

ORIGINS OF THE INTERSTATE

by Lee Mertz

Legend has it that the Interstate began with President Roosevelt drawing three lines East and West and three lines North and South on a map of the United States and asking the Bureau of Public Roads to build it. That probably is a legend but I have no doubt that the President did draw those lines on a map as we shall see.

The first formal inquiry into the possibility of building an Interstate system goes back to Section 13 of the Federal Highway Act of 1938 which states..."The Chief of the Bureau of Public Roads is hereby directed to investigate and make a report of his findings and recommend feasibility of building, and cost of, super highways not exceeding three in number, running in a general direction from the eastern to the western portion of the United States, and not exceeding three in number, running from the northern to the southern portion of the United States, including the feasibility of a toll system on such roads."

But why would Congress put that in the Act? What did they want to accomplish? Congress usually calls for a study when they are feeling a lot of pressure to legislate something. This was the case then. There was a strong "Superhighway" movement and FDR was one of the advocates. The following article was published in the Washington Post February 20, 1935...

SUPERROADS ARE STUDIED IN WORK PLAN

Proposals for a new form of empire building a network of superhighways have been seriously considered by President Roosevelt in connection with the \$4,880,000,000 works program, it was reported yesterday.

The President, it was learned, has discussed with congressional advisers the possibility of using a substantial portion of the works fund, now awaiting Senate passage, to link the country's international boundaries with smooth, arrow-straight four-lane thoroughfares.

Tentative plans call for three of the master roads connecting the Atlantic and Pacific coasts and two others stretching from Canada to Florida and Mexico. Nearly every State would be crossed by one of the roadways in this vast mosaic pattern.

While the rank and file of Senators and Representatives have been kept pretty much in the dark concerning details of the work program, a dozen or so of the New Deal's real leaders on Capitol Hill in recent conferences heard Mr. Roosevelt enthusiastically unfold his views on how many jobs could be created through construction of superhighways.

The President emphasized the self-liquidating phase of the road program. He explained the Government could buy broad tracts flanking the highways and obtain the benefit from the increased property valuation.

Observers recalled the storm of protest from Republicans against Federal Competition with private business drawn by the guarded testimony last month of Rear Admiral Christian J. Peoples, Treasury procurement chief, before a Senate committee.

Carefully avoiding mention of superhighways, he at first declared the Government would sell gasoline along roads it built. Later he denied the Government would enter the gasoline business and predicted, it, instead, would derive revenue from concessions along its routes.

The clause in the works bill to authorize purchase of land under the power of eminent domain was intended, it was said in informed quarters, to expedite construction of the superhighways. The President indicated he would expect cooperation from States in obtaining the rights-of-way. The roads would be built through back country where land could be acquired at low figures. There was talk of creation of a new Federal corporation to build the highways.

President Roosevelt displayed what friends described as "uncanny knowledge" of American geography in discussing the new traffic arteries. Outlining a suggested southern route, he glanced slyly across his desk at Vice President Garner and quipped;

"We'll have to cut this highway short because Texas is impenetrable"

One of the President's advisers got the impression the right-of-way would be half a mile wide. When the plan was in an embryonic stage last fall, however, Secretary Ickes fixed the width at 1,000 feet and suggested the roads should be landscaped until they were the most beautiful in the world...

So there is evidence that the President had been thinking about Superhighways for some time but there is no evidence that he was thinking about a Federal-aid program to the States. Another article, this time in the New York Herald Tribune on February 16, 1936...

ROOSEVELT SEES PROFIT FOR UNITED STATES IN ROADS PLAN

PRESIDENT FAVORS BULKLEY BILL AND RESALE OF LAND GAINED BY CONDEMNATION

OWNERS RIGHTS STUDIED

STATE SEEN AS ENTITLED TO GAIN BY NEW VALUES

Washington, Feb. 15.-- President Roosevelt said today that he approved the proposal of Senator Robert J. Bulkley, of Ohio, that the Federal Government set up a public corporation to build 10 self-sustaining transcontinental highways as a national-defense and business pump-priming measure.

The President revealed that he was studying the possibility of putting such highways on a self-liquidating basis by charging tolls and disposing of excess lands taken in condemnation. The plan the President is said to have in mind contemplates condemning not merely a right-of-way for the highways but abutting land to a depth of 1 mile on either side of the highway itself. This highway frontage, which presumably would increase in value by reason of its newly acquired accessibility, the Government would dispose of at a profit which would help defray the cost of the projects.

NEW YORK DEAL CITED

The President argued that private owners through whose land a public highway might run were not entitled to the chance profit arising from the accessibility conferred with the action of the Government. He cited the case of a farmer in the southern end of Columbia County in New York, who was paid \$2,000 by the State of New York for a right-of-way through his farm. This, he said, was half the

original cost of the farm. The farmer, taking advantage of the two new highway frontages, split his holding into three parts and sold them for a total of \$6,000.

It was his thought, the President said, that the State or Federal Government in the case of the projected transcontinental highways, was entitled to the increment in value from highway improvements. This could be realized, he explained, if the Federal Government acquired considerable land on either side of the projected highways, at a fair value and resold it at a profit.

Whether new legislation would be required to give the Government this power to condemn in excess of actual needs, the President said, was one of the phases of the proposal to which he is giving study.

PUBLIC HEARINGS PLANNED

"Senator Bulkley's bill, providing for a United States highway corporation to build transcontinental highways, was referred today by Senator Robert F. Wagner, chairman of the Senate Banking and Currency Committee, to a subcommittee for public hearings. The subcommittee will meet Wednesday to fix dates for these sessions." The names of the sub-committee members were given.

"The Bulkley bill would empower the highway corporation to issue bonds up to \$2,000,000,000 at an interest rate of 3 percent. The revenues from the sale of frontages and from tolls would be used to amortize the bonds and maintain the highways."

A Washington News article dated February 9, 1938 by John T. Flynn adds more to the background...

New York.--Senator Robert Bulkley, of Ohio, has made a proposal which is certainly worth considering.

It is as clear as daylight that, to bring about any sort of recovery, somebody must start some new sort of business or some extension of an old business.

It is also clear that nobody is in sight right now who has any notion of doing that--at least not in time to do this country any good as a depression cure.

There is one business which is a public business but is also a private one. This is the road-building business. The Government pays for the roads and hires the contractors. But the roads are built usually by private contractors and with materials furnished by private manufacturers.

If there is one thing needed in this country now, in view of the development of the automobile, it is express highways running east and west and north and south. Why, therefore, cannot the Government go into the business of building these highways?

They would cost a great deal of money. It would probably be possible to spend a billion dollars in a year on such a project, perhaps more.

The money to build them could be provided by the issuance of Government bonds. But they would be self-liquidating bonds. No such roads should be built without at the same time establishing a toll system to carry the interest load and maintenance charges and to pay off the principal over a moderately short period of years.

But if such a project were started a few safeguards would have to be observed.

First, the suggestion of Senator Bulkley that old-age pension taxes be used to finance the projects is essentially vicious. These taxes should be reduced to pay-as-you-go basis. The financing of the projects would be the simplest part of the program.

Second, the enterprise should be put under the direction of the biggest, ablest, strongest man the President could find, whose ability to resist political and business corruption is known—a man like Bob Moses of New York.

Who can doubt that this would be infinitely better than building battleships and machine guns?

A search of the records of the day confirms that the idea of superhighways spanning the nation had caught the fancy of the press, the President, the Congress and perhaps the public. A non-exhaustive search reveals that at least a dozen bills and resolutions were introduced in the Congress between 1936 and early 1938 and at least two hearings were held. Two bills that seemed to have the most standing were introduced by Representative Jennings Randolph, West Virginia, and Senator Bulkley, Ohio. They varied in detail but all proposed construction by the Federal Government as an employment relief measure and most noted the President's support of the idea. Some mentioned the Autobahn in Germany. It is fairly certain that this enterprise was responsible for some of the support generated for superhighways.

All visualized a self-liquidation venture from tolls and many incorporated airports or emergency landing fields in their proposals. There was even a National Superhighway Association headquartered in Atlantic City, N.J. which was very active.

The idea of the Federal Government building transcontinental highways was not particularly new. Congressman William Randolph Hearst proposed such a thing in 1906, but the fever of activity reached its peak in 1938 when Section 13 was added to the 1938 Highway Act requiring the study by the Bureau of Public Roads previously referred to. Before proceeding with events in 1938, it is necessary to step back and take a look at our highway heritage in order to fully understand the events that followed in 1938.

The Federal government did build National highways at one time—the National Road from Cumberland, Maryland westward to Vandalia, Illinois—but the experience was not a happy one. Some of the issues that caused the Federal government to abandon that venture still exist today, so a look at it is worthwhile.

George Washington traveled over the Indian trail that later became the National Road as a young man in his twenties on a mission for Governor Dinwiddie to tell the French that they were trespassers at Ft. Le Boeuf (North of what is now Pittsburgh). A few years later, he was sent again, this time with a small force of troops. His mission was not successful, and he suffered a humiliating defeat at Ft. Necessity. He traveled the route again, this time with General Braddock with a strong military force. This time, they hacked out a road sufficient to drag wheeled canon and wagons. This mission, too, was unsuccessful with Braddock being buried in the middle of the newly constructed road. But that was the beginning of the National Road.

In 1803 as part of the legislation admitting Ohio to the Union, two percent of the revenues deriving from the sale of Federal lands in Ohio were to be set aside for roads, part of it specifically for the National Road from Cumberland to Wheeling, West VA. (Then Virginia). There was some controversy and doubt as to the constitutionality of such an endeavor but confrontation was avoided by States, through which the road was to pass, enacting resolutions asking the Federal government to build the road.

The first segment was opened to Wheeling in 1818. By that time, as more States came into the Union, the idea was applied several times with the plans extending all the way to Jefferson City, Mo. Vandalia, Ill. was as far as construction was completed and that last segment was only rough graded and was never put in service. The National Road had run into difficulty.

The first segment was being heavily used. One account said that the wagons were spaced so close together that the lead horses could eat oats from the wagon ahead. The problem was how to raise revenues to maintain it. The proposal was to place toll booths on it with Federal collectors. This was seen to be so clearly unconstitutional that Presidents Van Buren and Tyler vetoed appropriations for further construction of the western extensions. To avoid the constitutional issue, the road was ceded back to the respective States beginning in 1836. From that time forth, the Federal Government has avoided the construction of roads through or within a State except on Federally owned lands, with the one exception I can find and that is the Dulles Access Road.

The earliest reference to interstate roads that I have found was brought to my attention by Frank Turner. It was published in "Public Roads of the Past" by the American Association of State Highway Officials in 1953. This was a two volume collection of the works of A.C. Rose known as the "Old Road Builder" who documented the building of roads back to 3500 B.C. This particular piece documented the building of the first "Object Lesson" Road in 1897 by FHWA's predecessor agency, the Office of Road Inquiry in the Department of Agriculture. An excerpt from the Director Roy Stone's report says...

The first Federal object-lesson road was built by the Office of Road Inquiry of the United States Department of Agriculture at the Entrance to the New Jersey Agricultural College and Experiment Station at New Brunswick. According to the Yearbook of the Department of Agriculture the work was done during the season of 1897...

...It would greatly increase the value of the interstate roads and stimulate a general public interest in road building if some of these lines (object lesson roads) could be so connected or combined as to form in a measure, a national system, such as was planned and partly built by the Government in the early days of this century. The most effective lines that could be adopted for this purpose would be an Atlantic and a Pacific Coast line, joined by a continental highway extending from Washington to San Francisco.

I mentioned earlier Congressman William Randolph Hearst's proposal in 1906. Another example that shows that the National highway movement was active throughout the years leading to the peak interest in 1938 is "The Proposed Interstate Highway System" published in The Road-Maker magazine in 1913 along with a map. It was prepared by the National Highway Association and would connect the State capitols with sixteen foot wide roads. The system would be 18,000 miles long and would be paid for by a tobacco tax. Richard Weingroff unearthed that one. This takes us to the Post Roads Act of 1912 which was the forerunner of the first Federal-aid to the States in 1916.

E.W. James provided some insights at age 90 in 1965 in a letter to Mr. Cron:

In 1910 Charlie Moorefield and I were the only new full trained road engineers who came into the B. P. R.(under a different title then).

It was in 1912 that I learned that something tremendously big in the engineering and administrative line was in the making. At that time the U.S., road-wise was still in the mud. The BPR (actually the name was the Office of Road Inquiry) since 1896 had been building demonstration roads, mostly of "sand clay" to interest and encourage people, mostly farmers...

It started really with the Post Road Act of 1912. I chanced to be handy and was asked to sit in (and say nothing) at an informal meeting in Page's office with Page, Pennypacker, his man Friday, George Coleman, Va., and Henry Shirley, Md. The purpose was a completely informal discussion of how to use the Post Road Act, and I learned, which few persons then knew, that that small tentative

tryout was really to determine and advise Congress in a final report what opposite national jurisdictional areas should be considered most feasible, practical, and generally best to cooperate with the Federal Government in some huge plan for joint construction of roads. At that time I think no one in the group had a clear idea of the possible magnitude of the concept or the program they were discussing off hand...Next to the States, then 43, came counties (3000+) not administratively feasible; Congressional Districts (475+) open to 475 fights over pork-barrel funds; Improvement Districts; ad infinitum; too varied, and impermanent.

Mr. Page, Director of the Office, and other well-known and active members in such State highway departments as then existed, George Coleman, Va., Henry Shirley, Md., A. N. Johnson, Ill., A. B. Fletcher, Cal., Mr. Rogers of Michigan, and Mr. Green of New York were then considering and promoting the organization of the American Association of State Highway Officials, in order to have an organization with which the Federal Government through the Office of Public Roads, could directly cooperate. This association was finally organized in 1915, about which time the Post Road work was drawing to a close, having been instrumental in constructing what might be called demonstration cooperative roads in Maine, Ohio, Tennessee, Minnesota, Texas and elsewhere, with States, counties, and, as I remember, one improvement district. The Post Road experiment fixed the State as the only feasible cooperative agent.

But the bigger concept was moving ahead, and Congress did not await our final Post Road Act report, but on oral advice, I suppose, passed the first Federal Aid Act (of 1916).

The first Federal Aid Act provided for no system of roads, set no definite standards of design and construction, set forth no specifications, and was virtually wide open at both ends.

The next event that had a great effect on what was to come was the Mexican Campaign. General Pershing chased Pancho Villa back into Mexico. The important thing about it was that that was the first use of motorized equipment in actual battle conditions. The story goes that there were some 2000 vehicles involved and the distance was 200 miles. According to the story, at the end of the campaign, all 2000 vehicles lay strewn along the line of march in various states of breakdown. Nevertheless, the motorization was deemed at least a modest success. What was important was that our involvement in World War I was coming right up and the transportation of our expeditionary force overseas was a huge logistical problem. The military was still basically horse oriented as were our allies and the enemy. But to ship all those horses and the fodder to go with them was considered to be impossible, so a radical decision was made to motorize. Detroit produced thousands of trucks in quick order and it was decided to drive them, loaded with equipment to the ports of embarkation.

The embarrassment was that there were segments of road where they just couldn't get through, either due to mud or lack of any road improvement at all. Trains of flatcars had to be brought in and the trucks loaded aboard just to get around the segment, then road travel would resume. In some cases, this had to be done several times before reaching the port. It became obvious that a system requirement had to be built into highway legislation. The happy side of that set of events was that the motorized American Expeditionary Force was responsible for an early end to the hostilities.

The 1916 Federal-aid program barely got going before the United States entered the war and the program was essentially shut down. By the end of 1918, the country was ready to consider getting the program going again but there was discord among the ranks of the highway departments which the 1916 Act required to be established as a condition of Federal aid. Fred R.

White, State Highway Engineer, Iowa, recounted this story to the annual meeting of AASHO held late in 1942:

In the meantime dissention and doubt crept into the Association ranks. Some States still did not have a State Highway Department. They were unable to assume their places at our council table. A number of the States which did not have State Highway Departments were not members of the Association. The Association had not sold itself to them. Worse yet, the Association itself began to waver on the principle of Federal-State cooperation conceived by its founders and written into the Federal Aid Road Act of 1916. A movement for a limited mileage system of highly improved highways to be designated, constructed, maintained, operated, and owned by the Federal Government sprouted and grew. This movement found recruits and able advocates in our own ranks. We were thus an Association divided against itself.

The Federal-aid principle had not yet had a chance to prove that it could function. There were the inevitable delays, misunderstandings, and friction of the organizing period of a new and untried plan. The war had intruded and immensely complicated the difficulties. The struggle within the Association went on and became more intense.

It was in this atmosphere that the Association approached its fourth annual convention held in Chicago in December of 1918. The war was over. The boys were coming home. The Nation was beginning to readjust itself to peace-time pursuits. War transport necessity had thrust the highway problems into the limelight. It was inevitable that the battle of Federal aid versus National Highways would come to a show-down at that convention. And it did. On the show-down resolution to endorse the National Highway plan, the convention voted 50-50. It was a tie. With the delegation present and voting from every State represented at the convention, we were split exactly even. By that slender margin and with not a single vote to spare, did this Association cling to its ideal of Federal-State cooperation laid down by its founders.

You will find no account of this incident in the official records of the Association. With rare judgement and foresight the presiding officer suggested that in a matter of this importance and with the Association so evenly divided, it would be well to expunge the record from the Minutes of the convention. Both sides readily agreed. The record was expunged. The convention proceeded with its other business.

Mr. White goes on to describe the atmosphere later in 1919:

On the date of the Kansas City meeting, there was pending before the Senate Committee on Post Offices and Post Roads of the National Congress, a bill introduced by the chairman of that committee, to destroy the Bureau of Public Roads in the Department of Agriculture, create in lieu thereof a National Highway Commission, and set up a limited mileage national highway system to be owned, controlled, constructed, maintained, and operated by the National Highway Commission. The circumstances were further complicated by the fact that the chairman of the Committee on Roads of the House of Congress, was opposed to the principle of Federal aid to the States in highway building. He was, therefore, naturally, using his position and influence to discourage and prevent further appropriations of Federal-aid road funds... the annual convention of the Association to be held at Louisville, Kentucky in December of 1919, was coming up. When that convention met, exactly one-half of the States (24 States) had in

writing gone on record in support of the continuation of the Federal-State cooperative road building plan as opposed to a national highway plan. Again the convention was faced by an exactly even division of its member State Highway Departments...The situation in Congress was still serious; the chairman of the Committee on Postoffices and Post Roads was still sponsoring the national highway plan; the chairman of the House Committee on Roads was still opposing any Federal-aid for highways. The minority members of the Highway Officials' Association (AASHO) continued their sponsorship of the national highway plan, which of course, they had a perfect right to do.

At this critical time, the Bureau of Public Roads suffered the death of its leader, Logan Waller Page. Thomas H. MacDonald, Chief Engineer of the Iowa Highway Commission was the selection to replace him. The President of AASHO, A.R. Hirst, in his outgoing speech in December of 1919, deplored the fact that the Federal Government could pay MacDonald only \$4000 per year. MacDonald turned the job down. AASHO sponsored a special Act of Congress to pay him \$6000 which passed.

MacDonald made his first speech as head of BPR at that same convention. He advocated many of the same principles that became law in 1921. He defined four classes of highway use- Agriculture, Recreational, Commercial, and Military. He made the case that it would be wasteful to build National highways solely for interstate travel. He noted the phenomenal growth of the cities and felt that improved roads would help to keep people on the farm. He advocated classification into a system comprising 5-7% of all roads. He had done this in Iowa. He felt that insuring interconnectivity between States was the Federal role. He also advocated a higher Federal share for States with large amounts of public lands.

The views he expressed were not new. An excerpt from one of his articles written in 1912 while head of the Iowa Highway Department is revealing:

Any satisfactory solution of the road problem involves a classification of the roads in the state into those of primary and those of secondary importance. So long as all roads are held on a par there can be only slow improvement over the total mileage. By dividing these roads into two classes strictly according to the traffic carried, the road improvement of the primary system will be reasonably accelerated. Iowa has an estimated mileage of 102,000 miles of public highway, but the primary system of roads would probably not exceed ten to fifteen per cent of this amount; that is, with 10,000 miles of improved road, it is estimated that every trading point in the state would be reached from at least two directions by main traveled roads....Carrying this road classification one step in advance, it will be seen that the cross-county roads which would form the primary system of any one county could be so determined as to join with the primary system of the bordering counties; thus taken in the aggregate the primary systems of the counties become the primary system for the whole state, part of which will become the great transtate roads, the remaining roads of the system acting as feeders to these. The latter part of this system will work out automatically once the roads are classified in the counties.

The proper classification of roads is basic and fundamental...It has been pretty definitely established that a system of primary roads must be sufficiently extensive to give service to all parts of the state. It is hardly safe to fix the percentage without further inquiry, but it seems evident from the result in states which have made a careful study of their economic needs, that in the neighborhood of 5 to 7 percent of their total mileage will be included in their primary system.

The step which seems necessary now is a definite plan of cooperation between the states and the federal government, which will insure that the primary systems

of each state are connected up with the primary systems of the adjoining states, and that these systems, by agreement between the state and federal authorities, be held to until they are properly improved.

In February of 1920 in an address to the Road Builders Association:

I am impressed, therefore, that we must superimpose upon the classification which is now generally recognized, classes which we may call, for the lack of better names, interstate or national, and special roads. The national roads would serve interstate business and pleasure travel, and in many cases the military requirements also. The special class would include roads of distinct military significance which may have little or no commercial value, and certain special recreational roads. In other words we should have about five classes of roads; the national or interstate, special roads, and the State, county and local roads.

To me, these are unmistakably the roots of the 1921 Act and I believe them to be the personal creation of Mr. MacDonald. He continued:

The Federal aid plan of highway construction has not been permitted to operate without criticism. There are those who would say that it has not measured up to the need of the country-- that it has not resulted in the building of the volume or character of roads which the country required. The criticism has crystallized into a definite proposal, which involves two principles opposed to the principles of the Federal aid plan. The first of these calls for the substitution of a commission to take the place of the Secretary of Agriculture for the administration of Federal aid road work; the second substitutes a policy of complete federal construction and maintenance of a national system of highways, for the Federal aid policy under which the construction is carried on by the States and the government in cooperation.

...We have found by scientific study of the character, origin and destination of highway travel that 90 per cent of the traffic which uses our average highway is of...local character.

The 10 per cent of the traffic, which in normal times, pushes out beyond local limits, across State lines, and which can therefore be properly described as national in extent, is due to tourist travel by automobile, and freight and express haulage by motor truck.

...We must provide the roads for..the (interstate) carriers. But it is not necessary to build an especially chosen national system to reach this desired end. The same result can be obtained, probably in a shorter span of time, under the present plan of Federal and State cooperation; and the roads we construct under that plan will be so located as to serve the local as well as the national uses.

It seems clear to me..that while it must be our national policy to provide roads to facilitate commerce by motor truck- the modern highway vehicle, a commerce which is national in extent, and which is not limited by State borders, we can do so by the development of properly articulated local and State systems better than by building special long transcontinental highways, across tributary territory which for some time may not be able to share in the benefits of the through roads because of a lack of local road development.

There is no support for the assumption that such long through roads are required for the purposes of military defense...but in the main the highway requirements of war coincide with those of peace...

What we must regard as most important in these days...is the prosecution of whatever works will help in the betterment of the conditions of rural life. The promotion of the educational and social opportunities of our rural communities, and the development of the inherent attractions of country life to the end that we may increase our agricultural population...Ultimately the local system, and the attainment of such a national system will not be long delayed under the Federal aid plan, I can assure you, for at this time, in practically every State, Federal aid funds are being expended only on roads which will become important links in such a national system...the Federal aid law requires that any improvement paid for in part by Federal money, must be substantial in character.

The time may come when it will be desirable for the National Government to build some roads, solely with Federal funds, but that time has not yet arrived; and it would be the most serious mistake for the Federal Government to withdraw its support from the States while they are building up their highway organizations and their State laws, and enter into competition with them for the materials, transportation and labor supplies which are already inadequate.

After passage of the 1921 Act, he said to AASHO in December:

...The Bureau does not seek initiative. It does not seek to direct the States but to cooperate with them. There is now a plan of action for the guidance of both organizations that is so clear and so explicit that neither can escape the responsibilities imposed. The Federal requirements are fairly defined and will be sincerely and faithfully enforced.

In 1922 he said:

It is going to take a long time to do this work, but we are engaged upon a very large work. One hundred and eighty thousand miles is probably the minimum mileage that will be required to complete such a system and it may run as high as 190,000 or 200,000 miles.

If we conclude that we are willing to spend from the Federal Treasury \$50,000,000 per year...it will take in the neighborhood of twenty years to do the job...If we conclude that we can spend \$75,000,000 per year...it will take us fifteen years. If we conclude we can afford \$100,000,000 a year for that purpose we can do the job in ten years.

This is the beginning of what I think of as the golden years of the highway program. The foundations were all in place and MacDonald set out to build the State-Federal partnership, engineering professionalism, dedicated highway user revenues at the State level, establishment of independent highway commissions, highway research, highway classification, programming and project development based on economic principles, transfer of highway jurisdiction from counties and townships to the States to name a few of his undertakings. In 1923, he had this to say about commissions:

In the enactment of the commission legislation, the legislatures adopted an entirely new plan...Instead of specifying the many details of factory inspection, the manner and method in which saws and belts should be protected, the

legislature condensed them in one paragraph requiring the employer to protect the life, safety, health, and welfare of employees, and authorized a commission or board to draw up rules and orders specifying the details as to the manner in which these things should be accomplished.

These regulatory commissions are in reality a fourth branch of government. They may be said to be legislatures continually in session, yet the power of the legislature is not delegated.

The real distinction which entitles these commissions to a position as a fourth branch of government is not so much their administration as their investigation and research. These investigations are, however, not the academic research of laboratory and study, but the constructive investigation of the administrator. In these fields of investigation and administration the work of the engineer has become all-important...The courts have a place because under our constitutional system the acts and orders of the administrative boards are always subject to court review upon appeal by interested parties...In proceedings before the commissions man-made limitations, legal formalities and precedents are of little significance, and facts and real conditions stand forth simplified to the degree possible. In making their investigations it is necessary that commissions call to their aid men trained in the science of engineering. The regulatory work of such bodies could not be carried on with any degree of success without the investigations and research activities of a staff of competent engineers. It is the logical development that since a large part of the work of these bodies consists of engineering investigations and the weighing of engineering facts the chief executives of the states in selecting men for such commissions have realized that men with engineering training make most excellent commissioners. Thus in the strides which the nation has made in providing for itself service through others the regulatory powers and leadership which a relatively few years ago were lodged almost solely in the hands of the courts and the legal profession, have by weight of requirements gravitated to a very large extent to men who are trained and experienced engineers. This development is an outstanding triumph for engineers, illustrating as it does the leadership attained through a determination of the facts by research and investigation and their application to our modern conditions unhampered by the limitations and mystifying and inaccurate traditions.

A few years later, he assumed the title of "Commissioner" but BPR was never formally constituted as a commission. His dedication to economic principles is illustrated in this excerpt from a 1923 speech:

- a. States in the initial stage of highway development should issue bonds to defer that portion of the annual charge for construction which would over burden either property or the road user.
- b. States where original construction programs are well under way, can, in the main, finance further expenditures for construction by bond issues devoted to deferring the cost of special projects.
- c. States where original construction is practically completed are concerned chiefly with maintenance and reconstruction and should depend on current funds, save in cases of emergency.
- d. The maintenance of interstate and State roads should be a charge against the road user.
- e. Roads serving a purely local purpose will generally require only light upkeep and this should properly be a charge against the adjacent property, which in this case is the first and often the only beneficiary.

- f. No road should ever be improved to an extent in excess of its earning capacity. The return to the public in the form of economic transportation is the sole measure of the worth of such improvements.

The 1921 act recognized the need for system by requiring that all Federal aid be spent on a system comprised of not to exceed seven percent of total highway mileage; "Highways which may receive Federal aid shall be divided into two classes, one of which shall be known as primary or interstate highways, and shall not exceed three-sevenths of the total mileage that may receive Federal aid, and the other which shall connect or correlate therewith and be known as secondary or intercounty highways...the Secretary of Agriculture shall give preference to such projects as will expedite the completion of an adequate and connected system of highways interstate in character."

E. W. James reflects on the system aspects of the Act: "Why 7 percent? I have never had a better explanation than that of Markham, Secretary for years of the Association of State Highway Officials. Of course 5 percent or 10 percent would have been a more natural figure, but why 7 percent? As Markham explained: Senators Oddy of Nevada, long gone and Carl Hayden of Arizona, still on duty at 88 years plus or minus, were both strongly interested and concerned in the whole Federal Aid Road program. They wanted to be sure that their States would have at least two cross State roads, based on their certified public road mileage, one say east and west and one at approximate right angles north and south. Using undoubtedly incorrect or questionable mileage, they figured that 7 percent was the lowest fraction that would give them what they wanted and figured they needed. So they saw to it that 7 percent was written into the law. That's that. Whether Markham was right, I cannot say."

I don't believe Mr. James' story is correct on this. I think the 7% came from Mr. MacDonald's work in Iowa and was based on the size of system that could be improved in about fifteen years. E. W. James continues:

The creation of the 7 percent connected road system raised, however, a much more puzzling and disturbing problem. How was the 7 percent, assumably of the most importance in each State, to be selected? The possible contentions of cities, county seats, counties, Congressional Districts, etc., came at once into this problem in a large way. Could a method of selection be devised that would be feasible, permitting flexible selection by each State that would be practicably invulnerable? That was the question put to me....Robert Eastham of Virginia and Clifford Shoemaker, both of the Bureau, were assigned to assist....Our little committee...was successful in laying out a 7 Percent System of roads that was acceptable to the AASHO.

We first selected from the Post Office Department the only complete uniform set of State maps showing only county outlines. The Post Office used them I think for laying out R.F.D. routes in counties. From the Census Bureau we got population; agricultural produce in dollars; manufactures, mineral, and forest products also in dollars and by counties. We laid the quantities out for each of the five items, each on a separate set of maps, in each State and in each county of each State. Calling total State population 100, we determined the population index for each county. This process was repeated for each of the five significant items. We then combined the indices for all items by counties in each State giving a total of 500. We then divided the combined county indices by 5, bringing the total index figure back to 100 with a single county index representing the importance of that county in the State as a whole.

We reduced these county indices first to circles, which were not distinguishable enough, so we adopted squares as emblems of the indices. When these squares, blackened in, were put into their appropriate counties on a clean map, we had a series of emblems through which diagrammatic routes could be laid

out. Routes through the heaviest emblems were routes through the generally wealthiest and all around most important county areas. Road locations could be made catching obvious local control points along these diagrammatic lines, and you had a selection from best to poorest almost staring you in the face.

Finally, to justify the entire system as selected, I called on Fred Mills, one of my handiest assistants....I told him I wanted to find the centroid of the Federal Aid system so far as selected.

He went to work, using an origin of some plain and simple location off the California coast...I asked him where it (the national centroid) fell, and he replied that I couldn't guess. Then he told me that the general centroid of the whole system was in the same county in Indiana (I think) where the Census Bureau computed the center of national population to lie.

At this point we had developed a method for establishing a satisfactory pattern for a nation-wide road system. The provision of law controlling the distribution of funds mathematically among the States, staved off the Pork-Barrel vultures in Congress. Our system of indices establishing essential degrees of importance of principal roads in all States and Congressional Districts within each State kept the vultures away locally....

The next milestone in the chronology of the Interstate System was The First National Conference on Street and Highway Safety held in Washington, D.C. on Dec. 15-16, 1924. It was chaired by Herbert Hoover, Secretary of Commerce. There were other interesting people present. F.A. Delano was vice chairman of the conference. He was FDR's uncle and was prominent in planning circles and highways for twenty years. Later, he was chairman of The National Resources Planning Board and served on the Interregional Highway Committee that developed the Interstate System.

Harland Bartholomew was there representing the City Plan Commission of St. Louis, Mo. He also served on the Interregional Highway Committee and was chairman of the National Capitol Planning Commission where he was very influential in the development of the Washington Metropolitan Area Interstate and the Washington Metro subway system.

Roy D. Chapin, Chairman of the Board of the Hudson Motor Car Co. was also present. His name pops up frequently as having been very influential in the development of early highway legislation. He is also reported to have been present as an observer when General Pershing tried trucks for the first time in the Mexican Campaign. Thomas H. MacDonald, E.W. James, H.S. Fairbank, and A.T. Goldbeck attended for BPR.

In the meanwhile, another problem was pressing for solution. The following is from the report of the Joint Board on Interstate Highways to Secretary of Agriculture Jardine on Nov. 18, 1925. "The Joint Board on Interstate Highways, the appointment of which was approved by the Hon. Howard M. Gore, then Secretary of Agriculture, on February 20, 1925, and which was created at the request of the American Association of State Highway Officials 'To undertake immediately the selection and designation of a comprehensive system of through interstate routes, and to devise a comprehensive and uniform scheme for designating such routes in such a manner as to give them a conspicuous place among the highways of the country as roads of interstate and national significance...'"

More from the report:

At the 1924 annual meeting of the American Association of State Highway Officials at San Francisco, action was taken on November 20, requesting the Secretary of Agriculture to appoint a board composed of representatives of the State highway departments and of the Bureau of Public Roads in the following language:

"This Association hereby requests the Secretary of Agriculture, in cooperation with the several States to undertake immediately the selection and designation of a comprehensive system of through interstate routes and to devise a comprehensive and uniform scheme for designating such routes in such a manner as to give them a conspicuous place among the highways of the country as roads of interstate and national significance."

E. W. James remembered:

With this momentous road system planned and ready for construction, how were we to handle it as a going project? Its parts, as I had early assumed and provided for, were to be numerous, in high figures. The parts must be labeled or distinguished in some way so they could be handled conveniently and filed, yes; but in addition they must be named somehow so the public could see them, on records, maps, and in place on the ground.

In this report (the report to the Secretary) you will find clearly indicated the routes resulting from the Board work. I was secretary of the Board and most of the details passed through my hands at one time or another. (Thomas H. MacDonald was chairman.) At one of the first meetings the general question presented above was thrown into my lap. I knew it must come sooner or later and had given it considerable thought. You will quickly see on scanning the report the conditions we faced in the particular task laid before us. There were two conditions that must be met. (1) The scores of named routes, roads and trails must be eliminated. Such a method of designating so large a system of roads on a fairly established pattern was not feasible. It was too cumbersome, it had a bad background of unintelligent but kindly, serious and friendly efforts by hundreds, maybe thousands of good road advocates and effective road boosters. In opposing such a group we were pushing aside some of the biggest and best support we had for the big road plan. The good would have to go with the bad. Organizations like the Lincoln Highway, the Dixie Highway, the Old Spanish Trail Associations which were sound agencies could not be preserved while three or four score "skip-by-night" agencies were to be ignored and washed out. (2) The second puzzle in the task at hand was to devise a scheme that would take up all the named routes we wished to save, in whole or in part; be flexible enough to permit expansion over a long period, and above all fit the United States as an area without an established road system of old, and now about to create one on a magnificent plan.

Again, from the report to the Secretary: "Although no records had ever been systematically collected in an effort to cover the whole field, there appeared in the official files of the States and of the Bureau of Public Roads evidence that at least 250 marked trails existed in the country. These were sponsored by at least one hundred regularly organized associations supporting some kind of headquarters and issuing maps, advertising, or other promotion material."

It is clear that the Board felt that it was legally bound to not exceed the three sevenths of the "seven percent system" established in the 1921 Act as "primary or interstate highways". In its final deliberations, the Board recommended 2.8 percent of all the highways and roads in the nation be numbered as "Interstate Highways".

At its April 20, 1925 meeting, The Joint Board, among other things, passed the following resolution: "3. The selection of approximately 1 percent or less of the total highway mileage of the State as of greatest importance; of a second 1 percent approximately as of secondary importance; and a third 1 percent approximately as of tertiary importance; and that these suggested percentages be increased in sparsely settled States."

E.W. James:

By that time I had my idea of the second task under control,...I saw that I must show my hand at once, and have so good a solution that it would carry me past the first task of shoving the trail organizations aside.

So I went ahead on that basis. As you know, the U.S. is about twice as wide as it is from North to South, and with this I saw a complete pattern of just what I wished. It stares one in the face, it is so simple and so adjustable. With north-south roads numbered odd from east to west, and east-west roads numbered even from north to south, you at once start a simple, systematic, complete, expandible pattern for a long time development.

Numbered on the 10's; 10, 20, 30, etc., to 90 would provide nine principal east-west routes. Numbered on the 11's and 5's; 1, 5, 11, 15, etc., to 101 on the Pacific Coast, you would provide the 20 base routes for the north-south pattern."

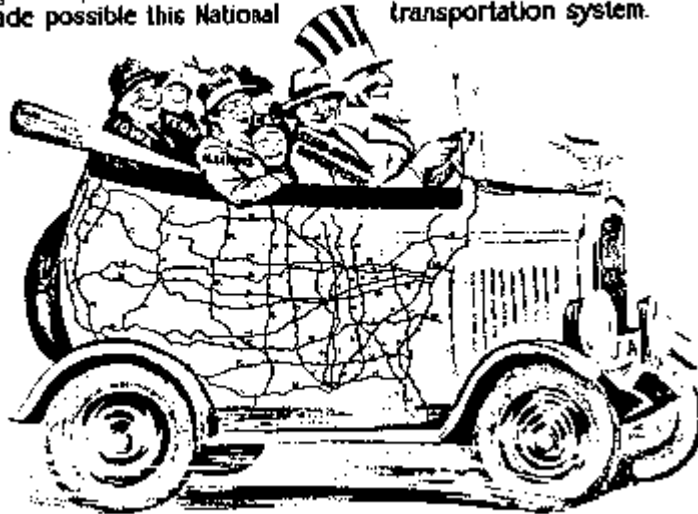
This was the 1 percent system of "Interstate" routes "of greatest importance" in the Board's resolution. Please note that the Interstate System today is 1 percent of total highway mileage. E.W. James:

with this pattern complete in my mind I had two approaches that I hoped would take the whole job off the slate at once: Paul Sargent, of Maine, and the Lincoln Highway Association. I had been helpful to the Association in the First World War, and Sargent had been Assistant Director of the BPR from 1913 to Page's death in 1918, and I had done an assignment in Maine for him during that interval, and knew him well and his background.

So I got at once in touch with Sargent on my proposed numbering scheme, putting pressure on my proposed Route No. 1, which I suggested as the first route along the Atlantic side of the U.S.A., following as far as possible the old, historic Falls Line roads. As soon as I mentioned the Falls Line Route Sargent said he was with the whole idea, and that the Falls Line Route really began up in Maine, at Fort Kent on the Canadian border. It was fairly distinct to Boston and Providence,... somewhat indistinct to New York, and then along the River Falls Line to Augusta, Georgia. Sargent knew his colonial geography and said he was with my proposals all the way.



Interstate highways will be numbered for public convenience. All State roads will be safeguarded by uniform direction and danger signs. Cooperation between States and the Federal government has made possible this National transportation system.



HITTING ON ALL FORTY-EIGHT

Having assisted the Lincoln Highway Association in the First World War, I next went to Detroit to their headquarters and laid my scheme before them, very frankly telling them that it would mean the end of the Lincoln Highway Association, the Dixie, and all others. They understood it all; said they were for a big plan for roads across the U.S.; would be with my scheme if I could give the Lincoln Highway recognition so far as possible in the No. 30. I agreed to do all I could to put it across, and so had their support toward washing out all the named routes. They were the strongest of all the Associations and with them with us, who could be against us?

So I built the numbering plan along the lines that I had laid out. The two puzzles were answered by that scheme and is set forth in the Report (the report of the Joint Board on Interstate Highways). The Board accepted my numbering plan as presented.

The next problem that the Joint Board considered was the question of actually designating the various routes. The question of marking the routes at once raised the whole question of signs, signals, and markers. Mr. Frank Rogers suggested the form of a shield for the number, and I was responsible for actually drafting the shield which has been used, providing space for the designation of the necessary number and also of the individual several States. At this point, on April 21, 1925, a Committee on Signs, Signals and Markers was appointed, of which I was Chairman. The Committee was composed of Mr. Frank Rogers of Michigan, Mr. Hinkle of Indiana, and myself.

Shortly after the U.S. numbered system was officially designated, the attached map was reproduced in American Highways, the AASHO publication, from a newspaper cartoon. It portrays the "1%" portion of the system, i.e., those routes from coast-to-coast and border-to-border. Note the similarity to a current national map of the Interstate System.

This Golden Age lasted until the Great Depression. It was characterized by phenomenal growth of automobiles and their use which provided an ever growing base of user revenues for the States. "Completion" was the watchword, which meant providing a "permanent" improvement to

each component of the Federal-aid system. The system was improved from the "top-down" with the major roads receiving first attention. The first coast-to-coast route completed occurred late in 1927. By 1930, "completion" was nearly achieved.

Cooperative "Transport Surveys" were done with several States beginning with Connecticut to gather data for the classification of roads and as research tools. These became successively more sophisticated with the origin and destination concept being developed. Two urban studies were done. The first was Cook County in Chicago, the second was Cuyahoga County in Cleveland. MacDonald saw the disorder concerning the jurisdiction over highways in urban areas as a reminder of how things were with townships, counties, and states in the earlier days. The Golden Age ended with the stock market crash in 1929 and the settling in of the Great Depression. The first impacts were felt at the State level when legislatures, being pressed for resources began to take highway-user-revenues and divert them to other uses. In Nov. 1929, President Hoover called into conference industry, public and private, asking for as extensive a program of public works as possible. In April the Congress increased Federal authorizations by 66%. In December, Congress appropriated \$116 million of which \$80 million was allocated to Federal aid roads. Between Dec. 2, 1929 and Dec. 23, 1930, \$330 million was apportioned: \$22.3 million for 1931 for direct Federal. It was expected that the whole program, including States' money would provide employment for 100,000 men.

In May 1931, MacDonald described highways as income producing investments and talked against hysterical expansion of the program for unemployment purposes because it couldn't be turned on and off like a spigot.

In April 1931, the following editorial was printed in American Highways:

The lack of employment for many willing hands induced President Hoover, early in the summer (of 1930), to call together many "captains of industry" in a vain effort to "keep the wheels going round" and maintain the high standard of wages. Everybody promised, but many wheels stopped. Then he consulted the Governors of the States about public works, and in order to stimulate the road work, the Secretary of Agriculture was requested to advance the proration of the Federal funds for the fiscal year of 1932. This sounded all right but it left the States to wait nine months for their pay and many State Treasuries were empty.

This is the situation that confronted the State Highway Departments when they came into annual session on November 17 (1930), at Pittsburgh, Pa...

...Following the convention, members of the Executive Committee went to Washington and after consultation with the (President's) Emergency Committee, suggested that if the Federal Government would advance funds to the States to be returned from future authorizations covering a period of five years, they could advance the program quite perceptibly.

As a result, \$80 million was appropriated as an advance to be paid back out of future authorizations, and it could be used to match regular Federal-aid funds.

In December of 1931, MacDonald said that the goal of completion of interstate routes had essentially been achieved thus putting the program at a crossroads. He said that it was up to the Congress to decide whether the future of the program was to bring in more local rural roads or urban roads, or both, or whether to continue the program at all.

In response to increasing State diversion of highway-user revenues, MacDonald began to advocate Planning Surveys for all States as a means of providing the legislatures and the public with the facts to, hopefully, make better decisions.

In July of 1932, before the Presidential election, American Highways published the following article:

FEDERAL GOVERNMENT INCREASES ROAD FUNDS TO AID IN EMPLOYMENT

Six months late and allowing less than a year in which to make the expenditure the Federal Government has appropriated \$120,000,000 as an advance to the States for road construction on the Federal Aid Highway System and also \$16,000,000 for roads in the National Forests, Parks, Indian Reservations and Public Domain.

A short digest of the salient features of this legislation is as follows:

1. The funds are prorated to the States by the same method as the regular Federal aid.
2. This fund is available as State funds and may be used to match regular Federal aid.
3. No amounts apportioned under this Act shall be advanced except for work on the Federal Aid Highway System performed before July 1, 1933.
4. The amounts advanced must be reimbursed to the Federal Government over a period of ten years commencing in 1938...
5. All contracts covering the expenditure of this fund must contain a minimum rate of wages pre-determined by the State Highway Departments which rate must be included in all proposals for bids...

The article voiced the worry that so much money was being advanced to the States requiring pay-back out of future authorizations that little would be left for construction in future years. The following also appeared in the same issue:

THE OTHER SIDE OF THE TAX PROBLEM

William Anderson, Department of Political Science, University of Minnesota said:

The revolt of the taxpayers is a fact. All about us we see it and hear it. Whole counties are aflame with it. Great crowds are being hurriedly mustered to march upon county courthouses, city, village and town halls and even on the district school meetings. Budgets are being slashed on every hand. County nurses, agricultural agents and many other once respected and desirable public employees are falling to right and left.

In January 1933, this article appeared in American Highways:

ROAD BUILDING AS AN AGENCY OF EMPLOYMENT DURING THE DEPRESSION

Grover C. Dillman, State Highway Commissioner, Michigan said:

...In determining this important question of public policy--the place of road building as an agency of employment during the depression--we must not lose sight of the central fact that it is imperative for the future of our American civilization to replace the dole with work, and that of all the means of providing work (other than the normal upward swing of the business cycle, which puts workers back on their normal jobs), road building is from almost every standpoint the most satisfactory.

He spoke of the many ways and types of projects that could be done:

In addition, there is the possibility so often discussed, of constructing a series of national super-highways, from east to west and north to south, perhaps with separate lanes for high-speed traffic and heavy slow-moving trucks. The Boston Post Road and the New York-Trenton Boulevard, in the East, and Wider Woodward Avenue, in Michigan, and the Dunes Relief Highway, in Indiana, are examples of what is demanded by present-day traffic.

Note the reference to "Superhighways." AASHO became very concerned about the use of the highway program for employment relief in 1933 after FDR came to office. It was felt that the work of 40 years was at risk. This was in the April 1933 issue of American Highways:

**SUGGESTED HIGHWAY PROGRAM FOR THE PURPOSE OF PROVIDING
EMPLOYMENT
AND FOR PRESERVING THE INVESTMENT ALREADY MADE,
THUS INSURING CONTINUANCE OF ADEQUATE HIGHWAY SERVICE**

The State Highway Officials are greatly concerned that no provision has been made by the Federal Government for the continuance of the highway policy of cooperation between the States and the Federal Government that was adopted in 1916 and has been in continuous effect now for 17 years. Neither has any provision been made for continuing the work on public roads through the national forests, parks and other public lands.

Each Congress since 1916 has provided for the continuance of the Federal aid program for a two-year period until the Congress which has just adjourned which provided no such legislation. Senate bill No. 36 which would have assured the continuance of the Federal aid program was passed by the Senate but failed to receive consideration in the House, although favorably reported by the House Committee on Roads.

The position of the State Highway Officials is further jeopardized at this time by the very large diversion of revenues from the gas taxes and license fees, heretofore devoted to roads, which have been commandeered for other purposes. One of the potent arguments advanced for these diversions in many States has been the fact that no Federal aid legislation had been provided to insure the continuance of the cooperative program.

On the assumption that no large public works program is adopted, it is suggested that a Federal aid authorization of not less than \$100,000,000 be provided for the fiscal year 1935. This recognizes the necessity for balancing the budget for the fiscal year 1934, and skips one year's authorization. This would permit the distribution to the States of their pro-rata share on or before January 1, 1934, and would insure a 1935 construction program of very moderate size, and would also insure the continued functioning of the highway administrative structure of the State highway organizations and the Federal Bureau of Public Roads. Unless this is done as the minimum, we are facing disaster to, and the breakdown of the whole national scheme of administrative organization, which has been built up over a period of more than 40 years and upon which depends the preservation of the tremendous investments that have been made in improved highways and the maintenance of these highways in a reasonable condition for use.

The withdrawal of the Federal Government definitely from this field, even temporarily, will mean a further diversion of the funds coming from the gas tax and motor vehicle license fees to other than road purposes. Regardless of

whatever else is done, the Federal authorization for the fiscal year 1935 is essential. This should include a reasonable amount for national forest and park roads as has been customary in the past.

In the event a large public works program is decided upon to be supported by a bond issue or other method of financing, not involving the balancing of the regular budget, in addition to the first proposal, there is suggested a program of highway construction to cover a two-year period. This will do much to stimulate confidence in the future of employment in this field and will lead to greater efficiency of expenditure than with the same total amounts made available for one year.

The amounts that under the two-year plan can be effectively used are:

- a. \$100,000,000 for construction upon the primary roads of the Nation including necessary extensions into the municipalities.
- b. \$100,000,000 for grade crossing separations and the removal of highway hazards...
- c. \$50,000,000 for use on secondary or feeder roads....

In October, Frank T. Sheets, former Chief Highway Engineer of Illinois, voiced concerns that were typical of the time:

THE RATIONAL PLANNING BY A STATE OF A PUBLIC HIGHWAY PROGRAM

Rational planning is the salvation of the highway industry. Lack of it spells ruin. The alarming invasion of road funds evidenced in recent years, climaxed by the diversion of hundreds of millions of highway dollars to uses utterly foreign, and accompanied by the crippling of state highway departments and grave cessation of construction activity, can only be stopped by arousing public opinion to the fighting pitch of positive action.

As an aid to arousing public opinion, we must develop rational plans for the highway programs in the states, embracing equitable distribution of highway revenues and adequate treatment of all classes of thoroughfares-both rural and urban, and then we must sell the plans to the public. This accomplishment will so popularize the highway movement, that highway funds will be cheerfully raised, and an alert citizenship will safeguard them for their intended use.

The day of highway hysteria is over. The bubbling good roads booster, with his sentimental appeal, must be replaced by the highway economist armed with sound plans, fundamental facts regarding the dividend producing aspects of improved highways and convincing proof of the equity of proposed highway tax collection and distribution.

Inevitably the burden of leadership in this important work falls upon the state highway official. He can command the knowledge and facilities for sound highway planning based upon traffic studies, economic surveys and kindred data; he commands the attention of the individual citizen and organized civic groups; and he, more than any one else, can educate representative citizens and civic groups so that they in turn may sell the highway program to the public at large. Failure to measure up to this responsibility is unthinkable.

A state-wide traffic survey is almost indispensable as a guide to rational highway planning. It should develop complete information regarding the volume, character and distribution of traffic on city streets, primary or state, secondary or county trunk and tertiary or township highways.

The economic surveys recently conducted by the United States Bureau of Public Roads in Wisconsin, Michigan and Illinois are striking illustrations of this work. They have been carried out with a thoroughness which engenders confidence and commands respect. They are invaluable, not only to the people of those States, but to highway economists, engineers and administrators everywhere. They merit careful study and reveal the type of information which is essential to the development of rational highway programs. The Bureau cannot be too strongly commended for having instituted these surveys and for having developed the technique of performing the work. Although a veritable mass of information has been procured in them, such surveys are relatively inexpensive. The States should take advantage of the help which the Bureau can give on these basic studies.

At regular periods and seemingly about every 10 years, each State faces a new deal in highway affairs. Most States are now reaching a stage of highway development when clear thinking and rational planning are essential for a stabilized highway future. This situation must be met.

In accomplishing this aim the following steps will be helpful:

1. The making of traffic and economic surveys.
2. The creation by legislative authority of a broad gauged commission to study such surveys and to plan the future highway program.
3. The presentation of the findings and recommendations of this commission in a concisely written understandable report.
4. The selling of such recommendations to the public and to the legislature by means of news releases, pamphlet distribution, public meetings, etc.
5. The expression of the commission's recommendations in legislative bills.
6. The passage of the bills.
7. The translation of legislative enactments into highway accomplishment, accompanied by public confidence and popular approval.

After a long period of no recorded speeches, presumably attributable to the change of administrations, Mr. MacDonald presented the details of the radically new National Industrial Recovery Act in an article in the Engineering News Record in December of 1933. This is an excerpt:

FEDERAL DIRECTION OF PROGRAMMING AND ENGINEERING OF EMERGENCY ROAD WORK

1. \$3.3 billion was appropriated for all public works with \$400 million of that apportioned to the State highway departments.
2. Provision was made for the allotment of apportioned highway funds to the Federal-aid highway system, to municipal extensions and to secondary and feeder roads.
3. Employment features:
 - a. No convict labor.
 - b. 30-hour week.
 - c. A standard of living of decency and comfort.

- d. Preference to residents of the county or local subdivision where the projects are with priority to veterans with dependants.
- e. Maximum labor intensiveness in lieu of machinery.

Administrative rules issued by the Sec. of Agriculture:

1. One or more projects in 75% of all counties within the State.
2. 25% of the apportioned funds to go to extensions of the Federal-aid system in municipalities.
3. The highway departments were required to submit a list of the amount of money proposed for each of the 3 categories of roads and a list of the counties where the projects would be located.
4. Augmentation of engineering staffs was required in many cases, especially where cut backs had been made due to the Depression.
5. Money advances were made to the States where needed.
6. Authority was delegated to the field to approve advertising of projects.
7. Project advertising time reduced to two weeks.
8. Authority to approve P.S.&E. delegated from the Secretary of Agriculture to the Chief of BPR.
9. Plans for secondary roads prepared while work in progress.
10. Continuance of work throughout the winter insisted upon.
11. Hand labor wherever possible.
12. Minimum wage rates established for urban:
 - a. Skilled \$1.00, labor \$0.65, unskilled \$0.45 in Southern States.
 - b. \$1.10, 0.70, 0.45 in Central States
 - c. \$1.20, 0.75, 0.50 in Northern States
13. Wage rates in rural areas to be not more than 25% below urban.
14. To preserve the labor intensity of Federal funds, no participation in rights-of-way or PS&E.
15. Limitations were placed upon secondary road funds to prevent squandering on disconnected segments. No formal requirement for system designation, however.

\$400,000,000 FOR HIGHWAYS

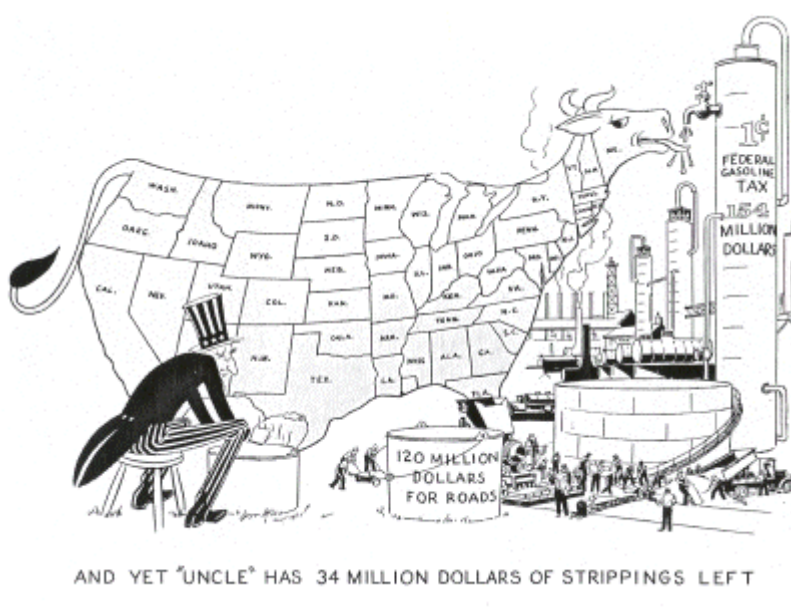


And No Back Seat Driver

The order of priority assigned to projects:

1. Closing of gaps in the Federal-aid highway system.
2. Landscaping of parkways and roadsides.
3. Supplementing of existing transportation facilities-rail, air, freight terminals, airports and emergency landing fields.
4. Elimination of hazards to highway traffic including grade crossing separations, widening of narrow bridges and roadways, building of foot paths, replacement of unsafe bridges, bypasses of congested areas and improvement of accessibility and the free flow of traffic.

A set of design standards for secondary roads was issued. The attached cartoon was published in the same issue of American Highways.



AND YET "UNCLE" HAS 34 MILLION DOLLARS OF STRIPPINGS LEFT

Note that this was not the regular Federal-aid program. The funds had no matching requirement and caused the highway departments to construct local and urban roads for the first time. Also note that a plan and program was required for the major roads before work could begin. The record shows that the \$3.3 billion program was well developed and on its way to passage when AASHTO officials persuaded the Congress to deliver \$400 million through BPR. Some of the rest of the \$3.3 billion also found its way into highways, delivered directly to municipalities, counties and other special entities. Some of it came under the supervision of the highway departments at the local level, most of it did not. There was a great deal of overlap and confusion. In January of 1934, MacDonald addressed the American Roadbuilders' in Chicago. He noted that there were many suggestions that the way to relieve unemployment was to build a transcontinental highway. He presented statistics to show that the program had already begun building the equivalent of three transcontinental highways from July 1933 to January of 1934. He described the emergency program and gave a progress report. He noted that urban projects were lagging because it was a new field and plans were not on the shelf and the designs were complicated. 132,000 additional jobs were on the payrolls in Nov. He noted that completion of the extant appropriations would end the Federal highway program unless further legislation was passed to provide for continuance.

The results of this program were devastating to the State highway departments. The 100% Federal share of funds accelerated the diversion of State highway-user revenues because, as the legislatures saw it, the highway departments had no need of State revenues since they had more Federal money than ever before and no need for matching.

Vast mileages of minor roads were transferred to State jurisdiction without any revenue to go with them because that's where the 100% Federal money was and tax revenues were drying up. The emphasis on labor intensive projects on minor roads completely inverted the economic efficiency ethic that had prevailed through the Golden Age. The main coast-to-coast routes suffered at the expense of minor projects. The funds, although they generated employment, did not provide nearly as much as if the regular Federal-aid 50-50 matching program had been in place.

It was these problems that led to the passage of the Hayden-Cartwright Act in 1934 which provided for a return to the regular program in 1936. The rampant diversion of State user revenues led to the section of the Act prohibiting diversion by the States. It also provided for the beginning of the 1 1/2% planning program to start the planning surveys that were believed to be the vehicle for public and legislative awareness of the highway program problems.

In December of 1934, MacDonald reported progress on the NIRA program in this excerpt from the Contractors and Engineers Monthly:

...employment under the appropriations of the National Industrial Recovery Act was responsible in 1934 for a considerable increase in the total employment...

The most striking trend indicated by the figures is the drop in employment on independent State construction. In this connection it is to be noted that the decline in State contribution to construction has been even greater than these employment figures would suggest, on account of the fact that in 1931 the States bore the expense of a considerable portion of the employment attributed to Federal and Federal-aid work whereas in the succeeding years they have contributed in progressively smaller percentage.

Drop in State Employment Must Be Halted

The transfer of State support from construction to maintenance work as Federal funds have been supplied to carry the construction cost is also one of the notable indications of this employment record. But the salient point is the evidence that the additional provision made for highways during the period by the Federal Government has been offset by withdrawal of support by the States.

It is important that these facts be generally understood at this time because the Federal Government has given notice in the Hayden-Cartwright Act of its intention hereafter to return to the Federal-aid plan of contribution to road work. That plan will substitute for the direct grants of the recent past, a shared expenditure, which will impose upon the States an equal obligation. The contemplated Federal contribution will be considerably less than those of the past year or two. Therefore, if a material reduction of the highway program is to be avoided it will be necessary that the States return to the work at least the measure of support they recently have withdrawn from it.

In the light of the figures presented in the employment tables, the wisdom of the provision of the Hayden-Cartwright Act that seeks to halt further diversion of motor vehicle revenues from road work is quite apparent.

The following is an excerpt of a milestone speech delivered to the AASHO Convention in November of 1934. Clearly, MacDonald was disturbed by the types of projects that were being built under PWA (The Public Works Administration). He was concerned about diversion of highway-user revenues to other purposes and control of such funds being taken away from the State highway departments. He was concerned about paying for non-revenue producing projects with highway user revenues. He was not as concerned about financing losers in urban areas as rural because the high urban traffic volumes would support economic winners. I believe that this speech was the kick-off of the statewide planning process in a systematic and continuing way:

To a group wearied by the constant drive and tension of the past year, the idea of continued pressure cannot be welcome, but much less welcome is the alternative that other agencies far less qualified to carry the load effectively, shall supplant the State and Federal highway organizations, until at least their whole strength has been exhausted.

Appreciation of the efforts made is carried in the report of the Executive Secretary of the Executive Council to the President under date of August 25 in the following words: "In the Federal classification, public roads have been outstanding in speed, accounting for half of the Federal expenditures but only a third of the Federal allotment."

He noted that the 30 hour week required by law amounted to 24 hours in highway work because of weather, etc. It should be changed to 40 to approximate 30.

PLANNING FUTURE PROGRAMS

For nearly two decades the concentration of effort toward the improvement of the limited network of main roads represented by the Federal aid and State systems has been the central pillar of our highway policy. This policy has been based upon the principle of "the greatest service to the greatest number", and to the sustaining of this fundamental tenet every sound-thinking lawmaker, highway executive and engineer has given his wholehearted and unselfish effort. Occasionally there are attacks upon this policy, usually traceable to some specific self-interest which seeks a benefit, which would in the end prove temporary, by departing from this plan of improvement of traffic routes in the priority fixed by their potential relative service.

He cited in detailed statistics from a cooperative statewide transport study just finished in Indiana to prove his points:

The great group of generally lesser roads that constitute 89 per cent of the total mileage and serve less than 34 per cent of the total traffic, have an average traffic of only 51 vehicles per day and earn in taxes paid by their traffic only \$70 per year to offset an average annual maintenance expense of \$187...the question that remains for future determination is whether, to what extent, and precisely where, further improvement will produce the greatest return.

The example made possible by the very excellent Indiana study is typical of the conditions existing in the great majority of our States; and it affords a complete answer to selfish uninformed criticism of highway policies.

The course we have been following (under the National Industrial Recovery Act) has been fairly clear. The choice of the most important roads has been rather obvious. What we have been doing is what the President calls "doing first things first". That we have done it rather well the generally appreciated usefulness of the Federal aid and State highway systems testifies without the factual aid of the many traffic surveys.

We now approach more difficult decisions. As each additional mile of highway is improved, the choice of succeeding mileage for improvement becomes progressively a matter of narrower and narrower margins. And the future extensions of improvement will be in a class of roads on which there can be expected no such growth of traffic following the improvement as we have experienced on the roads with which we have hitherto been dealing. All the facts at our disposal indicate that the further extensions of improvement must enter the class of land service roads, as distinguished from the general-use highways with which, as State and Federal officials, we have been primarily concerned in the past. And, since no amount of improvement will convert a typical land-service road into a road of general use, the only traffic increase to be expected is that which may result from the development of a denser population or more active industry on the land immediately served. No great waves of new traffic will come flooding to these roads, such as we have in the past experienced on the main roads. So there will generally be no counting upon future traffic growth to justify any serious mistakes of over-development that may now be made.

These things are emphasized not to discourage the further extension of improved mileage, but simply to stress the high importance of informed and intelligent planning of the work to be done. We must continue the work we have begun in the secondary and feeder road field. It will be justified not entirely on grounds of direct service furnished to the immediate users of the roads, but on the grounds of general social and economic necessity, and it will have to be tied in closely with general social and economic trends, some of which are even now forming.

The task involved is one for which there are no agencies, other than those represented in this Association, that are fitted. It is one that should be accepted with the determination to carry it through from the beginning in strict accordance with economic and social principles.

As a first step it seems to me there is need in every State of a traffic survey directed to the discovery of the roads additional to those already constructed, improvement of which may be justified on reasonable grounds of economy or social usefulness. If authority to undertake such studies does not at present reside in any of the State highway departments, such authority should be sought at the coming legislative sessions.

For such planning purposes, as you know, the last Federal Act makes available up to 1 1/2 per cent of the funds apportioned to the States; and there is no better use to which such sums can be put in the present stage of highway development.

At recent sessions of the State legislatures there was a decided tendency toward the enactment of laws transferring to the control of the State highway department all or large parts of the mileage of roads remaining under the authority of local officials. Under the pressure of a temporary necessity to find ways of relieving heavily taxed property holders, there is a tendency to couple with the administrative transfer a shifting of the entire burden of financing the local road work to the shoulders of the users of roads, whose tax payments are at the same time diverted in part from road users to others having no relation to the highways.

Of the advantages of the administrative change there can be little question; but in the taxing provisions that may at this time be attached to it, there are, to my view, grave possibilities of injury to the future of the highways. No student of highway economics can fail to recognize that the principal benefit of the great bulk of the local road mileage is to the land to which it gives access. No one with knowledge of the small amount of travel on most of these roads can believe that their improvement can be supported by taxes on road users exclusively; and the attempt to do so can, in the long run, lead to only one of two results or a combination of both; either the killing of the hope for a desirable measure of local road improvement or the depreciation of the investment already made in the main roads.

By and large, the action of our legislatures is consistent with what is understood to be in the public interest. In respect to the highway program of the future, they will respond properly to facts presented for their guidance. The trouble is that they are beset on all sides by selfish and misguided counsel, and there is on the side of truth and real wisdom a lack of effective advocacy and marshalling of facts.

It is for the purpose of supplying such facts that the making of traffic surveys of the type suggested is indispensable. The counsel of the State highway

departments in their respective States ought to be directed toward the deferring of far reaching legislative action with respect to local road administration and finance until the essential facts can be thus obtained.

There is, however, another matter of equal importance, that may perhaps be presented in fewer words. This is the urgently needed improvement of main routes in and near cities, and the refinement of other heavily traveled highways needed for the promotion of safety.

When, a few short years ago, we began the systematic improvement of the main rural roads, the portions of our whole street and highway network that were most adequately improved were the city streets and the adjoining rural highways. We have now progressed in the rural road work to the point where it may be said that a reasonably satisfactory condition exists on the long rural stretches of most of the State highways. Meanwhile, however, traffic has grown, in and near the cities, to such proportions that the once relatively adequate facilities there provided have become generally the least efficient sections of the entire system. On the rural roads improved in the earlier years, when the speed and density of traffic permitted lower standards of road design than can be justified today, there are also curves and other features that must be revised to adapt the improvements to modern requirements. As their early improvement would suggest, many of these roads are today the most heavily traveled of the rural thoroughfares.

The expeditious modernization of these municipal and main highway facilities with the reasonable extension of the secondary road improvement are the two most useful employments to which we can devote our energies and our resources in the years immediately ahead.

Unlike the secondary road improvements there can be no question, in regard to these other needs (urban and main line rural upgrades), as to either their direct benefit to the traffic or the ability of the traffic to pay the cost. Also, unlike the secondary road improvements, the problems they present are not dissimilar to those that have long been the every day concern of many, if not most, of the State highway departments. In respect to this class of improvements, the safety of human life is as strong an impelling factor as economy of service in the narrow sense, and they center in large part in the financially hard pressed municipalities. In many cases they must be indefinitely postponed unless revenues other than those previously available are devoted to them.

It is our obligation as well as our opportunity, out of national adversity to secure finer and more permanent highway facilities as our contribution to national progress.

Clearly, he could see the urban and secondary programs coming and was worried about being prepared for them.

During these years, the movement advocating the building of "Superhighways" flourished. The building of roads through the State highway departments simply did not create the perception that the Federal government was doing all it could to relieve unemployment. FDR himself was a convert as indicated by the news articles at the beginning of this article which began to appear in 1934-1935. It is fairly clear that the Interior Department was seen as the Federal agency to take the lead in such a national superhighway program.

The relief program was still going strong in 1935 as indicated by this article by MacDonald in the Sunday edition of the New York Times in August:

Of the \$600,000,000 provided by the two acts (The National Industrial Recovery Act and the Hayden-Cartwright Act) only \$33,256,885 remained available for new projects on June 30, 1935.

Augmenting the public works highway funds for the coming year, an additional allotment of \$400,000,000 from the \$4,000,000,000 provided by Congress for work relief has been apportioned to the State highway departments. The total allotment is divided into two parts of \$200,000,000 each, one part to be used for highway construction and the other for elimination of hazards at railroad grade crossings...other highway funds will be allotted directly to the States by the Works Progress Administration.

The traveler by highway may yet see highway developments that will be conceived on an interstate or a national basis. Such development is indicated along intercity roads where population density and traffic point to the necessity of a moderate program of new highways or parkways caring for recreational travel of a character now denied to the traveler upon our most heavily traveled roads. In some cases, as with the Shenandoah Parkway of the Blue Ridge Mountains, a new climate greets many travelers coming from sections where they have sweltered in summer heat.

We know, however, that when the program is completed changing conditions and the greater highway travel of prosperous times will still require a national effort to keep abreast of traffic demands. This fact was recognized by Congress in the resumption of Federal aid to highways in 1936 following a plan similar to that used in former years, improved and broadened in several essential features to provide for new conditions. With the coming of continuing and large-scale business activity the highways will be in a position better to carry their share of the activity than they were several years ago when business decreased so sharply in volume and the enlarged work relief highway program was begun.

MacDonald frequently made mention of the necessity for the regular Federal-aid program to develop into the cities and to the rural secondary roads as in this article by him in the Michigan Roads and Construction Magazine in September of 1935:

The problems to be solved by State and Federal highway administrators have taken on much broader aspects within the last few years. Formerly attention was centered almost entirely on the rural sections of the State and Federal-aid systems. No other course was practicable and we have no regrets over a policy that provided the greatest benefits to the largest number of people in the shortest possible time.

We have reached a point in our development where we can no longer ignore the needs of traffic flowing from the main highways into and through cities and from feeder roads to the main highways. At the same time we must continue improvement of the main rural highways to bring them up to a standard consistent with traffic needs.

However, we cannot continue our planning on the basis of the inadequate knowledge that is now available. A thorough inventory of our road system with regard to its present conditions of improvement and detailed knowledge concerning the kind and volume of traffic over it is needed. The amount and the cost of needed improvement of each class can be determined only with such information. When these facts are known we will be in a position to determine

what the total program should be and to give proper proportion to its various parts.

The bureau is now planning surveys in cooperation with the various States to obtain information to serve this purpose.

The increasing rate of deterioration of the highway system in spite of the huge sums pumped in by the Federal government for relief purposes was documented by MacDonald in a speech to the North Atlantic States of AASHO early in 1936 excerpted as follows:

There can be only one honest conclusion drawn from these facts which are neither guesses nor estimates but are the summaries of the official records painstakingly gathered. The trend is markedly to divert the special road user taxes from the State highway departments and at the same time to add mileages beyond their ability properly to improve and maintain.

The dishonest answer is that we have enough roads and can take a road building holiday. This in the face of the fact that the average annual special taxes 1932-1934 were in excess of one billion dollars, paid by the road users with the sole justification that these special taxes are levied and collected for the maintenance and extension of highway services and facilities.

In all seriousness, I record the fact that because of the public pressure for a rapid increase in the mileage of surfaced roads, the highway officials have been forced to spread the funds so thin that a very large part of the capital invested is now in jeopardy. Here are the facts. The so-called stage or progressive method of road construction was, and is, sound, if its processes are carried into operations properly timed. Low cost surfaces must be strengthened and reconstructed within their reasonable life; otherwise their annual maintenance mounts to excessive costs while their salvage value is rapidly lost.

The State and Federal highway departments in adopting the policies to the extent they have, understood the underlying economics and proceeded in the faith that the increased earnings from the roads thus improved would prove a profitable investment and that they would be permitted to follow the logical course of using the increased income to strengthen and raise the low cost types to standards that can be economically maintained, but the earnings are being diverted and new mileages to be improved are being added.

To make the picture more definite, here is a statement of the conservative reconstruction needs of the highways only under the jurisdiction of the State highway departments.

He presented needs estimates by type of facilities stretching as far as 40 years into the future.

There can, however, be no disagreement with the general conclusion that the annual construction and maintenance program that the State highway departments must carry on without the addition of a single new mile, is greater than for the pre-depression period 1925-1929... These are the requirements due to normal depreciation only. The factor of obsolescence, due primarily to increased volume and speed of traffic, will add another large increment of multiple-lane roadways, railway and highway grade crossing eliminations, and miles of realignment. The element of uniform safeness must be given major weight.

To this picture of the immediate and future requirements of the State highway department for annual support funds, must yet be added a like analysis of the needed development of local roads. Where these two are brought together, the magnitude of the unsoundness of diversion of the road user funds from the highways should be apparent to any one who can be convinced by facts.

No one realizes more fully than I, the utter futility of expecting a generalized statement for the nation as a whole to carry conviction to the public and the officials of a State. It is for this reason that the Bureau of Public Roads is vigorously urging upon each State highway department the complete survey of highway status, finances, and needs. Only in this way can the State highway department hope to save the rapidly developing adverse situation. This is their responsibility for highway progress. When a complete report is made, then the responsibility for action rests upon the Governor, the legislature and the public at large.

The policies of private industry are determined usually by a few individuals entirely familiar with the details of the business, many of whom have spent a lifetime in the service. In the conduct of this great industry of road improvement, the highway officials are dependent upon the action of State and national law making bodies. There is a single fact which ought to be kept before every member of these bodies. For the past three years the average cost to the average motorist for every special tax which he has paid is under \$43 per year. This includes State and Federal special taxes and licenses, and even Federal excise taxes on the manufacture of motor vehicles. This job of providing road service cannot be done for any less cost and more likely it will increase.

Political campaigns are being made in certain States to reduce motor vehicle license fees. There are earnest efforts being made by industry to lower or remove excise and gasoline taxes. In the face of the needs for support funds, these are moves that are not in the interest of the public or eventually in the interest of those who favor the reductions. There is the further fact that under the Federal law a reduction below the amounts used for highway purposes from these special taxes in 1935 will result in a loss up to one-third of the Federal aid funds to any State where a reduction occurs. The fight of those who are interested in the future of highway progress must be against diversion, not against reduction.

The Depression held on stubbornly. The records show that, despite the long list of initiatives tried by the Roosevelt Administration, the unemployment rate never went below 17% until 1939 when the beginnings of World War II began to stimulate the economy.

In the summer of 1936, MacDonald toured Europe examining highway planning, construction, and administration. He had visited England eight years earlier and had visited a new highway just outside London. On this trip, he found that same highway congested due to development that had grown up along it. He drew some conclusions as he addressed the American Automobile Association (AAA) on his return:

That illustrates to me the fallacy of by-pass policies we are pursuing here. We can depend upon the utility with decreasing efficiency of a by-pass road for perhaps five years. Then we will have more traffic on the by-pass, and more congestion of new industrial establishments and other occupations of the land than upon the main streets that we are designing to by-pass completely. So we must take a leaf from that book of experience and, if we are to have efficient by-passes, build them much different than England built hers, or than we are building ours. As soon as we provide more adequate highway facilities

contiguous to a large population, we assure development of the land along the highway, and we must perfect the design of a through road by adding service roads alongside that give access to the through road only at intervals. I believe this is sound.

In Germany, the Autobahnen really got his attention:

Germany stands out among all the countries of Europe in magnificent conception of a national system of major highways. This development contemplates a system of approximately 4500 miles, of which upwards of 1,000 miles have been actually constructed. Roughly, the system contemplates three routes, north and south, and the same number east and west across the nation. This description is only approximate since the routes composing the system are designed to connect the population centers and carry traffic continuously between the borders of the nation. The construction consists essentially of two lines of roadway each approximately 30 feet in width and entirely separated from each other by a center grass strip. These roads are known as the "Reichsautobahnen" or National Auto Roads. No cross traffic of any character is permitted. The ordinary roads are generally carried over the "Autobahn" and separations are effected at points on intersection with railroads as best fit the design standards. No provision is made for foot traffic and no bicycle or pedestrian traffic is permitted upon these auto highways. They are designed for high speed and exclusively for the use of the motor vehicle. Here again the same principles are used in the design conceived by Germany for this system of ultra-modern through highways of providing ample width of roadways with opposing traffic separated by an unpaved strip and no cross traffic at grade to interfere with the continuous flow. The highways which have been completed are wonderful examples of the best modern road building. The road from Munich to Salzburg in Austria is one of the most delightful drives of the world.

In by-passing the cities and staying out of the towns and villages, something is lost. Those who wish to see and understand the people of the country, lose this opportunity. On the other hand, if the ordinary traffic of commerce and the intercity movement are carried on these highways, this will relieve the other roads of much of the traffic burden and make them more comfortable for touring. In general, the existing roads, particularly in the vicinity of the larger cities are not comfortable for the tourist because of the large amount of mixed traffic including everything from large motor truck trains down to ox-carts, bicyclists and pedestrians.

When he addressed AASHO in December 1936, he had more to say:

Since conditions are so dissimilar, what relationships are there, then, which we can take as warning or which we can emulate?

The most important is that we must grasp this highway problem in this country more firmly. We must raise our standards to the new levels demanded by the universal utility of the motor vehicle. Two distinct programs are indicated. First, the systematic rehabilitation of existing highways by the actual incorporation of new construction to promote safety and greater utility...The second program is the long-time plan which will be based upon the principles illustrated by these examples from other countries, and by wide experience in our own country. The highway transport surveys now under way are basic...If the program of the next five to ten years is to provide the public with highway service that is not now even approached in any State, it must rest on this transport survey foundation. The

underlying soundness of planning a belt line intercepting highway plus radial roads on new right of ways to serve the metropolitan areas, and introducing the new feature of providing this complete service only for the passenger motor vehicle, is supported by the traffic studies heretofore made. These studies indicate the overwhelming preponderance of passenger motor vehicle movements in the metropolitan area, particularly on week-ends and holidays. To provide free flow highways leading from the cities well into the country, and to permit the distribution of vehicles on these radial highways, from and to their own quadrants in the city over one or more belt line highways, will add immeasurably to the potential utility of the motor vehicle to the urban dweller, and such development will be supported by this increased use.

This conception goes further, however, and recognizes that the trend of the world is toward a greater recognition of social values. The motor car is one of the instruments from which we are not securing the potential social services in the nightmare of congested streets or highways at times of peak traffic...These radial roads will be reserved for automobile traffic. There is need in some limited sections of the country for the extension of such roads until they connect with those radiating from other large centers of population to form continuous routes wholly disconnected from our present system of highways. To the extent that other traffic, such as pedestrians or bicycles, may use such routes, separate ways must be provided. But the design must go a step further than does the design of the German, the French or of our own roads, and provide for the complete separation of local from through travel by parallel service roads. The exclusion of local travel, as on the German roads, is unthinkable. In fact, the exploding of the cities by the development of small acreages for homes is dependent upon the rehabilitation and for the long term plan, we must accept as an essential the separation of grades at major highway intersections. This is one of the most important factors in stepping up the safe utility of our existing highways.

In a symposium sponsored by the American Society of Civil Engineers in July of 1937, he had more to say on the subject:

SUPERHIGHWAYS

There is more or less discussion in which the term "super-highways" is used without any adequate definition of what is intended by this term. Perhaps, it is more frequently used in connection with a very limited number of transcontinental highways designed for high speed and with multiple-lane roadways to carry traffic from coast to coast.

The German system of super-highways embodies this idea. In that country a system of about 4,500 miles of highways (which gives approximately three lines across the nation in each direction) is constructed on entirely new, wide rights of way without access from abutting lands, except at infrequent intervals. This travel section is composed of two roadways about 30 feet wide, separated by a parking (median). Both the horizontal and the vertical alignments are exceptionally good. All cross-traffic is directed over or under these highways. No detail that comes within the purview of highway engineering that will make a safer or more efficient highway has been omitted. The most advanced highway design techniques has been embodied in this development. The economic utilization is not so clear.

In the United States there is need for a considerable mileage of highways having similar characteristics, but the disposition of this mileage, to be most efficient,

must be planned on the basis of the careful studies now going forward. The system of German roads is being built in advance of, and to promote the development of, highway transport. In the United States the situation is just the reverse. Highway builders are proceeding on the principle that the utilization of the highways must produce directly the revenues with which to finance their construction. As long as the United States adheres to this method of financing, the building of super-highways must be limited to areas where the present and prospective traffic will justify it. As a trend of highway development, it is apparent, from the important beginnings already made, that a considerable mileage of motor super-highways will be developed, that their location will be carefully integrated with the population centers, and that the layout will not be on the transcontinental basis.

From the development abroad and in the United States, one can conclude that super-highways will be created, but only in the vicinity of metropolitan areas and for connecting those that are separated by relatively short distances. The first function has already been served to a considerable extent by parkways. It is logical that there will be further developments of the type of the Blue Ridge Parkway designed to connect the Shenandoah and the Great Smokey Mountain National Parks. The development of such parkways recognizes the large use of motor vehicles for recreational purposes.

MacDonald surely envisioned the coming of limited access highways but only where demand could support them and not a nationwide system.

In setting the background for the Interstate System, there was yet another activity going on in the thirties that needs to be documented because it had a significant effect on the ultimate establishment of the Interstate System. It is what I believe to be the beginning of formalized city planning at the National level. City planning is an old profession and one can find cases where roads and streets were used as elements of a city plan and, more specifically, as tools to implement a plan. But I know of no instances where city planning became a national issue and an instrument of policy until the Roosevelt administration.

It began with the report "Our cities" in 1937:

OUR CITIES

THEIR ROLE IN THE NATIONAL ECONOMY

This is a report to President Roosevelt by the Urbanism Committee, a subgroup of the National Resources Planning Committee, the forerunner of the National Resources Planning Board. The parent committee was composed of Harold L. Ickes, Secretary of the Interior and Chairman; Harry H. Woodring, Secretary of War; Henry A. Wallace, Secretary of Agriculture; Daniel C. Roper, Secretary of Commerce; Francis Perkins, Secretary of Labor; Harry L. Hopkins, Works Progress Administrator; Frederic A. Delano, relative of FDR; Beardsly Ruml, originator of income tax withholding; and others.

"In previous reports of the National Resources Committee, much attention has been given to the problems of rural America. The report of the Urbanism Committee is the first major national study of cities in the United States where over half of our people live and where a large proportion of the Nation's wealth and the Nation's problems are concentrated."

The study was undertaken at the request of the U. S. Conference of Mayors, the American Municipal Association, the American Planning and Civic Association, and the American Society of Planning Officials.

In reviewing this report, several questions came to my mind:

1. Is this the beginning of the Federal preoccupation with direct aid to the cities?; 2. Was this the beginnings of the formal establishment of the role of professional planners in urban transportation planning?; 3. Was this the beginnings of the Urban Highway Program?; and 4. Was it the roots of the 3C Planning Process that became a statutory requirement in 1962?

REVIEW OF OUR CITIES

The Foreword lists four national trends that produced unplanned and unexpected changes in the patterns of national life:

1. The rapid shift of population from rural to urban. They were using 1930 census data, and by that time, the population was about half urban.
2. An unprecedented mobility, giving rise to metropolitan districts rather than distinct cities.
3. A concentration of enterprise in urban areas.
4. Urban areas had doubled and the populations had trebled since 1890 (40 years), requiring institutions and instruments of social change in order "...to keep the seething millions from trampling one another down in the workaday urban world."

Fourteen emerging problems were identified:

1. "The most drastic inequalities of income and wealth are found in the urban community."
2. "...the lack of articulation among the various industries within our urban communities."
(This apparently means no governmental control over economic decisions.)
3. "Rapid obsolescence of physical plan and plant..."(This refers to everything, including housing stock.)
4. "Competing forms of transportation have left their disrupting imprint on the national urban pattern. Located originally on natural waterways, American cities found their sister towns rising up during the canal era on new water routes. With the coming of the railroads these canal cities met in their turn, a similarly disastrous fate. Then came competing railroads, and the cities again began to rival one another with excessive subsidies and cut throat competition for rate reduction. Nor have we yet reached the end of this process. The motor truck and the passenger bus have long since entered the field of competition, and now the airplane begins to affect the national distribution of our urban centers and even the local pattern of our cities."
5. "The unparalleled growth of cities has been accompanied by uncontrolled subdivision and speculative practices and by the most fantastic real estate booms which have meant dramatic profits to a few, but tragic personal losses to others and burdensome delinquent properties to the community; and this on a scale affecting the economic situation of the entire Nation..."
6. "Urban housing is one of the most burdensome problems the country now has to face and it calls for the Nation's most serious consideration..."
7. "Urban public health is endangered particularly in blighted areas and among low income groups..."
8. "The city with its diversity of ethnic, religious, and cultural strains is the haven par excellence of many widely varying types of personalities...how to weave these vivid and variegated cultures into a positive civic program of intercommunication and cooperation is one of the challenging problems of the coming decades."
9. "While free primary and secondary education is now widely available in urban areas, city youths in all too many cases are still barred from higher educational opportunities they might well utilize because they must all too frequently supplement the family income by going to work..."
10. "Juvenile delinquency, organized crime, and commercial rackets are among the vexations of the city..."
11. "Urban finance is another emerging problem...our larger cities...have larger budgets than the states that contain them...The problem of municipal finance is becoming even more complicated with the extension of Federal and State taxation to support the newer functions of government such as social security and extensive public works."
12. "Another of the city's wealthiest tasks is the adjustment of the traditional scope of urban powers...the American city is still the legal creature of higher authorities (States). The city is in many ways the ward of a guardian who refuses to function."

13. "Our overlapping medley of independent governmental units was intended for a rural and a manorial society...Twenty two of our 96 metropolitan districts containing...one fifth of all our inhabitants straddle state lines..."
14. "...we are still faced in some of our cities with systematic evasion of civil service laws, irresponsible political leadership, and official tolerance of discriminatory or questionable administrative practices."

"All in all there has been more widespread national neglect of our cities than any other major segment of our national existence...America must now set out to overcome the continual and cumulative disregard of urban policies and administration and to take into account the place of the urban community in the national economy."

RECOMMENDATIONS

1. "...the United States both study and act upon the problems of chronically depressed urban areas...until the fundamental issue of adequate and secure income is met."
2. "The Federal Government should continue its policy of cooperation with and assistance to the social-welfare programs of urban communities...the Committee recommends the equalization between country and city of as many material and cultural opportunities as possible."
3. "A section for urban research should be set up in a Federal Agency...A clearing house of urban information should be set up in the Bureau of the Census...A...study should ...be undertaken...by BOB (the Bureau of the Budget)...to bring about closer coordination of Federal activities in urban communities."
4. "...creation of a Federal agency to make loans and grants to local governments for ...public works, housing, public utilities, land purchases and similar outlays."
5. "...establish a ...Federal public works Authority...responsible for...a specific and detailed nation-wide program of public works, and for the encouragement and cooperation in public works planning, between national, State, and local agencies."
6. "The Federal and State Governments should extend...financial assistance...for rehousing the low-income groups...to the end that the urban slum may be outlawed."
7. "A permanent national planning board should: (a) extend encouragement, cooperation, and support to State, regional, and local planning agencies; (b)...systematize, and improve the long range programming of public works in cooperation with State, regional and local planning agencies; (c)...lend encouragement and cooperation to industrial communities...to review systematically and plan constructively...industrial structure; (d) to prepare, in collaboration with State planning boards and appropriate Federal agencies, the broad general plan of a coordinated transportation system directed toward an economically more effective and socially more desirable urban pattern and distribution of economic activities; (e) "To make further inquiry into the probable effect on urbanization of the wider distribution of electric power." (apparently there was some belief that the provision of electric power to rural America might slow down urbanization.)
8. "...inquiry...of the entire subject of conflicting fiscal policies and taxation in local, State, and Federal Governments."
9. "The Congress should...give advance consent to ...interstate compacts enabling the several communities within the same metropolitan region, but in separate States to deal jointly with the regional aspects of health, sanitation, industrial-waste regulation, the control of public utilities, planning, public safety and welfare, education, recreation, and other governmental functions of regional scope."
10. "The Federal Government should cooperate in programs directed toward crime prevention."
11. (a) "States and urban communities availing themselves of Federal grants-in-aid should be expected...to conform to minimum personnel standards under the merit system... (b) The Federal Government should extend...efforts in vocational training for public service occupations. (c) The United States Civil Service Commission should furnish eligible lists

to local authorities...and prepare model personnel standards...with a view to encourage exchange of personnel among...levels of government."

The following is a quote from the body of the report:

The principal problem at present is how to control and manipulate the existing transportation network either to preserve or to reshape the existing national urban pattern and the urban community or region. Instead of utilizing the transport system and the rate structure to influence the flow of goods and people, and the distribution of economic activity and urbanization according to some previously conceived national plan of development, we have permitted our transport facilities and rate structure to accentuate existing advantages and disadvantages. A new policy must be adopted, designed to make our transport system and rate structure a flexible tool instead of a rigid cast for future urban development.

OBSERVATIONS

1. This study does indeed seem to be an early, if not the earliest, comprehensive review of the urban problem.
2. There was a very strong belief that planning in and of itself could solve the urban problems.
3. The heavy role of the national planning societies in the study is interesting.
4. It is clear that the belief was that the States were unresponsive to the urban areas and the urban problems, and, therefore, it was up to the Federal Government to provide resources and to direct the efforts.
5. It is surprising the degree to which they felt that transportation was the lever to shape the future of urban areas.
6. The degree to which they felt that professionals and professionalism were required to do the job is fascinating.
7. The degree of advocacy of governmental intervention into such a wide variety of social, economic and physical functions is surprising.
8. This is perhaps the beginning of the wave of "urban planning fever" that swept the country in the late fifties and sixties.

Shortly after this report was published, a Federal urban renewal program was established. In September of 1937, MacDonald addressed the 23rd annual meeting of AASHO:

WHAT IS EXPECTED OF OUR HIGHWAYS

The speech was about the dilemma that the highway departments were in because of diversion, transfer of huge mileages of secondary roads to State supervision, the use of the highway program for other goals than traffic (unemployment for instance) and the many proposals floating around (like superhighways). His main theme was that only the careful analysis of the facts gathered in the Planning Surveys would lead to rational solutions that could then be sold to the legislatures and the public. He noted that the data gathering was about complete and that analysis was about to begin. It is interesting that at this time, the Planning Survey was regarded as a one shot deal just as the original highway program was considered to be a program that would be "completed" just as "completion" has been the goal of the Interstate.

ROOSEVELT'S ATTEMPT TO ELIMINATE CONTRACT AUTHORITY AND TO CUT BACK THE PROGRAM

In 1937, President Roosevelt wanted to cancel the 1939 highway authorizations because he felt that the States had received so much PWA money that the authorization was not needed. In the same message to Congress, he asked for repeal of contract authority in the highway program. He said he found the process of committing the Federal government to contracts before consideration of the source of funds to pay for them as fiscally irresponsible and incredible.

In December of 1938, Representative Wilburn Cartwright, Chairman of the Committee on Roads in the House, addressed the AASHO annual meeting:

In November of 1937, President Roosevelt called for a reduction in Federal highway spending and change in authorization and appropriations procedure. The special session of Congress last year failed to act on the President's request for cancellation of 1939 authorizations...

As required by the Hayden-Cartwright Act of 1936, on December 31 last, Secretary Wallace apportioned to the States the money authorized for 1939 Federal aid, totalling \$195, 000,000. However, at the direction of the President, he sent a letter to the Governor of each State requesting that no projects involving 1939 funds be submitted until Congress had had time to consider further the President's request for cancellation of the authorizations.

The President based the Federal budget for the 1939 fiscal year on the assumption that Congress would comply with his recommendations for cancellation and reduction.

On January 6 of this year, I took the bull by the horns and introduced a bill, H.R. 8838, to provide for continuation of Federal highway aid without any reductions through the fiscal years 1940 and 1941.

Soon after the record of the hearings was printed the Committee reported out the bill with the recommendation that "do pass". It did pass, by a unanimous vote and without important amendment in the House, but with some reductions in the Senate. The principles of the legislation, however, were kept intact, and a total of \$357,500,000 of Federal funds was authorized for roads for the fiscal years 1940 and 1941. This was an important victory for roads!

SUPER HIGHWAYS

The outlawing of highway enemy No. 1 (Diversion in the 1934 Act) means that additional thousands of dollars will be reserved for use in the construction and improvement of roads. It means that when super-highway legislation comes up in the next Congress we will be better able to find ways and means to finance the construction of modern roads in the places where volume of traffic and high accident rates make such a step imperative.

During the past several Congresses bills have been introduced to provide a system of super-highways for the United States. Super-highways in this country have been looked upon by most people as a beautiful dream that would not come true for many years. The House Committee on Roads has looked more to building our primary highways and getting the farmers out of the mud before launching on such an ambitious scheme. Personally I have been and am for super-highways as soon as we are ready. The House Committee has had hearings and printed reports of testimony pro and con for distribution.

In the Hayden Cartwright Act (1938) passed this year we provided: "The chief of the Bureau of Public Roads is hereby directed to investigate and make a report of his findings and recommend to the Congress not later than February 1, 1939, with respect to the feasibility of building, and cost of, super-highways not exceeding three in number, running in a general direction from the eastern to the western portion of the United States, and not exceeding three in number, running

in a general direction from the northern to the southern portion of the United States, including the feasibility of a toll system on such roads."

This subject will be up in the next Congress and some definite action will probably be taken.

I was in Germany this summer and when I think of super-highways, I think of Germany, for, regardless of what we think of him as a man, we must give Fuehrer Hitler credit for building a system of super-highways in his country which are second to none in the world today. It is undoubtedly true that the construction of these highways was prompted by the same motives which are behind Germany's huge expenditures for armament and for the building up of her army to the limit of her manpower. The super-highways will become very important assets to that nation in the event of another war in Europe. In the meantime, however, they are providing the German people with innumerable peacetime commercial, industrial, social and cultural benefits.

I think that the United States should have a highway system second to none. Our highway engineers such as Thomas H. MacDonald and Charles M. Upham have long served as teachers to road builders in other parts of the world. The safety features which are built into the German super-highways are, in fact, those which have long been recommended by American engineers. The world's best and most efficient road-building machinery and materials are manufactured in the United States. Our financial structure is certainly superior. It is, therefore, not an idle boast for us to say that we can do better anything that Germany can do well.

However, I do not advocate that we start immediately to construct a super-highway system like that in Germany. It would take many years to build a complete system which would link the entire country and cost billions but we can begin now to design and lay out this system and to construct super-highways in those areas where traffic is heavy and congested. In this way we will be able to attain, in the next decade or so, the beginnings of a system of highways and super-highways which will be adequate for the needs of our country.

I think I should emphasize at this point that the Roosevelt administration was not a strong advocate of the Federal-aid highway program, but it was a strong booster for national super-highways and for new programs to help the cities. Its support of super-highways is illustrated by the following presentation to AASHO by S.W. Marshall, the chief engineer of the Pennsylvania Turnpike:

THE PENNSYLVANIA TURNPIKE

Some 50 years ago, as the outcome of a railroad builders' war between the Vanderbilt interests in New York State and the Pennsylvania Railroad in Pennsylvania, the South Penn Railroad was organized and financed, the major part being by Mr. Andrew Carnegie and William Vanderbilt. They actively surveyed the line, they laid (this must mean surveyed) about 5,000 miles of it, and eventually determined upon a route of about 220 miles from Harrisburg to Pittsburgh.

They started work on the construction of this road. They built embankments, they did a great deal of the drainage work, and they started work on eight tunnels. Suddenly the work was abandoned. The railroad war was called off, and the work that had been done for old South Penn Railroad lay dormant for 50 years.

In 1935, the Pennsylvania Legislature authorized a WPA project, a more or less white-collar project, to resurvey this line and determine and prepare a report as to the advisability of using it as a high-speed highway. During 1935 and 1936 and the early part of 1937, this work went on, and a report was presented to the 1937 session of the Pennsylvania Legislature. That was of such importance that the Legislature considered it thoroughly and enacted an Act creating Pennsylvania Turnpike Commission. The Act became effective in May, 1937, and on June 4, the Governor appointed the first Pennsylvania Turnpike Commission.

A line generally was determined upon, the type of construction, the work in the several tunnels, the highway work was generally worked out and planned by the Pennsylvania Department of Highways in the latter half of 1937 and in the early part of 1938. The...Commission...attempted to finance an entirely new project, namely a superhighway to be paid for from revenues paid by the users of that road as the rode back and forth upon it.

There was nothing like it in the United States. And private financiers raised one eyebrow when the proposition was presented to them. However, a syndicate was formed who agreed to take the bond, but through a legal technicality found that they could not do so.

The Commission then turned to the Federal Government, and after a great many conferences, we received the approval of a 45 per cent grant of the cost of the project from PWA, and the Reconstruction Finance Corporation agreed to underwrite the remaining 55 per cent in the way of bonds. The Commission...suddenly found themselves in funds in the amount of \$61,000,000. That was on the 10th of August, 1938...

I drove this highway early in 1943 while in military service. It was a beautiful spring day and the sun was shining brilliantly. I felt that I had just entered a different world, like Dorothy in the Wizard of Oz, and I was on the Yellow Brick Road. I had never seen anything like it.

This completes our look back at our heritage in the highway program and brings us to where this chronology began; the requirement by the Congress for BPR to evaluate the feasibility of building a system of superhighways.

TOLL ROADS AND FREE ROADS

Before getting into the details, here is a brief recap of the situation: A movement advocating Federally constructed National coast-to-coast highways existed as far back as highway legislation goes. It was strengthened in the 30's by the demands for Federal programs to stem the Depression and provide employment. President Roosevelt himself was an advocate of such a scheme and was quoted widely in the press and discussed such a proposal on more than one occasion with selected groups of Congressmen. No less than 14 bills to build such a system were introduced. At least two were sponsored by the Administration. In parallel, there was a growing concern for the condition of the cities. The migration from rural to urban had reached alarming proportions by the mid-thirties. The wisdom of the times was that the rural environment was wholesome and that the cities were dens of iniquity. Decay of central cities was becoming rampant. FDR established the National Resources Planning Committee to study national problems and the Urbanism (sub)Committee to specifically look into the urban problem. It published "Our Cities" in 1937. It dwelt heavily on city planning as the way to solutions and the use of highways as a tool for change since it envisioned the public rebuilding of vast blighted areas.

Congress ordered BPR to study the national toll road problem in 1938 as a reaction to all of the pressures for legislation. BPR prepared a comprehensive response using for the first time the results from the planning survey studies.

REVIEW OF THE BPR DRAFTS OF TOLL ROADS AND FREE ROADS

Two original drafts have been found, one by Mr. Siegle dated January 16, 1939 and a memorandum by Mr. Fairbank dated November 15, 1938 which outlined a suggested Administration policy and recommendations to go with the report to Congress. The latter is quite different than what the President transmitted to the Congress in April of 1939. What follows will develop those differences and speculates on the reasons for them:

MR. SIEGLE'S DRAFT

It is very comprehensive and is unmistakably what became Part One of "Toll Roads and Free Roads." It is titled "The Feasibility Of A System Of Transcontinental Toll Roads." It is practically word for word and is filled with the same charts and maps that appeared in Part One of the final report. It was a straight-forward response to the Congressional mandate and did not show any indication of an impending Part II.

MR. FAIRBANK

Mr. Fairbank's memorandum is very informative about the reason for a Part II "A Master Plan For Free Highway Development", but it doesn't explain the differences between his draft and the final product. Excerpts and summarizations follow:

"In compliance with...Congressional direction a report is in preparation (Mr. Siegle's report) which will indicate the best locations for six highways conforming to the terms of reference, and will undoubtedly prove conclusively the improbability of their successful operation as toll highways." A map (from Mr. Siegle's report showing the best locations for the routes was discussed: "The routes indicated on the map have been chosen with the cooperation and agreement of all State highway departments."

This was the same map of the six highways appearing in the final report. There was considerable discussion of the merits and usefulness of the data from the State-wide highway planning surveys from 46 States. The maps and charts appearing in the final report and deriving from the surveys were discussed.

It is already clear that the Bureau must return a negative report on the feasibility of the proposed toll roads; but the interest aroused in Congress and among the people generally in the provision of better and safer highways for the growing interstate and inter-regional traffic will not be satisfied with a mere negative report. A view that there is outlined hereafter a Master Highway Plan, for adoption as an Administration policy, and public announcement in advance of the submission of the report of the Bureau of Public Roads to Congress on February 1, 1939.

THE PROPOSED MASTER PLAN

The Proposed Master Highway Plan comprises:

1. A classification of all rural roads of the country into groups of several orders of traffic importance, to be initiated by the Federal government and carried out by joint action of the Secretary of Agriculture and the several State highway departments, on the basis of information supplied by the Statewide highway planning surveys.
(Note that only rural roads were contemplated in the above statement.)
2. The formulation of a comprehensive policy of the Federal government governing its participation in the cost of improving the several classes of roads and defining the objectives of such Federal participation.
3. The establishment of general standards for improvements of the several classes of roads effected with Federal financial assistance; and
4. The enactment of Federal laws and regulations, to apply on all roads improved in whole or in part with funds of the Federal government,

prescribing maximum weights, speeds, and dimensions of vehicles, and minimum requirements in respect to the power and tractive ability of vehicles and their braking, lighting and tire equipment, all consistent with the established standards of highway design.

CLASSIFICATION OF ROADS

;All existing rural roads and proposed new roads should be classified in groups as follows:

- I. National Superhighways;
(The suggested title in the final report was "The Primary Highway System of the United States" but the system was referred to throughout that report as interregional highways. Also the word "Primary" was not the title of a highway system then. There was only one system and it was defined in law and known simply as the Federal-aid System.)
- II. State Highways
- III. Secondary and Feeder Roads
- IV. Tertiary or Land-service Roads
 - a. Roads that should be improved
 - b. Roads that should not be improved

(Category IV was dropped from the final report.)

Class I, National Superhighways, should comprise a system of direct inter-regional routes, following the alignment and incorporating the improvement of existing highways wherever feasible, but departing from existing roads wherever necessary to obtain direct alignment and high standards of curvature and gradient. Such a system may be limited to not more than 1 percent of the total mileage of all highways and roads in the United States, but it should be unlimited as to mileage in each State. Such a system would serve approximately one-eighth of the total traffic moving over all rural highways. It would include all of the important lines of long distance travel and, except for short sections radiating from the larger cities, all of the roads on which there is (at) present (an) approach to congestion of traffic.

(The one percent probably comes from the original one percent consisting of trans-continental routings laid out and approved in 1925 as part of the U.S. numbered system. The estimate that the system would serve one eighth of the travel is interesting since the current Interstate serves in excess of twenty percent of the traffic, but it is reasonable when it is considered that the system proposed here would be exclusively rural.)

A tentative indication of such a National Superhighway System, including approximately 26,500 miles, is shown on the attached map, marked Exhibit G. The close agreement between the routes of this system and the distribution of population is shown in Exhibit H.

(The map was not present with the draft, but it is safe to assume that it is the same map that appeared in "Toll Roads and Free Roads". The mileage is close-26,500 vs. 26,700. This map is unmistakably the precursor of the Interstate System as, as I believe, was the trans-continental routes mapped in 1925 as the top one percent of the seven percent system.)

It is on the existing roads that lie approximately along the lines of this system that there is the greatest inadequacy of existing improvement. Developing early as

the principal roads of each locality they were the first roads to be improved, and they retain today in large part the alignment of the original improvement, with curvature, grades, and sight distances seriously inadequate under present conditions of traffic movement...

The one immediate requirement, common to all sections, would be the acquisition of right of way ample to permit future expansion of the highway facility and wide enough to prevent the choking of traffic flow by the ribbon development that occurs progressively along all heavily traveled highways. There can be no question that such a superhighway system, open to travel without payment of tolls, would immediately be heavily used in all its parts, attracting traffic from less favorably located and amply proportioned existing roads. Such roads, relieved of their present overburden, would be enabled better to serve the remainder of local traffic for which, with moderate improvement, they will be suitable.

Such a National Superhighway System would meet every present and future requirement of the longer ranging industrial and business traffic, would accommodate practically all of the super-local tourist traffic, would accommodate practically all of the super-local tourist movement, and in case of war would serve fully the long-distance traffic needs of the national defense. Both the proposed National Superhighway System (Exhibit G) and the proposed toll road system (Exhibit A) have been discussed informally with officers of the War Plans Division of the General Staff of the Army, eliciting comment indicative of pronounced military preference for the larger system.

(The Class II State highway system was discussed and would have been limited to 10% of total mileage. Class III would also have been limited to 10% of total mileage in each State. Class IV would have been selected from the remaining roads but limited to 20% leaving 60% not eligible for Federal aid and, the recommendation was, a significant portion of that should be abandoned. This would have been a way out of the problem confronting the States at that time where vast mileages had been transferred from counties and townships to the States with no revenue to go with them.)

DEFINITION OF FEDERAL OBJECTIVES

Because of this paramount Federal importance of the National Superhighways, the Federal government should contribute more largely to their improvement than to the other classes of roads. Such a larger contribution is justified by the large measure of Federal interest. It is desirable as a means for quickly bringing about the interstate long-distance routes, and provide for their consistent improvement throughout. And it is necessary, because of the inability of the State governments, unaided, to cope promptly and adequately with the financing.

Immediately after the selection of the routes to constitute the system, for instance, it will be necessary to acquire rights of way of sufficient width to protect the routes from encroachment and provide suitably for future expansion of paved width. This will be necessary in most places where existing alignment is incorporated as well as in the newly located sections, because existing right of ways are quite generally too narrow.

To forestall congestive ribbon development the right of ways should be acquired promptly and in the full width believed to be ultimately required. The unaided action of the States toward this end is not likely to be sufficiently prompt. Therefore, it is proposed that provision be made for loans by the Federal

government to be repaid by the States, over a long period, either without interest or at a low rate.

It is also proposed that the Federal government assume one-half of the total cost of constructing and maintaining the National Superhighways, and provide the required sums by special appropriations to be administered by the Secretary of Agriculture in cooperation with the several State highway departments under rules and regulations similar to those governing the administration of the Federal Highway Act.

It was recommended that a Commission be appointed consisting of Federal and State highway officials to establish standards for the various classes of Federal aid. This did not survive in the final report.

It was also recommended that Congress pass a uniform highway traffic law applying to all roads constructed in whole or in part with Federal funds. Such a law would prescribe the maximum weights, dimensions, and speeds of vehicles and minimum requirements as to their tractive ability and their braking, lighting and tire equipment. This did not make it to the final report.

Presumably, a combination of this and Siegle's report is what went forward to the Administration. It is clear that the Administration suggested some changes. Secretary of Agriculture Wallace and Secretary of War Woodring in their letter of transmittal to the President said:

DEAR MR. PRESIDENT: In accord with your suggestion, the report of the Bureau of Public Roads which is now before you has been revised to present more clearly the need for a system on interregional through highways and the important relationships of such a system to the requirements of the national defense...

(Another unresolved question is why did the President choose to send this report to the Congress himself when the 1938 Act specified that the Bureau of Public Roads do the study? Clearly, the Administration chose to use the toll roads report as a vehicle for transmitting a broader proposal, just as BPR had chosen to make a proposal that extended beyond the charge of the Congress to evaluate toll roads. The final report was due in Congress on February 1 but did not go forward until April of 1939. This is a surprisingly short delay considering the magnitude of the rewrite that took place.)

President Roosevelt said in his letter of transmittal:

It (the report) emphasizes the need of a special system of direct interregional highways, with all necessary connections through and around cities, designed to meet the requirements of the national defense and the needs of a growing peacetime traffic of longer range.

It shows that there is need for superhighways, but makes it clear that this need exists only where there is congestion on the existing roads, and mainly in metropolitan areas. Improved facilities, needed for the solution of city street congestion, are shown to occupy a fundamental place in the general replanning of the cities indicated as necessary in the report "Our Cities", issued in September 1937 by the National Resources Committee.

The report also points definitely to difficulties of right-of-way acquisition as obstacles to a proper development of both rural highways and city streets, and makes important and useful recommendations for dealing with these difficulties.

I call the special attention of the Congress to the discussion of the principle of "excess-taking" of land for highways. I lay great emphasis on this because by

adopting the principle of "excess-taking" of land, the ultimate cost to the Government of a great national system of highways will be greatly reduced.

(This was FDR's favorite highway topic and was not in the original BPR version.)

For instance, we all know that it is largely a matter of chance if a new highway is located through one man's land and misses another man's land a few miles away. Yet the man who, by good fortune, sells a narrow right-of-way for a new highway makes, in most cases, a handsome profit through the increase in value of all of the rest of his land. That represents an unearned increment of profit--a profit which comes to a mere handful of lucky citizens and which is denied to the vast majority.

(He never missed an opportunity to recount this story.)

Under the exercise of the principle of "excess-taking" of land, the Government, which puts up the cost of the highway, buys a wide strip on each side of the highway itself, uses it for the rental of concessions and sells it off over a period of years to home builders and others who wish to live near a main artery of travel. Thus the Government gets the unearned increment and reimburses itself in large part for the building of the road.

In its full discussion of the whole highway problem and the wealth of exact data it supplies, the report indicates the broad outlines of what might be regarded as a master plan for the development of all of the highway and street facilities of the Nation.

I recommend the report for the consideration of the Congress as a basis for needed action to solve our highway problems.

THE REPORT

The building of the six super highways on the selected locations, to the high standards consistent with the indicated character of the proposed facilities, is entirely feasible.

On the basis of the investigation made and its results...a sound Federal policy for the construction of a system of transcontinental superhighways, traversing the entire extent of the United States from east to west and from north to south, cannot rest upon the expectation that the costs of constructing such a system as a whole would be recoverable in their entirety or in any large part from direct tolls collected from the users.

If...it is the desire of the Congress to make provision for construction of a section of highway...upon which there is a reasonable prospect of the recovery of the costs through tolls, it is recommended that such provision be made applicable to a section of highway...from...Washington, D.C.,...to Boston, Mass.

...there is included in this report a discussion of the most important problems confronting both the Federal and State Governments and their subdivisions with respect to highway facilities....the report lists several undertakings as follows:

1. The construction of a special, tentatively defined system of direct interregional highways, with all necessary connections through and around cities, designed to meet the requirements of the national defense in time of war and the needs of a growing peacetime traffic of longer range.
2. The modernization of the Federal-aid highway system.
3. The elimination of hazards at railroad grade crossings.
4. An improvement of secondary and feeder roads, properly integrated with land-use programs.
5. The creation of a Federal Land Authority empowered to acquire, hold, sell, and lease lands needed for public purposes and to acquire and sell excess lands for the purpose of recoupment.

(This was clearly an Administration initiative and would not have come out of BPR.)
In the body of the report:

One of the striking characteristics common to all highway traffic...is the sharp enlargement ...of the volume of traffic on the important highways as they approach the larger cities...If we inquire into the reason for the failure to augment the traffic facility in proportion to the increase in traffic we usually encounter right-of-way difficulties...the traffic congestion that exists on a main rural highway at the approach to a city is usually augmented on the connecting city street toward the center of the city...bypass routes are of advantage mainly to a relatively small part of the highway traffic normally approaching a city, i.e., to that small part of the traffic that is actually desirous of avoiding the city.

In numerous cities conditions of the sort here described are fast reaching a critical point. Some measures of relief are imperative, and the only course that promises a really satisfactory solution is the provision of adequate facilities for conduct of the heavier entering traffic streams through the city at or near its center, and on to appropriate exit points.

In the larger cities generally only a major operation will suffice--nothing less than the creation of a depressed or an elevated artery (the former usually to be preferred) that will convey the massed movement pressing into, and through, the heart of the city, under or over the local cross streets without interruption by their conflicting traffic.

In general...city administrations have been deterred...by what appear to be the literally stupendous difficulties and expense involved--difficulties and expense partly of an engineering nature, but first and usually in much the greater measure generated by the acquisition of right-of-way and the damage to, or obliteration of, private property.

...the motor vehicle...made possible the outward transfer...of citizens...to the suburbs and it now conveys these citizens back and forth to their offices and places of business.

The former homes of the transferred population have descended by stages to ...form the city's slums...the Federal Government is beginning to acquire them in batches in connection with its slum clearance projects...these acquisitions comprise one of the reasons for avoidance of delay in dealing with the problem of transcity highway connections and express highways.

Another reason lies in the fact that, here and there, in the midst of the decaying slum areas, substantial new properties of various sorts are beginning to rise--some created by private initiative, some by public.

There is growing danger that these new properties, sporadically arising, and the more compact developments by the Government in its slum-clearance projects, will block the logical projection of the needed new arteries into the city center...they should now be planned in order that their eventual courses may not be barred by newly created property.

There is another, perhaps still more important, reason for avoidance of delay in the carrying out, or at least in the planning, of new transcity arteries and express highways. It is that in the business district itself--in most cities, but particularly the older ones--there is a slow decay that will not be arrested until there is radical revision of the city plan. Such a revision will have to provide the greater space now needed for the unfettered circulation of traffic, and will have to permit a reintegration of facilities for the various forms of transportation--railway terminals, docks, airports and the highway approaches to each--more consistent with their modern relationships. For such a revision of the city plan decision upon the location and character of the new highway facilities here described is a basic necessity. Toward the actual accomplishment of the much needed revision, little else that might be done by Government would be so likely to supply the impetus.

Because of their urgent need to facilitate highway transportation where it is now most seriously hampered, and because of the impetus that through them may be given to needed changes in the central plan of our cities, the construction of transcity connections of the main rural highways and other express routes in the center of the cities ranks first in the list of highway projects worthy of consideration by the Congress. Possibly no other work that might be done would so profitably provide employment coincident with the centers of present unemployment.

(This very very strong and eloquent message on the urban problem in general and how highways could be the catalyst for change goes so far beyond the Congressional charge for the evaluation of coast-to-coast superhighways that one must conclude that the Administration, if not the President himself, chose to use this report as a vehicle for establishing a national urban policy and as a means of recommending legislation to the Congress.)

BELT LINES AND BYPASSES

Next to provisions for the safer and more efficient conduct of large traffic streams into and across cities, the new facilities most urgently required are belt-line distribution roads around the larger cities and bypasses around many of the smaller cities and towns.

...the traffic on a main highway approaching a large city, that will use a bypass route if offered, is a small part of the total...Bypass routes, therefore, may not be regarded as means for the relief of congestion on the highway-connecting streets of large cities.

At all large cities, however, and many smaller ones, there is need for the construction of what are called in this report belt-line distribution roads. Such roads have some of the characteristics of bypass routes and may actually serve to bypass a considerable amount of through highway traffic around the city. Their primary purpose however, is something different.

The principal function of such a route is the distribution of traffic approaching the city on any highway, either to the other highways to which it may need to transfer or to points on the circumference of the city nearest the urban section of its ultimate destination, and the distribution of outbound traffic in a reciprocal manner...But if they are to be and remain the useful facilities they should be, they will have to possess one feature that is present in none or virtually none of the circuit routes thus far built around urban communities; i.e., they will have to permit access only at their points of junction with the main routes approaching the cities or town and a very limited number of intermediate points...and separated from all but a very limited number of the cross streets and highways intersected by them.

(Baltimore was used as an example of urban renewal needs and traffic data. A limited access freeway system was shown in artist's renderings of expressways. It is interesting that the beltway shown is just now, in 1986 being completed.)

DIRECT INTERREGIONAL ROUTES AND MODERNIZED RURAL HIGHWAYS

Beyond the vicinity of cities the existing main rural highways of the United States lack...capacity...only at relatively few points.

Not only do the findings of the planning surveys show that beyond the vicinity of the cities there is no great mileage of the existing main rural highways that requires increase in the number of its lanes, but they also show the existence of a number of other conditions on a considerable part of the mileage that urgently require correction.

(I have underscored the above paragraph to call attention to the fact that traffic demand was not the driving force behind the rural Interstate beginnings.)

Unsatisfactory conditions in respect to sight distance, grade, and curvature are shown to be of common occurrence; and on some sections the conjunction of such unsatisfactory physical conditions of the highway with a bad accident record suggests the possibility that the highway conditions may be in some measure responsible for the fatal accidents that have occurred.

The more serious defects of the present roads--those that will involve in their correction a considerable loss of invested value, and that already have been responsible for a heavy obsolescence of the roads built--are consequences of another expedient adopted to hasten the extension of improvement in the pioneer period. That expedient was the acceptance of the existing rights-of-way of the preautomobile roads as the limits within which to place the new improvements. The sharp curvature and indirect alinement resulting from this policy are the causes of by far the greater part of the recognized present obsolescence of the main highway system...the only probability of material improvement lies in a general and substantial widening of the rights-of-way of the more important roads, together with effective border control.

...the provision of more direct routes for long distance, interregional movements--will involve the construction of considerable lengths of new and more direct highways to be used in place of existing indirect roads by the through traffic.

In consideration of this information and a knowledge of the general needs of the national defense received from previous advices of the War Department, a

tentative selection of routes has been made which, comprising a 26,700-mile system, is shown on the map reproduced as plate 57.

(This map is unmistakably what became the Interstate System in later years and is the same one that appeared in the BPR draft.)

Wherever it may be done, consistent with the purpose of direct routing and other essential considerations, the suggested routes should follow the alinement of, and incorporate the improvement of, existing highways. Reasonably direct connection between the major cities along their general lines should be the controlling thought in choosing revised location. Deviation from such direct lines should not go far for any purpose, and should be accepted in limited degree only to pick up the largest intermediate towns.

The routes should enter and traverse all large cities by means of facilities adequately designed to promote free movement of traffic to and through the center of the city. At large cities, wherever necessary, limited access belt lines should also be provided; and all small communities should be bypassed-not entered. In general alinement the routes should be directed toward the center of large cities and past the sides of small towns...

All railroad grade crossings should be eliminated and all highway intersections should either be separated, closed, or positively protected...

The right to limit access should be acquired at all points and should be exercised...Approaching large cities and elsewhere, if necessary, bordering local-service roads should be provided.

THE NATURE OF THE RIGHT-OF-WAY PROBLEM

The limited possibilities of acquisition of right-of-way was cited as the major cause of the failure to provide relief for all three traffic problems discussed, i.e., central urban congestion, the provision of beltways, and the reconstruction of the main intercity rural routes. The Federal government did not participate in the cost of right-of-way acquisition at that time.

The whole cycle of improvements to the road resulting in the encouragement of land use development, thus overloading the road which, in turn, made the provision of additional improvements to the road prohibitively costly was discussed. Many States did not have the legal power to deny access to abutting property owners and did not have the authority for "excess takings". These same problems, it was argued extend to urban renewal property takings, parks, open spaces, etc. Acquisition far in advance of the required improvements was suggested.

RECOMMENDED ACTIONS

...the Federal Government can most helpfully contribute in the following ways:

1. By facilitating the acquisition of adequate rights-of-way. To a great degree the early obsolescence of the rural highways previously built is due to the restrictions imposed upon their design by inadequate rights-of-way. In cities, archaic street plans are in need of major revision to permit the free flow of modern traffic. Far-sighted improvements of both rural highways and city streets are everywhere blocked by the inability of the States and local governments unaided, to provide the rights-of-way required; and there is danger that expedient measures forced by the irresistible pressure of traffic, will result in heavy new investment destined for early obsolescence...

Effectively to administer such a provision would probably require the creation of a Federal Land Authority, having corporate status with adequate capitalization and authority to issue obligations within prescribed limits, which would be empowered to acquire, hold, sell, and lease lands for stated purposes...

Problems of land acquisition similar to those described as affecting highways are also encountered in connection with public works of other categories carried out by the Federal Government, independently and in cooperation with States and their subdivisions; and in such connection their proper solution is equally basic to successful administration and correspondingly difficult. In connection with such other public works the aid of the proposed Federal Land Authority, if created, would be similarly useful and desirable...

2. By providing, in cooperation with the States and the War Department, for detailed investigations leading to the designation of a system of reasonably direct interregional highways, with appropriate connections through and around cities, similar to the system tentatively selected and described in this report, and limited in total extent to not more than 1 percent of the total mileage of rural highways in the United States, without specific limitation in each State. In view of the predominant national importance of such a system, the Federal Government could reasonably contribute to its construction in a proportion materially larger than that in which it contributes under the Federal Highway Act...

THE WORLD'S FAIR-GM FUTURAMA EXHIBIT MAY 1939

An example of the popularity of the superhighway idea was illustrated by the General Motors exhibit, Futurama. The following is quoted from a book "Interstate" by Mark H. Rose:

By 1960, a recorded voice promised visitors to General Motors' Futurama exhibit at the 1939 New York World's Fair, fourteen lane express roads would accommodate "traffic at designated speeds of 50, 75, and 100 miles an hour." Spectators, six hundred at a time, rode around GM's 35,738 square foot mock-up of future America while the synchronized recording in each chair continued. Automobiles from farm and feeder roads would "join the Motorway at the same speed as cars travelling in the lane they enter," and motorists would be able to "make right and left turns at speeds up to 50 miles per hour." In cities themselves, men would construct buildings of "breathtaking architecture," leaving space for "sunshine, light and air." Great sections of farm land, "drenched in blinding sunlight" according to an observer, were under cultivation and nearly in fruit. Traffic, whether in rural or urban areas, flowed along without delays and without hazard at intersections and railroad crossings. "Who can say what new horizons lie before us..." asked the voice on the record, "new horizons in many fields, leading to new benefits for everyone, everywhere." By mid-May, 1939 only a few weeks after the fair opened, Futurama was the most popular attraction.

During the first half of 1939, Roosevelt tried to add excess condemnation to federal highway practices. On March 22, he hosted a "no black tie--very informal" stag dinner at the White House for Norman Bel Geddes, designer of GM's Futurama exhibit at the World's Fair. The West Hall was set aside, on Roosevelt's instructions, for a model of Geddes' exhibit, and guests discussed creation of a Federal Land Authority empowered to take extra wide rights-of-way for roads and other public works. Both the President and Congressional leaders

sought a data and legal base on which to launch their authority. On April 24, Roosevelt told one of his aides to "Find out from MacDonald of Highways where...I can find anything about...buying a wide strip and selling off the surplus land and renting gasoline concessions."

Excess condemnation and creation of a Land Authority...appeared in Roosevelt's mind as budget cutting measures. Unless tolls were collected and land adjacent to roads sold at a profit, he wrote to Budget Director Bell and Interior Secretary Harold L. Ickes on April 1, 1939, "The Treasury is unable to finance even the beginning" of a national superhighway program.

W.W. Mack, President of AASHO in 1939 and Chief Engineer of Delaware, had this to say at the annual convention in October:

BEGINNINGS

In 1914, hardly half the states had State Highway Departments.

In Delaware, two years earlier, Senator Coleman du Pont, an engineer and business executive of great ability and foresight, was at work with his own funds on the 100-mile boulevard which now bears his name, and which constitutes a part of U.S. Route 13 and 113. This highway as planned at the time had a 200-foot right of way, by-passed towns, and traversed the State with grades and alignment conforming to the demands of present day super highways. However, it was so far ahead of its time that even its tireless and aggressive builder was obliged to change his plans and for several years was thwarted in his attempts to make a present of this magnificent highway to his State.

SUPER HIGHWAYS

It is evident that there are those who, seeing what appears to be a desired end, the results of which should be beneficial to the public, propose to hasten its accomplishment by the abolition of local or State control of the education of our youth, with the use of Federal funds as an opiate to soothe the objections of those who fear the influence of Federal domination over our schools.

This same theory is being advanced in many fields. Federal funds are looked upon as manna from heaven, even though the returns to the States from which they originally come are usually reduced by a substantial toll, even as the grist which came from the old grist mill.

Certain European highways have been much praised in this country, though little has been said of the purposes for which they were built, of the methods of land acquisition and financing, of the low wages paid the laborers, or the meager traffic which they serve.

Before we demand a national network of super highways let us be sure we need them and let us be sure in return that in getting them we do not place in the hands of anyone, no matter how benevolent, a club to swing at our heads, or to whom we must come as supplicants for mercy or favors.

One of the latest proposals is to extend the Pennsylvania Turnpike from Harrisburg to the Philadelphia Navy Yard. The Engineering News Record well

says in a recent editorial that "such loose thinking shows how imperative is the need of integrating highway planning with national transport planning."

Is it too much to suggest that a comprehensive study of all forms of transportation, by land, air and water, similar in scope to the Toll Road Report (Toll Roads and Free Roads), should be made, with a view to determining so far as possible the proper place each has in an integrated and economic system of nation wide transportation?

INCREASED FEDERAL AUTHORITY

I also maintain that this Association should give most careful consideration before supporting any proposal which would increase the authority of the Federal government in road building, at the expense of the States, whether it be for the building of a federally constructed and operated system of super highways, toll or free; the loaning of large sums of money for the construction of a system of super highways which are not needed at present and may never be economically justified, or the Federal construction and maintenance of highways, and the purchase of lands, without the consent of the individual States.

TOLL ROADS REPORT

The monumental report of the Chief of the Bureau of Public Roads to the Congress under the Act of June 8, 1938, by its completeness and clarity should mark an epoch in highway thinking in America, and has cleared away a mass of illfounded theories and misinformation.

While it has proven conclusively the falsity of a super system of toll super highways, and has established the practicability of definite limited sections of toll super highways, it does not establish the desirability of federally owned and operated toll roads even in these selected localities, or appraise definitely the effect that such construction would have on existing highway facilities now operated by the States.

Nor does this report indicate the necessity of greatly increased highway facilities generally, except in the vicinity of centers of large population, where Federal aid in the purchase of rights of way in the form of grants or long term loans, seems a proposal of much worth.

At the same meeting, MacDonald reaffirmed the greatness of the partnership and reassured AASHO that the transfer of BPR from Agriculture was no problem for them. He deplored the decline of highway user revenues and again urged that planning surveys were the way out of the dilemma. He defended BPR's data demands and stated that a speed up of the planning surveys was in order to plan for defense. He described Toll Roads and Free Roads and labeled it a program for the future and a product of the planning surveys. It is interesting that the speech is primarily an appeal for cooperation and a tribute to the highway partnership and mentions the report Toll Roads and Free Roads almost as an afterthought. He seemed to down-play the urban aspects of the report which was the primary emphasis. He did not mention the concept of "excess takings" which was so dear to FDR and was central in the report. In retrospect, that report was the most important highway document of the century since it led directly to the establishment of the Interstate System. It is quite clear that MacDonald did not believe that he had an action-plan in hand yet and that a great deal more planning and analysis was necessary.

By this time, war was in the air and, as in World War I, the highway program began to suffer. W. Markham, Executive Secretary of AASHO, had this to say at the annual meeting in October of 1939:

DEFENSELESS HIGHWAYS DEFENDED

This present Congress has appropriated or authorized for appropriation over 16 billion dollars, mostly under the dramatic urge of national defense, and yet they spent 8 months haggling over whether they should expend on highways important for national defense less than 1 per cent of that amount. And then to make assurance double sure, they increased the direct tax on the road user for more than enough to pay the entire bill-leaving the former direct tax on the highway user to go "scott-free" for expenditures which have not even an indirect relationship to the use of the highways. Within the past few weeks the Federal government has provided authorizations covering regular Federal Aid, secondary roads and grade crossing funds for each of the years 1942 and 1943...It is quite evident that this year the road user will be very fortunate indeed if 30 per cent of his tax is expended on State roads...

It's all well enough to talk about the need of a mechanized army, but a mechanized army for national defense will not function by air or water transportation.

This situation cannot be charged to the Road Committees of the Congress. Those who are familiar with the present processes of legislation know where to place the responsibility.

The fact that the Federal government admittedly spent last year over \$881,000,000 through WPA on functions labeled "roads and streets" does not change the picture so far as defense highways are concerned, for reports by State Highway Departments to our office show that less than 2,500 miles of highways on the State systems received any of this \$881,000,000 expenditures and much of the expenditure on that mileage had nothing to do with betterments on pavement itself.

But, Uncle Sam's dereliction is not the whole story. Many State governments have likewise vitiated the road users contributions to highways. In one State the diverting to purposes other than for highways, of contributions from highway users, exceeded 50 per cent of the total taxes paid. And in many others the percentage is exceedingly high...

In a speech to the American Petroleum Industries in November of 1939, MacDonald described Toll Roads and Free Roads as a "Highway Program For the United States." This is a summary: He defended Democracy and said that Superhighways as in Europe were not the American way which was building highways in the order of traffic service. MacDonald held to the above principle that roads should be built in the order of traffic service throughout his professional career. This principle was violated many times in the highway program, however. The huge sums that were poured into the program for unemployment relief were based on exactly the opposite premise. He introduced Toll Roads and Free Roads and stated that the highway departments were the key to its implementation, but they must go urban and they must base the national program on planning survey data. It is somewhat anomalous to contend that Toll Roads and Free Roads was based on the premise of building according to the priority of traffic service since the primary emphasis of the report, aside from the toll analysis which was indeed based on planning survey data, was on Depression relief and urban renewal based on comprehensive city planning principles articulated

by the National Resources Planning Board. It was clearly stated in Toll Roads and Free Roads that the recommendation to rebuild the main intercity 1% Federal-aid system was not based on traffic congestion, but on safety considerations caused by sharp curves, steep grades and poor sight distances caused by adherence to pre-automobile era rights-of-way. The report stated that there was no lack of capacity except in the vicinity of large urban areas.

He spoke to the American Automobile Association that same month. He said that the Planning Surveys should be the basis of the development of a truly National urban and rural plan and to avoid partisanship. The Master National plan should be based on traffic use and that would automatically deal the urban areas in. He described the recommendations of Toll Roads and Free Roads and advocated that construction of the Interregional system should begin in the hearts of the cities and that the highway departments were the key to success of a National plan and asked that AAA promote the concept at the local levels throughout the country. It is clear that MacDonald didn't think that the report to the Congress of Toll Roads and Free Roads was sufficient in and of itself. It was necessary to build a constituency of interest groups behind it, especially the highway departments and it was necessary to figure out how to fund it since the report was silent on that aspect.

In January 1940, the House began hearings on highway legislation for 1942 and 1943. The second section of the bill, or Title II, was an effort to set up the matter of Federal participation with the States in some method of securing rights-of-way. It empowered the Commissioner of Public Roads to acquire property needed for roads by purchase or eminent domain and to lease, sell or otherwise dispose of it. It authorized the Reconstruction Finance Corporation to sell bonds to provide the money to the Commissioner on his certification.

President Henry F. Cabell testified for AASHO:

Now, before coming again to the general question of road needs, I should like to briefly discuss Title II. In the early days of construction the main problem was the main highways of the country in rural areas. They had little responsibility for construction in cities. However, now that some considerable progress has been made in the main rural highways they have gradually found that an increasingly great problem is the confusion in getting the traffic which is brought into cities by the main rural roads, into and through the cities. The first reaction of the highway engineer was, "Well, we are interested in the through traveler. Let's get around the cities." and quite a number of efforts were made to build by-pass routes. These by-pass routes in many cases have a very real purpose. If you have a main highway carrying primarily long-distance traffic, many hundreds of cars a day and you come to a relatively small town, most of these people probably want to go through it without stopping. And, there, if you can by-pass by a slight distance the little knot of congestion in the small town you have probably served the main purpose of pleasing the motorists whose money you are spending.

But recent investigations, that is origin and destination surveys which have been made, show that when you come to large cities if you take a traffic check at the edge of a large city, even on a main road coming into it, you will find frequently a very, very substantial majority of these motorists do not intend to go through that city without stopping and therefore the by-pass route would not serve the purpose...Therefore, if the purpose of a highway engineer entrusted with the motorists' money is to do the most good to those motorists who furnish the money, then he must consider the needs of those motorists who wish to enter into the city and incidentally take care of a need felt by all the other city residents as well.

I have seen a steadily growing realization of that feeling among highway officials in the last five years until many who up until that time were largely rural-road-minded, without giving up any of their interest in rural roads, have realized they have an urban problem to face as well. I think this new viewpoint has been

influenced to a considerable extent by Mr. MacDonald. He has made several addresses to our Association and talked to many of us in private. I think I can say that that viewpoint has largely culminated in the report that he made a year or so ago on toll roads, in which he pointed out many of the things I just said, and stressed the necessity of in some way solving the problem of getting traffic into and through cities as well as up to and around them.

THE INTERREGIONAL HIGHWAY COMMITTEE

In May of 1941, MacDonald addressed the National Conference on Planning and talked about the prospects for a "New Federal Highway Program":

One of the purposes in these surveys (the planning surveys) was to gather the facts that would dispel the "good enough" idea (the idea that the highway system was good enough and that the country could take a holiday from road building). The broader purpose was to provide a sound factual base on which to establish the revised highway programs and policies that are needed to cope with problems of a sort that were not apparent when the policies and programs still followed were devised.

It had been our hope that the clear indications of these surveys would have led, before now, to the establishment of a vigorous attack by the Federal government upon some of the newer phases of the highway problem, a Federal attack which would supply the needed incentive and correlating directive to State and local attacks upon the same problems. A first draft of a plan of campaign was presented in the report Toll Roads and Free Roads which the President transmitted to Congress with recommendation of favorable action in the spring of 1939.

All such hopes are now deferred by reason of the more urgent necessities of the general defense program; and so once again, as has happened more than once in the past, needs of the moment have intervened to divert and delay a logical evolution of the program of road and street building. But this time there is no question that the needs of the moment are the higher needs, and there is also no question that they are in many cases acute needs, which involve directly the efficiency of the defense program.

He noted that by and large the highways were adequate for defense purposes and that only about 15 per cent of the bridges needed strengthening.

Studies of the probable needs of this category (military installations) were begun by the Public Roads Administration and State highway departments early in 1940. In response to a direction of the President these studies were broadened and revised as required by later developments, and a report of the more important needs was prepared as of February 1 of this year.

In the same report we presented the determined needs of improvements on the strategic network, scaled down to the very minimum of absolute necessities.

Every possible effort has been made to apply to these necessary defense road improvements the presently available funds administered by the Public Roads Administration and the Work Projects Administration, which are the only Federal funds available for the purpose. After all had been done that could be done in this way, there remained unprovided for on April 26 at only 204 of the 288 reservations and sites certified as important up to that date more than

\$122,000,000 worth of unfinanced work, work that can not be undertaken on the terms applying to the expenditure of presently available funds.

Similarly, despite a willingness of State cooperation indicated by an obligation of more than 50 percent of the apportioned Federal-aid funds to defense road needs, it will be impossible in any near future to meet even the minimum requirements of the Strategic Network with Federal-aid funds appropriated for the program as now constituted.

One recommendation that was made in the defense road report went beyond the urgent needs of the present. It was a recommendation of the appropriation of \$12,000,000 to be matched equally by the States and used as a fund for the detailed planning of a shelf of important deferrable highway projects to be undertaken after the present emergency. Identical in motive with the similar recommendation of the National Resources Planning Board applying to public works of all kinds, it is the hope that this money if provided will permit a definite start to be made upon the planning of some of the more important facilities comprised in the Interregional highway system recommended two years ago in the report Toll Roads and Free Roads. (Note here that MacDonald linked the Toll Roads and Free Roads Report to the National Resources Planning Board.)

Added confidence that a program such as was roughly sketched in that report will eventually receive Federal support is given by the President's recent action in appointing a National Interregional Highway Committee to advise the Federal Works Administrator after a review of the available information on the need for such a program and the means by which it may be accomplished.

He pointed out that Toll Roads and Free Roads recommended a total balanced program and not just interregional highways.

It is believed that such an integrated program should be, and now can be defined, by agreement, in each State and in the country at large, upon the general objectives to be attained in a relatively long period (say 20 years), and by the more detailed planning of a consistent partial program realizable within the limits of the definitely scheduled and anticipated revenues to accrue within a shorter period (say 10 years).

It is to some such total program as this, the Federal Government taking its appropriate share, that we look forward, hopeful that it may be in some measure realized in a happier and more peaceful period after the war.

MacDonald was chairman of the Interregional Highway Committee, G. Donald Kennedy, Michigan Highway Commission was vice chairman. Other members were C.H. Purcell, California highway department, Frederick A. Delano, Chairman of the National Resources Planning Board and FDR's relative, Harland Bartholomew, famed city planner from St. Louis who later became the chairman of the National Capitol Parks and Planning Commission, and Rexford Guy Tugwell, chairman, New York City Planning Commission and a key figure in the Roosevelt Administration. The important point that I am making here is the strong connection of the genesis of the Interstate System to the National Resources Planning Board, the Administration, the city planning profession and urban problems.

It appears that the Committee was appointed originally to expedite the implementation of Toll Roads and Free Roads and then changed its goals to planning for a post-war program. The President's charge to them was to report to him by October of 1941. With the outbreak of war, the work of the Committee languished and finally, in July of 1943, the Congress "Authorized and

directed the Commissioner of Public Roads to make a survey of the need for a system of express highways throughout the United States, the number of such highways needed, the approximate routes which they should follow, and the approximate cost of construction, and to report to the Congress within 6 months..." The Congress was clearly looking for a post-war program by then. Their action spurred the Committee back into activity.

In September of 1941, just before Pearl Harbor, MacDonald addressed the 27th annual meeting of AASHO. He berated some States for failing to undertake defense highway work. This speech typified the shifting of National priorities toward defense and the widening gulf between the Federal Government and the highway departments. The Federal Government was trying to organize defense resources but very little money was appropriated specifically for that purpose so the highway departments were inclined to use Federal aid for the regular program which didn't necessarily square with defense priorities:

In a few States, it may be accented, in a very few States, there has been a meager response. The theory advanced is that defense highways are a responsibility of the national government. This attitude prompts the question - whose nation is this?

The defense effort up to that time had been to urge the highway departments to reorient their regular Federal-aid program to defense projects. MacDonald assured AASHO that special legislation was in the offing to augment the regular program. He enumerated the parts of the defense program:

1. Designation of the Strategic Network.
2. Access Roads to Military Installations and War Production Plants.
3. Alternate and Auxiliary Routes for Civilian Defense.
4. Highway Maintenance and Replacement Program.
5. Priorities on Materials and Equipment.
6. Highway Traffic Advisory Committee to the War Department.
7. Central Motor Transportation Committee.
8. Committee to Investigate Non-essential Federal Expenditures.

Immediately after our entry into the war MacDonald began the campaign for a post-war program that would follow the goals of Toll Roads and Free Roads in an address to the Highway Officials of the North Atlantic States:

Foremost on the "shelf" of public works to be made available in the future, not alone in response to pent-up needs but by reason of long-standing neglect, is the type of project concerned with urban redevelopment and housing. Conditions resulting from rapid changes incident to modern industrial development and in methods of transportation have been permitted to lapse. Problems of traffic congestion, of the lack of coordination of all transportation, of inadequate parking space for motor vehicles, of over-dense populations and needed recreational areas, have not been frankly met in the past, cannot be adequately dealt with in the present emergency, but will have to be faced in the future. The need for the extensive replanning and rebuilding of our American cities and towns will require the combined efforts of our several administrative agencies of Federal, State and local government together with the maximum aid of private enterprise. It is to be hoped that such rebuilding may be the result of rationalization of our needs rather than the result of the wholesale devastation that is war.

In his retirement speech to AASHO in December of 1942, W.C. Markham, long-time Executive Director had this to say about the war effort:

While this Association was organized in 1914 and this is the Twenty-eighth Annual Meeting, it was not until December, 1922, that the General Offices were established. Our first annual report, therefore, appeared the following year.

This report was 13 pages of mimeograph work and contained three tables. It would be interesting to know how many highway departments have a copy of that report. That year road construction was financed 51.8 per cent from a direct property tax, 35.8 per cent from auto licenses, and only 9.5 per cent from gas tax.

It is somber news, however, to realize that you are not permitted to spend in 1942 (except mainly in bond reductions and some maintenance) what has already been paid in by the road user for road work this year, due in great measure to inability to secure materials.

The complete curtailment of the construction of passenger cars and light trucks, the almost complete cessation of the purchase of tires for such vehicles, together with the Federal restrictions upon the purchase of gas and the limitation of mileage per year in the use of a car, means that within the next six months the receipts of the State Highway Departments from the sale of gas and the collections from motor license fees will be reduced at least 50 per cent.

Eliminate any Federal funds except on the "Strategic Net" dictated by the War Department, cut your gas tax receipts and motor license fees in twain, allow for fixed charges which must be maintained, and you have a fairly good picture of the financial set-up for your work for at least the coming year.

Aside from the necessities of food and clothing, there is no activity of this generation the lack of which has dislocated the every-day functioning of our daily lives as much as the disruption and elimination of highway transportation. For that very reason the duties and responsibilities of road men will increase rather than diminish.

Since our last meeting the Congress passed what is known as the "Defense Highway Act." This law defined the "Strategic Network of Highways", extended the Federal-aid road system to include any additional road mileages that the War Department might designate, set up 25 million dollars to be matched by the States to be expended on the "Strategic" system, gave 25 million dollars to the Federal Works Administrator to be expended as he might decide, provided 260 million dollars for "access roads", 10 million for "flight strips," and 10 million dollars for surveys and plans.

"Most activities of States have been circumscribed by Federal control, at least "for the duration." Oh, Duration! How many crimes are committed in thy name! Some people would like to have many of these "Federal control" activities made permanent. That has already become a question of vital interest in many particulars. So far as our own work is concerned, about all that is left is the right to secure a bucket of sand where it is native. (Apparently this was a reference to the inability to obtain construction materials.) Bureaus, which had been created and were in operation in Washington when we convened last year, have either passed into innocuous desuetude or have been submerged to become the wobbling foundation of other bureaus-so that the question has arisen as to when a series of bureaus become a highboy!

There are now so many supervisors that they have become as hard up for initial labels as the proverbial namer for Pullman cars. And yet they seem to have overlooked that very valuable nomenclature P.D.Q.

Just one month ago the National Resources Planning Board filed with Congress a 513, nine by twelve page report, printed last May and begun in 1940. (The name of the Report is Transportation and National Policy. The highway section was written by Wilfred Owen for Thomas H. MacDonald.) This report is set up for the definite purpose of creating another Federal alphabet bureau to be known as the National Transportation Agency. They propose legislative direction to coordinate Federal transportation activities and "absorb existing development agencies." This agency would "undertake leadership in programs for transport consolidation, terminal unification and reconstruction, coordination of the various transport media and encouragement of the development of new forms of transport within their respective economic spheres." Probably when these plans are set out in bills before the next Congress you will have a better idea what they are driving at.

As a part justification for the recommendations in this report, the Administration in sending the report to Congress stated that the Federal Government's expenditures on transportation facilities of all types are amounting to about \$1,000,000,000 a year. So far as State Highway Departments are concerned, the regular Federal-aid payments to the States in 1941 amounted to about \$157,000,000, which was barely 8 per cent of the total outlay of the State Highway Departments. The 1942 Federal payments will be much less.

In one of the tables of this report we find that the Federal Government has spent in the past six years through WPA, on what they designate as "highways," more money than has been paid out of the Federal Treasury for regular Federal aid, emergency Federal aid, forest roads and public land roads, during the past 25 years (\$3,739,000,000 over against \$3,694,000,000). These huge expenditures by the Federal Government in these half-dozen years may be justified in the eyes of those who spent it but much of it certainly cannot be properly labeled "highway expenditures" as such and therefore does not add to the argument that something further should be done by the Federal Government in extending its supervision over the States in building their roads.

Among the new conditions proposed upon which Federal aid would be granted, is "Federal participation to call for the limitation of turnover in State Highway Departments."

On highway financing they propose this brand new idea, namely: "State-wide systems of highways, specified in each State to be financed entirely through motor vehicle taxes."

Federal aid for highways is to be provided through a Federal tax on gasoline, the proceeds of which would be returned to the States on a "need basis." The question immediately arises as to who shall decide as to the "need basis" of the several States.

But why stop with that. It has already been suggested that all gasoline tax be collected by the Federal Government and then prorated to the States by a Washington bureau who shall determine the allotment to projects on its conception of the economic benefits to be derived from such expenditures.

In the meantime the war goes on. Highway transportation facilities are keyed to the task and cooperation between the Federal road department and the State Highway Departments is functioning effectively without any scholastically visioned pronouncement delaying the job.

Since the report Transportation and National Policy was so roundly criticized by Mr. Markham, it will be reviewed here. The study was commissioned in January of 1940 at the request of President Roosevelt. The principal thrust of the report was economic development and had its beginnings as one of the attempts by the Administration to find ways out of the Great Depression. The advent of the war changed the flavor to post-war planning aimed at preventing a recurrence of the Depression.

The report presents an excellent history of transportation in general and the development and operation of the railroads in particular.

The sections relevant to highways are excerpted below.

POSSIBILITIES FOR THE FUTURE

Motor Transport: Resurgent after the lean years of rubber and gasoline rationing, with completely new productive capacity and new designs in automotive equipment freed from the shackles of the past; new interregional highways and urban express routes planned for construction in the transition period (from war to peace) to take up the slack in employment.

Highway facilities cannot continue to lag behind developments in the vehicle to the extent that they have in the past. Many of the most important developments in future motor transport economy and service will be of no avail without extensive modernization of the highways themselves ...Significant economies are possible through the provision of highway capacity sufficient to minimize congestion, and through the proper application of traffic engineering principles to eliminate unnecessary stops and starts and interferences to the free flow of traffic. In the future there must be a realization of the importance of adequate grade separation structures at busy intersections, the separation of opposing traffic lanes, and the protection of traffic from encroachments of real estate development adjacent to the highway.

Efficiency of highway operations is affected by considerations generally beyond the control of commercial operators or private users. Inadequate traffic engineering in congested urban areas often results in poor use of available facilities and produces serious losses to operators and patrons of motor vehicles.

In rural areas the most obvious source of diseconomies is the multiplicity of small governmental units participating in the highway program. In many cases the county, township, or special road district has neither the size nor wealth to support an adequate technical staff or necessary roadbuilding equipment. As a result, proper planning, budgeting, and accounting practices are often neglected; and the local road program, taken as a whole, is generally confined to maintenance operations of little consequence applied to a patchwork development. In view of these considerations there is need for greater consolidation and strengthening of the local roadbuilding function.

DEVELOPMENT POLICY

Many years ago the objective of public promotion was simply to provide more facilities, for at that time the principal problem was the undersupply of

transportation service. Today, however, the problem has shifted from one of unlimited expansion to one of coordination, greater efficiency, and the correction of inadequacies. In spite of these altered circumstances, Federal promotional policy continues to be concerned mainly with the promotion of more and more transportation capacity. Moreover, operating through separate public agencies, each acting as the special advocate of one form of transportation, the Federal Government spends an average of more than a billion dollars a year for transportation facilities without comprehensive plans.

TRANSPORTATION AND GENERAL POLICY

...Other possibilities of planning through transport activities lie in the rehabilitation of depressed sections in urban areas and the provision of housing and recreation projects which are to a considerable extent dependent for their success upon transport accommodations supplied in connection with them. In addition such programs urgently require the wholesale rebuilding of the city terminal areas to eliminate the blight surrounding them and to permit desirable uses for potentially valuable sites abandoned because of congested, unsightly, and unhealthy conditions. In rural areas transport development must be coordinated with appropriate land use by judicious planning of local road systems and abandonment of unnecessary mileage.

If broad reforms of this sort are to be made the object of public policy, it is apparent that transportation is related to them so directly that it can be made an instrument for achieving them. But it should be recognized that the present tenets of regulation would require great expansion to embrace those ends.

RECOMMENDATIONS

A National Transportation Agency should be established to coordinate all Federal development activity in transportation along the lines of a general and progressive plan under appropriate legislative directives.

The highway transportation industry and the Federal and State governments should undertake now the task of assuring the restoration of motor transport after the war on a modern and efficient basis. Leadership in this program should be undertaken by the proposed Transportation Agency, with special reference to the power inherent in the control of Federal promotional funds.

URBAN HIGHWAY DEVELOPMENT

Major emphasis in future highway development must be directed to the provision of express highways and off-street parking in urban areas. Under the guidance of the proposed Transportation Agency, the Federal-aid program and the distribution of State motor vehicle revenues to municipalities should be revised to cope adequately with the magnitude of the urban problem.

LAND ACQUISITION

Immediate authority should be granted to permit the Federal Government to acquire and finance land acquisitions at the request of State and local governments, as well as for Federal promotional agencies. Properties acquired for State and local governments would be repurchased from the Federal

Government on such terms as the proposed Transportation Agency may determine to be suitable.

POST-WAR INVESTMENT

Inevitable readjustments following the present war will require far-reaching participation in productive investment designed to stimulate and maintain a high level of national income. Although billions of dollars have been spent in the past to provide emergency relief employment on transportation projects, results have been grossly inadequate in the light of what might have been attained.

The transportation industries properly developed and coordinated as contemplated in this report, offer some of the most promising opportunities for wise investment. Public expenditures aimed at securing lasting enhancement of the national income, however, must be carefully planned in the field of productive enterprise. Both the formulation and the execution of such plans must be the special province of the proposed Transportation Agency, to the end that the transportation industries may make their contribution toward bridging the transition between war and peace and in order that the Nation may build a transportation system commensurate with our material resources, our technological possibilities, and the resourcefulness of our people.

By early 1943, the highway program was effectively shut down. Money was available from past apportionments but it couldn't be used because approval to build was granted only if the War Department certified that the project was essential to the national defense and the War Production Board agreed to grant a priority so that scarce materials could be obtained. The production of automobiles had been suspended, tires and gasoline were rationed, and a 35-mile per hour speed limit was in effect. Both in AASHO and in the Congress thoughts were turning to the development of a post-war program. Excerpts from hearings in 1943 follow: Senator Carl Hayden, Arizona, Committee on Post Offices and Post Roads, United States Congress:

When this war is over, there will be an immediate necessity of assuring employment for thousands of honorably discharged Army and Navy men. The American Association of State Highway Officials estimates that each billion dollars expended upon highway work will give employment for approximately 750,000 men for a period of one year.

In view of these facts, there can be no question but what it is of paramount importance for our Federal government to aid the States in every possible way in the planning and engineering of a large scale nation-wide post-war highway improvement and development program. S. 821 constitutes a step in this direction.

Hon. J.W. Robinson, Utah, Chairman House Committee on Roads:

Mr. Speaker, a few days ago there appeared before your Committee on Roads representation from 24 of our 48 States. They were high officials in the American Association of State Highway Officials. At that time the President of the Association and other officers presented to your committee a very constructive program, which in the opinion of this Association, should immediately be carried out.

Excerpts from those statements follow:

Fred R. White, Chief Engineer, Iowa:

We have two matters which we wish to present to you. One of these matters pertains to the approximate \$175,000,000 of regular Federal-aid road funds...heretofore authorized by the Congress and allotted to the States, but which funds the States have been unable to expend because of restrictions growing out of the war effort...It would appear that since the States have been unable to expend these funds through no fault of their own, but through a war condition which we were all unable to avoid, the reversion and reallocation of these funds should be suspended during this war emergency.

The other matter...is a forward-looking suggestion for the post-war period....In addition to preventing the reversion and reallocation of these funds, this bill would make such existing funds available for use by the Public Roads Administration in cooperation with the State Highway Departments for the purchase of rights-of-way and for the making of surveys and plans for highway projects to be constructed in the post-war period when unemployment problems will be pressing for solution.

He presented the bill which would have allowed the obligation of the funds for projects to be built after the war.

Brady Gentry, Texas, President of AASHO, who would later become a Congressman and play a key roll in Interstate legislation, made a long presentation giving the extent of the highway system, its condition, and the employment implications of a post-war program:

It must be remembered that before contracts can be let for highway construction aggregating one billion dollars the State Highway Departments must make surveys, secure rights-of-way, and draft detailed plans, at a total cost of approximately \$200,000,000. It will take time to complete these various steps. This vitally demonstrates why the program must be assured by congressional action before the States undertake such an effort.

There is now much planning - or, at least, talk of planning-for the post-war period. The country seems to be full of planning agencies and societies. All plans envision a noble purpose-putting idle men to work, stabilizing employment, maintaining the national income, and finally assuring a measure of prosperity for our people. They seek to avoid the mountain tops of booms and the deep valleys of depression and aim instead at economic evenness and stability.

...the Congress should authorize the Public Roads Administration and the State Highway Departments to invest every dollar that is economically possible on the Nation's highway transportation system in the three years immediately following the war.

He proposed a billion dollars per year for three years to be authorized immediately but execution held in abeyance pending the cessation of war. The program would be delivered through conventional Federal-aid system and legislation.

In February of 1943, MacDonald made an informal talk to the Association of Highway Officials of the North Atlantic States. This speech was not released for publication. It was the most frank and candid speech of MacDonald's that I have seen. He spoke about the procedures that the highway program was required to follow during war-time in order to get projects approved. He outlined the tremendously complicated procedures promulgated. First, all projects had to be classified as essential to the war effort by the military or the War Production Board. Second, materials were allocated to various industries in a rationed fashion. Third, machinery and equipment was

handled by yet another process. The net result was practically no projects were undertaken even though regular Federal aid was available. He deplored the lack of perception of the Administration of the highway system as being a critical war-time resource. He noted that the President of AASHO had taken up residence in Washington to try to change the unfavorable situation in regard to highways.

He urged the preparation of post-war plans as a defense against more PWA type programs and urged that they use the Planning Surveys for that purpose. He complimented Robert Moses and his planning for New York and the development of modern highways that would pay for themselves.

In December of 1943, He told AASHO:

...When the history of this war period is carefully reviewed, I am convinced serious students will certainly question why such meager provision has prevailed for the maintenance and replacement of the facilities and plants of land transportation which is so essentially a part both of war production and war operations, disregarding the added factor of preserving the civilian economy...the next months must produce increased allocations of the requirements to serve land transportation, both rail and highway...

The rapidly dwindling construction program is indicated by the following figures showing the comparative highway system mileage placed under construction with cooperative Federal funds, in the first ten months of this and the previous three years:

1940.....	11,842.6 Miles
1941.....	8,645.4
1942.....	1,869.2
1943.....	722.4

If this situation continues, the reservoir will soon be dry.

He spoke of the necessity for the development of "stand-by" plans for post-war work in two categories. First the repair and rehabilitation of the system deterioration due to the deferred program and heavy war-time traffic. Second, new projects that could be put under contract to whatever level was necessary, depending upon the unemployment situation.

The "stand-by" program ready for immediate use should be at least equivalent to that employed on PWA road and street projects at the average annual rates attained in the pre-war depression period...

The Hon. J.W. Robinson, Chairman, House Committee on Roads, United States Congress, addressed the American Road Builders' Association early in 1943 which was scheduled to be the year for comprehensive post-war highway legislation:

Winning the peace is not a job we can postpone until the war is won. It is how we work and how we plan while winning the war that will spell victory or defeat in the battle for a worthwhile peace.

Each time we have engaged in war it has taken us three or more miserable years to climb back onto our feet. But this is a war that surpasses our wildest nightmares. This time we must meet the peace and remain on our feet, or we may stay down forever...

And when I say plans, I mean a fully worked out program, complete with specifications, cost estimates and other preliminary details. I mean plans so complete that the first pinch of war industry layoffs can be relieved without doing injury; so complete that materials can be absorbed as soon as industry can convert to peacetime production. Much of this work must be done by the road builders. Your place in the post-war picture cannot be overemphasized.

The House Committee on Roads is now preparing to consider bills designed to meet present and post-war problems. We sincerely hope to have the legislative machinery thoroughly set up, greased and ready to move forward when the present conflict comes to an end.

... H.R. 2426 is now in its preliminary stages in Congress. It has been endorsed wholeheartedly and unanimously by the State Highway Officials. Exhaustive public hearings on the provisions of this bill, and a thorough investigation by the House Roads Committee of the entire road problem will be under way in a few weeks.

As this bill is now written, it authorizes an appropriation by the Federal Government of three billion dollars which would become available at the rate of one billion dollars each year for three years, beginning immediately upon the termination of the present emergency... (This is what AASHO asked for.)

The bill would also provide a new formula for the allocation of funds...In drafting the proposed legislation, we have done so with the full realization that by far the greater proportion of highway traffic is in and around the urban centers. We have realized that our major job in the future will be to provide adequate belt routes around, and adequate arterial highways into and through these centers-and, in doing the job, to provide the off-street parking facilities within the cities necessary to make the plan workable. We also anticipate that the labor and unemployment problems will be most acute in the thickly populated areas...

"The bill further provides for an interregional highway system not exceeding forty thousand miles, so located as to connect all the principal municipal and industrial centers with each other and to meet at suitable border points with routes of continental importance in the Dominion of Canada and the Republic of Mexico..."

(It is puzzling that he indicated that 40,000 miles was in the draft bill long before the Interregional Highway Committee made its report which recommended 33,920 miles.)

In our consideration of the post-war problem, we may well find that the present system of allocation to the states calls for radical revision. It has been suggested with considerable force that individual cities and counties possessing adequate engineering departments should be treated separately by the Roads Administration. Since many of the most urgently needed improvements are centered in urban areas, it may be that such a plan has sufficient merit to warrant its inclusion in the highway act. This problem will unquestionably be considered by the committee..

In July H.R. 2798 passed instead of the planned comprehensive post-war highway legislation. The delay was primarily due to AASHO's inability to arrive at a consensus as will be explained later by Brady Gentry. Basically 2798 prevented the lapsing of prior year funds that the States were unable to obligate and made them eligible for the preparation of post-war plans. Section 5 required the "Commissioner of Public Roads to make a survey of the need for a system of

express highways throughout the United States, the number of such highways needed, the approximate routes which they should follow, and the approximate cost of construction; and to report to the President and to Congress, within six months after the date of enactment of this Act, the results of such survey together with such recommendations for legislation as is deemed advisable."

It is not exactly clear what the Congress had in mind with Section 5. The Interregional Highway Committee was then at work doing just what Section 5 called for but it was way behind schedule. The President had originally asked for the report by October of 1941. It could be that the Congress simply wanted to speed them up or it could be that they wanted their own report to provide some basis for AASHO's request earlier in 1943 for an authorization of one billion dollars per year for three years to begin after the close of hostilities. It could be that calling for a report was simply Congress' way of delaying decision on comprehensive post-war highway legislation. Brady Gentry, Texas Highway Commission, President of AASHO explained the problems that AASHO was having and the reason for delay in the legislation at the annual meeting in December of 1943:

It is...a patriotic duty to prepare for peace, and, because of this conviction, your Executive Committee last March sponsored the introduction of a bill in the national Congress that would provide \$1,000,000,000 yearly for highway construction during the first three years of the post-war period. Under the terms of this measure the funds would be apportioned by formula and for every \$3 provided by the Federal Government the States would provide \$1. Although it was our hope during the spring and summer that hearings would be held on this bill during September or October, it is a matter of regret that it was found necessary to defer them until January in order that certain very necessary preliminary work be accomplished in the meantime.

...There may be some among us who do not really believe in Federal Aid in any substantial amount, unless it is apportioned on a potential unemployment that may not, in fact, materialize. There may be those who, so believing, would make the matching provision so burdensome that the legislation would fail, because a great majority of the States could not furnish the necessary matching funds. I know, however, that there are among us a few true friends of the Federal Aid Principle, who view with some alarm the provision of this legislation, which requires the State to provide only \$1 for each \$3 contributed by the Federal Treasury. They are genuinely afraid that the construction and maintenance of highways may, in some manner, be taken over by the Federal Government. Under the present traffic restrictions necessarily imposed by the Government together with the greatly increased cost of maintenance, very few of the States can accumulate highway funds of sizeable amount. There can be no question but that the securing of more adequate financial provision by each State Highway Department from its own State Government is a pressing need. I rate it almost equal in importance to the passing of this highway legislation by the National Congress. It is also a "must" but it cannot be accomplished until sometime after the war is ended. The Federal Government, for the period of the war, has necessarily been given a practical monopoly on tax-raising legislation...I am convinced that we must have substantially greater funds from the Federal Government, not only in the immediate post-war period, but thereafter, if we are to build the kind of highway system that is urgently needed...If we continue indefinitely with the thoroughly inadequate highway system we have today, there is far more danger of losing control of this system, because of the people of our country coming to the conclusion that to have a good system of highways, the Federal Government must take over, than there is of our losing any substantial rights by the Federal Government assisting us in the construction of highways on the present cooperative basis and by a temporary ratio of three to one.

The most serious-at least the most stubborn-objection that has been raised to this legislation is to the formula...All of you are aware that the Executive Committee did revise the formula for this legislation to factors of one-half population, one-fourth area, and one-fourth post road mileage, instead of giving these three factors equal weight..as was done in the past. When this revised formula did not satisfy the objections of the heavily populated industrial States, I suggested to the Executive Committee, in the interest of trying to effect an agreement, a further slight revision, although I felt that the formula written into the Bill at least approached substantial fairness...

He went on to describe a joining of forces with the American Roadbuilders' to try to find a compromise but none was found:

...We then learned...that this proposal was unacceptable to one of the States...We were advised, in effect, that there would be a contest on the formula matter in Congress and that a request would be made to have funds earmarked for certain specific highway projects. This latter procedure would be a complete break with the long established policy not only of this Association but of the Congress...The situation in which we find ourselves is not only regrettable but somewhat embarrassing. Because all of us want justice done to each State, there can be no reason why anyone should object to a full-dress parade of this matter in the Congress, except for the fact that a controversy in our own ranks over a division of funds we don't have but which are greatly needed to secure can, and may, prevent us from getting them. I don't know whether such a controversy will be setting a precedent but it is certain that it cannot be helpful to our interests. Whether it does or does not affect the passage of this legislation, it can hardly result in other than a weakening of our influence. Realizing the gravity of the situation, your Executive Committee has taken this matter most seriously and has labored long and industriously to avert a division in our own group. It is with a sense of deep personal regret that I must report to you that we have not done so. Under all the circumstances, it does seem that unity should be restored and all of us should continue to hope that it will be restored.

He stressed the urgency of maintaining good relations with the Public Roads Administration and paid tribute to that organization and its leadership.

...That the present members of this Association, you who are in the audience today, will exert a profound influence on the future of highway development, I have no doubt. That we are at a crossroad that will determine whether this generation is to enjoy the economics and conveniences of an adequate, modern highway transportation system, is equally certain.

...If I were to prescribe for State Highway Departments and our Association, I would say that our greatest need is for serious, industrious and immediate planning, very boldly done...I recently sent many of you a copy of a letter from Mr. Hoffmann of Minnesota in which he stated that the real measure of appropriation for highways in the post-war period may depend almost wholly upon the availability of completely ready and adequate plans...We must have a modernization of our highway system and there must be a greater expansion of our activity into urban and secondary areas.

The above leads to speculation as to which State refused to go along and wanted Congressionally mandated projects.

The Hon. Jesse P. Wolcott, Michigan, Ranking minority Member, House Committee on Roads encouraged the States to prepare post-war plans at three levels to be ready for whatever

unemployment need that would be required. He noted that this would also head off Washington planning. He also chastised them for failing to use the planning funds provided:

...We are troubled somewhat in Congress because we haven't been able as yet to find a solution of this great, absorbing post-war (highway program) problem. We haven't been able to approach a program because we don't know, you don't know, no one in the world knows, what the economic conditions are going to be following our victory.

...We are trying to fit the program which has been so ably presented to us (by AASHO) into an over-all picture and it is our responsibility to consider the over-all picture and to do everything we possibly can to paint that picture in such a manner that it will reflect American principles, it will reflect the patriotism which is bringing us to victory today...

I believe we are but starting one era and that we are in the first phases of that era, in which will be determined whether American democracy is going to prevail...

...During recent years, I think we all agree there have been some danger signals that we have had to observe. There have been many attempts by those who are not as zealous of representative democracy as you and I might be to destroy it. We have had to fight off these attacks and I think we can take peculiar pride in the fact that after 15 or 20 years of attempts to destroy the American way of life, it still prevails because of the fortitude and patriotism and the courage of the people...

...In Washington today there is a special coterie of influential men who are sincere, I believe-I don't know-in their desire to socialize America. They perhaps sincerely believe that America must be socialized in order to take its position as one of a confederation of socialized nations following this war. Otherwise, according to their contentions, America might find itself isolated...from the rest of the world commercially, politically, economically and socially. And so it is their studied plan to socialize the United States in order that we may become an affiliate in this confederation of socialized nations, possibly made up of Soviet Russia, Germany, France, Italy, Spain, China and what might be left of Japan. I think they sincerely believe that unless we become a socialized nation, unless we destroy democracy, then there is a probability that the two great democracies, the United States and Great Britain, will find themselves pitted against this confederation of socialistic nations. So I give them credit for being sincere and I also give them credit for using very diverse and uncertain ways to accomplish their purpose...

...Unfortunately, the policies in respect to our own economy are controlled by this same small coterie of individuals who would socialize America, and in all of our engagements, in the consideration of our post-war program as it affects highway construction, we must constantly be on the alert against those influences which would take from you as State highway officials the jurisdiction over the construction and maintenance and use of the highways in your State.

He portrayed the highway program under the Depression NIRA program as being a precedent of a Federal centralization of authority in order to accomplish social and economic goals rather than provide for transportation. He encouraged the States to build shelves of plans for projects prioritized as "A", "B" and "C" so that depending on the size of the program required, they would

be prepared and ready to go. He also expressed disappointment with how well the States were doing in utilizing the planning funds already made available to them. General Fleming, Administrator of the Federal Works Agency in which BPR was located, also addressed the AASHO meeting:

Recently the President, by Executive Order, called upon the various departments and agencies to submit their post-war construction plans to the Bureau of the Budget, and to make frequent revisions in order to keep them up to date. The Federal Government has in prospect about seven billion dollars' worth of construction. But very little has been completely planned, with engineering surveys and actual working drawings, and much that has been planned is only partially planned. It has been estimated that of the entire seven-billion-dollar program only about six hundred million dollars' worth of it could be put into operation within the first year after the war...

He spoke at length of the difficulties of re-orienting the production machinery after the war. He stressed that it couldn't be done overnight and even though people had money to spend, it would be sometime before things could get back to peacetime productivity and, therefore, a danger of high unemployment while that process was going on. The Hon. J.W. Robinson, Utah-Chairman, House Committee on Roads also addressed the 1943 AASHO meeting. He complimented the highway departments for holding things together under very adverse war-time circumstances:

Legislation before Congress now contemplates the expenditure by the Federal Government alone of a billion dollars a year for construction in each of the three years beginning immediately after the war.

He made note of the \$10 million that was made available in the Defense Highway Act of 1941 and other funds that were made available for the preparation of plans and specifications for post-war work:

Have you these plans, specifications and construction contracts ready?

According to the September 30 tabulations of the Public Roads Administration, only slightly over half of the 1941 planning appropriations has reached a programming stage, and hardly more than a third of it has been allotted to definite projects. How far these projects have progressed in field surveys, construction drawings and the other necessary preliminaries to completion, is now being checked. But my guess is that if the war were to end before the next construction season, hardly a third of the construction potential would be in shape to begin.

...Gentlemen, a half-billion dollar construction program ready at this moment is dangerously low. An 800 million dollar program ready next spring is not enough...

...The hard fact is, gentlemen, that except in the highway field, there is no such thing in America today as a public works program ready to go. And I regret to state my fear that the highway program is not as far advanced as it should be, in view of the special need for timing construction to start quickly after the war.

He pledged himself to work for the passage of H.R. 2426 which would have provided the billion per year that AASHO asked for:

In the urban highway picture, ripples are now appearing on municipal waters that have long been undisturbed. Some of them have become sizable waves...

I have a feeling that those waves will grow larger in the coming months-that whitecaps will appear in municipalities all over America... Municipal officials will come to you asking your cooperation in their traffic problems.

I know you will do what must be done...To your past record of erecting the backbone of a highway system which now contains half of all the world's improved roads, you will add a new chapter of helping to unscramble the urban traffic congestion problem.

You will respect the city's rights to control its streets, just as the Public Roads Administration has respected the States rights to designate the Federal-aid highway system. But, working hand-in-hand with the Public Roads Administration, you will, as the Public Roads Administration does on a national scale, exercise proper supervision over the local program, to preserve the integrated network of major traffic arteries when the new urban links are welded.

The urban job must be done. If you did not cooperate in the doing of it, our cities would find ways of by-passing you, and doing the job some other way. I firmly believe that would bring about grave problems, and that the emphasis on a nationally integrated highway system which you have struggled to maintain would be destroyed.

CONGRESSMAN MOTT

Congressman Mott, Oregon, a member of the House Committee on Roads also addressed the Convention and had a lot to say about the invasion of the Congress's authority by the Executive Branch and of the demise of the National Resources Planning Board. He said that he had a prepared speech on what they (AASHO) ought to do about post-war planning but decided not to give it and proceeded extemporaneously. He stressed the need for programs to transition to peacetime activity:

You will notice I said the Congress and the country must do this and that I did not say the Government must do it...Many of them (the people) seem to be of the notion that the Government means an administration in power, and particularly the executive agencies of that administration...in my opinion this planning is a job that should be done by the Congress and the country. And I mean just that.

...I say to you that it is incumbent upon you to prepare and to formulate your plans now for post-war road construction in cooperation with the Congress, which will enact the basic law under which those plans are to be carried out. And I say to you that the principal reason why you should do this and do it now is because if you don't do it, these executive agencies will do it for you, just as they did in the days of the WPA.

I am sure I need not explain to you how this was done at one time or how it may be done again. I simply warn you that unless you insist upon exercising your rights and privileges as citizens of the United States, and unless you are resolved henceforth to keep your own Government and not permit it again to be transferred to the bureaucrats in the executive agencies, the bureaucrats will take over the post-war road building program just as they took over the depression road building program, and you will have another WPA.

He talked at length of the usurpation of power of the executive branch bureaucrats:

The Congress has been able to recapture very little of this usurped authority from the bureaucrats because, until the convening of the 78th Congress, at least, it lacked an independent majority large enough to pass the necessary remedial legislation.

Then when the war came, it was necessary for the Congress, as every previous war Congress has had to do, to pass broad war powers acts, and that has resulted in the creation of still more new agencies. These new executive agencies have gone even further than the old ones and they have made orders, directives and proclamations which affect the activity, the industry, the business, and the very life of all the people of this country, and in instance after instance they have done this without any authority of law whatever.

Nearly all of this new bureaucracy, nearly all the new agencies representing it, have been busily engaged in post-war planning ever since this war started. Most of them had no statutory authority to engage in planning but they have nevertheless engaged in planning and some of them have completed their plans and are ready to put them into effect whenever the opportunity offers; and their plans-mark you-do not exclude road building.

The best known, perhaps, of all these executive planning agencies was the National Resources Planning Board, and, I am sure, you all remember that amazing outfit. You probably have read a part of its latest report, its "cradle to the grave" report, under which the future life of all of our citizens was mapped out and planned and controlled and regimented, not only from the cradle to the grave, but for a considerable period beyond. And you may recall that this National Resources Planning Board was not created by any act of Congress. It was established without any authority of law whatever. It succeeded in worming itself into the structure of the Government and, from time to time, in securing appropriations to carry on its work, which so far as law was concerned was entirely illegal.

You may recall particularly, because you are in the road building business that when the President vetoed the Defense Highway Bill a couple of years ago, he vetoed it, not upon the advice of the Administrator of Public Roads, and not upon the advice of any agency of the Government which had been created by the Congress; he vetoed that bill on the advice of the National Resources Planning Board, no member of which knew anything about road building.

I had always opposed that Board, as well as every other planning board which had no authority in law to act, and I voted against appropriating money for it each time I had an opportunity to do so. I don't know whether I had anything particularly to do with its final demise but, as you all know, the present Congress when it came to appropriating further money to prolong the illegal life of this agency, denied it any further finances and it is now non-existent as a board. But individually it is not non-existent, because you will still find members of the National Resources Planning Board in a half dozen other agencies of the Government and they are still planning-planning to regiment the country in the post-war period, when they almost succeeded in making the depression a permanent institution.

Now I want to bring up the old WPA road building and planning program because you are all so familiar with it and to recall to your minds just what planning by an executive agency, without authority of Congress, can do, when such planning is put into practice.

You all remember how the WPA roadbuilding plan worked. More money was spent on that program for road building than was spent in the regular, constitutionally authorized way. Roads were built, of course. They were built, primarily, not to solve the transportation problem of the country, but they were used very largely as a vehicle for boondoggling. You will remember that Mr. Harry Hopkins, who was the head at that time of WPA, heartily defended boondoggling. He is said to have declared upon one occasion that the reason the American people didn't understand or appreciate boondoggling was that they were "too damned dumb."

Now it is perfectly possible, unless we do our own road planning now, for an agency like WPA to be revived and to take charge of our road building program in post-war emergency...

...Much of this planning we know little about because recently an executive order was issued which prohibited any of these agencies from making a report to a committee of the Congress, or even a report to an individual member of Congress, unless the agency first obtained the consent of the Bureau of the Budget, where most of the planning activity is concentrated...

He went on to read the Executive Order in its entirety.

...The Roads Committee reported out and passed House Resolution 243, which gives the Committee the right to investigate these agencies encroaching upon the jurisdiction of the Congress....a number of other committees of the Congress have been obliged to put themselves in the position, by special acts of Congress, of investigating committees having the power of subpoena, so that they can call these executive planners in and make them tell what they have been doing, notwithstanding any executive order to the contrary.

It is ironic that Congress put the National Resources Planning Board out of business by denying them an appropriation in 1943 before the President delivered the Interregional Highways report to the hill. Frederick A. Delano, the President's uncle, was chairman of that board and served on the National Interregional Highway Committee. There is no question in my mind that the National Resources Planning Board heavily influenced both the 1939 Toll Roads and Free Roads report and the Interregional Highways report.

In January 1944, MacDonald spoke about the "Proposed Interregional Highway System as it Affects Cities" to the American Society of Civil Engineers annual meeting. He elaborated on the economic, social and physical problems of the cities with such knowledge and understanding that it is a classic on city planning, and thus the summary that follows doesn't do it justice without losing substance. This one is worth reading in its entirety. It reveals not only his understanding of the city problems and urban planning but also the sincerity of his belief that interstate highways were the solution to those problems. He dealt with the complexity of the multiple governments of metropolitan areas. He felt that the process would work if the cities really wanted it to and the quality of the planning process was key to achieving that, and the attendant public acceptance. He felt that the Interstate System should begin in the city centers and work outward for the maximum benefit.

...the interregional system of highways has potentials for beneficial effects upon urban areas beyond any tools that have as yet been devised if the use is designed and directed by superior intelligence. But the same tool may be used to produce disappointing, if not actually bad, effects.

...Long before the war added its many difficulties, American cities were plagued by traffic congestion, sectional decadence of property values, blight, menacing tax delinquency, inadequate public transport facilities, growing deficits between costs of city government and revenues, high tax rates and a loss of confidence of investment capital in desirable housing ventures.

There is nothing new in this incomplete inventory of urban problems. They have long been recognized by public officials and by students of urban conditions. In addition to the efforts to improve the long established routines of city administration, there has gradually come into use, in varying degrees, two additional tools with which to meet certain of the city problems. These are first, zoning, and second, city planning...The principle of constituting the planning body largely from the officials who have the legal responsibility and authority to carry the various elements of the adopted plan into effect, also carries the implication that a competent technical staff and experienced consultants should be established as a continuing unit of city government. Until city planning becomes a legally established tool for the determination of administrative policies, it cannot be a dependable remedy for certain city ills.

...The actual development of the metropolitan area sections of the interregional highway system, with the coordinated additional expressways, if located and designed in harmony with present needs, and an intelligent conception of the city of one and two decades in the future, have inherently a compelling force not present in either zoning as practiced or theoretical planning. The development of the system is a tool of high potential value to secure a more desirable city and, in common with all tools, depends for the actual results upon the soundness of the conception which determines the scope of its use.

...The interregional system of highways and ancillary motorways intended to serve the modern city, must be designed to meet the needs of the whole metropolitan area...In each metropolitan area there are large numbers of governmental units, upon which are superimposed additional administrative units, each having legal authority and responsibility within independent or overlapping subareas, and each possessing a greater or lesser degree of autonomy...

This is the core of an impossible area administrative problem in the absence of a legal organizational method to integrate common interests.

The storm center of the urban problem is the matter of decentralization--the explosion of the city beyond its fixed corporate limits.

In this setting, the proposed interregional highway system looms as perhaps the most plausible solution to the transportation deficiencies of the modern urban area. If the cities so determine, the interregional highway system can provide an unparalleled opportunity for rebuilding along functional lines, following rational master plans.

...If the plan is given effect, values in decadent areas will be progressively restored and those in the central business district will be preserved by the conversion of all urban land to its best use. Destructive and uneconomic decentralization will be checked and nucleated...

...Provision must be made for terminal and parking facilities as an integral element of the major highway and street plan. This is in keeping with the recent recognition that an over-all service from origin to destination is necessary for the full realization of the speed, economy and convenience of efficient highway and street service.

...If the interregional highway system is to be truly effective for the uses for which it is designed, it must be conceived only after a careful and complete functional study of the city organism. It may then be possible to devise a rational plan of future land use that will assign more or less specific areas to each of the principal classes of use - residential, cultural, business, industrial, etc. Having planned such rational distributions of land use, it may be possible to obtain the public consent necessary to the establishment of legal controls and the machinery that will assure an actual development over a period of years in conformity with the plan...

But whether or not there is acceptance of a rational course and control of development, the provision of interregional routes will exert a powerful influence in the shaping of future development of the city. This beneficial force should be so applied as to promote a desirable development or, at least, to be consistent with a natural development...

Thorough study of the problem indicates that the sections of the recommended system within and in the environs of the larger cities and metropolitan areas are the most important in traffic service and yet the least adequate in their present state of improvement. These routes include those around, as well as those into and through the urban areas. If priority of improvement within the system be determined either by the benefits resulting or the urgency of need, it is to these sections that first attention should be directed.

Our cities are worth preserving. The gradual remodeling of the existing amorphous city structure into neighborhood cells is both logical and natural. The city will always form the vital nucleus serving the essential needs of the metropolitan region. Because the building of highways and streets exerts such a profound influence on urban life, the proposed interregional highway system may well constitute the key to the functional rebuilding of our cities. But the cities themselves must recognize that while opportunity is at hand, they must exploit it to the fullest, if they are to survive. Like the Greeks, they must consciously endeavor to create acceptable and convenient surroundings for life.

FDR DELIVERS THE INTERREGIONAL HIGHWAYS REPORT TO CONGRESS

In January of 1944, the President transmitted the Interregional Highways report to the Congress. Presumably the timing was designed to influence the highway hearings soon to begin. He said:

On April 14, 1941, I appointed a committee, known as the National Interregional Highway Committee to investigate the need for a limited system of national highways...to advise the Federal Works Administrator as to the desirable character of such improvement, and the possibility of utilizing some of the manpower and industrial capacity expected to be available at the end of the war.

...By Public Law 146-78th Congress, Section 5, Commissioner of Public Roads, Thomas H. MacDonald, was authorized and directed to make a survey of the need for a system of express highways throughout the United States...and to report to the President and to Congress, within six months after the date of the Act...The Act was approved on July 13, 1943.

The purposes of this directive by the Congress were identical with my own in requesting the investigation which has been made by the National Interregional Highway Committee...The Commissioner of Public Roads has informed me that he concurs without exception in the report of the committee, and desires that it be accepted as his report, complying with the direction of Congress in Public Law 146.

I am glad to endorse this suggestion...

Early actions by the Congress in authorizing joint designation by the Federal Government and the several State Highway Departments of a national system of interregional highways is desirable, in order to facilitate the acquisition of land, the drawing of detailed project plans, and other preliminary work which must precede actual road construction.

These advance steps taken, the program can serve not only to help meet the nation's highway transportation needs, but also as a means of utilizing productively during the post-war readjustment period a substantial share of the manpower and industrial capacity then available. A program of highway construction, will, in addition, encourage and support the many diverse economic activities dependent upon highway transportation.

From personal experience, as Governor of a State and as President, I hope that the Congress will make additional studies in regard to the acquisition of land for highways.

...As a matter of fact, while the courts of the different States have varied in their interpretations, the principle of excess condemnation is coming into wider use both here and in other countries...

The report recommended a 33,920-mile system. As stated earlier, the House bill under consideration at that time already had a 40,000-mile system in it for hearing purposes. The report also recommended that the program begin in the cities and work outward since that was where the greatest need for traffic relief existed.

THE 1944 HIGHWAY HEARINGS

AASHO President S.C. Hadden summarized the original proposal of a year earlier calling for One billion dollars per year for three years on a two dollars Federal for one State basis to take effect after the war but to be available for obligation immediately. He said that there was a new element to be considered now, namely, the interregional highway system recommended by the President which the Congress had put in the bill for hearing purposes. He noted that there was not unanimity among the States on that system. He renewed AASHO's long-standing request for the Federal government to abandon highway user taxes in favor of the States. AASHO felt that the fuel tax, levied in the Depression as a temporary emergency measure to provide employment, should either be abandoned or the Federal government should expand the highway program such that all highway user revenues would be returned to the States. He reported the results of a recent national needs study that totalled \$11 billion. He supported the interregional system provided that it was simply a route designation problem and that no special fund was provided and that flexibility among States as to standards was provided. He said that AASHO wanted only

one Federal-aid system and one Federal-aid fund as in the past. Some States wanted the new kind of highways represented by the interregional system and others felt that they had no need for them and therefore ought to be able to choose.

He said that despite provision of special funding and urgings from Congress and BPR, the States could not prepare post-war plans until the Congress committed itself as to the size of the program and BPR issued its regulations, otherwise, they had no way of knowing what to plan and design for. Almost all highway departments presented testimony. The States were clearly divided on issues. Finances were at such a low ebb that many States saw the 1/3 State, 2/3 Federal matching ratio as a necessity to get going again after the war. Others saw it as a precursor of loss of independence and sovereignty to the Federal government.

Herman A. MacDonald, Maine, and C. H. Purcell, California, testified that the urban program was overdue. The urban motorists paid a lion's share of the highway user taxes and generated a majority of the highway travel. Mr. Purcell was a member of the President's Interregional Highway Committee that recommended the Interstate System to the President and the Congress. Before passage of the 1944 Act, President Hadden warned the AASHO members that they would not get all they asked for:

Having reached the conclusion that it is necessary to sell and resell, and keep on selling, this partnership between the Federal and State governments in road construction we decided to feature this subject in some of the formal papers prepared for presentation to this convention. We took cognizance of the growing opposition to going to Washington for money, and we noted also that many who opposed the spread of the Federal aid idea to other activities than road building have a tendency to conclude that the best way to prevent this spread is to uproot all present forms of Federal aid. Even some great newspapers have opposed Federal highway aid for the admitted reason that it was the first and most satisfactory example of this phase of governmental policy. We heard just enough of this sort of reasoning to become concerned about the future of Federal aid for highways so we decided to have some papers prepared which will review the benefits of this policy from the standpoint of the States, the Federal Government and the Congress...

...The fact that our pending legislation was introduced in Congress during the first week of April, 1943, and we were unable to get this subject set for public hearing until the last day of February of the present year (1944) will serve to accentuate the coolness with which Congress received our proposal for a greatly augmented program.

He recounted the history of the partnership and paid tribute to it and to Thomas H. MacDonald.

It will be recalled that we recommended to Congress a Federal grant of not less than \$1,000,000,000 a year for each of the three years following the end of the war for highway purposes. Congress was unwilling to make such a large appropriation at this time and we have to be content for the present with half that amount. Even so, at the reduced level the program should become permanent and not merely for a three-year period. Moreover, after the interregional system has been designated, as we trust it will be, it may be possible to secure a supplementary appropriation of large size for expenditure exclusively on that system without interfering in any way with general and basic State and local highway development. Again, if the State highway departments show that they can go into the urban communities and make improvements as successfully as they have demonstrated their ability to construct them in the open country it seems highly possible that important additional grants for urban developments may be forthcoming. This presents a distinct challenge to all of us to exert ourselves to the utmost to expend to the complete satisfaction of the public

whatever funds may be appropriated at this time for the urban extensions of our State and Federal road systems.

...Strong opposition in Congress exists to the use of Federal funds for the acquisition of rights-of-way and this seems to us to be unfortunate. We should continue our efforts to convince the members of Congress that such use of Federal grants is not only legitimate but is necessary if we are to make the type of urban improvements which are long overdue and which are so urgently required...

...Recently there has appeared organized opposition to our legislative program from some elements of the petroleum industry. We hope and believe that this condition will neither long continue nor reappear for it is quite obvious that unless we are successful in our efforts to recapture for highway use the entire proceeds of Federal taxes on highway use the States will have no alternative but to advance their taxes on motor vehicles and motor fuels, especially the latter.

CONGRESSMAN ROBINSON

Congressman Robinson summarized the testimony for AASHO. There were a total of 110 witnesses and 3,100 typewritten pages of testimony. Some excerpts:

The significance of the hearings was brought sharply into focus by Public Roads Commissioner Thomas H. MacDonald, who pointed out that the legislation proposed "is not temporary, but will mark the progress of road construction for the next quarter of a century."

Out of the enormous volume of testimony on this bill—a measure which may become the first concrete action by Congress in post-war planning—there emerges substantial agreement on six cardinal points:

1. An urgent need exists for a highway development program after the war to overcome accumulated deficiencies in the road system, to catch up on construction and reconstruction deferred during the emergency, and to meet the nation's anticipated transportation requirements.
2. The Federal program must recognize the sovereignty of the States, preserving intact the principle of Federal aid which has characterized road legislation without interruption for nearly three decades. This includes the allocation of Federal aid funds among the States on a formula basis, matched by State funds, and administered by the Public Roads Administration in a coordinate relationship with the States.
3. The program must encourage continuance of competitive bidding on construction and major reconstruction projects under the contract system.
4. All projects shall be approved for Federal aid in conformance with a definite classification of road systems, and on the basis of selective improvements to meet transportation needs of the economy. These needs are, in general terms: (a) the construction of modern expressway facilities adequate to carry large volumes of traffic between, into and through densely populated areas; and (b) improvement of the farm-to-market systems, both the primary and secondary, to standards that will permit safe and economic use
5. Congress should enact in a single, comprehensive bill all necessary post-war Federal legislation in the highway field, dealing with every phase of the problem.

6. It is necessary for the Congress to act without delay. Highway projects, if they are soundly planned, take a great deal of time, due to the complex legal, financial and engineering problems which must be solved. But only after national policy has been clearly determined, and the extent of Federal aid indicated by authorization, can the States and communities make full progress in their post-war road construction programs.

INTERREGIONAL SYSTEM

Joint Federal-State designation of an interregional system of highways was endorsed by a great majority of the witnesses...

While the American Automobile Association proposed the definite earmarking of 60 percent of the Federal funds for interregional projects, and this position was supported by some of the New England States, the general weight of testimony favored leaving the allocation to the States, within the limits of the Federal-aid legislation, working in cooperation with the Public Roads Administration.

The representative of only one State-Colorado-testified in opposition to the interregional system. Alabama spokesmen said they believe the system is sound, but that funds under this bill should be left free for most urgently needed road work. A South Dakota representative endorsed the interregional program, but opposed inclusion of enabling legislation for it in this bill.

While agreeing to the necessity for development of arteries linking population centers, farm spokesmen took a stand against overemphasis of urban problems, and requested that full consideration be given to the needs of the secondary and feeder roads directly serving the farm population.

The American Farm Bureau Federation representatives objected to funds for "superhighways", but was assured that "this committee is not at all in sympathy with the building of "superhighways." It seems to us that most of the highways this bill contemplates building are, in a large sense, farm-to-market roads."

THE LAST GASP

In July of 1945, the American Highways reported the last gasp of the superhighway craze:

H. R. 50 (Randolph) authorizes construction of \$12 billion system of transcontinental superhighways engineered by the Army and financed by U. S. guaranteed bonds issued by a "Transcontinental Streamlined Highway Corporation". The transcontinental highway system would include one superhighway from Boston to San Francisco; two extending from the Great Lakes region and New York to Florida; one from Minnesota to Laredo, Tex.; one from Florida to San Diego, Calif.; and one between San Diego and Vancouver Island.

THE NEW ERA

The passage of the 1944 Highway Act began a new era for the highway program in many ways. AASHO did not get the billion dollars per year that they asked for. It was half that. The Act provided that no funds could be paid out until a formal declaration of the end of the war emergency was made, but apportionment took place immediately and obligation to projects could begin. AASHO had asked for that feature in order to allow detailed project planning. Presumably, if the States had had the money, they could have proceeded with construction but deferred asking for payment until after the war emergency.

The Act was revolutionary in that, for the first time, funds were earmarked by program, that is, the Federal-aid highway system (so-called primary), secondary and feeder roads and the Federal-aid highway system in urban areas (so-called urban extensions of the primary system).

The Act provided no Interstate funding and simply authorized designation of the most important routes on the existing Federal-aid system which had, since 1925, been called interstate when the U.S. numbering system was established. The Act specified that Interstate was to be a part of the regular Federal-aid or so called primary system.

Commissioner MacDonald told how things were going under the new legislation when he addressed the annual meeting of AASHO early in 1946. He noted that just a little more than a year had passed since passage of the Act and the funds had become active only four months before. He described a new comprehensive reorganization of BPR to deal with the completely new program and recommended that the States do likewise. For the first time, District (now Division) offices were established in all States. He announced a new formal agreement with AASHO for joint review of all regulations and standards before issuance and the establishment of urban and secondary advisory boards. He noted that urban Interstate designation had gone poorly with some States submitting none at all and announced suspension of further designations for the time being. Two thousand miles had been tentatively designated. He thought that a reservation of 2000 miles for later designation would be adequate. The urban Interstate designations were a problem for the highway departments. A well established pattern existed for the rural designations by virtue of existence of the top 1% of the Primary system on which the Interstate recommendations were based going all the way back to Toll Roads and Free Roads and to the 1925 designation of the U.S. numbered "interstate" routes. No pattern existed for urban areas where the highway departments were inexperienced. This was further confused by the authorization by the Congress of special funds for the urban extensions of the primary system in the same 1944 Act. The relationship between the urban extensions and the urban Interstate was unclear.

He gave the status of the secondary system. Only a little more than 6,000 miles had been approved out of 151,762 submitted.

In a few States the counties are offered only the minimum degree of participation required by the 1944 Act, i.e., a voice in the selection of the routes to be designated in the Federal-aid secondary system, without subsequent county participation in the formulation of the program or in the actual construction. In other States there has been established in the State Highway Department a division of Secondary Highways with an engineer in charge who has full authority to cooperate with local highway organizations and to delegate to them as much of the responsibility for planning, engineering and construction as each county is organized and equipped to undertake. This type of cooperation is patterned after that which has been successfully established between the State highway departments and Public Roads.

He stressed the need for a greater emphasis on management in the highway departments as opposed to construction in order to administer the new highway program:

In many cases the State administrative organization is poorly adapted to perform the greatly increased tasks of the immediate future. In the main these States still have the organization structure set up more than 25 years ago, except for additions through the natural process of accretion. The result is an obsolete type of organization, inadequate and ill-suited to proper and well managed operation. In such cases the only possible solution is a major reorganization which will achieve the modern, efficient and integrated structure essential to present-day administration.

At the same annual meeting, Congressman Robinson paid tribute to AASHO's role and effectiveness in the passage of the 1944 Act but warned them that they were on trial in the urban

program, construction standards on the Interstate, and the Interstate/Federal share. He warned that the Congress left the details of the degree of participation of the counties and the cities to the States lacking any certain knowledge of what else to do. He noted that after a trial period, the legislation could be changed if necessary:

The Federal-Aid Highway Act of 1944 authorizes the designation of a National System of Interstate Highways not exceeding 40,000 miles in extent. No special fund has been provided for use solely on this system but both the funds for the Federal-aid system and those for urban highways may be used in its improvement. Because of variation in conditions among the States no attempt was made to specify what portion of available funds should be applied to the Interstate System.

These will be the most important roads of the nation and should be improved to the high standards justified by large traffic volumes. Any considerable lack of uniformity among States in service to traffic would be a serious defect in the system. The standards for the Interstate System adopted by your Association are indicative that you fully realize the need for a uniformly high degree of improvement, and afford the best assurance that it is safe to leave this matter in your hands. However, should one or two States fail to keep abreast of the others in this important matter it might be necessary to consider introducing corrective measures in the law.

Full benefit from the National System of Interstate Highways will be realized only when it is completed in all of its parts...Sharing of the cost on a generally 50-50 basis is the teaching of our past experience in building the Federal-aid system. I have seen no indication that equal sharing of the cost...will not be equally satisfactory. Should it become necessary to increase the ratio...action can be taken when that event proves the need. In any case, I anticipate no eventuality that will suggest a complete Federal assumption of responsibility for the cost of construction...

His theme throughout was a willingness to test and experiment with this new program and a willingness or perhaps a determination to make changes in the light of experience. But the post-war program was not going well. President H.A. MacDonald addressed the AASHO convention early in 1946:

In the corridors of congestion and confusion of our urban territory we hope, under the new Federal-aid bill which for the first time recognizes these barriers to a free and safe flow of traffic, to remedy this situation substantially. It should not, however, be seized upon by large cities as an opportunity or an attempt to turn over all their highway and traffic problems to the State.

It is becoming increasingly evident that in carrying out the vast post-war program there are certain difficulties which will be encountered-the high cost of construction, the reluctance of contractors to bid large projects because of the uncertainties of labor and materials cost, and the attempt being made to subject the highway construction program to control by some authority that could automatically stop highway construction or start it up depending on the unemployment situation.

As President I have taken the liberty in behalf of the Association to write to the Secretary of War and Secretary of the Navy appealing for the prompt discharge

of engineers from the military and naval services of our country so that we may not be hampered by lack of trained personnel in our construction program.

Late in 1946 Commissioner MacDonald described the post-war program as the third period in the partnership when the program was altered beyond its normal course:

The first of these was the result of the desperate efforts to supply employment...The second period was ...the war years..

He noted that obligations were very, very slow:

We are in a third period...The Federal-aid projects put under way since the bars were taken down (the end of the war) approximate 40 percent of our estimate of the program that would have matured with the funds available under normal postwar conditions...The evidence indicates that any further extension would not have been justified, since 28 percent of the projects are lagging due to deficiencies in one or more of the necessary elements (labor, management, equipment and materials). In general, additional awards would only have increased this percentage of lag.

We are, as yet, a long way from being out of the woods, and in the many years of cooperative effort between the State highway departments and Public Roads there has never been a time when mutual helpfulness and tolerance were needed as they are now...As public officials responsible for highway administration, it is our duty to inform the public at large, and more particularly the legislative branches of the State and Federal governments, of the problems currently confronting the integrity of our highway plant. Fortunately, to serve this purpose we have the factual data from the highway planning surveys...

At the late 1946 annual meeting, President M. J. Hoffman talked a good deal about the disruption of the highway program because of the inability of the industry to transition quickly to a normal post-war economy. He noted that, of a billion dollars apportioned, only about one third was obligated. He recommended that Congress be asked to extend the time period to avoid lapse of the funds. He worried about the possibility of a cutback of funds in future legislation because of the inability to obligate. He spoke of forces at work in the Congress advocating a reduction of the Federal program, repeal of the Federal gas tax and the limitation of Federal funding to the Interstate.

He noted that the Association had gone on record in the past in favor of repeal of the Federal gas tax but counseled that the Association ought to change its position because he felt that insisting that the Federal share be paid out of general revenues would seriously endanger the program.

This year a number of the States have made encouraging progress in developing workable relationships with city and county agencies of government to carry out the provisions of the Federal Aid Highway Act of 1944. Due to the delays occasioned in actual construction work we have not as yet demonstrated our ability to meet the test which these new and important provisions of the law impose upon us. It is of the utmost importance to the future of the highway program that the States meet the situation successfully, through close cooperative relationships with their city and county agencies. We must justify the confidence which the Congress has expressed in the ability of the State governments to administer the Federal aid program for all elements of a statewide highway transportation system, urban and rural alike.

At the same annual meeting, Congressman Robinson again reminded the members of their duties. He spoke of the slow beginning of the post-war highway program but felt that the legislation should not be judged by that but by the principles that it laid down:

The 1944 Federal Highway Act determined as a matter of national policy that the United States is not going to embark upon any elaborate and extravagant super-highway program. The members of this Association are familiar with the various proposals brought forward during the decade prior to World War II in spanning the continent in colossal gridiron pattern with ribbons of concrete. The Transcontinental highway idea found strong advocates...Congress rejected this proposal. However, Congress was fully aware of the need of an integrated nationwide system of modern highways. The 1944 Act provides that kind of a network.

...The national policy has been set. We are embarked now on a program under which the Federal Government and the States, working jointly, will develop a national system of interstate highways. The need for this system is urgent. We should therefore forget about transcontinental super highways and concentrate our attention, energies and available funds upon the program established by law.

He said that the Act reaffirmed the long-time policy of dealing only with the highway departments against a very strong movement to pass money directly to the cities and the counties. He felt that the urban provisions were perhaps the most important in the whole Act and that it was incumbent upon the highway departments to demonstrate that the Congressional decision in that regard was a wise one.

He said that it was imperative for the States to develop a cooperative planning process with the cities because with the limited urban funds available it would take many years for solutions to evolve. Lacking a systematic process there would inevitably be mis-allocations of funds such that inequities would develop.

URBAN PLANNING

As though to respond to Congressman Robinson's admonition on the need for the development of a cooperative urban planning process, AASHO published a series of articles on Community Planning, Urban Development, and Housing by F. Stuart Fitzpatrick, of the U.S. Chamber of Commerce. It was in the April 1947 issue of American Highways. The series dealt very competently with the whole issue of transportation and urban redevelopment. Commissioner MacDonald spoke frequently in urban planning forums such as in early 1947 to the Joint Council of Planning Boards in Essex County, New Jersey, where he referred to the home interview technique as an extension of the Planning Surveys and noted that one had just been completed in Newark. He wrote an article for the American City Magazine, "The Case for Urban Expressways":

The opposition that has developed in several cities to the construction of expressways and other boldly planned highway improvements is not surprising.

He noted that there had always been opposition to each new era of highway building.

It seems that history is to repeat itself about express highways for our cities. A number of our cities are debating an important question: "Shall we build highways which will enable traffic to move into and through the city quickly and safely, or shall we try to get along with things as they are?..."

One of the most important purposes of the current highway program is to unsnarl urban traffic tangles as quickly as possible by providing facilities commensurate with traffic requirements. This purpose will be defeated if city officials and other

local authorities spend years in debating whether the need for an expressway through the city warrants the cost, or whether this thoroughfare or that thoroughfare should be developed as a controlled access highway.

Objections raised by opponents of expressway plans are based upon the contention that (1) the width of the right-of-way required for an expressway necessitates razing a large number of dwellings at a time when the city is in the throes of an acute housing shortage. (2) depressed sections of the expressway would be "big ditches" which in effect, would disrupt the customary activities of the community by creating a barrier between neighborhoods, and (3) it would be less costly to widen streets which, if moderately improved, would serve present traffic needs. The loudest objection is that express highways cost too much.

On the other hand, no matter how urgently a highway improvement may be needed, the homes of people who have nowhere to go should not be destroyed. Before dwellings are razed, new housing facilities should be provided for the dispossessed occupants. This question of housing should be accepted as one of the major planning problems when a city decides that it needs and wants an expressway.

It is not true that depressed expressways are "big ditches" or barriers between neighborhoods. Overpasses at selected street intersections are a salient feature of expressway design. These overpasses, by separating through traffic from local cross movement and eliminating the need for stop-lights, tend to speed up the movement of local traffic on cross-streets, and thus increase the ease of communication and business interchange between adjacent neighborhoods.

As to the contention that expressways are too costly, and that it would be cheaper to widen existing thoroughfares, there is much that could be said in rebuttal.

He spoke of the higher traffic capacity of the expressways and the economic consequences of stagnation and blight.

The redevelopment of our urban areas is a whole book within itself, and highway planning is one of the most important chapters. What is or is not done will affect every property owner in concentrated population and industrial centers.

In the fall of 1947, MacDonald spoke to the Business Men's Conference on Urban Problems of the U.S. Chamber of Commerce:

The Federal-Aid Highway Act of 1944 holds greater promise of aid to the cities than any other recent national legislation, because it supplies the two essentials of a definite long-term administrative pattern and financial assistance reasonably comparable to the work that can be actually accomplished under existing conditions. To evaluate this new legislation it is necessary to review the Act. The Federal Highway Act of 1944 alone, among all highway legislation in the countries of the world, aims at the achievement of an integrated development of the major classes of streets and highways to effect an ultimate national traffic network. In this, its principal characteristic, it abandons the limited objectives of the Federal Highway Act of 1921 and all State legislation of the earlier period, to recognize, and provide for, the revolutionary changes that have occurred in a quarter of a century in the character of highway improvement needs.

Individuals narrowly concerned with the interests of cities on the one hand, and persons shortsightedly regarding rural interests on the other, with some show of superficial warrant, might have condemned the exclusion of (the cities in) these first modern highway charters. Nearly all of the laws enacted not only did not provide for the improvement of streets in cities, but actually by specific exception prohibited expenditure of the funds they (the cities) created for any work inward of the fringes of cities. And, all alike, they excluded from the systems of main rural highways by far the larger portion of rural road mileage (secondary), and that, the part most intimately located in relation to rural homes.

The fact is that in the earlier years at least, scarcely a voice was raised in opposition. City people, well satisfied generally with the condition of their streets, cheerfully paid in road-use taxes the lion's share of the cost of the inter-urban rural highways, which actually they desired above all else. And rural people in general accepted the practicable improvement of the longer part of their several routes to town as the more important part of the interminable task of road building to everyman's gate.

But, whereas the States have been slow to provide funds under State control for the improvement of city streets and secondary rural roads, a tendency, emerging earlier, to apportion increasing parts of the State-collected road-user taxes to government subdivisions for expenditure on city streets and local rural roads, has developed more rapidly.

..."Urban area" is a new legal concept which disregards the boundary lines of governmental subdivisions and encompasses municipal and suburban satellite areas in a single district defined by traffic. It recognizes the expansion of the city as a fact accomplished.

Of greater interest to the larger cities doubtless, is the designation, announced on August 2, of the complete intercity network of the national system of interstate highways. This network, comprising 37,681 of the 40,000-mile eventual extent of the entire system, includes 2,882 miles in cities, forming the principal extensions into and through the connected cities. The remainder of 2,319 miles has been reserved to permit addition in the larger cities of distribution and circumferential routes, essential as terminal connections of the system. Designation of this further mileage in cities, now under way, requires the close cooperation of city, State and Federal authorities...

The great difference between the new and the old programs, as far as the cities are concerned, is that the cities are to be as closely associated in the new, as they were definitely excluded at the inception of the old program.

...No longer tenable is the idea, once prevalent, that cities are places to be avoided or by-passed by through highways...

The task of designating additional urban routes of the interstate and Federal-aid systems is the essential first act of this program (the development of a highway plan). It is a task that can be greatly facilitated by traffic origin-and-destination surveys, and one, indeed, that cannot properly be completed in the absence of such surveys...

There is altogether too much fear of the so-called decentralizing effect of expressways. The type of decentralization now in progress is inevitable,

expressways or no expressways. Our cities are expanding, de-densifying, to use the action term. In the expressways now planned we see only the beginning of provisions of the strong, new transportation bonds that are needed to tie the future wider spread of the metropolitan areas to the urban centers. Concern may be more constructively directed to the extension of municipal limits to encompass the actual spread of urban aggregations, or (perhaps more properly and) to other measures, financial and legal, administrative and planning, which will conduce in other ways, as positively as expressways within the scope of their potentialities, to the cohesive and harmonious development of the inevitably enlarging metropolitan areas...

...Each one of the problems which can be met by more efficient internal transportation requires land. Controlled-access arterials, improved transit, better terminals, sufficient parking areas, parks and parkways and all other of such elements that will be characteristic of the re-designed modern city - must reconvert space now used for less important purposes. It is fortunate, and not a catastrophe, that people are establishing their homes outside the central city areas. The space thus vacated is needed for other public purposes. It is a happy circumstance that living conditions for the family can be re-established and permit the social as well as economic decay at the heart of the cities to be converted to a public asset. It is certain that the cities face a bright rather than a disastrous future if faith and courage are at the helm.

MacDonald chose urban planning as his topic at the 1947 AASHO annual meeting in New York City:

It is desirable that major effort in system selection activities be applied to the selection of the Federal-aid system in urban areas ...Preliminary instructions have been sent out to our Division Engineers to proceed with this important step.

He noted that the designation of the rural Interstate was complete.

The additional designation of interstate highway routes in the cities will proceed simultaneously with the further selection of routes for addition to the Federal-aid system in urban areas. The latter selection will embrace the former, and in addition will include the routes of substantial importance as arteries within the urban areas. The result will be a large expansion of the existing Federal-aid mileage in the urban areas, and of course a corresponding increase in the scope of application of the Federal urban-area funds.

NOTE: The designation of the remaining urban Interstate did not take place until 1955, almost ten years later.

He gave a detailed accounting of the status of the program. The shortage of trained personnel remained critical.

The results already obtained from the Nation-wide highway planning survey should convince even the most skeptical that local as well as national transportation policies must be determined upon the collection, analysis, and use of factual data...

He urged the highway departments to make contact with rail, air and water officials and invite their participation in the planning process.

In a large and unfortunately increasing measure, the great tidal movements (in urban areas) are inefficiently accomplished in private motor cars. In large but undesirably decreasing part, they are served by mass transit facilities...We shall have to learn to think of mass transit as highway traffic, and as a form of highway traffic especially in need of improvement. Whatever we can do to promote the patronage of mass transit and reverse the past trend toward the preferential use of private automobiles will be a contribution of great benefit in the solution of urban traffic problems. Unless this reversal can be accomplished, indeed, the traffic problems of the larger cities may become well nigh insoluble. We will make this highly desirable contribution only if, in the planning of our urban arterial improvements, we incorporate the special provisions that are needed for the service of express mass transit in its several appropriate forms...

...The States of New York and California have set high standards in the (planning) reports they have prepared. Before the next legislatures meet the other 46 States must be equally well informed, and we have the responsibility to the Congress to provide them with equally adequate information for the Nation as a whole. This is the important task ahead.

The highway program continued to languish. AASHO President C.W. Phillips spoke of dissent among the ranks of the highway constituency and the need for developing the next highway legislation even though they were far behind in the utilization of the authorizations of the 1944 Act:

...As we are now far along in this post-war program, we again are faced with a serious problem, and that problem is-what may we expect after the present appropriation of Federal Aid is programmed? The Federal Aid Highway Act of 1944 seems to have the framework to cover all fields of highway needs-regular Federal aid, urban, and secondary. Yet in our anxiety to develop one particular type in which we are most interested, we are prone to be fighting among ourselves. My earnest conviction is that we should first dedicate ourselves to the need for all types of highway transportation...How much better it would be if all groups would coordinate their efforts in one movement for highway transportation instead of organizing as individual groups for one specific type of transportation. After the amount of money available for highway use has been determined, then representatives of urban, rural, and the connecting highways should agree on an equitable allocation for the three. To me, it is this lack of unanimity of purpose that keeps the public in a state of confusion. Any highway administrator has to make an equitable distribution of funds for all types of roads if he has a well-balanced system. So it is or should be with our nation's highways. We find certain groups of highway users interested in arterial highways only. We find other groups interested in expressways in cities, and still others who are interested only in the rural roads-and yet it is the responsibility of the State to have an adequate system for all, dependant upon the amount of revenue received. This confusion is bringing about a fight by some to decrease the highway user tax. If all highway user revenue was being used for highway purposes we would have a system of roads for all, which would be satisfactory, and the fight of one against the other would not exist. While this fight is going on, activities other than highways continue to benefit...

...We would not have the splendid system of arterial highways across our nation had it not been for the ability to plan ahead and have the Federal Government join the State in its obligation. Despite this, there is a concerted effort to break this contractual relationship between the State and Federal Government. This is where the full support of all highway user organizations is needed. The future

outlook is far from being optimistic, and unless and until, all interested parties can sit down around the table and plan the future of highway development, just so long will this pessimistic outlook be prevalent. Automobile manufacturers, petroleum and rubber producers are beneficiaries of this great transportation system of ours. Why then can't representatives from these, together with the highway engineer, sit down around the table and work out an overall formula for the future of highways?

In January of 1948, in a speech to the Road Builders', MacDonald stressed the fact that the highway program was in trouble and falling further behind. He presented statistics to show that heavy expenditures of the highway dollar on maintenance at the expense of new construction and replacement was uneconomical but the reality was that the industry could not absorb more new construction money until the contracting industry capacity and materials shortages were solved, making it necessary for the time being of spending more on maintenance.

...There has been criticism or at least disappointment, expressed at the rate at which the postwar highway program has been advancing. It is true that funds have not been expended at the rate they have been made available, but nevertheless a very substantial program is under way. There is considerable evidence that work has been offered somewhat in excess of the rate at which the construction industry can absorb new projects...

...Steel has been the most difficult material to obtain; deliveries have been slow and uncertain...

...Poor management - failure to start the work on time, and failure to push the work - is reported as the direct cause or contributing cause for unsatisfactory progress on 31 per cent of the projects which are behind schedule...the real reason for unsatisfactory progress is that the individual contractor has been awarded more work than his organization can handle simultaneously...

...Powered equipment and the rate at which its use is expanded on highway work has become the most important factor in production.. we cannot increase the rate of highway construction very much faster than the equipment industry increases the rate at which it supplies its highway-contractor customers with replacements and repair parts...

Let us not follow the delusion that there are any easier conditions for the production of new construction just around the corner. So long as private capital investment holds at anywhere near the current rate there will be the same critical shortages for which we should not compete with public funds. While the public actually has a capital accumulation of tremendous importance in the contractor's organization and his equipment, which must be kept intact and operating, we should not attempt to expand the highway program at current prices, and we must therefore place our greater reliance for the immediate future upon intensive maintenance to keep our highway plant in operation...

H. R. Baldock, Oregon, outgoing AASHO President in 1948, deplored the inability to get the post-war program going and the danger of lapse even though the Congress had extended the 1944 Act funds twice. He felt that toll roads would come to the fore unless the highway departments could demonstrate that they could build modern highways, solve the urban problem and put the funds under obligation:

... Last year the Congress extended the time of taking up the federal funds one year; the 1948 Road Act extended it another year and, unless the States make better progress, I would not be at all surprised that it would have to be extended the third year to prevent certain of the States from losing federal funds. Personally, I would not be in favor of this. If any State cannot so conduct its affairs as to accomplish a three-year program in five years, it deserves to lose the money and should not object to its allocation among States which can spend it.

He spoke of the efforts in the Congress to reduce the program level to \$300 million or less:

...Finally in compromise, and just before the Congress adjourned, the conferees of the Senate and the House agreed upon an authorization of \$450,000,000 for two years. Under the circumstances, and based upon the record, I believe this was a major victory, but let me warn you that, unless States are able to make materially better progress in the next two years, it is my opinion that we will not be able to get another authorization of funds two years hence.

...We must immediately put our house in order and show by our deeds and not by our words only that we can meet this challenge. We cannot let grass grow under our feet; we must do it now.

...Failure to proceed forthrightly may, in fact, jeopardize the continuance of federal aid for highways.

...The phenomenal growth of traffic, particularly in and around the urban areas, has resulted in a marked demand for an expressway type of construction. The shortage of federal and State funds for road building and the tremendous demand by groups of people every where for their alleged share of available funds to modernize highways have resulted in the promotion of a number of miles of toll roads in various parts of the country.

There are two schools of thought, one believing that the imposition of tolls - a procedure generally used and abandoned years ago - is an obsolete method of financing and, in fact, now constitutes double taxation. Other groups claim that, be that as it may, it appears impossible to secure sufficient State and federal funds to allocate the great sums required for the specific projects in question because of the opposition of groups in other portions of the State. It is said that this opposition does not materialize if projects are financed through the sale of revenue bonds amortized by the collection of tolls and that the people who need the improved facilities so badly are more than willing to pay the additional charge in order to realize the benefits now rather than wait for them in the indefinite future.

...Therefore, in general, it would seem that toll roads represent an additional charge against the road user, either directly or indirectly, and that their promotion should be discouraged. Certainly their use should be a major exception and not the rule. It would seem better to obtain more dollars to expedite the building of free roads. I recommend that the Association oppose the construction of toll roads on the federal-aid system and reaffirm the wisdom of the provision of federal highway legislation establishing the principle of freedom from tolls.

At the annual meeting of AASHO in 1949, MacDonald again took up the worsening highway situation. He recounted the tremendous increases in traffic and loads on the highways and the

mounting deterioration of the highway system resulting in an increasing backlog of reconstruction. The percentage of new projects reaching plan approval stage were declining. The moratorium in the war years caused increasing maintenance costs that were currently eating up matching funds. He stressed the need for increased State taxes and use of bond issues to catch up. He stated that toll roads were no way out of the dilemma. The industry was, for the first time, ready to take on a bigger construction program but State financing was the problem. There were hints of a declining national economy:

Against these service requirements and indicated potentials must be measured the progress in highway improvement. Taken by itself the Federal-aid operations of the latest fiscal year are encouraging, but relative to needs the whole program of construction and maintenance is inadequate and unbalanced.

During the four years since the end of the war, there has been completed and opened to traffic a total of nearly 50,000 miles of Federal-aid highways. Another 19,000 miles are programmed for construction. These figures constitute an enviable record, particularly in view of the many difficulties that have confronted the highway construction industry in this postwar period.

He noted a declining annual percentage of plans developed through the approval stage. He gave a status of each class of funds:

The urban program has not kept pace with the primary and secondary programs. Projects completed to date account for less than the first postwar fiscal year apportionment of urban funds. Although 80 per cent of the urban funds apportioned for the fiscal years 1946, 1947, 1948, 1949 and 1950 have been programmed, less than 60 percent have been covered by approved plans.

Interstate system improvements...accounted for about 30 per cent of the total amounts (of urban and primary). About 23 per cent of the primary funds and nearly 46 per cent of the urban funds are for interstate system improvements...The rate at which interstate system improvements have been programmed during the postwar period thus amounts to about 1,000 miles annually.

;By way of comparison with this actual progress, the report Highway Needs for National Defense indicates that a capital investment averaging probably more than \$500,000,000 annually will be required for the next 20 years if the system is to be brought to a state of adequacy during this longest reasonable period.

The Joint Economic Committee of the Congress in July of this year requested the Governor and highway officials of each State to submit to the Committee a report of highway deficiencies in their State. A report prepared under direction of the Committee indicates that 44 States estimate their highway deficiencies to be in excess of \$29 billion dollars.

He recounted the many reasons that the program got off to a slow start after the War:

As we entered the 1949 construction season the situation had changed greatly. Materials and equipment were in general readily available in adequate quantities although spot shortages of steel and cement are still being reported occasionally. The labor supply was much improved in both quality and quantity. Workmen more experienced, more energetic and more dependable could be obtained. Instead of being troubled with a shortage of labor we are now being asked

expedite highway construction work in certain areas where unemployment threatens to become a serious problem.

As a consequence of these improved conditions bid prices decreased steadily during the first six months of this year...

An important deterrent to progress this year has undoubtedly been the inability of some of the States to provide matching funds for the available Federal funds...

Because of the cessation in highway construction during the war years and the increase in both volume and weight of traffic since then, the Federal-aid highway system has been wearing out or becoming obsolete at a much faster rate than reconstruction has been performed and permanent improvements made. This resulted in extremely heavy maintenance costs and has necessitated recourse to low type reconstruction and improvements as temporary expedients to keep traffic moving. As Federal funds cannot be used for maintenance, the abnormally large expenditures have caused further disparity between the Federal-aid funds available and the State matching funds available for new construction and reconstruction on fully adequate standards...

In summary, we might be tempted to become complacent because of the very considerable dimensions of the current construction program. But an honest evaluation of the rate of highway improvement compared with the necessities can leave only one conclusion-that we are seriously losing in the battle with traffic...

Among the problems which are demanding priority of consideration is the inadequacy of current revenues. We cannot provide for the traffic in expanded quantities and increasing weights in the postwar period with prewar revenues. We cannot solve our most serious traffic problems by toll roads. The very fact that the worst congestion occurs within the metropolitan areas rules out the toll road because of its operating characteristics. Further, the financing of roads with revenue bonds is an expensive expedient. Toll roads financed with revenue bonds should not be confused with roads supported by faith and credit of the public...We know from our records that we obtained the most rapid extension of the first systems of modern roads now in service in many States by bond issues which have been comfortably carried by a fraction of the expanding revenues, and there is no valid reason now why this process cannot be repeated where necessary.

MacDonald reviewed the worsening highway situation late in 1949 with the American Roadbuilders'. He noted that a whole new set of design standards had come into being because of the requirements for increased speed, traffic volumes, truck weights and safety. He referred to these as an integrated set based on research on driver behavior whereas in the past, each standard stood alone without consideration of the other functions involved. He then reviewed the condition of the system against those standards and defined the result as highway needs. He also listed the legislative deficiencies of the highway departments to carry out the 1944 Act. He described the Interstate System as being the main routes of the primary system and being the highest priority for improvement because it would carry the greatest traffic and thus have the greatest pay-off. He ended by estimating the cost of up-grading the whole system at \$4 billion per year over 15 years, an increase of 27% in the size of the highway program. He predicted that without an increase, the performance of the system would decline.

A NEW POLICY

In October of 1949, D.C. Greer, President of AASHO, announced a new policy which for the first time advocated a separate funding category for the Interstate System:

The American Association of State Highway Officials, in a special meeting in Chicago, Ill. on November 21, adopted an important and far-reaching statement of national policy on new Federal-aid for highways...

...After long and earnest discussion, the Association adopted a statement of national policy on the matter and therein advocated an annual program approximating \$810,000,000 per year in Federal funds. The new recommendation for the first time, would make provision for work on the Interstate System of Highways, as such; setting up a special category in the amount of \$210,000,000 per year Federal funds, to be matched on a 75-25 basis by state funds. This contrasts with the 50-50 matching on the primary, secondary and urban programs. The Interstate funds would also be available on a new formula of population...

No State was to receive less than 3/4 of 1 percent.

At that same meeting, there was some resentment exhibited concerning the large expenditures the Federal government was making to repair war damage in Europe while allowing the highway system to deteriorate in this country. The following editorial in American Highways, which was a reprint of a member's testimony in 1944, is an illustration:

In 1944 a member of this Association, testifying before the House Committee on Roads relative to the Federal Aid Highway Act of 1944, made the following comment:

May we direct attention to another fact, which, while not pleasant, would better be faced, and that is that the expenditure of Federal money will not cease with the winning of the present war. Doubtless many demands will be made upon the Government for the contribution of American funds for use in the rehabilitation of devastated areas and the reconstruction of ruined public works and privately owned industrial establishments in various places all over the earth. While many of these demands, perhaps most of them, will emanate from foreign sources, it is not unlikely that many voices in support of such loans or grants will be raised among our own people. Let us remember that not only state and local highways but also state and local highway revenues are among the war casualties, and it would be well for us to consider repairing such damages here at home before even considering what we might do in helping to repair the war damage in other countries.

This observation was pertinent when made in 1944 and it is pertinent in 1950 as we approach the subject of new legislation for Federal aid for Highways for the fiscal year 1952 and beyond.

American Highways reported House action on the 1950 highway bill that proposed earmarked money for Interstate for the first time:

On February 22, 1950, the Honorable Will M. Whittington, Congressman from Mississippi and Chairman of the House Committee on Public Works, introduced H. R. 7398, a bill to continue Federal aid for highways. Congressman Whittington included in this bill most of the recommendations set forth in the policy statement of the American Association of State Highway Officials, as approved in Chicago in November, 1949. Major deviations from the policy statement had to do with the

amount proposed. H. R. 7398 proposed a total of \$570 million for the Interstate, Primary, Secondary and Urban Systems; whereas, Association policy recommended a total of \$810 million for these four categories...

...On March 30...Chairman Whittington introduced what is known in the Congress as a "clean bill", H.R. 7941, which is the original bill H.R. 7398 as modified by testimony set forth during the hearings.

The clean bill was reduced to \$500,000,000 with an additional \$70,000,000 for Interstate at a 50-50 match. Senator Chavez had a bill under consideration in the Senate, but as of April, no action had been taken.

ROLLING AT LAST

The highway program finally got rolling by 1950. Commissioner MacDonald reported to the highway officials of the North Atlantic States that there were no shortages of material, construction prices were falling, and construction was proceeding at a record rate. The Federal-aid program was the largest in history in 1949. He also introduced a milestone proposal to realign the Federal-aid process into two phases - surveys, plans, cost estimates and rights-of-way and second, the actual construction. With this new system, project agreements could, for the first time, be entered into for pre-construction project planning.

In a speech to the American Road Builders' in March, he gave the same optimistic outlook but said that needs were growing faster than it was possible to provide facilities. He said that a 4 billion dollar program was necessary to reverse the rising portion of the highway dollar devoted to maintenance. He repeated his proposal to divide programming into two steps: surveys, plans and right-of-way and second, actual construction. He felt that this would encourage the development of a back-log "shelf" of plans. He noted that the greatest highway deficiencies were on the Interstate and that experience proved that highways strategic to Defense had to be built in peacetime. He quoted President Truman's budget message to the Congress urging increased emphasis on the Interstate as critical to the National defense:

These facts were clearly recognized by the President "...major development of our highway system is required to overcome obsolescence and to handle safely and efficiently the steadily increasing traffic loads. This is primarily the responsibility of States, counties and municipalities. The Federal Government must, however, continue providing financial assistance to the extent necessary to assure a basic system of national roads, built to uniformly adequate standards...Increased emphasis,...should be placed upon the Interstate Highway System, a limited network of routes which is of greatest national importance to peacetime traffic needs as well as to our national defense."

WAR AGAIN

After several post-war years of being unable to use the money at the rate authorized, the program had finally begun to roll and the urban and Interstate programs were beginning to receive vigorous attention. For the first time since World War II the highway industry was in a position to take on a bigger program. AASHO proposed an expansionary bill which the House went along with, but before the Senate could act, the Korean War had started. An editorial in the American Highways in October of 1950 gives the details:

The day following the passage of the amended Federal-aid Highway Act by the United States Senate, the Washington Star, one of America's leading newspapers published an editorial on the Senate action...:

THE SENATE FAILS IN A TEST

The Federal-aid Highway Bill was the first big authorization measure to come before the Senate after the start of the war in Korea. It thus provided something of a test of willingness to cut domestic, non-defense expenditures - cuts which in part would offset the huge new defense budget requested by the President.

The Senate did not measure up to the test. In response to a plea from the President, its Public Works Committee - in charge of the bill - cut out some \$240 million to be spent over a two-year period. Senator Byrd, Senator Bridges, and Senator Douglas, working for the same ends but not always as a team, persuaded the Senate to go further than that and reduce the bill by another hundred million or so. But the bill passed by the Senate yesterday, and which now goes to conference with the House, still calls for spending more money than the Budget Bureau recommended and is still a substantial increase over what is being spent now-although what is being spent now was appropriated when there was no war in sight, no tremendous increase in military expenditures and no big tax increase in prospect.

The Senate should have cut the authorizations below peacetime expenditures, if only as an indication to the country of its realization of the very serious fiscal situation that lies ahead. It failed to indicate any such realization....But in a test of bona fide economy, the Senate failed.

Lets face the grim fact that this is indicative of a serious situation regarding American highways - the importance of the American highway in peace, or war, has not been made clear to the people of this country.

The House acted on new road legislation early in 1950, and passed a bill very much in line with the national policy of the American Association of State Highway Officials. The Senate, however, did not get around to acting on the matter until late in the summer, when the whole world atmosphere had changed. In addition the Senate version was quite different from that of the House. For the first time in this writer's experience, responsible Newspapers and radio commentators have referred to the new legislation as "pork barrel legislation," with all the connotations implied in that term. This is something new in national highway matters...The above editorial is from a responsible and respected newspaper, and yet, it shows clearly that our roads and the part they play in our national life are not fully understood...

Our peacetime economy is built around highway transportation; in war, our very survival depends upon it. And yet, the people have not been made to understand these facts. Why? Where have we failed?..

When MacDonald addressed the AASHO convention in December 1950, he felt that an increase in transportation services was necessary in order to serve the rapidly growing economy. He cited two policy mistakes of the past: the cessation of the highway program in wartime and the disregard of the State legal load limits by military cargoes. He spoke of five developments that were contributing to pressures for increased highway transport: decentralization of industry, decentralization of parts manufacture, decentralization of central cities, decentralization of population to the west coast, and growth of the population of automobiles. He outlined the military requirements as being the Interstate routes with emphasis on urban, since it was difficult for the

military movements to get through cities. He outlined the changing statistics on the transportation requirements of fruits and vegetables, milk, livestock and the changing population and the resulting effects on the highway system. He made the case strongly that the highway program had become so critical to the economy that it should not be turned on or off because of other national goals such as unemployment. He outlined the critical deficiencies of the Interstate System with emphasis on bridges and obsolete alignment. It is interesting that in this period the Interstate was regarded as in place and needing improvement instead of a brand new system to be built and "completed" from scratch. The two demands of the military sparked by the Korean War on the one hand and civilian needs on the other coupled with the critical condition of the Interstate presented a grave national problem. The rate of new construction was falling so far behind demand that an ever increasing share of the highway dollar was going for maintenance with a disastrous long range outcome. He urged drastically increased planning survey activity to gather the data and document the situation requiring a heavy increase in the highway program. He anticipated controls due to the war and wanted to have the facts ready. Alarmed and concerned by the outbreak of war, AASHO made these two resolutions, among others, in December of 1950:

RESOLUTION NO. 1

Whereas the world economic, political and military forces are so violently unbalanced that they are thrusting the United States into a life and death struggle for its survival as a free nation; and

Whereas the nation's economic and military strength springs largely from its vast transportation systems and is directly proportional to their strength; and

Whereas the United States and all of its people and its agriculture, industry and commerce are now utterly dependent upon motor vehicle transportation and the highways and streets over which they travel; and

Whereas this system of transportation is now in a seriously weakened condition resulting from inadequate maintenance and construction during the depression and neglect during the last war occasioned by restrictions placed upon construction and maintenance because of the totally unsound theory that the highway plant of the nation may be neglected during a war period; and

Whereas the highway and street systems of the country are so inadequate that they cannot sustain our nation's defense and economic requirements if they are again classified as being highly expendable; Therefore be it

Resolved, That the American Association of State Highway Officials in convention assembled in Miami, Fla. December 4-7, 1950, does direct the attention of all Federal and State government agencies to the pressing need for continuing an accelerated program of highway construction and maintenance...

RESOLUTION NO. 3

Whereas the recent alarming turn of events abroad emphasizes the pressing need for increasing the transportation capabilities of the nation; and

Whereas the completion of the Interstate System of Highways will greatly contribute to the execution of the defense program; Therefore be it

Resolved, that the American Association of State Highway Officials in convention assembled in Miami, Fla. on December 4-7, 1950, urges the Congress and the several States to do everything possible to expedite the construction of the Interstate System of Highways...

At the 1951 AASHO meeting, MacDonald gave a report on the number of projects that were delayed because of the failure of steel deliveries because of controls imposed by the war. He noted that the highway program was being criticized for asking for more steel than the historical program justified. He defended the requests on the grounds that the nature of the highway program had changed completely because of the 1944 Act so that history was not a good measure. He gave a complete rundown on the status of the program. He gave essentially the same speech as the year before in regard to highway needs running far ahead of the rate of replacement. He decried the concept that mile-by-mile needs for steel could be made in Washington.

An excerpt from a report in the American Highways journal illustrates the difficulties the program endured during the Korean conflict:

From the very beginning, the highway officials have been faced with a difficult philosophy on the part of certain Federal agencies administering the steel program. That is, that highway modernization and reconstruction is not essential under the present circumstances. Confronted with this philosophy, actual accomplishment in the interest of the highway program has been difficult, if not impossible. Allocations made thus far to actual programs, particularly in the structural steel category, have been far below estimated minimum requirements, and the problem has been doubly complicated by the fact that allocations in all too many instances meant nothing more. Acceptance of highway steel orders for actual delivery have been far below the allocated steel tonnage, which was, in turn, far below the estimated requirement. Thus far, the highway program has managed to struggle along, but the future is indeed a gloomy one. A strong resolution on the subject was adopted by the general session meeting in Omaha in October, 1951. What the developments will be in 1952 it is impossible to predict at this time, but certainly this much should be obvious that our highway plant, the conveyor belt of defense production, is no more capable of meeting these international demands than were our production facilities and, as our production plant has been, and continues to be, expanded, so must our highway plant be expanded. If the highways break down, the other efforts will fail...

THE END OF AN ERA

Thomas H. MacDonald made his last speech as Commissioner of Public Roads to the AASHO meeting in December of 1952 at Kansas City. There is no indication that he had any inkling of his impending retirement. The speech was titled "A Choice of Guides."

He advocated taking the case of the deteriorating highways to the public, especially the Interstate, in the face of growing highway use both by automobiles and trucks, as an avenue to achieve legislative change. He was alarmed at the rate of deterioration of the highways and the looming National emergency of the Korean War. He had learned that the highway program does not fare well in National emergencies. He knew that the States at long last had the capacity to take on a bigger program to stem the tide but the war was interfering:

The Problems, both quantitative and qualitative, confronting highway officials, have grown to current dimensions in a period so short, there has been no opportunity for general public analysis and understanding. These are now required. Only the compelling authority exerted by an informed public opinion will activate coordinated efforts by all of the official representatives of the public, - the legislative, the judicial, the executive agencies throughout the reaches of local, state and federal government. The validity of our form of government is

dependent upon the action of those who are delegated by the public to represent them in the making of laws which must set in motion any public undertaking. On the record of the past we have faith that if information of the character and integrity essential to a clear understanding of the current highway problems is placed before our legislative bodies, their action will be responsive. To supply our law-makers with full data from continuous engineering and economic surveys and studies is the most important single duty we have as highway officials. We now have methods to serve the purpose, refined by actual use, upon which firm reliance may be placed as supports for unassailable conclusions.

The search for truth is old - it characterizes man's efforts to advance. As long ago as the latter half of the second century A.D., the philosopher Lucian is reported thus:

Then***this choice of roads and guides is quite a serious matter; we can by no means just follow our noses; we shall be discovering that we are well on the way to Babylon instead of to Corinth. Nor is it advisable to toss up, either, on the chance that we may hit upon the right way if we start upon any one at a venture. ***I cannot think we ought to gamble recklessly with such high stakes, nor commit our hopes to a frail craft, like the wise men who went to sea in a bowl; ***And as to the perils of blundering into one of the wrong roads instead of the right one, mis-led by a belief in the discretion of Fortune, - it is no easy matter to turn back and get safe into port when you have once cast loose your moorings and committed yourself to the breeze; ***Your mistake was at the beginning; before leaving, you should have gone up to some high point, and observed whether the wind was in the right quarter, and of the right strength for a crossing to Corinth, not neglecting, by the way, to secure the very best pilot obtainable, and seaworthy craft equal to so high a sea.

It is important before deciding upon the guides to follow in determining our recommendations for legislation or new administrative policies, to review the factual and research data from the studies of the State Highway Departments and the Bureau of Public Roads which will provide a sound foundation for public understanding of our critical highway situation and clear some of the foggy ideas now prevalent.

He went on to point out that even though automobile ownership had increased rapidly after the war, the highway problem was exacerbated by the increased speeds of cars and numbers, sizes and load carrying abilities of trucks which were rendering vast mileages obsolete due to narrow widths, steep grades sharp curvatures and other geometric and physical deficiencies. He reviewed each of these characteristics in detail. He noted that the old design standards of the twenties were carried well past the thirties because of the emphasis on hand labor and minimum use of materials to stimulate employment.

"...there is ample evidence that highways today are only fractionally as adequate for today's traffic demands as they were two decades ago." He noted that many States had performed "needs studies" and that in general they showed that the annual outlay for highways was less than 60% of that required."

He cited California as following good procedures:

A logical pattern is evolving in California which has the validity that only experience can give. The experience there confirms the rapidly changing

qualities of the problem. In bare outline, the State Legislature in 1947 established a Study Committee composed of its own members to survey the highway problem on a State-wide basis. The Committee called on the Automotive Safety Foundation to provide a technical staff. In close collaboration with the State Highway Department and some technical personnel from the Bureau of Public Roads, a comprehensive report was developed which provided a sound foundation for the recommendation of the Committee to the Legislature, and for the highly important subsequent action of the Legislature. The Highway Department, the counties and cities were given a new highway improvement charter and authority for coordinated action.

...A new study is now urged, with special reference to the cities and urban areas. A logical fourth study is the secondary or farm-to-market road requirements. After these, there is the continuing need to review annually the whole inventory as the only reliable guide for program planning.

There is no new or unproven method involved. The idea has been urged since 1934 when the first outline of the highway inventory was circulated by Public Roads for the planning surveys. The President and the Secretary of the Association sent urgent recommendations to all the States in August, 1951, to undertake an inventory of road needs. The Executive Committee and the Association itself have approved the idea. The States have responded with data that have been used by the Association in support of Federal-aid highway legislation before the Congress, but the studies have not been uniform or continuous and thus do not carry the weight of conviction they should.

...There should be maintained in each State a unit to produce an annual report on highway needs. The Automotive Safety Foundation, whose staff has been responsible for many of the best State reports, should continue this activity and also be requested to help develop a standard manual on procedure and content of the "needs studies and reports". The Foundation can render most important services in a consulting capacity on request of any State. The reports which have been prepared in collaboration with a number of States, have pioneered the development of an essential administrative tool which how should be accepted and used continuously.

...The use of continuing surveys and analysis as a basis for determination of annual programs and financial policies, is relied upon heavily by all successful corporations. An announcement of an expansion in plant always reflects competent market analysis and other research by expert organizations. This approach can be modified and used by each State highway department through a competent planning survey division.

The highway departments are being forced into transportation activities far beyond the traditional functions of road building and maintenance. There is no way to avoid these new responsibilities and yet retain the authority and prestige which the highway departments have acquired by meritorious performance.

THE BEGINNINGS OF CHANGE

I mark 1952 as a critical year because it marks the beginning of more favorable times for the highway program. There was a new President representing the first change of political party in twenty years. World War II was behind us and the Korean War was sputtering out. The highway program had been through a long hard time from the Golden Years of the twenties. The Great Depression really wiped it out even though a lot of money was thrown around. It was just beginning to get back on its feet when World War II shut it down almost completely. After the war,

it couldn't get going, not from a lack of money but from a lack of personnel, materials, contractors, machinery, and so on. The highway system was in a state of accelerating decay by 1952. But the highway departments and the industry were in a position to take on a much bigger program. The public was beginning to be aware of the highway crisis. The mood of the Congress was changing as illustrated by Senator Spessard Holland's speech to AASHO in December:

...Practically every witness appearing before the Public Works Committee this year stressed the need for stepping up the work on the National System of Interstate Highways, not only as a defense measure, but also to keep up with increasing demands of the National economy, and to promote greater safety. It is recognized that portions of this system have received a larger percentage of Federal-aid funds in recent years, and that the system bears the greatest burden of traffic, at all times and particularly during periods of national emergency. It consists entirely of vital mileage on the primary aid and urban aid systems, which forms an inter-connected system of interstate trunk routes, which now totals about 38,000 miles and is to be increased to 40,000. Congress took cognizance of the increasing importance of this system and authorized an additional \$25 million annually to be expended exclusively on the Inter-State System. Apportionment to the States will be on the same basis as the funds for the primary system and subject to the same matching provisions. Though the amount authorized is small, this new item is the initiation of what may become a beneficial and additional program on the most important of our highway network.

I hope that this Association may seriously consider throwing its weight heavily behind the enlargement of this new program with an eye to early completion or modernization of the National Interstate System. I believe that there is probably no other way by which you can render such great service to the security and economy of this nation, as well as to the safety of the millions of citizens who use the trunk highways in ever increasing numbers, as by giving ardent all-out support to the effort to speedily complete and modernize the Interstate System.

This was an interesting twist where a Congressman was urging AASHO to get behind a highway program.

...There are many serious problems that must be worked out to improve our highway system and protect our investment, since the highway usage is running far ahead of the highway improvements. The capacity of our highway system is diminishing due to the wearing out of older roads without sufficient replacement or reconstruction to keep step with the wear and tear. We are also failing to keep up with obsolescence and are making insufficient progress with new construction to meet the increasing demands upon the highway system, which are due largely to the vastly increased number of automobiles. In other words, as an overall picture, I fear that we are losing rather than gaining ground in our program for modernizing our highway system despite the fact that the critical importance of our highways to the economy of the Nation is now recognized by everyone. It has been clearly shown that highway usage increases at about the same rate as the expansion of the National economy.

...all methods of financing highway construction by State and local governments must, from time to time, be fully re-examined as to their continued availability and their effectiveness. It is my hope that the Senate Committee on Public Works will conduct exhaustive hearings on the financing of toll roads, turnpikes, and expressways, early in the next Congress to try to find a clearer pattern or patterns for the solution of this problem which relates so closely to the completion of the Interstate System and also other major links where traffic is heaviest.

Some suggest that the present Federal Aid Act should be amended so as to allow Federal Aid on such projects. On this I am certainly not ready to make any commitment, but the subject deserves study because of its great importance.

...Some of our most serious problems of highway transportation are in connection with urban areas. The large increase in the number of motor vehicles using the highways and city streets has created bottlenecks in urban areas, some of which could be removed or lessened by proper traffic studies and law enforcement.

Congressman Dempsey gave extensive statistics to make the case that the accident record on the Interstate System was totally unacceptable and urged an accelerated program to up-grade it. He characterized the current authorization of \$25 million as "feeble" and decried diversion by the Federal Government of highway user revenues. He advocated \$450 million per year for the Interstate alone but felt that Congress wouldn't go that high. He said he intended to introduce legislation providing \$200 million per year for the Interstate. (Note that the Interstate was still regarded as a system in place in need of upgrading.)

The President of AASHO, Bertram D. Tallamy, noted that 1952 was the year of the H Bomb. He said that the U.S. had been on a wartime footing for more than a decade and expected that the highway program would have to proceed on that basis for at least another ten years regardless of the outcome of the Korean War. Congress had passed the largest Federal-aid bill in history and he expected steel controls to be eased by summer. He called attention to the \$25 million earmarked for Interstate as being a first. He cited figures to show that only 2800 miles of this most heavily used system were satisfactory. He discussed the declining condition of the highway system in general and recommended that every State and the Congress initiate a comprehensive study of highway finance. He criticized the high rate of Federal diversion of highway user taxes and recommended that AASHO continue to oppose Federal highway use taxes. He advocated getting together with the trucking industry in promoting better highways. He took note of the phenomenal rise of the toll road movement. Shortly thereafter, he directed the building of the New York Thruway.

The April 1953 issue of American Highways' lead article heralded the installation of F.V. du Pont as Commissioner of the Bureau of Public Roads and another announced the retirement of Thomas H. MacDonald after 34 years of service.

In his retirement from the public service, it can properly be said that it marks the end of an era of highway progress of proportions undreamed of at the time he assumed office. Unquestionably, America's leadership in the highway field, and highway progress in the years to come to a considerable degree, will be a reflection of the vision and integrity of Thomas Harris MacDonald.

THE NATIONAL HIGHWAY STUDY

Hearings of the Subcommittee on Roads, Committee on Public Works, House of Representatives, 83rd. Congress - April and May 1953. The Chairman was J. Harry McGregor, Ohio.

The hearings were significant in that the Committee postulated twelve questions and asked all witnesses to respond to all of them. The questions ranged across Federal diversion of highway-user taxes, desirability of a Federal trust fund and whether the Federal government should get out of the program altogether and curtail BPR. These hearings set the stage for the need to fund and build the Interstate System, with emphasis on the urban portions, more than the 1955 hearings which accepted the need as a given and spent most of the time studying suitable funding and apportionment schemes. These hearings were named "The National Highway Study". The following list of selected witnesses and the positions taken by each has been greatly reduced, but even so it is long; however, it is quite informative and the information was critical to the future of the Interstate System.

THE TOPICS CONSIDERED

1. Proposal of the Governors' Conference that the Federal Government relinquish the tax on motor fuel in favor of the states.
2. Proposal of the Governor's Conference that the activities of the Bureau of Public Roads be curtailed.
3. Proposal that motor fuel taxes be deposited in a trust fund for highway purposes.
4. Proposal for the extension of turnpikes and toll roads as well as transcontinental superhighways.
5. Proposal to increase funds for the Interstate System of highways.
6. Possible participation by the Federal Government in maintenance and repair costs.
7. Comparison of administrative and engineering expenditures for highway purposes in the various States.
8. Direct local effects of constructing highways which bypass urban areas-beneficial or detrimental?
9. Proper allocation methods with respect to access roads. (Defense plants-timber access-mineral resources and the like.)
10. The relationship of existing highways to military and civilian defense requirements necessary to meet an emergency.
11. Coordination by Federal agencies in the planning and construction of roads through national parks, forests, Indian reservations, and other government owned land.
12. The effect of heavy vehicle traffic on highway specifications and construction costs.

SELECTED WITNESSES

2. Francis V. du Pont, Commissioner, Bureau of Public Roads accompanied by H. S. Fairbank and C. D. Curtiss, Deputy Commissioners. Mr. du Pont noted that legislation to create a highway trust fund had been introduced by Sen. Magnuson in S. 216 and by Mr. Kluczynski in H.R. 3637. He also noted that delay in funding the Interstate was contributing to the construction of toll roads.
4. J.T. Sanders, Legislative counsel, the National Grange. He was for farm to market roads; Against toll roads; Against diversion; Against the Federal Government relinquishing the fuel tax; Against curtailment of BPR.
5. Sinclair Weeks, Secretary of Commerce denied any plan to curtail BPR; Had no position on Federal diversion; Thought privately financed toll roads were O.K.
6. Matt Triggs, American Farm Bureau opposed the Federal fuel tax; Opposed earmarking; Against toll roads; Against special funding for Interstate; For curtailing BPR's authority to set standards; Federal aid should continue without the fuel tax; Against Federal size and weight laws; For revenue sharing.
7. Angus McDonald, National Farmer's Union was for more money earmarked for farm to market roads.
8. W.R. Kellog, City Manager, Cincinnati wanted more money for urban expressways; Against bypasses and for BPR and earmarking.
9. Thomas A. Burke, Mayor of Cleveland said that Federal financing should not be curtailed; BPR presence was required to insure that urban and rural segments of the Interstate connected and would be built to uniform standards; Against a trust fund on general principles; Against toll roads; Interstate should be 100% Federally funded; For Federal participation in maintenance on Interstate; Said bypasses were not the issue but whether highways were constructed in accordance with comprehensive planning; BPR should enforce uniform weight standards.
10. V.E. Gunlock, Commissioner of Public Works, Chicago said the States are insensitive to urban highway problems; The leadership taken by the Federal Government in the 1944 Act was a great step but a strong Federal presence was necessary in the construction of the urban Interstate; Chicago gets back only 1/4 of user taxes paid in; Mandatory Federal aid to cities was absolutely essential.

11. George G. Hyland, Commissioner of Public Works, Boston said States favor rural highways; The big problem was in the urban areas; There should be direct Federal aid to urban areas.
12. Raleigh W. Gamble, Director of Expressways, Milwaukee was opposed to BPR curtailment, but said that BPR should become sensitized to urban needs; For a trust fund and increased Interstate funding; He said that the difference between the mayors and the governors was rooted in the fact that the Federal Government was the greatest diverter of highway user taxes; He said that the urban areas went through the diversion period with the States a few years back but that was solved.
13. Chelsie Senerchia, Mayor of Miami and chairman of the roads committee of the American Municipal Association. He said that more than half of user revenue is earned on city streets and that the 1944 Act, great as it was, did not rectify the rural bias in the allocation of Federal resources; Traffic congestion was approaching crisis proportions in the cities; The Interstate would not be able to function as a system if it was constantly interrupted by unimproved city street systems; The Congress should get on with the urban Interstate and strengthen the urban features of the 1944 Act to insure that the funds actually get to the urban areas; The Federal Government should not relinquish the fuel tax; BPR should not be curtailed.
14. Glenn C. Richards, Superintendent of Public Works, Detroit; A national master plan for highways should be prepared by BPR detailing the division of responsibility for all levels of government; O&D studies should be the basis for the master plans; Only a team effort could produce a rational highway system: Highway officials must realize that highway users are their customers; Highway users must not avoid paying their fair share; The highway program would languish until the interested groups could pull together; A national needs and fiscal requirements study needed to be done as a basis for any future tax or program revision; He opposed the Federal Government relinquishing the fuel tax; BPR should be strengthened; BPR consistently pointed out since 1939 that the big highway need was in the urban areas; The Federal Government should take care of the urban Interstate and it should be top priority; Interstate matching rate should be 75% Federal; Federal diversion should cease.
15. Alex M. Clark, Mayor of Indianapolis was for Federal nondiversion; For a trust fund; Felt the power of BPR should be severely limited and that the Federal Government should not relinquish the fuel tax; Was for national size and weight standards; Under questioning, he did not know what BPR did. His curtailment position was based on a State's rights anti-Federal bias.
16. John O. Broadway, President, City Council, Huntsville, Ala. He was pro-highway, pro urban, pro BPR and pro Federal fuel tax.
18. Charles M. Ziegler, Commissioner of Highways, Mich. and President of AASHO, noted that 38,000 miles of Interstate had been designated, the remainder to be urban. He was against relinquishing the fuel tax, against BPR curtailment and Federal diversion. He felt that bypasses were neither good nor bad but it depended on the case; The Interstate cost estimate was \$11 billion; The program should be at least \$210 million per year; He was against Federal aid for maintenance and was neutral on toll roads; He felt that the road tests would settle the size and weight issues; He felt that the Federal share of the Interstate should be 75%.
19. B.D. Tallamy, Superintendent of Public Works, N.Y., past President of AASHO and Chairman of the Executive Committee. He said that nationwide the country was falling behind in the highway program and that Federal aid must be increased; Interstate should be apportioned on a population basis.
20. A.E. Johnson, Arkansas and Vice President of AASHO, referred to a General Motors essay contest titled "How are we going to finance the adequate and safe highways that we need?" (Which was won by Robert Moses.); Johnson felt that the upcoming AASHO Road Test would provide definitive answers to the size and weight, damage, and user tax questions; He said that traffic was increasing at a phenomenal rate.

21. R. A. Harriss, Miss. and member of the Executive Committee of AASHO, advocated returning Federal highway user taxes to the States according to the current apportionment formulas.
22. R.H. Baldock, Ore. and Past President of AASHO, said that the country was losing ground in the highway program and that heavy truck loads had increased tremendously, nevertheless the highway design standards were adequate for new construction but there was a tremendous amount of mileage that must be brought up to those standards. Congressman Brownson referred to a Gallup Poll conducted the week before asking whether the public would support a toll system with two East-West & two North-South routes. The results were 63% approval. Baldock opposed toll roads.
23. D.C. Greer, Texas and Past President of AASHO, stated that the Federal Government should get out of the fuel tax since it was temporary and the traditional province of the states; He said that the highway program was falling behind travel growth and that the Interstate should be apportioned on a population basis.
24. Jack Garrett Scott, National Association of Motor Bus Operators, opposed linking Federal user taxes to the highway program level; He said that highways belong to the States and taxes for them should be the exclusive purview of the States.
25. Hugh Gregg, Governor of New Hampshire, said the Federal Government should relinquish the fuel tax to the states and that BPR should not be curtailed; He said that if the taxes were not relinquished, a trust fund should be established; He opposed paying for utility relocation with highway funds. He considered that a diversion of highway funds.
26. There was discussion of Senate Resolution No. 44 offered by Senator Nichols, Mich., which was the so-called Hearst plan of returning the Federal user taxes to the states. It was publicized by the Hearst newspapers.
27. Charles M. Upham, The Motor Transport Committee advocated 100% Federal funding for the Interstate and that it be built in 6 yrs. He testified that weight was not a factor in the deterioration of roads if they were properly designed in the first place.
28. H.K. Griffith, Highway Commissioner, W.Va., said that Federal aid should be increased to match Federal revenues and that the cost of the Interstate should be 100% Federal or abandon the Federal fuel tax altogether.
29. P.M. Thornton, Associated Gen. Contractors of America, advocated elimination of Federal diversion and that Interstate funds be delivered to the States through current channels; There should be uniform highway specifications for all States.
30. George C. Koss, AGC and AASHO, said to continue requiring competitive bidding on highway projects; He was for highway authorizations to be available for longer than two years.
31. E.L. Schmidt, Secretary of Highways, Penna., testified for no increase in Federal aid but that apportionment formulas should be more on population; No increase of Federal share; No earmarking by system; No Federal aid for rights-of-way, engineering, parking, etc; Federal Government should abandon the fuel tax and that minimum control should be exercised by BPR; There should be no special funding for the Interstate; There should be only one category of Federal aid and there should be only one Federal-aid system.
32. William A. Stinchcomb, AAA, said that Congress should expedite completion of the Interstate; Half of Federal aid should go for Interstate and the Federal Government should bear 3/4 of cost of Interstate rights-of-way; This would end the rash of toll roads; He strongly supported BPR and advocated no Federal aid for maintenance; Apportionment of Interstate should be based on population; The Federal Government should relinquish the fuel tax to the States; Axle loads should be held to 18,000 and 32,000 lb; Trucks should pay more; Against toll roads and against tolls on the Interstate; Urban studies should be expedited to answer such questions as by-passes etc.; Urban areas were under funded; Anti diversion legislation should be strengthened.
33. D. Hatfield, New Mex. Highway Commissioner, was for increased Federal aid; Against curtailing BPR; Against toll roads; Against apportionment of Interstate by population; Bypasses should be individually studied; For the Federal retention of the fuel tax.
34. Ike Ashburn, Texas Good Roads Association, was for not curtailing BPR and for relinquishing the fuel tax and for more money for the Interstate.

35. H.E. Nix, South Texas Chamber of Commerce said that the Federal Government should either relinquish the fuel tax or cease diverting.
36. John B. Hulse, Truck Trailer Mfg. Ass., was for 102 in. truck width allowance and for getting the Federal Government out of fuel taxes but continue the highway program; BPR should be continued; Against toll roads; Truck weight was no problem for well designed roads; For truck weight uniformity.
37. Robert Moses' winning essay of the GM better highways contest was inserted into the record. Moses advocated a 10-year program; Better research; For development of standards for plans, surveys, urban studies, education of engineers; He was very eloquent in support of BPR and a greater allocation of resources to urban areas; He debunked trust funds, pay as you go, and anti-diversion; He felt that all avenues of fiscal management should be prudently utilized to reach the ten-year goal; The Federal Government toll policy should be re-examined because tolls could help build parts of the Interstate; Excess condemnation should not be considered because there would be too much opportunity for skulduggery; Raise gas taxes in some states, raise truck taxes, raise the Federal gas tax 1 cent and stop diversion; Don't relinquish the Federal gas tax; These initiatives would allow doubling the highway program to provide \$50 billion in ten years and increase the urban program because that was where the problem was; Pay for railroad grade crossing eliminations because it was the car that was causing the problem, not the trains: Parking was essential; He advocated a 60 mph speed limit and uniformity of size and weight; Billboard control and a good publicity program was necessary and the highway community must pull together instead of being divisive.
38. H.A. Thomson, National Ass. of Township Officials, said to eliminate the 2 cent Federal gas tax; Eliminate the secondary program because the money wasn't getting to the townships and counties anyway and the Federal specifications were too high; BPR should be curtailed.
39. Keith L. Seigmiller, National Ass. County Officials said to repeal the 2 cent gas tax provided that the States pick it up; There should be no trust fund; He was for BPR and no Federal aid for maintenance.
40. Clem D. Johnson, U.S Chamber of Commerce was for BPR; No trust fund; Toll roads should be an individual local matter; For accelerating the Interstate system; For bypasses and against Federal aid for maintenance; For urban expressways.
41. John V. Lawrence, American Trucking Ass. said to repeal the Federal fuel and excise taxes but continue the highway program and BPR; Against a trust fund; For accelerating the Interstate and against toll roads; Trucks already pay more than their fair share of the highway program.
42. James Cope, Chrysler, representing the Automobile Mfg. Ass. testified that the program should continue and funding for highways should be increased; Opposed to curtailing BPR and the repeal of fuel and excise taxes; Against a trust fund; Against toll roads and strongly for the Interstate; Funds should be apportioned on a population basis; Interstate authorizations should be over a ten-year period; He favored bonding for the Interstate and no Federal aid for maintenance; Bypasses should be determined through local study.
43. James C. Alban, Alban Tractor Co., said that the Interstate should be self liquidating toll roads; Bypasses were fine; He was anti-Federal Government in general.
44. F.L. Inman, Chamber of Commerce, Topeka Kansas, said to continue the program as it existed but do away with Federal diversion.
45. James D. Mann, National Council of Private Motor Truck Owners was for Federal aid and against diversion and excise taxes as being discriminatory; The highway system must be brought up to date.
46. Several statements were taken from utility companies advocating reimbursement for utility relocation.
47. Frank M. Porter, American Petroleum Inst., said to Repeal the fuel tax and continue Federal aid with no trust fund; There should be earmarking and increased funding for the Interstate.

48. Gen. Paul F. Yount, U.S. Army, presented an extensive discussion of military access roads; He said that Interstate, both rural and urban should be accelerated and built to the highest possible standards; He was a strong supporter of BPR.
50. Roland J. Lehman, Ass. of American Railroads, testified that the Federal Government should abandon the fuel tax but should require the States to pick it up; Trucks were not paying their fair share; There should be a debate about what the purpose of superhighways was for, passenger cars or freight hauling? If for freight hauling, they should not be financed because the railroads which are vital and essential industries would go down; It would be even worse for the Federal Government to finance superhighways and then let the States regulate their use by heavy trucks.
51. Robert M. Reindollar, President, American Road Builders' Ass., said the Federal aid program should be at least doubled; There was considerable discussion about size and weight and the results of the Maryland test road.

In my judgement, these hearings caused the Congress to decide to stop diverting Federal highway-user taxes. Thus sufficient funds would then be available to consider a significantly increased highway program including the Interstate as a special and separate program. The problem remained, however, of the mechanics of funding, apportionment and Federal share for the Interstate.

THE 1953 AASHO MEETING

At the annual meeting of AASHO late in 1953, Congressman George A. Dondero, Michigan addressed the members. He stressed the need for additional resources for highways and took note of suggestions to repeal the Federal tax on gasoline and to abolish BPR. He felt that either would result in less highways. He said that he had introduced legislation to increase the Federal program by ending Federal diversion. He even suggested reducing foreign aid by a billion dollars to compensate. He felt that limited access urban expressways were an excellent tool for reducing urban congestion, rebuilding decayed areas, increasing property values and to make shopping easier. He ended by saying that the Congress was fully aware of the crisis but that it would take the cooperation of all interests to find a solution. The highway industry as a whole supported an increased program strongly but the individual parts of the industry were opposed to increased costs that affected each directly.

BPR Commissioner du Pont also addressed the convention. He paid tribute to MacDonald and noted that he had brought in only one outsider, Mr. Kaltenbach, as Solicitor. (Mr. Kaltenbach later became counsel to the Bragdon Committee in the White House) He said that he found that coordination between the deputies was lacking and that they did not share in decision making and he had instituted a new management process with weekly staff meetings to rectify that. He found that too many top personnel were serving past the age of 70 on special exceptions to the mandatory retirement age, and they had been removed. (MacDonald was one of those.) He said that he had drastically reduced the BPR overhead and would continue to do so. He reminded them that BPR was strictly an administrative agency and that policy was a matter for the Administration and the Congress which would be the determining elements in the future of the highway program.

du Pont occupied a unique and critical position in regard to the highway program at a critical time in its history. He was a solid member of the highway department community having been a Commissioner and Chairman of the Delaware Highway Commission for many years. He was politically influential and a key member of the Eisenhower Administration. He was well accepted and respected on Capitol Hill and he was equally respected and influential in the business community. I believe that he was the principal architect of Eisenhower's highway policy.

Charles M. Ziegler, outgoing President of AASHO thanked the press and industry for support in bringing the highway dilemma before the public. He noted a reversal of a longstanding AASHO policy of getting the Federal government out of highway user taxes altogether. It was replaced by a policy against Federal diversion. He said that he used the BPR Highway Statistics book as the source of his testimony before the Congress outlining the highway finance dilemma. He advocated increased State taxes, increased Federal aid, bond issues and tolls where appropriate.

Over 1,000 miles of toll roads were under construction and 22 States had enacted toll legislation. 800 miles were in use. He felt that with the coalescing of all the interest groups, Congress, BPR and the public, behind the need for more highways, the future of the highway program looked bright.

Mr. A. (Alf) E. Johnson, the new President of AASHO addressed the Associated General Contractors of America in March of 1954 and said that the public and the transport industry had finally begun to demand better highways. He estimated the cost of bringing all highways up to standard as \$50 billion, \$35 billion being on the Federal-aid system. This would require a \$3.5 billion annual program for 15 years. The annual expenditures in 1953 were \$1.5 billion. He attributed the phenomenal rise in the construction of toll roads to the public's dissatisfaction with governmental financing. He noted that AASHO still had no policy on toll roads. He said that AASHO had recommended a \$900 million annual program with \$250 million of it for Interstate on a 75% Federal match. He reviewed the features of various bills being considered by Congress and concluded that a bigger program was in the offing.

EISENHOWER KICKS OFF THE PROGRAM

In July of 1954, the President kicked off the campaign for a greatly expanded highway program with a speech given to the Governors' Conference at Bolton Landing, New York. The President's mother was seriously ill so the speech was delivered by Vice President Nixon speaking from the President's notes. The President asked for a "Grand Plan" for highways extending over a ten-year period and asked the governors for their help in how to do it. Shortly thereafter, he appointed General Clay to head a committee to work with the governors and other groups, to hold hearings and to develop highway legislation for the Administration.

It is not exactly clear what all of Eisenhower's motives were but some of the following factors were at work. The fear of the country lapsing back into economic depression after the Korean War was perceived as a real threat and memories of the Great Depression were still strong. Recession had begun to set in strongly in 1949, but the Korean war pulled the country out of it. Certainly the President's awareness of the criticality of highways to the national defense gained during his military experiences were a factor, including the famous trip west with the Army trucks after World War I. It is clear that a strong and real demand for better highways was rolling in high gear and any president would have had to pay attention to that. Lastly, I think that with the stage set with all of the above factors, Francis du Pont counseled the President that the time was right.

THE 1954 AASHO MEETING

Mr. Johnson, the President, gave a detailed history of the Association and the highway program. He noted that the highway departments were no longer alone in telling of the decaying condition of the highway system. All highway interest groups and the public had begun to demand better highways. He gave as evidence the increased program in the 1954 Act, Congress' call for a comprehensive needs study, President Eisenhower's call for a 10-year program and the appointment of the Clay Committee to explore financing. He called for greater emphasis on research and planning data so that the highway departments could be ready for the gigantic program that he predicted was coming.

Representative George A. Dondero, Chairman, Committee on Public Works, U.S. House of Representatives, devoted his whole speech to the urban problem and the role that urban highways must play in it, especially the urban Interstate. The speech is heavily excerpted here because it is the most eloquent case made for the urban situation all wrapped up in one address. It was not coincidental that he, being the Chairman of the House Committee on Public Works and a representative of urban Detroit, played a major role in the advent of the Interstate. He urged AASHO's support:

...Many important developments in the highway field have taken place since we last met together. Not the least of these was the successful enactment of the Federal-Aid Highway Act of 1954, about which Commissioner F.V. du Pont has told you so much, and on which we of the Congress labored diligently, and to which you contributed so much. That Act was without doubt, the best piece of road legislation ever placed on the statute books by the Congress of the United States. And yet, the President's recent public statement on highways foreshadows even greater things to come.

I could speak at length on the over-all aspects of our highway problem but, coming as I do from the "automobile capitol of the world", you will understand, I am sure, if I direct most of my remarks to the urban or city side of the question. The urban and metropolitan aspects are becoming increasingly critical. In focusing on them, I, in no way attempt to minimize the importance of other challenging phases that exist nation-wide.

...I think we must admit that we - both the public and legislators - are somewhat tardy in recognizing that an equally deplorable situation faces the city dweller. For virtually every urban center of any size is in a traffic muddle. Everywhere a costly, nerve-wracking picture of congestion, collision and confusion. In time waste alone, the penalties are enormous. It is not uncommon for the urban car user to consume an hour or more in transit to his place of employment-battling with thousands of other motorists and pedestrians to beat the time-clock every working day of the year. Then there are the heavy losses to business and industry. A test made in one of the Michigan Congressional districts in the metropolitan area of Detroit showed that a majority of car owners refrain from going on the highways for pleasure trips because of the danger on the roads today. About one percent of the people of this Nation are injured or killed on the highways annually. Property damage amounts to 3 3/4 billion dollars.

Twenty-five percent of all gas consumed in metropolitan areas is burned waiting for traffic to move, and one billion man hours are lost going to and from work.

No question but that the metropolitan areas have become our major traffic bottlenecks. That's where the biggest traffic jams build up-in or near our cities. That's where the problem is complicated by countless intersections, with the perpetual stop-and-go that frays nerves and runs up vehicle-operating costs. It's in the cities we have the added conflicts caused by hordes of walkers and mass transportation vehicles. It's there, too, we have to contend with acute shortage of parking and truck-loading space.

...By and large, the traffic plight of our cities stems from lack of capacity to handle today's vast traffic volumes. It's a matter of simple arithmetic: Half of the nation's motor traffic is concentrated on urban streets, and those streets comprise only one-tenth of our total highway mileage.

...Very rarely has street layout, as originally planned in our communities proved well adapted to the Motor Age. One exception is Salt Lake City. Brigham Young, who led his Mormon followers to the West and founded the city, was farsighted in many ways, but in laying out that beautiful place, he unwittingly did something for which the present inhabitants should be deeply grateful. I am told that those wonderful wide streets in Salt Lake, which still handle motor traffic reasonably well, are the result of his instructions that "the streets should be sufficiently wide to turn a six-span team of oxen." Too bad that most of our other cities seem to have been laid out in an era of Shetland ponies.

Our Capitol City of Washington owes its wide streets and long, straight vistas, not to foresight as to future traffic demands but to military requirements as viewed by L'Enfant, who saw the French Revolution and who planned the broad radials so that they could easily be swept by cannon and musket fire in tactical defense.

When the great period of highway development in America started back in the Twenties, municipal streets were quite adequate for the relatively modest traffic

then existing. The crying need at that time was for all-weather facilities to connect up centers of population, provide an integrated network. Hence the main emphasis of the Nation's road program, beginning with the Federal Aid Highway Act of 1916, was on rural highway improvement.

That policy dominated for something like three decades. Street betterment remained almost static, despite the revolutionary growth of motor vehicle use in cities. The result is that major arteries are becoming crammed almost to the point of immobility. At peak hours, travel on some urban thoroughfares is actually slower than in the days of the horse and buggy.

It was not until 1944 that any real effort was launched to redress the balance between rural and urban highway development. In that year, you will recall, Congress for the first time earmarked matching funds for Federal-Aid projects in urban areas. Another milestone was the 1950 Act, in which the permissive ratio in defraying the costs of right-of-way was raised from one-third to one-half of the sums allocated. The liberalization was particularly beneficial from the standpoint of the cities, since the steep cost of right-of-way in densely built-up areas has been a major stumbling block in financing modern urban motorways.

Another forward step, of course, was the 1952 Act provision of specific funds for accelerating improvement of the Interstate System, with its 6,000-odd miles of urban extensions. Much of the latter will be reconstructed to high standards.

I believe we can confidently look for an even more comprehensive approach to the urban highway problem to grow out of Congressional deliberations on the President's bold proposal at the next session. The President's recommendations will doubtless reflect the findings now being compiled and evaluated by the Clay Committee.

...Every highway authority knows that a good deal of the traffic turmoil in our cities could be eliminated if higher-speed through traffic could be separated from slow local movements. Where the through traffic is very heavy, only limited-access facilities can handle it safely and efficiently. But facilities of this type come high. Expressways to accommodate 30, 40 and 50 thousand vehicles per day in congested metropolitan areas may, and do, run from 5 to 15 million dollars per mile. And rights-of-way often approximate half or two-thirds of the total project costs. You are familiar with these economic facts, so I will not burden you with statistics.

It is easy to say: "The city dweller has the money. Let him take care of himself." Let's remember that possibly half of our important highway revenues are generated in the urban areas, and that in the past the cities share has not always evidenced this fact. It has not reflected the relative volumes of traffic carried by urban facilities, or the social and economic functions that urban transportation performs for the general welfare.

Moreover, the cities, as we are well aware, have had a tough time in finding the money for all the public works and services they must provide - not only highways, but slum clearance, housing, sanitation, schools, recreational facilities, airport development, public safety, civil defense and so forth.

But beyond that, we must keep in mind that the highway systems of the cities, counties and states are interdependent. One system cannot function without the

others. It's not only the city folk who will benefit from improved urban highways. They will help the farmer in getting his produce to market, and facilitate the social and cultural pursuits of his family. The whole business is a two-way street, economically and every other way, for every segment of our people.

All this emphasizes the need for cooperative thinking and planning - for a close working partnership between all levels of government. Every effort, therefore, should be made to strengthen laws and cooperative arrangements for joint action, so that we can get on with the job.

And so in closing, I urge you to give the urban phase of the highway problem your most capable attention. It merits high priority, because the very survival of our cities is involved. And I think we'd all agree that on the issue of highway development, as in other vital aspects of our American way of living, the old maxim still holds: United we stand, divided we fall...

BPR Commissioner du Pont challenged AASHO to get behind an accelerated Interstate program:

...And now let us have a look at the Interstate problem. Since the early 20s our efforts have been concentrated on the development of the primary system of highways. During the late 30s and early 40s secondary road aid became a part of the Federal-aid program. About 10 years ago the Interstate system was recognized by Congress, but it had no status. It was merely the designation of a certain portion of the primary system between certain control points. No funds were authorized specifically for this system until 1952 when 25 million dollars was made available. This amount was so small when divided between the 48 States it was not a factor. I have frequently heard it stated before the passing of the 1954 act, that if the Congress would not recognize the importance of this system by making substantial funds available, reference thereto should be eliminated from the Association's future recommendations. In 1954, however, the Congress increased the authorization manyfold, namely, to 175 million and changed the matching basis to 60-40 in order to emphasize the importance and stimulate the construction of an Interstate System. Were this not the case, obviously the Congress would have merely increased the authorization for the primary system by a greater amount. Under the 1954 act we are for the first time confronted with converting the old, inadequate primary highway system and bringing it up to most modern standards commensurate with the needs of not only the present, but future traffic. It is a tough assignment for those of us who are familiar with the existing location and design of much of the Interstate System. There is a further complication. The expenditure of 175 million dollars a year, plus the State matching on a 60-40 basis, would not take care of the existing deficiencies in the Interstate System if continued for a half a century. How then can we discharge our responsibilities during this present period of transition? That is the question. Can you highway engineers with your superior knowledge, at this critical time, direct your actions and deeds in such a manner that we can get the support of Congress for a system of highways that could qualify as an interstate and urban highway system which can carry the load to which expanded economy will subject it? Can we be realistic in the challenge we have received? Can we capitalize on the opportunity, or are we going to miff the ball and make the same mistakes that we made 10, 20 or more years ago? Gentlemen, the answer to this question is up to you - not the Bureau of Public Roads. It is my conviction there never was a more opportune time to tackle this vital problem - there never has been a more cooperative administration. Having been fortunate enough to have been born in the United States and witnessed the changes brought about by scientists and engineers through the development of

electricity - internal combustion engines - radio, I am unwilling to believe the civil engineers who make up this Association are unable or unwilling to accept this challenge. Gentlemen never sell America short and in my judgement there is no single group who together with the support of Congress can contribute more to our country's economic future and security than those who are responsible for our highways. I entrust that future, and the future of Public Roads, to the Members of Congress and you gentlemen.

J. Harry McGregor, M.C., Chairman, Subcommittee on Roads, House of Representatives also spoke. He said that there was a strong role for the National Government to play in the Interstate System:

...While there are some States that undoubtedly are financially able to take care of their "State needs," I doubt if many of them would be willing, or able, to build the interstate mileage to the expensive and high standards which you have said they need to be, to care for our National defense needs and National economy needs, nor do I believe they should be expected to do that. This is an area where I fully endorse the philosophy that the Federal Government has an important financial and technical responsibility. In recent months you have had considerable, shall we say "discussion" about limited access and wide rights-of-way, etc., with regard to interstate mileage. Mr. du Pont may have heard some rumors about that, too! How many of your States would build to those standards, and your Association set them, if you were paying all, or even a substantial part, of the high costs of such construction, predicated on purely State needs? Not many, I'll bet you. We have promoted the interstate system on the theory of National Need and National Defense, and with justification, I believe, and on such grounds I also believe that the Federal responsibility for finance is great.

Being of somewhat Scotch descent, I also have some Scotch philosophy about money, and I also like to think I'm a realist, in some respects at least. I just doubt very much if the Congress is going to rush out of the Federal gas tax field in the near future, anyway; and I personally like the idea of putting that money back in needed road improvement, as long as we're getting it from the road user to start with.

Furthermore, there are those who say that the Federal Government should still make large contributions to road programs and also get out of the gas tax field because they did so back in 1920. That philosophy was put before General Clay's Advisory Committee to the President, in Washington, a few weeks ago. It was said by some, but not by the Clay Committee, Federal road contributions should come from a "broad" tax base. Just what is a "broad" tax base? The Federal Government now collects highway user taxes from something like 58,000,000 motor vehicle users. If the Federal gas tax was repealed and the Federal Government still continued Federal-aid for highways, where would the money come from? About the only possible source would be to increase personal income taxes. I think such taxes are now paid by some 30-odd million people. So, from 58 million vehicles we would go to some 30-odd million personal income taxpayers. To me that would be a funny "broadening" procedure. So, for the present let's say the theory is interesting but the practicality is questionable. I feel sure that when the Clay Committee reports to President Eisenhower - they will have an objective and constructive program to present.

Our road hearings of last year brought the almost unanimous demand for an enlarged highway program. The comments and statements of witnesses

reflected a keen awareness of the problem and its national scope. And while there were divergent opinions about where the emphasis should fall and how funds should be supplied, everyone agreed that our highways should be made adequate.

Another large area of agreement concerned the national system of Interstate highways. Witness after witness urged that greater Federal funds be provided for this vital 40,000-mile network. Though it includes only a little more than 1 per cent of the total rural highway mileage, this system carries about 20 per cent of all rural traffic. The Commissioner of the Bureau of Public Roads described it as "an important link in the production facilities of this country, forming as it does part of a grand-scale industrial assembly line. Uninterrupted highway transport over this system is essential to our defense effort and to our peace time economy."

Charles M. Ziegler, Michigan's commissioner of highways, and past president of your association, declared that if the interstate system were brought to adequate standards such improvements would automatically take care of a great part of our present highway deficiencies.

...I was the author of, they say, one of the great Highway Bills (the 1954 Act) passed by any Congress, but let me give credit where credit is due....

He then named a long list of supporters of the bill which included industry, local government and the public. He reviewed the particulars of the Act which doubled Federal aid and provided \$175 million for Interstate.

...Yes, the 1954 Act was a fine, constructive piece of legislation and I for one am proud of it. But viewed in the broad perspective of national needs and national capabilities it is only a beginning.

President Eisenhower put the problem in its true perspective in his message to the Governors Conference at Lake George which Vice President Nixon delivered on July 12.

Speaking for the President, Mr. Nixon said:

But more specifically, our highway net is inadequate locally, and obsolete as a national system.

To start to meet this problem at this session of the Congress, we have increased by approximately 500 million dollars the Federal moneys available to the States for road development. This seems like a very substantial sum. But the experts say that 5 billion dollars a year for ten years, in addition to all current, normal expenditures, will pay off in economic growth; and when we have spent 50 billion dollars in the next ten years, we shall only have made a good start on the highways the country will need for a population of 200 million people.

Mr. Nixon then went on to analyze the problem as the President sees it, citing the major deficiencies in our highway system which all of you are so familiar with. He pointed out what the President believes our highway requirements are. Namely, "A grand plan for a properly articulated system that solves the problems of

speedy, safe, transcontinental travel - intercity communication - access highways and farm-to-market movement - metropolitan area congestion - bottlenecks and parking."

Mr. Nixon also referred to certain financial policies which the President mentioned and the need for close cooperation between the Federal Government and the States.

Then, as if to stress this point particularly, Mr. Nixon quoted verbatim this last sentence from the President's own notes:

I hope you will study the matter, and recommend to me the cooperative action you think the Federal Government and the 48 States should take to meet these requirements, so that I can submit positive proposals to the next session of the Congress.

Certainly President Eisenhower's message was an inspiring challenge to the Governors of each and every State. Just as it is a challenge to all who are directly concerned with highway transportation. But to me at least it seems regrettable that this statesmanlike approach to a national problem was in some quarters mistaken for a highway program. Actually I think the President's own words leave no doubt as to his real meaning. He has called upon the Governors, and other interested groups like AASHO, to come forward with a blue print for its grand design. As I see it, that is true leadership.

...Interstate mileage is for all of us - city, county, State and Nation. It is our responsibility as a Nation. We must develop it, find better and more equitable means to finance it, find faster and more efficient methods of acquiring and protecting needed right-of-way and safer and more efficient means of using it when completed...

AASHO POLICY

At that AASHO meeting, the following policy statement was issued:

The American Association of State Highway Officials, assembled at Seattle, Wash., on November 8, 1954, has carefully reviewed the suggestions of the President of the United States relative to an enlarged highway program. The Association wishes to extend to the President its sincere gratitude for this progressive proposal for the advancement of the highway improvement program to more nearly keep pace with expansion of the American economy, and that the President and his Highway Advisory Committee, the Governors' Conference Highway Committee, and the Congress be tendered the full cooperation of this Association in the assembling of data and information that may be necessary in the formulation of a program of action.

1. We believe that Federal funds for the Federal-aid secondary, urban and primary highway systems, less the interstate portion thereof, should be continued in at least the same amounts as at present.
2. A new program with the necessary capital expenditures substantially financed by the Federal Government, with the States responsible for the design and construction, and the States to assume the cost of the maintenance, operation and policing of the system, which is to be constructed to adequate standards as promulgated by the American Association of State Highway Officials. The program should be adopted

so that the interstate system and its urban extensions may be completed within a period of 10 years to further the national defense and the peacetime economy.

THE REVISED POLICY

In the April issue of American Highways, the following appeared:

At the 40th Annual Meeting of the American Association of State Highway Officials held in Seattle, Wash. last November 8, the Association adopted a Policy Statement which appeared in the January 1955 issue of American Highways. In light of subsequent developments (The emergence of the Administration bill), it was felt that this statement should be clarified, and on March 13, 1955, the member departments of the American Association of State Highway Officials met in Chicago. After due deliberation, the following policy statement was adopted:

To insure an expanding and sound national economy, the Federal-aid Highway Program should be continued and enlarged to more nearly meet the demands both current and future. The program should be administered and constructed by the Bureau of Public Roads and the State Highway Departments as in the past - a Federal-State relationship that has been highly efficient and outstandingly successful.

Should future Federal road legislation create a National Highway Corporation, Commission, or Authority, its duties should be fiscal only.

Considering the civil and the national defense, as well as the over-all economic well-being of the nation, the Interstate System of highways should be accorded priority treatment and its completion accomplished within a period of 10 years. A substantial, balanced construction program, however, must not be sacrificed on the other Federal-aid highway systems.

The Interstate System should be built to meet the anticipated traffic demands of 20 years hence, and constructed to design standards promulgated and approved by the American Association of State Highway Officials, and with the application of, and the provision for, access control features in accordance with warrants promulgated and approved by the American Association of State Highway Officials. The location and design of the Interstate System should be the joint responsibility of the State Highway Departments and the Bureau of Public Roads. The actual determination of the location of the routes between control points should be based upon engineering studies, traffic analyses, and economic comparisons.

The building of the Interstate System would be jeopardized if it were redesignated or extended beyond its 40,000-mile statutory limitation.

The Interstate System program should be accelerated, and the Congress, in its good judgment, should determine the method of

financing. If it is decided that it is necessary to finance the work by credit financing, the Association approves such action.

Because of the need for expediting the construction through all States simultaneously, provision should be made for the Federal Government, upon petition of the State and in the interest of national defense, to procure the necessary rights-of-way and access control on the Interstate System. Because of the heavy demands made upon the States for financing roads having more local interest than the Interstate System, and because of the national interest and responsibility of the Federal Government in the Interstate System, the Association recommends that the Federal contribution to the cost of the capital improvements on that system be between 90 and 95 per cent, and that these funds be apportioned to the States on the basis of need.

The State Highway Departments should be responsible for the design, letting of contracts, supervising construction, and upon completion, should have the sole responsibility, at State expense, of maintaining, policing, and operating the facility.

As a matter of equity and so as not to discriminate against the States that have already constructed a portion of the Interstate System, the Association recommends that a credit reimbursement should be allowed for any road that is properly located, designed, and constructed to be incorporated into and become a portion of the Interstate System, whether the road be free or toll, in accord with the following procedure:

- a. Existing free roads. Existing free highways measuring up to standards of the Interstate System should have the depreciated value determined from which would be deducted 10 per cent thereof and the total amount of any Federal-aid funds used in constructing the highway. The result then should be the credit to which the State is entitled.
- b. Existing toll roads. A State should be entitled to credit for an existing toll road, excluding the cost of financing thereof and of any facilities not of a highway character, that is properly located and constructed to meet the requirements of the Interstate System, and the amount of credit so allowed should be the depreciated value, not to exceed 40 per cent of the original cost where the road was completed prior to December 31, 1951, and not to exceed 70 per cent when completed between December 31, 1951, and December 31, 1955.
- c. Future toll roads. A State should be entitled to credit on a future toll road, when built to approved Interstate standards, in the amount of 90 per cent of the original cost, less the cost of financing thereof and of any facilities not of a highway character, provided the project has progressed to the point that its financing has been arranged and completed by December 31, 1955. There should be no credit reimbursement for future toll roads after that date.

In the continuation of the Federal-aid Highway Programs on the Primary, Secondary, Forest Highway, and Urban Systems, authorization should be for a period of at least six years to allow the States to adequately plan and staff the programs...

The subject of labor relations and requirements should not be included in Federal statute, but should be a matter to be determined at the State level.

THE 1955 HEARINGS
NATIONAL HIGHWAY PROGRAM HEARINGS ON H.R. 4260 TO CREATE A FEDERAL
HIGHWAY CORPORATION FOR FINANCING THE CONSTRUCTION OF THE NATIONAL
SYSTEM OF INTERSTATE HIGHWAYS
HOUSE COMMITTEE ON PUBLIC WORKS
Charles A. Buckley, N.Y., Chairman. April,
1955.
FEATURES OF THE BILL

1. Title: The National Interstate Highway Act.
2. Complete the Interstate in ten years.
3. Adequate for 20-year traffic demand.
4. Establishment of a Federal Highway Corporation.
 - A. Three public members appointed by the President and the Secretaries of Commerce and Treasury to be members.
 - B. Empowered to receive and borrow funds.
 - C. Authorized to issue \$21 billion in bonds not backed by the Federal Government.
 - D. Excess highway user taxes to be paid to the Corporation by the Treasury.
 - E. The debts of the Corporation would not, by law, be counted in the national debt.
5. Authorized and directed the Secretary of Commerce to designate the remaining urban Interstate segments to bring the system up to 40,000 miles.
6. Secretary of Commerce to set standards after consultation with the States.
7. Required an annual estimate of the remaining cost to complete the Interstate.
8. Required an annual construction program with Secretary of Commerce having final authority in order to advance construction uniformly in all States.
9. Allocation of funds on the basis of approved programs - moneys to be available for 2 years before lapse.
10. Construction to be paid for by the Corporation - matching ratio to be the same as the 1954 Act (60-40).
11. The States would receive credit for free roads and toll roads that met construction standards and were on the Interstate System.
12. Secretary of Commerce empowered to acquire rights-of-way if the States could not and transfer title to them.
13. The regular Federal highway program to go on as it was then operating and at the same funding level.

SENATOR BYRD

The following critique by Senator Byrd illustrates some of the difficulties. His remarks were delivered in the Senate and placed in the record of the House hearings by Brady Gentry, a member of the Committee on Public Works and a former highway commissioner from Texas and a former President of AASHO. Gentry was a strong opponent of the bonding and reimbursement features of the Administration bill:

The pending ...(bill) embodies the recommendations of the President's Advisory Committee on a National Highway Program, known as the Clay Committee.

It provides for the establishment of a corporation known as the Federal Highway Corporation. The management of the Corporation would be vested in a Board of Directors composed of five members. Three of these would be public members appointed by the President, by and with the advice and consent of the Senate without regard to party affiliation. The remaining two members would be the Secretary of Commerce and the Secretary of the Treasury, or their representatives.

This Corporation would be authorized to issue, upon the approval of the Secretary of the Treasury, obligations in an amount not to exceed \$21 billion. The bonds so issued are payable over a term of 30 years.

The interest, estimated by the Clay committee at 3 percent would be \$11.5 billion. In other words interest would cost an amount equal to 55 percent of the bond issue.

The \$21 billion borrowed would be paid directly into the fund of the Federal Highway Corporation. It would not go through the budget, nor would it go into the Federal Treasury. It would not be included as a public debt. It would not be subject to the debt limitation established by Congress.

None of this fund would be under the control of Congress and it would not be subject to appropriation control. It is predicated upon the collection and dedication of the 2-cent Federal gasoline tax over a 32-year period.

All of the funds would be expended in the first 10 years, and in the next 22 years no funds would be available from the Federal gasoline tax. All the receipts from this tax for that 22-year period would be required for repayment of bonds with interest. In other words, the gasoline tax would be dried up for 22 years - from 1966 to 1987, inclusive.

It is obvious, of course, that the need for road construction and improvement will be just as essential during that 22-year period as it is now. In our future growth the need for road improvement can never be regarded as stationary.

In fact, no Congress can obligate a subsequent Congress to a dedication of taxes. Here is the legal opinion of the head of the Senate Legislative Counsel.

It seems elementary that one Congress, or one law enacted by a Congress, cannot completely foreclose action by a subsequent Congress or by a subsequent law of the same Congress. To so hold would be to say that once a policy had been enunciated by the Congress it is not susceptible to change. That is not to say, however, that a subsequent Congress is always left with an unlimited realm of action. Rights may have accrued under a law which cannot be validly divested. But the power of each Congress to enact legislation for future application cannot be eliminated by action of a prior Congress...It should be noted that the bill does not appropriate the moneys in excess of \$662,500,000 collected under sections 4081 and 4041 of the 1954 code, but an amount equal to the moneys collected in excess of such amount. While the obvious purpose is to earmark these revenue collections, the bill does not attempt to prescribe

the tax rates under these sections of the 1954 code nor to foreclose a change in the rates.

I have searched the records and never before has such a proposal as this been seriously considered by Congress. In order to confirm this, I made inquiry of the Comptroller General of the United States..."Insofar as we are aware, such a financing arrangement for a Federal expenditure program of the scale and magnitude contemplated for the proposed Federal Highway Corporation has never been used by the Federal Government."

Nothing has been proposed during my 22 years in the United States Senate that would do more to wreck our fiscal budget system than the adoption of the measures embodied in this substitute. If it is possible to issue bonds on so-called capitalization of a tax not to be collected in full for 30 years, with a declaration that the bonds will not be a legal debt of the United States Government, then it would be possible to earmark in similar fashion other taxes, such as the tobacco tax, for some specific purpose and borrow money on it outside of the budget and debt limitation. I could name hundreds of other taxes that could be treated in this manner. The result would be the end of honest bookkeeping and confusion as to the liabilities of our Government, making it impossible to ascertain what our bona fide indebtedness is.

Every sensible person knows that a Government corporation without assets or income cannot sell \$21 billion of bonds unless actually it is Federal debt...It is by these devious methods that this debt would be created and its advocates claim it would not be a Federal debt. We must remember that we cannot avoid financial responsibility by legerdemain nor can we evade debt by definition...

The substitute...turns over to the Federal Government absolute control over 40,000 miles of our most important roads heretofore under the control of the 48 states. This plan would be the greatest single step yet taken toward Federal paternalism....

This legislation specifically provides that, in cases of dispute between the State and Federal authorities, the Corporation would decide in the nature of a supreme court. Absolute Federal authority over the vital roads in all the States is a serious matter...

I especially call the Senate's attention to the language of sections 207 (B) and (C). These sections provide that, for toll roads completed prior to December 31, 1951, there would be credited to States an amount not exceeding 40 percent of the original cost, providing such roads comply with Federal standards. For toll roads completed during the period between December 31, 1951 and December 31, 1955, the State would receive a credit not exceeding 70 percent of the original cost. For a toll highway constructed after December 31, 1955, the State would receive 90 percent of the cost of construction.

This would constitute a windfall to the States in the sense that they could then decide whether to apply this refund to the payment of bonds existing on toll turnpikes or to use the money on other roads not in the Interstate System. In 99 cases out of 100 a State would choose the latter course; that is, it would continue the tolls in order to pay the revenue bonds while using the money for other road construction on a nonmatching basis...

Section 207 (C) is an invitation to every State to construct more and more toll roads, which would not be paid for out of State funds but by revenue bonds secured on the revenue of the turnpike...

I agree with the American Automobile Association when it called these refunds a reimbursement bonanza which would practically force the States to go into the toll business.

In addition to the refunds for the toll roads the substitute bill would also provide refunds for freeways constructed by the States on the Interstate system which meet the Federal standards. No estimate of these refunds has been made.

When you consider that \$11.5 billion goes directly to interest and to this are added billions of dollars in refunds, one wonders how much will be left for actual new road construction...

He then suggested that repeal of the 2-cent Federal gas tax in favor of the States and continuation of the regular Federal-aid program at the same level out of the general fund with judicious use of toll roads in congested areas would get the same job done without loss of State sovereignty.

WITNESSES

1. Sinclair Weeks, Secretary of Commerce, accompanied by du Pont and Curtiss noted that the President had talked with the governors the year before. The governors appointed a committee under Governor Kohler, Wis., to study the highway matter. The result was the appointment, by the President of the Clay Committee.

The funds for the regular urban highway program (extensions of the primary system) were to be reduced by the amount of the urban Interstate System cost. The estimated cost for the then designated Interstate System was \$23 billion with 2,400 miles of urban Interstate remaining to be designated at an estimated cost of \$4 billion bringing the total Interstate System estimated cost to \$27 billion. States were to contribute \$2 billion. The matching ratio to be 95% Federal and 5% State funds (average, it varied by State) instead of 60% Federal as provided in the 1954 Act for Interstate.

Full or partial control of access was to be required and the Interstate routes would revert to the primary system after construction was completed.

The proceeds from all Federal highway user taxes were to be paid to the Corporation by the Treasury upon passage of the Act which would constitute both the authorization and appropriation of the funds. The Corporation bonds would accrue about \$11 billion in interest during their 30-year life. Under questioning by the Committee, Weeks admitted that it would cost less to finance the Interstate on a pay-as-you-go basis because the Federal government would have to borrow to make up the deficit created by the payments to the Corporation and the Government could borrow at a lower interest rate than the Corporation.

There was lots of discussion about why the regular program would be handled one way and the Interstate another and why not raise user taxes and pay-as-you-go? (Which ultimately happened.) There was discussion contrasting Social Security and other funds that carried the full faith and credit of U.S. behind them and why the Corporation bonds would not. There was discussion about the wisdom of putting the Interstate program at the mercy of bonding attorneys.

Under questioning, the Secretary admitted that the Corporation would have veto power over BPR and the States but that there was no intention that this would apply to other than fiscal matters. The bond issue would not count in the national debt according to Weeks. Many Congressmen disagreed and felt that the bonds would, in fact, be an obligation of the people of the United States. Many Committee members expressed opposition to the Corporation and the bonding concept.

2. C.D. Curtiss, Commissioner, BPR, made a prepared statement giving the status of the highway program and the results of the needs study required by Sec. 13 of the 1954 Act. The total needs were \$101 billion. There was extensive questioning on trucks and truck damage. He avoided any questions on the Administration bill leaving those to du Pont.
3. Francis V. du Pont, Consultant to the Secretary of Commerce (formerly Commissioner of Public Roads), accompanied by F.C. Turner. He opened by stating that he resigned from BPR so that he could devote full time to the Administration bill which was the recommendations of the Clay Committee. There were many questions about the Corporation's power of veto over BPR and the States on Interstate matters. He felt that the Administration bill would eliminate starts and stops of the program by committing a ten year program at one time. The legislation would allow immediate acquisition of Interstate rights-of-way. He described the urban segments of the Interstate as radials to bring the urban traffic out to the beltways. He went through the bill section-by-section and explained each.

The reimbursement feature to States that had built Interstate roads, toll or free, to Interstate standards with their was controversial and sparked lots of discussion. He envisioned that Congress might have to step in and build segments that some State might not wish to build. He was very eloquent, very persuasive, and quieted many of the misgivings about the program.

4. Gen. Lucius D. Clay, Chairman, President's Advisory Committee on a National Highway Program, noted that Eisenhower appointed the five-man committee the previous September. He said that 7,000 miles of the Interstate should be 2-lane, the rest should be 4-lane or more and have limited access.

He said that an increase in the fuel tax was considered and rejected primarily because of the States' strong objections to the Federal fuel tax, and the unevenness of the amount of State fuel taxes throughout the country. He said that the Administration proposal was that Congress would make available to the Corporation the proceeds of the fuel tax less the amount appropriated for the regular Federal aid program.

He estimated that 2,100 miles of toll roads would be incorporated into the Interstate System. The reimbursement to the States for toll roads already built meeting Interstate standards would be 40% for those built between 1947-1951 and 70% 1951-1955. The States were not to receive any money from the Corporation to build Interstate until they had fully matched the regular Federal aid program. Limited access would be required only where traffic volumes warranted and that decision would be reserved to BPR. The funds were to be distributed by the Corporation on an as needed basis. He said the Committee worked on the problem about 4 months.

There was extended discussion of the power that the Corporation would possess. General Clay felt that it would have no more power than then-existed in BPR, but he conceded that the proposal, if enacted, would be the greatest delegation of fiscal power in United States history. He used a \$101 billion highway needs figure in his presentation which derived from a nation-wide study mandated by the 1954 Act. That figure got misinterpreted by the Congress and the press as being the total size of the Administration proposal and contributed to the defeat of the proposal. General Clay tried to explain it this

way: \$47 billion would be devoted to the non-Interstate program in 10 years. The Interstate would take \$27 billion during that time, leaving another \$27 billion to be provided by local funding, totalling \$101 billion.

He said that the Senate's Gore Bill would require increased State funds to match the expanded program and some State legislatures would not provide them, so passage of the Gore bill would not create a completed Interstate System in a fixed period of time.

5. Maj. General Paul F. Yount, Chief of Transportation, Department of the Army, stated that the Interstate was the principal routes for national defense and supported the Administration bill to improve them by a certain date. He said that only 15% of the Interstate then met the geometric standards required by the military. He declined to make any statement about methods of funding. He testified that the military recommended that the entire Interstate System be built as limited access whereas the Administration bill would require it only where traffic volumes warranted. He said that the Autobahn was of great strategic importance to Germany during the war.
6. General Clay testified on a second day. He said he didn't feel that the high Federal matching share of the cost of the Interstate System would destroy the balance in the Federal-State partnership. He felt that the existing Federal fuel tax of 2 cents would finance the entire program over 30 years but bonding would produce the highways in ten. He admitted reluctantly that, in providing reimbursement for toll roads already on the Interstate System meeting approved standards, that two bond issues would be extant for the same segments of road. First, the toll authority had already issued bonds for the initial construction, then the Corporation would issue bonds to reimburse the State, but the State would be permitted to use the money to build other roads. Some Congressmen felt that the Corporation bonds were a way of avoiding increasing the National debt by the Administration.
7. Keith L. Seegmiller, Executive Secretary of the National Association of Counties (NACO), testified against the Administration bill because NACO felt the bonding feature would preempt revenues from the fuel tax for 30 years or more, tending to freeze the Federal contribution to secondary roads.
8. William R. MacDougal, General Manager of the County Supervisors Association of California, was for the Interstate program but feared that the Administration proposal would either cut into the size of the rest of the Federal-aid program or freeze the levels indefinitely because of the bonding connection to the two-cent fuel tax.
9. Allan B. Gorman, President, Private Truck Council, felt that out of the \$25 billion to be spent by the Federal Government for the Interstate System, \$15 billion of it was to be spent in urban areas. He felt that this was an imbalance in favor of urban. He favored the Interstate but disagreed with bonding in favor of pay-as-you-go. He felt that the Federal Government should vacate the excise taxes on vehicles and get out of the fuel tax. He also spoke against Federal standards or specifications that work against trucks.
10. E.J. Lucas, Chairman, Legislative Committee, Truck Trailer Manufacturers Association, testified generally in favor of the Administration bill except for the reimbursement for toll roads feature and was against bonding outside the national debt.
11. John Harper, Chairman, Toll Roads Committee, National Oil Jobbers Council, testified against the bill on the grounds that the Federal Government should get out of the fuel tax and rely on general revenues. He was for the Federal Government taking over the Interstate. He was primarily against toll roads and private industry having to collect fuel taxes for the Federal Government.
12. Matt Triggs, Assistant Legislative Director of the American Farm Bureau, objected to the Federal Government exercising the power of eminent domain for highway rights-of-way and the dominance of the Federal government that the Administration bill would provide and he advocated that the Federal fuel tax should be terminated. He was against the bond issue, the Corporation and any increase in Federal expenditures.

13. George D. Riley, National Legislative Committee, American Federation of Labor, supported the acceleration of the Interstate program but opposed the Administration's bonding proposal as being fiscally irresponsible. He advocated Federal funding and the application of prevailing wage legislation.
14. Paul O. Larson, International Union of Operating Engineers testified against the wage rates being set in the Department of Commerce. He advocated that the Department of Labor should have that function. He was for the Interstate as a means for providing employment.
16. Governor Kohler, Wisc. and Chairman of the Governors Conference Committee on Highways. He cited the President's Speech to the Governors the summer before (delivered by Nixon) and the request to the Governors that they advise the President on what to do about highways. The Governors reported to the President in December of 1954 recommending that the highway program be doubled over 20 years with emphasis on the Interstate System and the Federal Government assuming primary responsibility for it with reimbursement to the States that had already built portions, whether toll or free. The governors advocated general revenues, bonding and a Federal Corporation. The regular program should proceed at undiminished levels. They favored a fixed time period for completion of the Interstate System. They advocated the continuance of the BPR-State partnership as it then operated. They felt that not all of the Interstate should be limited access. They were against any highway user tax increases. They were very much for the Administration's Clay proposal as opposed to the Senate Gore bill which would require a 25% State match. They felt that the BPR standards were so high that the States would not be able to come up with the money, therefore they felt that the Interstate would suffer. He noted that the Governors had reversed their position on the Federal Government getting out of the fuel tax after the Congress seemed committed to non-diversion of highway-user revenues as the Administration bill advocated.
17. Governor Meyner, N.J., supported the Administration bill as opposed to Gore bill as being the best advantage to his State. He received kudos on the N.J. Turnpike and the Garden State Parkway.
18. Gov. Langlie, Washington, supported the Clay Plan strongly.
19. Governor Ribicoff, Conn., represented 6 New England Governors. They were unanimously in favor of the Clay Plan. His only reservation was that the Clay report was silent on the non Interstate portion of the program, and they did not want that to suffer.
20. Gov. Kennon, Louisiana, said the President was for the Clay Plan, the Governors were for it, BPR was for it, the State highway departments were for it so why the delay?
21. Governor Anderson, Neb., testified for the Interstate System in general.
22. Governor Simms, New Mex., put the first priority on the Interstate System at 90% Federal share with no change in the partnership and limited access throughout in order to prevent loss of investment.
23. George Koss, President, Associated General Contractors of America, assured the committee that the contracting industry had the capacity to handle the proposed program and emphasized that the Corporation should be concerned with funding only and not take over any of the functions of BPR.
24. Robert Moses, New York, strongly favored bonding as being the only way that completion dates could be firmly established. He felt that pay-as-you-go would insure long delays and stretch-outs. He felt that there had been so much procrastination in the urban highway situation that the time was very, very late. He also felt that acquisition of rights-of-way by the Federal Government was a pipe dream and would never happen. Funds for relocating people would be a necessity. He felt that time had almost run out for acquiring rights of way in central city areas. He felt that acquiring the rights-of-way should be the first priority of the Interstate program. He opposed reimbursement for routes already built to standards. He likened it to buying a dead horse. He opposed the National Corporation as being useless, since it would not possess the full faith and credit of the United States, nor would it have a guaranteed source of revenue, nor would it own any facilities. He felt

- the bonding could better be done at the local level and the facilities tolled. He felt that the 2,400 miles reserved for urban was not enough.
25. Mayor Hofheinz, Houston, supported the Interstate generally.
 26. George T. McCoy, President of the American Association of State Highway Officials, accompanied by Rex Whitton, Mo. Whitton presented the AASHO Policy developed in Chicago in March of 1955. He emphasized that the highway departments were falling far behind demand because of the Depression, the War and the slow postwar start-up, and inflation. The presentation and the questioning stuck closely to the Policy statement. He did not take a position on the financing or a particular bill.
 27. D.C. Greer, State Highway Engineer, Texas, used prepared charts to show the progress of the program and the use of the highways. He felt that if toll roads were to be reimbursed, they should be made free. In fact, he opposed reimbursement at all since it would not contribute to building any highways.
 28. General Frank Merrill, Commissioner of Highways, New Hampshire, introduced the AASHO Policy statement into the record and answered the standard set of questions asked by the Committee. He avoided taking a position on a method of funding, stating only that the Interstate should be completed in 10 years. He felt that complete access control was the best way to protect the investment in the new facilities. He was questioned intensely about the AASHO recommendation that toll roads should be reimbursed. There was concern expressed that provision for limited access on the Interstate System would cause the creation of service monopolies such as existed on toll roads. The Congress wanted no part of monopolies even though they might be operated by the States. That concern probably accounts for the prohibition to this day of all commercial activity on the Interstate System.
 29. R.H. Baldock, State Highway Engineer, Oregon, reviewed the Gore Bill, The Case Bill and the Administration Bill. The Case Bill would take 19 years to complete and would provide for Federal truck permits. He said that the 1954 Highway Act if continued would take 100 years to complete the Interstate. He endorsed the Administration bill. He admitted under questioning that AASHO had a big hand in drafting the Administration Bill. Bonding came in for criticism because the interest of \$11.5 billion was not counted in the \$27 billion cost of the Interstate when it would have indeed been a cost. He said that AASHO did not support either the Gore Bill or the Case Bill. There was also testimony that the Administration bill pretended to not deal in deficit financing when indeed it would create a deficit with the bond issue.
 30. Rex M. Whitton, Chief Engineer, Mo., restated the AASHO policy and advocated that acquisition of rights-of-way should proceed immediately for the whole Interstate based on need.
 31. Lloyd C. Halvorson, National Grange, supported the expanded program strongly and referred to the Interstate not as a new program but as "rebuilding the Interstate". He expressed fear that the regular program level would be frozen for 30 years because the bill called for all Federal highway user revenues over \$622 million, which was the level of the non-Interstate program in 1955, would be dedicated to the financing of the Corporation's 30-year bonds, thus, leaving the regular program frozen at a fixed level.
 32. John V. Lawrence, American Trucking Associations, testified for the Administration bill but against the toll reimbursement feature as being double taxation and against any rise in taxes for the trucking industry.
 33. William A. Bresnahan, American Trucking Associations, testified and was cross-examined at great length on truck taxes, size and weight laws, and regulations and proper methods for determining the costs each highway user should pay. In general, he advocated higher weights, less truck taxes, and that the Interstate System should be built.
 34. George M. Humphrey, Secretary of the Treasury, testified down-the-line for the Administration bill. He felt that it was important that the bonds would not contribute to the National debt and that the Corporation's debt limit would be set by statute. He said that the program would not work against the Administration's commitment to lowering the National debt and taxes. He did not, however, have any objections to Congress raising

- the highway user taxes and paying for the expanded highway program out of current revenue. He further said that he would not object if Congress chose to change the law such that all such bond issuances were included in the National debt. He advocated the dedicating of revenues from generating resources to new construction either by bonding or pay-as-you-go. He felt that the highway program was one of a very few public programs that had a revenue generating base. In this interchange, he all but advocated a trust fund. Congressman Gentry, a member of the Committee and former president of AASHO was the strongest critic of the bonding plan. In fact, there were some vitriolic interchanges between Gentry and Humphrey.
35. Joseph Campbell, Comptroller General, said that the Corporation and the method of financing was inadvisable because the debt would not be counted in the National debt but would, in fact, be part of it. Also, the specification that the bonds would not be obligations of the U.S. was misleading because in reality they would be. The Corporation would not be self-sustaining because it would have no assured income in that it would depend on payments from the Treasury. In general he felt that..."the Government should not enter into financing arrangements which have the effect of obscuring financial facts of the Government's debt position." He advocated direct appropriation instead with perhaps an increase in the fuel tax which would require borrowing to the extent that the appropriations exceeded income. In that way, full facts would be disclosed and the interest rate would be lower, thus saving the public money and in that way, Congress would retain control and be able to review progress and stewardship. He further pointed out that the bill was in conflict with the Trust Fund Acts, implying that perhaps a highway trust fund should be set up, and if the Congress did, the Government could borrow surplus revenues from it and pay interest into it. Also, a completion date could be set and the whole program authorized up front. Also, pay-as-you-go would not be inflationary.
 36. Allen C. Thompson, Mayor of Jackson, Miss. and President of the American Municipal Association, testified strongly for the Administration bill and advocated that the urban segments be given the highest priority because that was where the congestion was.
 37. Mayor Albert E. Cobo, Detroit, supported the American Municipal Association statement and the Administration bill. His testimony revealed one of the reasons the urban areas were such strong supporters of the Administration bill was that Interstate money would flow immediately on passage whereas the regular Federal-aid program, which was rural oriented, would be frozen at the \$622 million level with all revenues over that amount being dedicated to the liquidation of the Corporation's 30-year bonds under the Administration bill. He strongly advocated bonding.
 38. Jim Wright, President of the League of Texas Municipalities, advanced the position that cities already pay a disproportionately large share of highway user taxes with very little return. The Interstate would inevitably require a further increase of the fuel tax which would worsen the situation for the 75% of the municipalities that would not be located on the Interstate System.
 39. Mayor Celebrezze, Cleveland, supported the Administration bill and linked the program with urban renewal as the only hope for the larger cities.
 40. Ezra C. Knowlton, National Sand and Gravel Association, strongly supported the advancement of the Interstate program but did not support the Corporation. He advocated raising the fuel tax to 3 cents and authorizing the program far enough in advance to insure completion.
 41. R. R. Bartelsmeyer, Chief Highway Engineer of the State of Illinois, testified strongly for the Administration bill and against the Gore Bill.
 42. James J. Nance, Automobile Manufacturers' Association, supported a 10-year Interstate improvement program and increased highway user revenues to the extent necessary so that the rest of the program could also be accelerated and not frozen. He presented extensive charts to make his case. There was discussion about the press and the public's misconception that the Congress was considering a \$101 billion program. An ex-newspaperman in the Congress defended the media saying that Nixon started it all by using the \$101 billion number in the President's speech to the Governors kicking off the whole idea.

43. William A. Stinchcomb, AAA testified for a stepped up Interstate program without freezing the rest of the program and against reimbursement of already built Interstate routes, toll or free. He was for a completely toll free Interstate with emphasis on the urban portions and equitable user taxes.

WHAT NEXT FOR THE HIGHWAY OFFICIAL AFTER THE AUTHORIZATION OF AN ENLARGED FEDERAL-AID PROGRAM

An editorial in the October 1955 issue of American Highways payed tribute to President Eisenhower for taking cognizance of the highway problem and the formulation of legislation to build the Interstate System. The editorial is strange in that it talked of the program as though passage would be automatic. In reality, a great debate took place in Congress and delayed passage two years.

Whether or not his illness will permit him to be active again at the helm of our Government, President Eisenhower, in taking official cognizance of our critical highway problem, has performed an outstanding service to the Nation. He planted the seed in the right place to spark the largest highway construction and modernization the world has ever known. His action will go down in history as one of the most progressive and greatest contributions made by a Chief Executive to the overall welfare of our country.

For the matter to be considered by the Congress in a non-partisan manner will, however, hasten the day that the authorization of a greatly expanded Federal-aid highway program becomes a reality.

The Federal Government, by admitting prime responsibility in financing a modern Interstate System of highways, will be setting an example that will in turn create a public demand that will activate a nationwide highway and street modernization program at all levels of government and on all road systems. The same comprehensive program could not be simultaneously sparked and activated if attempted at the State level in the 48 State Legislatures. It would be impossible.

Highway officials, of course, were responsible for gathering the factual data used to apprise Federal officials and members of Congress of the critical need for adequate and safe highways to insure an expanding economy and the defense of the United States.

The highway official must sell the program at the local level next. This assignment can, and in many instances will, be much more difficult than at the Congressional level. We must present the facts to the public in such a way that the public will know modern traffic demands will require certain modern design, traffic control measures and some relocations to satisfy modern traffic needs, and that such things are progress in the motor transportation picture.

With a large Interstate Program authorized, the Congress will be placing first things first and the construction of a modern Interstate and Defense system will automatically eliminate our most stagnant traffic congestion problems, but let us not lose sight of the importance of our other roads and streets. The economy of the Nation is so dependent upon satisfactory highway facilities, commensurate with the need, on all systems of rural highways and city streets. We must be on the alert and be reasonable. We must spread our design standards between the local road and the Interstate route extremes. We must gear our thinking to the respective present and future demands that will be made on each of the measures of the deficiency that exists on each...

The editorial went on to predict that the Interstate System would carry 25 to 30 per cent of the travel when completed, and it advocated that designs should not be limited to 1974 traffic.

...Building "too little," just as building "too much," can be squandering funds entrusted to the highway official, and there is little or no evidence of "too much" ever being built to date. We have the advantages of traffic studies and trends that were not available in past years. Highway officials should study these trends and design for the traffic demands that are indicated. Do not compromise with what we know the public will need. Let us help shape that public opinion so it will be an aid and not a block, and do it in the same honest sincere and ethical manner that highway officials have always used.

The individual property owner, who believes a road improvement will jeopardize his investment, or the community that believes it has a vested right in the highway location, will apply strong pressures on highway authorities to make exceptions in their respective interests. Yielding to exceptions can, and will, create strong precedents and further complicate the job for the highway official.

The total mileage that will represent relocations, access control, by-passes, and the like, is an extremely small percentage of the total mileage, but it will be an extremely important percentage and it will take a good public relations and selling job to get it constructed. After it is constructed, it will sell itself.

The following excerpts from the AASHO "Golden Anniversary" book published in 1964 summarize what happened: "A modified version of the Gore Bill was passed by the Senate on May 25, 1955, providing for \$7.75 billion for the Interstate System, split over five years - 1957 through 1961 - with the Federal share of the cost to be 90 percent. Numerous other significant provisions were included, but there were none regarding revenue.

In the House of Representatives, consideration was given to the Administration Bill, the Senate Bill, and a bill proposed by Representative George Fallon, of Maryland, Chairman of the House Roads Subcommittee. For the Interstate System, the latter bill offered \$24 billion Federal funds over a 12-year period, 90 percent of the cost supplied as the Senate Bill and the apportioning of funds between the States on the basis of need. The bill also proposed increases in the Federal motor fuel and rubber taxes to provide the needed revenue.

A modified Fallon Bill came before the House in the last days of the session, but went down to defeat. So did the Administration Bill. With adjournment of the first session of the 84th congress, the Gore Bill, passed by the Senate, remained alive but dormant for the rest of 1955.

AASHO PRESIDENT'S ANNUAL ADDRESS

George T. McCoy, 41st President of the American Association of State Highway Officials, gave the convention, in December 1955, a comprehensive report on the failure of the Congress to pass the expanded highway program as recommended by the Administration:

In the annals of American transportation, the year 1955 will probably prove to have seen more constructive talk and less constructive action than any comparable period in our modern highway history. The past year has been momentous from the standpoint of proposals, public interest, research, information, hearings and programs. From the standpoint of immediate results, however, there is very little of a positive nature to report. No positive program has emerged as yet; costly indecision has complicated the picture. In a nation where

congestion and hazards are already intolerable and where we expect to have another 20 million vehicles on the roads within the next ten years, it is perfectly clear that to stand still now in highway modernization is to fall farther backwards.

The most important single activity of your Association during the past year has been in connection with and in support of the proposed Federal aid highway program considered by the 84th Congress at its first session in 1955. From all indication, this same program, now legislatively dormant but certain to spring to life very soon, will occupy a major share of our attention in 1956.

At the same time, your Association has been alert to its other legislative concerns. Highway officials and the various State highway departments, in conjunction with the untiring efforts of our past president, Congressman Brady Gentry, worked together effectively to defeat the attempt of the utilities to obtain reimbursement from public funds for the expense of relocating or adjusting their facilities on highway rights of way.

Plans for the Association's test road project in Illinois, a plan originating in 1951, have now progressed to the point where the State of Illinois has started acquiring rights-of-way and the Highway Research Board has had crews on the site for some time making preliminary investigations and arrangements. Agreements have been executed or are in process between 47 States, the District of Columbia, the Territories of Hawaii and Puerto Rico, the Bureau of Public Roads and the automotive industry to provide the necessary funds and authorization for the Highway Research Board to proceed further with the project. One State was unable to secure legislative authority to participate.

Let us review briefly where we stand with respect to the Federal aid program and how we got there.

This program is the largest highway program ever conceived in the world, as indeed it has to be to catch up and keep pace with our growing population and expanding economy.

The program originated with President Eisenhower's message to the Governors' Conference at Bolton Landing, N.Y., on July 12, 1954. It envisioned a grand plan for a properly articulated system of highways which would solve the problems of speedy, safe, transcontinental travel, intercity communication, access highways and farm-to-market movements as well as metropolitan congestion.

Six months later, on January 11, 1955, the Clay Committee report was published. This report became the basis for most of the bills which were considered by the Congress during the ensuing six months.

In the meantime, your Association had swung into action. a brief policy statement was drafted at the meeting in Seattle in November, 1954, to serve as a general guide for legislative testimony which our Association officials were certain to be called on to give. This policy statement was developed further in March, 1955, at a meeting of the Chief Administrative Officers held in Chicago. No changes have been made in that policy to the present time.

...Into the six months between the issuance of the Clay Committee report and the defeat of the road program on July 27, 1955, there were crowded many days of research, deliberation and testimony. The element of haste, considering the

magnitude of the program, was very much in evidence. There were sincere differences of opinion within the Congress on how best to finance the program. There was also politics. It is particularly unfortunate that the solution to the problems of traffic congestion and hazard, which respect neither party labels nor influence, should have become bogged down in political considerations.

It is unfortunate that the figure of 101 billion dollars should have caught the public eye and been misunderstood. This was an estimate of the amount required to correct the deficiencies on the entire nation's network of 3,360,000 miles of roads and streets. This estimate was never intended as a proposed Federal-aid program, but it was so termed. It was never clearly understood that by the time the States contributed 10 per cent of the construction cost of the Interstate System and continue to pay for its maintenance and operation; by the time the States continued to carry on their normal programs, with only about one-fifth as much financing coming from Federal-aid as the States themselves raised, the States would indeed be full partners in this grand venture.

These circumstances and misunderstandings proved too strong for your Association and the other supporters of an enlarged highway program to overcome. It was gratifying, however, to have had the constructive and statesmanlike efforts of such legislators as Senators Gore, Case, Chavez and Martin, and Congressmen Buckley, Dondero, McGregor, Gentry, Fallon, George, Davis and others.

Nevertheless, it is important to remember that when the House of Representatives defeated the road bill, it was not voting down the program; it was voting down the tax feature.

As for the program itself, there is no doubt that the need has been thoroughly established. As Commissioner Curtiss said last month, "the basic elements of the highway problem have come into much sharper focus." He also expressed confidence "that this broader, clearer comprehension will lead to early action on a scale far exceeding anything we have known in the past."

The fact is that as a result of all the work that has been done and the testimony that has been spread upon the record, the seeds are in the ground; if we tend them and do not let them wither or rot, they will bring fruit in due season in the form of an expanded highway program.

These stumbling blocks of haste, politics and disagreement over financing are bound to give way before long in the face of the recognized urgent need for modern highways. When that time comes, highway officials will be immediately confronted with the task of speeding up the construction of a nationwide network of modern roads, with the Federal Government setting the pace by assuming responsibility for the Interstate System in accordance with the authority and designation of responsibility provided in Article I, Section 8 of the Constitution.

Congressional leaders know that the nation must have a limited mileage of modern controlled-access highways joining the great centers of population. They also know that such a program must originate at the Federal level. This was the thinking behind the designation in 1944 of an Interstate System of Highways 40,000 miles in length, a system which comprises only one and one-quarter per cent of our total public road and street mileage but which joins the major centers

of population and connects with the main transcontinental routes in Mexico and Canada.

For all practical purposes, this magnificent dream of a network of superhighways is still a dream. Only 8 per cent of this key road system is built to reasonable standards for modern traffic needs...

...What is the outlook for the coming year of decision? The term is not used lightly. Congress must take some affirmative action on highways in 1956, or there will be no Federal-aid program at all. The 1954 Federal-Aid Act was for a period of two years only.

Furthermore, unless Congress takes affirmative action not only on Federal aid to highways in general but also on the expanded program, the damage that has been done by the failure to act in 1955 will be compounded. The mere propounding of a national highway program on a grand scale has caused States, cities and counties to defer action on programs of their own which must necessarily be coordinated with the Federal program. Further indecision on the part of the smaller agencies of government, understandable though it may be, will do positive harm to our people.

It is to be hoped that this realization, coupled with the established need for a comprehensive highway program on the Federal level, will help to counteract the unfavorable factor of an election year. In view of the partisan consideration which befell the highway program in Congress in 1955, there are grounds for a very real fear that election year politics might add fuel to this dangerous fire...

...Finally and perhaps most important, the question of financing has emerged as the largest single obstacle to the enactment of the program. It is here that Congress faces its greatest challenge.

In the face of the multi-billion-dollar national need for safe and adequate roads, it is paradoxically evident that almost any specific financing proposal will meet with opposition from the individual user groups and factions affected by proposed tax increases.

To call on any group of composite users or on any group of elected State public officials to recommend methods of financing the expanded highway program will serve no constructive purpose. Such groups will, as they have repeatedly done, endorse the program in general but dodge the specifics of financing.

It is apparent that compromise will be called for - compromise as between bond financing and levying of new taxes, and compromise as between the groups of highway users who will pay the new taxes...

SENATOR GORE

The Honorable Albert Gore, U.S. Senator, Tenn., also addressed the AASHO convention in December of 1955.

...I was complimented with an invitation to come and speak to this convention. I felt that it was an opportunity to contribute in a small way to the development of the policy of this great organization on the important subject of highway legislation. I confess I was a bit chagrined to discover the statement of your

policy already determined and printed before I had an opportunity to say anything. Maybe that isn't the final action, however.

I have read this policy statement, and with one exception, I would say it could be interpreted as an endorsement of the Gore Bill. I will not place that interpretation upon it; however, I will come later to this one exception with which I find myself in disagreement. I congratulate you on the progress you have made on the approach you have developed in this policy statement that indicates that there is more nearly a meeting of minds on highway legislation than was the case before.

Now I must express a mild disagreement with one thing your president said a moment ago, though I agree with a great many things he said, when he indicated that 1955 has seen no significant progress in highway legislation. I think a very significant step was made: a bill is half-way through the Congress. The U. S. Senate passed a far-reaching highway bill.

Since adjournment of Congress, I have visited several States, and have travelled extensively, of course, in my own State. I found overwhelming popular support for a vigorous highway improvement program. It is so popular that it is rather paradoxical that Congress did not take final action on this important subject...

...No one can say that the failure of Congress to finally enact a highway bill was due to the devotion of insufficient time and attention to the problem. The Public Works Committee of the Senate conducted the most exhaustive hearings ever conducted on highway legislation. Our hearings lasted three months. We had more than one hundred persons and organizations who wished to be heard. Further exhaustive hearings were also held by the House Public Works Committee. We had a few days' debate on the floor of the Senate. So exhaustive consideration was given to the subject.

There was disagreement on the manner of doing the job that resulted in inaction on the part of the Congress as a whole. I have heard it said that the three bills which were considered by the Congress - one advocated by the Administration, one passed by the Senate, and the one recommended to the House by the House Public Works Committee - all had the same objective, and that they differed only in the method of financing. Some have characterized the bills this way. They characterized the Administration Bill as a "pay-as-you-use" plan; the House Bill as a "pay-as-you-go" bill; and the Senate Bill as one having no financing plan at all.

Now, ladies and gentlemen, I know the American penchant, particularly the press, with its limitation of space, to over-simplify, but such characterizations as these are not only over-simplification, they are entirely misleading. At best, we need to understand what these proposals are.

In the first place, in some respects the so-called differences in financing are more apparent than real. In the final analysis, under either of these three plans or suggested bills, the road would be paid for out of the general fund of the United States Treasury. That is true of all three bills. In the second place, the three bills pose fundamental differences in approach entirely apart from the question of financing. We have read and heard most of our differences are differences of finances, and I repeat those differences are more apparent than real.

I believe that the United States Congress must decide basic formula and basic policy - the Congress of the United States, representing all the people, the same Congress which must levy taxes and must also appropriate the money, must decide the scope of the program, how far and how fast we shall go on the over-all basis. This does not mean - I do not want you to think that I mean - that Congress must undertake to dictate the location of our highways. Such an attempt was made on the floor of the Senate. I opposed it. The Senate turned it down. It does not mean that Congress should determine the method of constructing and engineering design. That is not the role of Congress. Basic policy, however, is the role of Congress.

Governor Kennon referred to the Appian Way. During the course of the hearing, I asked a representative - I believe one of your organization; maybe it was an engineer - anyway, I asked one of the witnesses if he felt the American highway departments and highway engineers would ever learn to build roads as good as the Romans did. That question brought a chuckle from the audience. I asked the question half-way facetiously, but also half seriously, because not long ago I rode over the Appian Way and found it still a fine road after these centuries of use. I didn't find any crusts or slabs rocking and breaking up, with the consequent expensive necessity of removing them...I won't go further into that subject...

All those familiar with highway legislation know how difficult it is to arrive at an equitable apportionment formula. Yet I say to you, right in the beginning of my talk, that an imperfect apportionment formula as between the States is better than no formula at all. This, too, is the role of Congress to determine.

Some say that Congress should merely fix the over-all national financial limits and then leave to the determination of the Department of Commerce as to how when, where, and in what amounts Federal funds shall be expended. With this I specifically disagree.

Throughout the history of federal legislation Congress has written into the law an apportionment formula. To me, this is a necessary part of highway legislation...

...Now, I would like to point out how these three bills differ. I appreciate the opportunity of doing so, and if you detect a hint now and then which indicates that I favor the bill that passed the Senate, you may be entirely justified, because I think it is best, not only because I sponsored it in the Senate, but because I think it is based upon the soundest approach, and it alone of the three bills embodies a balanced highway program.. I think it fair to say that from the standpoint of Federal money involved, the three bills are roughly comparable. Of course, in the beginning, there was a good deal of radio and newspaper talk about the "Grand Plan" of 101 billion dollars. Well, no such plan was ever submitted to Congress, whether by design or inadvertence I do not know, but the impression was allowed to get abroad that the Administration Bill would provide an expenditure of 101 billion dollars on highways. Of course, you people know that nothing like that was ever presented.

Actually, the Administration Bill proposed the expenditure of \$25 billion of Federal money, all of which would be spent on the Interstate System alone. In addition, the Administration indicated an addition to support authorizations of \$600,000,000 a year for use on all other Federal-Aid roads. If effectuated, this would have provided a total of \$31 billion in Federal funds for the next ten years.

In order to implement this so-called "Grand Plan" of 101 billions, the States themselves would have to provide independent of matching formulas \$70 billion within the next ten years. This would be equivalent to just about the doubling of your present State programs. No suggestion was made to our committee as to just how this would be accomplished.

In terms of total outlay, the Senate Bill provided for the first five-year installment, \$12 1/4 billion; a second five-year installment as contemplated by the Senate Bill would bring in ten years the total amount to \$26 3/4 billion; then the House Bill, the House Committee Bill, provided for \$35 billion on a thirteen year basis. So you see, that though they vary, roughly the amount of money involved in each of the three bills did not differ too much.

...If we undertook a crash program, we might very well inflate the cost of highway construction until the taxpayers would not get the proper mileage of roads for which their dollars were appropriated. A gradual acceleration makes sense, if we want a dollar's worth of road for each dollar of tax money. Now, this particular aspect is not particularly different in either of the three bills. It was not spelled out in the Administration Bill, but those who presented the Administration Bill indicated that they too recognized the necessity for and favored a gradual stepping up of the program. It was spelled out in the Senate Bill...

...I do not know why we should discriminate against the highway program by saying that it alone, of all the activities of the Federal Government must be accompanied with new taxes. We do not do that for any of the other things:...Well, I am willing to vote for increased taxes. I want first to close some loopholes in the present tax law...What I am apprehensive about now is that instead of a five or a ten-year bill, we may wind up with another two-year extension of the present law, which is wholly inadequate to meet our needs. I hear some discussion that because this is an election year and because of the controversy over road legislation this year, various reasons, that perhaps it would be best to pass a two year extension of the present program.

...I want to express in all frankness, disagreement with one particular phrase of your policy statement. It reads "Funds for the construction of the Interstate System should be initially apportioned on the basis of need as indicated by Section 13 Study as reported by the Bureau of Public Roads." Now, I don't quite understand what could be meant by "initially apportioned." Congress either apportions, or it doesn't. Who do you mean by "initially apportioned"?...Now, this paragraph goes on and says "and as indicated by future successive needs estimates". Well, that would again indicate that further needs estimates would be made, which would modify the apportionment, taking from some, giving to others...The House Bill would have actually apportioned dollars, so many dollars, to respective States in accordance with the so-called needs table, and it would have been highly inequitable...

(Senator Gore was concerned that the Executive Branch might be empowered to alter Interstate apportionments based on needs studies with no involvement of the Congress.)

SENATOR MARTIN

Addressing the AASHO Convention, the Honorable Edward Martin, U.S. Senator, Pennsylvania, paid tribute to President Eisenhower for his leadership in highways and predicted that the public would demand the expanded highway program. He spoke of the stalemate over financing and the President's regret over the defeat in the House and his appeal for compromise so that the program could proceed. Martin cited statistics to show how many expensive urban projects had been put on hold because of the failure of the legislation. He noted that he supported the

President's bonding proposal but would listen to any reasonable financing scheme. He recounted several ways that revenues could be increased to pay for the program and predicted that the next session of Congress would find a way.

...It is no exaggeration to say that President Eisenhower's call for bold new steps to solve the highway problem has made the Nation highway conscious. The President performed an outstanding service to the Nation when he centered attention on this vital problem. I am convinced that when the next session of Congress convenes it will be bombarded from all sections of the country with demands for prompt action.

We need the roads. There is no question about that. We must have them if we are to have an expanding economy.

We need them for our industrial, cultural and spiritual advancement.

We need them for national and civilian defense.

We need them to reduce the frightful toll of lives taken each year by accidents on our highways.

We need them to bring the people of every section closer together and thus provide the means for a better understanding of our great country and its problems. My study of the War Between the States convinces me that if we had had a good system of highways and better means of communication the war might have been avoided.

The big decisions we must now make are how the highways shall be financed, where they will be built; how they will be built; how they will be policed; and how they will be maintained.

...The President's proposal was, of course, the most ambitious highway construction program ever visualized for this country or any other country. At no time were its broad objectives the subject of controversy.

...The principal area of disagreement (in the Congress) was the method for financing the program. That is the big problem before us today.

At this point I would like to recall the statement of President Eisenhower issued on July 28, the day following the defeat of the Fallon bill in the House.

Expressing disappointment over the rejection of the legislation the President said, and I quote:

The nation badly needs new highways. The good of our people, of our economy and of our defense, requires that construction of these highways be undertaken at once.

There is a difference of conviction, I realize, over means of financing this construction. I have proposed one plan of financing which I consider sound. Others have proposed other methods.

"Adequate financing there must be," the President continued, "but," he added, and this is the important part, "contention over the method of financing should not be permitted to deny our people these critically needed roads."

You are all aware, of course, that I supported the corporation bond plan (the Administration bill) regardless of the fact that for a half century in public life I have favored the pay-as-you-go principle. In order to get the roads built I would again support a bond plan. However, in view of the opposition to that plan, particularly among many fine conservative people who stand against deficit financing of any kind, I would give my support to any reasonable compromise that will assure prompt action.

...Recently I received a brochure prepared by the American Municipal Association which disclosed some startling facts. It stated that the failure of Congress to enact an expanded Federal aid program for highways has delayed up to ten years the construction of expressways, arterials and by-pass routes that are needed now to alleviate the traffic strangulation of existing city streets.

A survey by the Association revealed that in 85 cities representing 38 States and the District of Columbia, 129 projects, with a total estimated cost of 5 1/2 billion dollars, are or will be adversely affected by the absence of a national highway program.

Here are a few examples:

Detroit is holding up the construction of six expressways involving more than \$363 million pending Federal action.

New York City has plans for a \$600,000,000 network of roads and bridges but cannot proceed without assurance of expanded Federal aid.

Chicago wants to complete 33 1/2 miles of expressways which will cost over \$350 million.

...I have mentioned only a few samples. There are many more. They point out very clearly that the longer the accelerated highway program is delayed the more it will cost in higher prices for right-of-way and construction as well as economic losses from traffic congestion.

...There is no doubt in my mind that the financing problem related to highway development can be solved in a way that will distribute the costs on a fair and equitable basis.

...There is general agreement that the National System of Interstate Highways is a prime responsibility of the Federal government.

...How can this expenditure be financed?...An additional one cent Federal tax on gasoline which would yield annually more than \$500,000,000...The present tax on rubber might be increased to yield an annual total of \$300,000,000...A federal license fee on trucks and buses using the interstate system to yield \$30,000,000...Increased appropriations from the general fund and some matching funds from the States...The collection of tolls on tunnels, bridges and

perhaps some sections of road on the interstate system, could yield \$300,000,000...

...It now appears that we will have a balanced budget through increased revenues and economics in government departments and agencies. That means that highway money can be taken from the general fund provided the present level of taxes is maintained.

The completion of the Interstate highways will be a monumental achievement. Our first objective must be to get the job started. I am confident that the next session of Congress will clear the way.

CONGRESSMAN DAVIS

The Honorable Clifford Davis, M.C., Tenn., spoke to the AASHO Convention of the revenue impasse that the House bill encountered:

...Let me put you at ease, gentlemen. You are going to have, in my considered judgement, a good road bill in this next session of Congress. Let me give you one piece of advice, or one suggestion. I would urge you in your resolutions to insist on a road bill, but lay off the revenue, because then you will get yourself in the same shape in which we found ourselves. But when we do reach agreement on language early this year, I do hope then that you will influence in a personal way, by a telephone call or a letter or a personal message, your own members in the Congress. Let's do this thing in an orderly, high-class way without pressure and without so-called lobbying. We can do it.

...Our committee concluded that the special system of financing as proposed by the Administration Bill was not conducive to sound fiscal management. Now, of course, you appreciate that I am giving the majority view of the committee. The accumulation of governmental obligations and the expenditures of proceeds thereof not by a budget but by a corporation without apportionment to the States would be basically unsound.

Indeed, there is no reason for the government to create a corporation which would require the payment of approximately \$11 1/2 billion in interest to build some \$25 billion worth of roads. We could not get by with that philosophy.

...the Senate bill...authorized appropriations for a five year period...then they quit...Our Committee believes that the amounts recommended...should constitute a reasonable start toward meeting the deficiencies in highway improvements...not only the first installment...

Our committee in the House had witnesses representing all of the agencies interested in the program. I think without exception all who appeared stressed the importance of authorizing the whole program now in order to avoid the possibility of inefficient and expensive build-ups and let-downs...

All past Federal-aid bills have contained apportionment formulas for dividing the monies authorized to the States on the basis of population, area, and mileage. This concept would not meet the objective of completing the Interstate System in a given period of time, nor would it...assure simultaneous completion...

...The only concept which will fully accomplish the objectives is to compute the estimated cost of completing this system in each State and allocating to each State the amount of federal funds necessary to permit the State to do the job...

...After hearing appropriate testimony, we were convinced that we would not have enough (resources) to make a sound economic start in the program under 13 years...

...I will give you the reason the highway bill failed. Under the constitution, all revenue bills originate in the House of Representatives. I tell you no specific suggestions were made in the Senate to pay for this much needed road program. The House Bill would have passed but for the fact that leadership insisted that we put tax provisions in the bill. This was almost unprecedented. We had a very limited time to hear witnesses on the tax provisions. We ran into great difficulty with the petroleum interest, the tire industry, and those engaged in trucking, and I can tell you that that is a very minimum, mild statement I have just made.

In truth, we had only 12 hours to hear witnesses on the important money angle. It was agreed everybody in the United States wanted highways, but nobody wanted to pay for them. I voted against the bill when it got in that bad shape. I felt that a better job could have been done on any increase in tax provisions to pay as we go, and pay as we use, if the Committee on the House Ways and Means had been given the responsibility which rightly belonged to that committee. They have career staff experts on duty the year around. They have the benefit of the advice of the Department of the Treasury. That committee is headed by an able Tennessean, Jere Cooper.

Not being an experienced member of the tax-writing committee, and with only 12 hours to be informed on the tax provisions, I was not willing to vote for a bill so important, and on which I thought so all-inclusive, which required so much money without all the equities having been carefully considered with ample time for presentation of views of those who would be required to meet the additional cost of operation. This is but the fair American way.

...I think the House Bill was sound until we so quickly had the tax feature thrust upon it. The bill, as you know, was warmly contested, and even more warmly defeated.. Between now and the first of the year the whole country, and all the interests involved, must take a realistic view and come back afresh and get this bill out of the way as soon as possible.

...When we get down to the bill for the President's signature, it will require some compromises, the meeting of minds, level-headedness, and constructive thought. In this, all of you may be most helpful if you will dedicate your best advice to those of us who serve you in Congress and have need of that advice...

COMMISSIONER CURTISS

C.D. Curtiss, Commissioner, Bureau of Public Roads, told the AASHO Convention the \$101 billion needs study estimate was being erroneously reported in the press as the cost of the Federal program. Three other speakers mentioned the same thing as being a factor in the failure of the Congress to pass legislation in 1955. He said that the acquisition of rights-of-way, especially on the urban Interstate was the biggest problem and noted that legislation had been introduced to give the Federal Government the authority to acquire such rights-of-way upon the request of the States. He asked if the States really wanted this feature. He said that many States

still did not have the legal authority to control access. He announced the designation of the remaining 2,300 miles of urban Interstate:

...Today I would like to discuss with you some of the subjects which appear important to me and my associates in the Department of Commerce, Bureau of Public Roads, as we look to the future. There is no occasion to dwell on the magnitude of our highway needs. They are well recognized. In March, 1955, the President submitted to Congress a report prepared by the Bureau with the cooperation of the State highway departments showing the estimated cost of construction needed to modernize all of the Nation's roads and streets in a period of 10 years to be \$101 billion. This is indeed a familiar figure to all of you. Although compiled by the Bureau of Public Roads, the estimates are those of the State highway departments. Unfortunately, this figure has been publicized so as to leave the erroneous impression that it represents the estimated cost of a Federal program-rather than an overall estimate of total cost of needed improvements in the next 10 years.

Some of the data developed for this report were used by the President's Advisory Committee on a National Highway Program headed by General Lucius D. Clay, and were stressed in the Committee's basic statement of the problem to be solved. Committees of the Congress gave very careful consideration to these same facts and particularly to the obvious need to launch a program for improvement of the interstate system on a scale that would bring this most important network to completion within a reasonable period. The need to continue substantial support to the other Federal-aid systems also received serious attention.

The fact that no final legislative action was taken was disappointing to many, but the almost universal recognition of the problem which developed at the hearings and the will to do something about it is most encouraging. Predictions are being rather freely made that favorable action will be taken in the next session of the Congress...

He said that right-of-way acquisition was the number one problem in the highway program..."This brings up an important question - what changes, if any, should be made in Federal-aid legislation covering right-of-way acquisition? Some of the bills introduced in Congress would provide for Federal acquisition of right-of-way on the interstate system, if requested by the States. Such rights-of-way would later be deeded back to the States. Do the States want the Bureau to be granted such authority? The Bureau has no desire to enter this field, except as requested by the States where existing legal bottlenecks impede an accelerated program for the vital interstate system."

He said that control of access was also a very important issue and that many States did not have the legal authority to do it.

...On September 15, 1955, approval was given to the designation of the remaining balance of 2,300 miles of the National System of Interstate Highways. This approval, including the 37,700 miles approved in 1947, completed designation of the 40,000 miles authorized by the Congress in...1944. In this latest approval only urban area additions were included. Although requested by some States, no new intercity routes were approved. This action was in keeping with the statement made at the time the original designation in 1947 was announced...

This action in completing the designation of the full 40,000 miles was somewhat overdue as a number of States were pressing for additional urban mileage in

order to facilitate their planning for urban area projects in utilizing their share of the \$400,000,000 already authorized for projects on the interstate system. In order that the needs of all States could be considered, action was delayed until requests for urban additions from all the States could be considered. Since these requests totaled 3,400 miles it was necessary to eliminate 1,100 miles. In reviewing the requests of the States, criteria presented to the U.S. Senate Committee on Public Works on April 15, 1955, and approved by the Department of Defense, were used. Only general locations were fixed. Detailed final locations will be made as projects are developed for improvement and such locations may or may not coincide with present roads and streets. In many instances extensive studies of traffic needs, right-of-way costs, and design problems must precede fixing of the exact location...

PRESENTATION OF THE BARTLETT AWARD TO WILLIAM RANDOLPH HEARST, JR.

In January 1956 at the annual convention of the American Road Builders' Association, L.L. Colbert, President, Chrysler Corporation, presented William Randolph Hearst the Bartlett Award for three years of intensive campaigning in the Hearst newspapers for an expanded highway program:

...I want to say right now and without any qualifications that in my opinion no other man in the country has done so much over the past three years to bring to the attention of the people of the United States the urgent and staggering needs of the Nation for better highways.

He has spent so much time and effort on highways in recent years that I am sure he wonders sometimes whether he isn't a highway commissioner at large. He tells me that although people still ask him what is happening on the world's news fronts, more often than not they ask him about roads.

Now as much of a man as Bill Hearst is, he hasn't done all the work on this highway campaign himself. Early in the game, back in 1952, he had a talk with Bill Lampe, who was then Managing Editor of the Detroit Times, and told him that from that time on until further notice he would be the editor in charge of information on better roads for all the Hearst papers. To explain why he needed a national better roads editor he said that every time he went to Detroit he heard automobile men talking more and more about highways and about how in the long run the lack of adequate highways would hurt not only the automobile business but the whole economy. He had become convinced that it was a very big and important matter-one worth pushing hard.

He asked Bill Lampe to begin his new assignment by finding out just how big and tough the highway problem really was. So a staff of writers went to work immediately to get all the facts together.

This took several months, but at the end of that time Bill Hearst and his editors were dead sure they had a worthwhile and exciting job on their hands. The man who took charge of that first big research job deserves a special vote of thanks. That man is John O'Brien. In the three years since then he has been Chief Staff Writer for the Hearst highway campaign, and has had a hand in most of the strong editorials and informed new accounts appearing in the Hearst papers.

...Between October, 1952, when the campaign started to roll until the end of 1955 the Hearst papers printed nearly three million lines on the highway problem. This is enough to fill 1,229 full newspaper pages. Or put it another way. This is

enough to fill the columns of an average-size metropolitan daily with nothing but stories and editorials on highways for 76 consecutive days.

...Sooner or later this country is going to reach the great objective that the Hearst highway campaign has kept before the American people during the last three years. In large part as the result of this campaign the voters are going to expect their political representatives to pass adequate highway legislation in the present session of Congress. Of one thing we can be absolutely certain-Bill Hearst and his editors are going to go right on publishing the facts and building public pressure until the country gets the kind of road system it must have to grow and prosper...

HEARINGS ON H.R. 8836
Committee on Public Works
The Subcommittee on Roads

House of Representatives, 84th Congress, second session, February 7 through March 5, 1956.
To Amend and Supplement the Federal Aid Road Act of 1916.

This bill, sponsored by Congressman Fallon, Md., was essentially the same as his bill that went down to defeat in 1955. It was incumbent on the House to pass something in order to respond to the Gore bill already passed in the previous session of the Senate. The bill provided authorizations through 1969 at a 90-10 matching ratio and apportioned on the basis of the cost estimate already presented to the Congress. It also contained the reimbursement feature to pay for roads already built to Interstate standards and on the system. It also called for expediting the AASHO Road Test as the basis for recommending size and weight standards to the Congress. It authorized the Secretary to acquire land for rights-of-way for the Interstate upon the request of a State. It continued the rest of the highway program pretty much as it was.

WITNESSES

1. Secretary of Commerce Sinclair Weeks accompanied by Louis S. Rothschild, Undersecretary for Transportation, Phillip A. Ray, General Counsel, C.D. Curtiss, Commissioner of Public Roads, F.C. Turner, Assistant to the Commissioner, and H. J. Kaltenbach, Solicitor, Bureau of Public Roads. Secretary Weeks entered a prepared statement into the record. Excerpts follow:

...The need for an expanded and adequate highway program was definitely established by representatives of farm organizations, industry, labor and other interests, and officials of State and Federal agencies at hearings before your committee during the last session of the Congress, and I will not attempt to further confirm these needs. However, I should like to point out that the President has emphasized repeatedly, in his State of the Union and budget messages and his economic report, that a greatly improved highway system is vital for both economic development and national defense, as well as to reduce traffic deaths and injuries.

We are very gratified that H.R. 8836 accomplishes the principal objectives of the President's program for completion of the National System of Interstate Highways by authorizing construction of the system as a single integrated project, requiring the Federal Government to assume the principal responsibility for financing the program, and providing for apportionment of funds among States on the basis of need.

In contrast to the practice of the Federal-Aid Highway Act of 1954, and previous acts authorizing appropriations for the Interstate System on a 2-year basis, H.R. 8836 provides total authorizations of \$24,825 billion for the 13-year period...ending June 30, 1969.

We believe it imperative that completion of the Interstate System be authorized as one project rather than on a piecemeal approach. I have referred to the President's statements on the need for an improved highway system, and I should like to quote from his State of the Union message concerning the necessity for authorizing the Interstate System as an entire project.

In my message of February 22, 1955, I urged that measures be taken to complete the vital 40,000-mile Interstate System over a period of 10 years at an estimated Federal cost of approximately \$25 billion. No program was adopted.

If we are ever to solve our mounting traffic problem, the whole Interstate System must be authorized as one project, to be completed approximately within the specified time. Only in this way can industry efficiently gear itself to the job ahead. Only in this way can the required planning and engineering be accomplished without the confusion and waste unavoidable in a piecemeal approach. Furthermore, as I pointed out last year, the pressing nature of this problem must not lead us to solutions outside the bounds of sound fiscal management. As in the case of other pressing problems, there must be an adequate plan of financing.

...We also believe that it is very necessary that the Interstate System be completed over a period of 10 years, as recommended by the President rather than over a 13 year period as provided in H.R. 8836...

In this connection, we understand that the Committee on Ways and Means is drafting a bill designed to provide revenues considered necessary for the highway program, and that such bill will be consolidated with any bill reported out by your committee.

We believe that this is the only method which will fully accomplish the objective of completing the Interstate System in a given period of time in accordance with the needs determined by the States with the cooperation of the Bureau of Public Roads. The formula used in previous acts for apportioning funds among the States on a basis of population, area, and mileage would not permit this to be accomplished. Nor would such formula assure simultaneous completion of the entire system. However, we suggest that provision be made for reevaluation of the needs of the Interstate System in the several States to take care of designation of the remaining 2,300 miles in the 40,000-mile system subsequent to the computations set forth in House Document No. 120.

...The States have the responsibility, under the various Federal-aid statutes, for the planning, construction, and maintenance of projects in the interstate and other national highway systems. They also have the responsibility for enforcement of speed, highway marking, and other phases of highway use. Despite the dominant role of the Federal Government with respect to the Interstate System, we do not believe there should be any change in these traditional Federal-State relationships and responsibilities. In this concept fall such provisions as

the one relating to regulation of sizes and weights of motor vehicles. We believe that Federal participation in the Interstate System should parallel existing Federal-aid highway procedures except only for limited power in the Federal Government to acquire rights-of-way at a State's request where necessary to assure limited access...

...We are surprised to encounter the provision in H.R. 8836 relating to credits to the States for existing free or toll highways located on the Interstate System. Although a similar provision was contained in bills implementing the report of the President's Advisory Committee on a National Highway Program (the Clay Committee), no such provisions were incorporated in the highway bill passed by the Senate (the Gore bill) or in the bill reported by your committee (the Fallon bill).

In any event, we have given the proposal a great deal of thought, and do not favor it at the present time. The President's program for the Interstate System contemplates "completion" of a system in accordance with needs and not the "purchase" of one. Obviously, more roads can be completed if those already built are not bought. Furthermore, the States would not appear to be hurt by failure to extend credit for such roads. In general, toll roads have been set up on a sound fiscal basis, and have not cost the States a penny. No amount has been included in the authorizations for the Interstate System for toll and free road credits, and it would therefore be necessary to increase the authorizations or cancel a part of the needed program if such credits are to be extended...

He went on to compliment the Committee for continuing the regular Federal-aid highway program on two year-authorizations as in the past.

Chairman Buckley, New York, led the discussion about the reimbursement feature. He was concerned about the New York Thruway which was just being completed. He said that New York was entitled to 1,216 miles on the Interstate System but would only get 516 miles (of new construction). He saw this as a penalty for New York having been progressive in their highway program. This same point of view was expressed for the New Jersey Turnpike, the Pennsylvania Turnpike, Ohio, Indiana, Kansas, Oklahoma and others. California was cited as being penalized because of the extensive freeways that had been built there. There were implications, if not threats, that the Congressional constituency representing those States would vote against any Interstate bill that did not contain the reimbursement feature.

Congressman Dempsey led discussions objecting to the just announced designation of the remaining 2,300 miles of urban Interstate. He was confused in that he inferred that the designation of each mile carried with it the allocation of so many dollars, and therefore, the allocations were not balanced between States. It took a lot of discussion to get this cleared up. He was also confused about contract authority. Apparently some payments had been held up because of the failure of Congress to pass a supplemental appropriations bill quickly enough. Secretary Weeks entered testimony into the record to show that Congress had a pattern over the years of appropriating less than the Administrations asked for initially, thus requiring supplemental appropriations, and they had not always acted expeditiously on those.

There was considerable discussion of increasing the Interstate mileage as an alternative to reimbursement to compensate the aggrieved States. The Secretary opposed that idea.

Representative Brady Gentry, Texas, and ex-president of AASHO strongly opposed the reimbursement feature by pointing out that only 12 States had any toll roads, and they were mostly self-supporting, being paid for by motorists from all the States.

Commissioner Curtiss spelled out in detail the proposal for basing apportionments on new estimates of the remaining cost to complete the Interstate System made every two years.

2. Rex Whitton, Missouri, represented AASHO as President. He was accompanied by R.H. Baldock, Ore., John Volpe, Mass., W.A. Bugge, Wash., and A.E. Johnson, Executive Director.

Mr. Whitton presented the latest AASHO Policy statement which called for completion of the Interstate in 15 years, matching on a 90-10 basis, apportionment on successive cost estimates, leaving to the States the questions of truck sizes and weights and utility relocation. It further suggested payments from the general fund when highway user revenues were insufficient, and suggested the possibility of increased highway user taxes and perhaps Federal bonding. Conspicuously absent was the reimbursement feature for roads already built which was prominent in the AASHO Policy the year before.

In commenting on specific legislation before your committee, we will first refer to H.R. 8836, introduced by Chairman Fallon, of Maryland. We wish to compliment Congressman Fallon for his broad knowledge of the highway problem and what it takes to remedy it. We think that the program he has outlined in the bill is especially fine and we commend him on his fortitude in reintroducing his program after its defeat during the first session.

We note that provision is made for the reimbursement of any existing free highway or toll highway located upon the Interstate System which measures up to the standards of construction required for that system. We realize that a point of equity is being recognized here, but we also know that it raises a very difficult problem. The first large sums of money made available for the program should, in our opinion, not go for reimbursement for existing facilities; however, this issue is not covered by our official policy statement...

As the hearings went on, there was considerable support developed for the idea of getting the program going and then considering the reimbursement problem toward the end of the Interstate System program.

We believe that the section allowing the Federal Government to acquire rights-of-way at the petition of the States is needed to expeditiously construct the Interstate System because of the varied pattern of highway acquisition and controlled access laws that exist in the several States. The States are presently at work on a research project to study the several State statutes, constitutional provisions, and court decisions in this regard, but a correction of the highway right-of-way acquisition problem at the several State levels cannot come soon enough to build the Interstate program in the time that we have...

A bill was introduced during the first session of the 84th Congress by Congressman Buckley, H.R. 234, which is a recodification of the Federal-aid highway laws of the United States. The highway officials

would like very much to see this bill called up and enacted as it puts all of the several highway bills since 1916 in one package and would greatly simplify the administration of Federal-aid affairs...

3. Mayor Ben West, Nashville, Tenn., representing the American Municipal Association:

...We believe that the need for highways is so overwhelming that it justifies almost any compromise to get started. We in the cities just cannot wait any longer. The situation is beyond being critical and is now approaching a point where "desperate" would be a more adequate word to describe our needs. We must have an adequate expanded highway bill in this session of Congress. To accomplish this, we believe that Congress should postpone for future consideration those aspects of the program that do not need to be settled immediately. Thus, in limiting the area of controversy to those matters that are essential to getting the program underway, Congress will greatly enhance the chances of a road bill becoming law in 1956.

When Congress adjourned the last session without having passed a national highway program, the American Municipal Association, along with millions of others, felt a deep sense of disappointment and frustration. We queried all the cities of the Nation of over 50,000 population to determine the effects of the failure of Congress to enact an adequate highway bill...

...this tabulation shows that in 85 cities, representing 38 States and the District of Columbia, 129 projects totalling an estimated \$5,500 million are adversely affected by the failure of the expanded highway program to pass...

Municipal planning for city streets and other projects such as urban renewal is at a standstill or proceeding at a snail's pace because there is no assurance of the extent of participation of the Federal Government in the interstate system or the rate of participation. Cities cannot plan for connecting streets to an interstate highway that hasn't been planned and that may not be constructed for a generation

Cities are rapidly coming to the end of the line as far as improving the traffic capacity of present city streets and highways is concerned. Yet the traffic counts continue to mount. During the past year we have not been able to even keep pace with the increased traffic of a single year to say nothing of the accumulated backlog. There has been a net increase of 3 million vehicles in the year since we appeared before you on this question in 1955. We are worse off today than we were only 1 year ago.

City officials are worried about the civil defense implications of present inadequate highways. They are concerned about the possibility of enemy attack and the new evacuation policy in the light of their positive knowledge that if it is nearly impossible to properly evacuate the evening business migration to the suburbs in a reasonable length of time, how can they evacuate the entire population of the city under an emergency situation?..

...Cities are particularly interested in the interstate system. Of the \$25 billion Federal share for this system, an estimated \$14 billion will be allocated for construction in urban sections. By our calculations, at the present rate of Federal contributions of \$175 million per year and taking the total estimated cost of \$25 billion for the entire interstate system, it would take 143 years to construct the highways that we should have had years ago...no real start has been made on the interstate within the cities...with the exception of Kansas which has built 94 miles at a cost of \$39 million...

He questioned the adequacy of the current needs studies to reflect the costs of the Interstate in the cities. He recommended the postponement of the reimbursement question in the interests of compromise. He asked for a requirement that each highway department have an urban unit and that it might be necessary, at some point in the future, to require that the cities designate one agency to act for them. Presumably, he was talking about the metropolitan area.

A series of witnesses who were members of the American Roadbuilders' Association testified that the industry was completely able to take on the larger program, and they were for the bill down-the-line.

A series of witnesses from New York State and toll road commissions testified for the reimbursement provision.

The Associated General Contractors testified against the Davis Bacon requirements and any involvement on the part of the Federal Government in labor relations. The AFL-CIO took the opposite side in extensive testimony. This subject generated a lot of heat.

According to the AASHO Golden Anniversary published in 1964:

In this receptive atmosphere, the House Roads Subcommittee and the Ways and Means Committee, by agreement, separately undertook to develop the program, the one part on the legislation and the financial features as another.

Many features of the 1955 bills were adopted, or adapted.

A Joint Committee bill was approved by the House on April 27, 1956.

Shortly after, the Senate Public Works Committee replaced the program feature of the House Committee Bill with a modified version of the Gore Bill, mainly with respect to the apportioning method, and the Senate Finance Committee modified the House Bill's finance features with the so-called Byrd Amendment to limit the expenditures of the program to the Highway Trust Fund balances available. Senator Harry Byrd also demanded assurances that the Interstate System would be planned to where it would not constitute the physical barrier imposed by some Toll turnpikes and would give consideration to local as well as through traffic needs. The bill was approved by the Senate with some amendments on May 29, 1956.

The House-Senate Conferees developed a compromise bill by June 25, and on the next day both the Senate and the House approved it by overwhelming votes.

On June 29, 1956, the President signed the bill into law.

THE INTERSTATE SYSTEM IS A REALITY

And so, some seventeen years after Toll Roads and Free Roads in which the Interstate System was first formally proposed to the Congress, the program was launched to begin the second Golden Age of the highway program.

FEDERAL HIGHWAY ADMINISTRATOR SELECTED

An editorial in the American Highways, October 1956, announced the appointment of Tallamy as Federal Highway Administrator and the appointment of Volpe to serve in the interim until Tallamy was free to take his seat. Curtiss was to remain in the position of Commissioner of Public Roads.

Secretary of Commerce Sinclair Weeks, who is charged with the responsibility of administering the Federal Aid Highway Act of 1956 released the information on October 12th, that President Eisenhower has selected Bertram D. Tallamy of Sand Lake, New York, chairman of the New York State Thruway Authority and a Past President of the American Association of State Highway Officials to fill the new position of Federal Highway Administrator. The new position is at the same level as an Assistant Secretary of Commerce.

Mr. Tallamy is far-famed for engineering know-how and executive competence. He will have direct responsibility for the administration of the Bureau of Public Roads and the new National Highway Program. His many years as the Superintendent of Public Works of New York State and his experience in planning, constructing and operating the New York Thruway, coupled with his unique combination of talents provide him with the qualifications to handle this all-time record road program.

He will assume his duties early next year after completing the commitments of his present position.

President Eisenhower also announced that in order to maintain the pace in getting the new program under way he was appointing John A. Volpe of Malden, Massachusetts, as Administrator in the interim.

Mr. Volpe has been until recently, Commissioner of Public Works for the Commonwealth of Massachusetts, and as a member of the Executive Committee of the American Association of State Highway Officials has been active in highway affairs both in his home state and in the nation. Mr. Volpe has made an outstanding record as an administrator and as a public servant. He is one of the best informed men in the country on the subject of planning adequate highways.

Secretary Weeks announced that Charles D. Curtiss, Commissioner of Public Roads since January 14, 1955, under whose guidance the new highway program has progressed ahead of schedules will continue to serve as Commissioner under the new Administrator. Curtiss, a career man has been aligned with the Bureau of Public Roads since 1919.

All three men are highly respected and trusted by the men who direct the activities of the State Highway Departments. The maintenance of the spirit of cooperation and understanding between the Bureau of Public Roads and the State Highway Departments that has been outstanding in Federal-State relationships is a necessity for the big road program to succeed. The naming of these three men assures that relationship will continue.