

A MASSIVE UNDERTAKING: CONSTRUCTING MONTANA'S INTERSTATE HIGHWAYS,
1956—1988

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CONSTRUCTING MONTANA'S INTERSTATE HIGHWAYS,

1956–1988

by Jon Axline

Few construction projects have had as significant an effect on the United States as the interstate highway system. Arguably the largest public works project in American history, the system comprises more than 47,000 miles of road built at an estimated cost of \$425 billion, with annual maintenance costs today far exceeding \$50 million. The federal government planned the interstates to facilitate commerce, with the secondary goal of providing for national defense during the Cold War. The basic tenet was a limited number of on-ramps providing access to the highways. Limited, or controlled access, allowed the smooth, unimpeded flow of traffic at speeds of up to 70 miles per hour. Theoretically, a motorist beginning a journey on Interstate 90 in Boston could drive 3,101 miles cross-country to Seattle without stopping.¹

Workers excavate in the Springdale area of I-90 between Livingston and Big Timber using an articulated haul truck and cable shovel on May 6, 1959. Cottonwoods line the Yellowstone River below the construction, and the Crazy Mountains rise in the background.

NDERTAKING

When President Dwight D. Eisenhower signed the legislation creating the interstate highway program in 1956, there were more than ten thousand miles of two-lane primary and secondary highways in Montana. To meet the country's 1972 deadline for completion of the interstate system, Montana would have to build well over a thousand miles of two- and four-lane controlled-access highways, most along new routes that paralleled older highways. During the planning, design, and construction phases, the Montana State Highway Commission and Montana Highway Department officials contended with a plethora of problems, including route alignment and environmental issues, acquisition of an enormous amount of land for road right-of-way, and sometimes public and political opposition. Such a program severely taxed the highway department's ability to provide the manpower, the design expertise, and, especially, the money necessary to match federal funds. The number of highway department employees increased significantly during the first decade of the program, from around 1,500 full-time and seasonal employees in 1956 to 2,000 in 1960.²

The new freeways would also have significant effects on Montana's citizens, who would have to sacrifice property for road right-of-way, pay more gasoline and highway user taxes, and adapt to higher traffic speeds and controlled access. They would also see their communities reshaped physically and economically. While some towns prospered, others withered without the benefit of steady traffic on their main streets. Rural areas, too, were affected as the new roads bisected agricultural land and changed recreation spots. In the business sector, trucking expanded dramatically while railroad transportation shrank. Despite the enormous implications of the interstates, public protests were relatively rare, with most of the open opposition coming from landowners who refused to sell right-of-way, people concerned about the effects on streams and wildlife, and adjacent property owners who lacked access to the new highways.³

The first phase of interstate construction between 1956 and 1966 involved some of the most expensive and challenging projects. During that decade, Montana spent nearly \$206 million and constructed 552 miles of highways through some of the state's most rugged terrain. That would be only a prelude to the



1967 to 1988 period, when the highway department completed the state's system. Over that twenty-year period, the department designed and built more than 900 miles of road, including bridges, overpasses, and railroad grade-separation structures. The department also expanded more than 116 miles of two-lane interstates to four lanes and repaired earlier sections that had failed after construction.⁴

The idea of a federally supported system of interconnected interstate highways was not a new one. Since the first Federal-Aid Road Act in 1916, the federal government had pressed for the creation of such a system. The movement gained momentum in the 1920s with the 1921 Federal-Aid Highway Act and in 1926 with the numbering of the nation's highways. In January 1927, U.S. senator Coleman DuPont introduced a bill in Congress "providing for the survey of a coast-to-coast superhighway, five hundred feet wide, as direct as possible from the Atlantic to the Pacific coast." Two months later, he hired famed sculptor Gutzon Borglum to help design the "inter-ocean" highway, but the dream of a coast-to-coast interstate highway faded during the Great Depression as Congress redirected the country's resources to more pressing economic issues, including the improvement of the states' two-lane highways.⁵

In response to a request from Congress in 1939, however, the Public Roads Administration and American Association of State Highway Officials put together a report, *Toll Roads and Free Roads*, one of the seminal publications in American transportation history. The report documented the need for a system of interregional superhighways with connections through and around American cities. A 1944 follow-up study, *Interregional Highways*, conveyed the need for a nationwide system of thirty-nine thousand

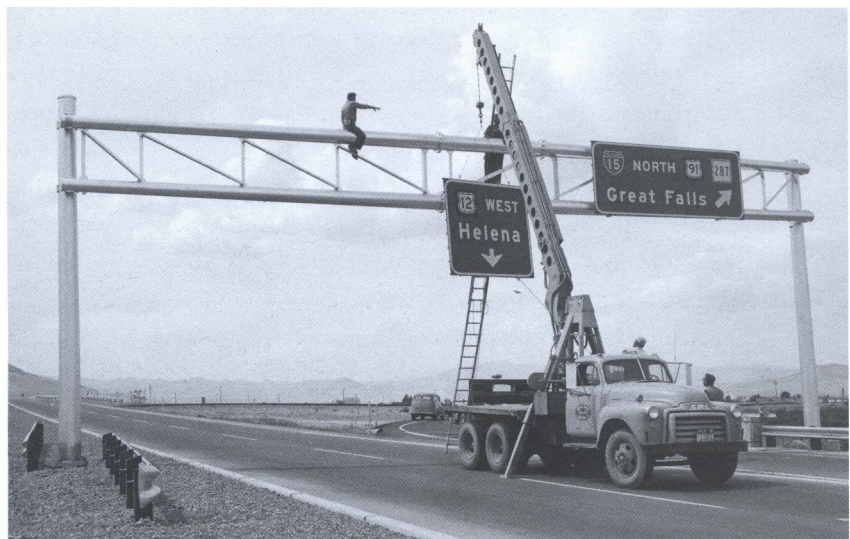
miles of controlled-access highways (including nearly thirty-four thousand miles in the country's rural areas). Congress incorporated both documents into the Federal-Aid Highway Act of 1944, which designated the National System of Interstate Highways connecting metropolitan and industrial centers. The system was based on the National Military Strategic System, a series of interconnecting roads designated by the Public Roads Administration and individual states in 1940 and under the oversight of the U.S. War Department. In the event of war, strategic highways were to receive priority in materials important to the nation's defense. In Montana, those routes were U.S. Highway 10 (later I-90 and I-94), U.S. Highway 87 (I-90), and U.S. Highway 91 (I-15).⁶

American interstate designs and standards actually originated with the German autobahn system before World War II. While Adolf Hitler had intended the autobahns to move troops and military supplies between the country's eastern and western borders, military preparedness was not the primary concern in the case of the American interstates. During the early days of the program, the U.S. Bureau of Public Roads (the successor of the Public Roads Administration) and the U.S. Air Force did consider incorporating long "straight-aways" every five miles into the design of the highways so that they could be used as runways during national emergencies, but the idea was soon discarded as unfeasible. Government officials later believed the interstates could facilitate the evacuation of the cities in the event of nuclear war.

After years of intense lobbying by various congressional committees, the Bureau of Public Roads, and the American Association of State Highway Officials, President Eisenhower signed the Federal-Aid Highway Act of 1956 into law on June 29. The legislation specified how a uniformly designed highway system—the National System of Interstate and Defense Highways—would be financed and constructed. It required that interstates would be controlled access with a design allowing for a speed of seventy miles per hour on flat terrain, twelve-foot

separated lanes, ten-foot paved shoulders, and no at-grade railroad and road crossings. The act stipulated that the interstates be completed by 1972, and Congress allocated \$25 billion to the states to accomplish that feat.⁷

In Montana, highway construction, including the interstates, was administered by the State Highway Commission. Formed in 1913, the commission was responsible for allocating funding to the Montana Highway Department programs, establishing policies, letting contracts for road and bridge construction, and serving as the sounding board for the public's comments regarding those programs. The governor appointed commissioners for four-year terms; the legislature permanently set membership at five in 1941.⁸ Throughout the interstate era, the highway commissioners were actively involved in the



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Although a series of interconnecting strategic highways had been identified in the 1940s, it wasn't until 1956 that President Dwight D. Eisenhower signed legislation creating a system of interstate highways with a uniform design. Among the standards were signs with white lettering on a green background, the same ones still used today. Above, contractors hang a sign at the I-15 interchange on the east side of Helena in August 1962.

planning, preconstruction, and construction phases of building the interstates, with the highway department in a subordinate position to the commission.⁹

Funding was the largest and most enduring issue during the construction phase. A huge, sparsely settled state, Montana was fortunate in having a comparatively large amount of federally owned lands within its borders. Because of that, Congress designated Montana a "Public Lands State," which meant

During the first years of interstate building, the State Highway Commission appointed Fred Quinnell Jr. to oversee the Montana Highway Department. Quinnell had worked for the agency for thirty years in Roundup, Wolf Point, and Butte. Shown here, Quinnell (right), highway commissioner George Gosman (left), and contractor Bud King (center) break ground for I-90 construction near Butte in November 1961.



MHS Photograph Archives, Helena. Pdc 86-15.61171B

the federal share of its apportionment was dependent on the ratio of federally owned or administered land. For Montana, the ratio was 91 percent federal funds to 9 percent state funds. With this ratio, the federal appropriation to the Treasure State increased dramatically during the interstate era, from just over \$40.7 million in 1958 to \$111 million when the last section of interstate was completed south of Dillon in 1988.¹⁰

An important component in planning the interstates was the cost estimate used by the Bureau of Public Roads and by Congress to determine the amount of money each state needed to complete its interstates. Montana's 1957 report revealed a plan for 1,194 miles of interstate—1,178 miles of two-lane and 16 miles of four-lane near the state's urban centers; these roads were divided into five routes—Interstates 15, 90, 94, 115, and 315. The report concluded that it would require \$446,797,000 to complete the roads by 1972. Of that total cost, approximately 10 percent would be needed for preconstruction and right-of-way acquisition, with the remaining funds used for construction. Montana's share of the funding would be just over \$40 million.¹¹ Despite this relatively modest cost, Montana consistently had difficulty matching federal funds.¹² To raise revenue, the legislature periodically increased licensing and title fees and gasoline and gross-vehicle-weight taxes, but throughout the interstate era, the state chronically ran a funding deficit and drew increasingly on past unused federal allotments.¹³

The original interstate plan created by the Bureau of Public Roads did not envision a nationwide four-lane system. Instead, interstates would be four lanes in the vicinities of cities with populations greater than fifty thousand people and places with vehicle rates above seven hundred per hour. Rural areas would be amply served by two-lane highways. Essentially, that meant Montana, with the exception of Missoula, Butte, Bozeman, Billings, Helena, Miles City, and Great Falls, would be traversed by two-lane, controlled-access interstates. Two lanes greatly reduced building costs and ensured the states would make the 1972 deadline. Engineers designed the highways to accommodate traffic demands projected for 1975.¹⁴

Within a month of President Eisenhower's signing the Federal-Aid Highway Act in June 1956, the Montana Highway Department reorganized itself to handle the increased workload. During the first few years of interstate building, the point of contact between the State Highway Commission and the department was state highway engineer Fred Quinnell Jr. Born in Wisconsin in 1903, Quinnell began his career with the highway department as a civil engineer in Roundup in 1927. He worked in Wolf Point and Butte before the highway commission appointed him head of the Engineering Division in April 1957, replacing longtime chief engineer Scott Hart. According to retired highway engineers Robert Champion and Steve Kologi, Quinnell was appointed because of his no-nonsense approach to building highways and his ability to work

with the Anaconda Copper Mining Company and the Montana Power Company in Butte.¹⁵

Quinnell oversaw a department composed of the road planning, survey, design, construction, and right-of-way acquisition divisions and five field districts (Missoula, Butte, Great Falls, Glendive, and Billings). A new interstate division was added in 1956, and Quinnell promoted Grover Powers to run it. A native of Wyoming, Powers had come to the department from the Ohio Turnpike Commission in 1956, making him well qualified to deal with issues relating to controlled-access highways. The interstate division also “beefed up” its road design section with additional engineers and designers. Steve Kologi remembered that the department “took the cream of the crop . . . of the project engineers, brought them to Helena, and made designers out of them.”¹⁶

The Right-of-Way Bureau also expanded dramatically, including adding additional staff for appraisals and negotiations. Right-of-way engineer Lewis Chittim was hired in 1959. Chittim had started with the highway department in 1938 and worked his way up into management. Knowing that the old system of “horse

trading” was no longer feasible, Chittim established the first appraisal system and directed that the department obtain ownership of rather than easements for all land acquired. He was also the person who responded to landowner complaints. Working with the planners and engineers, he was sometimes able to move interstate alignments, thus avoiding destruction of property.¹⁷

One historian wrote that the standardization of interstate construction produced an almost assembly-line method: “[Engineers] simply repeated the tasks in small increments of usually five, ten, twenty, or thirty miles many times over: surveying, walking the line, grading the land, laying the substrate, laying the asphalt or concrete, paving the lines, erecting the signs, holding the ribbon-cutting ceremony, and moving on.” What the writer did not describe, however, were the countless public hearings and the enormous, and sometimes exasperating, process of obtaining the necessary rights-of-way to build the highways.¹⁸

Despite the highway department’s best efforts, right-of-way issues perpetually slowed construction,



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Originally, federal highway planners determined that four-lane interstates would be constructed only where traffic volume was greatest, meaning that four-lane sections would be located only at Missoula, Butte, Bozeman, Billings, Miles City, Helena, and Great Falls. The bulk of the state’s interstates would consist of two-lane, controlled-access routes. As construction ramped up, signs like this one at Bozeman in June 1961 became familiar to travelers.



FROM BORDER TO BORDER

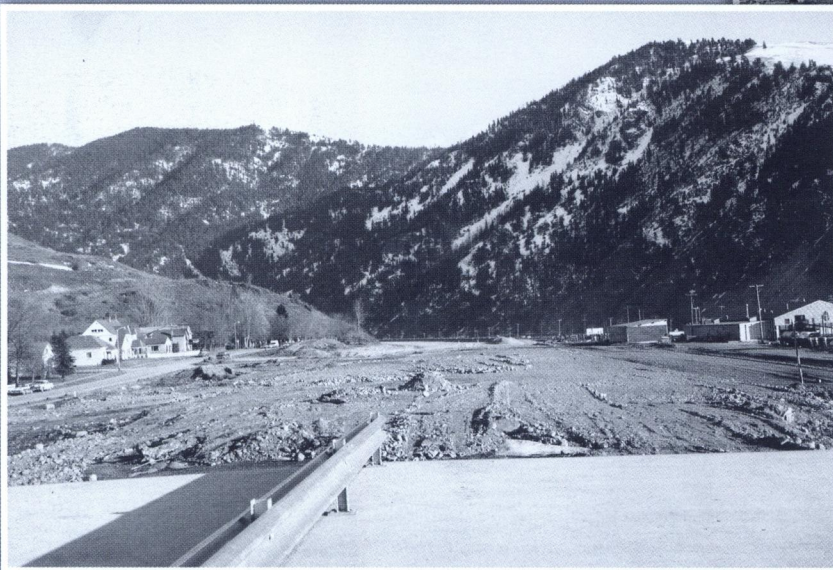
The new interstate system brought significant changes to citizens statewide in the form of transformed rural and urban landscapes, property sacrificed to rights-of-way, higher traffic speeds, controlled highway access, and higher gasoline and highway user taxes. Unlike older two-lane highways that were routed through communities, the interstates bypassed towns to maintain design and traffic-speed standards.

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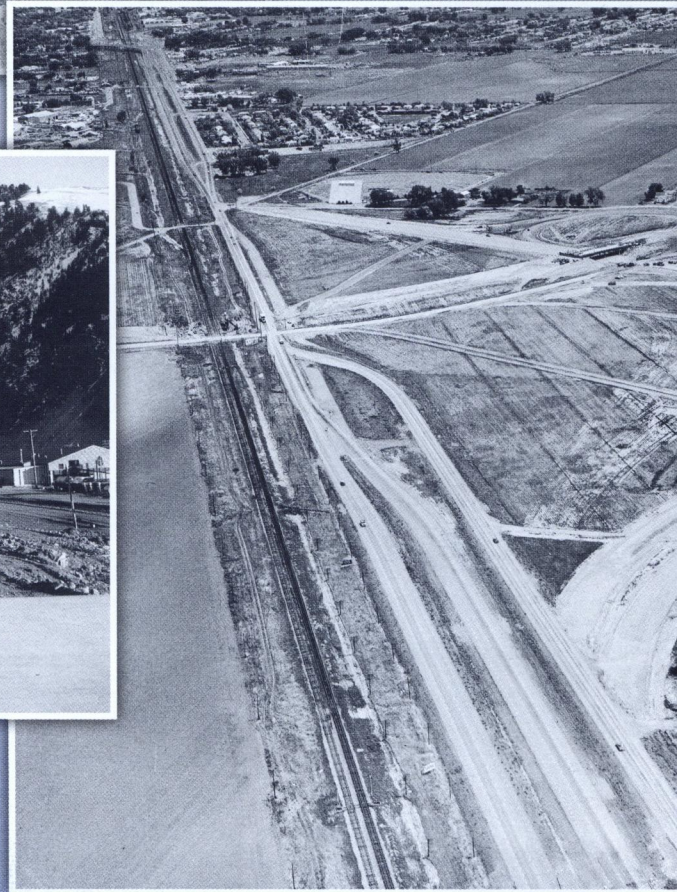


← This August 1964 view of I-90 between Alberton and Nine Mile in western Montana shows a stretch of two-lane interstate under construction that runs roughly parallel to the Northern Pacific Railroad tracks on the left, the Clark Fork River, and the Milwaukee Road tracks on the right.

Stan Healy, photographer, Archives and Special Collections, Mansfield Library, University of Montana—Missoula, 90.0217

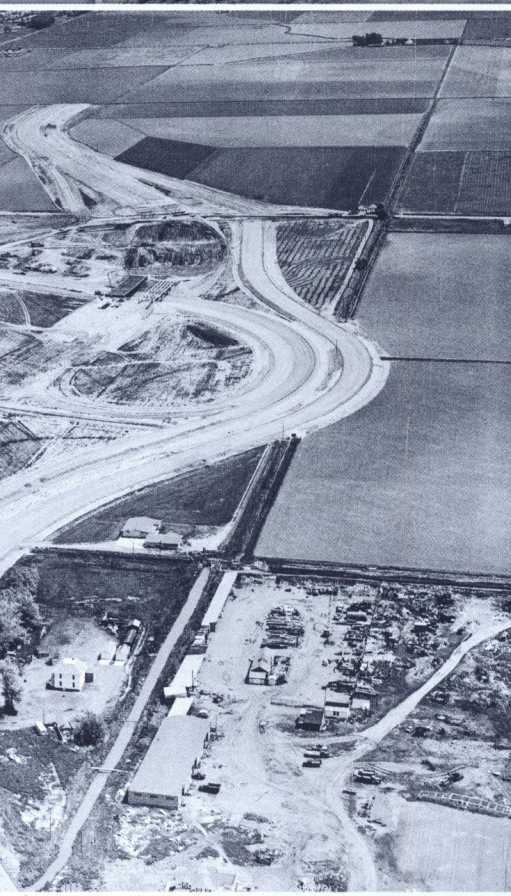


↑ On the east side of Missoula, I-90 cut through the lower Rattlesnake Canyon and its residential neighborhood. It is one of the few places in Montana where homes were sacrificed to the interstate route. Looking east, on the left are the remaining homes on the north side of a residential street and the foot of Mount Jumbo. On the right are railroad tracks and commercial development.





← Scrapers move earth on an I-94 construction site west of Miles City, August 22, 1960.



← This photograph of I-90 at Billings shows the large amount of land consumed by interchange construction. When completed, the interchange would lead to commercial development on the west side of Billings.



↑ The layout takes shape for the Manchester I-15 interchange between Great Falls and Vaughn. The gridlike platforms in the center are the substructure and beams for the overpass. In the distance, Great Falls, the Highwood Mountains, and the Anaconda Company smelter stack are visible.

Despite the changes that would be caused by the new superhighways, public protests in Montana were relatively rare. Most open opposition to the interstates occurred in the state legislature and in public hearings. At a September 1963 hearing in Hysham, pictured here, Howard T. Buswell, the highway department's planning survey manager, explains features of I-94 from Hysham to Forsyth.



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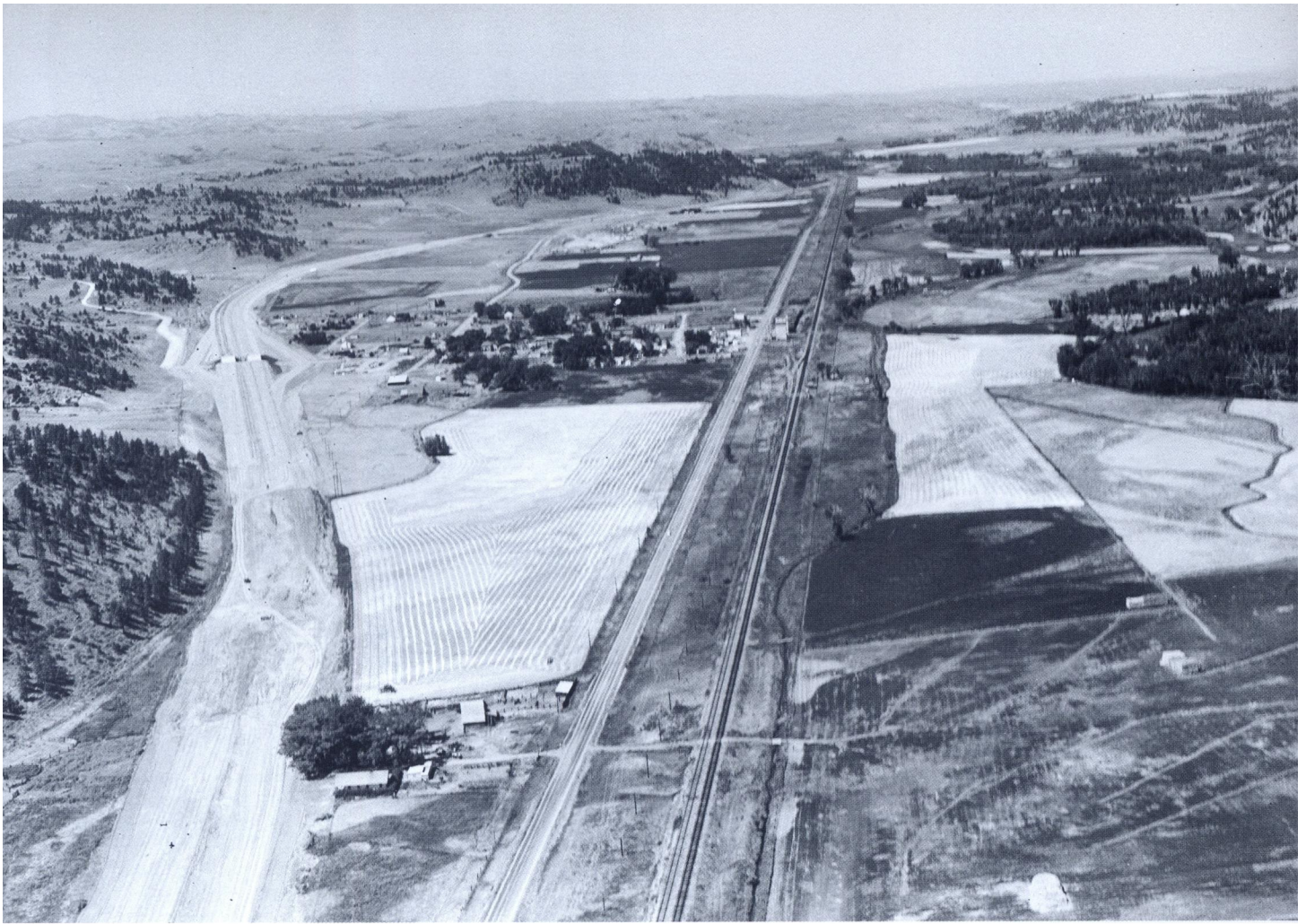
and fully 10 percent of the land needed for the interstate rights-of-way was gained through litigation and condemnation. The courts, moreover, usually doubled the appraised property costs in awards to landowners. In March 1962, for instance, forty parcels were in condemnation statewide. The highway department had set the aggregate value of this property at a little over \$285,000, but the Montana District Court awarded the property owners more than \$515,000. In fiscal year 1961 alone, the highway department spent \$8,145,482 for rights-of-way. Eighty percent were obtained through negotiations, while the remaining 20 percent was acquired through litigation and condemnation.¹⁹

The 1956 Federal-Aid Highways Act required state highway departments to conduct public hearings to discuss routing issues for each interstate project. Nationally, three out of every four interstate miles were built on straighter and shorter alignments, and many planners saw the interstates as an opportunity to shorten travel time for motorists. To do so, designers frequently had to make the landscape fit the interstate, and these changes created conflicts.²⁰

In Montana, public hearings sometimes proved contentious because many Montanans did not understand what the interstates represented or the concept

of controlled access. Moreover, the majority of the interstates would require much larger rights-of-way, and few rural landowners were pleased when they discovered the exact routes. Battles over alignments were common and often led to the frustration of the department's engineers as well as of property owners. Engineer Steve Kologi remembered that "there wasn't much interstate that seemed very easy, and Montana had 1,200 miles of it."²¹

One of the most contentious routing decisions involved the Yellowstone Valley. In 1957, the engineers recommended that the interstate between Billings and Livingston closely parallel U.S. Highway 10 through the Yellowstone Valley. Almost immediately, residents in that area protested the decision because it affected too much farmland. After considerable public criticism, the highway commission reaffirmed the engineers' decision in April 1958. Nearly a year later, however, a special legislative committee conducted a hearing about the decision. The members felt the interstate should follow a route north of the Yellowstone Valley, even though engineers had surveyed the "northern" route and had found it economically impractical and a potential maintenance problem. Ultimately, the State Highway Commission and Fred Quinnell, with the support of the federal Bureau of



Some of the most vehement protests occurred in the Yellowstone Valley, where the interstate alignment bisected prime farmland. Engineers pointed out that routing along the base of the hills on I-90 at such sites as Reed Point (above, August 1963) kept arable lands in production, but few owners were mollified. Rights-of-way were difficult to acquire in this section of the valley, and most of them were obtained by condemnation. Statewide, fully 10 percent of the land needed for the interstate rights-of-way was gained through litigation and condemnation.

Public Roads, stuck to the original routing decision. Unsurprisingly, right-of-way was difficult to acquire in that section of the valley, and most of it was obtained by condemnation. The controversy caused a rift between Quinnell and a local Park County rancher and legislator named Ben Stein.²²

Stories about some route decisions, including two in the Butte area, have become part of Montana folklore. Beginning in 1961, the Bureau of Public Roads and the State Highway Commission discussed three alignments between Boulder and Butte. One (the one ultimately chosen) followed U.S. Highway 91, while the other two headed straight south from Boulder, passing over either Whitetail Pass or the more rugged Nez Perce Pass before intersecting I-90 near Whitehall. Butte businessmen were afraid of being bypassed by the Boulder alternatives and lodged their

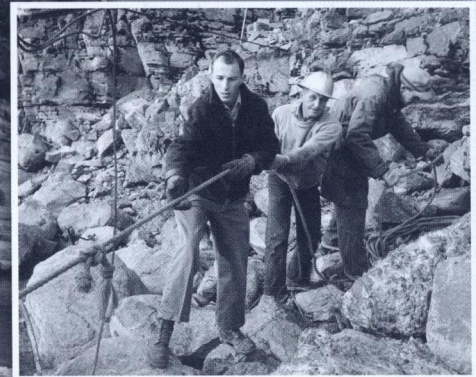
arguments. After ground surveys, the State Highway Commission dropped both south-of-Boulder alternatives because of the difficulty of the terrain and high construction cost. Thus, in the end, an engineering decision led to the rejection of those alternatives, not a political one as commonly believed. Stories also abound that the decision to route Interstate 15 from Whitehall to Butte was made by Senator Mike Mansfield, but the historical record does not bear them out.²³

Although funding remained a chronic problem, much of the preliminary planning for the Montana interstate system had been completed by 1958. On March 28, 1958, the State Highway Commission awarded contracts for the first two projects: the construction of just under 5 miles of two-lane I-15 in the vicinity of Lima in Beaverhead County and of

MHS Photograph Archives, Helena, PAc 86-15.63166L

THE CLARK FORK BRIDGE

Planners gathered vast amounts of information and made preliminary engineering surveys before construction. The new bridge over the deep gorge in the Clark Fork River west of Alberton on I-90 was an especially dicey spot tackled by highway department employees.



To build bridges, workers had to measure the depth of a river, a process called sounding. Here, workers sound the Alberton Gorge on the Clark Fork River on November 7, 1962. In the above photograph, the sounder is being pulled off the river.

MHS Photograph Archives, Helena, Pac 86-15.62282-W1

➔ Photographed from the deck of the Milwaukee Road railroad bridge, the interstate bridge over the Clark Fork appears in the background. Between the two is the old highway bridge, known as Scenic Bridge.



MHS Photograph Archives, Helena, Pac 86-15.622820

Alan Fior, photographer, <http://www.flickr.com>



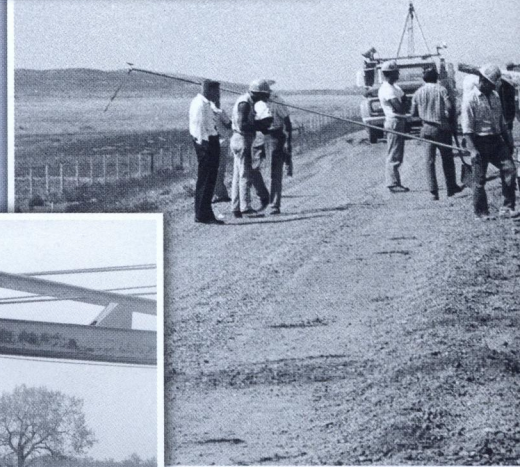
ROAD SURFACING

Interstate driving lane surfaces are a combination of asphalt and, in towns and heavily trafficked areas, the more durable concrete.

MHS Photograph Archives, Helena, PAC 86-15.61091M



↑ Mobile concrete plants batched concrete one load at a time. The two funnel-like hoppers carry gravel and cement, which feed into a mixer below. The tank truck between the plants provides water to the mixer.



MHS Photograph Archives, Helena, PAC 86-15.61091F



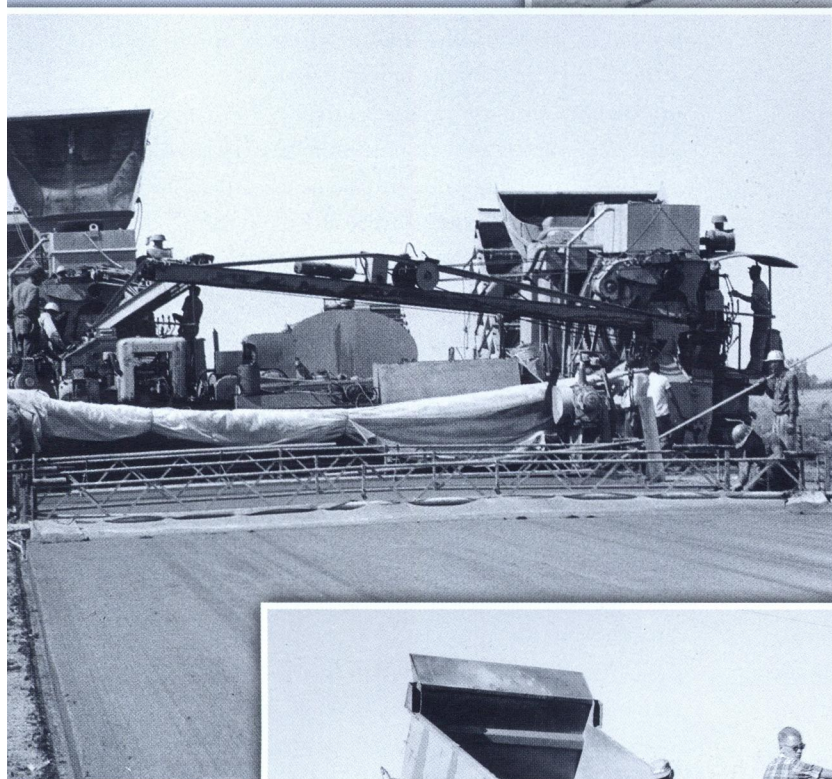
← A bucket pours the concrete into the slip form that defines the width of the road surface.

↓ The slip form paver attaches behind the mobile concrete plant, leveling and flattening the newly poured concrete.



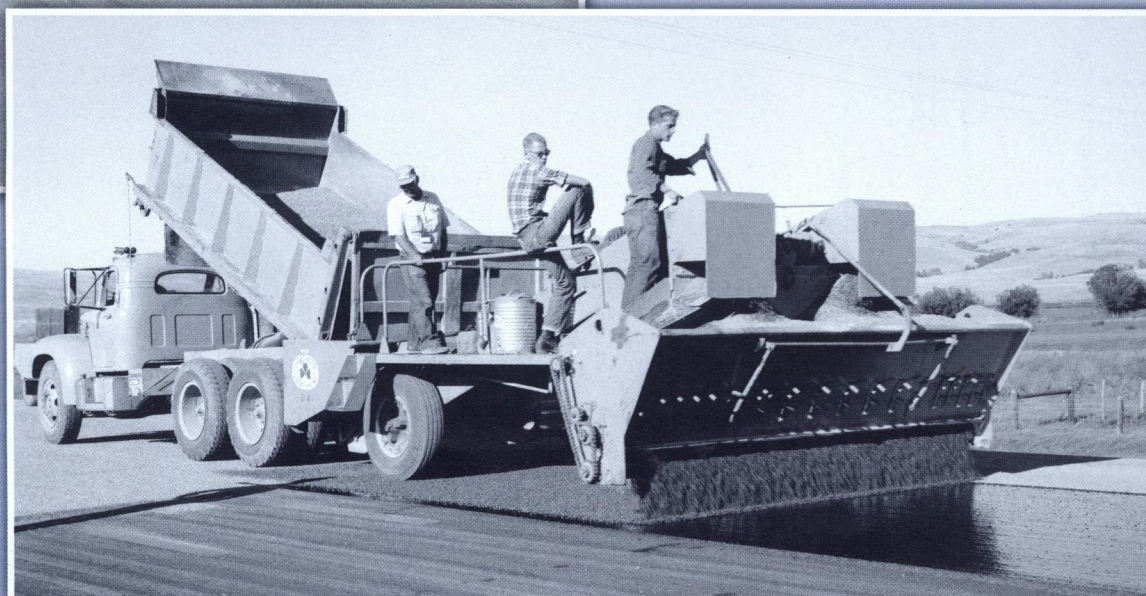
MHS Photograph Archives, Helena, Pac. 86-15.610916

↑ Workers finish the concrete to produce a denser, more durable surface.



MHS Photograph Archives, Helena, Pac. 86-15.621818

↓ Chip sealing—laying crushed gravel over oil on top of asphalt—seals the road surface and provides better traction. In this view, gravel drops onto the oil as the truck backs up.



MHS Photograph Archives, Helena, Pac. 86-15.61222F

THE CHALLENGES OF



The twenty-one-mile section of I-90 over Homestake Pass was, in the early 1960s, the most expensive road ever built in the state, involving construction of a four-lane highway where no road had previously existed. The total cost of the project was nearly \$18.5 million. When completed, the Homestake Pass segment was only the second interstate highway in the country to cross the Continental Divide.²⁴

Construction began in June 1964, with a completion deadline of August 31, 1966. Although a poor U.S. Forest Service road traversed the area, the only real access across the pass was the Northern Pacific Railway, and the survey crews had a difficult time driving thousands of survey stakes along the proposed route. The route also passed through private land, and a departmental victory occurred in 1964 when the highway department obtained all of the right-of-way parcels for the Homestake Pass section without resorting to condemnation.

The State Highway Commission awarded the contract for the West Pipestone segment of I-90 to Peter Kiewit and Sons, which employed 165 men working in twenty-four-hour shifts. By October 1965, crews had completed "the Million Dollar Cut," a 2,000-foot-long slice through granite that was 140 feet deep at the center as the road neared the summit of the pass. Meanwhile, Butte-based Naranche & Konda Company was making good progress on the 4.9-mile segment over the pass. That section included a 231-foot overpass, an interchange to provide access to Lake Delmoe, and two rest areas. Work was finished by fall 1966, although road surfacing and the installation of guardrails had yet to take place. Despite warnings from local sheriff departments, Butte citizens eager to avoid the old route over the mountains at Pipestone Pass began to drive through the construction zone.²⁵

The Butte and Whitehall chambers of commerce made plans to dedicate the new highway as the construction neared completion. Celebrants from both towns met in Butte on October 30, 1966. From there, a motorcade proceeded eastward to the new Homestake Pass interchange, which had been decorated for the occasion by the Butte Central High School Key Club. The mayors of Butte and Whitehall, Governor Tim Babcock, and Congressman Arnold Olsen of Butte gave speeches commemorating the day. The celebration also included a presentation of the colors by a color guard and music by high school bands from both Butte and Whitehall.²⁶

two overpasses in that section. The next eleven contracts, which covered a little over 43 miles, were let for locations on I-90 east of Missoula between Bearmouth and Drummond, outside Billings, between Hardin and the Wyoming border, and I-15 projects in Beaverhead County and Toole County near Shelby. Over the next seven years, the highway commission awarded more than \$187,643,763 in interstate projects that resulted in the completion of 491 miles of highways. These were all two-lane roads except in the vicinity of Butte, Great Falls, and Billings.²⁷

The highway commission faced one of its biggest interstate projects in the Wolf Creek Canyon north of Helena. The Wolf Creek Canyon section was the first to embody all of the financial, design, and political issues associated with the interstate program both nationally and locally, including routing and construction issues, environmental concerns, political opposition, and, importantly, substantial changes to a small community unfortunate enough to be in the way of the new highway. The problems of routing a highway through the canyon were not new to the highway department, which had dealt with financial and design issues when U.S. Highway 91 was constructed in the early 1930s, and the project was one of the first engineers began to work on in 1956. Although traffic counts warranted a two-lane road, the State Highway Commission agreed with the highway department's choice to build four lanes. The reasoning was simple: it would be more cost-effective to build the four lanes now rather than to widen the corridor sometime in the future. Eleven routes were investigated initially, and later this number was cut to three: one that bypassed the canyon to the east and two that went through the canyon, including the town of Wolf Creek.²⁸

Established in 1887, Wolf Creek had functioned as a station on the Great Northern Railway's Montana Central Railroad. By the 1950s, much of the settlement's economy was based on the recreational opportunities afforded by Little Prickly Pear Creek and the nearby Missouri and Dearborn rivers. Because of the canyon's narrowness at Wolf Creek, there were only two possible alignments through the little community. One would destroy the town's residential district; the other, the prosperous businesses that catered to tourists and motorists on U.S. 91. Eventually, the engineers decided on the alignment through the residential area. This one would take the interstate right

through the middle of town but leave homes and businesses on either side of the interstate intact.²⁹

During the public hearing in March 1961, there were surprisingly few complaints about what the highway's effects on the community of Wolf Creek would be. Instead, many attendees had concerns about the Little Prickly Pear Creek fishery. Cascade County Wildlife Association and the Central Montana Sportsmen's Association representatives voiced their opposition to the effects that the highway department's seven proposed changes to the creek channel would have on trout habitat. In the end, the highway department, in collaboration with the Montana Fish and Game Commission, designed a series of dams and pools to provide trout habitat. The highway commission also agreed to keep U.S. Highway 91 open to provide access to the creek.³⁰

In October 1961, the State Highway Commission let the first of six contracts to construct a 10-mile segment of I-15 from Sieben Flat to a point just north of Wolf Creek. The contractors, Bud King Construction Company of Frenchtown and McLaughlin, Inc., of Great Falls, completed the first 3.4-mile segment in late 1962 at a cost of more than \$4 million. Even after the first section was completed, however, the headache that was I-15 continued. The second segment involved a 2-mile stretch between the Spring Creek interchange and Lyons Creek. As the highway commissioners prepared to let the contract, Democrat Ben Stein and six other state senators introduced a resolution to the legislature on January 28, 1963, asking that the commission delay further contract lettings "pending adequate public hearings and complete engineering review of present routings." The resolution maintained that a route to the east would shorten the distance between Helena and Great Falls and would involve lower right-of-way and construction costs without so "drastically" curtailing fishing and picnicking in the canyon. During his testimony before the legislature's Senate Highway

Committee, Stein questioned the earlier public hearings on the issue, declaring, "To me these hearings are a fake. . . . They go on listening kindly to people with the full knowledge they will do they want."³¹

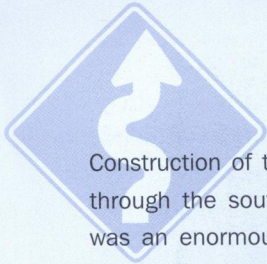
The resolution stunned the highway commissioners, state engineer Fred Quinnell, and some legislators. Not only did it jeopardize the next projects in the canyon, but it also suggested that the Sieben segment of I-15 be abandoned. Quinnell estimated that the state could lose \$10 to \$12 million if the routing were changed. The chief engineer wasn't the only one who was aggravated. State senator Charles Bovey of Great Falls, chairman of the State Highway Committee, urged the highway commissioners to go ahead and let the contract before the legislature could approve the resolution, which, Bovey said, would not pass anyway. He felt it was important for the state's economy that the project continue as scheduled. The commission acquiesced to Bovey's request and let the contract for the next segment of I-15, the \$2.3 million Lyon Creek-South project, on January 29. The project was not slowed by any further legislative action.³²

However, another major problem involving the route arose. The highway department's preferred Stickney Creek alignment ran along the Missouri



MHS Photograph Archives, Helena, Pac 86-15.63032A

The highway commission tackled the Wolf Creek Canyon section north of Helena early in the interstate era. Due to the narrowness of the canyon, there were only two alignments possible through the town of Wolf Creek. One would destroy the town's residential district; the other, the prosperous businesses that catered to tourists and motorists on U.S. 91. Above, members of the public attend a hearing in winter 1963.



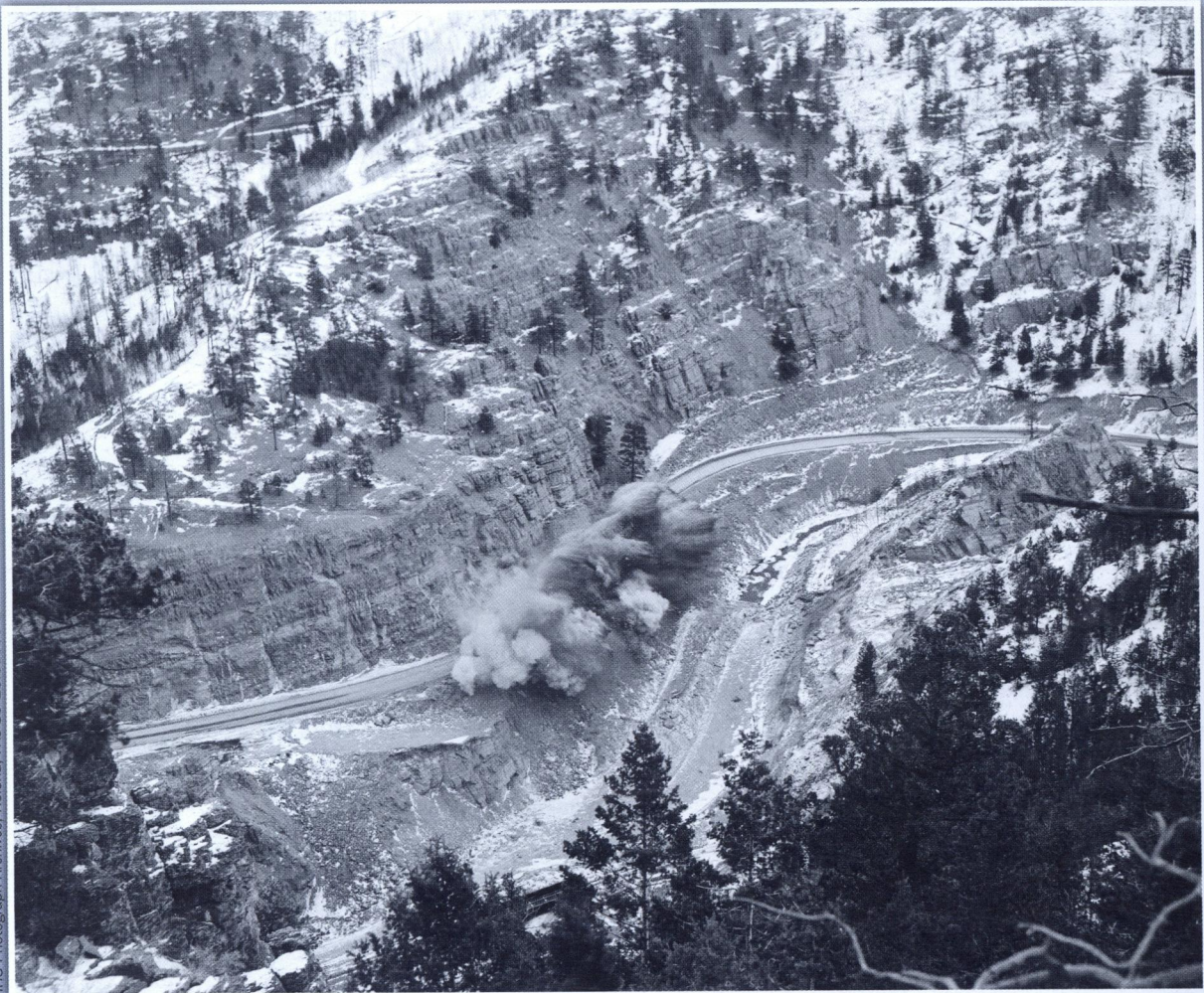
WOLF CREEK CANYON

Construction of the three miles of four-lane interstate through the southern end of the Wolf Creek Canyon was an enormous and complicated undertaking. The job involved round-the-clock construction and required extensive blasting of the Precambrian mudstones at the mouth of the canyon. It also required the construction of enormous fill slopes and sweeping curves to maintain the specified fifty-mile-per-hour design speed.³³

The State Highway Commission awarded the \$2.1 million Wolf Creek contract to two companies, the Bud King Construction Company of Frenchtown and the Great Falls-based McLaughlin, Inc., on October 27, 1961. The contractors began work in early November. Because U.S. Highway 91 was the most direct connection between Helena and Great Falls, the contractors had to keep it open during construction, and guards were posted to

stop traffic during the blasting that occurred throughout the day. Delays ranged anywhere from thirty minutes to over a day depending on the amount of material that needed to be removed after blasting. Local newspapers published blasting time tables and suggested drivers find alternate routes between the cities, but more than a few travelers waited out the delays, with occasional complaints.³⁴

When that part of I-15 was completed in late 1962, one tourist called the highway the “seventh wonder of the engineering world” because the back slopes at the mouth of the canyon were so extensive.” In all, the highway commission spent more than \$10 million on the fourteen-mile Wolf Creek Canyon segment. Helena and Great Falls were completely connected by interstate in 1968.³⁵



MHS Photograph Archives, Helena, Pac 86-15.65005-1

MHS Photograph Archives, Helena, Pac 86-15.62177C

↑ Dust rises from a section of the Wolf Creek Canyon as blasting makes room for the interstate.



↑ A cable shovel fills a haul truck with debris from blasting, March 23, 1962.



← The southernmost 3.4 miles of the interstate through the Wolf Creek Canyon was the first Montana section to cost more than \$1 million per mile. Here, the new highway route is shown above the railroad bed and Little Prickly Pear Creek in summer 1962.



The original interstate plan envisioned a nationwide two-lane system, switching to four lanes only in the vicinity of cities. In Montana, however, planners surmised that the federal government would eventually require four-lane interstates and acquired three-hundred-foot corridors in anticipation of the expansion. Above, two lanes split into four on I-15 near Ulm as the highway approaches Great Falls in 1959.

By 1965, flag women joined flagmen to control traffic through construction zones, providing the most personal contact most motorists had with the interstate-building process. The woman at right was pictured in the summer 1965 issue of the Montana Highway Department's newsletter, *The Center Line*.



River between the mouth of the Dearborn River and the Mountain Palace Tavern at Hardy. It required a channel change of Stickney Creek and included the potential destruction of private property and a recreational area. In October 1963, a large delegation of area residents appeared before the highway commission to protest the route. Bowing to public pressure, the commission directed that alternative alignments be studied. Within just a few weeks, a new route had been devised that would not require the channel change and that would have a minimal impact on meadows adjacent to the river. Simple solutions, such as those adopted at Stickney Creek, were not unusual during Montana's interstate highway era.³⁶

According to engineer Steve Kologi, some of the problems during the early days of the interstate program were exacerbated by the "people running the department" because they did not quite grasp what they were getting into. Unlike projects on the primary and secondary highway systems, interstate projects generally took seven to ten years from the planning phase to construction. Engineers worked on some projects for up to twenty years as right-of-way purchases and other problems slowed down the process. Moreover, despite Congress's best intentions, funds were sometimes slow in coming or the state could not raise enough money to match the entire federal appropriation. The only thing highway department engineers could be sure of was that the federal government would eventually appropriate the funds to complete the interstate system.³⁷

Nationwide, interstate highway construction also proceeded more slowly than anticipated. When it became obvious that not all states were going to make the 1972 deadline, new federal guidelines were issued stipulating that the highways be designed to meet traffic demands anticipated twenty years after

the new planned completion dates. The Bureau of Public Roads now directed that the highways all have twelve-foot driving lanes, ten-foot shoulders, and, where feasible, thirty-six-foot medians lower than the flanking highway grades. Interchanges, no matter whether a cloverleaf or a diamond pattern, had to meet strict geometric standards, and overpasses had to accommodate a fourteen-foot overhead clearance. There were even standards for the height of vegetation adjacent to the roadways. Design speeds varied between fifty miles per hour in mountainous terrain to seventy miles per hour on flat terrain. No advertising or businesses were allowed within the interstate right-of-way.³⁸

Another significant change loomed in June 1966 when Congress debated House Bill 14359, the new federal-aid highway legislation that provided for the construction of all interstates as four lanes. In September, President Lyndon Johnson signed the act into law. In Montana and other states, highway department planners had anticipated that at some point the federal government would specify the construction of a national four-lane system. From the start, the highway department's right-of-way negotiators had been acquiring three-hundred-foot right-of-way corridors, and discussions with the Bureau of Public Roads about the expansion had begun in March 1963.³⁹

With the passage of the 1966 legislation, the highway commissioners and highway department undertook the statewide expansion to four lanes. When the Montana Highway Department submitted its needs estimate report to Congress in August 1967, the state's

In 1988, the renamed Montana Department of Transportation completed the final piece of the interstate system in Montana. The department had designed and built 1,188.7 miles of interstate at a cost of \$1.22 billion. Thousands of workers, like this bulldozer operator clearing rocks from a site north of Helena on May 2, 1962, contributed to completing the gargantuan task.



MHS Photograph Archives, Helena, Pac 86-15.620084E

interstate system consisted of 1,189 miles, of which 281 miles of four-lane highway had been completed. Nearly 271 miles had been constructed to two-lane interstate standards, with 637 miles of four-lane interstate yet to be built. The highway department estimated that it would cost some \$460 million to complete the system to four-lane standards.

Montana's share of the cost would be a little over \$41 million. When Montana's interstates were completed in 1988, the state had 1,188.7 miles of interstate highways built at a cost of \$1.22 billion, an average of \$1.03 million per mile, for which the state provided \$111 million to match federal funds. With nearly 95 percent of its superhighways passing outside urban areas, Montana has the highest proportion of rural interstate in the country.⁴⁰

The interstate highway system profoundly changed not only the Montana Highway Department but also the landscape, culture, and economy of the state itself. Urban areas were transformed as new commercial districts and housing developments were built and some downtown areas faded. New highway interchanges made it possible for people to live farther from their jobs and to travel to shop and recreate. The rural landscape was transformed by interstates that bisected public and private lands. Statewide, transportation networks further shifted away from railroads to trucks. The interstates also

brought an enormous infusion of federal money into the state. Montana contractors benefited mightily, and hundreds of Montanans were employed in high-paying jobs for well over three decades. Moreover, the program caused a fundamental change in federal-state relations as new laws were passed in an attempt to lessen the effects of the interstates on the natural environment, cultural and historic properties, minority groups, and cities. All told, the construction of the interstate highway system has been more transformative for Montana than any other single event in the postwar era.⁴¹

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Here, in the 1950s, Missoula operators show visitors how the switchboard works.

4. Fldr 20, bx 5, Martha Edgerton Plassmann Papers, MC 78, MHS.

5. Fldr 7, W. G. Conrad Papers, SC 1542, MHS.

6. Newspaper stories in 1877 *Butte Miner*.

7. Docket F000048, Montana Secretary of State Business Entity Files, MHS.

8. Ibid.

9. U.S. Bureau of the Census, *Telephones and Telegraphs*.

10. *Official Proceedings of Montana State Federation of Labor Convention* (Helena, 1907), 10–15; *Official Proceedings of Montana State Federation of Labor Convention* (Helena, 1908), 11–12.

11. Dorothy M. Johnson, “Confessions of a Telephone Girl,” *Montana* 47 (Winter 1997): 70.

12. U.S. Bureau of the Census, *Telephones and Telegraphs*.

13. “Early History of Telephone Service in Montana,” fldr 7, Conrad Papers, MHS.

14. U.S. Bureau of the Census, *Telephones and Telegraphs*; Secretary of State Files, MHS.

15. Fldr 9, bx 26, Montana Public Service Commission Utilities Division Records, 1914–1974, RS 297, MHS.

16. *Laws, Resolutions, and Memorials of the State of Montana* (Helena, 1897); D. S. Wade, *The Codes and Statutes of Montana*, vol. 1 (Butte, 1895); U.S. Bureau of the Census, *Telephones and Telegraphs*; *Laws, Resolutions, and Memorials of the State of Montana* (Helena, 1907); *Laws, Resolutions, and Memorials of the State of Montana* (Helena, 1913); bxes 22–28, RS 297, MHS. Telegraph companies in Montana had been loosely regulated since 1869. The 1869 legislature had required the licensing of telegraph companies under the general corporate licensing rules. In 1871, the companies were required to specify which counties the lines would cross and where the termi-

nuses were. They could build lines along any public road as long as the lines did not “incommode” the public. It is understandable that telephone companies would come under the same regulation.

17. Clyde Moody, RS 297, MHS; Alfred Rudd to R. F. McLaren, Mar. 14, 1914, fldr 6, bx 23, *ibid*.

18. E. L. Morgan to Public Service Commission, Apr. 28, 1920, fldr 2, bx 23a, *ibid*; F. V. Hodges, report to Board of Railroad Commissioners, Jan. 21, 1926, fldr 11, bx 22, *ibid*.

19. Fldr 35, bx 26, *ibid*; Rosalie Y. Fogle to Railroad and Public Service Commission, July 22, 1967, fldr 13, bx 24, *ibid*.

A Massive Undertaking

1. The interstate system has been the subject of several excellent histories. In

addition to the sources cited below, see Bruce Seely, *Building the American Highway System* (Philadelphia, 1987); Mark H. Rose and Raymond Mohl, *Interstate: Express Highway Politics, 1939–1989*, 3rd ed. (Knoxville, TN, 2012); Mark Rose, Bruce Seely, and Paul Barrett, *The Best Transportation System in the World: Railroads, Trucks, Airlines, and American Public Policy in the Twentieth Century* (Columbus, OH, 2006); Robert L. Reid, Laurie A. Shuster, and Jay Landers, “The Interstate Highway System at Fifty,” *Civil Engineering* 76 (June 2006): 36–59; and Henry Petroski, “Engineering: On the Road,” *American Scientist* 94 (Sept.–Oct. 2006): 396–99.

2. Earl Swift, *The Big Roads: The Untold Story of the Engineers, Visionaries, and Trailblazers Who Created the American Superhighways* (Boston, 2011), 223–24; Richard F. Weingroff, “Essential to the National Interest,” *Public Roads* 69 (Mar.–Apr. 2006); Richard F. Weingroff, “One Mile in Five: Debunking the Myth,” *Public Roads* 63 (May–June 2000); Tom Lewis, *Divided Highways: Building the Interstate Highways, Transforming American Life* (New York, 1997), 128; Weingroff, “Essential to the National Interest”; Robert Champion and Steve Kologi, interview by author, June 12, 2003, Helena, MT. In 1971, Governor Forrest Anderson reorganized state government into nineteen agencies. Under the reorganization, the Montana



Stock certificate for the Cascade County Rural Telephone Company, 1914

MHS Archives, Helena, SC 1542

Highway Department became the Montana Department of Highways. In 1991, reflecting the agency's wider responsibilities, the legislature renamed it the Montana Department of Transportation.

3. PSD, MSHC, *Montana Highway History: Volume 2, 1943 to 1959* (Helena, 1960), 64, 65.

4. *Estimate of the Cost of Completing the National System of Interstate and Defense Highways in the State of Montana* . . . (Helena, 1957), n.p.

5. Swift, *Big Roads*, 74, 78; FHWA, *America's Highways, 1776-1976: A History of the Federal-Aid Program* (Washington, DC, 1976), 107-9; MSHC, bk. 3, pp. 100, 136 (Jan. 7, Mar. 8, 1927).

6. FHWA, *America's Highways*, 466, 467-68; Lewis, *Divided Highways*, 53-54, 55, 84; PSD, MSHC, *Montana Highway History*, 2:3-5; Weingroff, "Essential to the National Interest"; Swift, *Big Roads*, 124, 140, 144-45.

7. FHWA, *America's Highways*, 211, 466, 472, 476; Swift, *Big Roads*, 194-95, 314; Lewis, *Divided Highways*, 127, 140; Richard F. Weingroff, "The Man Who Changed America," pt. 2, *Public Roads* 66 (May-June 2003).

8. *Laws, Resolutions and Memorials of the State of Montana Passed by the Thirteenth Regular Session of the Legislative Assembly* (Helena, 1913), 137-38, 318-26; Carl F. Wohlgenant Jr., "Development of the Federal-Aid Highway System in Montana" (master's thesis, Montana State University, 1954), 36; State Wide Highway Planning Survey, *History of the Montana State Highway Department, 1913-1942* (Helena, 1943), 13-14, 37-38. To avoid partisanship, not all sitting commissioners could belong to the governor's political party.

9. MSHC, bk. 14, pp. 138, 360, 457 (Feb. 19, 1958; May 26, Nov. 16, 1959); MSHC, bk. 15, pp. 91, 368 (June 2, 1960; Aug. 28, 1961); MSHC, bk. 16, p. 52 (Mar. 26, 1962); MSHC, bk. 17, pp. 7-9 (Jan. 28, 1963); *Center Line* 1 (Mar. 1958): 1.

10. FHWA, *America's Highways*, 472; PRB, MHD, "Montana Highway History, Volume 3, 1960-1973," copy in possession of Environmental Services Bureau, MDT; PSD, MSHC, *Montana Highway History*, 2:29. Interstates 115 and 315 provided connections between I-15 and Excelsior Avenue in Butte and I-15 and Tenth Avenue South in Great Falls, respectively. Both connections are less than two miles in length.

11. PSD, MSHC, *Montana Highway History*, 2:38; FHWA, *America's Highways*, 228, 478. The Federal-Aid Highway Act of 1956 stipulated that each state compile an "Interstate Cost Estimate Report" every two years. The BPR and Congress used the report to determine the amount of money the state needed to complete its interstate system by the 1972 deadline. The reports were extremely important to the states because they would, in essence, determine the amount of federal appropriations states would receive with the enactment of each subsequent federal-aid highway act. Developed by the MHD's Interstate Division, the report, *Estimate of the Cost of Completing the National System of Interstate and Defense Highways in the State of Montana*, was submitted in July 1957.

12. PSD, MSHC, *Montana Highway History*, 2:35, 39, 40, 42; *Center Line* 2 (Feb. 2, 1959): 2; "Interstate Allocation Decreased," *Center Line* 3 (July 1960): 1.

13. PSD, MSHC, *Montana Highway*

History, 2:35, 39, 40, 42; *Center Line* 2 (Feb. 2, 1959): 2; "Interstate Allocation Decreased," 1. During the 1930s and early 1940s, Montana had relied on unsecured bonds, called debentures, issued by the state government.

14. Marilyn Wyss, *Roads to Romance: The Origins and Development of the Road and Trail System in Montana* (Helena, 1992), 68-69; *Estimate of the Cost of Completing the National System* (1957); PRB, MHD, "Montana Highway History," 3: n.p.; Richard F. Weingroff, "The Battle of Its Life," *Public Roads* 69 (May-June 2006).

15. State Highway Commission of Montana, "Notice of Employment Records," Records Management Section, MDT, Helena; U.S. Census Records, www.ancestry.com; MSHC, bk. 13, p. 491 (Apr. 5, 1957); "Fred Quinell Jr., Champion and Kologi interview, 73," *Standard*, June 29, 1977; "Johnson Appointed Acting Chief," *Center Line* 7 (Apr. 1964).

16. "Grover Powers," *Center Line* 7 (Mar. 1964); Champion and Kologi interview; MSHC, bk. 13, p. 349 (July 25, 1956); Steve Kologi, interview by author, Apr. 1996, Helena, MT. Because of limited space in the highway department building at Sixth Avenue and North Roberts Street in Helena, the twelve employees of the Interstate Division were first housed on the third floor of the Montana Veterans and Pioneers Memorial Building. In 1958, the department completed construction of an addition, costing more than six hundred thousand dollars, to the department's building to accommodate the expanded workforce.

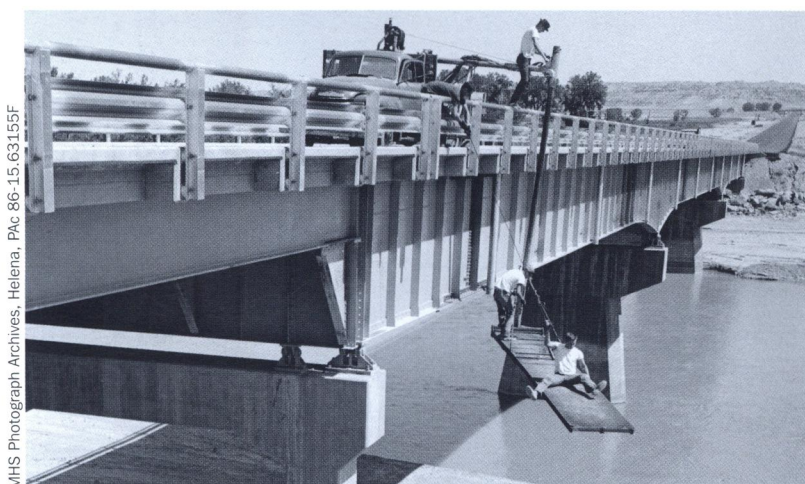
17. Lewis Chittim, interview by author, Apr. 1996, Helena, MT; Kologi interview; MSHC, bk. 13, p. 349 (July 25, 1956); MSHC, bk. 17, pp. 13-14 (Jan. 28, 1963); "Right of Way," *Center Line* 2 (Apr. 8, 1959): 3-4.

18. Lewis, *Divided Highways*, 253.

19. PRB, MHD, "Montana Highway History," 3: n.p.; MSHC, bk. 17, pp. 13-14 (Jan. 28, 1963); Chittim interview; "Condemnation Awards Still Mount," *Center Line* 5 (Mar. 1962): 1; "Interstate Right of Way Comes High through Courts!" *ibid.* 4 (Oct. 1961): 2.

20. PSD, MSHC, *Montana Highway History*, 2:31; Swift, *Big Roads*, 220.

21. Kologi interview. Interstate alignments were sometimes moved onto the bluffs bordering agricultural land to avoid the loss of prime farmland. Although the engineering costs were higher, the change facilitated the acquisition of right-of-way, thus making it a cost-effective measure. MSHC, bk. 19, p. 145 (Feb. 20, 1967); FHWA, *America's Highways*, 472; Lewis, *Divided Highways*, 140; PSD, MSHC, *Montana Highway History*, 2:31.



Workers prepare to use a platform lowered from the Bighorn River Bridge between Custer and Hysham on I-94 in eastern Montana to inspect the bridge. Once far enough below the bridge, the platform and inspectors would swivel underneath.



By the mid-1960s, all interchanges, whether cloverleaf or diamond pattern, had to meet strict geometric standards, and all overpasses had to accommodate a fourteen-foot overhead clearance. Pictured here on November 30, 1962, the west Wibaux interchange on I-94 shows the half-diamond variation used only four times on Montana interstates. With two half-diamond interchanges, one on each end of town, drivers had to exit at one end and reenter the interstate at the other.

22. "Interstate Job Delay Proposed: Probers Would Junk Completed Portion of Wolf Creek Route," *Standard*, Jan. 26, 1963; MSHC, bk. 14, p. 385 (July 21, 1959); *Center Line* 1 (Apr. 2, 1958), 2; "Highway Department Vision of House of Representatives Investigation," *Center Line* 2 (Apr. 8, 1959): 1. I-90 between Billings and Livingston was not fully completed until 1982.

23. MSHC, bk. 15, p. 238 (Feb. 20, 1961); Robert Dunbar, interview by author, Apr. 1996, Helena MT; Kologi interview; Chittim interview; Champion and Kologi interview. The BPR and the MSHC had worked as partners on federally funded highway and bridge projects since the late 1910s. The BPR approved federal funding for individual Montana Highway Commission projects, approved road and bridge plans developed by the MHD, and ensured that the highway commission complied with federal highway policies and standards. The BPR operated from a district office in Helena, and BPR personnel attended MSHC meetings.

24. MSHC, bk. 17, pp. 451, 478 (May 27, 1964); Frank Quinn, "Taming the Wilderness," *Standard*, Oct. 31, 1965; MSHC, bk. 18, pp. 103, 104, 106 (Oct. 28, 1964); "Montana Highway Dept.

Sets Four Records," *Center Line* 7 (July 1964): 1.

25. Quinn, "Taming the Wilderness"; "Interstate Not Inter-City Yet," *Standard*, Nov. 29, 1965; Frank Quinn, "Four Major Projects Going in Mining City Area," *ibid.*, July 10, 1966.

26. "Interstate 90 Dedication Scheduled Oct. 30," *Standard*, Oct. 2, 1966; Frank Quinn, "Oct. 30 Dedication Means It's Time to Hit the Road," *ibid.*, Oct. 23, 1966.

27. Swift, *Big Roads*, 19, 215; PSD, MSHC, *Montana Highway History*, 2:48; Lewis, *Divided Highways*, 253; MSHC, bk. 14, 158ff. (Mar. 28, 1958); FHWA, *America's Highways*, 305; MSHC, bk. 19, pp. 6, 71 (June 20, Sept. 26, 1966).

28. MSHC, bk. 15, pp. 433, 434 (Oct. 27, 1961); "Transcript of a Public Hearing Involving a Highway Construction Project on Interstate Route #15 between Sieben and Wolf Creek (Project I 15-4(3))," 12, copy on file at MMI; *Estimate of the Cost of Completing the National System of Interstate and Defense Highways in the State of Montana . . .* (Helena, 1960); Thomas E. Mooney, "Much Construction Slated on IS 15 in Helena Area," *IR*, Jan. 14, 1962; "Two-Lane or Four Lane," *Center Line* 6 (Oct. 1963): 4.

29. "Transcript of a Public Hearing"; MSHC, bk. 15, p. 29 (Feb. 15, 1960); MSHC, bk. 15, p. 91 (June 2, 1960); E. H. Cowan to State Highway Commission, memo, Apr. 12, 1961, copy on file at MMI; Robert E. Miller, "Issue of the Day," *IR*, Jan. 29, 1961; "Public Hearing Set Friday on Wolf Creek Highway," *ibid.*, Mar. 2, 1961; "Wolf Creek Highway under Fire



MHS Photograph Archives, Helena, PAC 86-15.62177A

An air compressor runs the pneumatic drill to pound a hole in the rock, in which dynamite will be placed to blast away a portion of the cliff in the Wolf Creek Canyon.

by Senators," *ibid.*, Jan. 25, 1963; John H. Morrison to Fred Quinell, Mar. 17, 1961, copy on file at MMI. In June 1960, the MSHC hired Great Western Engineering of Salt Lake City and the Helena-based Morrison-Maierle, Inc., to conduct the planning and design work for the Sieben-Hardy Creek I-15 corridor. The estimated construction cost of the middle route was \$14.5 million; of the east route, a little over \$23 million. "Meeting Notes, Interstate Project No. I 15-4(3)209, Wolf Creek to Sieben," Jan. 19, 1961, copy on file at MMI; "Transcript of a Public Hearing"; "Transcript Prepared by the Planning Survey Division, MSHC, Mar., 24, 1961," pp. 1ff., copy on file at MMI; "Public Hearing Set Friday on Wolf Creek Highway," *IR*, Mar. 2, 1961.

30. "Transcript of a Public Hearing," 8, 17, 22, 23; Robert E. Miller, "Issue of the Day," *IR*, Feb. 23, 1961; Mayo Ashley, "No War between Highway and Game Departments," *ibid.*, Jan. 20, 1963.

31. "Proposal May Put Highway Board 'Out of Business,'" *IR*, Jan. 29, 1963; MSHC, bk. 15, pp. 433, 434 (Oct. 27, 1961); MSHC, bk. 17, p. 26 (Jan. 28, 1963); "Wolf Creek Canyon Highway under Fire by Senators"; "Interstate Job Delay Proposed."

32. "Interstate Job Delay Proposed"; "Senators as Engineers," *IR*, Jan. 31, 1963; "Highway Board to Go Ahead on Canyon Bids," *ibid.*, Jan. 29, 1963; MSHC, bk. 17, pp. 28, 29 (Jan. 20, 1963); "Senate Committee Rejects Delaying Road Construction," *Standard*, Jan. 30, 1963.

33. "Men, Machines Move Canyon Walls," *Great Falls Tribune*, July 15, 1962; "Sieben-Wolf Creek Section Construction Continuing," *IR*, Jan. 9, 1962.

34. MSHC, bk. 15, pp. 433, 434 (Oct. 25, 1961); "Men, Machines Move Canyon Walls"; "Blast in Wolf Creek Canyon," *Center Line* 8 (Jan. 1965); "Highway Builders Are About to Start Work in Wolf

Creek Canyon," *IR*, Sept. 30, 1961; "Falls Firms Low Bidder in Wolf Creek Canyon Highway Project," *ibid.*, Oct. 25, 1961; "Sieben-Wolf Creek Section Construction Continuing"; "Highway 91 Open to Traffic after Long Tie-up," *ibid.*, Apr. 11, 1962; George M. Cole, letter to editor, *ibid.*, June 24, 1962; "Wolf Creek Road to Close Again," *ibid.*, July 16, 1962; "Highway Department Will Restore Flesher Pass Road," *ibid.*, Sept. 25, 1962; "Chamber Assured 24-Hour Detour Notices Required," *ibid.*, Oct. 18, 1962.

35. "Men, Machines Move Canyon Walls"; "Sieben-Wolf Creek Section Construction Continuing"; PRB, MHD, "Montana Highway History," 3: n.p.

36. MSHC, bk. 17, pp. 103, 283, 305 (May 20, Oct. 28, Nov. 18, 1963).

37. Kologi interview; Swift, *Big Roads*, 220, 288; PSD, MSHC, *Montana Highway History*, 3:42, 44.

38. Swift, *Big Roads*, 186-87, 194-95; PSD, MSHC, *Montana Highway History*, 3:29-30; Lewis, *Divided Highways*, 136-37; FHWA, *America's Highways*, 476-77; Weingroff, "One Mile in Five." The amount of federal money available far outweighed Montana's ability to adequately match it through gasoline and vehicle tax revenues, and the legislature's sometimes hostile attitude toward the interstates did not help. As a result, the state often found itself running a deficit, unable to utilize its entire annual federal appropriation.

39. MSHC, bk. 19, pp. 6, 71 (June 20, Sept. 26, 1966); "Two-Lane or Four Lane"; MSHC, bk. 17, p. 59 (Mar. 25, 1963); MSHC, bk. 19, pp. 6, 71 (June 20, Sept. 26, 1966); 1965 *Estimate of the Cost of Completing the National System of Interstate and Defense Highways in the State of Montana* . . . (Helena, 1964); PRB, MHD, "Montana Highway History," 3: n.p.; MSHC, bk. 19, pp. 388-89, 19-20, 71 (Jan. 10, July 25, Sept. 26, 1966).

40. 1968 *Estimate of the Cost of Com-*



MHS Museum, Helena. Gift of Eugene E. Wilson in memory of Eugene Ialmadge Wilson, X1958.01.01

A Bronc Twister, by Charles M. Russell (bronze [California Art Bronze Foundry], cast 1920, modeled 1920, 17 $\frac{7}{8}$ " H x 12 $\frac{3}{8}$ " W x 8 $\frac{1}{4}$ " D). Evenness in light quality while photographing the Russell artworks was important for showing the details in sculpture and paintings alike.

pleting the National System of Interstate and Defense Highways in the State of Montana . . . (Helena, 1967); MSHC, bk. 20, pp. 14 (Jan. 29, 1968), 121-22 (Sept. 23, 1968).

41. "Transcript of a Public Hearing," 23. It is important to note that while the MHD was focused on the high-profile interstates, construction and maintenance of the state's two-lane primary and secondary highways continued. Between 1959 and 1966, the department improved more than two thousand miles of two-lane highways. Concurrent with the highway department's program, the BPR and the U.S. Department of Defense oversaw the construction of missile facilities and roads to the sites, another massive building project.

Luck and Details

1. C. M. Russell, "A Few Words about Myself," *Montana* 8 (Oct. 1958): 72.



MHS Museum, Helena. Museum Purchase, Great Falls Elk's Club Collection, 1986.06.17

Letter to Bill Rance, The Kid Cant Sid[e] Step Like He Us[e] to But the Front End of Him Is Still Working Fine, detail, by Charles M. Russell, August 25, 1917 (page 1, watercolor and ink, 11" x 8 $\frac{1}{2}$ ")