which is still adhered to today in its essential respects.<sup>3</sup> The principal amount of Federal-aid funds provided by the Congress was to be divided among the States in proportion to their relative areas, populations, and mileages of rural mail routes.<sup>4</sup> The money was earmarked for construction purposes only; maintenance was left as a responsibility of the several States. The States selected the roads to be improved and stipulated the type of improvement to be made. They undertook the surveys and formulated the plans, provided the rights-of-way, and supervised the actual construction. If any Federal highway funds were involved in connection with any of

<sup>1</sup> For a brief history of public road development, see "Highways in the United States," U.S. Department of Commerce, Bureau of Public Roads, Washington, D.C. (1954).

<sup>2</sup> Ohio in 1802, Indiana in 1816, Illinois in 1818, and Missouri in 1821.

<sup>3</sup> The Federal-Aid Road Act, 39 Stat. 355 (1916).

<sup>4</sup> 39 Stat. 355, § 4 (1916).

these stages, the States consulted with and obtained the approval of the Secretary of Agriculture.

By 1921, it became apparent that the modest Federal-aid and State highway funds then available would be so widely dispersed over such a large mileage of roads that little substantial improvement on any continuous route would be possible. Accordingly, Congress in its 1921 Federal-aid highway act called upon the States to select a system of principal interstate and intercounty highways, limited originally to 7 percent of the total mileage of rural roads then existing.<sup>5</sup> From then on, Federal-aid funds could be used only on this road system. This policy had a profound influence on the rapid development of a nation-wide network of improved highways of limited extent.

Each State was also required by the 1921 Act to set up an adequate State highway department if it desired to receive Federal-aid highway funds.<sup>6</sup> This greatly strengthened existing State highway departments and caused similar bodies to be created in those States where they had not yet been set up.

In response to the demands of industry and agriculture for a more efficient means of surface transportation, the States expanded their road construction programs. Trucks multiplied overnight. The passenger vehicle seemed suddenly to have changed from a Sunday afternoon luxury to an everyday necessity.

The actual mileage of rural roads expanded little. Shortly after the first World War, there were approximately 3 million miles of road, and it has not changed appreciably since. But the surfaced mileage, of only 387,000 miles in 1921, had increased a million miles by 1941.

The major effort of the 1920's was to get the farmer out of the mud. By the end of the following decade, most of the important roads were surfaced and this goal was achieved. But the increase in the number of motor vehicles was fantastic. In the United States there were only 8,000 automobiles registered in 1900; by 1925, there were 20,000,000 of them, by 1950, 49,161,691 were counted; and today, there are over 68,000,000 motor vehicles of all kinds registered.

Through the years, Federal participation in highway improvement in cooperation with the States has been justified as fulfilling its constitutional obligations of providing for the national de-

<sup>5</sup> 42 Stat. 212, § 6 (1921), 23 U.S.C.A. § 6 (1927).

<sup>6</sup> 42 Stat. 212, § 2 (1921), 23 U.S.C.A. § 2 (1927).

fense, establishing post roads, furthering interstate commerce, and providing for the general welfare.<sup>7</sup> The extent of Federal-aid rendered pursuant to these responsibilities was small a half-century ago. As the needs for better surface transportation facilities became apparent, more and more financial resources and technical assistance have been provided from Federal sources. The Federal-Aid Highway Act of 1956 began the current acceleration in the improvement of the highway system.

### III. THE FEDERAL-AID HIGHWAY ACT OF 1956

The Federal-Aid Highway Act of 1956 was a milestone,<sup>8</sup> as was its companion act, the Highway Revenue Act of 1956.<sup>9</sup> Both were the culmination of extended studies of existing highway conditions and highway needs and the embodiment of a balanced program of highway improvement in both the urban and rural areas.

These laws provided a three-year authorization for the primary, secondary, and urban Federal-aid highways (the so-called "ABC program"); and a thirteen-year authorization for the National System of Interstate and Defense Highways. Authorizations totalled \$26,883,000,000. This was to be financed by a comprehensive motor vehicle impost and excise tax program on the "pay-as-you go" principle.

#### A. PRIMARY-SECONDARY-URBAN HIGHWAYS

A three-year authorization, with a 50-50 Federal-State matching ratio of funds, is provided.<sup>10</sup> The existing apportionment formulas were retained for these highways. These take into account population, post road mileage, and land area in varying combinations.<sup>11</sup> The aggregate authorizations are distributed in the existing ratio of 45 percent primary, 30 percent secondary, and 25 percent urban.<sup>12</sup> A State could transfer up to 20 percent of its share for any of these three categories from one to another except that no category could be increased more than 20 percent.<sup>13</sup>

<sup>7</sup> U.S. Const., Art. 1, § 8.

<sup>8</sup> The Federal-Aid Highway Act of 1956, 70 Stat. 374.

<sup>9</sup> The Highway Revenue Act of 1956, 70 Stat. 387.

<sup>10</sup> 70 Stat. 374, § 102 (a)(1) (1956), 23 U.S.C.A. § 151 (a)(1) (1957).

<sup>11</sup> 70 Stat. 374, § 102 (a)(2) (1956), 23 U.S.C.A. § 151 (a)(2) (1957).

<sup>12</sup> 70 Stat. 374, § 102 (a)(1) (1956), 23 U.S.C.A. § 151 (a)(1) (1957).

<sup>13</sup> 70 Stat. 375, § 102 (c) (1956), 23 U.S.C.A. § 151 (c) (1957).

The authorizations are divided between the systems by years as follows:

System	Fiscal Year		
	1957 <sup>14</sup>	1958	1959
Primary	\$56,300,000	\$382,500,000	\$393,700,000
Secondary	37,500,000	255,000,000	262,500,000
Urban	31,200,000	212,500,000	218,800,000
	<hr/>	<hr/>	<hr/>
	\$125,000,000	\$850,000,000	\$875,000,000

TOTAL 1957-1959 \$1,850,000,000

#### B. INTERSTATE SYSTEM

The Act enunciates a Congressional finding that it is essential to the national interests to provide for the completion of the Interstate System as nearly as practicable over a thirteen-year period, and that the entire system be finished in all States simultaneously. To emphasize the Federal objectives involved, the name of the system is changed to "National System of Interstate and Defense Highways."

Yearly authorizations for the Interstate System, provided for under the 1956 act, are as follows:

Fiscal Year	Authorization	Fiscal Year	Authorization
1957	\$1,000,000,000 <sup>15</sup>	1964	\$2,200,000,000
1958	1,700,000,000	1965	2,200,000,000
1959	2,000,000,000	1966	2,200,000,000
1960	2,200,000,000	1967	2,200,000,000
1961	2,200,000,000	1968	1,500,000,000
1962	2,200,000,000	1969	1,025,000,000
1963	2,200,000,000		

TOTAL AUTHORIZATION \$24,825,000,000.

The matching ratio under the act was changed from the previous one of 60 percent Federal and 40 percent State to 90 percent Federal and 10 percent State.<sup>16</sup> Funds for the fiscal years ending June 30, 1957, 1958, and 1959 respectively would be apportioned among the States in the manner previously provided

<sup>14</sup> This amount is in addition to the \$700 million authorized by the 1954 Federal-Aid Highway Act, 68 Stat. 70.

<sup>15</sup> This amount is in addition to the \$175 million authorized under the 1954 Act. 68 Stat. 70.

<sup>16</sup> 70 Stat. 379, § 108 (e) (1956), 23 U.S.C.A. § 158 (e) (1957).

by law, i.e., four-sixths population, one-sixth post road mileage, and one-sixth land area.<sup>17</sup> Funds for the remaining 10 years (1960 through 1969) will be apportioned among the States in the ratio which the estimated cost of completing the Interstate System in each State bears to the estimated cost of completing the Interstate System in all of the States. These estimates will be based on periodic studies conducted by the Secretary of Commerce in cooperation with the State highway departments and subject to the approval by Congress.<sup>18</sup>

To permit accelerated construction during the first three years of the program, the Act provides that a State may use its own funds on additional Interstate projects during this period and be reimbursed for the Federal share (90%) of the cost from its apportionments in later years.<sup>19</sup>

*Additional mileage.* One thousand miles were authorized to be added to the 40,000 miles of the Interstate System previously authorized.<sup>20</sup> This additional mileage, however, was not to be considered in estimating the cost of construction as indicated above.

*Geometric standards.* Geometric design standards for the Interstate System were to be adopted as soon as possible after passage of the Act, by the Secretary of Commerce in cooperation with the States. Such standards must be adequate to accommodate the traffic forecast for the year 1975, and the right-of-way to be acquired is to be of such width as to permit construction conforming to such standards.<sup>21</sup>

*Maximum weight and dimensions.* The 1956 Act provided that Interstate funds would be withheld from any State in which the System could lawfully be used by vehicles having a weight in excess of 18,000 lbs. carried on any one axle or tandem axle weight in excess of 32,000 lbs. or overall gross weight in excess of 73,000 lbs. or with a width in excess of 96" or the corresponding maximum weights or widths permitted for vehicles under laws and regulations in effect July 1, 1956, whichever is greater.<sup>22</sup>

The Secretary of Commerce is directed to expedite tests conducted to determine maximum desirable dimensions and weights

<sup>17</sup> 70 Stat. 378, § 108 (c) (1956), 23 U.S.C.A. § 158 (c) (1957).

<sup>18</sup> 70 Stat. 379, § 108 (d) (1956), 23 U.S.C.A. § 158 (d) (1957).

<sup>19</sup> 70 Stat. 380, § 108 (h) (1956), 23 U.S.C.A. § 158 (h) (1957).

<sup>20</sup> 70 Stat. 381, § 108 (l) (1956), 23 U.S.C.A. § 157, note (1957).

<sup>21</sup> 70 Stat. 380, § 108 (i) (1956), 23 U.S.C.A. § 158 (i) (1957).

<sup>22</sup> 70 Stat. 381, § 108 (j) (1956), 23 U.S.C.A. § 158 (j) (1957).

for vehicles operated on Federal-aid systems, and after their conclusion, but no later than March 1, 1959, to make recommendations to Congress with respect to them.<sup>23</sup>

*Right of way.* Upon the request of a State unable to acquire the right-of-way required for the Interstate System and its agreeing to pay 10 percent of the cost, the Secretary of Commerce would acquire rights-of-way in the name of the United States, including control of access. The land so acquired would thereafter be conveyed to the States, except the outside five feet in States unable to restrict access,<sup>24</sup> in order to preserve control of access.

Funds for any Federal-aid system are made available to the States for advance acquisition of rights-of-way on any project on which construction is to begin within five years. The procedure for advancing these funds to the States is modernized.<sup>25</sup>

*Control of access.* Provision is made in the 1956 Highway Act that no State will add additional points of access to, or exits from, the Interstate System other than those approved in the plans for a project, unless approved by the Secretary of Commerce. Additionally, States may not permit automotive service stations or other commercial establishments for servicing motor vehicle users to be located on the Interstate rights-of-way.<sup>26</sup>

*Reimbursement for existing highways.* The 1956 Act enunciated a Congressional intent to determine (at a later time) whether the Federal Government should equitably reimburse the States for projects on the Interstate System completed subsequent to August 2, 1947. To aid the Congress in its consideration of this matter the Secretary of Commerce was directed to conduct and submit a study early in 1958.<sup>27</sup>

*Prevailing wages.* All wages paid on construction projects on the Interstate System would be at rates not less than those

<sup>23</sup> 70 Stat. 381, § 108 (k) (1956), 23 U.S.C.A. § 158 (k) (1957). This reporting date was extended by Congress in 1958 to January 3, 1961.

<sup>24</sup> 70 Stat. 381, § 109 (1956), 23 U.S.C.A. § 159 (1957).

<sup>25</sup> 70 Stat. 382, § 110 (1956), 23 U.S.C.A. §§ 160, 161 (1957).

<sup>26</sup> 70 Stat. 383, § 112 (1956), 23 U.S.C.A. § 163 (1957).

<sup>27</sup> 70 Stat. 384, § 114 (1956), 23 U.S.C.A. § 165 (1957). This means that toll facilities, among others, may be incorporated into the routes of the Interstate System, but does not authorize the expenditure of any Federal-Aid funds upon the improvement of such facilities. Such expenditures are specifically prohibited. Congress has yet to enunciate a new policy on this matter.



prevailing for the same type of work on similar construction in the immediate locality, as determined by the Secretary of Labor in accordance with the Davis-Bacon Act.<sup>28</sup> The Secretary of Labor is required to consult with State highway departments before establishing the minimum wage.<sup>29</sup>

### C. PUBLIC HEARINGS

The Act promulgated a new policy with respect to public hearings on highway routes. Any State highway department which submits plans for a Federal-aid highway project involving by-passing, or going through, any city, town, or village, must certify to the Commissioner of Public Roads that it has held public hearings, or has afforded the opportunity for such hearings, and has considered the economic effects of such a location.<sup>30</sup>

### D. SPECIAL STUDIES

The 1956 Federal-Aid Highway and Revenue Acts authorized and directed the following studies to be made by the Secretary of Commerce:

(1) *Safety Study*.<sup>31</sup> This is an investigation to determine what action can be taken by the Federal Government to increase highway safety. The sum of \$200,000 is allocated for this study.

(2) *Interstate cost estimates*.<sup>32</sup> This is a study of the estimated cost of completing the Interstate System to the geometric design standards formulated pursuant to the Act.

(3) *Highway cost allocation study*.<sup>33</sup> The purpose of this study is to make available to Congress information on the basis of which it may determine what taxes should be imposed by the United States, and in what amounts, in order to assure an equitable distribution of the tax burden among the various classes of persons using the Federal-aid highways or otherwise deriving benefits from such highways.

<sup>28</sup> 46 Stat. 1494 (1931).

<sup>29</sup> 70 Stat. 385, § 115 (1956), 23 U.S.C.A. § 166 (1957).

<sup>30</sup> 70 Stat. 385, § 116 (c) (1956), 23 U.S.C.A. § 167 (c) (1957).

<sup>31</sup> This safety study is to be undertaken upon the basis of general authority in the Federal-Aid Highway Act of 1954, 68 Stat. 74, § 10, 23 U.S.C.A. § 21-1 (1957).

<sup>32</sup> 70 Stat. 379, § 108 (d) (1956), 23 U.S.C.A. § 158 (d) (1957).

<sup>33</sup> 70 Stat. 401, § 210 (1956), 23 U.S.C.A. § 174 (1957).

(4) *Maximum vehicle sizes and weights.*<sup>34</sup> The Secretary of Commerce is directed to expedite the conduct of a series of tests being conducted by the Highway Research Board of the National Academy of Sciences, in cooperation with the Bureau of Public Roads, the several States, and others, for the purpose of determining maximum desirable dimensions and weights of vehicles operated on the Federal-aid highway systems. After the conclusion of such tests, the Secretary is to make recommendations to Congress with respect to such maximum desirable dimensions and weights.

(5) *Reimbursement for certain Interstate System highways.*<sup>35</sup> This study is to be made by the Secretary of Commerce in cooperation with the State highway departments and others, to determine which existing highways on the Interstate System measure up to standards required under the Act, including factors of cost, depreciation, participation of Federal funds, and related items. This would involve study of both toll and free roads which were completed subsequent to August 2, 1947, or which were in actual use or under construction by contract, for completion, awarded not later than June 30, 1957.

#### E. PUBLIC UTILITIES, PUBLIC DOMAIN ROADS, AND OTHER POLICIES

##### 1. *Relocation of Public Utilities*

On any system where a State pays for the cost of relocation of utility facilities, Federal funds may be used to reimburse the State in the same proportion that Federal funds are expended on the project, provided that the State payment to the utility does not violate the law of the State or a legal contract between the utility and the State.<sup>36</sup>

##### 2. *Roads in the Public Domain*

Authorizations for Public Domain roads, for each of the fiscal years ending June 30, 1958 and June 30, 1959, are as follows:

Forest Highways	\$30,000,000
Forest Development Roads & Trails	27,000,000
Park Roads	16,000,000
Parkways	16,000,000

<sup>34</sup> 70 Stat. 381, § 108 (k) (1956), 23 U.S.C.A. § 158 (k) (1957).

<sup>35</sup> 70 Stat. 384, § 114 (1956), 23 U.S.C.A. § 165 (1957).

<sup>36</sup> 70 Stat. 383, § 111 (1956), 23 U.S.C.A. § 162 (1957).

Indian Roads	12,000,000
Public Lands Highways	2,000,000 <sup>37</sup>
<b>TOTAL AUTHORIZATIONS</b>	<b>\$103,000,000</b>

### 3. *Miscellaneous Provisions*

The Act also sets forth the policy that the Federal Government should assist, insofar as feasible, small business enterprises in connection with contracts and purchases of supplies and services resulting from the prosecution of the highway program.<sup>38</sup>

The then-existing \$10 million annual emergency fund is increased to \$30 million. These resources are to be used for the repair or reconstruction of highways in the Federal-aid systems damaged by disaster.<sup>39</sup>

The Act also sanctions the use of Federal funds for archeological and paleontological salvage in compliance with the 1906 Act for the preservation of American antiquities.<sup>40</sup>

For the first time in history, Alaska is made eligible for Federal-aid for highway purposes. In calculating the apportionment for its primary, secondary and urban highway systems, only one-third of its land area is to be considered.<sup>41</sup> There are no Interstate System highways in Alaska.

### 4. *Revenue Provisions*

The Highway Revenue Act of 1956<sup>42</sup> levies additional user taxes during a sixteen-year period which, when added to the then-existing taxes, are expected to produce a total of \$38,533,000 earmarked for highway purposes. A trust fund is established for all new revenues plus those from specified existing taxes. Disbursements to the States, even within the framework of the authorizations previously indicated, for any year cannot exceed the estimated balance in the fund for that year.<sup>43</sup> Congress declared

<sup>37</sup> An additional \$1 million is also added to this appropriation by provision of the 1954 Act, 68 Stat. 73, § 5, making a total of \$3 million for this system.

<sup>38</sup> 70 Stat. 386, § 116 (d) (1956), 23 U.S.C.A. § 167 (d) (1957).

<sup>39</sup> 70 Stat. 386, § 118 (1956), 23 U.S.C.A. § 169 (1957).

<sup>40</sup> 70 Stat. 387, § 120 (1956), 23 U.S.C.A. § 170 (1957); An Act for the Preservation of American Antiquities, 34 Stat. 225 (1906), 16 U.S.C.A. § 433 (1941).

<sup>41</sup> 70 Stat. 377, § 107 (a) (1956), 23 U.S.C.A. § 156 (a) (1957).

<sup>42</sup> 70 Stat. 387 (1956), (Codified in scattered sections of 23, 26 U.S.C.A.).

<sup>43</sup> 70 Stat. 397, § 209 (b)(i) (1956), 23 U.S.C.A. § 173 (b)(i) (1957).

its intent to take legislative action in the event that the receipts of the trust fund are less than expenditures or that the distribution of the tax burden among the various beneficiaries is inequitable.<sup>44</sup>

#### IV. THE FEDERAL-AID HIGHWAY ACT OF 1958

The new 1958 Highway Act serves as an important supplement to the 1956 act, and is also characterized by some new and important features of its own.<sup>45</sup> It provides regular biennial authorizations for the Federal-aid primary and secondary highway systems and their urban extensions (the "ABC program"); it continues the public lands highway programs; it assures that the Interstate System program will continue at full speed for the next several years; and by means of the above and specially authorized additional funds, aids in the nation's anti-recession efforts.

##### A. THE "ABC PROGRAM" AND THE INTERSTATE SYSTEM

The new Act authorizes \$900 million for the fiscal year 1960 and \$925 million for the fiscal year 1961 for the "ABC program", divided in the usual proportion of 45 percent for the Federal-aid primary system, 30 percent for the secondary system, and 25 percent for their urban extensions.<sup>46</sup> All other existing provisions of law continue as in previous legislation. The division of funds is as follows:

Funds	1960	1961
Primary .....	\$405,000,000.	\$416,250,000.
Secondary .....	270,000,000.	277,500,000.
Urban .....	225,000,000.	231,250,000.
<b>TOTAL .....</b>	<b>\$900,000,000.</b>	<b>\$925,000,000.</b>

<sup>44</sup> 70 Stat. 398, § 209 (b)(2) (1956), 23 U.S.C.A. § 173 (b)(2) (1957). The following is the new schedule of tax rates:

Item	Increase
Gasoline	From 2 to 3 cents per gallon.
Diesel; Special Fuels	From 2 to 3 cents per gallon.
Tires	From 5 to 8 cents per pound.
New Trucks; Buses; Truck Trailers	From 8 to 10 percent.
Camelback (new tax)	3 cents per pound.
Vehicles over 26,000 lbs. taxable	
Gross weight (new tax)	\$1.50 per thousand pounds.

<sup>45</sup> The Federal-Aid Highway Act of 1958, Pub.L.No. 85-381, 85th Cong., (April 16, 1958), 72 Stat. 89.

<sup>46</sup> 72 Stat. 89, § 1 (1958).

Interstate System fund authorizations are increased for fiscal year 1959 from \$2.0 billion to \$2.2 billion; for each of the fiscal years 1960 and 1961, from \$2.2 billion to \$2.5 billion.<sup>47</sup> Congress approved the estimated cost of completing the Interstate System, as reported to it in January, 1958, as the basis for apportioning the 1960 fiscal year funds. Further action by Congress will be necessary before funds for subsequent fiscal years can be apportioned.<sup>48</sup>

#### B. THE ANTI-RECESSION PROGRAM

The new Act authorizes \$400 million for immediate allocation among the States, by the same apportionment method as is used for the regular ABC funds. There is complete flexibility in the use of this money among the systems, however, because there are no limitations on the proportion of the authorized amounts that must be used for primary, secondary, or urban highways.<sup>49</sup>

Instead of the usual 50-50 ratio of Federal-State matching, the \$400 million is provided on a 66⅔ percent Federal, 33⅓ percent State matching basis. As in all Federal-aid matching, in those States having more than five percent of their areas in public lands, the Federal share of project costs is increased in proportion to the percentage of the State's area that is public land.

The act also authorizes \$115 million of Federal funds to aid the States in meeting up to two-thirds of their 33⅓ percent matching requirements. Accordingly, the immediate matching could be up to eight-ninths Federal and one-ninth State money. The \$115 million aid is in the nature of an advance, however, and the Act calls for repayment by deductions in two equal installments from the apportionments to be made for the fiscal years 1961 and 1962. Since the purpose of this portion of the law is to provide employment as quickly as possible, the act specifies that these funds must be put into contracts awarded, or work begun, before December 1, 1958, with completion of construction scheduled prior to December 1, 1959. Funds not so committed will lapse.<sup>50</sup>

<sup>47</sup> 72 Stat. 93, 94, § 7 (1958).

<sup>48</sup> § 9 of the new act suspends the "pay-as-you-go" feature of § 209 (g) of the 1956 Act, 70 Stat. 400, 23 U.S.C.A. § 173 (g) (1957), and thus permits apportionment of the full authorizations for the fiscal years 1959 and 1960, which otherwise would have been cut back because of deficiencies in the trust fund. Accordingly, instead of scaling down the original authorization of \$2.2 billion for the fiscal year 1960 to \$1.6 billion, the augmented authorization of \$2.5 billion can now be apportioned.

<sup>49</sup> 72 Stat. 90, § 2 (1958).

<sup>50</sup> *Ibid.*

## C PUBLIC LANDS HIGHWAYS

Authorizations for public lands highways are provided for in fiscal years 1960 and 1961, and certain additional funds for fiscal year 1959 are included, as follows:<sup>51</sup>

Type	1959	1960	1961
	(millions)		
Forest highways .....	\$5	\$33	\$33
Forest development roads .....	5	30	30
National park roads .....	--	18	18
National parkways .....	--	16	16
Indian reservation roads .....	--	12	12
Public land roads .....	1	3	3

To assist the States in accelerating improvement of the forest highway system, this Act permits any State to use the lesser amount of \$500,000 or 5 percent of their ABC fund apportionments for each of the fiscal years 1960 and 1961, for improvement of forest highways on the Federal-aid highway systems. The ABC funds so used are to be expended in the same manner as regular forest highway funds.

The Secretary of Commerce, in cooperation with the Secretary of Agriculture and the States in which there are national forests, is to make a study of forest highway needs and report thereon to the President and Congress by January 1, 1960.<sup>52</sup> This study is to determine: (1) what roads of primary importance to States, counties, or communities lie in, or adjacent to, national forests and have not been designated as forest highways; (2) the cost of completing construction on all designated forest highways; (3) the cost of a 10-year program, beginning with fiscal year 1962, for the construction of forest highways and roads eligible to be designated as such; and (4) a method by which the amounts needed for such a 10-year program should be apportioned among the States.

## D. STOCKPILING OF MATERIALS; UTILITY RELOCATION

Federal-aid legislation since 1921 has permitted payments to the States on Federal-aid highway projects, as they progress, for the Federal share of the value of labor and materials actually put into construction.<sup>53</sup> The new Act now permits payment for

<sup>51</sup> 72 Stat. 91-93, §§ 3-6 (1958).

<sup>52</sup> 72 Stat. 92, § 3 (b) (1958).

<sup>53</sup> 42 Stat. 215, § 13 (1921), 23 U.S.C.A. § 14 (1927).

the Federal share of the value of materials stockpiled in the vicinity of the construction work.<sup>54</sup> This could relieve the States of a considerable financing burden, because many of them pay the contractors for stockpiled materials, but heretofore could not claim Federal reimbursement until the materials were actually used in the highway construction.

The Congress has concerned itself for some time with the problem of Federal reimbursement for public utility relocation costs resulting from highway improvement. After taking testimony on the matter for some years, it directed that a special study be made of the problem.<sup>55</sup> It enunciated a policy on the matter in the 1956 Highway Act, as already indicated on page 385, of providing for Federal reimbursement when the State pays for such costs.<sup>56</sup> The new act provides further that Federal reimbursement shall be made only when the State substantiates the fact that it has paid such public utility relocation costs from its own funds.<sup>57</sup>

#### E. OUTDOOR ADVERTISING

Congress sets forth a new policy in the 1958 Highway Act with respect to outdoor advertising along the Interstate System. It establishes that it is in the public interest to encourage and assist the States to control the use of, and to improve, areas adjacent to the Interstate System by controlling outdoor advertising adjacent to the System. This policy is established to promote the safety, convenience, and enjoyment of the traveling public, and the free flow of interstate commerce, and to protect the public investment in the Interstate System.<sup>58</sup>

It is declared as a national policy that outdoor advertising within 660 feet of the right-of-way edge, and visible from the main traveled way of the Interstate System, shall be regulated under national standards developed by the Secretary of Commerce. This

<sup>54</sup> 72 Stat. 94, § 10 (1958).

<sup>55</sup> 68 Stat. 74, § 11 (1954).

<sup>56</sup> 70 Stat. 383, § 111 (1956), 23 U.S.C.A. § 162 (1957). In 1957, the Nebraska Legislature made provision for the payment of such costs by the state. Neb. Rev. Stat., § 39-1304.02 (Supp. 1957). See student comment on Constitutionality of state payment to relocate utility facilities, *Infra*, pp. 553 to 564.

<sup>57</sup> 72 Stat. 95, § 11 (1958).

<sup>58</sup> 72 Stat. 95, § 12 (1958). See LeRoy Powers comment on problems of state implication of this section, *Infra*, pp. 541 to 551.

policy is applicable only to construction on new location right-of-way, the entire width of which is acquired after July 1, 1956.

No signs advertising illegal activities would be permitted. Signs permitted under the national policy would be limited to four types: (1) Directional or other official signs or notices required or authorized by law, (2) Signs advertising the sale or lease of the property on which they are located, (3) Signs authorized or permitted by State law advertising activities being conducted at a location within 12 miles of the point at which the sign is placed, and (4) Signs authorized by State law designed to give information in the specific interest of the traveling public.

The Secretary of Commerce is authorized to enter into agreements with the States to carry out the national policy on a State-wide basis. Such an agreement would include provisions for the regulation and control of advertising in conformity with the standards to be set by the Secretary of Commerce. It may also include provisions for preservation of natural beauty, prevention of erosion, landscaping, reforestation, and development of scenic attractions and historic sites. The agreement between the Secretary and a State may exclude segments of the Interstate System in incorporated municipalities where property is subject to municipal regulation or control, and in other areas where the land use is clearly established by State law as industrial or commercial.

In any State which enters into such an agreement before July 1, 1961, the Federal share of Interstate project costs will be increased by one-half of one percent. The Federal funds for this additional share are to come from appropriations from the Treasury and not from the Highway Trust Fund.

When a State buys advertising rights along an Interstate project, in order to implement the national policy, it may claim the Federal pro rata share of the cost. However, Federal reimbursement is limited to that portion of such cost which does not exceed 5 percent of the cost of the right-of-way for the project.

#### F. PUBLIC HEARINGS

The 1956 Act requires the States to hold, or offer to hold, public hearings in connection with any Federal-aid project that is to bypass or go through any city, town, or village. The new Act extends the requirements for public hearings to Interstate System projects in rural areas, so as to enable persons whose property would be crossed or approached by the proposed high-



way to express any objections they may have to the planned route location.<sup>59</sup>

## V. RECODIFICATION OF FEDERAL-AID HIGHWAY LAWS

Beginning with the Federal Aid Road Act of 1916, the Congress has enacted highway legislation with considerable regularity. At least 40 such laws were enacted.

Some of these laws, or portions of them, have ceased to be operative, due to the passage of time or a change of the conditions for which the provision was intended. Some of them have been superseded by more recent laws. At best, a complex body of legislation had accumulated that was becoming increasingly difficult to use by the Federal and State agencies involved.

Accordingly, Congress, taking cognizance of this problem, recently enacted a comprehensive recodification and consolidation of all Federal-aid highway laws.<sup>60</sup> All of the legal underbrush has been cleared away, and what now remains is the currently-significant substance of the Federal statutes involving highway matters in concise form. It is functionally arranged, and those concerned with highway law will find the new title relatively simple to work with.

The substance of the 1956 and 1958 Federal-Aid Highway Acts remains unchanged in the recodification act. Accordingly, the analysis contained in the foregoing sections is essentially accurate in terms of the new title.

## VI. RATIONALE OF THE INTERSTATE HIGHWAY PROGRAM

As the analysis of the present highway program has indicated, heavy emphasis has been placed by Congress upon the timely completion of the National System of Interstate and Defense Highways. This system of expressways is limited by law to 41,000 miles. Of the 39,223 miles designated to date, 4,603 miles are urban and 34,620 are rural in nature.

The Interstate System, in its design, location, and extent, is an optimum system of modern highways, in that it will serve the nation's economy more effectively than any other limited system that could be devised. It will connect 90 percent of all

<sup>59</sup> 72 Stat. 96, § 13 (1958).

<sup>60</sup> See Tit. 23, U.S.C.

cities of over 50,000 population, and many smaller municipalities as well. The general routes of the system are delineated in Figure 1, p. 376.

#### A. DESIGN OF THE INTERSTATE SYSTEM

Although the Interstate System constitutes only a little more than one percent of the Nation's total road and street mileage,<sup>61</sup> it will carry approximately 20 percent of all traffic. The geometric design standards of the system are such that facilities are to be provided that will adequately handle the traffic volumes anticipated in 1975, when more than 100 million motor vehicles are expected to be registered, as compared with the more than 68 million we have today.

The preface to the standards provides an insight into the objectives sought to be achieved:<sup>62</sup>

The National System of Interstate and Defense Highways is the most important in the United States. It carries more traffic per mile than any other comparable national system and includes the roads of greatest significance to the economic welfare and defense of the Nation. The highways of this system must be designed in keeping with their importance as the backbone of the Nation's highway systems. To this end they must be designed with control of access to insure their safety, permanence, and utility and with flexibility to provide for possible future expansion. Two-lane highways should be designed so that passing of slower moving vehicles can be accomplished with ease and safety at practically all times. Divided highways should be designed as two separate one-way roads to take advantage of terrain and other conditions for safe and relaxed driving, economy, and pleasing appearance. All known features of safety and utility should be incorporated in each design to result in a National System of Interstate and Defense Highways which will be a credit to the Nation.

These objectives can be realized by conscious attention in design to their attainment. All Interstate highways shall meet the following minimum standards. Higher values which represent desirable minimum values, a device used in previous Interstate standards, are not shown because it is expected that designs will generally be made to values as high as are commensurate with conditions, and values near the minimums herein will be used in design only where the use of higher values will result in ex-

<sup>61</sup> There were 3,429,801 miles of public highways in the United States in January, 1957. Of this total 3,051,382 miles were rural roads and 378,419 miles urban streets.

<sup>62</sup> Geometric Design Standards for the National System of Interstate and Defense Highways, adopted July 12, 1956 by the American Association of State Highway Officials and approved July 17, 1956 by the Bureau of Public Roads. U.S. Department of Commerce.

cessive cost. In determination of all geometric features, including right-of-way, a generous factor of safety should be employed and unquestioned adequacy should be the criterion. All design features required to accommodate the traffic of the year 1975 shall be provided in the initial design; however, where justifiable, the construction may be accomplished in stages.

Some of the outstanding features of these standards are:

(1) *Traffic basis.* Interstate highways should be designed to serve safely and efficiently the volumes of passenger vehicles, buses, and trucks, including tractor-trailer and semi-trailer combinations and corresponding military equipment, estimated to be that which will exist in 1975, including attracted, generated, and development traffic on the basis that the entire system is completed.

(2) *Control of access.* On all sections of the Interstate system, access shall be controlled by acquiring access rights outright prior to construction or by the construction of frontage roads, or both. Control of access is required for all sections of the Interstate System. Under certain conditions,<sup>63</sup> intersections at grade may be permitted in sparsely settled rural areas which are a sufficient distance from municipalities or other traffic-generating areas to be outside their influence, and where no appreciable hazard is created thereby.

(3) *Railroad crossings.* Railroad grade crossings shall be eliminated for all through-traffic lanes.

(4) *Intersections.* All at-grade intersections of public highways and private driveways shall be eliminated, or the connecting road terminated, rerouted, or intercepted by frontage roads, except as otherwise provided by the standards.

(5) *Design speed.* The design speed on all highways on the system shall be at least 70, 60, and 50 miles per hour for flat, rolling, and mountainous topography, respectively, and depending upon the nature of terrain and development. The design speed in urban areas shall be at least 50 miles per hour.

(6) *Curvature, superelevation, and sight distance.* These elements and allied features, such as transition curves, should be correlated with the design speed in accordance with established standards.<sup>64</sup>

<sup>63</sup> Ibid. A two-lane highway having a design hourly volume of less than 500 vehicles in 1975 is an example of such a condition.

<sup>64</sup> A Policy on Geometric Design of Rural Highways, American Association of State Highways Officials (1954).

(7) *Gradients.* For design speeds of 70, 60, 50 miles per hour, gradients generally shall be not steeper than 3, 4, and 5 percent, respectively. Gradients 2 percent steeper may be provided in rugged terrain.

(8) *Width and number of lanes.* Traffic lanes shall not be less than 12 feet wide. Where the design hourly volume (1975) exceeds 700 or exceeds a lower 2-lane design capacity applicable for the conditions on a particular section, the highway shall be a divided highway. For lower volumes, the highway shall be a 2-lane highway so designed and located on the right-of-way that an additional 2-lane pavement can be added in the future to form a divided highway. Efficiency and capacity of 2-lane highways may be increased by providing added climbing lanes on upgrades where critical lengths of grade are exceeded or by providing more frequent and longer sections safe for passing.

(9) *Medians.* Medians in rural areas in flat and rolling topography shall be at least 36 feet wide. Medians in urban and mountainous areas shall be at least 16 feet wide. Narrower medians may be provided in urban areas of high right-of-way cost, on long and costly bridges, and in rugged mountainous terrain, but no median shall be less than 4 feet wide.

(10) *Shoulders.* Shoulders usable by all classes of vehicles in all weather shall be provided on the right of traffic. The usable width of shoulder shall be not less than 10 feet. In mountainous terrain involving high cost for additional width, the usable width of shoulder must be at least 6 feet.

(11) *Slopes.* Side slopes should be 4:1 or flatter where feasible and not steeper than 2:1 except in rock excavation or other special conditions.

(12) *Right-of-way.* In rural areas, right-of-way widths should be not less than the following, plus additional widths needed for heavy cuts and fills:

#### MINIMUM WIDTH IN FEET

Type of Highway	Without Frontage Roads	With Frontage Roads
2-lane	150	250
4-lane divided	150	250
6-lane divided	175	275
8-lane divided	200	300

In urban areas right-of-way width shall be not less than that required for the necessary cross-section elements, including median, pavements, shoulders, outer separations, ramps, frontage roads, slopes, walls, border areas, and other requisite appurtenances.

(13) *Culverts.* All culverts shall be of sufficient length to accommodate the pavements, median, and shoulders.

(14) *Bridges, and other structures.* Bridges and overpasses, preferably of deck construction, should be located to fit the overall alinement and profile of the highway. The clear height of structures shall be not less than 14 feet over the entire roadway width, including the usable width of shoulders. The width of all bridges, including grade-separation structures, of a length of 150 feet or less between abutments or end supporting piers shall equal the full roadway width on the approaches, including the usable width of shoulders. A safety walk shall be provided in tunnels and on long-span structures on which the full approach roadway width, including shoulders, is not continued.

#### B. CONTROL OF HIGHWAY ACCESS

It has already been noted that access will be controlled and planned throughout the entire Interstate System, with facilities for entry and emergence only at carefully selected locations. Such access control is comprised of two elements: (1) access to and from the general pattern of highways in any particular vicinity; and (2) access to and from private property abutting the system.

The public control of access of this system of modern highways is such an important legal and engineering characteristic that inquiry might well be made as to the inherent advantages justifying such control. They are many. The expressway:<sup>65</sup>

(1) *Is safer* because control of access effectively eliminates direct, hazardous entry or exit. The more intensive the roadside ribbon development having direct access, the greater will be the exposure to accidents. Vehicles maneuvering into and out of a continuous ribbon of roadside establishments constitute a serious menace to through traffic. Nation-wide accident statistics indicate that two out of three fatalities on roads of conventional design are eliminated on the controlled-access highway.<sup>66</sup>

<sup>65</sup> According to the definition officially adopted by the American Association of State Highway Officials, an "expressway" is a divided arterial highway for through traffic with full or partial control of access and generally with grade separations at intersections. This definition has been adopted for use in Nebraska. Neb. Rev. Stat., § 39-1302(9) (Supp. 1957).

<sup>66</sup> Prisk, "How Access Control Affects Accident Experience," Public Roads—A Journal of Highway Research, Vol. 29, No. 11, U.S. Government Printing Office, Washington (Dec., 1957).

(2) *Preserves capacity* by eliminating the cumulative and retarding effects of vehicular movements in the marginal lanes of travel into and out of roadside establishments and residences. Capacity is the ability of a given highway to accommodate a specified number of vehicles in a unit of time past a certain point. A wide highway is not necessarily a high-capacity facility. Some four, six, and eight-lane highways have relatively low capacities because unlimited access restricts the free movement of traffic. A rural highway with control of access has approximately double the traffic capacity of a road of the same width built to conventional design. An urban expressway with its access limited can carry three to five times the traffic of a street of ordinary design at double the speed. Capacity of a controlled-access highway is many times greater than on an ordinary highway, and this is not diminished through usage or economic development in the area.<sup>67</sup>

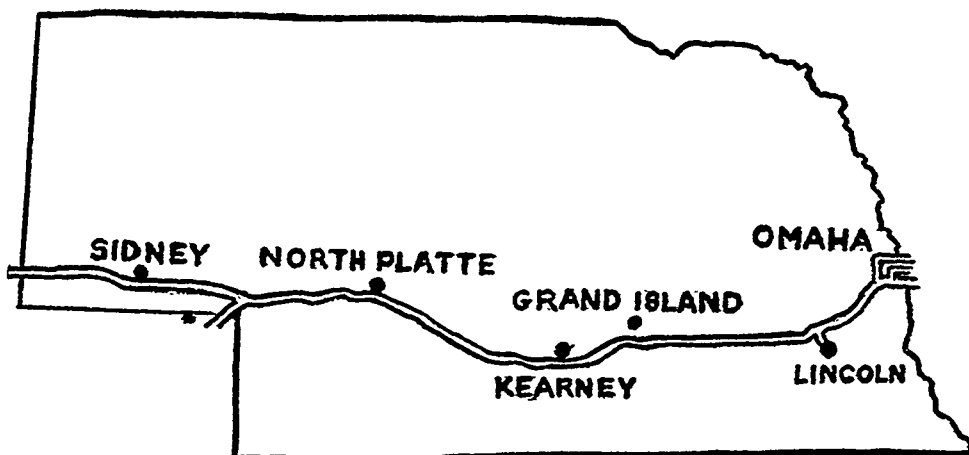
(3) *Protects abutting private enterprisers* by requiring a design that will permit safe entry and emergence at designated points and makes an establishment both attractive and inviting to the motoring public. Under such circumstances, public authority will not abandon highway locations (as it has so often in the past) because of the early functional obsolescence of the highway. The investments of private businesses along expressways are much better than those along heavily-travelled conventional highways for this very reason. Studies of the economic impact of the controlled-access highway on adjacent land values and adjacent businesses provide support for this finding.<sup>68</sup>

(4) *Promotes economical motor vehicle operation* by minimizing the number of stops and starts incident to travel through a maze of roadside businesses having direct access to the highway. Every stop and start uses as much rubber as one mile of

<sup>67</sup> Highway Capacity Manual, U.S. Department of Commerce, Bureau of Public Roads, U.S. Government Printing Office, Washington (1950).

<sup>68</sup> See A 15-Year Study of Land Values and Land Use Along the Gulf Freeway, in the City of Houston, Texas, prepared by Norris & Elder, Consulting Engineers, Houston, Texas, for the Texas Highway Department and the U.S. Department of Commerce, Bureau of Public Roads (1956); Westside Freeway, Route 238, Economic Effects of Six Proposed Routes in the Tracy Area, Land Economics Studies Section, Right of Way Department, Division of Highways, Department of Public Works, Sacramento, California. Economic Impact Study of Massachusetts Route 128, prepared by the Transportation Engineering Division, Department of Civil and Sanitary Engineering, Massachusetts Institute of Technology for the Massachusetts Department of Public Works and the U.S. Bureau of Public Roads (1958).

## The Interstate Routes in Nebraska



Nebraska has five Interstate routes, connecting "control points" within the State, and joining Interstate routes in Iowa, Wyoming, and Colorado:

1. The main east-west route, entering Nebraska from the west, following generally U. S. Highway 30 to Grand Island, U. S. 34 to Lincoln, and U. S. 6 to Omaha, designated Nebraska Interstate 80.
2. Joining the Denver spur in the vicinity of Big Springs, Nebraska.
3. Downtown Omaha spur, extending north from Interstate Route 1 near 32nd & Grover Streets, and east from 26th & Chicago, crossing the Missouri River north of the present Aksarben Bridge.
4. Downtown Lincoln spur, extending southerly from Interstate Route 1 to S Street.
5. Circumferential route west and north of Omaha, proceeding from Interstate Route 1 near 108th Street northerly, and eastward from  $\frac{1}{2}$  mile northwest of Irvington, to cross the Missouri River in the vicinity of the Mormon Bridge.

ordinary travel and enough gasoline to travel two city blocks.<sup>69</sup> If one were to multiply the number of needless starts and stops which take place on a highway of conventional design for a single motor vehicle during the course of a year, one would end up with a formidable figure. If this figure were further multiplied by the many millions of motorists who are subjected to the same travel congestion, the dollar values resulting would be fantastic—perhaps enough to pay for a large portion of the expressway that would eliminate or at least minimize this economic loss.

(5) *Permits future highway improvement at a minimum cost* because neither physical nor functional roadside encroachments are present on a limited-access highway. The cost of a mile of arterial highway is very high, running into many thousands of dollars in rural areas, and into millions of dollars in urban areas. A highway of conventional design serves as a magnet, attracting roadside activities of many kinds, each with its own direct access. When traffic becomes too congested, the route must be relocated elsewhere, since the density of roadside culture makes it too costly to improve that highway. An expressway prevents this very circumstance from developing.<sup>70</sup>

(6) *Stablizes and enhances the value of abutting and other property* by providing greater ultimate accessibility to a community, by reducing obstacles to the free flow of traffic, and by providing highway facilities that are superior in terms of basic transportation characteristics. Economic impact studies in California, Texas, New York, Massachusetts, Illinois, and Georgia have documented a wide range of general economic non-vehicular benefits in terms of creating new industrial sites, increasing retail business volume,<sup>71</sup> providing increased accessibility to residential areas, and generally upgrading land use development.<sup>71</sup>

(7) *Safeguards the existing and future huge investment* in major highways by designing accommodations that will not quickly become physically and functionally obsolescent. An expressway retains its capacity, diminishes hazards, and reduces motor vehicle operating costs at comparable speeds.<sup>72</sup>

<sup>69</sup> Levin, *Public Control of Highway Access and Roadside Development*, U.S. Government Printing Office, Washington (1947).

<sup>70</sup> *Acquisition of Land for Future Highway Use, A Legal Analysis*, Highway Research Board, Special Report 27 (1957).

<sup>71</sup> Levin, "Plans and Resource Requirements of the Federal-Aid Highway Program," paper given at the Land Economics Institute, University of Illinois, Urbana (August 6, 1958).

<sup>72</sup> *Ibid.*, note 69.



(8) *Preserves the attractiveness of the landscape* by controlling the means of entry to and exit from roadside establishments and preventing encroachments of all kinds. A highway can be pleasant and attractive in appearance as well as an efficient traffic artery, at no extra cost.<sup>73</sup>

(9) *Assists in the orderly development of both rural and urban communities*, by providing transportation arteries that are relatively permanent in character. Surface transportation has always exerted a profound influence on the form and substance of communities.<sup>74</sup>

(10) *Insulates adjacent residence and other uses from noise, vibration, and fumes* created by the motor vehicle, and makes the city a healthier and cleaner place in which to live. The intensity of noise generated by motor vehicles varies inversely with the distance from the traffic lanes.<sup>75</sup>

### C. FACTORS GOVERNING SYSTEM SELECTION

Carefully derived standards governed the selection of the routes of the National System of Interstate and Defense Highways by the State highway departments and the Bureau of Public Roads. The selection of this system was no hit-or-miss proposition, as some erroneously believe, but was based on sound engineering and economic criteria, as follows:

(1) *Service to cities of various population groups*. The routes selected connect as directly as possible the maximum number of cities of various population groups.

(2) *Service to principal metropolitan areas*. The routes selected provide maximum service to principal metropolitan areas as well as to specific cities.

(3) *Density of rural population*. Routes traverse the country's most populous bands of rural territory.

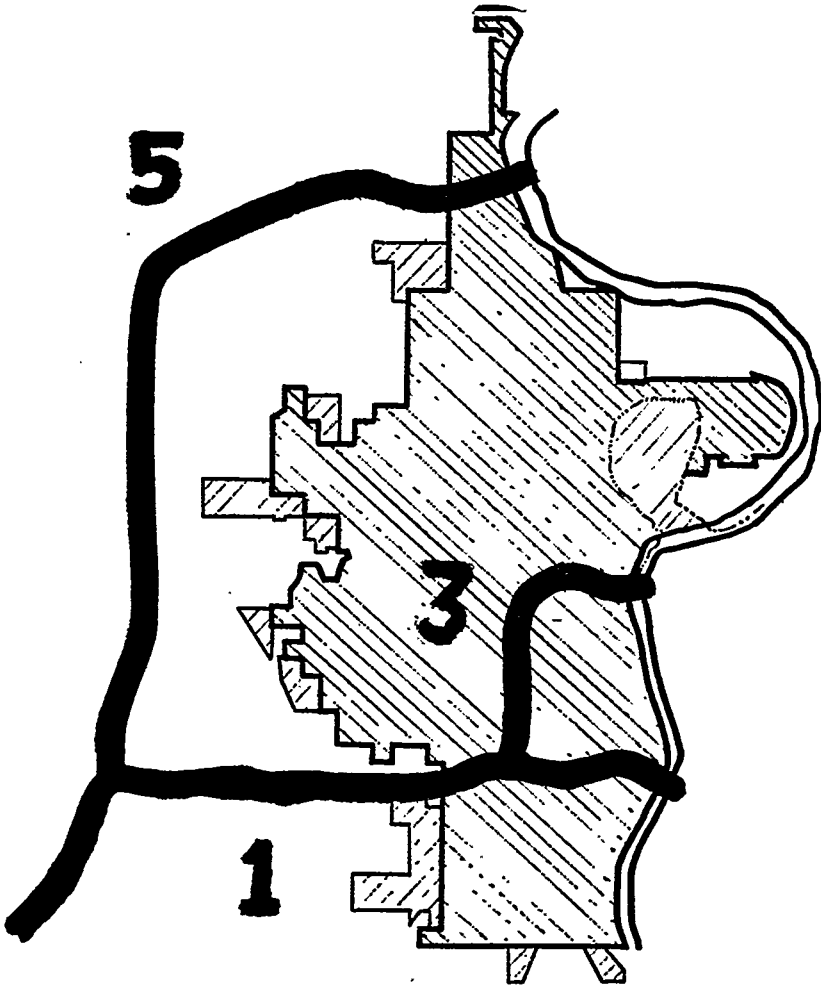
<sup>73</sup> In 1932, the following statement was made by the first Highway Research Board Committee on Roadside Development: "Roadside development must conserve, enhance and effectively display the natural beauty of the landscape through which the highway passes, as well as provide safety, utility, economic and recreational facilities by means of proper location, construction and maintenance of the highways."

<sup>74</sup> What Freeways Mean to Your City, Automotive Safety Foundation, Washington (Oct. 1956).

<sup>75</sup> Abatement of Highway Noise and Fumes, Highway Research Board Bulletin 110 (1955).

(4) *Distribution of the whole population.* Routes have their principal termini in the larger cities and also pass enroute between these termini through or very close to the denser clusters of population in small towns and populous rural areas.

(5) *Relation to manufacturing activity.* The routes selected provide transportation facilities for as much as possible of the manufacturing industry of the nation. Locations where manu-



Interstate Highways Omaha Vicinity  
Routes 1, 3, and 5

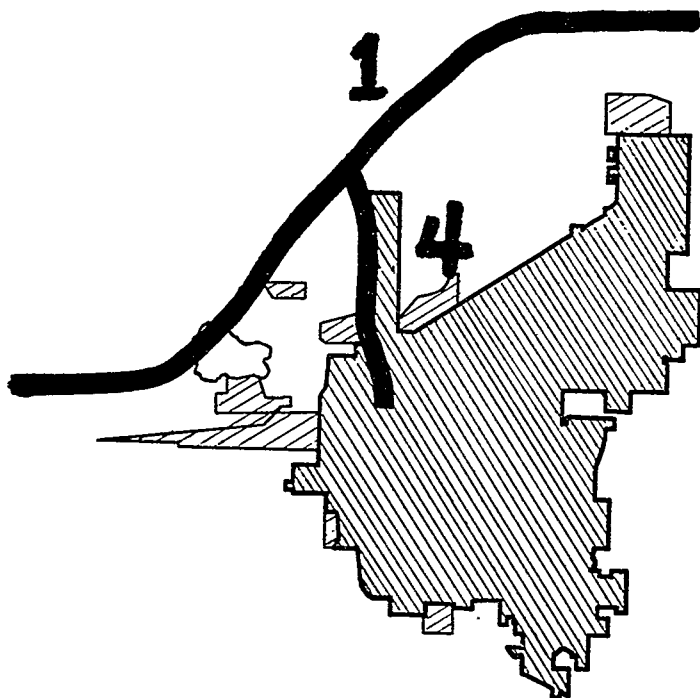
facturing activity exists in greatest volume are the points of origin and destination of large volumes of motor truck traffic for which service should be provided, as well as for passenger car traffic.

(6) *Relation to agricultural production.* Interstate System routes traverse to the maximum extent possible the areas of high per acre value in marketed crop production.

(7) *Relation to concentrations of motor vehicle ownership.* Interstate System routes traverse to the maximum extent possible areas having a high density of motor vehicle ownership.

(8) *Relation to routes of strategic importance from the standpoint of national defense.* The Interstate System includes the principal traffic routes of military importance.

(9) *Relation to military and naval establishments and war industry.* Routes of the Interstate System serve the highway move-



**Interstate Highways Lincoln Vicinity  
Routes 1 and 4**

ment to and from military and naval establishments and potential war industries.

(10) *Relation to routes of highest traffic volume.* Interstate System routes serve the highest traffic volumes in the areas traversed, serving a share of the total highway movement greatly exceeding the proportion of the total highway mileage involved.

(11) *Relation to principal topographic features.* Consideration of major topographic features is important in the selection of some Interstate System routes. Conformation of the land and the courses of principal rivers may influence to some extent the location of certain routes.

(12) *Cooperation with the Department of Defense.* One of the primary functions of the Interstate System is to serve the national defense. Under the provisions of the Federal-Aid Highway Act of 1948 the Commissioner of Public Roads was directed, among other things, to invite the cooperation and suggestions of the Secretary of Defense.

#### D. RIGHT-OF-WAY AND LAND REQUIREMENTS

Because of the many imponderables involved, it is very difficult to estimate the amount and character of the lands needed for the Interstate right-of-way. An important governing factor is the extent to which new or existing highway locations will be used for the Interstate right-of-way. It is estimated that approximately 75 percent of the Interstate mileage will be on new location, while the remaining 25 percent will generally follow existing routes, though additional lands may be needed for additional width, improved alignment, and for other such purposes.

Notwithstanding these infirmities, it has been estimated that approximately \$5.5 billion will be spent for right-of-way for the Interstate System during its 13-year construction period. Approximately 730,000 parcels of land would be involved in this program. Making a variety of assumptions, it is estimated that these rights-of-way will require roughly a million acres of land.<sup>76</sup>

#### VII. LEGAL PROBLEM AREAS

To even the casual observer, it must be apparent that there is under way in the nation right now an effort that will, it is hoped, yield the best in surface highway transportation which

<sup>76</sup> Ibid., note 71.

limited financial resource and available technology can provide. Yet even these goals cannot be achieved without effective solution of some vexing legal problems. Only a selection of these difficulties will be commented upon, and only briefly.

#### A. RIGHT-OF-WAY ACQUISITION<sup>77</sup>

The magnitude of the land acquisition job that needs to be accomplished in the modernization of our highway systems has already been noted. Some States now possess the legal and administrative machinery with which to acquire the needed lands, fairly and efficiently, from both the standpoint of the public and the property owner involved. Other States do not. It is with respect to right-of-way acquisition that there is the greatest threat to the timely completion of the highway improvements. Time of possession of the needed lands, ascertainment of just compensation, legal interest that may be acquired, payment of awards, condemnation procedures, and right-of-way financing practices are but a few of the specific areas where betterment is very much in order in a number of jurisdictions.

#### B. FUTURE USE ACQUISITION<sup>78</sup>

The Interstate program and certain portions of the "ABC programs" necessarily presume that land will need to be acquired for future highway use. This is especially true if such rights-of-way are to be acquired at their lowest possible cost and with a minimum of actual or potential injury to legitimate private development. Yet a number of States still lack the legal sanction to acquire property for future highway use. Because so much of the present highway program centers in the urbanized areas of the nation, where the land costs are the highest, future use acquisition can pay handsome dividends.

#### C. CONTROL OF HIGHWAY ACCESS<sup>79</sup>

As already noted, control of access will characterize the entire Interstate System mileage. It will also be applicable to additional mileages of the "ABC programs" where feasible. While

<sup>77</sup> Condemnation of Property for Highway Purposes, a Legal Analysis, Parts II and III, Highway Research Board Special Reports 32, 33 (1958).

<sup>78</sup> *Ibid.*, note 70.

<sup>79</sup> Expressway Law, An Analysis, Highway Research Board Special Report 26 (1957).

most States now have legal authorization to control access, a number of the present laws need to be upgraded in important respects on matters relating to control of access. For example, procedure involving municipalities is legally obscure in some States. This is especially true with respect to the closure or looping or redesign of existing crossing roads and streets.

Additionally, there is the matter of the extent to which control of access may be applied to access roads and ramps. Highway engineers are finding, much to their dismay, that unless some effective State or local control can be applied to the approaches to designated ramps feeding into expressways, these access facilities soon break down in terms of their design capacities. Control of access along these approaches might constitute one answer. Zoning of the adjacent areas might be another. The acquisition of easement rights would be still another alternative.

#### D. INTERGOVERNMENTAL RELATIONSHIPS<sup>80</sup>

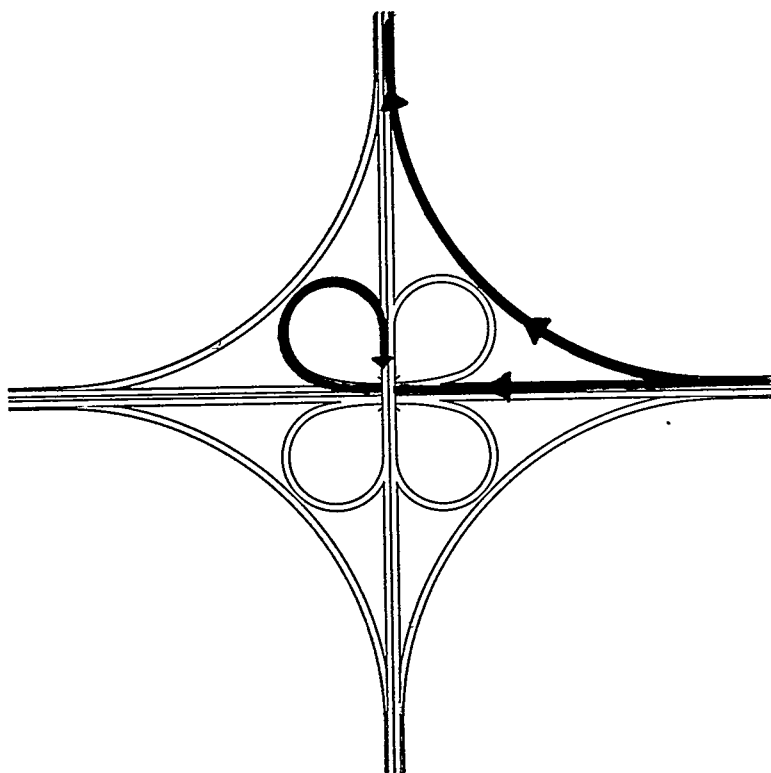
The acceleration of highway improvement generally, and the increasing tempo of urban highway betterment have focused attention on the problem of intergovernmental relationships in highway affairs. Examination of the present law governing intercourse between various levels of government in the highway field reveals that there is much to be desired. Except in a handful of States, the highway law is either silent or ambiguous with respect to the authority of State highway departments in municipalities. There is a doubt in some States whether the State highway departments can render even technical assistance, where needed, to the urbanized areas. It is obvious that the closest kind of intergovernmental cooperation seems indicated in connection with each of the functional activities involving highway modernization—planning, financing, land acquisition, clearance, construction, maintenance, traffic control, and enforcement. In terms of adequacy, this is one of the weakest of all areas of highway law.

<sup>80</sup> Levin and Markham, "Statutory Authority of State Highway Departments in Municipalities," *Public Roads—A Journal of Highway Research*, Vol. 25, No. 8, U.S. Government Printing Office, Washington (June, 1949); Herring, *Responsibility for Construction, Maintenance and Traffic Regulation on Extensions of State Highways through Cities and Towns*, Highway Research Correlation Service Memorandum 28 (May, 1957).

## VIII. CONCLUSION

Federal-aid highway development during the last century and a half has undergone profound changes, ultimately matching technological development, though lagging behind it considerably at times. The most recent of its many milestones has been the acceleration and modernization program authorized by the Congress in the Federal-Aid Highway Acts of 1956 and 1958.

Though the financial resources have thus been provided to upgrade the quality of the highway transportation service of the nation, certain complexities of law and administration need yet to be resolved. The thinking and documentation contained in this issue will, it is hoped, be helpful in the solution of some of these difficulties.



**Cloverleaf Interchange**