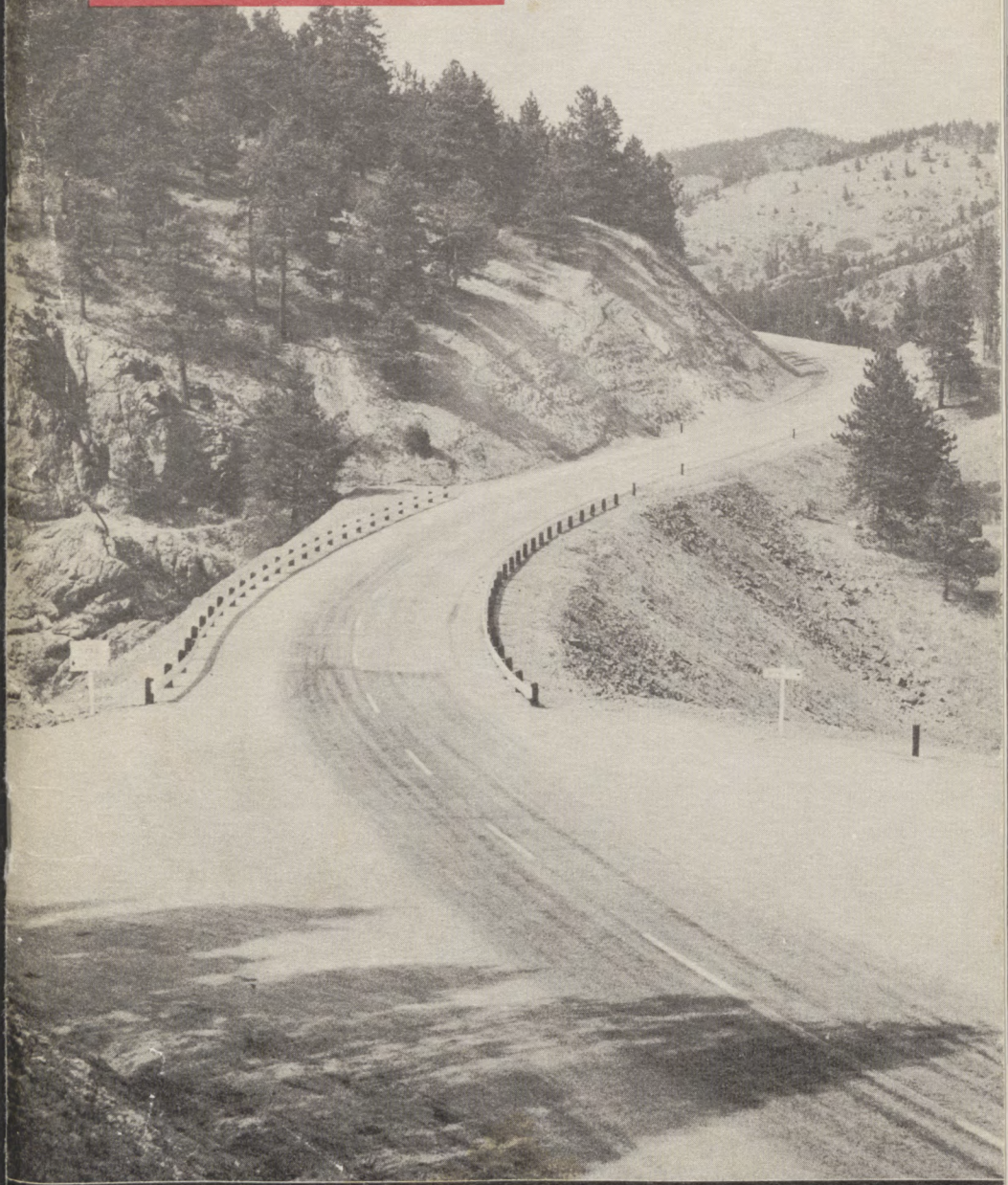
PATHS OF PROGRESS



Issued in the Public Interest by

THE COLORADO DEPARTMENT OF HIGHWAYS


WELCOME TO
COLORFUL
COLORADO
COLO. STATE HIGHWAY DEPT.

A Story of Struggle

Adventure and romance, tragedy and happiness blossomed along Colorado's early prairie paths and mountain trails, and the march of events brought commerce, industry and agriculture to nourish thriving towns and great cities.

The development of Colorado's State Highway System is the story of man's struggles against an uncompromising terrain, his battles with the elements, his courage, ingenuity and determination. It also is the story of people working together in a common cause, of individuals and of communities uniting in their contributions and, ofttimes in their sacrifices, in an unselfish endeavor to benefit all.

This is the story of how Colorado's highways began, how they have grown, and what is envisioned for them in the years ahead. They opened the door to riches buried under the granite of the Continental Divide, to the treasures of fertile plains and mountain valleys and to the majestic splendors of summer playgrounds and winter wonderlands.

You will find here but few statistics and no tables, charts or graphs. Instead, we hope you will discover an interesting tale, and, when you have finished, we trust you will have gained a little better understanding of why our progress, our prosperity and even our aspirations for the future depend to such a great degree on the development of Colorado's roads and streets.

MARK U. WATROUS
Chief Engineer,
Colorado Department of Highways

Indians Made the Trails

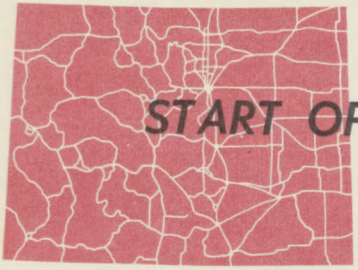
Colorado's highways stretch over 400 years of recorded history.

The first Colorado roads were war, hunting and trading trails made by the moccasined feet of Indians. Those trails, across prairies and along mountain ridges, were scratched deeper in the 1500's, after the tribes got horses from the Spaniards.

Armored Spaniards first approached southeastern Colorado in 1540, when Coronado led his ill-fated expedition in search of the fabled Seven Cities of Cibola. Later, Father Escalante, also pushing up from New Mexico, crossed southwestern Colorado and found a route to California. The Spaniards kept coming northward, looking for gold and furs and fighting Indians and rebel colonists. They established the state's first European settlement, a trading post a hundred miles south of Pueblo, in 1706.

Spanish colonial governors weren't anxious to allow trading, but American explorers, trappers and traders pushed into Colorado from early in the 19th century. In 1806, Zebulon Pike's shivering band of soldiers and scientists saw the Peak which bears their captain's name. In 1821, American pack and wagon trains began plodding along the Santa Fe Trail in southeastern Colorado, where we now find U.S. 50 and 350.

The great discoverers of our highway routes were the Mountain Men, fur trappers and traders who went into the Rockies to hunt, fight and live with the Indians. James Purcell, who told Pike about Colorado's gold 50 years before its "discovery," Jim Bridger, Fitzpatrick and Kit Carson were the guides for official map-makers of transcontinental routes like Long, Gunnison and Fremont.



START OF A MOUNTAIN ROAD

Burro leans away from abyss on trail which
became U.S. 550—1874 photo by Wm. H. Jackson.

Miners Demanded Roads

Gold, first "discovered" and publicized in 1858, brought population and the need for road construction to Colorado.

Before gold camps in the mountains demanded that routes be constructed to supply them, there were two trails on Colorado's plains for freighters and stage lines crossing the continent. The Smoky Hill Trail came from Leavenworth, Kansas, to Denver, roughly following modern U.S. 40, and the old Overland Trail ran along the South Platte from Atchison, on the course of U.S. 138 to U.S. 6.

Along these plains trails, in 1859 and 1860, came the wagons of the first gold seekers, with "Pike's Peak or Bust" red-chalked on their sides. Of the 70,000 who came that second year from the Missouri River to Denver, enough survived disappointment to find gold and start camps in the high country.

The first national link by stage was started in 1859 and brought the great editor Horace Greeley out to give Colorado its first favorable press notices. The forerunner of Colorado's national communications, the Pony Express, passed through Julesburg. One of its best riders, a teenager, was William F. Cody, later famous as the "Buffalo Bill" whose Lookout Mountain grave is one of Colorado's historic spots.

But the spreading prospectors were establishing their booming settlements in the mountainous half of the highest state in the Union, up and over the Continental Divide. Private toll roads, chartered by the Territorial Legislature for five dollars, brought supplies in and ore out. The first of these, built by the Denver, Auraria and Colorado Toll Road Company in 1859, reached up from Denver to Bergen Park, southeast of the present town of Idaho Springs.

Such construction meant back-breaking labor, as well as individual enterprise. Altogether, 43 roads, varying from two to 200 miles in length, were made by private companies, which

charged from 40 cents to a dollar for vehicles drawn by single spans of oxen, mules or horses. Each additional span cost about 25 cents more, while riding animals cost 10 cents a head.

A pioneer in building toll roads, and later railroads, over mountain passes was Otto Mears, whose career began in 1867 with a road over Poncha Pass and who also built the forerunner of the famous "Million Dollar Highway," between Ouray and Silverton.

The legislature of the new, golden Territory was aware of the need for roads to its mineral strikes. In 1868, nine years before Colorado became a state, its General Assembly listed its most frequently traveled roads as territorial and considered the voting of highway improvement funds. But the Territorial government had few and uncertain revenues.

Until there was a more prosperous State government, Colorado's pioneer roads had to be cut out of mountain cliffs by enterprising individuals like Mears and that other toll road builder, John Q. A. Rollins, who made a "causeway" on a narrow ledge up South Boulder Creek and across the range to Middle Park which was suitable for ox-drawn wagons.

As the "silver '80's" succeeded the golden 1860's, toll roads slowly passed from existence. Mining districts and counties were constructing roads by poll taxes and labor which was often donated by good citizens. In 1876, the first state legislature provided a small sum for road and bridge construction from part of the Internal Improvement Fund—money gained from the sale of public lands. This was the meager beginning of Colorado's modern, multi-million dollar state highway system.

Map of Early Colorado Trails.

Courtesy of Colo. State Historical Society.

Autos Needed Highways

The great push toward the development of Colorado's state highway system came in 1900, with the appearance of automobiles and their drivers.

Automobilists made the demand for the many-pronged attack upon the engineering problems offered by Colorado's geog raphy. Colorado, the highest state in the nation, has an average altitude of 6,800 feet, contains about three-quarters of all the elevation in the United States of 10,000 and more feet above sea level, 52 of the country's 67 highest mountains (all over 14,000 feet) and boasts a variety of terrain, from gradually rising rolling plains to mountain ranges which are interspersed with wide, fertile valleys, rugged canons, high plateaus and deep basin areas.

Roughly north and south across rectangular Colorado—the seventh largest state, 387 miles wide east and west, and 276 miles long north and south—runs the Continental Divide, on the crest of which are the headwaters of streams flowing to both the Gulf of Mexico and the Pacific Ocean. Scenically, Colorado is a vision of splendor. To the roadbuilder, it is a headache of gigantic proportions.

The automobile appeared on Colorado's primitive roads after the decade of depression in the 1890's had slowed down the construction of both highways and the railroads, which had first visioned and attacked the highways' engineering problems. In 1902, Denver's first 42 auto owners formed the Colorado Automobile Club and began the 20th century's campaign for wider, safer, faster roads.

Colorado's automobile clubs organized the Colorado Good Roads Association in 1905 and in the following year urged the General Assembly to pass the first bill for a State Highway Commission. In 1909, this first Commission was established by law and it proceeded to map the first state roads but it had only

$50,000 to match county funds for taking care of 1600 miles of highways.

The Good Roads Association was not discouraged by partial victories, however, and continued to press for adequate financing of state highways. In 1913, after the State Highway Commission had been left without funds by a Supreme Court decision, the legislature voted to devote the Internal Improvement Fund solely to road improvement. In 1916, the Federal Bureau of Public Roads started to supply matching funds for state highways. And in 1919, the first gasoline tax—a one-cent per gallon levy—laid the groundwork of a sounder provision for highway construction.

The automobile created the problem of making smooth roads on which the individual vehicle could go almost anywhere. Highways for the "horseless carriage" were going to be more expensive to build and to keep in good shape. Traveling in the automobiles of the twentieth century was a growing number of voters who presented an effective demand that these good roads be paid for out of taxation.

Rugged as Colorado's Rocky Mountain ridges are, one of the worst enemies of the State's highways is water. Our extensive watersheds of the Continental Divide have their beginnings in glaciers which were born in ancient times.

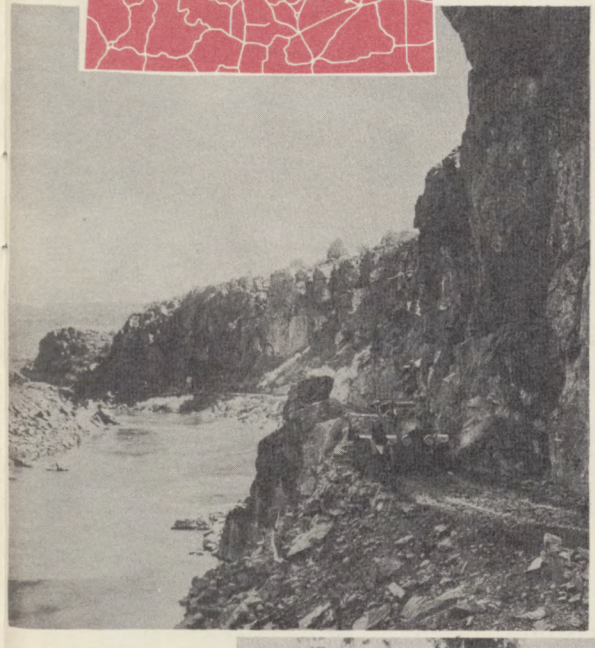
And the winds which tear at these snows can also swirl and dig up the dust of Colorado's plains. Building roads in the new century was to mean much more than marking trails. It was to mean laying secure roadbeds coated with durable materials, against time and weather. And always, as the problem and the demand increased, revenues for highways were to be chronically inadequate.

HACKING AWAY AT THE CLIFFS

Hacking at cliffs with hand tools on early roads called for a breather.

The feet of pack train burros widened precipitous trails.

WHEN AUTOISTS WERE DARING



The first touring cars ventured on crude cliff roads, as here at Blue Mesa.

Sometimes they got stuck and had to be horse-hauled out of the mud.

Booms Followed Two Wars

Participation in two World Wars and a major economic depression increased the normal problems but did not halt the steady, striving advance of the Colorado state highway system.

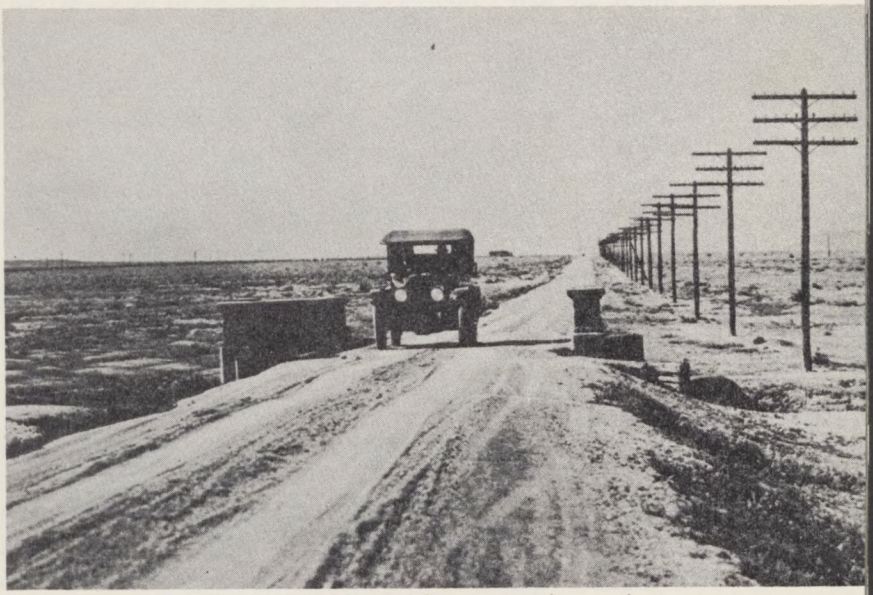
Both World Wars caused a diversion of materials and men from road construction and both were followed by greatly increased demands for more and better roads, by increased Colorado populations and by multiplying crowds of auto-borne visitors.

The boom in auto travel following World War I caught roads lagging behind the demand for them, as they have ever since. Bond issues for five and then six million dollars were voted by the people of Colorado in 1920 and 1922, to be used for highway construction and improvement until 1927. Of this $11,000,000, the major part—$8,500,000—was used to match Federal Aid allotments.

In the 1920's, the use of convict labor on roads, which had been authorized by the legislature in 1899 and employed to a limited extent by the State early in the century, as on the Skyline Drive near Canon City, was abolished out of deference to popular conviction.

This June, the $25,000,000 anticipation warrant issue voted in 1935 will finally be paid off. In the 1930's and 1940's, Colorado's roads and streets had increased to 79,000 miles—enough to circle the globe three times. Until 1954, 12,400 of these miles were in the state highway system. By the 1950's the whole state highway problem had to be restudied and reorganized.

DUST AND ROCKS



The unoiled though graded first auto roads were dusty.

But autos ventured ahead of road construction, as here atop Monarch Pass.

In 1954, A Big Switch

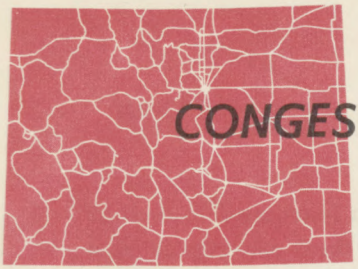
Four pounds of paper thrown into the balance of debate in the Colorado General Assembly brought about the "Big Switch" by which the state's highway system was put in order, effective January 1, 1954.

This paper was the "four pound report" of the Highway Planning Committee which the Governor appointed in 1949. This Committee, which worked with facts supplied by the Department of Highways' Planning and Research Division and the University of Denver Research Bureau, recommended the sweeping changes adopted by the 1953 legislature.

The changes were necessary because of the way in which the national post-World War II highway problem hit Colorado. An unprecedented flood of traffic, after 1945, was swamping battered roads on which little work had been possible during the war. Colorado had 600,000 motor vehicles registered in the state and an additional 800,000 cars and trucks per year being driven across its borders. Its growing population, going up and over 1,500,000, vied for road space with between three and four million visitors, as the number of tourists increased after the war.

The "Big Switch" reduced the swollen hodge-podge which had been the State Highway System from 12,400 to about 8,000 miles. In the older and larger system, the Department of Highways actually had less responsibility, since it maintained only 4,000 miles of primary highways. Under the new system, the Department is responsible for both construction and maintenance of all State highways, including over 3,900 miles of federal-aid secondary roads which had been county-maintained.

Meanwhile, the Department of Highways had been reorganized by the legislative act of 1952 on what was considered a model plan. The Highway Advisory Board was replaced by an eight-member Commission, appointed by the Governor for staggered four-year terms, representing the various geographic sections of Colorado and responsible for highway policy.



CONGESTION HIGH AND LOW

Tourists crowding on mountain roads provide traffic problems —

As do cars streaming in and out of Aurora's shopping district.

Pattern for Construction

The Colorado Highway Commission is required to meet at least four times a year, and at one of these meetings it must prepare a budget, covering all expenditures by the Department for the ensuing fiscal year which begins on July 1.

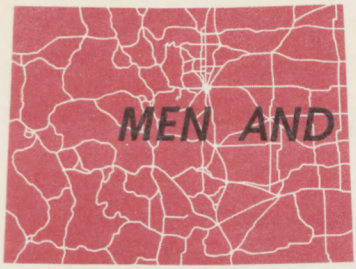
The Commissioners of course, have become acquainted with the highway needs of their various districts, and they are presented with proposed construction projects which Department engineers believe most necessary. In addition, county commissioners and other delegations appear in behalf of specific projects.

The tentative budgets drawn by both the Commissioners and the Department always are in excess of the funds available, because Colorado's road needs are much greater than its revenues. The latest sufficiency rating study revealed that improvements needed immediately on rural highways amounted to $148,000,000, whereas the average annual construction budget is approximately $20,000,000.

In deciding which of the many proposed projects should be included in the budget, one ruling factor is the sufficiency rating study made annually by the Planning and Research Division.

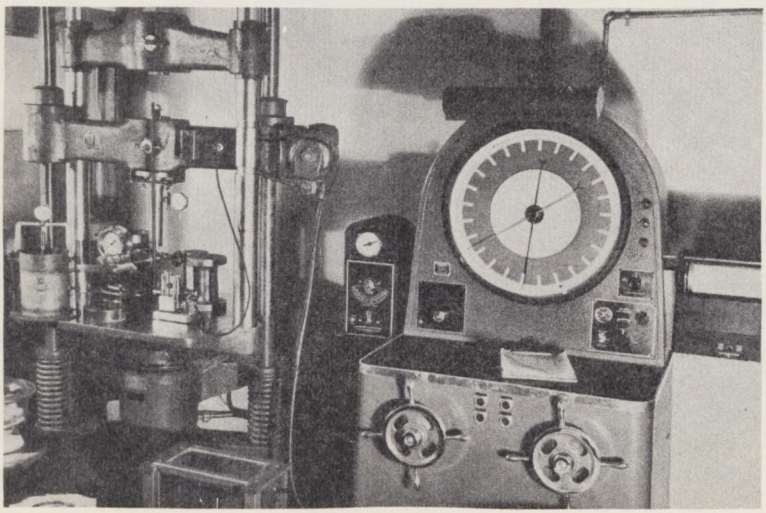
In this study, every mile of the State Highway System is scrutinized and every physical factor is given a percentage rating —width of road, condition of surface and bridges, curvature, drainage, foundation, and so forth.

This percentage then is combined with the factor of traffic which the road is carrying, and the highway is given a "rating." A rating of 70 or below means that portion of the highway needs immediate improvement.



MEN AND DIALS PLAN ROADS

Survey parties lay line of a smooth road over uneven terrain.



Concrete specimens are crushed under tremendous pressure in testing machines.

Traffic 20 Years From Now

A low rating does not assure that the section of highway which "failed" will be given an allocation of funds, because there are too many such sections. Instead, only the worst portions of the most important highways are included in the budget, in accordance with the long-range plans of the Commission and the Department, and in accordance with the establishment of priority.

In carrying out this program, the Department attempts to make surveys in advance of budget-making in order to have plans as far advanced as possible before a specific project is given approval. And the things that happen to a set of plans are as involved as a crossword puzzle.

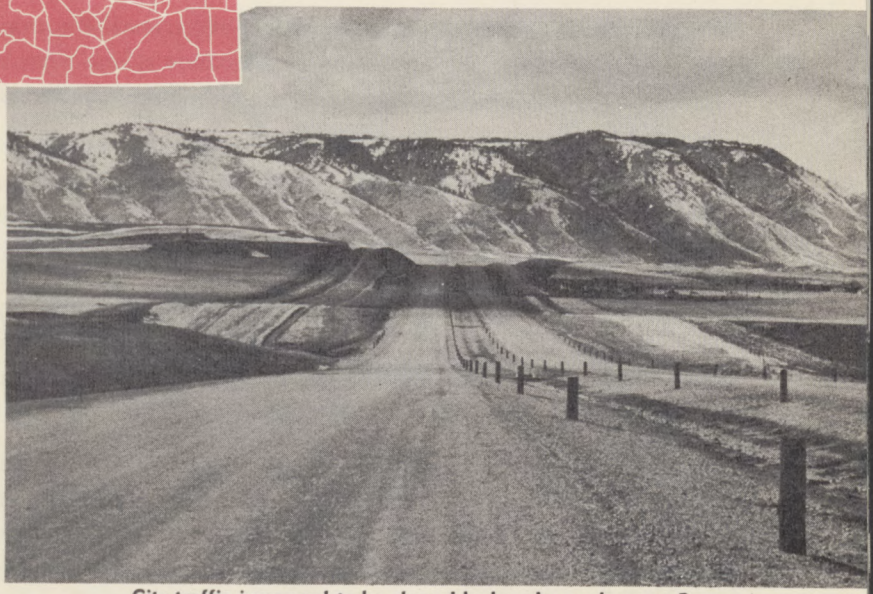
Surveys must be performed at definite locations, and the limiting grades, curvature and width of roadway are taken from the Design Standards of the Department on the basis of terrain, type of highway and traffic volume.

Preliminary plans are drawn in the field and sent to the Division of Surveys and Plans in the Denver office. These are forwarded to the U. S. Bureau of Public Roads, the Materials Laboratory and the Planning and Research Division—for field inspection by the Bureau, the beginning of soils and material investigation by the Laboratory and the necessary traffic estimates by the Planning and Research Division.

In the Planning and Research Division, if a railroad crossing is involved, the "hazard" rating is calculated, and the type of protection necessary is recommended — flashing light signals, signals with gate arms, or other devices.

Traffic estimates are prepared which take into consideration not only the present traffic volume, but also that contemplated 20 years hence, and all highway improvements are designed to accommodate the traffic it is estimated they will carry at the end of two decades. The traffic volume on today's highways far exceeds calculations made in the '30's regarding the burden the roads would be carrying in 1960, but today's estimates, it is believed, will turn out to be much more realistic.

CITIES KNOT TRAFFIC SKEINS



City traffic jams need to be cleared by broader roads, as at Denver —

And by underpasses, as at Colorado Springs.

Bids Are Opened

The Planning and Research Division diagrams the turning movement of traffic at all major intersections which may be found in the plans, and recommends the type of channelization required.

One set of plans then is sent to the Surveys and Plans Division and the others are forwarded to the Traffic Operations Section for examination as to operational feasibility.

It is there that the signing, striping and traffic control layouts are tied together with the engineering design of the intersections to make certain that the project as finally designed can be controlled from a traffic operations standpoint.

The last step is preparation of actual signing and striping layouts for the project on the basis of contract plans. These are forwarded to the Field District for review, and at the completion of the review, and concurrence by the Planning and Research Division, the Field District requisitions the signing for the project so that, when opened, it may be fully controlled.

Bridges, culverts and other "structures" are designed in the Road and Bridge Design Section, and complete plans are prepared, down to the most minute detail.

Water, snow and ice are among the worst enemies of highways, and drainage is an extremely important item. In addition to studies made by the Laboratory experts, the Department, in some instances, has employed geologists to make detailed investigations of the strata underlying the surface, and the nature of underground seepage.

After final approval has been given by the Bureau of Public Roads to plans, specifications and estimates, a project is advertised and contractors are given at least two weeks to visit the site and make their calculations. Sealed bids are disclosed at a public opening and the low bidder is awarded the contract at

a conference among officials of the Department and the Bureau, unless all bids are rejected for a specified reason. All contracts carry a definite time limit for completion of work.

Chain of command for all construction and maintenance work runs from the Chief Engineer to his Administrative Assistant and then to the District Engineers, located in Denver, Durango, Grand Junction, Greeley and Pueblo, and the Urban Engineer in Denver. At staff level are the Staff Construction Engineer and the Maintenance Engineer.

In 1953, the greatest construction year, the Department undertook 226 projects, including bid contracts, city and county agreements, statewide oiling, traffic signals and other work. These projects covered 1,492 miles of highways and represented an investment in better roads of $29,683,266.

From 1910 through 1953, the Department of Highways has spent a total of $381,515,072 in the program of highway improvement.

ESTIMATES COVER MANY JOBS

A Highway Is Born

A highway has its birth in need, and its growth is nourished by ideas, toil and the advancement of machines and techniques.

As an example, suppose we follow the development of the new Clear Creek Canon route of U.S. 6, the longest transcontinental highway in the nation.

A year after the discovery of gold at the confluence of Platte River and Cherry Creek in 1858, which lead to the founding of Denver, George A. Jackson located placer deposits along Chicago Creek, near the site of what now is Idaho Springs. About this same time, John Gregory made the famous gold-lode strike on North Clear Creek to establish the camps of Blackhawk and Central City, which has become the site of the world renowned annual Central City Opera Festival.

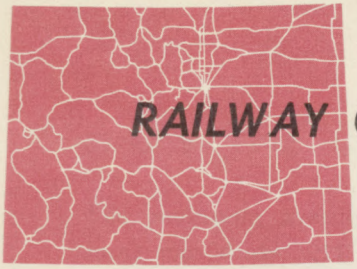
Both prospectors undoubtedly plodded up narrow, twisting Clear Creek Canon, testing the rock as they went and panning the gravel in the stream.

In a short time, a trail was scratched out of the precipitous canon walls, and soon gave way to a rocky, winding wagon road.

A stage route was established and was succeeded, in 1872, by "the most wonderful piece of railroad engineering in America"—The Colorado Central Railroad's narrow gauge route, which perched on a ledge blasted out of the canon walls.

In covering an airline distance of but one and one-half miles, the railroad traveled five miles and climbed 600 feet. The road branched in the canon with one route going along North Clear Creek to Central City, and the other following the main stream to Idaho Springs and proceeding just past Georgetown, over the famous Georgetown Loop.

The old railroad was struck by a series of crippling floods in 1933, but survived for five more years after heroic endeavors at restoration.



RAILWAY GAVE WAY TO HIGHWAY

Pick and shovel crews made the first road up Clear Creek Canon —

The narrow gauge railroad up the Canon supplied thriving gold camps.

Growing Pains

The Colorado Department of Highways, meantime, had begun its first work on State Highway 119, which runs from the bottom of Floyd Hill to Blackhawk and Central City and forms a connection with the road up Clear Creek Canon.

At about this same time, the Clear Creek Canon road was beginning its own tempestuous career. It became involved in a political controversy—a not unusual occurrence for Colorado's roads—and, although preliminary work was started in 1935, the first contract was not let until 1937.

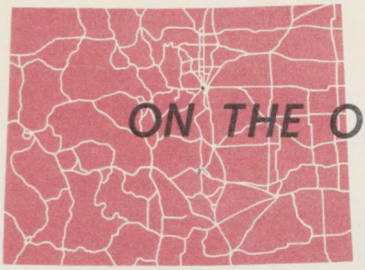
This contract, amounting to more than $400,000, covered the 2.9 miles of State Highway 119 from the foot of Floyd Hill to Forks Creek, the site of the branching of the two routes of the old railroad.

Three of the six tunnels on the complete Canon route were drilled on State Highway 119, and have been in use since 1940. The other three tunnels are in the portion between Forks Creek and Golden and, together, total about one half mile in length.

Construction of a highway up the Canon, even though theoretically based on the mouldering skeleton of the abandoned railroad, presented engineering difficulties encountered in few other states, although they are only too prevalent in Colorado.

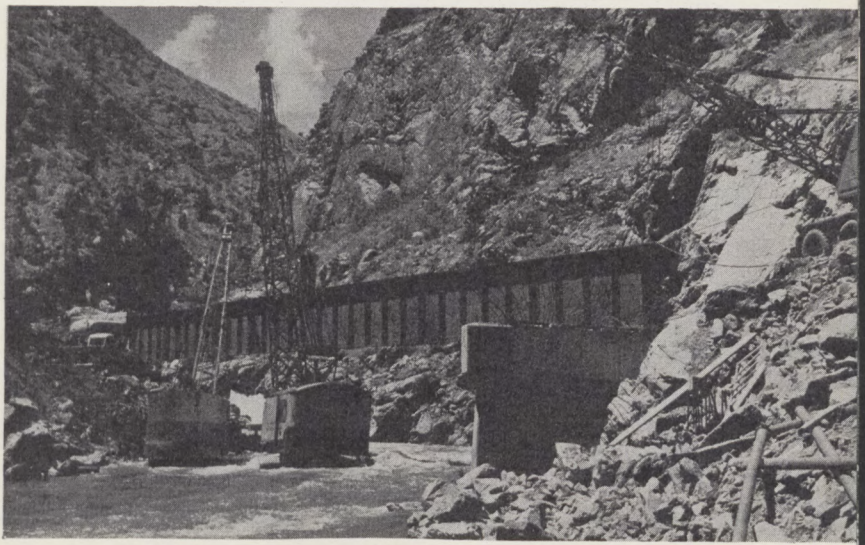
The narrow-gauge railroad had been constructed close to the stream, in most places, to reduce costs. It utilized no tunnels, but wound through the tortuous Canon on a narrow roadbed which whipped around curves that a motor vehicle could hardly negotiate.

The nearness to the creek eventually proved fatal to the railroad, as the turbulent stream, swollen by cloudbursts and floods, often raged in such fury as to rip out the tracks and demolish the light bridges which spanned the torrent.



ON THE OLD RAILROAD LINE

The modern Clear Creek highway avoids railroad curves, pierces mountains.



Road building up the narrow Cañon required that cranes wade in the creek.

Debut

The new highway was constructed at a higher elevation throughout almost its entire length, and the use of four major bridges and three tunnels permitted the elimination of sharp curves.

Sharp narrow turns presented unusual difficulties in snaking long, steel bridge girders into place, and huge cranes had to "wade" in the stream while lifting the heavy beams into place.

The highway is 32 feet wide with an additional lane on steep ascending grades. The tunnels are 32 feet wide, 20 feet high, and have a three-foot walkway on each side. It is a free-way, or limited access road.

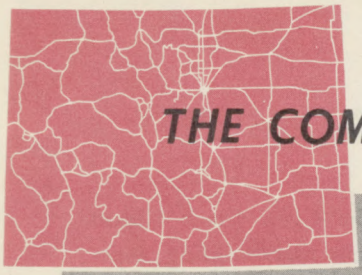
Delay in construction was caused by World War II, and further postponements were necessitated by disputes over right of way, two such cases going to the State Supreme Court.

In addition, funds available to the Department of Highways were so limited that allocations by the old Highway Advisory Board rarely exceeded $500,000 a year.

The new highway, from its four-lane connection with U.S. 40 at the intersection with West Sixth Ave. to the foot of Floyd Hill, is 18 miles. It cost approximately $5,000,000, an average of about $275,000 a mile. This is expensive road building, but some sections of Monarch Pass, and other mountain highways, have cost in excess of $350,000 a mile, and these are, for the most part, two-lane highways. Despite the fact that the expense would be more than doubled if four-lane roads were blasted out of the rock-ribbed canons, the increasing flood of traffic may make such facilities mandatory in the not too distant future.

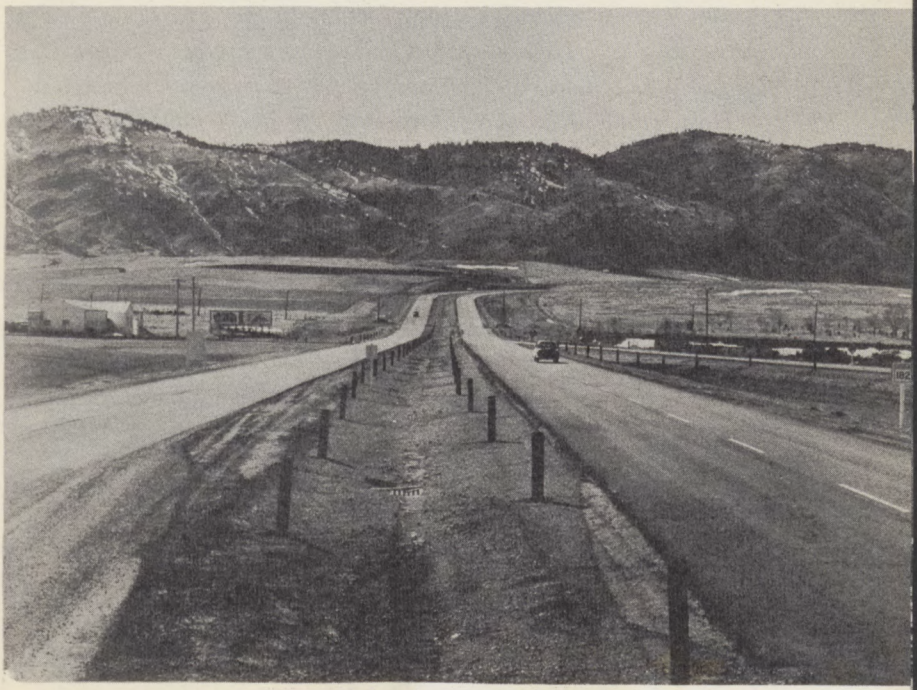
Opening of a new highway always is the occasion for a celebration in Colorado, and dedication of the Clear Creek Canon road on June 22, 1952, was an event of near-national importance.

State and city officials attended, together with the "Who's Who" in business, industry and society. There were grand opera stars, two bands, a radio hookup, 150 newspaper and radio representatives — attending the annual meeting of the Colorado Press Assn.—and several thousand citizens. All agreed: "This is a historic occasion!"



THE COMPLETED "OPERA ROAD"

Opera stars and society belles celebrated completion of Clear Creek Canon road.



From this broad approach, highway leads to Opera Festival and historic spots.

Lessons

In summarizing the building of the Clear Creek Canon highway as a typical example of Colorado road-building, especially in the mountains, certain factors may be taken as fundamental to the State's highway construction.

The first contract was let in 1937 but the road was not completed until 1952.

Although this 15-year period is considerably longer than usually is required, it serves to point up several important factors:

Delay through political involvement or local controversy. Similar situations have caused, and are causing postponement of work on many projects, both rural and urban.

Difficulty of construction. The nature of Colorado's terrain, more than half of which is mountainous, necessitates the use of switchbacks and expensive bridges for the purpose of gaining altitude without excessive severity in grade. High altitude highways, being subjected to sudden and severe extremes of weather, require thicker and stronger foundations to prevent destruction by frost, cloudbursts and floods, and are much more costly to maintain.

Lack of funds. The State's construction budget has to be spread over approximately 8,000 miles and funds are insufficient to allocate to any one highway much more than enough money for one or two new projects a year.

In Colorado, we plan ahead to utilize available funds to fit improvements to the worst sections of a highway into a program which will provide the best service for the most vehicles in places of greatest need, and at the same time integrate each project into the proper progression, as to time and place, in the long-range, overall plan.

MOUNTAIN ROADS ARE BIG JOBS

Drilling holes for blasting on Coalbank Hill job on U.S. 550.

Improvement over 11,992-foot Loveland Pass cost $1,000,000.

Colorado Roads and Streets At a Glance

Colorado road and street systems are officially listed as comprising 72,812.9 miles, as of January 1, 1954, although there probably was sufficient mileage of unclassified roads to bring the total to approximately 80,000.

Here is the official mileage, as broken down into the systems required under the present law, which became effective January 1, 1954:

State Highway System (This includes both the Federal-aid Primary and Secondary Systems, which are about equally divided.)	7,902 miles
County Highway Systems (This includes both the County Primary and Secondary Systems)	60,945 miles
City Streets (This includes both City Arterial and Service Streets)	3,965 miles
TOTAL	72,812 miles

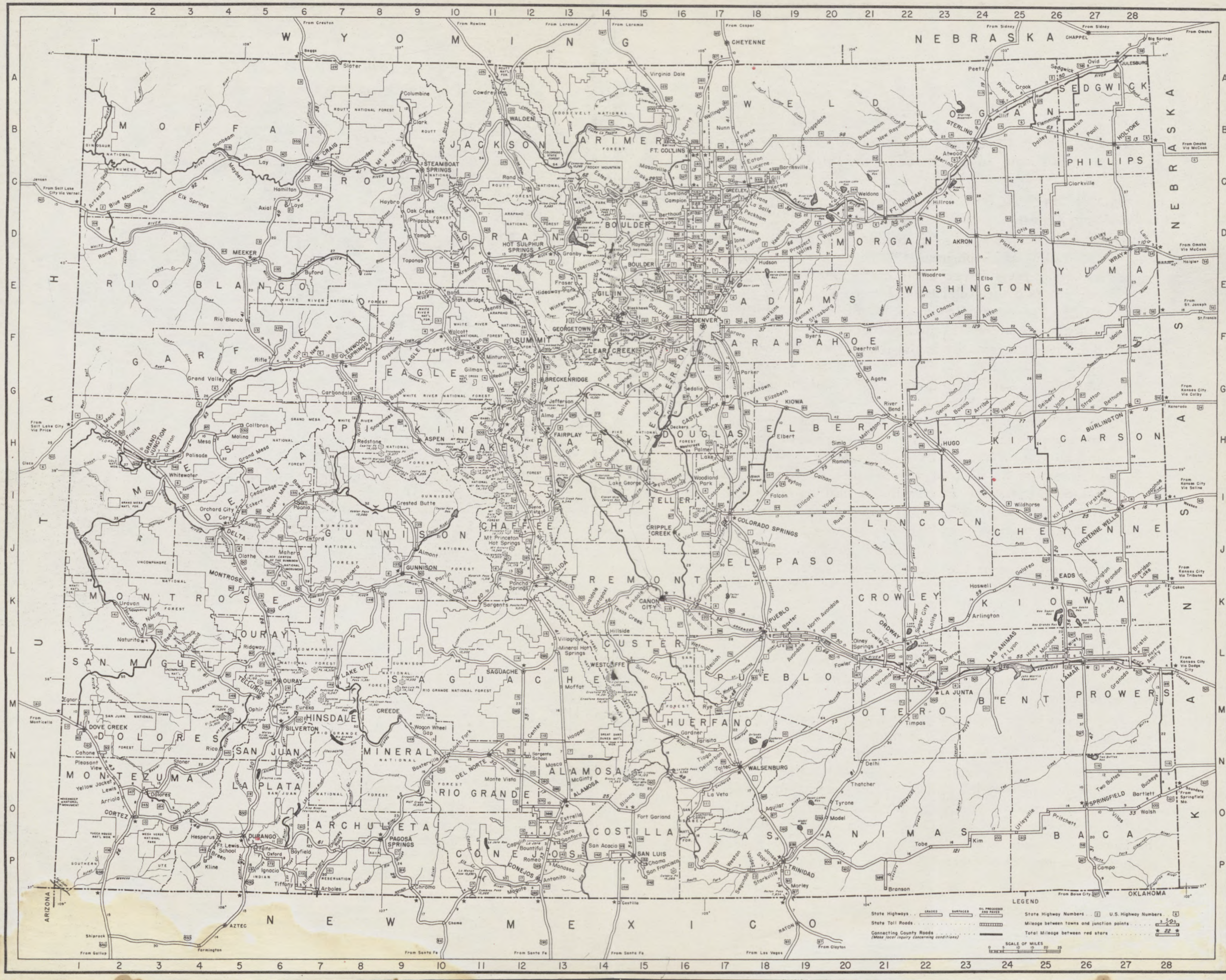
A total of 661 miles of Colorado's federal-aid primary roads —U.S. 6, 40 and 85-87—are on the Federal Interstate Highway System. This system comprises the national strategic network, designed to aid defense and the evacuation of major population centers in case of attack. Colorado has no highway on the Interstate System west of Denver because of the refusal of Utah to accept the continuation of such a road in that state at the time of the original selection, and such continuity was mandatory before designation could be given by the federal government.

This is the classification of the State Highway System mileage as to surface types:

Projected	51
Bladed	5
Graded	273
Graveled	1,821
Oiled	5,276
Concrete pavement	476
TOTAL	7,902

SNOW ROAD

After the plows have passed, this mountain road is both beautiful and safe.



WYOMING
NEBRASKA
KANSAS
OKLAHOMA
NEW MEXICO
ARIZONA
UTAH
MOFFAT
ROUTT
JACKSON
LARIMER
WELD
LOGAN
SEDGWICK
PHILLIPS
RIO BLANCO
GRAND
BOULDER
MORGAN
YUMA
WASHINGTON
GARFIELD
EAGLE
SUMMIT
GILPIN
CLEAR CREEK
ADAMS
ARAPAHOE
JEFFERSON
DOUGLAS
ELBERT
KIT CARSON
PITKIN
LAKE
PARK
TELLER
MESA
DELTA
GUNNISON
CHAFFEE
LINCOLN
CHEYENNE
EL PASO
FREMONT
MONTROSE
OURAY
SAN MIGUEL
CUSTER
PUEBLO
CROWLEY
KIOWA
SAGUACHE
HINSDALE
OTERO
BENT
PROWERS
DOLORES
SAN JUAN
MINERAL
HUERFANO
MONTEZUMA
LA PLATA
RIO GRANDE
ALAMOSA
ARCHULETA
CONEJOS
COSTILLA
LAS ANIMAS
BACA
CHEYENNE
FT. COLLINS
GREELEY
STERLING
JULESBURG
HOLYOKE
FT. MORGAN
AKRON
WRAY
CRAIG
STEAMBOAT SPRINGS
WALDEN
MEEKER
HOT SULPHUR SPRINGS
GEORGETOWN
GOLDEN
DENVER
BRIGHTON
GLENWOOD SPRINGS
BRECKENRIDGE
FAIRPLAY
LEADVILLE
ASPEN
GRAND JUNCTION
DELTA
GUNNISON
SALIDA
HUGO
CASTLE ROCK
COLORADO SPRINGS
CRIPPLE CREEK
CANON CITY
MONTROSE
OURAY
TELLURIDE
LAKE CITY
SAGUACHE
WESTCLIFFE
PUEBLO
ORDWAY
EADS
LAS ANIMAS
LAMAR
LA JUNTA
SILVERTON
CREEDE
DEL NORTE
ALAMOSA
WALSENBURG
CORTEZ
DURANGO
PAGOSA SPRINGS
CONEJOS
SAN LUIS
TRINIDAD
SPRINGFIELD
CHEYENNE WELLS
BURLINGTON
LEGEND
State Highways
State Toll Roads
Connecting County Roads
(Make local inquiry concerning conditions)
State Highway Numbers
U.S. Highway Numbers
Mileage between towns and junction points
Total Mileage between red stars
SCALE OF MILES

Money Problems

Finance, admittedly, is not a simple subject, and there seems to be unusual difficulty in understanding the financing of highways.

Basically there are four methods of raising money to build and maintain highways. These are:

1. Highway-user taxes, which consist principally of taxes on gasoline and other motor fuel, motor vehicle license fees, and taxes imposed on trucks, busses and other vehicles for the use of roads and streets.
2. Mill levy taxes, usually known as "road taxes," which are levied by the individual cities or counties.
3. Bond issues, ordinarily in the form of money borrowed against anticipated revenue, such as the $25,000,000 anticipation warrant program of 1935, and the proposed bond issue of $35,000,000.
4. Tolls, under which users of a highway pay a specified amount per ride. Such revenues are used to pay principal and interest on bonds which were sold in order that the highway might be constructed ahead of time in the natural progression established under a long-range highway improvement program. The Denver-Boulder Turnpike is an example of this type of financing.

There is no state mill levy for state highway purposes and the bulk of funds used on the State Highway System is derived from so-called highway user taxes, plus Federal-aid allocations from the federal government.

Congress allocates federal-aid funds on the basis that they be matched evenly by the states. Allowance is given states for the acreage of federal lands on which no taxes are paid, and Colorado is permitted to match 56 per cent of federal-aid money with 44 per cent of state funds.

Federal-aid money is not deposited to the credit of a state, however, but must be "earned." It must be spent before it is received. Approval by the U. S. Bureau of Public Roads is required for all expenditures of such funds, and both plans and actual work must pass rigid scrutiny. When a construction project starts, the contractor is paid his monthly and final bills in full by the Department of Highways. Then, after a thorough audit by the Bureau of Public Roads, the Department is reimbursed according to the amount of federal-aid funds involved.

Balance Sheet

As a typical example of highway financing, let's find out where the money came from and where it went in 1953, the record-breaking construction year.

The Colorado Department of Highways received nearly $32,000,000 for the construction and maintenance of the State Highway System in 1953 from the following sources:

1953 RECEIPTS

Federal Aid Funds	$ 10,210,617.18
Gas Tax (4c)	11,632,330.80
Gas Tax (2c)	4,154,403.89
Motor Vehicle License 1953	2,213,511.40
Motor Vehicle Fines	308,256.67
Tourist Camp License	29,711.25
Internal Improvements	138,242.00
County Funds	1,612,511.40
Miscellaneous Receipts	142,933.20
P. U. C. Tax Carriers	1,458,329.49
Total Receipts	$ 31,900,847.28
Cash on hand, January 1, 1952	3,568,980.02
Total cash and receipts	$ 35,469,827.30

Although the Federal-aid funds available for matching with state money in 1953 amounted to $8,578,958.35, the Department actually received $10,210,617.18 in such funds. The difference of $1,631,658.83 represents federal allotments from previous years which were "earned" in 1953.

1953 EXPENDITURES

Construction work	$ 25,109,536.17
Maintenance	4,816,023.58
Payment on 1935 Anticipation Warrants	1,897,100.00
State Employees Retirement Fund	185,086.03
Administration, field operations, laboratory, insurance etc.	426,634.64
Cash on hand, Dec. 31, 1953	3,035,446.88
TOTAL	$ 35,469,827.30

Introducing a Hero

After a road has been built, the story of its cost and care has only begun.

The very day a highway is completed, it begins to deteriorate from attacks by the elements and from the wear and tear of traffic. Against this deterioration, the Maintenance Man fights to keeps roads smooth and safe and well-marked and open in rough weather.

Colorado regards her maintenance patrolmen as the not completely unsung heroes of her highways. In seven maintenance sections, into which the Department of Highways has divided the state, with headquarters at Greeley, Grand Junction, Durango, Pueblo, Denver, Craig and Alamosa, regular maintenance patrols of two men each, with trucks on which are mounted graders or plows according to the season, have charge of 20-mile stretches.

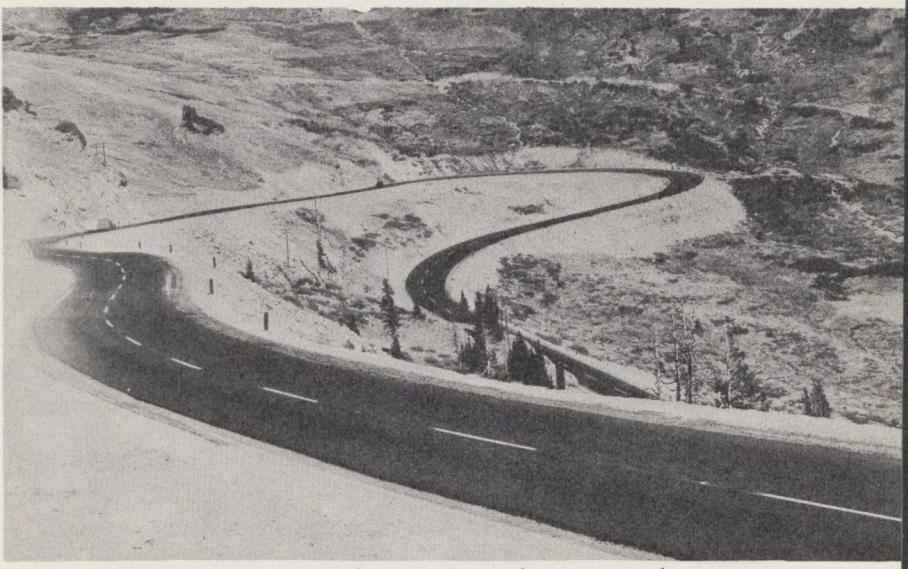
These regular patrols are supplemented by heavy equipment crews and special workers when storms pile up snow.

In the "Big Switch" of 1954, the State maintenance patrols were assigned to work on 4,000 miles of primary highways and 1,800 miles of federal-aid secondary roads which used to be county-maintained. For the rest of the state's 8,000-mile highway system, the Department of Highways has contracts with cities and counties and pays them for maintenance.

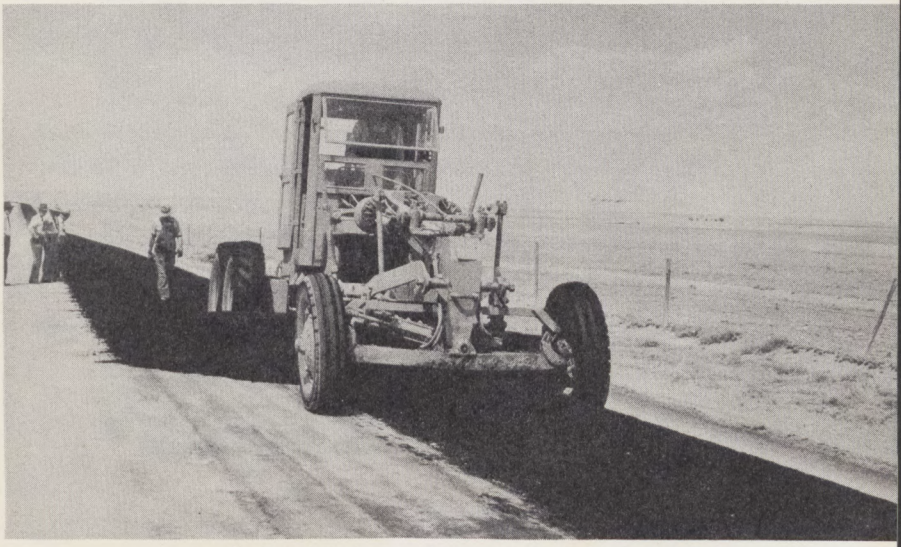
The duties of the Maintenance Man are pretty well covered in a ditty which has become a Department of Highways "theme song":

Who cleans out the ditches in summer and spring,
And patches the blacktop where chuck-holes may cling?
Who paints up his bridges and fixes the rail,
And checks all his signs and his grade, without fail?
Who battles the blizzard in drifts piling high,
In ten below zero, with night in the sky?
Who rescues the stranded and sleeps when he can?
—A doff of the hat to the Maintenance Man!

KEEPING UP THE ROADS



Winding roads in the mountains require constant maintenance —



And hard-used plains highways are mechanically oiled.

Against the Storms

Back in the otherwise discouraging year of 1929, the Colorado Department of Highways decided to tackle the terrific job of keeping the state's mountain passes open in winter.

In what was then regarded as a spectacular announcement, the Department stated it was setting aside $50,000 to keep La Veta, Poncha, Raton and Tennessee Passes open the year round. Now, 17 mountain passes—the original four, plus Berthoud, Monarch, Loveland, Fremont and Hoosier of over 11,000 feet; rugged Rabbit Ears and Wolf Creek, and Wilkerson, Trout Creek, Vail, Molas Divide, Kenosha and Cochetopa—are kept open to cars and trucks at a winter maintenance cost which alone can exceed $500,000 a year.

Whether snow whips blindingly across the plains or packs mountain roads, its onset is the signal for the Maintenance Man to mount his truck, A-plow or sno-go, and to outlast the storm.

The Maintenance Man is ordered to make the rescue of humans caught on the highways his principal concern. He makes certain no one is stuck in a ditch or snowbank, helps those in trouble and makes certain they are taken to places of safety.

After rescue operations are completed, the highway crews stay on the road, come cold or sleet or blizzard for 72 or more hours, until the roads are open and safe.

Drivers on Colorado state highways will notice signs which warn them to watch for plows proceeding against traffic, to keep the roads open. If motorists are halted or driven off the road during a storm, they should stay in their vehicles and wait for the Maintenance Man to rescue them.

The maintenance crews, on their 20-mile patrols, are sure to come in time.

GET AHEAD OF THE SNOW!

Rotary plows buck the big drifts, clearing highways for cars and trucks.

"A" plows (named from their shape) smash open big drifts

Bombarding the Avalanches

Snowslides make mountain highways dangerous only when they are unexpected and uncontrolled, the Colorado Department of Highways has figured. And so, it has pioneered against the elements with an anti-avalanche operation responsible for putting Maintenance Men on skis.

The Department started its "Operation Breakup" in 1950. It involves studying known slide areas, like the Seven Sisters above Loveland Pass, tabulating data on the snow's depth, on wind velocity, humidity and anticipated weather. Wind-driven snow on top of a snowbank forms a slab which may eventually become brittle, crack and run. The Department's ski patrols can determine within eight hours when a slide will start.

Then, the Department's artillery—two 75-mm cannons—or patrols planting pole or cone-shaped dynamite charges go into action, blasting down the threatening avalanches.

Stretches of road on which this snow is made to tumble have been blocked off. Rotary and tractor-mounted blade plows are waiting to clear the highways, so that traffic may proceed in safety.

Some of the slides the Department has beaten to the punch do not fall all the way to the roads when they are blasted or shelled, but are caught and held by timber, which keeps them from being dangerous.

The Colorado Department of Highways is making further studies to control slides by a deflectorizing system adapted from Swiss methods. Spectacular and pictorial as "Operation Breakup" is, it is the product of sober research.

AVALANCHES ARE EXPLODED

Dynamite charges are here about to sheer off a cornice.

National Guardsmen fire cannon into avalanche under Dept. of Highways direction.

Relieving City Congestion

Opening up the traffic jams of our growing cities is a problem the Colorado Department of Highways knows it must face for years to come. The Denver Valley Highway, which has been planned since 1944 and is not expected to be completed until about 1960, is a major attempt to relieve congestion of traffic through the State's capital city.

The Denver Valley Highway is a four-lane arterial route designed to provide rapid movement for large numbers of cars and trucks and to accommodate both local and through traffic.

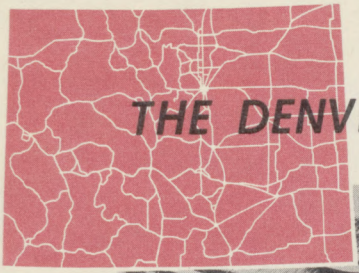
In the beginning of 1954, four sections of the Valley Highway's projected total length of 10.8 miles had been built and were in use. This cost $13,000,000 of the total estimated cost of $29,000,000.

Actual building started in 1948, at the northern end, where the Highway ties into a cutoff and connects with the completed Denver-Boulder Turnpike. Altogether this project will contain 42 miles of highway, including the length of its four lanes, its outer highways and ramps. There will be 13 major interchanges, four minor ones, and 57 bridges.

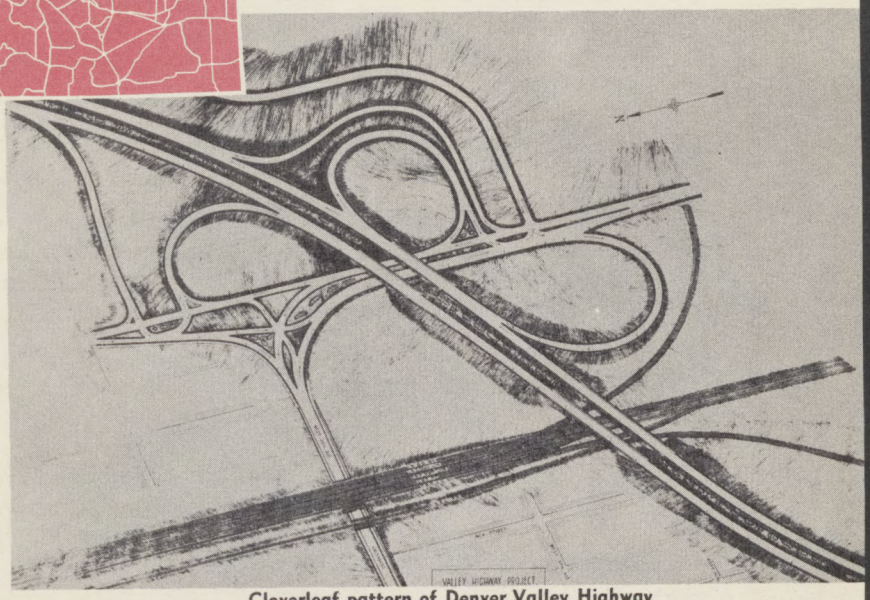
The Denver Valley Highway is lighted by 15,000-watt luminaries, spaced 180 feet apart.

The Department of Highways is constructing this "express way" with state and federal-aid funds and the City of Denver has been providing $500,000 a year for the purchase of right-of-way.

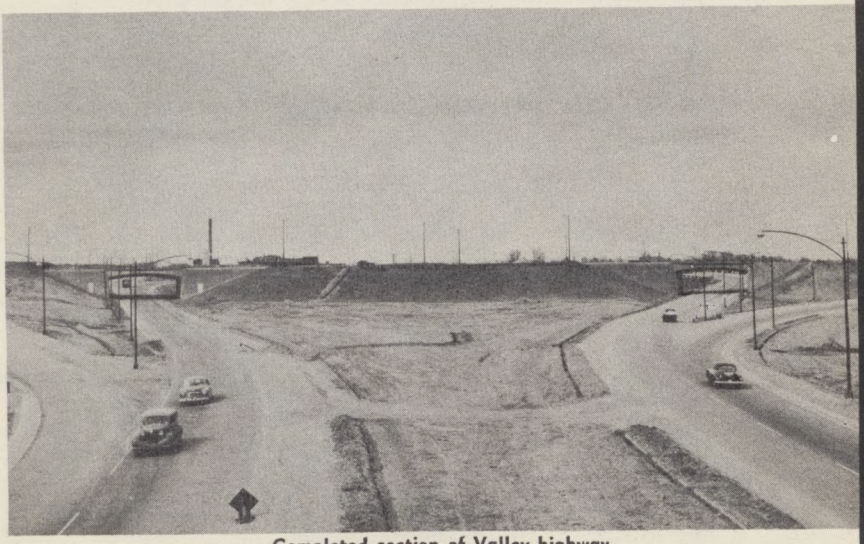
Similar projects to meet similar problems are either under way or being studied for Colorado Springs, Pueblo, Trinidad, Greeley and Grand Junction.



THE DENVER VALLEY HIGHWAY



Cloverleaf pattern of Denver Valley Highway section will act as traffic sorter.



Completed section of Valley highway shows how traffic will be split up.

The Turnpike

"The Denver-Boulder Turnpike is not merely a road linking two of our important cities, it represents a blueprint for progress for the entire state."

This statement was made by Governor Dan Thornton when the $6,300,000 toll road was opened to traffic on January 19, 1952.

Dr. Robert L. Stearns, then President of the University of Colorado, described the road as "an example of the kind of thing that can be done in a free nation where men of vision and industry can dare to dream, to plan and to accomplish their dreams."

The need for an adequate highway between Denver and Boulder had long been recognized. The existing highway, one of the most heavily traveled in the state, consisted of an old, patched pavement that contained several sharp right-angle curves and that looped over a few excessive grades. Under limited allotments of existing funds, it would have required six years or more to construct a new highway or to make necessary improvements to the old ones.

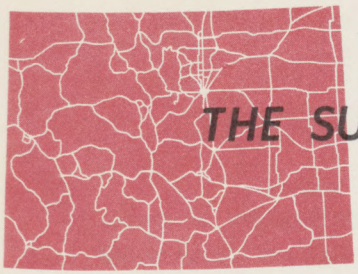
Under permission of the General Assembly, the Department sold $6,300,000 in revenue bonds and the highway, a limited access road, containing two, two-lane ribbons of concrete separated by a median strip, was constructed in record time.

Tolls were set at 25 cents per passenger car for a one-way trip over the 17.3 miles of super highway, and at 40 cents for trucks.

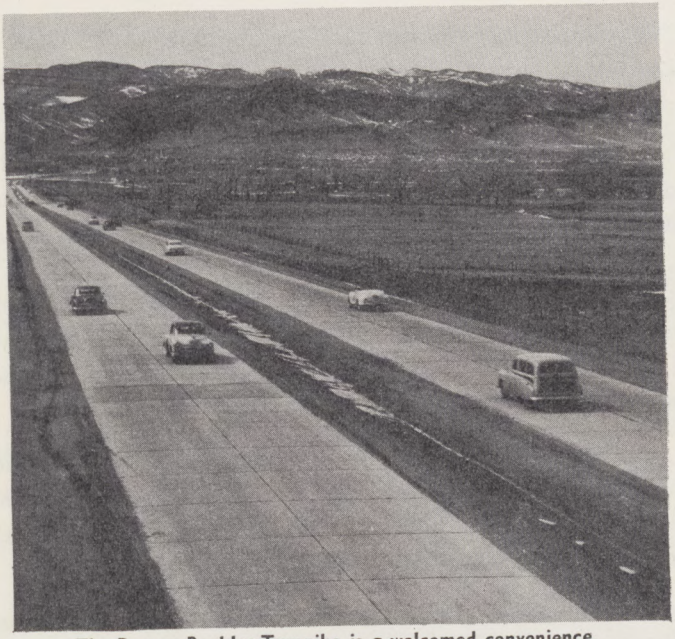
Nearly 4,000,000 trips were made over the Turnpike in the first two years of operations, exceeding all pre-construction estimates. In addition to meeting all requirements for bond retirement and interest, the Department already has paid off an additional $125,000 in bonds which were not due until 1980.

This highway is proof, if proof were needed, that it costs less to have a good highway than to pay for a poor one.

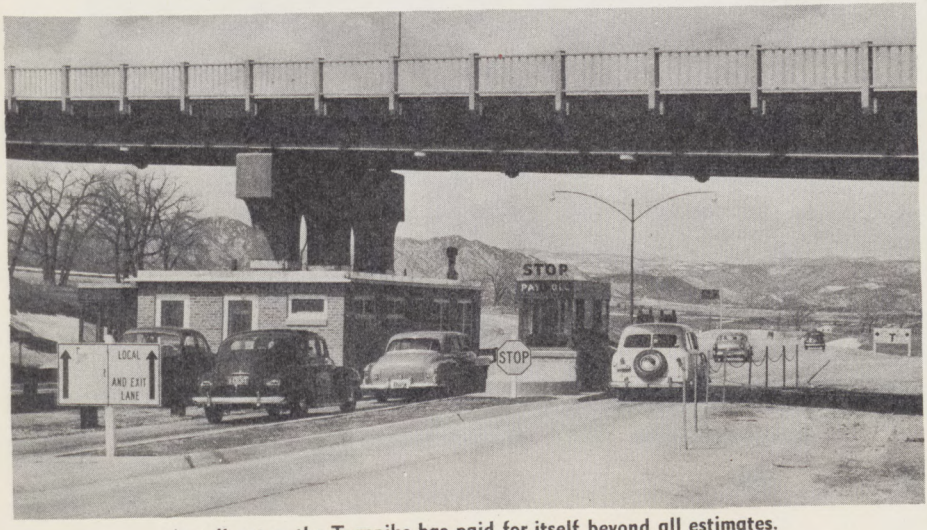
The first modern toll road in the West, the Turnpike connecting with the Denver Valley Highway, has proven toll roads can be successful, but has emphasized that they should be utilized only in such localities, and under such conditions as engineering and economic studies determine to be feasible.



THE SUCCESSFUL TURNPIKE



The Denver-Boulder Turnpike is a welcomed convenience.



At toll gates, the Turnpike has paid for itself beyond all estimates.

Continental Divide Tunnel

Since 1941, the Department has been engaged in studies designed to culminate in the drilling of a highway tunnel under the Continental Divide, west of Denver.

Two attempts to obtain bids for boring a tunnel failed in 1947 and, under a directive from the General Assembly, new studies were made in 1953.

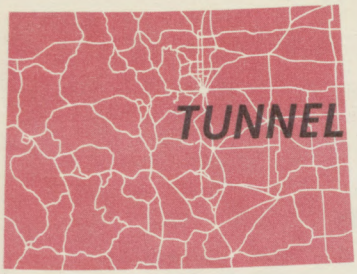
The New York engineering firm of Singstad and Baillie recommended the Straight Creek site, two miles north of Loveland Pass, for a bore one and one-half miles long. A tunnel at this site, the report stated, would cost less than at any other, would be free from serious snowslides, would serve both U.S. 6 and 40, would attract a greater volume of traffic than any other route, and would have the greatest earning capacity as a toll project. Cost of the tunnel was set at $15,210,000.

A report by the Kansas City firm of Howard, Needles, Tammen and Bergendoff suggested financing the bore by a $16,000,000 bond issue. With interest of $8,000,000, total cost of the tunnel would be $24,000,000.

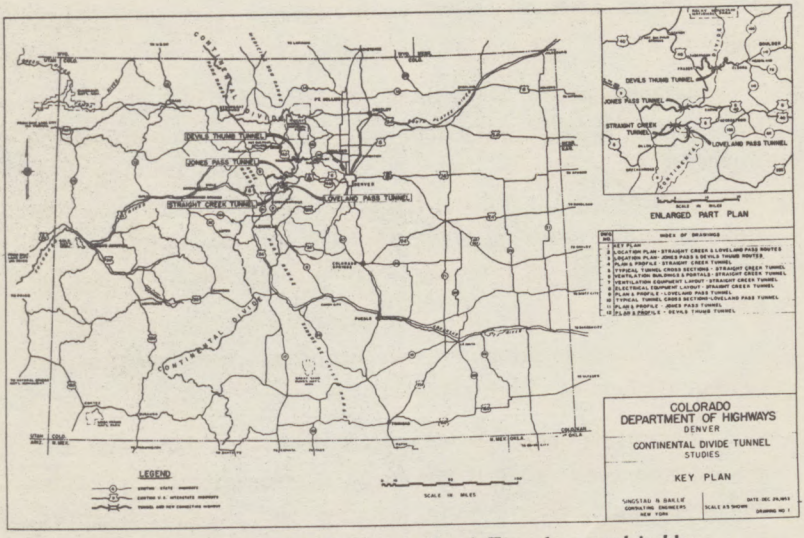
The General Assembly authorized the Department to issue $16,000,000 in bonds, but this action was permissive rather than directive.

Further studies are being undertaken by the Department, and results will be placed before the Highway Commission.

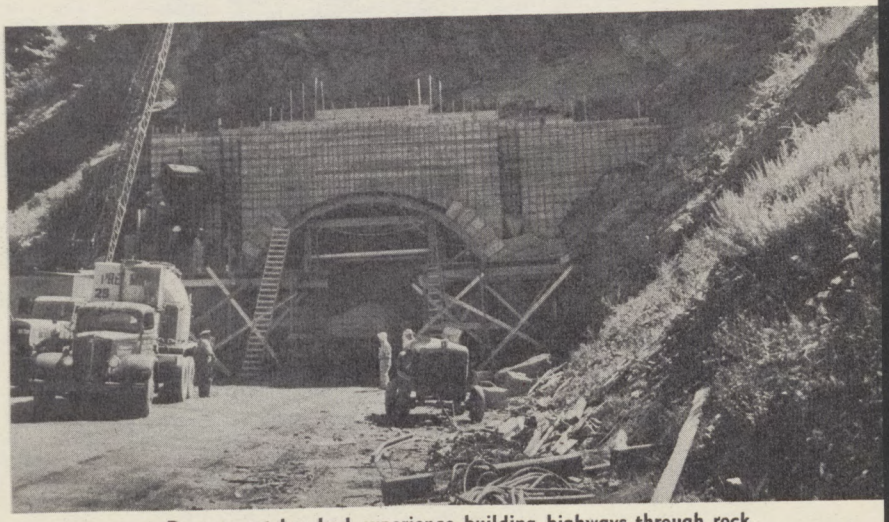
The granite "Backbone of the Nation" long has been a barrier between the Eastern and Western Slopes of Colorado. The Commission and the Department are deeply concerned over a solution to the problem which, it is hoped, will do much to bring closer unity between all sections of the State. Again, however, the tunnel project must be reduced to the common denominator of what is best for all.



TUNNEL THROUGH THE ROCKIES



Consulting engineers think Straight Creek Tunnel most advisable.



Department has had experience building highways through rock.

Safety Begins at Home

The State Legislature, in 1947, established the Colorado Highway Safety Council to coordinate the activities of all agencies in the State in connection with the prevention of accidents. The General Assembly, however, for several years, provided no appropriation to carry on the work.

Inasmuch as the Department of Highways was one of the seven state agencies named to the Council, it undertook the financing of a modest highway safety program developed by the Coordinating Committee, composed of members of the seven agencies, under approval of the Council. In 1951, Colorado won the Grand Award for highway safety in competition with all the states.

Every possible safeguard is incorporated in the construction or improvement of a highway.

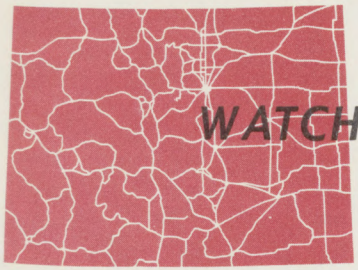
Curvature is checked by special devices to determine safe speeds, and even radar is employed to ascertain the speeds at which the public is traveling specified portions of a highway. Speed signs are posted in accordance with determinations arrived at by engineering studies, and become the legal limits.

Various devices are used to overcome the monotony of long straight stretches which cause carelessness or induce sleep, and in some instances special signs have been erected for the purpose of guiding drivers who may have imbided too freely of intoxicants.

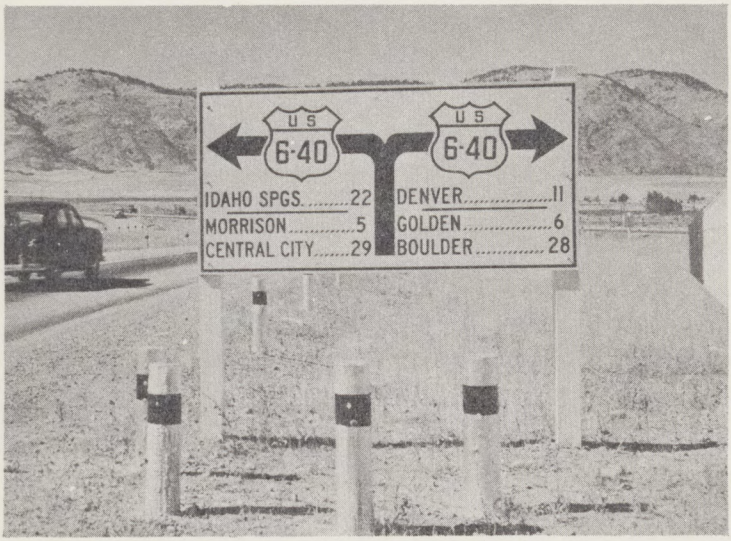
Statistics regarding traffic accidents are studied with great care, and if physical defects of the highway appear to be a factor, remedial steps are taken as quickly as possible.

The signing and striping program covers approximately 1,500 miles a year, and is amplified by reflectorized paint, "cat eye" buttons on guard posts and recently by enlarged signs.

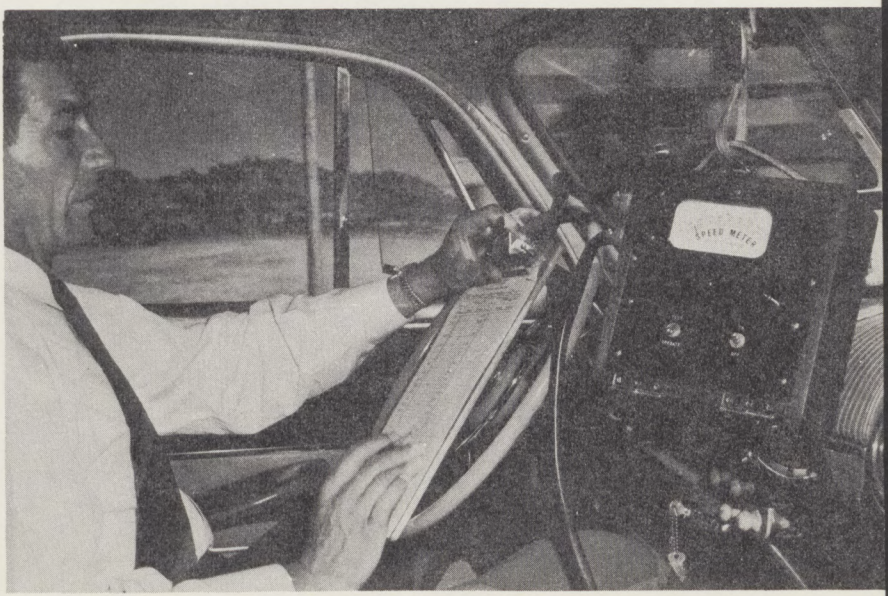
Safe driving is a cardinal requirement of everyone who drives a motor vehicle belonging to the Department.



WATCHING FOR YOUR SAFETY



Sign-directed traffic on principal Colorado highways —



Is studied by radar, to determine which speeds are safest.

Hiring Human Beings

The Colorado Department of Highways' 1400 employees—the Chief Engineer and all the engineers working with him, the draftsmen, accountants, clerks and stenographers, laboratory technicians, blueprinting machine operators, maintenance and construction men and equipment operators—are in the State's classified civil service.

The Department is carrying out a vigorous program of both recruitment and training to secure personnel for the varied skills it needs, and to improve the adaptation of these skills to the Department's requirements.

New employees of all grades are told by the Personnel Division that their training has begun with the acceptance of a position and that it should never end. Supervisors conduct field training on the job and in special classes.

The Personnel Division's Training Officer works with the supervisors to set up job education programs. The Division also makes movies and manuals which demonstrate Department operations and the use of new materials. Much of its teaching is done with its own or borrowed sound films and film strips.

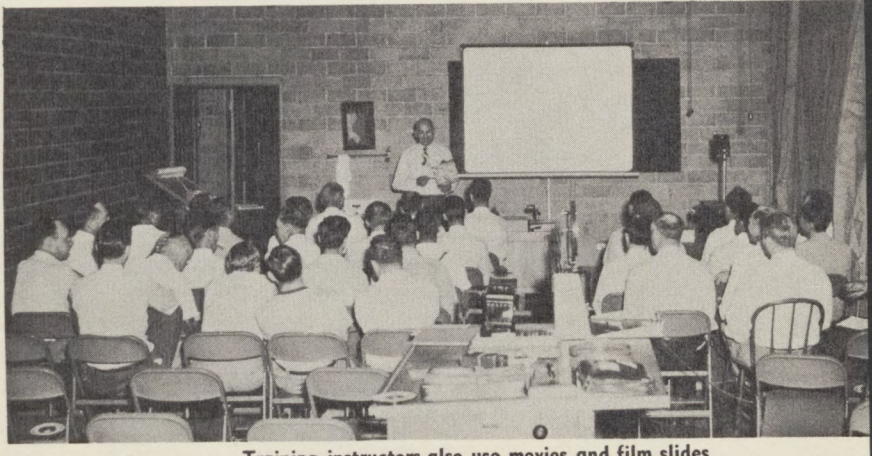
The Personnel Division makes constant check-ups on the individual progress of each employee. It rotates its graduate engineers to round out their experience in all phases of graduate engineering and cooperates with schools and colleges in training student engineers for highway work. Engineering students are given opportunity for practical highway training through summer work.

High school graduates are given in-service training and encouraged to get advanced professional training at their own expense.

The Department of Highways believes that it and the State of Colorado can progress only on a basis of individual coordinated self-improvement.

TRAINING BETTER EMPLOYEES

Office and field employees get instruction in fire-fighting.



Training instructors also use movies and film slides.

Miles of Paper

The varied activities of the Divisions and Sections within the Colorado Department of Highways are difficult to realize without direct, working contact with the Department. But some of the Department's lesser-known statistics are startling:

The Reproduction Section not only blueprints all the plans needed for highway construction, but also performs 25 other operations requiring a floor full of complicated machines: a continuous black-line machine, two multiliths, a process camera, a motor-driven photostat machine, two microfilm machines and a paper cutter that will trim 500 sheets at a time.

This Section has a greater production capacity than all of Denver's blueprint firms combined. In a year, it uses over 1,500,000 square feet of blueprint paper, or more than enough to lay a path one foot wide from Denver to Julesburg, a distance of 185 miles.

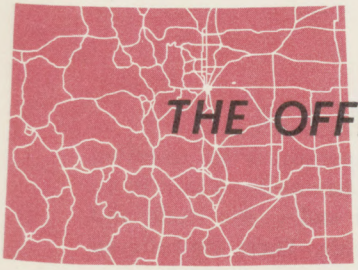
The Reproduction Section's "sideline" is making microfilms for the State Archivist. But within the Department, it has the important task of shooting and printing still pictures and sound films, both black and white and color, for the Personnel Training and Public Relations offices. All this work, worth over $100,000 a year in the Department's budget, started back in the 1920's with one man.

* * * * *

The Department's Right of Way Section normally conducts a real estate business amounting to about $1,000,000 a year, this being the sum of payments for purchase of right of way for highways in both rural and urban areas. This does not include right of way for the Denver Valley Highway, which is purchased by the city.

Approximately 800 parcels of land are involved in acquiring property during a year's operations, and the Section is proud of the fact that negotiated settlements accounted for 91.23 per cent of total acquisitions and that only 8.77 per cent required condemnation proceedings, of which all but two per cent are settled before trial.

In addition, the Section processes and sends to counties the necessary maps and legal descriptions for the purchase by the latter of land for right of way purposes.



THE OFFICE FIGURES THE JOBS

Draftsmen sketch the plans for roads, bridges and tunnels —

While cost estimates are fingered on lines of business machines.

Rubber Roads

The Department is conducting experiments in so-called "rubber roads," one section a mile long having been laid in an improvement project between Blakeland and Castle Rock, and the other, of similar length, south of Pueblo. These are believed to be the first of their kind in the West.

Two per cent of basic rubber was blended with penetration asphalt at the refinery and laid in a special section on each highway. The rubberized section bears no distinquishing physical characteristics, and its propensities for greater resiliency, resistance to skidding and longer wear will not be determined until after about four years of careful study.

* * * * *

Engineers, digging into the mountainside during the widening of U.S. 6 over 11,992-foot high Loveland Pass, found a layer of ice under the tundra and came to the conclusion that our high peaks are, in effect, gigantic sundaes.

Similar conditions were found in construction of the road to the summit of Pikes Peak, and it is believed the ice was left from a glacial period to be covered by eroded rock and grass through the ages. This condition causes no concern until the outer layer is exposed, and then the ice, melted by the sun, results in earth and rock slides which endanger construction equipment.

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Several years ago the Department's accounting procedures were modernized after a thorough study by outside experts, and IBM machines now handle the bulk of involved tabulating and recording.

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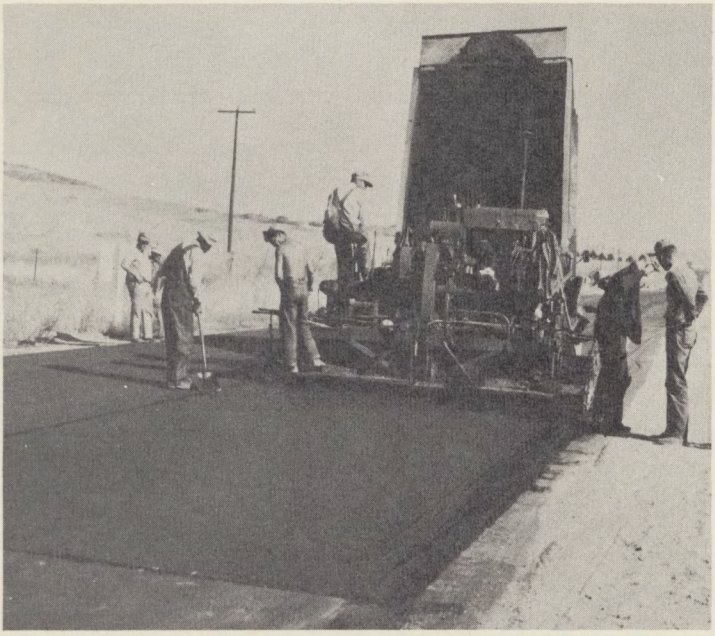
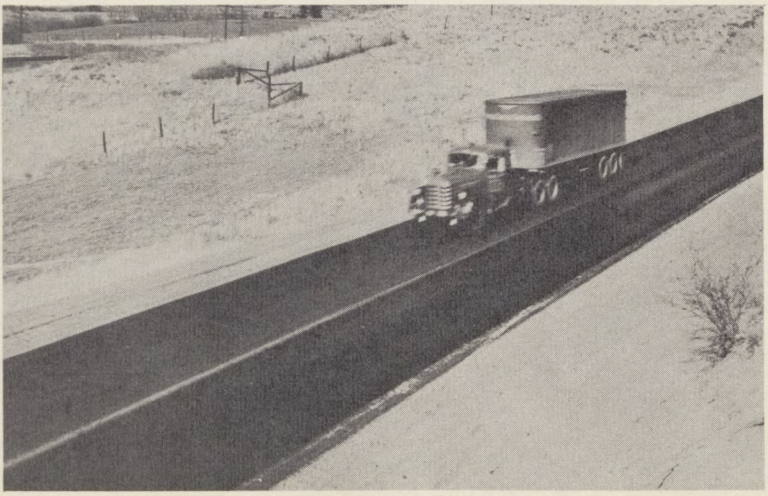
The Public Relations Section, which prepares movies, TV shows, and a weekly radio program, "Our Highways," which is distributed to 14 Colorado broadcasting stations, also has its expected task of channeling Department information to other governmental departments, newspapers, magazines and broadcasting stations. It also has charge of the worldwide distribution and 600,000-copy circulation of the "Colorful Colorado" state highway system map folders which it prepares jointly with the Planning and Research Division.

Public Relations also keeps Department personnel informed with a four-page Highways Section in the monthly newspaper, "The Citizen," and supplies the Colorado press with a weekly newsletter, "Over the Highways."

EXPERIMENT WITH RUBBER



The Department is studying two road sections surfaced with rubber mixture.



Study of new surface will continue for about five years.

A Glimpse Ahead

Looking into the future, the Highway Commission and the Department envision a four-lane highway reaching from the New Mexico Border to the Wyoming line along the present route of U.S. 85-87 to Denver, and thence northward on U.S. 85 through Greeley and also on the new route of U.S. 87 directly north from its connection with the Denver Valley Highway.

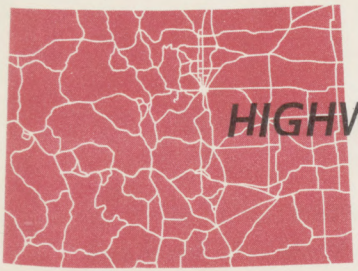
Development of a four-lane highway on U.S. 6, northeastward from Denver, already has begun, and will be continued in the coming years. Similar improvement also is contemplated eastward from the Capital City on U.S. 40.

Long range plans include the improvement of all major highways, according to need and within the possibilities of limited budgets. In their studies of the State Highway System, the Commission and the Department do not differentiate between the Federal-aid Primaries and the Secondaries, but consider each section of each highway as a separate problem.

Some day, there undoubtedly will be a four-lane highway from the Kansas to the Utah borders, and in all probability this road will go through a tunnel under the Continental Divide.

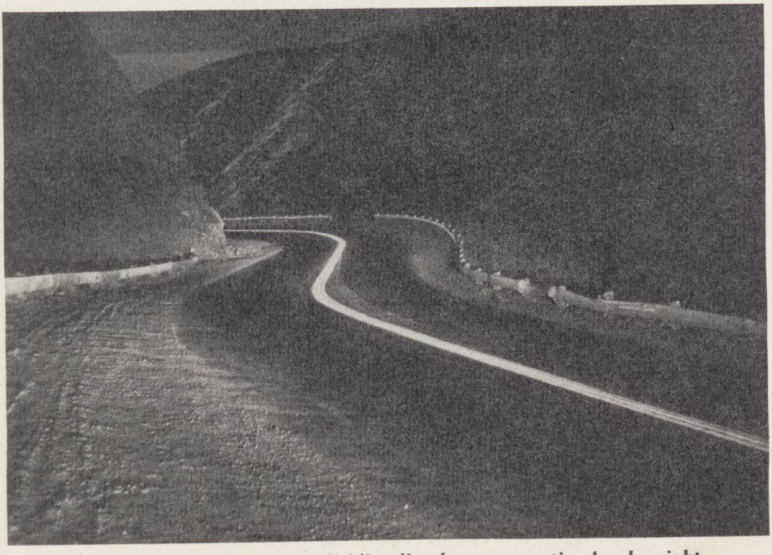
Construction is expected to begin soon on the Department's $2,500,000 Administration Building, in which will be brought together the various divisions which now are scattered throughout Denver.

This move is expected to increase the efficiency of operations, and place the Department in a position to better serve the highway needs of the State.



HIGHWAYS ARE DRAMATIC

The spectacle of a bridge being built is always exciting.



Special paint on a highway dividing line has a romantic glow by night.

The Counties

In 1953, the State's 63 counties received $11,721,634, representing their portion of gasoline taxes, motor vehicle license fees and motor carrier taxes.

Under the new highway law, effective January 1, 1954, all such revenues will be deposited in a State Highway Users Tax Fund, in the State Treasurer's office, for distribution. The Department of Highways will receive 65 per cent of collections, the counties 30 per cent and the cities 5 per cent.

Funds are distributed to individual counties on the following basis: 20 per cent in proportion to rural motor vehicle registration and 80 per cent in proportion to the adjusted mileage of open and used rural roads, excepting state highways. A factor representing the difficulty of construction and maintenance by reason of terrain is established: One point for "plains," 1.75 for "rolling plains and/or irrigated," and 3 for "mountainous."

Counties are responsible for construction and maintenance of county highway systems, both primary and secondary, which were selected following public hearings, and must appoint a competent road supervisor to handle such work.

County primary roads must be constructed to standards which conform to those for the corresponding type of road in the State Highway System.

The counties are required to prepare preliminary road budgets each year, and they must make a full accounting of receipts and disbursements of all road funds.

GRANDPA WAS INGENIOUS

Between Silverton and Ouray, old-timers tunneled through lasting snow.

The Cities

The cities, in 1953, received $997,057 as their share of the highway users tax collections.

Under the new law, each city and incorporated town is required to establish, after hearings, a primary system of arterial streets and a secondary system of local service streets. Neither can include any street which is part of the State Highway System.

Each city of 5,000 or more must appoint a competent street supervisor.

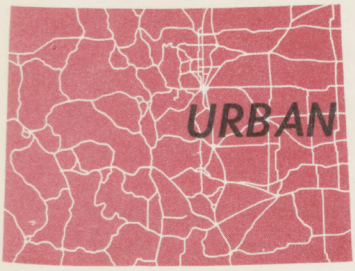
The Department of Highways is charged with responsibility for all traffic control signs, signals and control devices connecting links in incorporated towns of 5,000 or less.

The law provides that priorities be established for the construction of state highways, county roads and city streets.

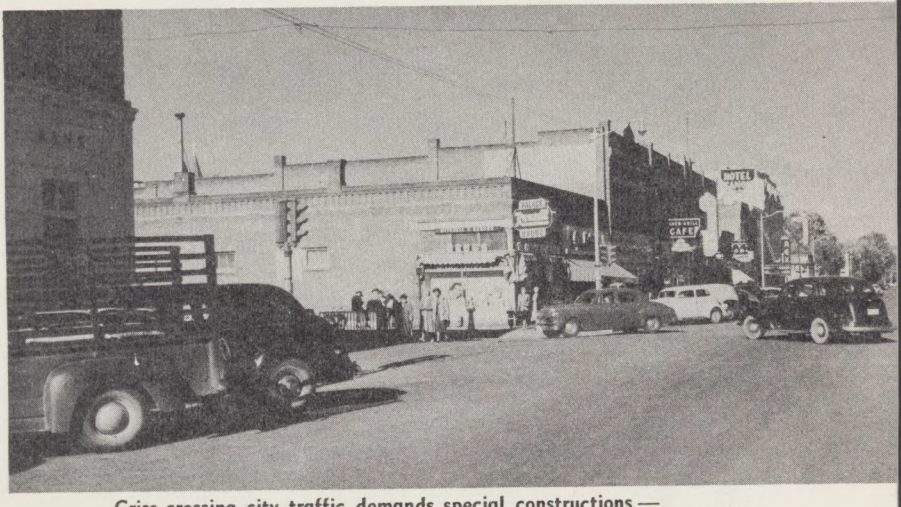
Cities receive 5 per cent of funds from the Highway Users Tax Fund, which are distributed to cities as follows: 80 per cent in proportion to the adjusted urban motor vehicle registration in each city, with factors running from one for up to 500 registrations, to as high as two for registrations in excess of 185;000.

The remaining 20 per cent is allocated in proportion to the mileage of open and used streets, excepting state highways.

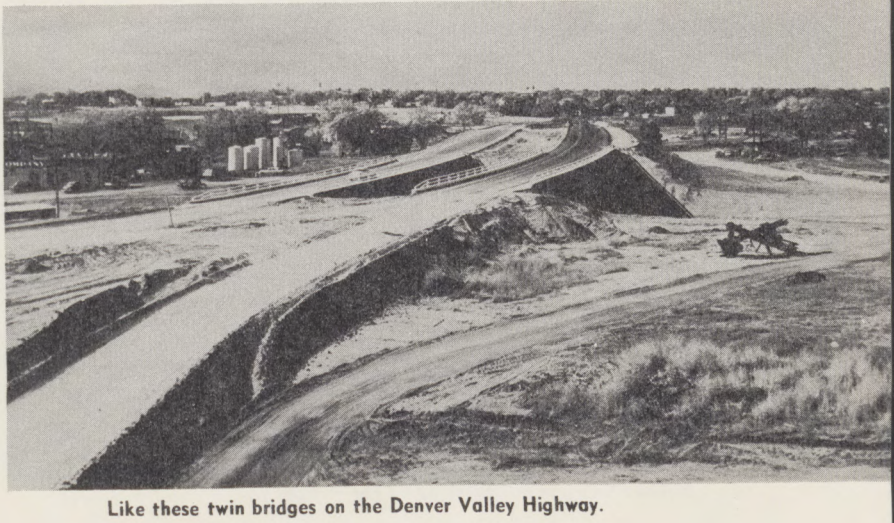
Colorado is fortunate that, beginning with 1954, it has a new street and highway establishment based on sound judgment and engineering facts.



URBAN TRAFFIC PILES UP



Criss-crossing city traffic demands special constructions —



Like these twin bridges on the Denver Valley Highway.

Special Needs

From time to time, new developments have brought about special needs in various sections of the State, and the Department is alert to changing conditions.

Discovery of the Rangely oil field required the improvement of roads into what previously had been a sparsely populated section.

Similarly, the rush to pry precious uranium from the rimrock of the Colorado Plateau in Southwestern Colorado brought about urgently needed improvement on hundreds of miles of arterial and feeder roads in a $3,000,000 program which was paid for, in large part, by the Atomic Energy Commission.

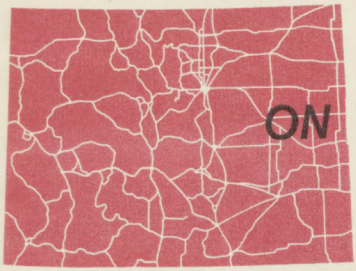
Establishment by the same agency of a new atomic plant on Rocky Flats, west of Denver, required another hurried road development program, also partly financed with funds of the federal Commission.

Broadening of the operations of the Ordnance Depot, east of Pueblo, was another development of major importance, and brought about construction of a four-lane highway between the Steel City and the Depot. A large portion of the $3,500,000 expended on this project also was provided by the federal government.

Currently, the development of oil fields in Eastern Colorado has caused special studies to be made so that the Department and the Commission may be ready to provide whatever highway facilities may be needed.

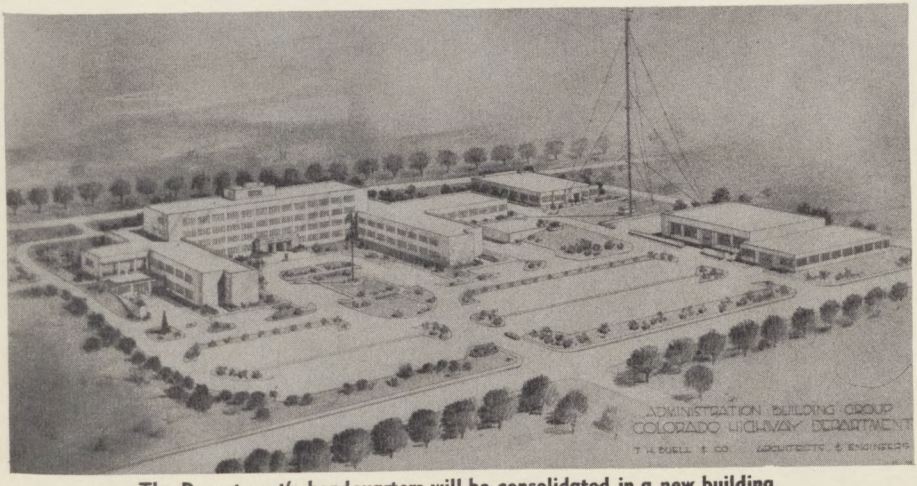
As Colorado grows and as its industries and commerce expand, the Department of Highways seeks to anticipate the State's needs and, as far as funds permit, care for them adequately.

As it was in the beginning, Colorado's streets and highways are the Paths of Progress.



ON THE PATHS AHEAD

New roads are needed into parts of Colorado where uranium is discovered.



The Department's headquarters will be consolidated in a new building.

The
Colorado Department of Highways

DAN THORNTON, *Governor*

COLORADO HIGHWAY COMMISSION

STEWART COSGRIFF, Denver, *Chairman*

HARRY BAILEY, Eaton, *Vice-Chairman*

HOMER L. BASH, Steamboat Springs

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CHARLES E. SHUMATE, *Administrative Engineer*

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J. E. CASEY, Durango

URBAN ENGINEER

DAN W. ORMSBEE, Denver


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