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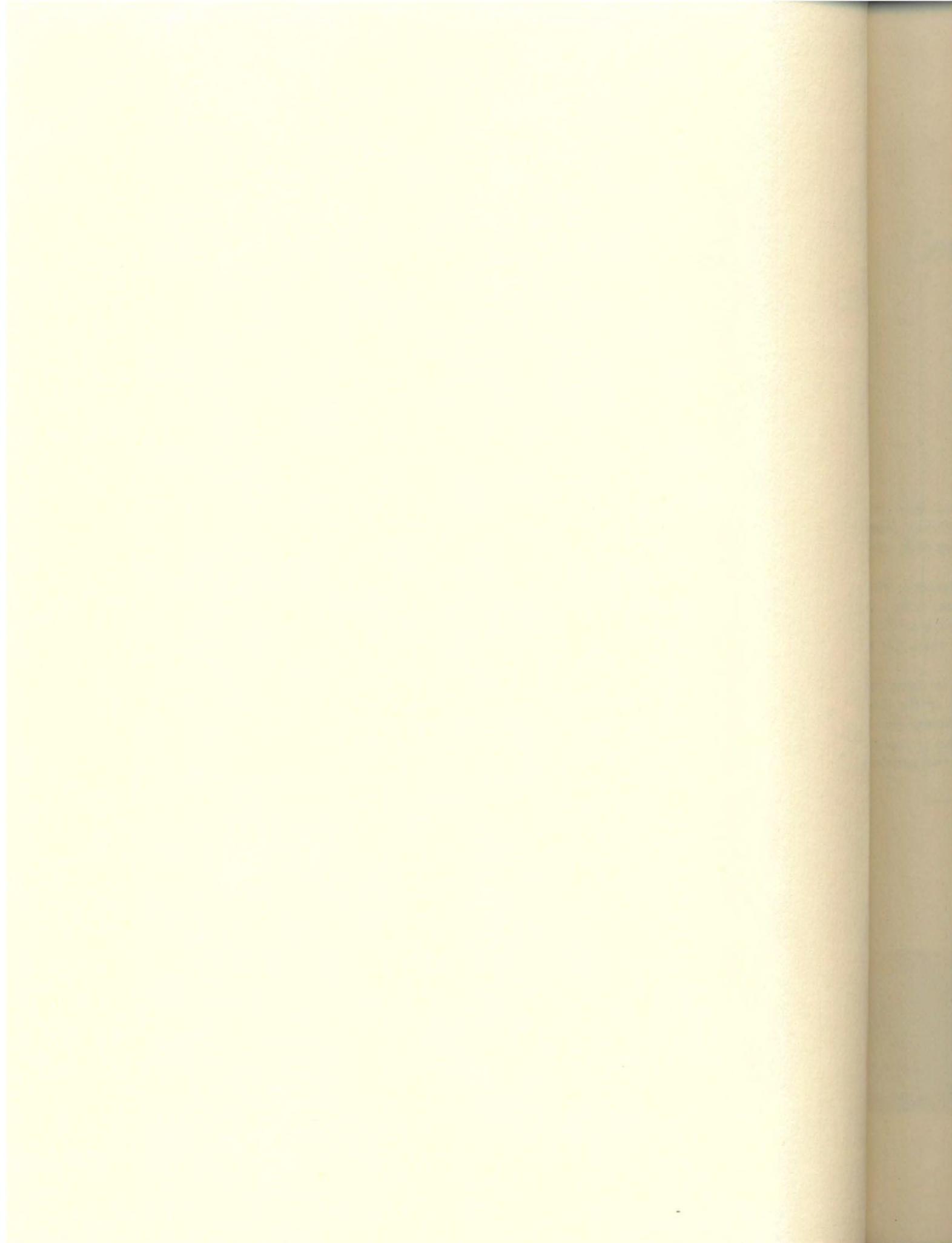
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MISSOURI HIGHWAYS

The Modern Years





The Modern Years



MISSOURI STATE HIGHWAY COMMISSION
Jefferson City, Missouri 65101

Where credit is due

Many people furnished much valuable assistance in the preparation of this volume. Not all of them can be named here. But these members of the Missouri State Highway Department should be:

Wilbur Mayens of the Highway Planning Division, whose drawings and sketches are bright and beguiling, and whose graphic sense is sound and sure.

Harold Dulle of the Surveys and Plans Division, who knows the things that make CART roll, and who is a good and patient teacher.

District 8 Engineer V. B. ("Brownie")

Unsell, whose hospitality and help made collecting the data for the Urban section of this report a relatively easy task, and a thoroughly enjoyable one.

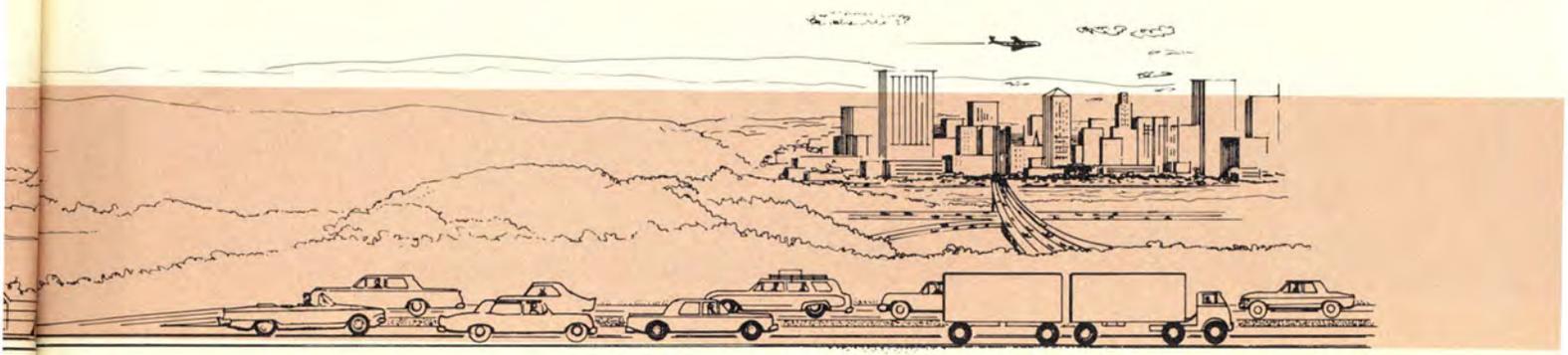
The men of the Department's Photo Lab—especially Jim Corrigan, who shot some of the pictures in this book while the rains came down, others of them by the dawn's early light.

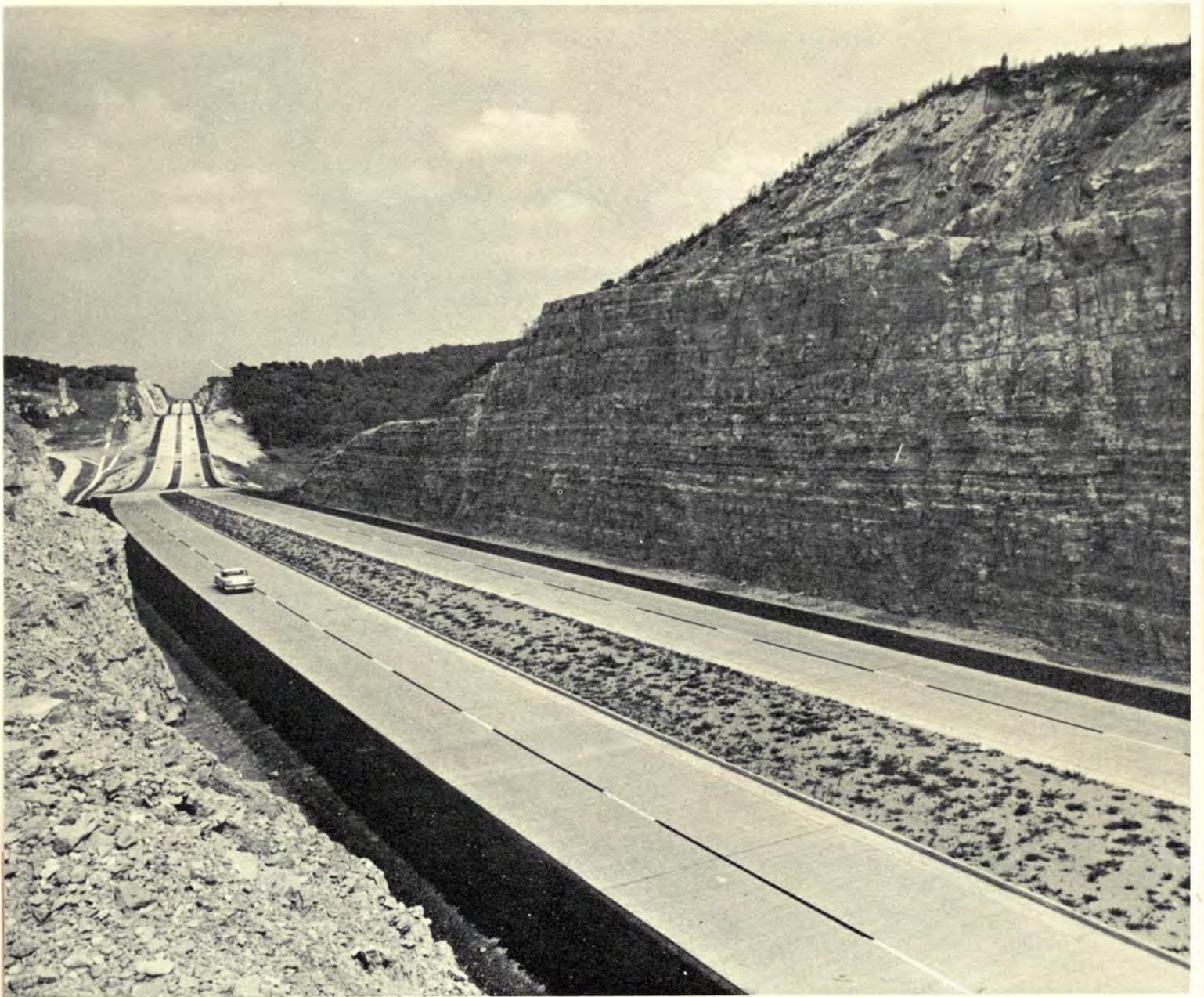
To all of these people, and to many others both within and outside of the State Highway Department, our sincere thanks. Much of the credit for anything of value in this book is theirs. None of the responsibility for any errors in it is.



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The end is not yet

MISSOURI MOVES. Mostly on roads. That's the way it was in the state's earliest beginnings. That's the way it is today. That's the way it has been throughout Missouri history.

World War Two ended Missouri's first revolution of the roads—and triggered its second. The conflict's awful fires lit the need for a whole new system of highways. The conflict's massive marshaling of resources and energies gave that new system its first impetus on the long, hard journey from dream to deed.

The new system of highways was the one called Interstate. Missourians were the first roadbuilders in the nation to start on its construction. Missourians have been among the leaders in the doing of the massive roadbuilding tasks it imposes. And during the years in which they tackled the massive Interstate, Missourians added a whopping 12,000 miles of Supplementary roads to their state's system of highways—among other things.

This book attempts to tell something of how it all happened, from the post-war Forties down to the present.

But the present is not the end. The end is not yet.

Prodigious amounts of roadbuilding have been done in Missouri since the wilderness days of the 1700s. They have not been enough. Missouri's highway system has grown very fast and come very far since those wilderness days. The demands imposed on it by a soaring population and an effervescent economy have grown even faster and come even further. How well those demands are met—now and in the years ahead—will determine in critical measure the adequacy of Missouri's responses to the bright and exciting challenges of its future.

Because Missouri moves. Mostly on roads.

Interstate

IN THE BEGINNING, what was Interstate?

A dream. A hope. A yearning after something better. A bold hard certitude in the minds of men of vision that the major cities of the Republic could be tied together by a network of four-lane divided highways built to standards of excellence never before achieved.

In the building, what has Interstate been? The biggest, most demanding construction project in the history of humankind:

Enough dirt moved to bury the state of Connecticut—knee deep.

Enough concrete for 80 Hoover Dams; enough tar and asphalt for 35 million driveways; enough steel for 170 Empire State Buildings; enough culvert and drain pipe for the water and sewer systems of six cities the size of Chicago.

Enough sand and gravel and crushed stone and slag to build a wall nine feet high and 50 feet wide around the world at the Equator.

Enough materials used and enough men and machinery working to make a construction project 35 times as large as the Panama Canal, the Grand Coulee Dam, and the St. Lawrence Seaway—combined.

What is Interstate today?

Incomparably the world's greatest highway network. A coast-to-coast and border-to-border arterial system for the nation's Mainland body through which courses the lifeblood of a powerful and peripatetic people.

Put down the gas pedal and go. Cruise easily at 50, 60, 70 miles an hour. No cross traffic. No vehicles coming at you. No stop signs. No left turns. Just speed and convenience and safety. From sea to shining sea.

The road stretches out ahead of you, wide and beckoning, clear to the horizon's edge. And the going is good all the way. The exit-ramps whip past you as you go, and the towns reaching out to meet them look prosperous and new. The roadside restaurants are clean and attractive, the roadside rest areas green and inviting.

And America is beautiful. And to travel across its length and breadth is easy now—far easier than it's ever been before.

So you go. And so do your neighbors. And people pretty much like you who live three states over—or two states up—or half a continent away.

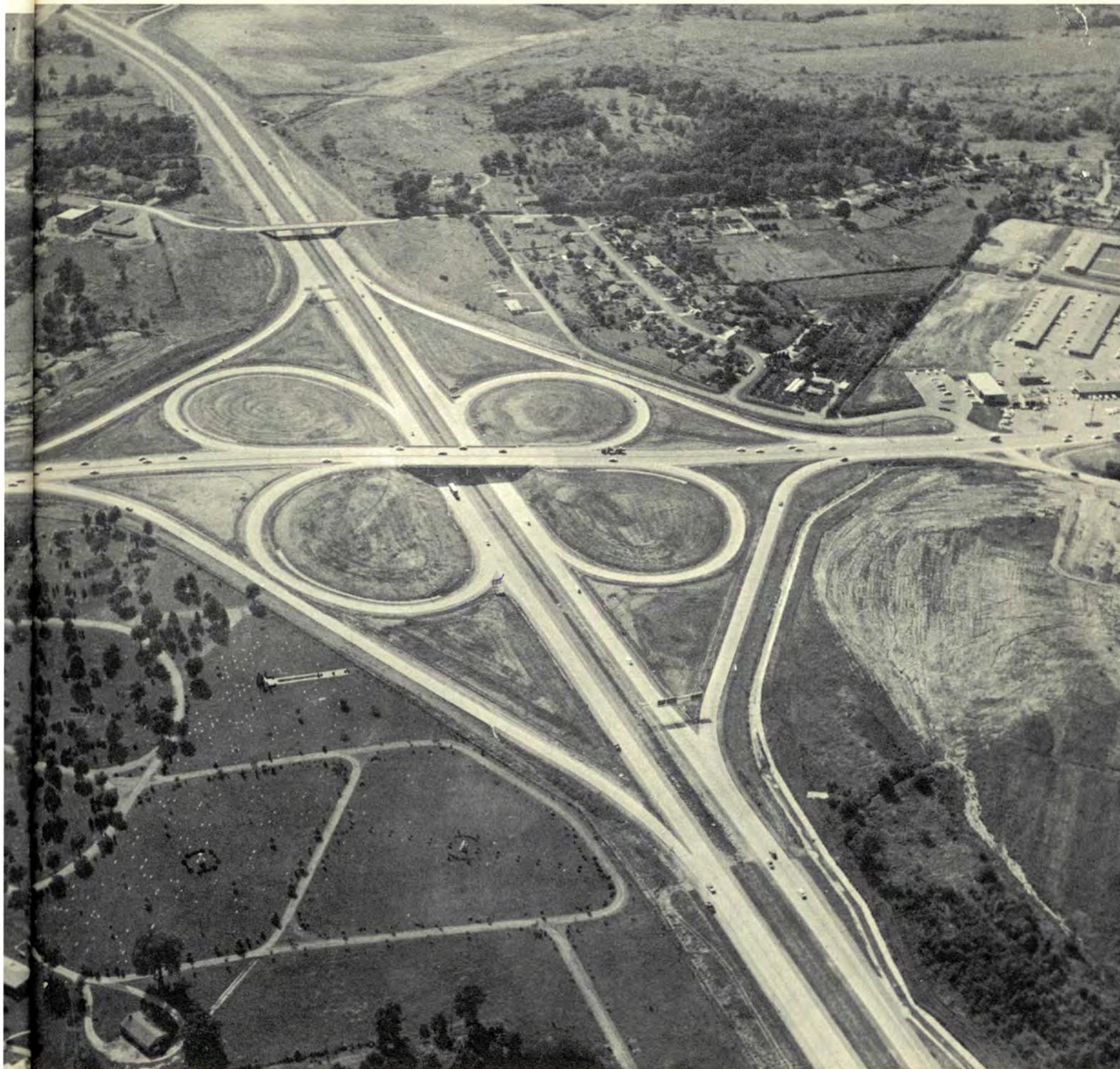
It doesn't stop, this distinctively American kind of travel—this familial "taking of trips." Americans want to see what their rivers look like when they reach the sea, what their mountains look like from the other side, what the lights and the buildings look like in the fabled American cities they have never visited. And they do.

And in the course of all these comings and goings across a continent's face, Americans talk to each other, discover each other, learn about each other. And as they do, a bad kind of sectionalism goes out of most of us, and the nation becomes more truly one.

Near the crossroads of all this continent-shrinking and civilizing travel to and fro stands Missouri—born of the East to be Mother to the West.

The story of Interstate in Missouri is the story of Interstate everywhere in microcosm.







Two decades of prescient planning formed Interstate's firm foundation



Telephoto trickery makes these grades on I-44 look steep. They're not. The picture is illusory.

On August 2, 1956, Missouri became the first state in the nation to let contracts for work on the newly authorized Interstate system. A few weeks later, work was started on one of those projects, and Missouri became the first state in the nation to begin Interstate system construction.

The three history-making contracts awarded at the August 2 meeting included one on what was to become I-44 in Laclede County and two on what was to become I-70—one in the City of St. Louis and the other in St. Charles County. It was on the St. Charles County project that actual construction first was begun, and that work marked the beginning nationwide of the mammoth Interstate construction job—incomparably the biggest in all of history.

Rex M. Whitton, who was Chief Engineer of the Missouri State Highway Department and President of the American Association of State Highway Officials when the Interstate construction program began in 1956, said this recently about the fast start Missouri was able to make on its share of the Interstate work:

"We could see all through 1954 and 1955 that Congressional interest in some kind of comprehensive and adequately financed Interstate program was building steadily. When no legislation authorizing such a program was enacted by the 1955 session of the Congress, we felt pretty sure that the authorizing legislation would come in 1956. We tried to be ready in case it did. When it came in 1956, we had all our preliminary work for our first three Interstate contracts taken care of and we were ready to award the contracts themselves very fast."

That's how Interstate started—in Missouri. But that wasn't the start of the Interstate story. That story had its beginnings about twenty years earlier—

Thomas H. ("Chief") MacDonald, long-time head of the federal government's Bureau of Public Roads, was the sort of man around whom legends grow. The stories about this giant among early-day roadbuilders are legion. One of them concerns something President Franklin D. Roosevelt is supposed to have said to MacDonald back in the 1930s.

The way the story goes, President Roosevelt called MacDonald into his office one day, drew three East-West and three North-South lines on a map of the United States, and handed the map to "The Chief" with the comment "This is your Interstate system."

The story may be apocryphal. That it exists at all indicates that the Interstate system as we know it to-

day is the product of foresight and planning which go back many years. The date of President Roosevelt's much-quoted comment to MacDonald—if it was made—isn't known. But in 1938, the Congress ordered the Bureau of Public Roads to investigate the practicability of building six coast-to-coast and border-to-border highways, and of operating them as a self-sustaining toll roads system.

The study Congress ordered was made by the Bureau with help from the highway departments of the several states. The study's findings were reported to the Congress in 1939, and were printed by the Government Printing Office in that year in an interesting little book called "Toll Roads and Free Roads."

The report's main conclusions were that the building of the system of toll roads was "not feasible," but that about 26,700 miles of inter-regional highways should be built, with the federal government paying more than 50 percent of the cost—the share which it had usually paid to that time.



Along the way to those conclusions, "Toll Roads and Free Roads" said some remarkable things, and said them in a manner which made its authors look like prescient highway builders, indeed. Consider the following few excerpts from the book:

"... all traffic lanes of the proposed roads would be 12 feet wide."

"Where the expected traffic volume justifies the construction of more than two traffic lanes, four lanes built in pairs, the pairs separated by a parkway strip at least 20 feet wide in suburban areas and 40 feet wide in rural areas, would be provided."

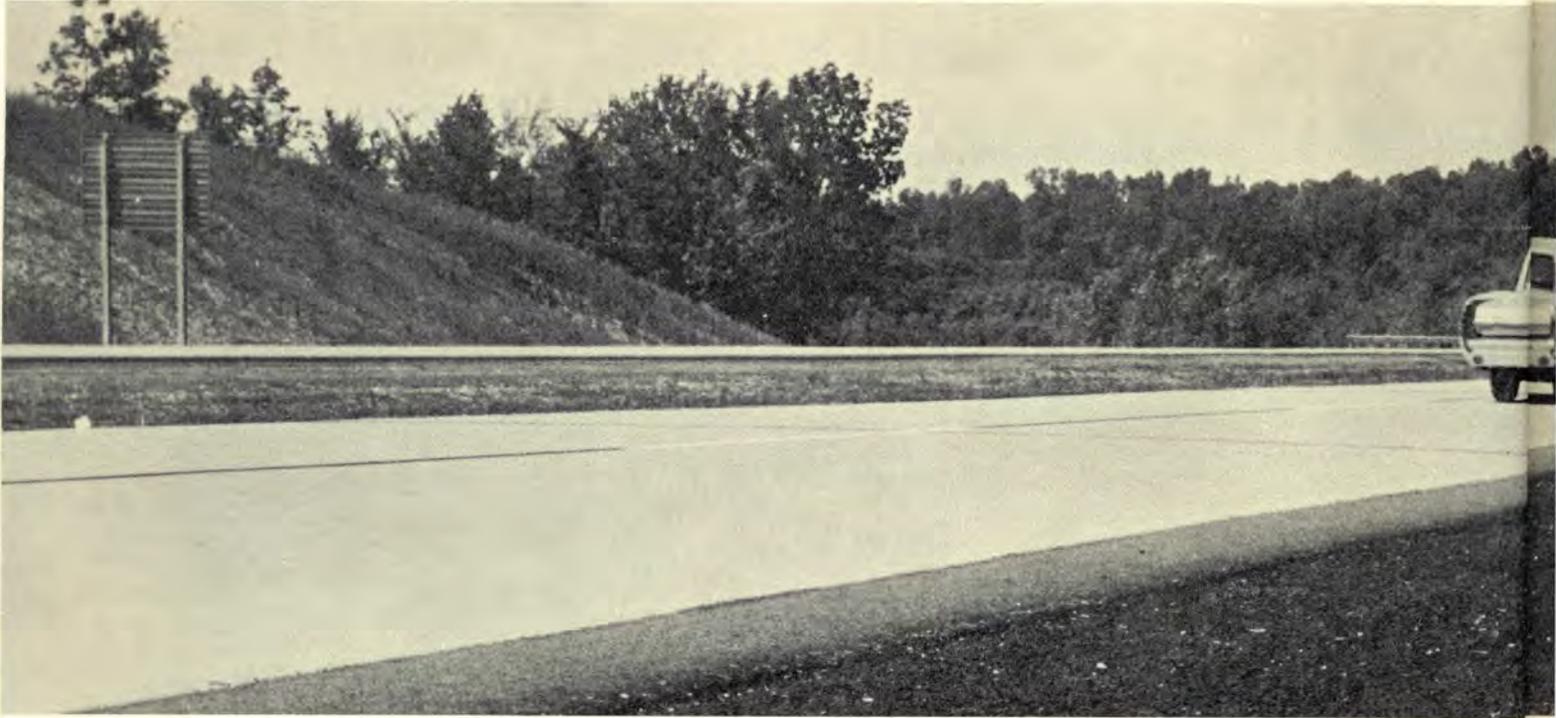
"On the roads as planned there would be no intersections at grade. At no point would a driver encounter another vehicle crossing his path; and at no point, except at the specially designed accesses, would he encounter another vehicle entering the roadway."

"Railroad grade crossings would be avoided . . ."

"All intersecting highways of importance would be carried over or under the proposed roads."



World War II delayed the system's construction; but dreams die hard, so the planning continued



"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, but the administration should remain under . . . the Bureau of Public Roads and the several State highway departments."

It is easy enough to see the essentials of the Interstate system as we know it today in these extraordinarily far-sighted proposals made in 1939. Their historical importance in the Interstate story would be hard to over-estimate. But their immediate practical importance was not destined to be great.

In his letter of transmittal which accompanied the report embodied in "Toll Roads and Free Roads," President Roosevelt recommended the report "for the consideration of the Congress as a basis for needed action to solve our highway problems."

But no general solutions to the country's highway problems involving construction were destined to be started in the fateful year of 1939—or for many a weary year thereafter. In 1939, the scourge of general war swept across Europe. Two years later, that scourge was visited on the United States, and Americans turned their vast energies and their abundant skills and resources from the congenial tasks of building to the terrible tasks of destruction.

The nation's very existence was being threatened. The nation's response to the threat was total—and left neither money, materials, nor manpower free for the construction of a comprehensive new highway system.

Obviously, no Interstate system could be built while World War II was going on. It does not follow that no Interstate system could be planned while the war was in progress. One could, and one was. Wars end. And dreams die hard. And the men who had caught the vision of what an Interstate system could mean to the American people did not intend to allow that vision to become one of the war's first American casualties. They knew, these imaginative and far-sighted highway builders, that the Republic's highway inadequacies—exacerbated by however many years of inattention to them the war was destined to impose—would have to be contended with again once the shooting stopped. Accordingly, they started to write another chapter of the Interstate story within a few short months after the country's entry into World War II.

On April 14, 1941, President Roosevelt appointed a National Interregional Highway Committee "to investigate the need for a limited system of national highways to improve the facilities now available for interregional transportation, and to advise the Federal Works Administrator as to the desirable character



Wide, level medians, broad shoulders whose color contrasts with the road surface, and gentle grades all are characteristics of Interstate everywhere.

of the entire highway and street system, it will probably serve not less than 20 percent of the total street and highway traffic."

"The recommended system connects directly all cities of 300,000 or more . . . 59 of the 62 cities of population between 100,000 and 300,000 . . . 82 of the 107 cities of population between 50,000 and 100,000."

"All rural sections of the system shall be designed . . . for safe travel by passenger vehicles at a speed of not less than 75 miles per hour, and by trucks and tractor combinations at a speed of not less than 60 miles per hour in flat topography. In more difficult terrain the speed for which the highway is designed may be reduced; but in no case to less than 55 miles per hour for passenger vehicles and 35 miles for trucks and tractor combinations . . ."



"All urban sections of the system shall be designed . . . for safe travel by passenger vehicles at a speed of not less than 50 miles per hour, and by trucks and tractor combinations at a speed of not less than 35 miles per hour."

"All rural sections of the system expected to carry an average daily traffic of 15,000 or more vehicles shall provide three . . . lanes for traffic moving in each direction . . . and the lanes for traffic moving in opposite directions shall be separated by a median strip at least 15 feet wide."

"All rural sections of the system expected to carry an average daily traffic of 3,000 but less than 15,000 vehicles shall provide at least two lanes for traffic moving in each direction . . . and the lanes for traffic moving in opposite directions shall be separated by a median strip at least 15 feet wide."

"There shall be no crossings of railways at grade . . ."

"All rural sections of the system shall be established as limited-access highways . . ."

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."

One of the members of the prestigious seven-man group named by Mr. Roosevelt was the redoubtable "Chief" MacDonald. Another was St. Louis' nationally renowned city planner, Harland Bartholomew.

For three years, the group appointed by the President—assisted by the personnel of the Bureau of Public Roads and the highway departments of the several states—investigated the big problem it had been asked to look into. In 1944, it made its recommendations to the President and the Congress in a booklet called simply "Interregional Highways." Those recommendations called for the construction of "a national system of rural and urban highways totaling approximately 34,000 miles and interconnecting the principal geographic regions of the country."

A quarter of a century after its publication, "Interregional Highways" continues to make fascinating reading. The farsightedness of its authors can be demonstrated by the quoting of just a few excerpts from the booklet. Consider these:

"The system of interregional highways proposed . . . connects as many as possible of the larger cities and metropolitan areas . . . For this reason, although in miles it represents scarcely over 1 percent



The Interstate plan was sound from the beginning— but money to implement it didn't come easily

"On all rural sections of the system expected to carry an average daily traffic of 5,000 or more vehicles there shall be no crossings of other highways at grade . . ."

Thus, a few brief excerpts from "Interregional Highways," published by the Government Printing Office in 1944. As "Toll Roads and Free Roads" had done five years earlier, "Interregional Highways" played a major role in accumulating and systematizing the thinking which was to form the basis for the creation of the Interstate system.

Francis C. Turner, a recent director of the United States Bureau of Public Roads, has described "Toll Roads and Free Roads" and "Interregional Highways" as being "landmark reports." Their chief significance, he says, was in making it clear "that the most urgent highway needs were not only improvement of the principal routes connecting the larger centers of population, but relief from growing urban congestion on main routes approaching and running through cities."

In the Teens and the Twenties, the problems confronting the nation's highway builders were largely rural in nature. Rex M. Whitton, who served with distinction first as Chief Engineer of the Missouri State Highway Department and later as Federal Highway Administrator, has put the matter this way: "In the early days of the federal-aid highway program, the objectives were fairly simple. Within the limits of available funds, the engineering goal was to provide smooth riding surfaces on the shortest distance between control points for the new motor vehicles, and to try to connect the sections of roadway at the state lines. The chief social responsibility of the highway engineer was to see—when feasible—that the barn was not left on one side of the road and the farmhouse on the other."

By the Thirties, all this was changing. The city-dweller was emerging as the typical American, and his emergence was bringing with it a whole new set of problems for the highway builders to wrestle with. During this century's first two decades, the planning and building efforts of the nation's highway builders were oriented chiefly to the countryside. By the end of the 1930s, the orientation of those planning and building efforts had shifted to the cities. The problems of the city-dweller had by then become dominant in highway planning and highway building, and "Toll Roads and Free Roads," "Interregional Highways," and the Interstate system whose creation they foreshadowed all were manifestations of that central fact.

The concepts embodied in the Interstate program were not new when that program was begun in

the Mid-Fifties. Many of them went back three decades. Some of them went back much further than that. All of them were remarkably sound and imaginative. From its earliest beginnings, the Interstate plan was a good one.

But planning a highway system intelligently is one thing and getting that highway system constructed is quite another. And the main impediment between a good plan and its successful execution often is money—or more specifically, the lack of it. So it was to be with the Interstate program.

In 1944, Congress called for the creation of a 40,000 mile Interstate system but provided no funds for use in that system's construction. In the years immediately following the end of World War II, numerous modifications of the 1944 proposal were devised by Congress. They were the results of an almost continuous round of conferences and discussions among representatives of the highway departments of the several states, the Bureau of Public Roads, and the Department of Defense. All of them were like the 1944 proposal in one centrally important respect. All of them lacked the necessary funding.



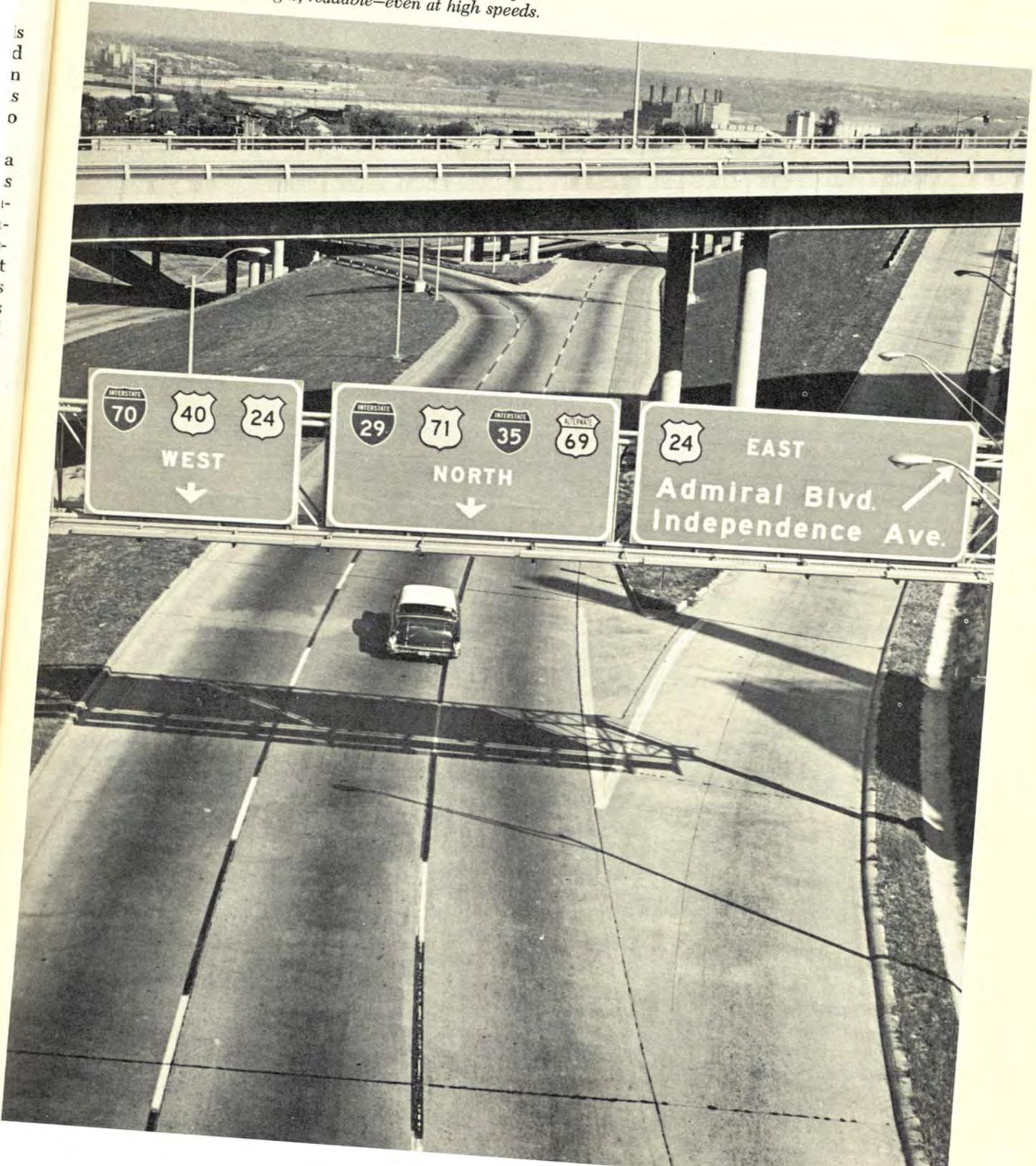
No special funds were provided for the Interstate system until 1952, when Congress authorized the expenditure of \$25 million in each of the fiscal years of 1954 and 1955. The federal government was to share the costs with the states in accordance with the traditional fifty-fifty formula.

In 1954, Congress authorized significantly greater expenditures for construction of an Interstate system—\$175 million in each of the fiscal years of 1956 and 1957, of which 60 percent was to be supplied by the federal government.

In 1954, President Dwight D. Eisenhower appointed a five-man committee of distinguished laymen and highway professionals and charged it with the responsibility of putting together a comprehensive Interstate program. Lucius Clay, the former Military Governor of Germany who then headed Continental Can Company, was named Chairman of the group; Francis C. Turner of the Bureau of Public Roads was named as its Secretary.

The report of the Clay Committee formed the basis for the Interstate proposal the Administration tried to get through the 1955 session of Congress. It

Quo vadis, motorists? Interstate signing makes it easy to decide. It's big, bold, bright, readable—even at high speeds.





The thing works-- magnificently

wasn't enacted—chiefly because of the number and intensity of the disagreements which developed over the question of financing.

But Interstate legislation of a comprehensive kind came into being at last when Congress passed the Federal-Aid Highway Act of 1956. It authorized the construction of 41,000 miles of Interstate highway, established the shares of the cost at 90 percent for the federal government and 10 percent for the states, provided a total of \$25 billion in federal funds for use on the Interstate system from 1957 through 1969, and established the Highway Trust Fund as a repository for the federal monies to be used on the Interstate program.

The creation of the Highway Trust Fund established—for the first time in the nation's history—a direct link between federal excise taxes on highway users and federal aid for highways. Into it went the federal taxes earmarked for Interstate use; out of it came the Interstate federal aid funds for payment to the several states.

The original cost estimate for building the Interstate system, included in the Federal-Aid Highway Act of 1956, was \$27.6 billion—of which \$25 billion was the federal share. The original time estimate indicated that the system could be constructed by 1969. But rapidly increasing construction costs, a steady inflationary trend in the overall economy, and improvements to the Interstate system which have been added as construction has gone along have significantly changed those cost and construction-time predictions.

By 1960, Congress had raised its cost estimate for the Interstate job to \$41 billion and had moved the target completion date back to 1972. In 1966, the cost estimate was moved to \$46.8 billion and the estimated completion date to 1975. By 1968, the cost estimate had risen to \$56.5 billion and the estimated completion date had gone to an unspecified time well past 1975.

Missouri's portion of the Interstate system now is about 61 percent complete. At the beginning of this year, more than 700 miles of Missouri's 1147-mile share of the Interstate system were at or near Interstate standards and serving traffic. Another 80 miles were under contract and expected to be completed to full Interstate standards and in operation by the end of this year.

The Interstate mileage allocated to Missouri in the St. Louis and Kansas City metropolitan areas has been largely completed, and is significantly easing traffic congestion in the state's two largest population centers. Interstate 70 between St. Louis and Kansas City is complete, and has cut travel-time between the

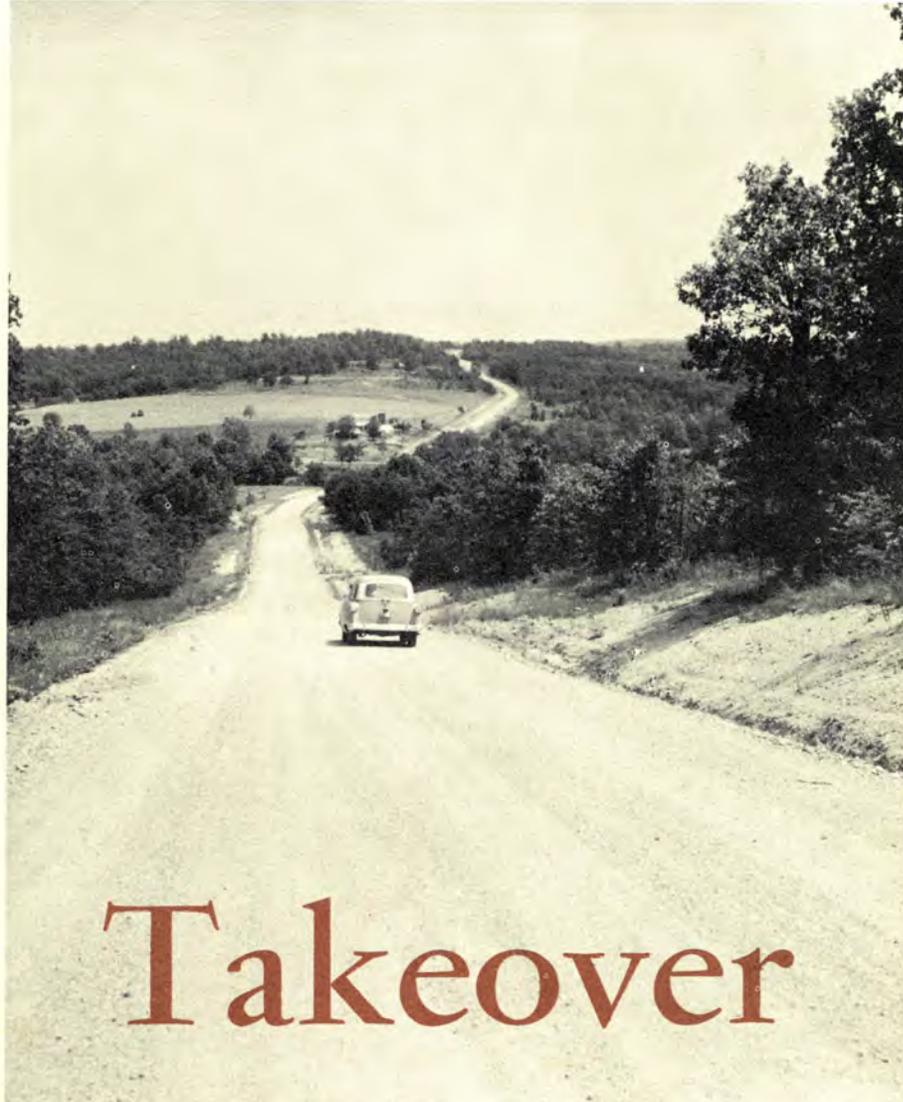
state's two metropolitan areas by a third. The heavily traveled I-44 link between St. Louis and Joplin is four-lane divided highway all the way, and is very fast being brought up to full Interstate standards all along its route. The Interstate 29 link between Kansas City and Omaha via St. Joseph, the I-35 route between Kansas City and Des Moines, and the I-55 connection between St. Louis and Memphis via Cape Girardeau, Sikeston, and The Bootheel all are well on their way toward final completion.

Nationwide, there have been problems along the way in the construction of the Interstate system to this point. But given the immensity and complexity of the Interstate building task, and the difficulties extraneous to that task which have plagued the nation's economy during the Interstate building years, the problems have been neither so widespread nor so severe as might reasonably have been expected when the job was started. And already it is clear that in Missouri as elsewhere in the nation, the benefits to be derived from the Interstate system will be spectacular, indeed.



When the Interstate system is completed, it will comprise only a little more than one percent of the nation's roads and streets. But it will carry more than 20 percent of the nation's total motor vehicle travel. Estimates place the dollar savings which the completed Interstate system will yield at \$9 billion annually. At that rate, the system's total cost will be recovered in less than seven years after its completion. That fact alone would make the Interstate system look like a very sound investment. But there is more. Other estimates indicate that the completed Interstate system will save 8,000 lives a year now being lost in traffic accidents, so much safer will be the Interstate system roads than the roads they are replacing. What is the method by which a price tag can be attached to savings of that sort? How much are they worth?

The benefits from the part of the Interstate system which already has been completed have been enjoyed—directly and indirectly—by virtually every Missourian. Those benefits have been tremendous. The additional benefits which will come when the Interstate system is complete will not be felt by Missourians for another few years. But they will be well worth waiting for.



A FEW YEARS BEFORE the Interstate program was begun in Missouri, another major, long-term effort was initiated by the State Highway Department. This effort, markedly less dramatic, was like the Interstate program in at least one important respect: It was of fundamental and far-reaching significance in the creation of a balanced highway transportation system for the people of Missouri.

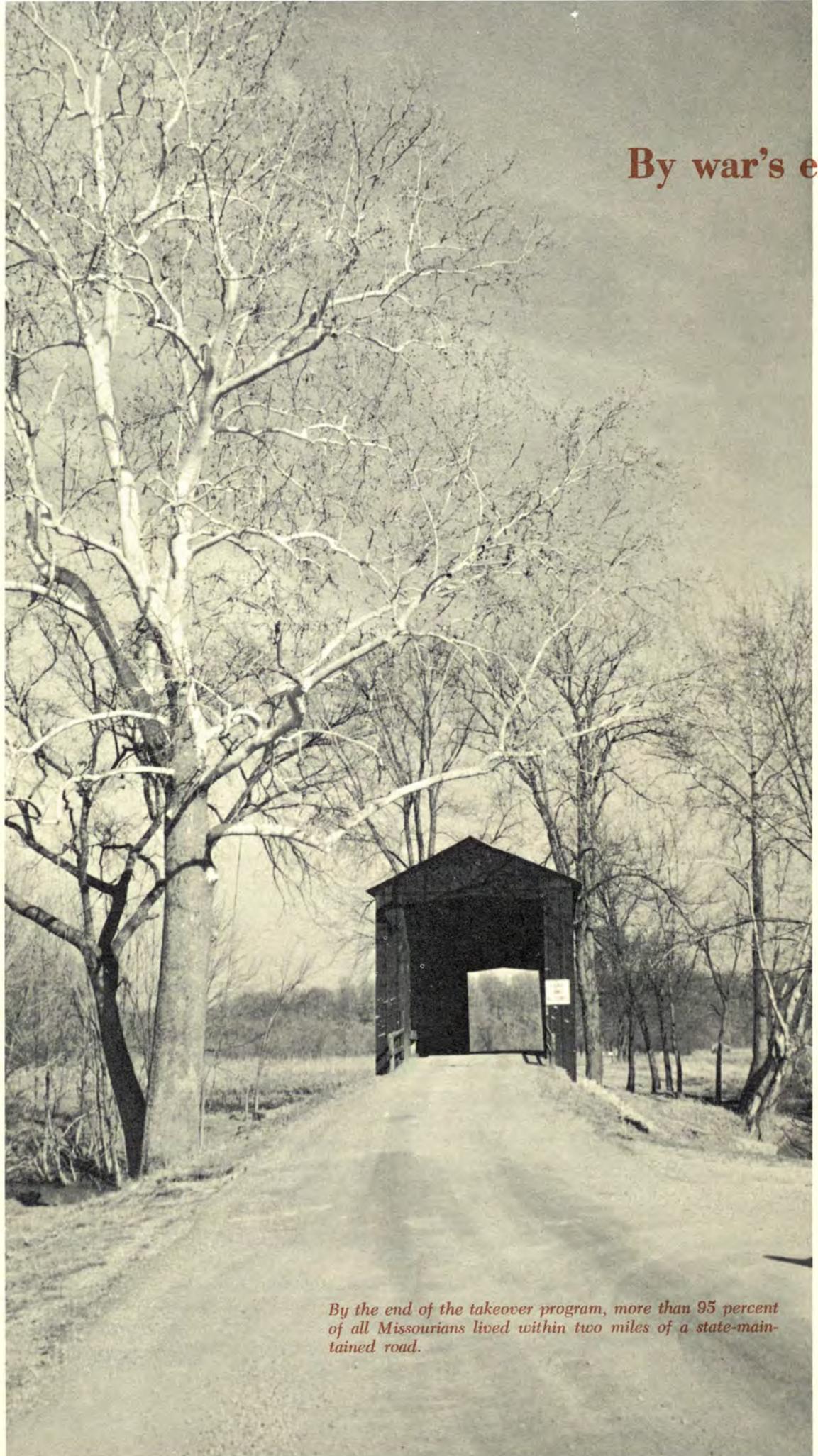
It involved the assumption by the Department of responsibility for about 12,000 miles of Missouri Supplementary roads which previously had been the responsibilities of county courts, special road districts, and other agencies of Missouri grass-roots government.

The takeover program, as it came to be called, was accomplished mostly between 1952 and 1962. During that decade, the takeover program incorporated into the state highway system and upgraded to state standards about 12,000 of the miles of highway serving rural and small-town Missouri.

By doing so, it made a quiet revolution in the kind of highway transportation available to the Missourians those roads served. At the conclusion of the program, there was a state-maintained road within two miles of more than 95 percent of all family units in outstate Missouri, and Missourians had a state highway system whose flexibility and ubiquity were unsurpassed by the highway system of any state in the nation.



By war's end



By the end of the takeover program, more than 95 percent of all Missourians lived within two miles of a state-maintained road.

Supplementary system needs were urgent

AT THE END of World War II, Missouri's system of supplementary roads included about 7,500 miles. And the war's harsh exigencies had made them badly neglected miles, indeed.

All Missouri highways suffered while the war was going on because of the continuing shortages of manpower, machinery, and materials imposed by the war effort's all-but-total demands. During the war years, the highways which received what little attention could be spared were those which contributed most directly to the nation's military activities. And not many roads of the Supplementary system of that time ran past military installations and war production facilities.

By war's end, the needs for work on Missouri's system of Supplementary roads were both urgent and very widespread. And the Highway Department was ready to meet them:

As early as 1947, the Department was talking about a plan for "construction, replacement, and the addition of approximately 15,000 miles of all-weather supplementary (farm-to-market) state highways of various types and standards (to be added to the existing approximately 8,100 miles of such roads), to bring this total to an estimated 23,100 miles." The plan contemplated a ten-year construction period, and carried a cost estimate of 80 million dollars.

An intra-Department memorandum of the period outlines some of the thinking and some of the methodology which underlay this early plan:

"On December 31, 1945, the Supplementary system consisted of 7,662.7 miles of roads, and upon entering the postwar period the State Highway Department deemed it advisable to take stock of the service rendered to rural Missouri by the number of miles which had been built in order that we might establish a goal to strive for in the future.

"We determined that in building additional roads it was desirable to take highway service in the rural areas as nearly as possible to all county stores, schools, churches, cemeteries, and farm units in the respective counties, and that we should make every effort to make this service as uniform as possible in the various counties. We took the various county maps with our constructed major and supplementary system mileage now under maintenance and ran contours two miles' travel distance from each road. This left large areas in each county where the rural units were some distance from a presently constructed and maintained highway.

"We made an intensive study in each county on how to serve those areas as economically as possible

and with a mileage that with adequate funds could be realized within a ten year period.

"It was determined that with an additional 9,400 miles of roads, service could be rendered in the various counties to approximately 90% of all the rural units within a two-mile travel distance.

"This study was taken to the various County Highway Commissions in the counties which had County Highway Commissions, and in the other counties to the County Courts, and any suggestions which they might offer were given study and consideration and agreement was reached that this would be a very worthwhile program . . .

"The goal which we have been striving to reach is one that will leave not more than 10% of the rural units more than two miles from a state-maintained road."

Early in 1948, the Highway Commission created a Bureau of Supplementary State Highways and Local Roads and selected Fred D. Harris as its chief. The Commission and the Department were moving up fast on the problem of how best to improve and extend highway service to rural Missourians.

But Commission and Departmental planning alone could not solve the problems plaguing Missouri motorists in the early postwar years—both on the Supplementary highway system and elsewhere in the state. Vigorous action was needed. A prerequisite to it was additional money for highway purposes. And before the state's highway users would consent to be taxed more to provide that additional money, they needed to understand Missouri's highway problems and specific plans to solve them.

Governor Forrest Smith took a big step toward making that public understanding possible when, on January 6, 1949, he created the Missouri Highway Advisory Committee. Governor Smith appointed former governor Lloyd C. Stark of Louisiana as chairman of the 16-man bipartisan group. It also included a long-time good highways advocate from the State Senate, Senator Michael Kinney of St. Louis.

The Highway Advisory Committee moved quickly to involve Missourians from all walks of life in its deliberations. Public hearings were held in Jefferson City in late-January of 1949. At those hearings, the committee heard the views of representatives of about three dozen Missouri farm, labor, business, civic, and highway user organizations. The members of the committee also established and maintained a close and cordial working relationship with personnel of the State Highway Department and the members of the Missouri State Highway Commission.



The program needed money; the people

In mid-March of 1949, the Highway Advisory Committee presented its report to Governor Smith. It was an interesting document, and it was quoted at some length in the minutes of the first Highway Commission meeting held after its release. These excerpts from those minutes may serve to give something of the essential flavor of the report—particularly as it related to the problems on the state Supplementary system:

“By reason of the limited revenue, increased costs, and adverse economic conditions arising out of the war, we are years behind current needs in developing local farm-to-market roads, in solving the traffic problems of the cities, and in maintaining the main highway system.”

Turning to a more detailed discussion of the farm-to-market roads, the report went on:

“Fifteen thousand miles of additional rural roads can be incorporated in the state (farm-to-market and feeder) system and placed under maintenance in four years at the rate of substantially 5,000 miles the first year, 4,000 the second year, 4,000 the third year, and 2,000 the fourth year. Federal-aid funds and any surplus funds in the rural road allocation would be used to bring this system up to proper standards of construction during the ten-year period. No refunds will be made to counties or other civil subdivisions for roads taken into the state Supplementary system . . .

“Operation under this plan should provide early maintenance of a large mileage of rural roads, but little betterment work in the early part of the period, particularly in connection with bridge construction or reconstruction.

“The foregoing program should supply a total of about 32,500 miles of state roads and would accomplish substantially the result suggested by the Governor . . .

“Your Committee recommends that the Legislature increase the state tax on motor vehicle fuels from the present rate of two cents per gallon to four cents per gallon provided the State Highway Commission adopts a policy and program to expend all funds so made available substantially in accordance with the program outlined in this report.”

The State Highway Commission did so—unanimously—just a few days after the Highway Advisory Committee made its report to Governor Smith. The minutes of the Commission’s meetings of March 23 and 24, 1949, include these comments about the proposed program to which the Commission was pledging itself and the Highway Department:



School’s out! One of the big benefits of the takeover program accrued to the state’s schoolchildren. For some of them, the way from home to school and back again had been hard—even hazardous. Takeover changed all that—once and for all time.

“This plan will provide early maintenance of a large number of rural roads in the early part of the ten-year period, the construction or reconstruction of which (especially those involving bridges) will necessarily be deferred until later in the period. Such construction or reconstruction will involve the expenditure of approximately \$115,000,000 in the ten-year period upon the federal-aid Supplementary roads and the lower cost farm-to-market feeder roads.”

Shortly before its summer recess in 1949, the General Assembly passed a bill which would have increased the state’s gasoline tax from two cents to four cents a gallon. Even before its passage, the bill had become popularly known as the Good Roads Act.

The General Assembly attached no emergency clause to the Good Roads Act when it was passed, so the measure did not become law before the pressures to get a referendum on it were successful. It was put on the ballot for the general election of April 4, 1950. The pressures for a referendum became pressures for the proposal’s defeat in the general election.

Governor Smith fought hard to stem the tide which was beginning to run against the proposal. In

supplied some



November of 1949, he said, "Missouri must either go forward with a system of better roads, lift rural Missouri out of the mud, relieve the congested trafficways in the cities—or we are failing in our duty to the people." (Later, the governor called one of the proposal's most important features its provision for construction in rural areas which "will reach into the isolated sections of our counties and provide an all-weather system . . .")

In January of 1950, the Highway Commission officially endorsed the Good Roads Act. It began its endorsement with the statement that "it is clearly the duty of this Commission to inform all Missouri people that a crisis in our road affairs is now at hand."

There was support for the Good Roads Act from other quarters, too. But the campaign against it was insistent—and highly effective.

About two weeks before the referendum election, J. G. Morgan of Unionville, the Commission's vice chairman, predicted that because the public had not been properly informed about highway matters, the danger existed that the proposed gasoline tax increase might be defeated. Morgan, a Unionville news-

paper publisher with a distinguished record of effective good roads advocacy, said:

"The quarter of a million dollars that it is costing to put on the election April 4 is part of the cost of our own folly in neglecting to keep the public informed. Had the public been fully informed the Legislature would have quietly and overwhelmingly passed the necessary legislation, and nobody . . . would have dared to take the issue to the people through the referendum.

"For thirty years the engineers of the Highway Department have been busy building a highway system. This system is a model of achievement based upon the funds that have been available. But right at the moment when we need to move ahead we find that people are so poorly informed that they hesitate to provide the funds with which to complete the system."

Morgan's gloomy warning proved to be an accurate one; the proposal for a two-cents-a-gallon increase in the gasoline tax was defeated in the referendum election. The first post-election issue of the official Highway Department employee publication, "Highway News," commented on the result of the election:



“Before the days of the takeover”

“Another good roads proposal was defeated by the voters of Missouri April 4, even though a large majority of their Representatives and Senators had approved the law.

“Charges and countercharges were made by opponents and proponents of the measure with the net result that the average voter was so confused he did not know what to do. When in doubt, the usual result is to vote No. This instance was no exception.

“The regrettable part of the whole story is that the highway problem is still unsolved and that it will get worse before it gets better, unless more revenue becomes available from some source.”

The highway problem did indeed get worse. And in the next session of the General Assembly, Governor Smith renewed his plea that something be done about it. On May 16, 1951, he asked a special joint session of the Legislature to “rise above partisanship,” increase the gas tax by a penny a gallon, and raise state taxes on buses and trucks. “Who is running the State of Missouri,” the governor asked the legislators, “the people or the selfish interests?”

The members of the General Assembly responded to Governor Smith’s impassioned address by authorizing the creation of a special legislative committee to study highway needs and highway financing. By mid-July of 1951, the Governor had appointed 27 legislators to service on it. Senator Kinney was named the group’s Chairman. The representatives of about half a dozen farm and road user organizations were named as ex-officio members of it.

The members went to work immediately. Within about a week after its appointment, the group held its first meeting. There were to be 17 more during the summer months of 1951. At them, testimony from a total of 72 witnesses was heard and evaluated.

On September 11, 1951, the Joint Commission on Highway Transportation Rates and Use made its recommendations to the 66th General Assembly. In summary, they called for:

- 1) A ten-year program of expansion and improvement on the state highway system costing a total of \$557,500,000, with \$297,500,000 earmarked for work on the Primary system,

\$118,000,000 for work on the Supplementary system, and \$142,000,000 for work on the Urban system.

- 2) An increase of a penny a gallon in the state gasoline tax.
- 3) Increases in Public Service Commission permit fees.
- 4) Increases in commercial motor vehicle registration fees in such amounts as “will bring in not less than \$12,000,000 annually over the ten-year period.”

The committee’s report to the General Assembly ended:

“This legislation and proposal is recommended upon the condition and belief that the Highway Commission will, to the best of its ability, within the bounds of funds made available to it, carry out its pledge, made by resolution of this date, a copy of which is attached hereto and made a part hereof.”

The Highway Commission resolution pledged to expend the monies called for in the committee recommendations on the Primary and the Urban systems, “in the event the General Assembly enacts legislation providing the necessary funds.” In the event such funds are provided, the Commission resolution also pledged itself and the Highway Department to:

“The incorporation into the system of state highways during the next six years of approximately 12,000 miles of rural road as additional Supplementary state highways; assume the maintenance thereof; and assume the construction and reconstruction during said ten-year period of this mileage to proper standards. This plan will provide maintenance for a maximum number of rural miles during the early part of the ten-year period, while the construction and reconstruction of them (especially those involving bridges) will necessarily be deferred until the latter part of the period. Such construction, reconstruction, and maintenance will involve the expenditure of approximately \$118,000,000 during said ten-year period.”

This time, both the General Assembly and the people were ready to meet the state’s highway needs with action. In March of 1952, the Legislature passed a trio of related bills implementing the recommenda-

were remote. Now, there are

reprogram, some areas of Missouri

tions embodied in the report of the Joint Commission on Highway Transportation Rates and Use. Governor Smith said, "The signing of these bills gives me more pleasure than any other official act I have performed since I have been governor."

The Highway Commission moved immediately to start work on the long-needed, long-planned-for, often-delayed takeover program. On August 1, 1952—just two days after the legislation making the program possible became effective—the Commission took over about 1,500 miles of existing county roads for maintenance by state forces. The initial takeover put some additional road in each of the state's 114 counties into the state highway system. The program was under way.

The roads taken over during the program's early stages became temporary state routes and were so marked. When the counties, special road districts, and other governmental agencies involved made the necessary rights-of-way available to the state at no cost, the temporary state routes became permanent parts of the state's Supplementary system. In those few instances where such rights-of-way were not provided within a reasonable period of time, the state refused to take permanent jurisdiction over the roads involved, the temporary state maintenance on them was ended, and other routes were chosen.

The ten-year takeover program begun by the Highway Department in 1952 was completed almost on time. It ended the fiscal year which ended June 30, 1964. When it was over, the map of the Missouri state highway system had been made over, state-maintained roads had been taken to within two miles of more than 95 percent of all family units in outstate Missouri, and Missouri's state highway system had grown to a whopping 32,000 miles in size and become the seventh largest in the nation. Some statistics tell the impressive story:

At the program's inception in 1952, the Highway Department pledged to spend on it for construction alone a total of \$78,000,000. It actually spent a total of \$161,000,000—well over twice the amount pledged. There were two chief reasons for the tremendous amount by which actual expenditures exceeded esti-

mated expenditures. The first was the dizzying rise in construction costs during the program's twelve year life. The second was the extensive building in the program of higher type highways than had originally been planned—an upgrading made necessary by the steadily increasing demands of Supplementary-system traffic during the life of the program.

At the beginning of the ten-year takeover program, Missouri had 11,176 miles of highway in its Supplementary system. When the takeover program was finished, this mileage stood at 22,584—and had almost doubled.

When the ten-year takeover program was completed, there were a total of about 117,000 miles of roads, streets, and highways in Missouri, and the state's highway network offered its users a degree of flexibility in their highway travel unsurpassed in any state.

One Missouri highway planner defines flexibility as that benefit a motorist enjoys "when he's able to get from here to there, wherever there happens to be." Missouri motorists—the ones who live in big cities and the ones who live in small towns, the suburbanites and the farmers—enjoy that benefit in spectacular and highly significant degree. And much of the reason why is traceable to the takeover program of the 1950s and the early 1960s.

In statistical terms, that program about doubled the size of Missouri's Supplementary highway system. In social and economic terms, it brought about a quiet but thoroughgoing revolution in small town and rural Missouri life.

Before the days of the takeover program, some areas of Missouri were remote. Now, there are no remote areas of Missouri left. The last of them was gone when the takeover program was completed in 1964. Nowadays, all Missourians live close to a good, all-weather, state-maintained road. More than 95 percent of them live within two miles of such a road. It goes past their front gate—or their neighbors' place—or it meets the county road they live on a mile and an eighth from their feed lot.

The road starts there for those Missourians. And it runs from there on in to town.

re no remote areas of Missouri left."

← OH NO! →



The Builders



Smith



Sappington



Kirkpatrick



Dalton



Kinney



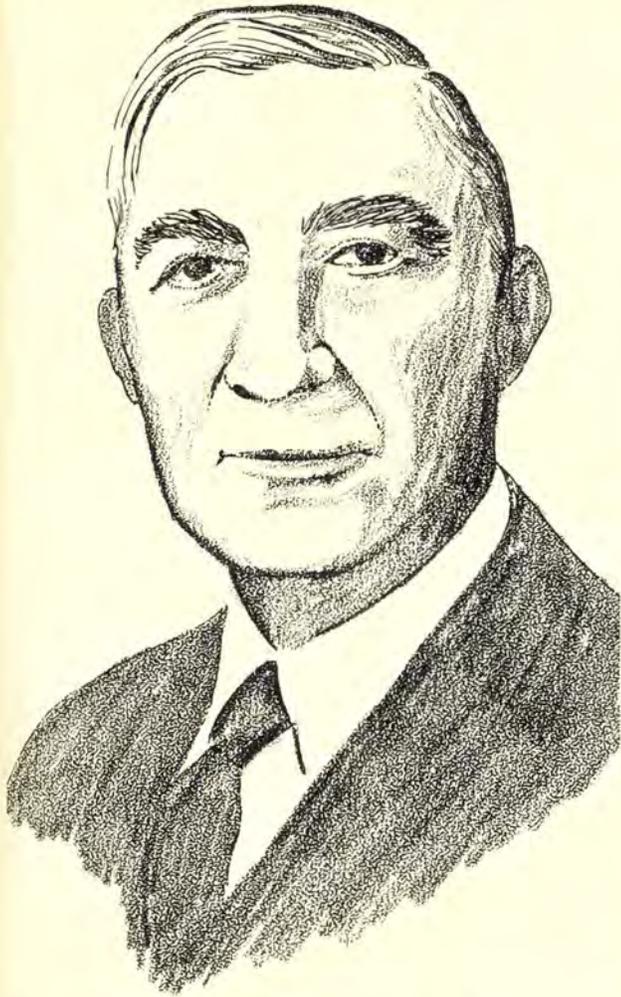
Whitton

NOT ALL ROAD MAKERS are builders or engineers. In Missouri's modern highway history, many people have played important parts. Here are six of them—a state legislator, two governors, a newspaper publisher with long service as a state official, an insurance company executive and a career highway engineer.

Coming from a wide variety of backgrounds and representing often sharply differing points of view, these Missouri highway leaders of the modern era have made many contributions to the building of today's state highway system. But much as they may have differed among themselves about some things, they have shared a common belief—the belief that a well-balanced, smoothly functioning state highway system is essential to the present well-being and the future progress of Missouri and its people.

All men make some things happen. Some men make many things happen. These men made a great many things happen to the Missouri highway system of the post-World War II era. They have been prominent among the movers and shakers of recent Missouri highway history whose abilities, energies, integrity, and dedication to the public welfare have done so much to make this state's highway system one of the nation's best.

"The good of the people," runs one of the inscriptions carved into the stone of the State Capitol in Jefferson City, "ought to be the supreme law." The inscription chiseled into the Capitol is in Latin. The lives and works of these men translated it—eloquently—into modern-day English, Missouri-style.



Governor Forrest Smith

He kept at it till he won

THE PERIOD immediately following World War II was a time of troubles on Missouri highways. Wartime demands on manpower, materials, and machinery had sharply curtailed the activities of the State Highway Department in the early 1940s, and a formidable backlog of unmet highway needs had developed.

At war's end, Missouri's highway problems were pervasive and pressing. If they were not to degenerate into crisis, the necessity for action aimed at solving them was imperative. Missouri was blessed in the early postwar years with leaders who recognized that necessity and responded to it affirmatively. Prominent among them was Governor Forest Smith.

Twice during his term as the state's chief executive, Forrest Smith led in the development of comprehensive plans for improving Missouri's highways. The first of these plans was enacted by the General Assembly but was rejected in a referendum election when the people turned down the two-cents-a-gallon gas tax increase on which the plan depended.

It was a stunning defeat. A lesser man than Forrest Smith might have accepted it as final. To do so seems never to have occurred to him. He kept prodding the General Assembly for action. It responded by developing another comprehensive highway improvement program, this one underwritten by a penny-a-gallon increase in the gas tax.

Laws embodying that program and that gas tax increase were enacted in March, 1952. Decisively beaten in his first advocacy of better highways for the people of Missouri, Governor Smith persevered in the struggle—and kept at it until he won.

When he won, the people of Missouri won, too.

"If at first you don't succeed, try, try again" is a trite saying. Like most trite sayings, it is profoundly true.

The examples of men like Forrest Smith have made it so.

The Builders



A. D. Sappington

*A leader in a
busy and
productive time*

A. D. SAPPINGTON of Columbia was a member of the State Highway Commission from 1954 to 1963. His term of service spanned a great period of highway building—a remarkably busy and productive time in Missouri's modern highway history.

During those years, the Interstate program was begun in Missouri, the 12,000-mile "takeover program" was largely executed, the CART program of state financial aid to the counties and cities got under way, such urban freeways as the Mark Twain Expressway in St. Louis and the Southeast Freeway in Kansas City took shape. A. D. Sappington played a leadership role in the making of the Commission decisions which brought about that great burst of roadbuilding activity.

But Sappington's labors on behalf of better roads for the people of Missouri didn't start with his accession to a place on the Highway Commission. They go back a lot further than that, at least to 1943, when Sappington was named general counsel of the MFA Insurance Company.

"From that time," he says today, "I became the company's chief spokesman in the General Assembly. Our firm always has been vitally interested in better roads for Missouri. Our special interest in the early 1940s was in better rural roads. I went to work on the job of getting some."

So effective was his work to be that three short years later, in 1946, he was to play a key role in the writing of the King Road Law—the landmark legislation which first extended comprehensive state financial aid for roadbuilding to the counties. In 1950, Governor Forrest Smith chose him to serve on a committee of legislators and citizens whose deliberations resulted in a ten-year roadbuilding program. The celebrated "takeover program" was a part of it.

For the nine years of his service on the Missouri State Highway Commission, A. D. Sappington spent what he estimates as about a third of all his working time on highway matters. The record he compiled as a commissioner is eloquent testimony to the fact that it was time well spent.



James C. Kirkpatrick

*Two governors
looked to him
for leadership*

TWO MISSOURI governors chose James C. Kirkpatrick to lead statewide information campaigns on behalf of proposed increases in the state gasoline tax.

In 1950, Governor Forrest Smith picked him to head the Missouri Better Roads Committee, an *ad hoc* group which worked for the two-cents-a-gallon increase voted on that year. The increase gained legislative approval, but was rejected in a referendum election forced by its opponents. "The special interests beat it," Secretary of State and Windsor *Review* publisher Kirkpatrick says today—definitely but without rancor.

In 1962, Governor John M. Dalton named Kirkpatrick as director of Missourians For Progress, the organization put together to campaign for Constitutional Amendment One. The amendment sought to make permanent a two-cents-a-gallon gas tax hike legislated on a temporary basis six months before, and to initiate a tax sharing formula for the state, the cities and counties for roadbuilding purposes.

It passed by a whopping four-to-one margin. And at the end of the campaign on its behalf, Missourians For Progress still had on hand more than five percent of the funds it had collected. This money was rebated to contributors on a pro rata basis. Some did not want their contributions back. That money—some thousands of dollars—was turned over to the Missouri Good Roads and Streets Association and other good roads groups.

So twice since World War II, James C. Kirkpatrick has enlisted his organizational abilities, his skill and experience as a newspaperman, and the high esteem in which his fellow Missourians hold him in the cause of better roads for the people of this state.

The Missouri Good Roads and Streets Association thanked him for it by awarding him in 1962 its coveted Scroll of Honor Award. All other Missourians ought to thank him for it, too.

The Builders



Governor John Dalton

*He went all the way
down the line*

*Owner of
Dalton Concrete
Company in
Columbia!*

THE PLURALITY which swept John M. Dalton into the Governor's Office in 1960 was one of the largest ever accorded a Missouri gubernatorial candidate. If ever Missouri voters have given an elected official a mandate for action, they gave one to John Dalton when they elected him governor. He used it.

From the very beginning of his term of office, Dalton put all of his tremendous popularity and prestige on the line in support of a series of measures he believed would be good for this state and its people. His work on their behalf was prodigious. His commitment to them was total. His disregard for the personal consequences was complete. He went all the way down the line for what he thought was right.

One of the measures he fought hardest for was the one known in highway circles simply as Amendment One. This was the Constitutional change ratified by the people in 1962. It increased the state gasoline tax from three to five cents a gallon, and it made available to the cities and counties of Missouri for their use in roadbuilding a continuing twenty percent of all gas tax revenues collected, with the cities getting fifteen percent of the money so raised and the counties getting five.

The good from Amendment One has spread so far and flowed so deep that already—less than a decade after its enactment—it is difficult for most Missourians to remember how things were before it went into effect. How things were was that streetbuilding by Missouri cities was a sometime, under-financed kind of thing, and that roadbuilding by Missouri counties was a stop-and-go activity tied not to the dictates of need but to the ups and downs of money availability in the state's general revenue fund.

John M. Dalton's name in Missouri's modern highway history is linked indissolubly to the passage of Amendment One. His other contributions to the welfare of this state and its people were many and notable. But had he achieved nothing else, his role in the creation of Amendment One alone would have earned him a place of high honor and distinction in the highway annals of Missouri.



Senator Michael Kinney

*The identity
was all
but total*

MICHAEL KINNEY'S St. Louis City constituency first sent him to the Missouri Senate in 1912. He represented it there for more than half a century. Nobody else has served continuously as a state legislator for so long. No state legislator has displayed a keener and more enduring interest in highway problems and their solutions.

When Senator Kinney first went to Jefferson City, Missouri had no state highway system worthy of the name and no State Highway Department at all. He was in legislative attendance on the system's beginnings and the Department's birth. He worked for them, fought for them, nurtured them as they grew. His years as a Senator were the years of their coming of age. He became a fixture on the Senate Committee on Roads and Highways early in his legislative life. Soon he had become a fixture as its chairman, too; and he led it during the last three decades and more of his long and illustrious Senate career.

Michael Kinney's years in the Missouri Senate were coincident with the beginnings, growth, and maturation of the Missouri state highway system. But his contributions to that system were not matters of coincidence. They were the products of his dedication to the cause of good roads, his depth and breadth of vision, and his great legislative and parliamentary skill. And their number was legion.

Michael Kinney was first a highly respected legislator, then an elder statesman, finally an institution in the Missouri Senate. And as his career unfolded, he developed an identity with the cause of good roads that became (despite his significant contributions in other areas) all but total. His devotion to that cause never wavered. His skilled and tenacious advocacy of that cause never faltered. And he has been privileged to see the good fruits of his life's work—a life's work done faithfully and well.

Missouri has a highway system all its citizens can be proud of now. And the contributions of Senator Michael Kinney helped mightily to create it.

The Builders



Rex M. Whitton

*The honors
do not match*

REX M. WHITTON'S resignation as federal highway administrator in 1966 ended more than 46 years of service to the highway-using public. More than 40 of those years were spent as a member of the Missouri State Highway Department, which Mr. Whitton joined in 1920 and through whose ranks he climbed to become chief engineer from 1951 through 1960.

Such landmarks in Missouri highway history as the "takeover" program and the start of the Interstate program were accomplished during his tenure as chief engineer. That helps measure the man. From 1961 through 1966, he served Presidents Kennedy and Johnson as the nation's top federal highway official. That helps measure him, too.

Even a brief listing of the honors his fellow highway engineers bestowed on him reads like a catalogue of the highest awards the roadbuilding profession has to offer one of its own: He's received the coveted MacDonald, Bartlett, and Crum awards. He's a past-President of the American Association of State Highway Officials and a long-time member of its executive committee.

He's a past-Chairman of the Highway Research Board and a veteran member of that key group. He's a winner of the International Road Federation's Man of the Year Award and a "Top Ten" Award from the American Public Works Association. The list could be much extended.

But the honors his profession have brought to Rex Whitton have not matched—and could not match—the honor Rex Whitton has brought to his profession. The man is a living legend.

If the Missouri State Highway Department is animated by a philosophy and a spirit which have guided it to greatness, the life, the personality, and the achievements of Rex M. Whitton are significant parts of the very stuff of which they are made.

THE DIVISIONS REPORT

Missouri Highways in 1968

Accounting

The Accounting Division processed 151,735 checks during 1968, and disbursed \$247,117,681.71. This amount covers salaries, contractor payments, operating expenses of the Department and fund transfers to cover tax collection expense.

Audits were performed on 249 invoices for railroad and utility reloca-

tions and 714 workmen's compensation cases were processed during the year.

A new program of automatic payroll deductions was initiated in 1968 for the convenience of employees to purchase Savings Bonds and to make payments to the Credit Union for loans and/or the purchase of shares.



**MISSOURI STATE HIGHWAY DEPARTMENT
STATEMENT OF RECEIPTS AND DISBURSEMENTS
FOR THE YEAR ENDED DECEMBER 31, 1968**

RECEIPTS

HIGHWAY USERS' TAXES:

Motor vehicle license fees	\$ 64,331,337.07	
Motor bus and truck fees	972,973.00	
Motor vehicle inspection fees	209,124.72	
Gasoline tax receipts	83,438,973.47	
Motor vehicle use tax	4,734,742.08	
User tax (diesel fuel)	6,537,056.63	
Drivers' license fees	2,591,871.26	
Reimbursement fuel tax collection	2,100,000.00	
		\$164,916,078.23

INCIDENTAL RECEIPTS:

Sale of blue prints	\$ 37,419.65	
Refunds	2,733,330.09	
Civil subdivision refunds	3,892,994.17	
Miscellaneous collections	220,890.53	
		\$ 6,884,634.44

FEDERAL AID REFUNDS	\$ 81,824,524.43
TOTAL RECEIPTS	\$253,625,237.10

DISBURSEMENTS

Construction	\$162,037,656.71
Maintenance	49,743,178.08
Other State Departments	20,247,874.60
Gas tax refunds	6,820,689.00
Administration	8,268,283.32
TOTAL DISBURSEMENTS	\$247,117,681.71

THE DIVISIONS REPORT

Bridges

During the year, designs were completed by the Division of Bridges and contracts let in the regular manner for 197 new structures. Of this number, 127 were for the major system routes and 70 were for the supplementary (farm to market) routes.

The total length of all new structures contracted for during 1968 amounted

to 39,659 feet at a cost of \$30,355,972. Of these amounts, 10,908 feet, costing \$5,850,898, were for the supplementary routes.

Seventeen designs were also prepared for repairing, widening, or extending existing structures by contract at a cost of \$1,170,944; these having a total length of 1,574 feet.

Construction

Awards were made on 310 construction projects in 1968. This represents 1,665 miles of road construction. Sixty-one projects included Federal-Aid, while 249 projects were financed entirely by State funds. The money value of the awards, including engineering and non-contractual costs, totaled 170 million. The breakdown is as follows:

Approximately 47 million dollars for the Interstate System
 Approximately 73 million dollars for the Primary System
 Approximately 46 million dollars for the Supplementary System
 Approximately 4 million dollars for non-contractual costs
 Total—170 million dollars

The Interstate System contracts involved new construction, upgrading existing dual facilities to Interstate standards, screening, rest areas, highway beautification and implementing

the latest safety features for the safety of highway traffic. Approximately 61 miles were completed to Interstate standards this year. There are now under construction approximately 107 miles of Interstate road. Missouri has 696 miles of Interstate roads up to Interstate standards and an additional 80 miles of Interstate roads in use as a dual facility but not up to the full standard.

The Primary and Supplemental System contracts include costs of construction work in rural and urban areas and projects financed either with Federal-Aid or with 100% State funds. They include new construction, bridge replacements, widening, resurfacing, screening, and highway beautification projects. Where applicable, the latest safety features were included.

Below is a resume of the projects under construction that have not been completed.

ACTIVE PROJECTS AS OF DECEMBER 31, 1968

System	Contracted in 1966	Contracted in 1967	Contracted in 1968	Totals
Interstate	7	19	23	49
Primary	2	22	9	33
Supplemental	2	20	21	43
Rte. & Sec.	1	28	154	183
Totals	12	89	207	308

Equipment and Procurement

During the calendar year 1968, 106 units of rental equipment were purchased outright and 810 units were replaced through trades. At the close of the year 1968, the Division was maintaining 6,020 units made up of passenger cars, pickups, trucks, carryalls, tractors, tractor mowers, motorgraders, and various miscellaneous units.

It required 8,324,400 gallons of gasoline, 684,900 gallons of kerosene, and 1,432,500 gallons of diesel fuel to operate the fleet. In addition, 140,600 gallons of lubricating oil, 21,120 gallons of hydraulic oil, 66,960 pounds of multi-purpose gear oil, and 44,400 pounds of lithium grease were used. Tires and tubes costing \$194,240.22, tire chains



Phil M. Donnelly
GOVERNOR

Commission

John J. Powers	Chairman	St. Louis
J. G. Morgan	Vice Chairman	Unionville
J. C. Harlin	Member	Gainesville
J. R. Lucy	Member	Parks
Dr. Ed. L. Clark	Ex-officio	Rolla

C. W. Brown Chief Engineer

costing \$22,602.16, anti-freeze in the amount of \$17,042.38 and shop equipment, parts, and supplies totaling \$1,888,104.87 were contracted for during

the year by the division.

The quantities of materials used in the maintenance of our highways and bridges are listed below:

Various Types of Asphalt	61,782,855	Gallons
Gravel	1,585,581	Cubic Yards
Stone and Chat	2,033,444	Tons
Paint	317,485	Gallons
Reflectorizing Spheres	1,932,000	Pounds
Sodium Chloride (Winter 1967-68)	37,614	Tons
Calcium Chloride (Winter 1967-68)	4,949	Tons
Treated Sign Posts	20,720	Each
Steel Sign Posts	10,800	Each
Grader and Maintainer Blades	1,694,395	Pounds
Agricultural Seed	90,745	Pounds
Mower Parts	\$76,884.41	

Our Headquarters Sign Shop produced a total of 79,462 signs and mark-

ers of various shapes and sizes amounting to \$676,344.22 during the year.

Highway Planning

During the year the personnel in this division:

Prepared data concerning the 1,748,000 automobiles and 439,000 trucks and busses registered in Missouri in 1967.

Collected data concerning the amount spent by counties, cities, special road districts and townships for roads, streets and highways.

Prepared data concerning motor fuel taxation in Missouri.

Prepared data concerning drivers licenses in Missouri.

Prepared data concerning Public Service Commission fees in Missouri.

Made a field inventory of all roads, streets and highways in 24 counties.

Drafted and revised 27 county maps.

Drafted and revised 24 city and urban vicinity maps.

Prepared 600,000 copies of the Official Highway System Map for 1968.

Made over 7,100 traffic counts to be used as a basis for determining traffic volumes.

Operated 103 permanent traffic count stations for use in determining traffic flow variations and trends.

Prepared, published and distributed traffic characteristic studies for: Bowling Green, Kaysinger Bluff Area, Kennett, Mexico, Northeast Missouri Screenline, Poplar Bluff and Potosi.

Prepared and distributed traffic volume and flow studies for the following travel corridors: I-55, St. Louis

and Jefferson Counties; I-244, St. Louis County; U.S. Route 71, Andrew County; Mo. Route 37, Barry and Lawrence Counties; Mo. Route B, Carroll County; and Mo. Route M, Iron County.

Prepared and distributed the following special traffic studies: Effect of the Poplar Street Bridge on Downtown St. Louis Traffic Patterns; Supplement to the Missouri Rest Area Study; and Traffic Variations along I-44 by the Chrysler Complex in St. Louis County.

Prepared and distributed Traffic Volume Summary pamphlets and traffic count maps for 16 cities.

Prepared and distributed the 1968 State-Wide Traffic Count Map.

Made "roughometer tests" on 741 miles of new or resurfaced highways and on 71 new or resurfaced bridges.

Processed over 950 requests for traffic information from within the Highway Department and from the general public.

Prepared and distributed a summary compilation entitled "Missouri Traffic Information—1967."

Conducted the annual speed and commercial vehicle weight studies.

Prepared the 1969 Five-Year Right-of-Way and Construction Program.

Considerable progress was made in the development of various trip models for use in the formation of a Major Street and Highway Plan for the St. Louis metropolitan area.

STATE HIGHWAYS OF
MISSOURI
1950



DO YOUR PART
Drive Carefully
HELP
KEEP YOUR
HIGHWAYS SAFE

Forrest Smith
GOVERNOR

Harris D. Rodgers J. G. Morgan John J. Powers J. C. Harlin Dr. Ed. L. Clark	<p>Chairman Vice Chairman Member Member Ex-officio</p>	<p>Benon Unionville St. Louis Gainesville Rolla</p>
C. W. Brown Wilkie Cunningham John H. Acuff	<p>Chief Engineer Acting Chief Counsel Secretary</p>	

DISTRIBUTED FREE BY MISSOURI STATE HIGHWAY COMMISSION

OFFICIAL
MISSOURI
HIGHWAY MAP



Forrest Smith
GOVERNOR

STATE HIGHWAY COMMISSION

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THE DIVISIONS REPORT

Planning *continued*

Cooperated with local authorities in an origin-destination survey of airline passengers using St. Louis Lambert Airport.

Published report "Background Information on Basic Data" for the St. Louis Area Transportation Study.

Prepared future travel forecasts based on projected land use and socio-economic data for the Kansas City Metropolitan Area.

Published "Technical Report 1—Origin—Destination Survey" for the Kansas City Area Transportation Study.

Published "Technical Report 2—Tabulations and Comparisons" for the Kansas City Area Transportation Study.

A major street and highway plan was developed for the St. Joseph Area in cooperation with local authorities.

Report "Major Thoroughfare Plan—Columbia, Missouri" was published and distributed.

Completed work on major street and highway plan for the Hannibal area.

Completed the development of a major thoroughfare plan for the Kirksville, Poplar Bluff, Mexico and West Plains urban areas and preparation of the reports for each transportation study is under way.

Work was started on the cooperative development of a major thoroughfare plan for the Jefferson City, Maryville and Kennett areas.

In cooperation with other divisions and agencies sponsored research into control and eradication of Johnson-grass; deterioration of concrete bridge decks; design of composite bridge stringers; design of precast prestressed sections for composite bridges; design of continuous—composite bolted beams; effects of climate, soil conditions and traffic loadings on the life of various types of highway sections; patterns in

bids submitted on materials and supplies; deterioration or "D" cracking in concrete pavements; warrants for interchange constructions; and investigation of skid resistance of Missouri highways.

Prepared the 1967 annual accident report showing accident rates by highway systems.

Analyzed data collected for the purpose of estimating annual axle loadings on highway test sections.

Continued the development of a state-wide traffic model to estimate future traffic patterns on major routes. A projections of population, employment and related statistics was completed by the University of Missouri.

Collected and analyzed data for a full-scale study of intersection capacities.

Collected field data for an evaluation of traffic congestion on three urban freeways.

Collected and analyzed data for a study of the effect of pavement edgelineing.

Analyzed data collected for a study of dispersion rates of vehicular platoons as they move away from a signalized intersection.

Status of State Highway System

System	As of 12-31-68	
	Road Miles	Cost
Interstate	773.3	\$ 759,602,178
Primary	6,951.6	898,215,459
Supplementary	23,974.8	636,868,479
Totals	31,699.7	\$2,294,686,116

Mileages by Types

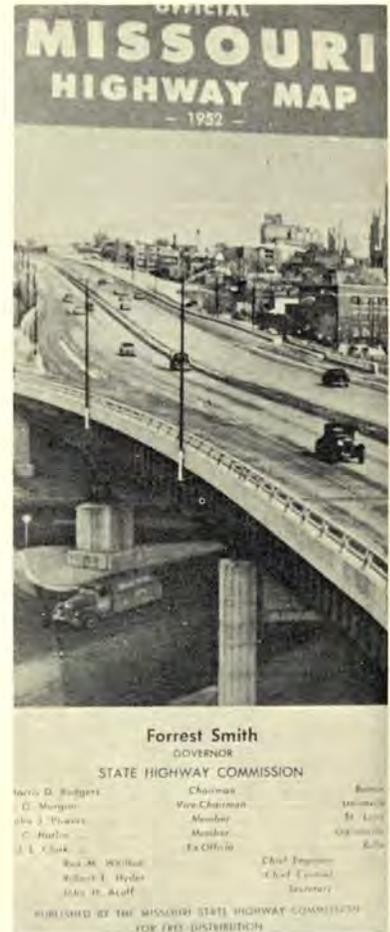
Type	Road Miles
Oiled Earth	276.7
Granular	1,836.1
Low Type Bituminous	23,122.2
High Type Bituminous	3,136.4
Concrete	3,328.3
Total Miles	31,699.7

Legal

During the year 1968, condemnation proceedings were filed in the various Circuit Courts of the State involving 1,191 tracts, and 124 hearings were held for the appointment of commissioners in these proceedings. A number of other tracts were forwarded for condemnation which were settled before actual filing of judicial proceedings. Sixty-seven jury trials were completed, with many other cases being settled prior to

jury verdict. Disposition was effected in 552 other cases, with a total of \$645,381.74 being recovered by the Commission in final judgments from awards by commissioners determined to have been excessive in that amount.

There were 29 hearings conducted before the Public Service Commission involving crossing of railroads by a state highway either at grade or by grade separation.



Twenty-one Appellate Court decisions affecting the Commission were received during the year.

Antitrust collections amounted to \$8,480, bringing the total receipts from this source to \$2,572,129.39.

Collection was effected on 1,894 claims involving damage to Commission property, several by civil suit, in which a total of \$176,496.60 was collected.

Maintenance and Traffic

On January 1, 1968 Maintenance and Traffic operations covered 32,768.1 miles. During the year, due to construction activities, there was a net gain of 56.8 miles; therefore, we had under maintenance a total of 32,824.9 miles on December 31, 1968.

During the year 849.3 miles of gravel surface roadway were converted to bituminous surface by maintenance forces leaving a total of 1,978.8 miles of gravel in the system including outer roadways and service roadways.

Three new safety rest areas were completed during the year and placed in operation making a total of seven currently in operation on the interstate system.

The maintenance budget for 1968 amounted to \$45,062,500.00. The number of overdimension and overweight permits issued increased over last year, and the collection of permit fees amounted to \$49,962.00 in the Headquarters Office and \$115,240.00 from the ten District offices.

Installation of the two-way radio system in Districts 7, 8 and 10 was completed, and the final phase of the original state-wide network was initiated in Districts 2, 3 and 9.

Striping crews placed 20,000 miles of centerstripe, 860 miles of edgeline on narrow pavements and 2,864 miles of yellow No Passing Zone lines. In this work we used 258,000 gallons of white paint, 109,000 gallons of yellow paint, 106,000 gallons of black paint and 3,050,000 pounds of reflective glass beads.

Sixty-two additional intersections were either signalized or the existing signals were modified to meet current demands. A total of 45,152 accident reports was received and analyzed for the year. Collision diagrams for detailed

During the year also, it was necessary to file petitions involving 69 junkyards, and 65 such cases were closed during the year.

Six suits were filed against the Commission for various reasons, and 12 suits were filed by the Commission involving injunctions for the possession of property, for the right to survey, and for other reasons.

accident study were prepared for 230 locations. A program to implement and evaluate traffic engineering improvements was initiated. One hundred fifty high accident locations have been investigated and corrective measures implemented at 90 of these locations during the nine months this program has been in effect. Speed studies were conducted at 73 locations and recommendations made for the most desirable speed limits.

The Division continues to combat erosion and to improve the appearance of roadsides by using herbicides and fertilizer to improve existing turf. Although much of this work was accomplished by contract, enough herbicides were purchased this past year to cover approximately 16,000 acres. The contract for broadleaf weed and brush control in 1968 was for approximately 18,000 acres and the contract for Johnson-grass spraying to cover approximately 4,500 acres. Approximately 7,000 acres were fertilized by contract during the period. Experimental work continues on establishing vegetation on critical areas. This work consists of both selection of species and methods of establishment. Screening of several maintenance sites with plantings was accomplished during the year. Also, the three new safety rest areas were landscaped. Maintenance of roadside plantings and landscape projects continue to improve due to extra emphasis and education of maintenance personnel.

The annual inspection of all state maintained bridges was performed at various times during the year by Bridge Maintenance personnel. In cooperation with the Division of Highway Planning, Bridge Condition Ratings were made on bridges in Districts 3, 4, 6, 8 and 10.

Official MISSOURI 1954 Highway Map



PHIL M. DONNELLY GOVERNOR		
STATE HIGHWAY COMMISSION		
Harris D. Rodgers	Chairman	Unionville
J. O. Morgan	Vice Chairman	Columbia
A. D. Sappington	Member	Rolla
M. C. Morris	Member	St. Louis
Ed. L. Clark	Ex-Officio	St. Louis
Rex M. Whitton	Chief Engineer	
Robert L. Taylor	Chief Counsel	
John W. Aull	Secretary	

PUBLISHED BY MISSOURI STATE HIGHWAY COMMISSION



THE DIVISIONS REPORT

Materials and Research

The construction and maintenance progress during the year continued to be quite active. Construction progress was deterred to a somewhat significant degree due to strikes and prolonged periods of unfavorable weather; however, these conditions did not reflect in an appreciable reduction in the total materials inspected and accepted. It is noted that the shipments of bituminous materials was approximately double the 1967 quantities.

Major purchases of additional testing facilities were as follows: Seaman nuclear density-moisture meter, a tri-axial shear machine and press, constant temperature cabinet, a laboratory melter for hot-pour elastic type joint fillers, and a second bond extension machine.

The quantities inspected and tested during 1967 were as follows: Cement—3,179,133 barrels; Concrete Aggregates—1,955,350 tons; Bituminous Aggregate—2,563,119 tons; Surfacing and Base Aggregate—6,477,787 tons; Reinforcing Steel—38,750 tons; Culvert Pipe and Arches—425,384 linear feet; Lumber and Square Posts—433,931 board measure feet; Piling and Round Posts—29,945 linear feet; Paint—353,645 gallons; Bituminous material—185,827,111 gallons. The grand total of samples tested during the year including those of an experimental or investigational nature amounted to 42,092. This figure represents an increase of approximately 11.4 percent over the corresponding figure for the year 1967.

Personnel

In December 31, 1968, the Department had 6,444 salaried employees considered as full-time employees. This is an increase of 290 over the number of salaried employees as of December 31, 1967. Wage employees are considered as part-time employees and the number employed varies according to seasonal work and emergency maintenance requirements.

During the year, six engineers were secured through an on-campus recruiting program at colleges and universities in Missouri and neighboring states; however, three more engineer graduates were employed through other sources during the year, making a total of nine graduate engineers.

The Graduate Engineer Orientation and Development Program became operational in January, 1968. Its purpose is to familiarize the recent graduate engineer with the many and varied facets of highway engineering and the daily operations of the Department. It also helps the recent graduate to determine the field of highway engineering for which he is most suited. Five graduate engineers entered the program during the year.

The Co-Operative Civil Engineering Training Program, a program which aids qualified high school graduates to achieve a degree in Civil Engineering, entered its fourteenth year in 1968. The program was revamped in April, 1968 in order to broaden the experience, increase the responsibility and challenge,

and make it more rewarding for those selected for the program.

The program is sponsored by the Missouri State Highway Commission and is operated in conjunction with the University of Missouri-Columbia, and the University of Missouri at Rolla. There are 31 students currently taking advantage of this educational-work program. A total of 221 participants has been selected to the program since its inception.

In conjunction with the Maintenance and Traffic Division, training sessions were conducted throughout the state for maintenance supervisory personnel. The purpose of the training program was to augment the supervisor's supervisory skills in order to increase the work efficiency and create more understanding between the supervisor and his subordinates. Training sessions were also conducted, at the request of the District Engineers in Districts 7, 8, and 9 for all supervisory personnel.

In an attempt to improve personnel management operations, a follow-up questionnaire was inaugurated for those personnel resigning from the Department. The questionnaires are mailed to those resigning shortly after their resignation. They are strictly confidential and contain no markings or identification that will permit association with anyone personally. In this way, we hope to determine more accurately the employee's reason for leaving.

Also, in an attempt to further im-



prove personnel operations, questionnaires were sent to those college graduates who refused offers of employment with the Department. The purpose of the questionnaire is to determine for what reasons they refused our offer and why they accepted the offer they did. We hope in this way to be able to correct our inequities and become more competitive in recruiting college graduates.

A list was compiled by the Personnel Division showing the military status of all salaried male employees of the Department. These lists were issued to the appropriate District, Division, and Section heads for personnel planning purposes.

Several job investigations were conducted during the year by the Per-

sonnel Division in instances where Divisions or Districts felt that new jobs were warranted or where jobs had changed sufficiently to warrant a re-evaluation.

The Highway Employees' Retirement Program which is designed to allow employees to retire at a reasonable age with a moderate income, is currently paying benefits to 788 former Department employees. The program not only creates a feeling of security for the employee of the Department, it also allows younger employees to advance within the organization. A total of 109 employees retired during the year 1968. Fifty-eight employees retired on the 60 years of age and 20 years of service provision, thirty more on the 65-70 years of age provision, and twenty-one because of disability.

Public Information

During 1968, personnel of the Public Information Division wrote about 460 general news releases and a dozen speeches, and prepared and distributed two major periodical publications—*Highway News* and *Missouri Highways*. About 6,500 copies of *Highway News* were distributed monthly. About 2,500 copies of *Missouri Highways* were distributed quarterly.

Personnel of the Division also prepared the Department's annual and biennial reports (7,500 and 1,000 copies, respectively) and issued twice-daily bulletins advising highway users of road conditions during inclement

weather or other emergencies. The Division also distributed about 600,000 copies of the official state highway road maps.

It continued its clipping service to keep Department administrative and engineering officials informed of newspaper comment on and coverage of highway matters, and it supervised the annual Service Awards programs, the Missouri State Fair exhibit, and the production of the Department's movie.

Several special brochures on highway dedications and other subjects also were prepared and distributed by the Division.

Right of Way

During 1968, the cost of right-of-way acquired for highway construction totaled \$25,788,955.97.

The Division acquired 3,398 parcels—2,289 by negotiation and 1,109 by condemnation, or 67 percent by negotiation and 33 percent by condemnation.

The Relocation Assistance and Payment Program became effective August 23, 1968, and payments totaling \$12,808 were made in 1968 to assist displaced persons in relocating.

During the year the Right-of-Way Division appraised 3,085 parcels. Two separate appraisals were prepared for 50 percent of the parcels involved, making a total of 4,633 appraisals produced

and reviewed by the Right-of-Way Division. This is an average of 257 parcels appraised and 386 appraisals produced per month.

Receipts from the sale of improvements located on right-of-way acquired for highway construction and from the sale of excess property totaled \$124,600.63.

Rental of advance acquisitions and excess property resulted in an income of \$70,258.63. An additional \$26,872.08 was derived from miscellaneous sources.

Collections from contracts with political subdivisions for their participation in right-of-way costs amounted to \$3,406,752.10.



THE DIVISIONS REPORT



Surveys and Plans

December 31, 1968

CONSTRUCTION AWARDS

1968 Calendar Year

(R. W. Costs—Not Included)

System	No. of Projects	Length Miles	Contr. Cost (+10%)	Non-Contr. Cost (+10%)	Total
Interstate-*Urban	9	16.884	26,182,632.59	841,112.32	27,023,744.91
Interstate-Rural	19	116.070	22,104,928.32	364,738.90	22,469,667.22
Interstate-Total	28	132.954	48,287,560.91	1,205,851.22	49,493,412.13
Primary-*Urban	9	12.938	5,705,339.69	82,074.49	5,787,414.18
Primary-Rural	77	511.133	63,294,542.54	1,453,526.25	64,748,068.79
Primary-Total	86	524.071	68,999,882.23	1,535,600.74	70,535,482.97
Supplementary-*Urban	14	19.750	10,610,959.93	282,551.22	10,893,511.15
Supplementary-Rural	107	288.222	36,928,180.66	631,719.13	37,559,899.79
Supplementary-Total	121	307.972	47,539,140.59	914,270.35	48,453,410.94
GRAND TOTAL	235	964.997	164,826,583.73	3,655,722.31	168,482,306.04

ALTERNATE ANALYSIS

Interstate-*Urban	9	16.884	26,182,632.59	841,112.32	27,023,744.91
Primary-Urban	9	12.938	5,705,339.69	82,074.49	5,787,414.18
Supplementary-Urban	14	19.750	10,610,959.93	282,551.22	10,893,511.15
Total-Urban	32	49.572	42,498,932.21	1,205,738.03	43,704,670.24
Interstate-Rural	19	116.070	22,104,928.32	364,738.90	22,469,667.22
Primary-Rural	77	511.133	63,294,542.54	1,453,526.25	64,748,068.79
Supplementary-Rural	107	288.222	36,928,180.66	631,719.13	37,559,899.79
Total-Rural	203	915.425	122,327,651.52	2,449,984.28	124,777,635.80
GRAND TOTAL	235	964.997	164,826,583.73	3,655,722.31	168,482,306.04

*Work located inside Designated Urban Areas.

December 31, 1968

1968—REPORT

	Awards	Miles	Projects
Interstate System	49,493,412	132.954	28
Primary System	70,535,483	524.071	86
Supplementary System	48,453,411	307.972	121
Total: Construction by Contract	168,482,306	964.997	235
Approved for Construction by State Forces	—	—	—
Oiling Program by State Forces	1,528,740	849.300	10
TOTAL: Construction	170,011,046	1814.297	245
Maintenance Work by Contract	2,044,652	699.858	77
Preliminary Engineering Awards by Contract	2,695,905	—	—

10 Lettings in 1968 compared to 11 for previous years—and 3.1 Average number of Bids per job—the previous low was 4.3 in 1967—continues a steady decline in competition.

Total Construction in 1968 of \$170,011,046 is an increase over \$156,322,375 in 1967 and the former highest year of \$157,191,623 occurring in 1964.

There were 18 Rejections in 1968 and Contractors bids for the year averaged 0.1% below Engineering Estimates.

The composite cost index (1957-59=100) continued the sharp rising trend which started last year, rising 18 points to a high of 130 for the year of 1968.

1968

MISSOURI'S 32,000-mile state highway system is one of the nation's largest. Only six are larger—those of Pennsylvania, Texas, Virginia, West Virginia, North Carolina, and South Carolina.

But Missouri's state highway system includes only about 27 percent of the approximately 117,000 miles of roads, streets, and highways which cover the state of Missouri. The county courts of Missouri's

114 counties have jurisdiction over more than twice as many miles of road as there are in the state system. In 1968, operating with state financial aid, the county courts had control of about 69,000 miles of Missouri road. These were the so-called CART miles—the miles administered under the terms of the County Aid Road Trust Fund.

The creation of that trust fund, the events which brought it into being, and the manner in which it works to benefit Missouri motorists are important parts of recent Missouri highway history—and of its future.

CART

4.91
7.22

2.13

1.18
3.79

1.97

.15
1.79

1.94
0.04

.91
.18
.15

.24

.22
.79
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.80
0.04

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CART

THE IDEA that the state government ought to help county and city governments financially and otherwise with their roadbuilding activities is not new in Missouri. But it really is not very old, either. It goes back fewer than fifty years. The reason it does not go back further is not that the counties and cities were not involved in roadbuilding earlier. It is that the state was not.

From today's perspective, it is easy and natural to assume that the work of building highways is and has been almost exclusively the province of the state and federal governments. It is not so. For much of Missouri's highway history, the counties and cities have played a major role in getting the job done.

Where the CART rolls, road and street



When CART rolled into town, it brought a big cargo of financial help to communities working at solutions to their own street problems. The money came from Jefferson City, the solutions were devised at home.

Though that role is greatly diminished in size and importance nowadays, the significance it retains is considerable.

Missourians did not begin to seek their state government's participation in highway affairs until 1906. There was no State Highway Department until 1913. No state funds were made available for highway purposes *per se* until 1917.

As recently as 1920, county and local bond campaigns aimed at raising money for highway and street construction were significant parts of the Missouri governmental scene. Not before the enactment of the storied Centennial Road Law of 1921 did the focus of highway building in Missouri begin to shift from the local and county to the state and federal governmental levels.

At different times in its history, the state has extended differing kinds and amounts of aid to its counties and cities for roadbuilding work. Since the end of World War II the two principal state channels for aid to the counties and cities have been the King Road Law of 1946 and the County Aid Road Trust Fund, established in 1962.

Using reserves in the state's general revenue fund which had been accumulated during the wartime years, the King Road Law created a County Aid Road Fund of \$10,000,000. It provided that the state would "apportion from the General Revenue Fund to the several counties certain money to be used in matching, up to \$750 per mile, equal amounts raised locally for improvement of certain county roads, provided that the construction has been completed in accordance with plans and specifications previously approved."

Neither the money used to establish the County Aid Road Fund nor the money to be provided it was generated by highway use taxes. So in a sense, the Highway Department's interest in the King Law's operation was largely administrative.

As one Department historian of the time who was

close to the law's implementation wrote, "The Interest of the State Highway Commission was to see that the provisions of the law had been complied with before reimbursements were made to the local subdivisions."

The law provided for supervision of the county roadbuilding done by the State Highway Commission and a committee of five county judges to be appointed by the governor.

In 1953 the limit on the amount of state general revenue money which could be provided to counties on a matching basis for "improving, constructing, and reconstructing county roads" was increased from \$750 to \$1,000 a mile. In the same year, state general revenue funds were made available to the counties

Progress follows

"in an amount not to exceed \$50 per mile when matched with local funds for maintenance purposes."

Thus strengthened, the King Road Law continued until 1962 to serve as the state's chief means of providing roadbuilding aid to its counties and cities. It was a good law, and in the main it served Missourians well. But there were some problems in its administration:

Since King Bill funds came from general revenue sources, they could—and did—vary greatly from biennium to biennium. The appropriations which controlled them were dependent not on county and city road and street needs, but on the state's overall financial condition. Apportionments of King Bill money bounced from a low of about a million dollars in one year of the law's life to a high of almost three and a half million in another year. This uneven and unpredictable flow of King Bill revenues to the counties made the intelligent and orderly planning of county highway and city street projects virtually impossible.

The rules governing how King Bill funds could be spent were almost as restrictive as the money's flow to the counties was uneven. Throughout the law's life, it was much easier to get King Bill money for construction purposes than for maintenance purposes.

For the fifteen-year period in which the law was operative, about 77 percent of all state money spent on county roads went for construction purposes, only about 23 percent of it for maintenance work. And this was despite the fact that some counties much more needed maintenance of existing county roads than the construction of new ones.

Another restrictive feature of the King Bill was this: all funds not spent within the appropriations period were "lost" for the counties involved. Another was that much of the authority about how roadbuilding was to be done in the counties rested not with the counties themselves, but with the General Assembly.

As appropriations of King Bill money were made,

the legislature earmarked certain funds for construction activities in the counties, other funds for maintenance work. With that legislative earmarking, no King Bill funds could be transferred by county authorities from construction uses to maintenance uses or vice versa.

At least one other characteristic of the King Bill restricted its benefits—it contained formidable amounts of red tape.

Imperfect as it was, though, the King Road Law operated reasonably well for the fifteen years between 1947 and 1962. Certainly it was not an ideal solution to the roadbuilding needs and problems of Missouri's counties and cities. But just as certainly, it constituted a well-conceived and much-needed first step toward meeting those needs and solving those problems. Before another step in that direction was to be taken, Missourians were destined to make a basic alteration in the dominant body of law under which they governed themselves.

The State Constitution of 1945 gave the State Highway Commission the authority to expend "all state revenue derived from highway users . . . including all state license fees, and taxes upon motor vehicles, trailers . . . and motor vehicle fuels."

On March 3, 1961, in a formal statement to the members of the General Assembly and the public, the Commission asked for a popular vote which would approve sharing this highway user revenue.

The Commission supported an immediate increase of two cents a gallon in the state gasoline tax, with no strings attached. Then it stated that the people ought to be given the right, by means of a constitutional amendment, to decide whether or not one cent of the increase being sought should be turned over to the state's cities and counties for their use.

Citing needs studies and fiscal studies by Missouri University researchers and the Automotive Safety Foundation, recommendations of the Interim Legislative Road Study Committee of the Missouri General Assembly, and the highway program recommended by Governor John M. Dalton, the Highway Commission statement warned that "there must be a swift and steady improvement of our state highways to save lives, reduce suffering and property losses, and promote the welfare, prosperity, and economic advancement and development of our state."

The Commission pointed out that more roadbuilding funds were urgently needed for use in St. Louis, Kansas City, and the state's other cities, and that "there still exists a critical need in rural Missouri for the replacement of many bridges which are too narrow or otherwise inadequate to meet the increasing traffic demands."

The Highway Commission said the constitutional amendment should provide for the abolition of city gasoline taxes and the earmarking for road and street purposes of any funds received by the counties and cities from the state. The Commission statement also

CART

made the points that "state non-road user taxes . . . should not be appropriated or expended on the maintenance and construction of the state highway system" and that "state road user taxes . . . should be the sole source of revenue for the construction and maintenance of the state highway system."

With Governor Dalton supplying strong leadership, the two-cents-a-gallon gas tax increase was enacted into law by the General Assembly. The Governor signed the bill embodying it on July 10, 1961, and it became effective on October 13 of that year.

The law stipulated that the increase was to remain in effect for six months only—unless the voters approved a constitutional amendment providing that a penny of the increase be allocated to the state's cities and counties. Three-fourths of the money was to go

to the cities and the remaining one-fourth to go to the counties.

The proposed amendment was designated as Amendment One. The campaign for its passage was well-conceived and energetically pushed. And the Highway Department played a major part in it. So did an *ad hoc* group called Missourians For Progress led by Southwestern Bell Telephone Company President Edwin M. Clark of St. Louis and James C. Kirkpatrick, the publisher of the *Windsor Review* and one of the state's best known and best respected weekly newspapermen.

On March 6, 1962, the people approved Amendment One by a margin of four to one. The two-cents-a-gallon increase in the state gas tax was made permanent. Twenty percent of the state's gas tax revenues—present and future—were earmarked for the road and street purposes of Missouri's cities and counties, with the cities getting fifteen percent and the counties the

State money helps local solutions



Missourians have road and street needs which cannot be met within the state system. Now and in the years ahead, many of these needs can be met by the use of an efficient, thoroughly road-tested CART.

remaining five. And a secure financial foundation—generated and maintained by highway use taxes—was secured for the County Aid Road Trust Fund.

During the fifteen-year life of the King Road Law, the progress of the CART program had been a hesitant, stop-and-go, sometime kind of thing, tied to the ups and downs of the state's overall economy as they were reflected in its general revenue fund. Now, the tether which had tied the CART program to the general revenue fund was broken, and CART was ready to roll under its own power.

It rolled fast. The new CART program became possible with the passage of Amendment One in March of 1962. By late May of that year, the State Highway Commission had formulated and made public its policies relative to roadbuilding by the counties and cities in the new program.

By mid-June, Highway Department personnel

done with CART funds is accomplished according to certain standards and procedures specified by law. But the various county and local officials involved have full authority in choosing the construction and maintenance projects which are undertaken.

There are no stipulations in the CART program that fixed percentages must be spent on construction and maintenance. A county may spend all its CART funds on construction, all of them on maintenance, or some of them on both. The philosophy of the CART approach is that neither the State Highway Department, the General Assembly, nor any other group of people knows so well what a county or city needs in the way of road or street construction and maintenance projects as do the officials of that county or that city itself. And the theory that local roadmaking decisions ought to be made at the local level was vindicated very early in the CART program's life:

During the King Bill years, about 77 percent of all state money spent on county roads went for construction purposes. During the first 15 months of the CART program, approximately 74 percent of the money spent went for maintenance projects.

The new CART program sharply decreased the amount of red tape of the King Bill program. Integral to the CART program's administration is the requirement that every county or city road project on which CART funds are spent must be approved by and accomplished under the direction of the county and city officials involved.

There are 114 counties in Missouri, and about 400 cities involved in the CART program. But in a typical recent year, there were 850 governmental agencies of one kind and another involved in road work in the state of Missouri. Township road agencies and special road districts abound. But not one of them is involved directly in the CART program's administration. Neither is any other agency of government except the State Highway Department, the 114 county courts, and the city governments. And the CART program is easier to administer, better organized, and more smoothly functioning because it is so.

The story of the part Missouri's cities and counties have played in roadbuilding in the state since World War II does not constitute the biggest chapter in recent Missouri highway history, nor yet the most exciting. But it is important. And it will continue to be important in the years ahead—especially to Missouri's rural and small town residents.

These citizens have roadbuilding and road maintenance needs which are not being met—and in a practical sense can not be—by any one of the approximately 32,000 miles which comprise the state highway system. Many of these needs already are being met. Many more will continue to be met in the months and the years ahead. And the vehicle being used to meet them is not glamorous or sophisticated. It is the simple—but well road-tested and thoroughly workable—CART.

happen

had held a series of ten regional meetings in which the new state policies were explained to officials of all but one of Missouri's county courts. On June 19, Osage County became the first in the state to get a new CART project under way.

The new CART program included one feature brand new in Missouri highway history—and particularly attractive to city and county officials. For the first time, cities and counties did not have to match funds obtained from the state.

A penny a gallon from the new five-cents-a-gallon gas tax was deposited in the County Aid Road Trust Fund, and was credited to the accounts of the cities and counties. The CART money remained in the accounts of the cities and counties until they spent it. No funds were "lost" if not spent within a specified time, as had been the case under the King Road Law.

And there was more money available to the cities and counties—much more—under the CART program than ever had been available to them before. During the fifteen King Bill years, the counties, for example, received for their roads an average of less than two million dollars a year. During the first year of the CART program, more than twice that amount was distributed to the counties for roadbuilding projects.

And the rate of state disbursements to the cities and counties has not slowed as the CART program has gone along. By the end of December, 1968, the CART program has funnelled to the cities and counties of Missouri for use on their road projects an average of more than \$4,600,000 a year.

Within broad limits, this money has been spent the way officials of the cities and counties receiving it wanted to spend it. Under the CART program's terms, the State Highway Department is responsible for seeing that the construction and maintenance work

MUCH OF MISSOURI'S history from World War II to the present has been the story of a mass movement—the trek from countryside and hamlet to city and suburb. That trek started long before World War II. But the war did much to quicken its pace, intensify its impact, and make permanent a continuing process of urbanization as one of the prime facts of contemporary Missouri life.

Most Missourians are city-dwellers now. Even more of them will become city-dwellers in the future. And very few of them are selling their cars when they move to town.

In 1965, more than 47 percent of all the vehicular travel in Missouri went on in the cities of the state. In that same year, less than 12 percent of all the road, street, and highway mileage in Missouri was located in urban areas.

That sort of arithmetic has made and continues to make problems—for the Highway Department, for the other governmental and private agencies and groups involved in urban transportation and planning, and for Missouri motorists by the hundreds of thousands.

What are some of the ways in which the Highway Department and other groups have been seeking solutions to the new kinds of traffic problems resulting from the urbanization of Missouri life? And how are the transportation needs of the city-dwelling and suburban motorists of Missouri being met? The questions are fit subjects for a fat book. Perhaps they can best be dealt with in this brief review by an examination of some of the things which have happened on one street in one Missouri city during recent years.

This is the story of Sunshine Street in Springfield.



The City

THE STATE HIGHWAY DEPARTMENT'S first major project on what now is Sunshine Street in Springfield started in 1929. Springfield then was a city of about 57,500, and included an area of about 15 square miles. It was bounded on the west by Kansas Street, on the north by Kearney, on the east by Glenstone, and on the south by Sunshine. Only there wasn't any Sunshine in those days. At least there wasn't a continuous street called Sunshine running along what then was the city's southern edge. W. E. ("Jack") Baker, the veteran Maintenance Superintendent in the Department's District 8 office in Springfield, knows. He was there. And his memory is sharp and clear. Listen:

"It's hard to drive along Sunshine now and remember how it looked in those days. Take this Glenstone intersection we're going through right now. It's one of the busiest corners in the state today. Know what I remember best about what was here in 1930? A riding stable. It stood where the Empire Bank building stands now. And it was right at the edge of some wide open country. A lot of the country along what's now Sunshine was wide open then. There was plenty of pasture land along here. There were some nice residences here and there, too. But the business places were few and far between. Part of what's now Sunshine had street on it in those days, but a lot of it didn't. A lot of the street we put down along here went where there hadn't been any street before."

Between 1929 and the mid-1930s, the Department paved Sunshine Street from Scenic Drive to Glenstone. The work was done in two sections. The first of them was started in 1929, and paved Sunshine 18 feet wide from Scenic Drive to Fort. The second, started in 1933, paved it 20 feet wide from Fort to Glenstone. District 8 Surveys and Plans Engineer Max Chalmers, a veteran of 40 years with the Highway Department, remembers how it was:

"From National Street west to about Campbell, there were some real nice residences along Sunshine in those days. But the rest of it was pretty much out in the country. In part of that first work we did on Sunshine, we got some help from an outfit called the Eight Mile Special Road District. It took its name from the fact that it built roads to a distance of eight miles in all directions from what then was Springfield proper. And it did good work. Besides what it did on Sunshine, it did some work on Kearney and some on North Glenstone. The Eight Mile Road District was pretty well known in the late '20s and the early '30s.

"Those early '30s were depression years, you know. Times were hard and money was scarce. I remember that on some of those early Sunshine jobs, the going rates were 25 cents an hour for laborers and 50 cents an hour for concrete finishers.

"The Sunshine jobs of those years had an importance for us that went beyond the immediate Spring-

The City

*The problems are
formidable,
the attacks
on them
are impressive*



Till the middle of this decade, Sunshine Street was a two-lane traffic carrier. These pictures recapture some of the street's flavor during the big reconstruction job of 1965.

field area. West of Glenstone, we designated the street as Route 60 AP when we built it. It was our main route west through Springfield toward Republic and down toward Billings. East of Glenstone, along the old Sweitzer Road, what we built was designated Supplementary Route D. We were taking land parcels for that job as early as 1929.”

These first phases of major State Highway Department construction on Sunshine lasted well into the middle-1930s. Jack Baker remembers that in 1936, the federal government specified that the minimum wage which could be paid to laborers on the Sunshine projects was 35 cents an hour. “That’s the first time I can remember the federal government specifying minimum wages we had to pay,” he says.

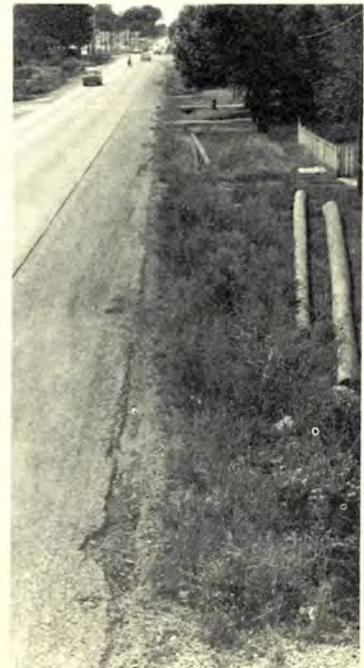
Baker remembers something else of interest to highway historians about that work on Sunshine in 1936. He says the District 8 Engineer at that time spent a lot of time out on the Sunshine projects, seeing for himself how the work was progressing. “Seems like he was out on the job with us almost every Saturday for several months,” says Baker. “He sure was interested in that Sunshine Street work. I’ll bet he’d still remember a lot about it—even after all these years. Just ask him the next time you see him, and see if he doesn’t.” The District Engineer was Rex M. Whitton.

The first phase of the Highway Department’s work on Sunshine Street was destined to have to go unimproved for a long time. By the time it was completed, the clouds of general war were lowering over Europe and Asia. Within a few years after its completion, World War II had begun and the United States had become a belligerent in it. For the war’s duration, the first work which had been done on Sunshine would have to suffice.

By 1944, Congress recognized that the postwar need for urban highway development and improvement would be urgent. The Federal Aid Highway Act of that year “made Federal Aid funds available for projects in urban areas. . .”

“The Missouri Constitution, adopted in 1945, gave to the Highway Commission the authority to construct highways through all cities of the state regardless of population, which authority was not previously had.”

The quotes are from the “Traffic Survey Report of Greater Springfield,” an interesting little booklet published by the State Highway Department in cooperation with the City of Springfield and the Public Roads Administration, Federal Works Agency. That report marked the beginning, in Springfield as elsewhere, of full scale cooperation in urban highway and street matters among the State Highway Department and the appropriate agencies of both local and federal



governments. The rationale for such an approach seems clear enough today. It was not so clear in all quarters when the Traffic Survey Report for Springfield was published in 1945. That report offered the following paragraph by way of explanation. It is a paragraph which makes eminent good sense today—a quarter of a century after it was written. It says this:

“The traffic problems of the federal, state, and local governments merge and cannot be separated from each other on any rational basis. When vehicles come into a city from other parts of the state or from other states, they merge with the local traffic, and any facilities constructed to accommodate them will also produce a greater total benefit to the traffic which originates within the area itself. It is for this reason that state and federal engineers are having to interest themselves in urban traffic problems which appear to be local in character.”

In 1953, working in close cooperation with local and federal authorities, the Highway Department widened the section of Sunshine from Scenic Drive east to Fort Street at a cost of \$95,000. The improvement wasn't made before it was needed. The traffic pressures on Sunshine—and almost everywhere else in the Springfield area—were getting greater all the time.

Springfield had been a small city before the war. Now it was beginning to act like a big one. Its popula-

tion, which had been 61,000 in 1940, had increased to only 66,700 in 1950. In the decade of the '50s, it was to increase by almost a third. In 1960, it stood at about 95,900. Today, less than a decade later, it is 127,000. And Harold Haas, Urban Planner for the City of Springfield, says that the population of the Springfield metropolitan area not only continues to grow, but grows at an accelerating rate.

In 1963, the State Highway Department, the City of Springfield, and the federal Housing and Home Finance Agency and U. S. Bureau of Public Roads published Volume One of what was to become a comprehensive “Springfield Transportation Study.” Volume Two of the big report was published four years later, in 1967. Volume One was devoted principally to an inventory of transportation facts and facilities; Volume Two contained future land use and transportation data, plus a recommended street and highway plan. Together, the two parts of the “Springfield Transportation Study” form a part of the Springfield Comprehensive Plan, which was conveyed to the Mayor and City Council of Springfield and the Presiding Judge and County Court of Greene County in October of 1964.

The Springfield Comprehensive Plan—one of the first developed by any Missouri city—is an ambitious and far-ranging piece of city planning, indeed. Volume

The City

*While the traffic
keeps coming,
the work
cannot slow*



Two of the "Transportation Study" says this about it:

"It represents a distillation of quantitative data, it sets forth the principals and standards for Springfield's physical growth, and seeks a balanced approach which will assure the viability of private investment in relation to the continuing need for responsible action in the public sector."

In 1965, again working in close cooperation with local and federal authorities, the Highway Department began a reconstruction of Sunshine Street over most of its course through Springfield—from Scenic Drive on the west to Glenstone on the east. Total construction cost for the work was two and a half million dollars. The street was widened to four lanes, and extensive lighting and signal installations were made. Max Chalmers remembers how it went:

"Everybody was all for us until it became evident that we were going to have to take some of the front yards of some of those pretty homes. Then we had some problems. But not many, really. Most people were most cooperative."

The records from the office of District Right of Way Agent Don F. Atkinson bear Chalmers out: In all, it was necessary to take 251 tracts of land for the Sunshine reconstruction. Of that total, 211 went to the state via the negotiation route and only 40 had to be condemned. Considering the sort of property which was involved, that's a good average.

In 1966, the Department began revision of the Sunshine and Glenstone intersection and reconstruction of Supplementary Route D from Glenstone east. Costs for the two projects totaled \$550,000, of which about \$85,000 was spent at the intersection.

And that's the way it's been these four decades past on Sunshine Street in Springfield. In 1929 there was no street at all along much of its present course. Today, it's one of the busiest thoroughfares in one of the fastest growing metropolitan areas in the state. The changes have come dizzyingly fast, and prudence would seem to dictate restraint in attempting to predict what the future—even the short-term future—will bring. But some things seem obvious. Or so says Volume Two of the "Springfield Transportation Study":

"The mutual dependence of how-land-is-used and traffic circulation is obvious. There is, in Springfield, a loosely formulated layman's 'law' which says: the volume of traffic expands to fill the amount of street available to carry it on. Street improvements are viewed with a kind of ironic resignation, if not outright disapproval, for too frequently traffic has been allowed to strangle an area.

"Yet being able to move from place to place is generally agreed to be of basic importance to all members of the population. How to accomplish this becomes one of the crucial issues in urban develop-

All along its length, Sunshine says city now. Its intersection with Glenstone (left) is among the state's busiest. Handsome homes grace its middle stretch (center.) And near its western end, suburbia holds its pleasant sway (right.)



ment. How the land is used provides the "attraction" that draws the traffic, yet convenient access may dictate the way certain land is used. Almost a which-comes-first?-the-chicken-or-the-egg type of dilemma, the practical assumption must be that land use and transportation are interdependent and should be considered in terms of total environment. Ecological and engineering solutions must be weighted to take account of the whole problem, and no solution should be considered which fails to reflect the various factors that go to make up the problem."

The problems involved in furnishing our explosively expanding cities with the sort of highway transportation systems they need—and can use without harmful effects on the non-transportation aspects of city life—are formidable. But so are the knowledge, the energies, and the determination of the Missourians who are attacking them. And perhaps it is proper to give the last word in the matter of whether or not those Missourians can get the job done to that District 8 Engineer who so impressed Jack Baker with his interest in "that Sunshine Street work" back in 1936—the justly celebrated Rex Whitton.

Mr. Whitton has come a long and a very distinguished way from his involvement with "that Sunshine Street work" in the middle-1930s. But his in-

terest in the traffic problems of our cities has never diminished. On the contrary, it seems to be growing all the time. As recently as 1967, in a Kansas City address entitled "Traffic In the Urban Age," he said this:

"It is well to keep in mind that transportation crises are an old, old story in the history of cities . . . New York was having transportation headaches in the early part of the 19th Century—before street cars and subways. And one need only look at turn-of-the-century photos of Fifth Avenue to see that downtown congestion plagued New York *before* motor vehicles became common. Yet today, more people than ever live and work and find their recreation in greater New York . . . And throughout the country, the growth of large urban centers is one of the most significant aspects of life in the latter half of the 20th Century.

"So I find it hard to follow the critics of despair who bemoan the decadence and decline of our cities. I see, instead, a tremendous vitality in our cities. If they become choked with traffic, this is not so much a symptom of illness as it is proof that the city and its downtown are very much alive."

Mr. Whitton wasn't talking specifically about Sunshine Street and Springfield when he said that. But they would seem to qualify.

Not monuments, but means



OUR STORY has no end. For roadbuilding is not an event, but a process. And the process continues.

When the first white men moved into what is now Missouri, they needed better roads than the Indian trails they found. They built them. But they could not close the gap between what was needed and what they were able to construct. That gap never has been closed.

From Indian-trail days to the present, highway needs in Missouri have continued to grow faster than the highway systems built to meet them. From those early days to these, Missouri's roadbuilders have been engaged in a never-ending game of catch-up. The stakes in the game have been high. And the roadbuilders have played it hard.

The coming of the motor age greatly quickened the game's pace, but did not change its essential character. Missouri's roadbuilders fought their way free of the mud and pulled themselves up onto hard surface. They bridged rivers and cut through hills and straightened curves. And as the busy and productive years went by, they linked cities to towns and farmsteads to both. But the numbers of Missourians, their economy and their dream for the future would not stop expanding.

60

The roadbuilders kept right on working: A decade ago and more, the Interstate system was begun. The work on it was started in Missouri. No construction project like it had been undertaken before in all of human history. In Missouri and everywhere else, the task was awesome. In Missouri and everywhere else, the roadbuilders were undismayed. The work went forward.

Now Missouri's portion of the Interstate system is well advanced. The thing works—magnificently. It is not enough. The gap between what is needed and what has been built remains as wide as ever.

More roads will be built in Missouri in the years ahead. They will be better roads than any we have known before. They will not be enough either.

Discouraging? Frustrating? A sign of failure? No. A cause for satisfaction. A reason for pride. A vital sign, like steady breathing or a strong pulse. Because roadbuilding is much more than one of the ornaments of a civilization; it is also one of the continuing functions in which a civilization lives and moves and has its being.

Roadbuilding is primarily a matter not of monuments but of means. It's one of the ways people have of getting from where they are to where they want to be. In space, of course. But in time too.

And what we move toward through time is our future—out of sight, but rarely out of mind. We hope it will be better for us and for all Missourians. We work to make it so. And as we hope and work, it waits for us—ten miles, twenty miles, a hundred miles down the road.

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