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Going Places: History of the South Dakota Department of Transportation, 1956 – Present

Study SD2009-01
Final Report

Prepared by
University of South Dakota
Vermillion, SD 57069

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16. Abstract

The focus of the research for this project was to have been confined to the period from 1956 to the present, but the Technical Panel and the Principal Investigator (PI) expanded the research to include a more comprehensive history of the administration of transportation issues from Territorial times to the present. This fills a gaping hole in the historiography of transportation issues in South Dakota because there has been no other comprehensive treatment of the subject. The PI drew on a vast number of primary sources and a smaller number of secondary works. He conducted five oral history interviews with men involved in the various permutations of the SDDOT from the 1950s to the present, identified other oral histories, and drew on his personal knowledge from growing up and living much of his life in South Dakota. The manuscript includes an introduction, nine chapters, and a bibliography. The first four chapters address the period from 1861-1956 and include the creation of a variety of regulatory agencies to bring order to the development of the different modes of transportation in the state. The focus of these four chapters is highway and administrative developments, but they include a chapter dedicated to aeronautics and also address issues with the railroads. These chapters also provide an examination of the Federal government's influence on transportation in South Dakota. The next four chapters address the Interstate and post-Interstate eras. A separate chapter explores aeronautic issues and another is primarily devoted the State acquisition of the Core Rail System. Throughout the manuscript and in the concluding chapter, the PI develops several themes as principle factors in transportation developments in South Dakota, including agricultural, commercial, military, political, and sustainability needs.

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ACKNOWLEDGEMENTS

Hal Rumpca contacted me in March 2009 to ask if I would serve on a panel to help develop a Request for Proposals regarding a history of the South Dakota Department of Transportation. At the first meeting of what would become the Technical Panel for the project, I had little idea that I would become the Principal Investigator of the Project.

My training as a historian is in U.S. Diplomatic History. I assumed that I was asked to sit on the panel as a result of certain of my publications that dealt either directly or indirectly with South Dakota History, most likely my history of the South Dakota National Guard. It became clear early on that Mr. Rumpca had me in mind for a role I had not anticipated.

When I was asked to submit a proposal, I was, of course, flattered. I turned down the offer, thinking that I was not particularly interested in writing such a history given that I was currently researching a book comparing Woodrow Wilson's intervention in Mexico to George W. Bush's intervention in Iraq. Mr. Rumpca was persistent, as was David Huft. Eventually they convinced me to submit a proposal that was accepted in August 2009.

The members of the Technical Panel have been particularly helpful and patient with me. My thanks to: Julie Bolding, Vernon Bump, Herbert "Herb" Hoover, Richard "Dick" Howard, David Huft, Wallace "Wally" Larsen, John Miller, Ben Orsbon, Virginia Ripley, Chelle Somsen, and David Wolff. I also am grateful to those DOT employees, past and present, who took the time to respond to my questionnaire. Historians Herb Hoover, John Miller, and Marshall Damgaard provided excellent insights.

I want to thank each of the men who sat for oral history interviews. These men took time out of their busy lives to once again serve the people of South Dakota by way of documenting their memories of such an important part of our history. Thanks to Vern Bump, Dick Howard, Wally Larsen, Jim Myers, and Bill Janklow.

The staff at the State Archives provided me with their usual courteous and professional service. So, too, did the librarians and staff at the University of South Dakota Special Collections and I. D. Weeks Library. The staff of The Center for Western Studies also helped me. The staff at the Klein Museum in Mobridge, Lewis Drug, and the South Dakota Department of Tourism and Economic Development both graciously provided me with photographs.

Jennifer Mace, secretary for the US History Department, has been most helpful, as has the staff of the USD Office of Research, especially with regard to handling paperwork that state and federal agencies require of me.

My daughters Clare and Grace served as an inspiration to me while I researched and wrote the book. My wife, Patty Bucklin, served as transcriptionist on the oral histories. She did a remarkable job, both in transcribing and in offering suggestions as to how to make the interviews better. She was

patient, kind, and loving throughout the three years it took for the project, a period that also coincides with how long we have been married.

Finally, I am grateful to the men and women who have served the state of South Dakota in the DOT and its earlier incarnations. Their hard work, dedication, innovative ways of thinking through problems, and their willingness to share their memories has made my job interesting and fun. If this book is in anyway successful, it is in large part the result of their jobs.

INTRODUCTION

Governor William Janklow once said: "Highways don't make communities."[1] That is a statement few people would argue with in that it seems so obvious. The fact is, though, that roads and communities are inextricably intertwined. Think of a paper strip with two sides. One side represents roads, the other side people. Conduct a half-twist of the strip and attach the two ends and you have created a one-sided piece of paper. The synergy that exists now in this Möbius Strip is the same that exists between communities and roads. Not only do roads make communities possible, but roads also enable communities to be sustained; in turn, communities enable roads to be built and maintained.

As well, roads and bridges often serve as a defining piece of a community's identity, from the smallest villages to the largest cities, from county roads to state highways, from state highways to Interstate highways. Think of the signature lyrics to the Bobby Troup song "Route 66" as Nat King Cole sang it:

> It winds from Chicago to L.A.
> More than two thousand miles all the way.
> Get your kicks on Route sixty-six.
> Now you go through Saint Looey
> Joplin, Missouri,
> And Oklahoma City is mighty pretty.
> You see Amarillo, Gallup, New Mexico.
> Flagstaff, Arizona, don't forget Winona,
> Kingman, Barstow, San Bernardino.

All the towns from Chicago to L. A. along the route are, in fact, a community that resulted from the building of a highway.

Think of the Appian Way in Rome; the Golden Gate Bridge in San Francisco; the Brooklyn Bridge that connects Brooklyn and Manhattan. South Dakota has its own versions of those more famous roads and bridges. The Meridian Bridge in Yankton; Highway 12 as it goes through Mobridge and its Grand Crossing; the Mickelson Trail that stretches from Edgemont to Deadwood; the Needles Highway in the Black Hills; the list is nearly endless. So, too, are the various communities that developed them or developed with them.

Because transportation and community are so intertwined, leaders of the South Dakota Department of Transportation (SDDOT) decided in 2008 that it was important to provide a history,

[1] William J. Janklow Interview, South Dakota Department of Transportation, Oral History Project, Professor Steven J. Bucklin, Interviewer, 7 April 2010, p. 27.

not only of the development of the transportation network that encompasses the State, but of the institutions and people that helped build that multimodal network. They approved a

three-year project in 2009 that resulted in the first comprehensive history of the subject.

The publication of this history will coincide with the celebration of 100 years of SDDOT history in 2013. Although its current name was not applied to the institution until 1973, South Dakota's Legislature created the State Highway Commission in 1913 to address the State's highway needs. Various administrations would alter that agency and its responsibilities, until its purview extended to railroads, aeronautics, public transit, and, of course, highways. This manuscript is an effort to address not only the history of that institution and the people who have influenced its history, but an effort to provide an overview of transportation issues since Territorial times to the present.

Historically, people construct roads for a variety of reasons, but four are primary: agricultural, commercial, military, and political. These factors have governed the history of road construction and the development of a modern and complex transportation system in South Dakota.

Prior to becoming a state, roads in what would become South Dakota, such as they were, came about as a result of Native peoples and their effort to transport their lodge poles, game, and other implements of their daily lives following the hunting and harvesting of their staples. Early European explorers utilized these trails and paths as they came to the Dakota in search of trade and profit. The French explorers in particular would establish set trails that took their successors to points within the territory of the Seven Council Fires.

The European and American pioneers who came in the 19th century would follow trails near rivers to homestead and would push every government from Territorial days to the present to create new roads or sustain and improve existing ones to facilitate the sale of their crops, the movement of their livestock, and the delivery of their necessities. They also took advantage of trails to the Black Hills, or Paha Sapa as the Lakota people knew them. Roads were built quickly to bring the gold and silver from those venerable old mountains to the markets of American commerce.

Those trails had taken on a distinctly military flavor as the U.S. acquired the territory as a result of the Louisiana Purchase in 1803. The Corps of Discovery journeyed through the area in 1804 on their way to the Pacific Northwest and again on the return in 1806. Although their principle "road" was the Missouri River, two South Dakota State Highways—SD 1804 and SD 1806—would bear the designations of those two years in commemoration of the Corps' remarkable transit. Military roads were among the first to be constructed in the Dakotas after the establishment of Dakota Territory on 2 March 1861. Military needs continued to influence transportation in South Dakota during the Lakota Wars, the Spanish-American War, World War I, World War II, the Cold War, and all the other wars in which the United States has been involved to the present day.

After the U.S. government concluded the Indian Wars of the late nineteenth century, defeating the Plains Indians, the Central Plains were gradually opened to settlement. The Dawes Act of 1891 in particular would open settlement in South Dakota as the result of taking land ownership from the tribe and placing it in hands of individuals. This enabled railroad barons and land speculators to

purchase acre upon acre of land that would not otherwise have been available to them unless the entire tribe had chosen to sell the land.

There were 31,000 miles of railroad track in the U.S. in 1861, which was the year Dakota Territory was organized. This was more track than in the rest of the world combined, yet there were no trains that crossed into Dakota until 1873. Railroads were built to make a profit for their investors, whether as a result of bringing in settlers or taking out their crops. These railway lines were in many respects the first modern "farm-to-market" roads and would set the stage for further transportation developments.

The introduction of the automobile to American society had a tremendous impact on the development of a modern system of transportation in South Dakota. Changing technology and how the builders of our transportation network responded to it or, in some cases, invented or augmented technologies, is a constant theme in this history. In the case of the automobile, the demand for good roads increased as the number of automobiles increased. Good roads meant good bridges, so the demand for engineers increased as well. This demand eventually led the state to create a State Highway Commission in 1913 to oversee the creation of a Trunk Highway System that would connect each county seat and many of the towns between them

The South Dakota Legislature left that early version of what is now the South Dakota Department of Transportation unfunded. This impediment was corrected eventually, but the state would be parsimonious in the early years of transportation development. The question of what revenues would be available led to an institutional culture that either consciously or unconsciously employed "Occam's razor" in nearly every decision, whether in design, materials, or other spending.

The incongruity in the expectations South Dakotans have of government as opposed to their willingness to pay for those expectations to be met is something historians John Miller, Jon Lauck, and Don Simmons have used as a framework to interpret South Dakota history in a collection of essays that the South Dakota Historical Society Press published in 2011 entitled *Plains Political Tradition: Essays on South Dakota Political Culture.*[2] South Dakotans continue to expect their government agencies to operate efficiently and frugally.

The attitudes of important state officials changed dramatically, though, when the Woodrow Wilson Administration pushed the first Federal Highway Aid Act through the Congress in 1916. This act provided matching federal funds at a dollar-to-dollar ratio for each dollar a state committed to

[2] John Miller, Professor *emeritus* South Dakota State University, has written or coauthored several publications in regard to South Dakota Political culture and South Dakota transportation. See, for example, "Historical Musings: The Contours of South Dakota Political Culture," *South Dakota History,* vol. 34, #2, Summer 2004; "Traveling the Road of Change: Historical Forces in the Development of South Dakota Transportation," *South Dakota History,* vol. 41, #2, Summer 2011; *Looking for History on Highway 14* (Pierre, SD: South Dakota Historical Society Press, 1993). Miller was a member of the Technical Panel that reviewed this manuscript.

highways. South Dakota's Legislature now voted funds for the State Highway Department and would continue to vote funds to support the construction of roads and bridges across the state.

It was as a result of federal funds coupled with state matching funds, that the first state bridges across the Missouri would be built, that the state's major cities would get airports, and that South Dakotans would get public transit. South Dakota has traditionally received two dollars from the federal government for every dollar it pays in, a ratio that has surely benefitted South Dakotans, but as will be seen in the manuscript, has also benefitted the nation as a whole.

One historical impact of the tension between expectations and willingness to pay for them has been frequent efforts to reorganize state government to maximize efficiencies. Not a decade has passed since the creation of the South Dakota Highway Department without a study being done with regard to bureaucratic growth in state government and ways to address it. Individual departments of state government underwent periodic reorganization, but it was not until 1973 that Governor Richard Kneip would reorganize the entire Executive Branch.

It was also during the Wilson Administration that the ever-increasing relationship of the nation's security to its transportation infrastructure became more apparent. Dwight D. Eisenhower, then a young army officer fresh out of West Point, accompanied an army convoy that traveled from Washington, D.C., to San Francisco. The trip took sixty-three days and in some places like western Nebraska, the soldiers had to cross open fields and ford un-bridged rivers and streams. When Eisenhower later viewed the German *autobahn* during the occupation following

WW II, he became convinced the U.S. needed something similar. This belief would change the face of not only South Dakota, but of the nation, through the construction of the Interstate Highway System.

It took twenty-five years, from 1958 to 1983, for South Dakota's share of the Interstate Highway System to be completed. During that same period, rail service declined at an alarming rate in the state. All railroads in the state were part of the private sector, and they were abandoning not only their lines, but also the citizens and communities of South Dakota.

Public officials and private citizens alike began a process of identifying a core rail network deemed essential to the State's viability. The State began to purchase abandoned lines as well as portions of active lines that were part of this core system and then lease the track to other companies under terms that were mutually beneficial. These activities have been under the purview of the SDDOT's Railroad Division and the Railroad Commission. They have been an essential feature of the modern history of South Dakota transportation. The story of rail abandonment is one that informs the current debate over devolution and privatization with regard to transportation issues.

Aviation is also part of the history of both the South Dakota Department of Transportation and the history of the state. Some of the state's best-known leaders had more than a passing interest in aviation. Governor Joe Foss was a WWII ace and received the Congressional Medal of Honor;

Governor Frank Farrar piloted his own plane; Governor William "Bill" Janklow was a licensed pilot; and Governor George S. Mickelson died in a tragic air crash in 1993.

The development of military air bases, especially Rapid City Air Force Base (AFB), now Ellsworth AFB, has influenced the course of transportation history in South Dakota. So, too, did the placement of 150 Minuteman Missiles in the State during the early 1960s. South Dakota aviation history took a significant turn with deregulation in the 1980s and 1990s. Commercial aviation and continued service to population areas outside the major cities remain an important part of both the SDDOT Aviation Division's history and the history of transportation in the state.

There is abundant source material for this history. Primary sources included records of the South Dakota Highway Commission, the South Dakota Highway Department, the South Dakota Department of Highways, the South Dakota Department of Transportation, the South Dakota Aeronautics Commission, the South Dakota Railroad Commission, and a host of other state agencies. Federal documents, including a variety of Congressional Highway Acts, documents from the United States Department of Transportation, the Federal Highway Department, and the various military branches have been invaluable.

Among the most valuable primary sources are the five oral histories conducted under the auspices of this project. Two former secretaries of the SDDOT, two engineers who rose through the ranks of the department, and one former governor sat down for one, two-hour interview each. Two of those men died before the manuscript was complete, a compelling testament to the need for an on-going program of recorded interviews. Current SDDOT employees have also provided key insights and data that have enhanced the manuscript, as did the members of the Technical Panel that oversaw the project. Other primary sources are too many to document here, but are contained in the bibliography.

Secondary sources, although not as abundant, have also provided important background for this history. Several Master's theses from students in the University of South Dakota History Department informed this manuscript. Articles from professional scholars, journalists, and other interested parties, did, too.

As you begin to read this book, remember that one of its purposes is to provide an organizational history of the State Highway Commission, the State Highway Department, the State Department of Highways, and the State Department of Transportation over a period of 100 years. It is also a history of the people who were the backbone of the various permutations of those departments, as well as the people of a variety of communities. Still another purpose of this book is to provide the general reader, as well as those with a professional interest in the subject, access to a synthesis of the modern history of a system whose main purpose has been, as the title suggests, "going places."

CHAPTER 1 EARLY DEVELOPMENTS IN TRANSPORTATION: TO 1917

The first transportation "network" was the system of rivers in South Dakota. The Missouri River and its tributaries were means of channeling energy, not unlike the way modern highways channel the energy of the industrial age. Bullboats, pirogues, steamboats and flatboats plied the Missouri, transporting people, livestock, and supplies to remote areas in the Dakota Territory.[3]

Figure 1: Mandan/Hidatsa bullboat reproduction
(Courtesy Minnehaha County Museum)

The Lakota and other native peoples used the river network and even developed early "roads" like the one that Joseph Nicollet and John C. Fremont used to traverse the distance between Fort Pierre and the James River in 1839.[4] Another such road was the "main artery of travel" for the fur traders who trapped between Fort Pierre and the "headwaters of the Platte." It was this road that General William S. Harney used to lead his men to Fort Pierre in 1885.[5] Military needs would lead to

[3] Stanley Vestal's *The Missouri* (New York: Farrar and Rinehart, 1945) has been the standard treatment of the Missouri, but more recent books like Robert Kelley Schneider's *Unruly River: Two Centuries of Change Along the Missouri* (Lawrence, KS: University Press of Kansas, 1999) and *Big Sky Rivers: The Yellowstone and Upper Missouri* (Lawrence, KS: University Press of Kansas, 2003) have added significant insight to the period after the river was dammed.

[4] James Cracco, "History of the South Dakota Highway Department, 1919-1941," unpublished M.A. Thesis, The University of South Dakota, 1970, p. 4. See also Gary S. Freedom, "Moving Men and Supplies: Military Transportation on the Northern Great Plains, 1866-1891," *South Dakota History,* vol. 14, #2, (Summer 1984).

[5] Cracco, p. 6.

the construction of more roads, especially after Fort Randall was constructed in 1857 on land west of the Missouri.[6]

The first planned road was the result of efforts Governor Samuel Medary of Minnesota and Henry H. Sibley spearheaded in 1856. These men and others formed the Dakota Land Company that year and received Congressional approval to build a wagon road from St. Paul to the Rocky Mountains. The company hired Colonel William H. Nobles to oversee the construction. His team entered what would become South Dakota near Elkton and continued west through contemporary Lake, Miner, and Sanborn counties and Wessington Springs, Gann Valley, and Fort Lookout. James Cracco observed in his "History of the South Dakota Highway Department" that "Nobles marked the road every one fourth mile with shoulder high mounds of dirt and stone."[7] Doane Robinson, South Dakota State Historian, remarked that "The line was well marked, some grading done, the streams made passable at good fords, and as prairie roads go, it was pretty fair."[8]

Once Congress created Dakota Territory in 1861, the first territorial governors and legislators faced the task of building a transportation infrastructure. In one of his first speeches to the first Territorial Legislature, Governor William Jayne urged the surveying and construction of territorial roads linking towns and settlements "at an early date…by the most direct and eligible routes."[9] The Legislature responded quickly, authorizing six roads, all of which emanated from Vermillion and Yankton in the southeast and connected them to points east, west, and north.[10]

In what was an early indication that financial concerns would always be an issue when it came to highway funding, the legislation declared that parties interested in the construction of the first road would pay for it "gratuitously." The counties through which three of the other roads ran would pay for them and no provision was made to pay for the other two.[11]

In territorial days and during the first decades of statehood, one of the principal means of financing road construction and maintenance in South Dakota was feudal in origin. In fact, in 1903 Governor Charles Herreid would refer to it as "primeval."[12] Based upon county census information, all resident men were required to give two days' work or make a $2.50 payment in lieu of labor. This system, passed in 1866, was revised in 1868 to require one day of labor or a $1.50 payment. In addition, the 1868 legislation allowed for a tax of up to two mills "on real property" to fund roads.[13] Herbert Schell, author of *South Dakota History* characterized this system of road maintenance as

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[6] Ibid., p. 7.

[7] Ibid.

[8] Doane Robinson, "Highways," *Encyclopedia of South Dakota* (Pierre, SD, 1925), p. 349.

[9] Yankton *Press and Dakotian,* 10 January 1862. As found in Cracco, pp. 7-8.

[10] Cracco, p. 8.

[11] *General* Laws *of the Territory of Dakota,* 1862, as found in Cracco, p. 8.

[12] Charles N. Herreid, *Inaugural Address to the Legislature of South Dakota,* 6 January 1903, p. 14.

[13] General Laws of the Territory of Dakota, 1867-1868, as found in Cracco, p. 11.

"wasteful and inefficient," but it was not abolished until 1911. "Beginning in that year," Schell observed, "all road taxes were collected in cash and road work was placed on a contract basis. Rural residents lessened their opposition to changes in the law as they began to appreciate that mail delivery was facilitated by good roads."[14]

The need for West River roads had been negligible until the 1876 Gold Rush in the Black Hills. Congress authorized three wagon roads to cross the reservation from the Missouri River to the Black Hills in order to supply the miners. "One road," notes Marshall Damgaard, author of *The South Dakota State Capitol,* "originated in Bismarck and another in Brule City, near Chamberlain. The third and shortest route started in Fort Pierre, transforming the little community into a freight depot virtually overnight."[15]

George W. Kingsbury, editor and founder of the *Yankton Daily Press and Dakotaian,* began to promote a Yankton-to-the-Black Hills route as early as January 1876.[16] A party of interested businessmen met in Territorial Governor John Pennington's office on 25 January and determined that a "preliminary expedition should be sent from Yankton…to lay out an overland route to the Hills …"[17]

Once the miners and others arrived, they found that because of the elevation of the gold deposits and the rugged terrain of the Black Hills, construction costs there were significantly higher than for East River or flat land roads. Toll roads, privately built and funded, were the answer in many cases. Only toll roads served Deadwood in its early years, and although they served a purpose, the public complained vigorously about their condition, maintenance, and fees. By 1877, those complaints led "prominent citizens [to talk] of constructing their own road" to address local transportation issues.[18] The failure of private roads to meet public needs led citizens to approve a 36-mill levy in Custer, Lawrence, and Pennington counties for road construction and maintenance.[19]

The township was the focus of responsibility for road construction, but as a result of this legislation; where there was no organized township, the county commissioners were responsible. Section lines were to serve as the basis for establishing roads and county commissioners received the power to "vacate or change a territorial road."[20] By 1877, the Legislature further refined the definition of section roads. All section lines were declared potential public highways and were to be sixty-six feet wide. If a road project crossed county lines, sixteen legal signatures on a petition was all

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[14] Herbert Schell, History of South Dakota (Lincoln, NE: University of Nebraska Press, 1968), p. 364.

[15] Marshall Damgaard, The South Dakota State Capitol: The First Century (Pierre, SD: The South Dakota State Historical Society Press, 2008), p. 8.

[16] Kingsbury served on the Territorial Council, was a State Senator, and authored the five-volume History of Dakota Territory. See "Dakota Images," South Dakota History, vol. 2, #3, 1972.

[17] Harry H. Anderson, "Wake Up, Yankton!: Community Efforts to Promote Travel to the Black Hills Gold Fields," South Dakota History, vol. 31, #3 (Fall 2001), p. 212.

[18] Irma H. Klock, All Roads Lead To Deadwood (Aberdeen, SD: Northern Plains Books and Art, 1979), pp. 277-228.

[19] Cracco, p. 12.

[20] General Laws of the Territory of Dakota, 1867-1868, as found in Cracco, p. 11.

that was necessary to enable the project.[21] Such was the importance of townships to the transportation infrastructure that by 1987, three-fourths of those governments' budgets went toward "constructing and maintaining the one hundred thirty-four thousand miles of gravel and unimproved roads that provide access to over half the farms and ranches in the state."[22]

Compacted dirt was the most common roadway of the nineteenth century. Early research was focused on "finding the best combinations of soil for strength and drainage" in order to improve roadways.[23] Materials with greater life expectancy and durability, including stone, gravel, and macadam, were also used for road surfaces. By the end of the 19th century, available machinery for road construction included animal and machine powered graders with movable scraping blades and rollers used to compact and smooth road surfaces.[24]

Earthen roads were not a reliable alternative in wetlands or marshy areas. In their stead, road crews sometimes built corduroy roads. Such roads were made of "logs or half logs placed across the direction of the road to create a solid surface. Plank roads, built the same way as log roads but using sawn planks as a surface, were a more expensive method and the planks did not last long, increasing costs."[25]

By the 1870s, another layer of the transportation network was being put in place in the Dakota Territory. The Territorial Legislature chartered the Dakota and Northwestern Railroad Company [DNRC] in 1867. Its purpose was not to build railroads, but to secure federal, territorial, and local land grants; federal, territorial, and local tax relief; and territorial, county, and local government subscriptions before selling the construction rights to an established railroad or rail baron.[26]

The company was successful in lobbying the U.S. Senate for a land grant. That body voted to grant the DNRC "ten alternate sections of land on either side of the road from the Big Sioux River to Yankton and up the James River Valley to the northern boundary of Dakota Territory" in 1870. Unfortunately, the U. S. House was not as cooperative and refused to pass the measure in March 1871[27]

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21 Cracco, p. 12.

22 "U.S., Department of Commerce, Bureau of the Census, 1987 Census of Governments, vol. 1, no. 1 (Washington, D.C: GPO, 1988), pp. 4-5, 10; ibid., vol. 4, no. 4 (Washington, D.C: GPO, 1990), p. 157; South Dakota, Department of Transportation, Division of Planning, Total Road and Street Mileage (1991), p. 1, and Local Highway Finance Report (1991), p. 1. According to Jeff Moser, executive secretary of the South Dakota Association of Towns and Townships, the state has 953 active townships (those with elected boards of supervisors). Interview with Moser, Huron, S.Dak., 23 Nov. 1992." The preceding citations are found in J. P. Hendrikson, "Grass-roots Government: South Dakota's Enduring Townships," South Dakota History, vol. 24, #1 (Spring 1994), pp. 19-20.

23 Georgia Department of Transportation, http://www.dot.state.ga.us/TRAVELINGINGEORGIA/FederalRoads/Pages/19th.aspx

24 Ibid.

25 Ibid.

26 Schell, p. 110.

27 Ibid., p. 111.

Trains were associated with progress and prosperity, and Dakotans wanted both. The decade of1870s, though, was a period of economic uncertainty, first with the Panic of 1871, followed by the Panic of 1873, and later by the Great Railroad Strike of 1877. These national calamities took a toll on investments across the nation, and the Dakota Territory was not immune. From the opening of its first railroad in 1873 until 1878, there were no new lines built in southern Dakota.[28]

In 1872, bonds were sold in Yankton and Union counties to finance a line connecting Sioux City, Iowa, and Yankton, South Dakota. The line was called the Dakota Southern Railroad (DSRR) and it would provide rail service north and west of Sioux City to serve the heavy traffic in government supplies headed west. A dispute over the DSRR led Yankton banker Peter Wintermute to shoot Dakota Territorial Secretary Edwin Stanton McCook in 1873. A local jury convicted Wintermute of manslaughter, but a retrial was ordered on a technicality. A second jury declared Wintermute not guilty because, it declared, he had acted in self-defense.[29] The DSRR, which became operational in 1873, was eventually sold to the Chicago, Milwaukee and St. Paul Railroad.[30]

When service came to southern Dakota, its residents were at first thrilled, but the fact was that the line was a monopoly and its owners charged whatever the travelers and shippers would pay. Exuberant support changed quickly to deep frustration as residents came to believe the companies were cheating them. They turned to the territorial government for protection and relief.[31] They did so in the knowledge that the United States Supreme Court had ruled in favor of state regulation of intrastate railroads in *Munn v. Illinois* in 1877.

Rather than create an independent regulatory agency, the Territorial Legislature created an *ad hoc* committee in 1882 charged with oversight of railroad issues. By 1885, though, it had become apparent to the committee members that they lacked both the authority to enforce their policy recommendations and the necessary staff to meet the growing demands of the public with regard to expanding railroad presence in the Territory. As a consequence, the Territorial Legislature established the Board of Railroad Commissioners that year with its powers and duties to be implemented in 1886.[32] This board would eventually be reorganized as a division of the South Dakota Department of Transportation in 1973.

The same year the Legislature formed the commission, the United States Supreme Court ruled in the *Wabash Case* that states could not regulate interstate lines because the responsibility to do so

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[28] Ibid., p. 114.

[29] Robert F. Karolevitz, *Challenge: The South Dakota Story* (Worthing, SD: Brevet Press, 1982), pp. 95-96; Doane Robinson, *History of South Dakota*, *Volume II*, (Indianapolis, IN: B. F. Bowen and Company, 1904), pp. 552-553; 1371.

[30] Schell, pp. 112-115. For the history of the Chicago, Milwaukee and St. Paul, see John W. Cary, *The Organization and History of The Chicago, Milwaukee & St. Paul Railway Company*, (New York, NY: ARNO Press 1981) and August Derleth's *The Milwaukee Road: Its First Hundred Years* (New York, NY: Creative Age Press, 1948).

[31] "History of the South Dakota Public Utilities Commission," SDPUC, 2001, p. 7. PDF Document available at puc.sd.gov/commission/Publication/PUC%20history.pdf.

[32] Ibid.

was a federal one under the Commerce Clause of the U. S. Constitution. This made it difficult for the states to address the complaints of the people due to the fact that the major lines were interstate, meaning they were chartered in one state, but ran their lines through and conducted business in several states.

Yet another seminal event occurred in 1886 that would eventually permanently alter the landscape of Dakota Territory. That event was the filing of a patent in Germany for the first automobile. Karl Benz had built a vehicle the year before in Mannheim. He began the first production of automobiles in 1888. Although railroads would remain the principal form of machine powered transportation in the Dakotas for some time to come, the automobile would threaten and eventually eliminate rail passenger service in South Dakota.

After statehood was approved in 1889, the first session of the South Dakota legislature expanded the Board of Railroad Commissioners and increased its powers and duties. The Board now consisted of three members who served either a two-year term or at the pleasure of the governor.[33] This action came just after the U. S. Congress passed the revolutionary Interstate Commerce Act in 1887. That act paved the way for Congress to create the Interstate Commerce Commission (ICC). Now, for the first time in U. S. history, Congress could effectively regulate interstate commerce and address issues of short versus long haul rates, rebates, and other corporate practices of the railroads that worked against the interests of the people.

Dakotans recognized the need for such an agency. The members of the board—Chairman Alexander Griggs, Vice-Chairman A. Boynton, and Commissioner N. T. Smith—wrote to Territorial Governor Louis Church through their Executive Secretary J. M. Quinn in their first Annual Report in 1887:

In no state or territory in the Union is the railroad problem - the question of policy, powers of the legislature to control or restrict - of greater importance than in Dakota, for she is not only a young and growing territory, but the most productive agricultural district on the continent. She is going through the process of development, and the relation of the railroad to the producer is the one paramount question which her legislators and official representatives must solve. Nowhere can the power of the railroad…be more dangerous and discouraging should the corporations be left unchecked in a policy of greed.[34]

Although commission members believed the ICC would be of immediate benefit to the state regulatory agencies, in fact, jurisdictional arguments created some obstacles to implementing policies. They observed that the ICC "did not add to the ease or facility of the state and territorial commissions, but on the contrary, tended to complicate and unsettle their work." The ICC now

[33] Ibid.

[34] Ibid., p. 12. Church was the first Democrat to be Territorial governor.

claimed jurisdiction over complaints that the territorial commission had addressed quickly in the past, causing "embarrassment and annoyance" as well as less effective enforcement.[35]

Railroad development was focused at first on the Black Hills, the towns along the Missouri River, and the eastern cities, especially Sioux Falls. Construction on the narrow gauge Deadwood Central Railway began in 1888 and it opened service to Lead in 1889.[36] The Grand Island and Wyoming Central started service to Spearfish in 1893.[37] The Fremont, Elkhorn and Missouri Valley Railroad completed a line north from Chadron, Nebraska, to include service to Rapid City and Belle Fourche in 1886.[38] The Chicago, Burlington and Quincy built a line serving Edgemont and Deadwood with a huge bridge across Sheep Canyon. One passenger train and one freight train ran across the bridge daily in 1895.[39]

Figure 2: First express train over the Fremont, Elkhorn & Missouri Valley RR
(locomotive #57 at Central City, South Dakota, May 25th, 1891)

The Black Hills & Fort Pierre Railroad hauled its first load of wood west from Fort Pierre in 1881. The terrain is twisty, hilly country and from February to May the line was "impossible, or at least impractical, to run."[40] In 1885, the owners of the line played host to members of the Omaha Board of

[35] Ibid., p. 13.

[36] Rick W. Mills, "A Timeline of Black Hills Railroads" http://www.blackhillsvisitor.com/main.asp?id=14&cat_id=30175 and "A Century of Railroading in the Northern Black Hills," City of Deadwood, http://deadwood.govoffice.com/index.asp?Type=B_BASIC&SEC={A9B90370-8CEB-494B-80A7-ED9208075E45. Accessed 22 January 2012.

[37] "History of the South Dakota Public Utilities Commission," SDPUC, 2001, p. 18.

[38] John E. Miller, "Traveling the Road of Change: Historical Forces in the Development of South Dakota Transportation," *South Dakota History,* vol. 41, no. 2 (Summer 2011), p. 273.

[39] "History of the South Dakota Public Utilities Commission," SDPUC, 2001, p. 23.

[40] Ibid., p. 14.

Trade in an effort to promote investments. Men were packed into open cars and had to stand for the duration of the excursion.[41]

Because grain elevators and storage bins were often located along the railroad lines, the Board was empowered to regulate them in 1890. [42] One of the problems that came with this increased responsibility was the fact that the State Legislature did not vote additional funds to the Board to enable it to effectively enforce regulations. Commissioners observed in their Annual Report of 1888 that the "Board was unable to give the law that thorough enforcement which should be expected, especially as regards a personal inspection of the warehouses and elevators, and an investigation of their methods of dealing with the farmers."[43] The failure to fund commissions adequately was not an uncommon legislative practice. It would happen again with the creation of the State Highway Commission in 1913. South Dakota's public servants have long been expected to do more with less.

The 1890s were a period of progressive reforms in the United States. Reformers from both sides of the aisle began to adopt legislation that was designed to make public office holders more accountable to the people they served. South Dakota reformers were among the leaders of the movement. In 1897, legislation was passed that removed the Railroad Board Commissioners from their appointed status and made them elected officials. Each commissioner would serve a six-year term, with one seat on the Board up for election every two years during the general election.[44] W. H. Tompkins was the first Commissioner to run for his office in the 1898 general election.[45] Constitutional amendments in 1897 also gave the Commissioners the power to establish and enforce railroad rates.[46] Just two years later, South Dakota became the first state to pass a constitutional amendment establishing the right of the people to a referendum and the initiative.[47]

Railroad and other transportation construction continued in South Dakota throughout the 1890s despite the depression that gripped the nation from 1893 to 1896. At the federal level, the Office of Road Inquiry (ORI) was founded in 1893, although the name was changed to the Office of Public Road Inquiries (OPRI) in 1899 and again changed in 1905 to the Office of Public Roads. Organizationally, it was a division of the United States Department of Agriculture. The name was changed again to the Office of Public Roads and Rural Engineering in 1915 and to the Bureau of Public Roads in 1918. This federal agency would have much to do with the development of South Dakota's transportation network.[48]

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[41] Ibid., p. 11.

[42] Ibid., p. 7.

[43] Ibid., p. 13.

[44] Ibid., p. 7.

[45] Ibid., p. 22.

[46] Ibid., p. 7.

[47] Schell, p. 238.

[48] http://www.archives.gov/research/guide-fed-records/groups/030.html#30.1. Accessed 18 November 2010.

The impetus for the creation of the ORI was multi-faceted. The lobbying organization known as the National League for Good Roads was organized in Chicago in 1892 to represent the interests of cyclists, but it soon came to represent other parties with interests in road development. General Roy Stone was its lead officer and would become the first director of the ORI with a budget of $10,000.[49]

Another influential factor was initial experiments with Rural Free Delivery (RFD) in 1891. It would take five years before RFD was adopted as an official service of the United States Post Office in 1896. Good roads were essential to bringing postal delivery to rural Americans, and South Dakota was about as rural as America got in the 1890s.

The Good Roads Movement in South Dakota was primarily the result of agricultural lobbying for effective "farm-to-market" roads. On a local level, historian Herbert Hoover noted in his article "Farmers Fight Back: A Survey of Rural Political Organizations, 1873-1983" that the Grange had been prominent in leading calls for reform. Although the Minnesota State Grange absorbed the earlier South Dakota Grange organization in 1882 after it failed to maintain the minimum 15 local units necessary for recognition from the national Grange, a new incarnation of the Grange emerged in South Dakota in 1908 during the height of the Good Roads Movement. By 1912, G. R. Malone was the Grange Master and he "urged political action to win federal involvement in transportation agrarian marketing" to benefit South Dakota farmers.[50]

Transportation issues had always been important to farmers in remote areas of South Dakota, but they became an even greater issue when the Dawes Severalty Act of 1887 opened reservation lands to white settlers. Ranchers and dry land farmers began to populate areas of the Standing Rock Reservation around McLaughlin, Kyle on the Pine Ridge, and Mission, in the heart of the *Sicangu Lakota Oyate,* or what the white man called the Rosebud.

The introduction of motor vehicles to South Dakota invigorated the movement for better roads. Among the early promoters of the Good Roads Movement in South Dakota were Peter Norbeck and J. W. Parmley, both of who had early experiences "going places" in automobiles.

In 1905, Norbeck made an automobile trip from Pierre to the Black Hills along the Deadwood Trail. It is the first such recorded trip and Norbeck's account reads like an adventure story. They drove from Fort Pierre to the vicinity of the Grindstone Buttes on the first day. The ranch they stopped at was also a post office. Heavy rain made the trail impassable, so they stayed with the

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[49] U.S. Department of Transportation, Federal Highway Administration, http://www.fhwa.dot.gov/publications/publicroads/96spring/p96sp44.cfm. Accessed 30 November 2010.

[50] Herbert T. Hoover, "Farmers Fight Back: A Survey of Rural Political Organizations, 1873-1983," *South Dakota History,* vol. 13, #1 (Summer 1983), p. 127. Hoover is professor *emeritus* at the University of South Dakota and is the author of numerous books and articles on South Dakota and Native American history, including *A New History of South Dakota*, with John Miller, *et al* (Sioux Falls, SD: Center for Western Studies, 2005). He served as a member of the Technical Panel that reviewed this manuscript.

rancher for "several days." Mail was delivered to the Post Office from Philip by horseback and the men were told it was a twelve-mile trip, so they had made it about 60 miles the first day.

After the roads dried, they still found it necessary to have a team of horses help them for "twenty or thirty miles" and then required three cowboys with their ropes hitched to the car and their horses at full gallop to get them across the Cheyenne River. When they finally reached Rapid City, they were caught in heavy snow and had to leave the car and one of their party for a later return trip. Norbeck took the train via Sioux City in order to get home.[51]

Parmley was from Ipswich, located about one-quarter of the way between Aberdeen and Mobridge. His hometown stood to benefit from increased traffic between Mobridge, where a railroad bridge had been built across the Missouri River in 1907, and Aberdeen, or the Hub City as it was sometimes called. Parmley's vision, though, was not limited to parochial endeavors. A forward thinker, he wanted a "good road from Plymouth Rock to Puget Sound."[52] He is credited as the inspiration for the Yellowstone Trail, a road that would cross the northern tier of states and bring tourists to the national destination that Yellowstone Park had become. The Yellowstone Trail would eventually become U. S. Highway 12.

In addition, Parmley had tried to reform the way roads were built in South Dakota before he set out on his trip. He introduced legislation in 1907 that would have required county commissioners to supervise all road construction instead of the traditional "road boss," as Parmley called them, and to have a county engineer supervise the letting of contracts. His legislation would have also required all road taxes to be paid in cash to the county treasurers. His measure failed in the Senate, in large part due to the desire to retain the ability to reward political supporters, but Parmley observed that it led to greater public awareness and laid the foundation for future reform.[53]

In an effort to draw attention to the need for a good road, Parmley organized an automobile trip from Aberdeen to Mobridge. It is difficult for people alive today to think that in 1910, such an adventure required pilots to guide the cars between towns, but it did. Richard Cracco, a historian of the early period of South Dakota's Highway Commission, noted that the caravan changed pilots at the towns of Mina, Ipswich, Roscoe, and Bowdle. When they finally arrived at Mobridge, Parmley, State Highway Engineer S. H. Lea, and many others gave speeches advocating the road. They organized a Good Roads Association and voted Parmley in as its president.[54]

Of course, money was tight. In order to get the project going, the Russell Grader Company and Rumley Company of Aberdeen donated a grader and traction engine. This equipment was

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[51] Cracco, pp. 15-16.

[52] Julius Skaug, "The Yellowstone Trail," *Mobridge: Its First Fifty Years* (1956), p. 105. As found in Cracco, p. 18.

[53] J. W. Parmley, "Early and Present Day Roads in South Dakota," *The Black Hills Engineer,* XVIII (March 1930), p. 123. As found in Cracco, pp. 16-17.

[54] Cracco, p. 18.

significantly better than the animal powered split log drag used to construct most South Dakota roads at the time. Until the end of the nineteenth century, road builders relied on teams of horses and wagons to move earth and rock. The invention of the caterpillar tractor 1904 proved one of the most cost-efficient machines for road construction.[55] A full-time promoter was hired to encourage travel on the road. For these and other efforts Parmley was, according to Mobridge historian Julius Skaug, "the Father of South Dakota Highways."[56]

Still, the railroads were the dominant means of transportation in the first decade of the twentieth century. When the State Militias were called to active service in May 1898 for the Spanish-American War, they arrived at their collection points on train. Sioux Falls was the collection point for the South Dakota Militia. Groups arrived at the Milwaukee Road Station house from Huron, Mitchell, Madison, Howard, Aberdeen, Rapid City and many other communities. When they returned after serving in the Philippines, it was by train from San Francisco to Sioux Falls.[57] Passenger train service greatly expanded in 1902 and the returning soldiers found that Pullman sleeping cars had been added from Mitchell to Sioux Falls to Minneapolis.[58]

The early years of the 1900s were a time when electric railways were being developed in some South Dakota cities. They posed some problems for the Railroad Commission with regard to jurisdiction. Railroads that used steam power were subject to a different set of regulations than those that used animal, cable, or electric power sources.[59] Railroad Board Commissioners Dr. W. G. Smith (Chairman and a Republican), Frank LeCocq (Vice Chairman and a Republican), and D. H. Smith.

(Commissioner and a Republican) reported to Governor Charles Herreid in 1903 that they had secured "a substantial number of elevator and warehouse sites for grain, coal, and storage businesses" and that "[s]everal railway stations were reopened after investigation of records with false information submitted by the railway companies."[60] The commission also reported that three railroad employees and one passenger were killed in railroad accidents" and that 15 "others'" died in railroad accidents in 1903.[61]

The scope of the railroad companies by 1905 was enormous: in 1905 they owned 40,449 miles of operating track and carried 68,861,615 passengers and 116,989,462 tons of freight.[62] The commissioners were aware of continued consumer concerns. "Individuals, in pursuit of their private

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[55] Tom Lewis, *Divided Highways: Building the Interstate Highways, Transforming American Life,* (New York, NY: Viking Press, 1997), p. 17.

[56] Skaug, p. 108. As found in Cracco, pp. 18-19.

[57] Steven J. Bucklin, "We were all mustered in Uncle Sam's Army": The Journal of Thomas H. Briggs in the Philippines, 1898-1899. *South Dakota History*, Vol. 34, No. 3 (Fall 2004), p. 285.

[58] "History of the South Dakota Public Utilities Commission," SDPUC, 2001, p. 27.

[59] Ibid., p. 27.

[60] Ibid., p. 28.

[61] Ibid.

[62] Ibid., p. 30.

affairs," the commissioners noted, "are more or less at the mercy of, and exposed to, the greed and rapacity of combinations of large corporate bodies, and consequently, it is quite necessary that the legislature should…safeguard the interests of the public…secured, in a large measure, by the power vested in the Railroad Commission."[63]

The Board of Railroad Commissioners in 1906 included Frank LeCocq (Chairman and Republican), D. H. Smith (Vice Chairman and Republican), and Dr. W. G. Smith (Commissioner and Republican). William Stanley was Executive Secretary. LeCocq did not seek re-election and Republican George Rice won the seat with 64 percent of the vote. Democrat Burr Lien received 27 percent, Prohibition Party candidate E. M. Dahlberg got four percent, and Socialist Party candidate Thomas Lunn received just three percent of the vote.[64]

The commissioners had a significantly increased purview since its creation twenty years ago. The following companies were operating in South Dakota:

- Chicago, Milwaukee and St. Paul Railway;
- the Great Northern Railway Company;
- the Minneapolis & St. Louis Railway Company;
- the Chicago, Northwestern Railway;
- the Chicago, St. Paul, Minneapolis & Omaha;
- the Minneapolis, St. Paul, Sault Ste. Marie;
- the Chicago, Rock Island & Pacific;
- the Chicago, Burlington & Quincy;
- the Dubuque & Sioux City;
- the South Dakota Central Railway;
- the Wyoming & Missouri.[65]

The "greed and rapacity" the commissioners referred to in their 1905 report was being well-documented in the muckraking journalism of the day. Ida Tarbell would publish her indictment of the Standard Oil Company the next year; Upton Sinclair would do the same with regard to the meatpacking industry in his 1906 publication *The Jungle;* and the journal *The Arena* had been calling for railroad regulation for years.[66] It was Ray Stannard Baker and his series of articles "The Railroads on Trial" published in *McClure's* in 1905 that truly aroused public indignation toward the railroads and eventually led Congress to pass the Hepburn Act in 1906 with the avid support of President Theodore Roosevelt.[67]

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[63] Ibid., p. 28.

[64] Ibid., p. 31.

[65] Ibid.

[66] For information on *The Arena*, see Louis Filler, *The Muckrakers,* (Palo Alto, CA: Stanford University Press, 1993), p. 211.

[67] Ibid., p. 214.

The element of the Hepburn Act with the most immediate effect was that it empowered the ICC to set maximum rates based on its assessment of what was a "fair and reasonable" rate. In order for the ICC to arrive at what was just and reasonable, the act also enabled the ICC to establish a standardized accounting system for railroads and to inspect their books. It also paved the way for a virtually unregulated trucking industry to take shape that would subsequently reduce railroad shipping volume substantially. Still, by 1915 railroads carried over one million people and two million tons of freight each year. Rolling stock included 65,000 locomotives, 55,000 passenger cars, and 2.5 million freight cars and the roads employed 1.8 million people.[68]

Of course, the Hepburn Act addressed corruption mostly at the corporate level. There were dishonest employees at the lowest levels, too, and the act did little to address their activities. The S. D. Board noted a particularly brazen case of criminal behavior in their 1912 report. Trolleys ran in a number of South Dakota communities by that time, including Lead. The authors of a "History of the South Dakota Public Utilities Commission" (SDPUC) observed that: "Evidently an enterprising conductor made a small fortune by selling tickets and pocketing the money. Finally, a railroad employee trapped him by planting railroad detectives on the trolley. The conductor was fired on the spot, but took his ill-gotten gains to California where he bought a fruit farm and lived in comfort the rest of his life."[69]

The same year the Hepburn Act allowed for greater regulation of the railroads, a young man from Sioux Falls began to build a car to his own design. Cars had been in Sioux Falls for a few years. Herbert Schell wrote that a "Sioux Falls ordinance in 1903 placed a speed limit of seven miles per hour for city driving, with a reduction to four miles at street corners. Two years later a state law prescribed a twenty-mile [per hour] speed limit in the country and ten miles [per hour] in towns."[70]

[68] Lewis, *Divided Highways*, p. 21.

[69] "History of the South Dakota Public Utilities Commission," SDPUC, 2001, p. 37.

[70] Schell, p. 364.

Figure 3: President Theodore Roosevelt in a Fawick Flyer in Sioux Falls, September 1910

Thomas Fawick was just 17 years old in 1906 when he built what he called "The Silent Sioux," and it could certainly exceed the Sioux Falls speed limit. Dissatisfied with it, though, two years later he built his "Fawick Flyer." The first model was a two door, but subsequent models were four door. When former President Theodore Roosevelt visited Sioux Falls in September 1910, he rode in a Fawick four-door for the duration of a parade held in his honor. Although the Fawick Motor Car Company ceased production in 1912 having produced only seven cars, Fawick himself went on to a successful career and motorists traveling through Sioux Falls on the 10th and 11th street bridges can see his bequest to the city: one of only two full-size castings of Michelangelo's David.[71]

Shortly after the Filipino Insurrection was quelled in 1903, another event outside South Dakota occurred that would alter its transportation network, although its immediate impact was negligible. The successful flight of an airplane that Orville and Wilbur Wright designed at Kitty Hawk, North Carolina, on 17 December 1903 would alter transportation history. Originally cyclists and bicycle mechanics, they had been tinkering with combustion engines since 1896 at their bicycle shop in Dayton, Ohio.

It was not until 1911 that South Dakotans got to see a plane in action in their airspace. That year, the South Dakota Stock Grower's Association hired the Curtiss Exhibition Company to be the main attraction at its annual convention in Rapid City. Of course, there was no airfield or even a designated landing strip. The plane and pilot arrived by freight train on Saturday 8 April 1911. Robert D. Orr, a historian of aviation in South Dakota, observed that this was customary in that cross-country flights "were never made at this time…the planes were dismantled and shipped in crates to

[71] http://www.american-automobiles.com/Fawick-Flyer.html. Accessed 12 December 2010.

the locality where the flight was to take place." The "flying bird cages," as planes were called in 1911, were then reassembled and the performance took place.[72]

That first flight lasted only three minutes and the landing was a little rough: the pilot broke one wheel and had "some other slight damage" according to the *Rapid City Journal.*[73] The pilot could not attempt "spectacular work" during the second flight due to adverse winds.[74] Nonetheless, members of the South Dakota State Fair Board were duly impressed: they hired three pilots and planes from the Curtiss Company for the annual event in Huron that same year.[75]

The public response to the flights and the large number of attendees encouraged the Fair Board to try to entice one of the "bird men"—Cromwell Dixon—who had given particularly inspiring performances, to stay beyond his contract, but Curtiss corporate headquarters ordered Dixon to board the "north-bound Milwaukee train" in order to meet a previously scheduled performance in North Dakota. Fair managers, unwilling to accept defeat, "obtained a writ of attachment on his plane and succeeded in getting him to remain."[76]

The Fair Board repeated the attraction in 1912. In order to publicize it, the Secretary of the Fair Board convinced Hugh Jaynes, a prominent resident of Pierre, to fly in the plane. A fifty-car caravan would accompany him from Pierre to Huron.[77] This was a 120-mile trip made on dirt roads, for as Herbert Schell documented, there were no gravel roads in South Dakota until 1921.[78]

It was not until 1912 that the first flight took place in the state's largest city, Sioux Falls. That flight was in a Curtiss Model D Bi-plane and the pilot used Coats Athletic Field east of what is now 26th Street and Southeastern Drive.[79] It would be another two decades before South Dakota had enough planes, pilots, and facilities to warrant creation of a regulatory agency specific to aviation. That agency would come under the aegis of the Department of Transportation in 1973.

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[72] Robert D. Orr, "A History of Aviation in South Dakota," unpublished Master's Thesis, The University of South Dakota, 1957, p. 16.

[73] *Rapid City Daily Journal,* 11 April 1911.

[74] *Rapid City Daily Journal,* 13 April 1911.

[75] Orr, pp. 18-19.

[76] *Daily Huronite,* 12 September 1911.

[77] Orr, p. 24.

[78] Schell, p. 364. There were surfaced streets in some cities and towns, but Schell was referring to state, county, and Federal roads.

[79] Norma Kraemer, *South Dakota's First Century of Flight* (Charleston, SC: Arcadia Publishing, 2010), p. 9; p. 16.

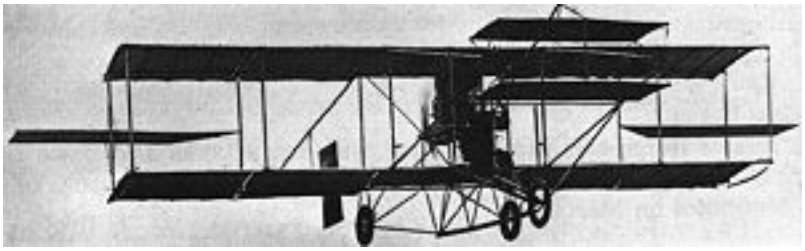

Figure 4: A 1911 Curtiss Model D Bi-plane like that flown in Sioux Falls

Elections to the Railroad Commission confirm that South Dakotans voted predominantly Republican. The 1902 Annual Report to Governor Charles Herreid (a Republican) from the Board of Railroad Commissioners included all Republicans. The Chairman, Dr. W. G. Smith, was Republican; so, too, was the Vice Chairman, Frank LeCocq and Commissioner Alexander Kirkpatrick, who also had the distinction of being the last appointed Commissioner. No party affiliation was indicated for the Executive Secretary, William Stanley.

Four candidates sought Kirkpatrick's seat on the commission when he chose not to run. Republican candidate D. H. Smith won 64 percent of the vote, defeating Democrat Hiram Rose with 29 percent, Prohibition candidate H. W. Reinecke with 4 percent, and Socialist E. B. Chase, who received 3 percent of the vote. There would be a Democrat, a Prohibition and a Socialist candidate in every election during the period covered in this chapter. No one but Republicans won.[80]

Republicans controlled Pierre and the nation's capital in 1905. Teddy Roosevelt had been inaugurated for his first full term as president in March and James F. Biglow of Flandreau became the first South Dakotan to register a motor vehicle in the state. His "horseless carriage" was a 4-1/2 horsepower Oldsmobile. Today, a lawnmower has more horsepower than that "horseless carriage" and Oldsmobile no longer exists. Biglow was issued vehicle tag "No. 1," which was "a small metal disc about the size of a silver dollar" with the number "1" stamped into the metal. By the end of the year, 479 more vehicles were registered in South Dakota for a total of 480.[81]

In 1912, the State Legislature required the production and annual purchase of sequentially numbered metal license plates. These early vehicle owners were issued "a permanent vehicle registration disc and each vehicle owner had to make their own "license plate" to be displayed on the rear of the vehicle." Between 1905 and 1912 a total of 17,692 vehicles had been registered, although in 1913 just 14,457 vehicles were registered.[82] To put these figures into context, South Dakota's total population in 1910 was 580,000. If each vehicle owner owned just one registered car, it would mean

[80] "History of the South Dakota Public Utilities Commission," SDPUC, 2001, p. 27.

[81] South Dakota Division of Motor Vehicles, "85 YEARS OF HISTORY: A HISTORY OF MOTOR VEHICLE REGISTRATION AND LICENSING ACTIVITIES IN THE STATE OF SOUTH DAKOTA FROM 1905 UNTIL 1990." JULY 1990, p. 2.

[82] Ibid.

only 3% of the population had cars. That would change quickly. By 1919, more than 100,000 vehicles, including both cars and trucks, were registered in the state.[83]

The Secretary of State supplied vehicle registration forms to vehicle owners and recorded registrations under the 1905 Motor Vehicles Law. The owner received a metal disc not to exceed two inches in diameter to be displayed conspicuously in the vehicle. The words, "Registered in the office of the secretary of state for South Dakota, under the motor vehicles law" were stamped on it. As noted above, the owner had to make his own plate to plainly and visibly display on the back of the vehicle the number assigned to the vehicle and the capital letters "S" and "D." The cost of registration was one dollar per vehicle paid to the Secretary of State's office and subsequently deposited into the state treasury.[84]

This remained the standard practice until 1913 when new vehicle registration laws were enacted. County treasurer offices now became involved in vehicle registration, although the Secretary of State's office continued to supervise the process. The county treasurers offices were provided vehicle registration applications. Upon receipt of the application and fee, they would enter the information into a standardized logbook, and then "forward the applications and fees to the Secretary of State's office in Pierre." The Secretary of State then assigned a distinctive number and delivered a certificate of registration and two numbered plates to the owner.[85] The annual registration fee was six dollars per year per truck or car and two dollars per motor bicycle or motorcycle. The law required that the number plates be "metal, measure at least six inches wide by no less than fifteen inches long," and "be of a distinctively different color each year."[86]

The 1905 Motor Vehicle law also provided for "safety equipment such as brakes, signal bell or horn and lamps; safe operation of the vehicle, speed limits, and provided penalties for violation of these laws."[87] The 1913 law expanded on the safety provisions and broadened local authorities' power to enforce the laws. That law also made it "unlawful for any person to operate or attempt to operate any automobile or other motor vehicle in this state while such person is under the influence of liquor."[88]

The 1913 law required the county treasurers to apportion 87.5% of the fees collected under the act to the County Motor Vehicle Road Fund and 12.5% to the Secretary of State. The secretary would then pay for necessary vehicle registration supplies and deposit any remaining funds into the state's general fund at year's end. The legislature reduced fees to three dollars for motor vehicles and one

[83] Ibid.

[84] Ibid.

[85] Ibid.

[86] Ibid., p. 3.

[87] Ibid.

[88] Ibid.

dollar for motorcycles in 1915. Legislators also reduced the fee apportionment to 85% for the County road funds and increased the Secretary of State's share to 15%.[89]

A new president was sworn into office at the nation's Capitol in March 1913. Woodrow Wilson, the first Democrat to hold the office since Grover Cleveland left it in 1897, would usher in wave of legislation and Constitutional Amendments that would alter the path of history. Women would get the vote, a national income tax was approved, for the first time in American history, the tariff schedule was reduced, United States senators would be elected directly, and the sale of alcohol for recreational consumption was made illegal. Wilson would also have a profound effect on the nation's transportation system.

That same year, the South Dakota Legislature reviewed the "powers and duties of the Board of Railroad Commissioners" and enacted several new laws with regard to both the board and railroads. The Board's authority had already been changed in 1909 when the legislature abolished the Telephone Commission (created in 1907) and placed authority over telephone and telegraph operations with the Board of Railroad Commissioners. That would have significant impact on the nature of the Board in the future.

Among the most important of the changes made in 1913 were new provisions for "condemnation of property for right-of-way for spur tracks designed to reach and service industries or industrial enterprises." This was designed to stimulate economic growth. Safety measures included amendments of existing laws regarding private and farm crossings over railroad tracks. In addition, the Board was "authorized to require railways to provide lighting at street crossings and crossing alarms." The Board could also "require railways to build and equip platforms" and required cuspidors (spittoons) "for all passenger cars."[90]

The Board was authorized to "collect excess charges from railway and express companies…to classify railway services to determine rates…to issue notices, calls, and demands, make findings and conclusions, orders and subpoenas and other legal processes…to try cases, define the final record, and provide for appeal of any order or determination of the Board and enforcement of actions." In addition, the Commissioners were now required to "maintain their residence" at the capital and "remain in continuous session."[91]

It was also in 1913 that Henry Ford introduced moving assembly lines at his automotive production plants. Two important results were immediately apparent: volume of production increased dramatically and the price per unit dropped. Coupled with his introduction of the "Five Dollar Day" in 1914, more and more Americans purchased and drove cars.

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[89] Ibid.

[90] "History of the South Dakota Public Utilities Commission," SDPUC, 2001, p. 38.

[91] Ibid.

South Dakotans were no exception. Of particular importance to every South Dakotan, not just to the vehicle owners, was additional legislation passed in 1913 that created the State Highway Commission. Governor Frank Byrne appointed E. C. Issenhuth, Ben Wood, and N. O. Monserud as the commissioners. The Commission was created under Chapter 233 Session Laws of 1913.[92]

Of the three men, Edward C. Issenhuth had established himself as a champion of reforming the management of road construction. James Cracco notes that in 1911, "Issenhuth successfully introduced a bill eliminating the road overseer and placing all township roads under direct township supervision…Practical engineers were to supervise road construction and establish grades."[93] In fact, the entry about the Redfield legislator in the *Biographical Directory of the South Dakota Legislature, 1889-1989* refers to Issenhuth as the "father of the Good Roads law."[94] The support for the change was both legislative and popular because the public demand for good roads was heard statewide.

County-by-county listings of levies for road and bridge construction demonstrate the varied attention to road construction across the state in 1913 Lawrence County had the highest road levy at $100k. This was four times the amount Minnehaha County levied. Minnehaha, though, had the highest levy for bridges at $60 thousand dollars compared to Lawrence County's $9 thousand.[95] Only seven of the sixty counties made no levies for county road funds: Codington, Grant, Hamlin, Kingsbury, Lincoln, Moody, and Sully. That was the same number, but different configuration, of counties that did not levy for road funds in 1913. Sully and Kingsbury county governments enacted levies that year, but not in 1914. Spink and Turner counties made levies in 1914, but not in 1913. Total levies in 1914 increased from 1913 by $18,326. Bridge levies exceeded road levies by $136,605.[96]

County levies for roads totaled $579,948. The total for bridges was $716,533. 21,000 auto licenses brought in $125,000. Township levies totaled $524,052. This led the Commissioners to note that $1,224,000 would be expended in 1915 for road building only. The commissioners noted "A million and a quarter for roads is not so bad when the money is properly expended."[97]

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[92] "Second Annual Report, State Highway Commission, State of South Dakota, and Their Recommendations to the Governor for the Year 1914," p. 3. Government Documents, Special Collections, The University of South Dakota Libraries. The document is dated 15 December 1914.

[93] Cracco, p. 20.

[94] South Dakota Legislative Research Council, *Biographical Directory of the South Dakota Legislature, 1889-1989* (Pierre, SD: 1989), p. 527.

[95] "Second Annual Report," State Highway Commission, pp. 4-5.

[96] Ibid., p. 3.

[97] Ibid., p. 4.

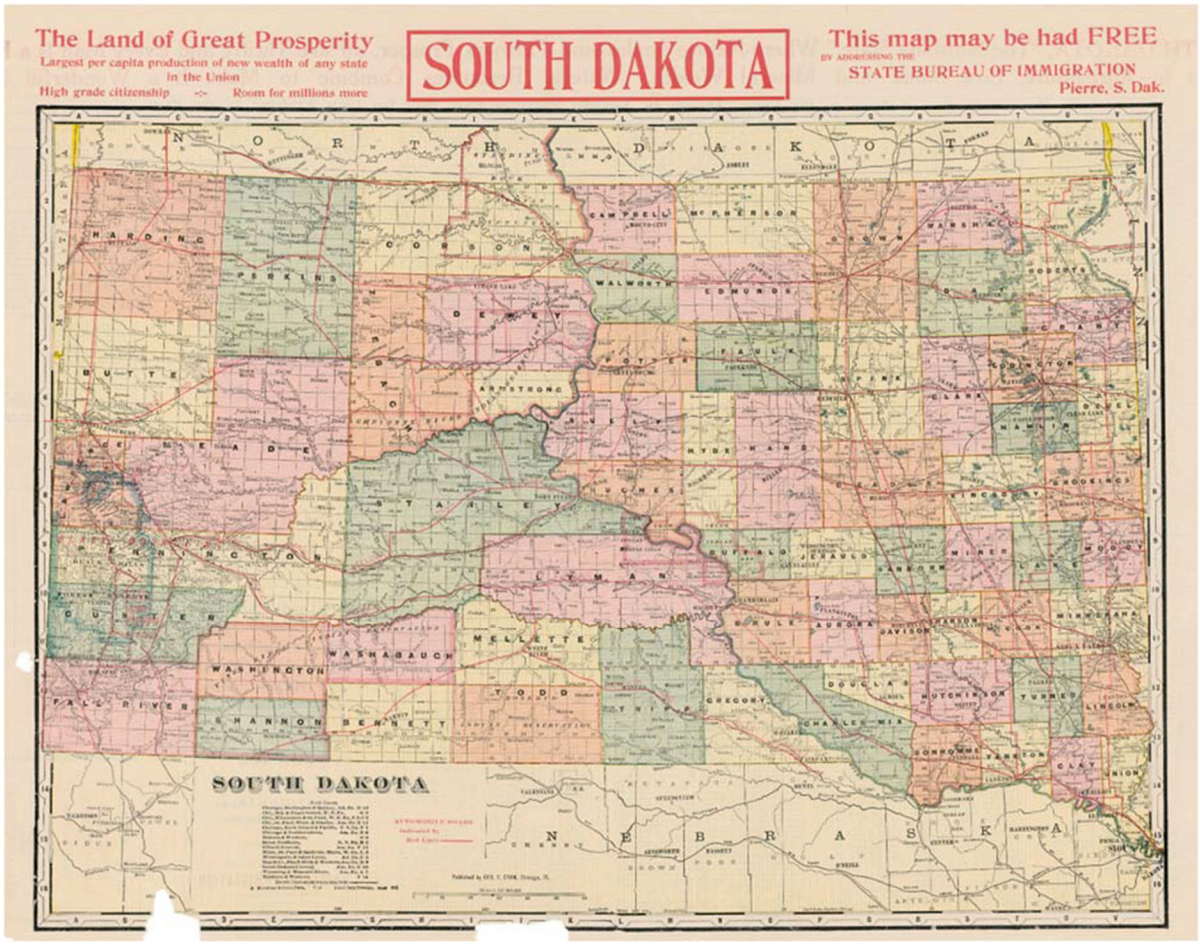

Figure 5: Map of South Dakota roads, circa 1913.

The report encouraged the state to provide aid to counties in a fashion similar to the funding formula of 17 other states. Minnesota, as an example, paid 50% to a county of what it will expend and that, stated the commissioners, was "a strong stimulus to more road building." The commissioners also recommended state aid of $100 thousand "for building the highways adjoining public and school lands, as provided in Section 26, Chapter 221 of the road law of 1911."[98]

Under the heading "Our Commission Hampered," the commissioners note that the legislature provided no appropriations for the commission's travel, postage, stationery, salaries, or other expenses necessary to carrying out the commission's charge. They collectively believed that the "State has no moral right" to ask the commissioners to operate under such restrictions. They noted that they have frequently had to deny requests for travel to sites for lack of funds and implied that they had spent their own funds "to a considerable extent." One example of how this had a negative impact on their efficiency and on the state's expenditures, they noted how they wanted to adopt a standard form for culverts and bridges through a "system of bulletins of plans and specifications

[98] Ibid., p. 7.

drafted by this commission," but they could not do so without proper funding and a means of communicating with the counties at public expense.[99]

In another effort to maximize efficiencies, the commission noted the movement in other states to use prison labor to construct roads and declared those states had "splendid" results as a consequence. "The state," they asserted, "is benefitted by the material gain of good highways and the moral and physical improvement of its charges. The prisoner is benefitted from the physical and reformatory viewpoint." Therefore, they encouraged the legislature to enact a law "legalizing convict labor."[100] They concluded the report with a request for an appropriation of $25 thousand for the commission's use over a two-year period and the authority for the Commission "to employ a practical engineer and other necessary clerical help, the salary and expenses of such engineer and help to be paid out of said appropriation."[101]

By this time, an organization had been created to aid in establishing a dialogue between state agents and the federal government with regard to highway issues. The American Association of State Highway Officials (AASHO) was founded in 1914. Members could not lobby, but their organization's representative could. This group would become a very influential organization.[102] Its name changed in 1973 to the American Association of State Highway and Transportation Officials (AASHTO) to reflect the broadening scope of transportation to include modes other than highways.

Tom Lewis, author of *Divided Highways: Building the Interstate Highways, Transforming American Life,* places AASHO at the "center of the web [of lobbyists]." The organization served the interests of each state highway department through its membership to the various state and local chapters of the national association. Though it had no formal authority to lobby members of Congress for highway funds as industry associations did, its power came from the expertise of its members. The association meetings gave federal and state highway officials a means of meeting with representatives of private industry to determine their common interests.[103]

The new State Highway Commission could also take advantage of the publications on road management and test results of road building materials from the Office of Public Roads. The value of such data was obvious and states soon began to establish their own research bureaus.[104]

Of course, for the members of the S. D. State Highway Commission, all such resources held little meaning as long as they had no budget. This remained the case throughout 1913, 1914, 1915, and 1916. On 16 June of that last year of peace before the U.S. entered World War I, Woodrow Wilson

[99] Ibid., p. 6.

[100] Ibid., p. 7.

[101] Ibid., p. 8.

[102] Lewis, p. 13.

[103] Ibid., p. 110.

[104] Ibid., p. 15.

signed the Federal Aid Road Act into law. The act provided $75 million to the Office of Public Roads and Rural Engineering to distribute to the states over five years on a fifty-fifty matching basis for "road improvement and construction."[105]

Such an act would not have occurred without the significant amendment to the U.S. Constitution that was ratified in 1913. The 16th Amendment provided for a federal income tax. Prior to that, the federal government relied upon the tariff on imported goods as its primary source of income. By the turn of the century, Americans were able to purchase goods produced in the U.S. in increasing numbers, thus reducing both real and potential revenues of the federal government. The income tax provided an enormous increase in federal resources and allowed for a substantial investment in internal improvements.

It was as a result of that federal legislation that South Dakota changed course and began to fund a modern, regularly financed government agency to oversee road construction. That it would take an amendment to the State Constitution to do so was a minor price to pay for those who wished to bring South Dakota into the future.

In what seems anomalous given Republican control of state politics, the South Dakota State Constitution specifically prohibited the State from funding internal improvement projects.[106] Since its inception, the Republican Party stood in contrast to the Democrats as *the* party of internal improvements. The Republican Party platforms, beginning in 1856, consistently called for the government to engage in such internal improvements as harbor construction, road construction, canal construction, subsidies for railroad construction, and a variety of other projects. In contrast, the Democrats who wrote the Confederate Constitution specifically forbade their central government from participating in internal improvements. For whatever reason, the founders of South Dakota chose to follow the lead of the Democrats on this issue.

Fortunately, Peter Norbeck was Lieutenant Governor at the time and about to win election as governor. A Progressive Republican, Norbeck was no foe of state sponsored internal improvements and was, as already noted, a promoter of good roads. As governor and later U.S. Senator, he would promote the construction of The Needles Highway and roads in other state parks. Norbeck supported the constitutional amendment whole-heartedly.[107] The fact that it passed in the same election he won the governor's responsibilities likely indicates a coattail effect.

The Amendment became Article XIII of the State Constitution in 1917. Specifically, the amendment states that:

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[105] Ibid., p. 11.

[106] Of its 32 governors, five were Democrats and of those, Harvey Wollman served only five months. One, Andrew Lee, was a Populist. Similar statistics apply to the Republican domination of the legislative branch.

[107] Cracco, p. 24.

For the purpose of developing the resources and improving the economic facilities of South Dakota, the state may engage in works of internal improvement, may own and conduct proper business enterprises, may loan or give its credit to, or in aid of, any association, or corporation, organized for such purposes. But any such association or corporation shall be subject to regulation and control by the state as may be provided by law. No money of the state shall be appropriated, or indebtedness incurred for any of the purposes of this section, except by the vote of two-thirds of the members of each branch of the Legislature.[108]

Each state had to comply with federal regulations under the new Road Aid legislation in order to receive funds. In 1917, the State Legislature passed a law creating the State Highway Department and charged it with assuring South Dakota was compliant with federal regulations and with recommending a budget for road construction and improvements. A budget of $30,000 was allotted and the state would also pay commissioners' expenses.[109] What had once been an unfunded agency now had ample funds and personnel with which to meet immediate and foreseeable needs for several years to come. This was the beginning of the modern era for South Dakota highway transportation.

Some of the expenditures made from that appropriation to organize and construct the department included the construction and furnishing of an office enclosure in the East Corridor of the Capitol Building, a structure that had only been completed in 1910. One Electric Blue Printing Machine, the cost and use of which was shared with the State Engineer's Office and the Railroad Commissioner's Office was secured as were two cars: a Ford and a Dodge, both equipped with spare tires, tools, and chains. Office equipment was rounded off with postal scales, one L. C. Smith typewriter, and stationery and forms for Federal and State Aid Projects.

Other equipment was purchased with the intent for use in the office and in the field. This included one "transit and level with all the necessary tapes and equipment for one field party"; planimeters; three T-Squares; one Rod and Range Pole; one Hand level; and maps of mail routes and state maps.[110]

Peter Norbeck, the pioneer automobile adventurer, was now governor and Chairman of the Highway Department. As such, he oversaw this tremendous expansion with the aid of Homer Derr, who was designated State Engineer and Secretary of the Highway Department. Frank S. Peck was the Highway Engineer and Fred Schreiber was the Assistant Highway Engineer. To provide them with first-hand reports of local conditions, C. J. Loomer was appointed Chief Field Engineer and Draughtsman, Scovel Johnson became Field Engineer and Draughtsman, Thor Soleglad was Field

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[108] South Dakota State Constitution, Article XIII, Section 1, South Dakota Codified Laws. As found at: http://legis.state.sd.us/statutes/DisplayStatute.aspx?Statute=0N-13&Type=Statute. Accessed 20 December 2012.

[109] The State Highway Department received a $30,000 appropriation for salaries and expenses for the fiscal year ending 30 June 1917. "Annual Report of the South Dakota Highway Commission, 1917-1918," p. 4.

[110] Ibid.

Engineer and Chief Draughtsman, and M. W. Furr was a Draughtsman. Alita Kingsley ran the office and kept the books in her role as Stenographer and Bookkeeper.[111]

Technological and administrative changes drove the events that led to the creation of the new State Highway Commission. Road construction techniques and materials improved dramatically. The automobile, at first a toy for the rich, was, by 1917, something most middle class and even working class families could afford. Airplanes were a regular feature at fairs, but their utility for activities other than entertainment was apparent to military planners and to government agencies like the Post Office. The airplane's business potential would not be fully recognized until the 1920s and additional technological developments.

In South Dakota, farmers and other rural residents had seen the potential the automobile had to relieve them of the stranglehold the railroads had on them. Farm-to-market roads and rural free delivery's promise of commercial goods as well as mail, led them to support the Good Roads Movement. It also led them to support regulatory agencies like the Board of Railroad Commissioners and, in turn agencies that would aid in the orderly, efficient, and standardized construction of roads.

Generally speaking, the first 50 years this chapter addresses were years during which the groundwork was laid to create a transportation infrastructure. Enthusiasts like Parmley and Norbeck drove this dynamic. Few professionals were involved in making or even implementing policy. Professionalization of the administrative bureaucracy will be a driving theme of the next period of South Dakota transportation history. It will be, in fact, the experiences of two young professionals "going places"—one on a transcontinental journey, the other on a journey from Iowa to South Dakota—that will open the next chapter.

[111] Ibid., p. 2.

CHAPTER 2 BRIDGING THE GAP: THE INTERWAR YEARS, 1919-1941

The Great War ended, or at least the fighting did, on the eleventh hour of the eleventh day of the eleventh month of 1918. Negotiations for a peace treaty began in Paris, France, in January 1919, negotiations that President Woodrow Wilson dominated. The nation awaited the treaty eagerly, for there was already beginning a sense that the nation's foreign policy had deviated from the norm. By 1920, that perception was given voice in Warren G. Harding's declaration that the Republic needed to "return to normalcy."

Despite that nostalgia for a distant (and perhaps mythical) past, significant changes occurred across the country in 1919. Women got the vote as a result of the 19th Amendment. A "Red Scare" swept through the public consciousness as a result of fears that the Bolshevik Revolution would invade our body politic. Public strikes in Boston and in Seattle augmented this fear. There was, too, the Chicago Black Sox Scandal and its impact on public perceptions of "America's pastime."

The State Legislature had some changes of its own in store for the South Dakota State Highway Department (SHD) in 1919. Section 7 of Chapter 333 of the Session Laws of 1919 eliminated the SHD as the principal agency in charge of roads and provided for a State Highway Commission [SHC] effective 14 March 1919. The commission consisted of three members to include the governor, with the governor automatically serving as its chair.[112] The 1921 legislature amended that law to increase the number of commissioners from two to three. C. N. Leedom of Kadoka was appointed to be the third commissioner effective 1 July 1921.[113]

At the time the Annual Report of 1919 was submitted, the SHC included Governor Peter Norbeck, Commissioner Andrew Marvick of Sisseton (who served until 1925), Commissioner M. L. Shade of Mitchell, and Secretary G. H. Henry of Pierre. Frank Peck was Chief Engineer, F. W. Schreiber was 1st Assistant Engineer, and J. E. Kirkham was Bridge Engineer. C. J. Loomer was Chief of the Drafting Force, Thor Soleglad was Assistant Highway Engineer, and Frank E. Cave was Assistant Bridge Engineer. The office force included bookkeeper John Baker, file clerk Ruth Solberg, and stenographers Alta Kingsley, Elsa Weigel, and Viola Carlson.

The commissioners spent considerable time formulating plans to continue "the work of the former Highway Department and to put into operation various provisions of the new law."[114] The SHC was directed to establish a Trunk Highway System that connected every county seat and every city with a population of 750 or greater. County commissioners were charged with road "construction and maintenance in their respective jurisdictions, including maintenance of the Trunk

[112] "Annual Report of the South Dakota Highway Department, 1919," p. 3.

[113] "Annual Report of the South Dakota Highway Commission, 1921," p. 5.

[114] "Annual Report of the South Dakota Highway Commission, 1919," p. 3.

Highway System."[115] Much of SHC commissioners' attention was focused on educating county commissioners about their roles and obligations under the new law, "especially the appointment of county highway superintendents and their duties."[116]

It was also in this tumultuous year that a young U.S. Army officer, who had volunteered so many times to fight in Europe rather than stay at home and train men in the operation and tactics of tanks that his commanding officer told him to cease and desist, heard of a unique opportunity. Worried that his career opportunities were in jeopardy because promotions came to those who had fought overseas (in fact, so worried he contemplated resigning his commission), when he heard about the Army's Cross-Country Motor Transport Train, it was a "God send."[117]

That operation was going to "send a convoy of 80 or so trucks and other military vehicles across the country." The convoy would travel the most famous road of the day, the Lincoln Highway, which ran between New York City and San Francisco, California. The Army wanted to know if motor vehicles, which had been used in combat since 1916, could stand the trip. Also, the convoy would let the American people see the vehicles that had helped win World War I in a time before radio or television brought world events into everyone's home. It would be a perfect opportunity for the Army to try to convince young people to join the service. Finally, the convoy included a speaker to talk about the importance of good roads at each stop.[118]

Lieutenant Colonel (this was a temporary wartime promotion from his normal rank of Captain) Dwight David Eisenhower wanted to observe the "operation of the one tank that was going to be transported across country."

Eisenhower missed the opening ceremony on 9 July 1919 that took place on the Ellipse just south of the White House in Washington, D. C., for the 260 enlisted men and 35 officers, but joined the convoy in Frederick, Maryland, later that same day. Goodyear Tire and Rubber Company provided a 15-piece band. The convoy's destination was three thousand miles away. The convoy got on the Lincoln Highway in Gettysburg, Pennsylvania, and headed for San Francisco.[119]

The name "Lincoln Highway" gives a false impression that it was the result of a grand plan to construct a single road transecting the nation from east-to-west. That was not the case. It was a hodge-podge of roads that had not been constructed with foresight to a single highway. As a result of

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[115] ACC 03858, Folder 03858 B: "DRAFT: Historic Bridges in South Dakota." Prepared for SDDOT by Renewable Technologies, Inc, Butte, MT, January 1990, p. 31.

[116] "Annual Report of the South Dakota Highway Commission, 1919," p. 3.

[117] All information on the Cross-Country Motor Transport Train is taken from "Why President Dwight D. Eisenhower Understood We Needed the Interstate System," as found at: http://www.fhwa.dot.gov/interstate/brainiacs/eisenhowerinterstate.htm. Accessed 10 May 2011.

[118] Ibid.

[119] Ibid. See also Lewis, pp. 89-90 about the band.

this, and as a result of the lack of standardized signage, a scout was sent ahead every day to locate the road and mark it "so the military vehicles would not get lost."[120]

The roads that comprised the Lincoln Highway then were not unlike the roads in South Dakota in that they were mostly unpaved, so they were dusty when the weather was dry and muddy when it was wet. Drivers found it difficult to keep their vehicles on the roads in certain conditions: some vehicles were blown off cliffs and some got stuck in sand.[121]

The bridges were often no better than the roads. Many bridges were inadequately suited to carry cars, let alone military vehicles. The heavy trucks in the convoy crashed through several bridges. The Army engineers "had to strengthen many bridges or build new ones at some locations. In some cases, the best choice was to circumvent the bridges altogether and "ford" rivers.[122]

Such conditions on an expedition of more than 3,000 miles took their toll on the men and their vehicles. Flat tires, broken axles, over-heated motors, and just about every other component that could break, did. Mechanics, most of whom had been trained to repair horse-drawn wagons, had to improvise many repairs.[123]

The convoy reached San Francisco on 5 September 1919, sixty-two days after leaving Washington, D.C. A cross-country trip on Interstate 80 today takes about 5 days. Eisenhower remembered this trip his whole life. Those memories, coupled with memories of the efficiency of the *autobahn* system he witnessed in occupied Germany after World War II, would have a tremendous impact on transportation in South Dakota and the nation as a whole.[124]

The same summer that Eisenhower set out on the cross-country convoy, another man made a journey that would have more immediate effect on South Dakota's transportation network. John Edward Kirkham was an engineering professor at Iowa State University and had been a consulting engineer for the Highway Commission of Iowa. He spent his 1919 summer vacation in South Dakota working with the South Dakota State Highway Commission as a volunteer.[125]

During his stay, Governor Peter Norbeck took Kirkham on a "personal tour of South Dakota." Kirkham, an ambitious man with an eye to his future, explained to Norbeck that he "could save hundreds of thousands of dollars to the taxpayers by building bridges in conformity with economical and geological conditions as found through the state." According to Kirkham, this impressed Norbeck, who subsequently offered the young Iowan the position of bridge engineer on the SHC with the promise that he could develop the bridge office "without interference from anyone." Kirkham

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[120] "Why President Dwight D. Eisenhower Understood We Needed the Interstate System."

[121] Ibid.

[122] Ibid.

[123] Ibid.

[124] Ibid.

[125] "DRAFT: Historic Bridges in South Dakota," p. 32.

was not pleased with the salary Norbeck offered him, but the opportunity to create his own organization appealed to him, especially because there were no experts on the staff to challenge him. He accepted the governor's offer in October 1919.[126]

World War I had contributed to a problem that would continue to plague the South Dakota Highway Commission for the coming decades. The commissioners commented on the difficulty in obtaining qualified engineers in their 1919 Annual Report. "This department," they wrote, "was short on engineers" due to "a scarcity of men available in this profession as well as in all other lines of employment." It was impossible to fill requirements "as fast as was desired without paying exorbitant wages to secure men already employed elsewhere, which we refrained from doing, but rather took the conservative course of building up the organization as men became available at reasonable salaries."[127]

Because the State's legislators were unwilling to pay salaries to public employees that were on par with those of many other states, graduate engineers were difficult to lure. James Cracco asserted that to address this, the SHC promoted men from within the organization "who demonstrated ability and interest."[128] In the 1920s and well into the next two decades, many of the "engineers" the state employed did not have degrees.

Kirkham recruited several of his former students from Iowa in order to address this situation. One of them, Kenneth Scurr, would later become the state's Bridge Engineer. Scurr recalled that "every one" of Kirkham's "first bridge designers was a former student of his." Two of his former students, Frank Cave and J. Harper Hamilton, were already in Pierre in the road plans office when Kirkham became Bridge Engineer, so their former professor had them transferred to his department.[129]

Scurr also recalled that Kirkham was a successful professor, perhaps due to his "casual" teaching style and the fact that he was "probably" the only professor who allowed tobacco chewing in his lectures and labs. Steel companies and consulting firms across the United States sought out his graduates for employment.[130]

Kirkham traveled to Ames in 1920 and recruited Scurr, E. S. Hurwich and Galen Stroughton. Kirkham brought three more of his former students from the Class of 1920 when they graduated. This was the entire bridge staff during Kirkham's first year. Scurr remembered that Kirkham

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[126] All quotes about the exchange between Kirkham and Norbeck are from John E. Kirkham to South Dakota Highway Commission, 29 December 1925, Folder 40/109, Class 25B/3/2, Department of Transportation Collection, South Dakota Cultural Heritage Center (SDCHC), Pierre, SD., as found in "Historic Bridges in South Dakota," p. 32.

[127] "Annual Report of the South Dakota Highway Commission, 1919," p. 4.

[128] Cracco, p. 119.

[129] Oral History Project entitled "Missouri River Bridges of South Dakota, 1920 to 1980," Interview of Kenneth R. Scurr by Emory Johnson, (no date), p. 3.

[130] Ibid.

employed a few others, including Eric Jacobsen, a local tracer and draftsman; James Johnson, a foundation sounder; George Ilg, an experienced steel detailer; and M. X. Wisda, an engineer from Ohio State University.[131]

These men were dedicated state employees. As such, Scurr observed that "It may sound improbable to the present day engineers, but Mr. Kirkham got his staff to work a large proportion of the time at night without any thought of overtime pay. I do not remember that any one resented it. There was a job to do and we thought we had to do it."[132] Despite this attitude, one that South Dakota state employees have shared over the decades, state legislators and other citizens frequently complained about the numbers of engineers and their salaries.[133] This criticism of administrative bloat is a constant in South Dakota politics, but it is a criticism that is often at odds with much evidence of efficient and dedicated service.

By 1921, the Bridge Department under Kirkham consisted of a Chief Draftsman, two Designers and Checkers, three draftsmen, and a stenographer. The field force consisted of one Engineer of Construction, one Assistant Engineer of Construction, and two Inspectors. The department also employed one construction crew of a foreman and five men for most of the year. The department staff prepared plans and specifications for 538 bridges and 1462 concrete box culverts that year. They also submitted plans for repair work. Designs for bridges included a 1050 foot steel bridge over the Cheyenne River south of Eagle Butte; a 640 foot wooden bridge over the Cheyenne River near Hot Springs; a 400 foot steel bridge over the White River south of Kennebec; and a 300 foot steel bridge over the Belle Fourche River north of Wasta. These were all located West River.[134]

The Bridge Department developed through "scientific designing" a "much stronger and more durable," yet less expensive type of concrete box culvert resulting in a savings of $500,000 dollars to the counties. The department also "originated and developed a concrete viaduct…to solve many bridging problems at…less cost than if the ordinary structure had been used."[135] Kirkham called this "the Beadle County Special" that could be used in a variety of counties at significant savings over the practice of building wooden bridges that required constant maintenance and replacement.[136] The department report claimed this saved the counties another $100,000. These special designs were sometimes used instead of standards that were called for, but the report noted that "Standards have been used as far as economy would permit."[137]

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[131] Ibid.

[132] Scurr Interview, p. 6.

[133] "Annual Report of the South Dakota Highway Commission, 1922," p. 4.

[134] "Annual Report of the South Dakota Highway Commission, 1921," p. 9.

[135] Ibid., pp. 9-10.

[136] "Historic Bridges," p. 15.

[137] "Annual Report of the South Dakota Highway Commission, 1921," pp. 9-10.

Kirkham was something of an eccentric. At age 46, and standing at only five feet, two inches, he tried desperately to enlist in the army in 1917. He was a natural publicist, as much for himself as for his bridge projects. Scurr noted that Kirkham had "a habit of approaching strangers in hotel lobbies and at the State House directly saying "I'm Kirkham. I'm the man that is saving South Dakota millions of dollars on the bridge program." Despite this, Peter Norbeck, who "did not relish anyone taking headlines" away from him, "was very fond of [Kirkham] and their association was one of mutual admiration."[138]

Norbeck was in the headlines in the 1920s. He had been elected to the United States Senate in 1920 and became one of the principal advocates of the construction of Mount Rushmore. He proposed that a road be built through The Needles to bring tourists to the mountain carving when it was completed. Most engineers said the road could not be built, but Norbeck decided the 'diploma boys' lacked vision. As one source puts it, with "his support and 150,000 pounds of dynamite, the Needles Highway became a reality."[139]

Norbeck also championed the Iron Mountain Road to create, not only enhance, an incredible journey through nature, while at the same time avoiding destruction of the natural habitat. In order to do so, the famous "pig tail" bridges were built. The SHC Bridge Department, the Custer State Park Board, and the U. S. Forest Service cooperated in the construction of the bridges. They were originally built out of Black Hills pine, a material selection that blended in with the natural surrounding, but after the bridges began to deteriorate in the 1950s the engineers used steel as the dominant construction material to strengthen the bridges.[140] The road was laid out so that tunnels went directly through mountains in places that framed Mount Rushmore as the vehicle and its passengers emerged.[141]

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[138] Oral History Project entitled "Missouri River Bridges of South Dakota, 1920 to 1980," pp. 2-3.

[139] "Peter Norbeck vs. the Diploma Boys: Building the Impossible Road," US Department of Transportation, American Byways website at http://www.byways.org/stories/64787. See also Shebby Lee, "Traveling the Sunshine State: The Growth of Tourism in South Dakota, 1914-1939," *South Dakota History,* vol. 19, #2 (Summer 1989) for commentary on the impact roads had on tourism.

[140] "DRAFT: Historical Bridges," p. 41.

[141] "Peter Norbeck vs. the Diploma Boys: Building the Impossible Road."

Figure 6: Needles Highway
(Courtesy of the South Dakota State Historical Society)

Figure 7: A pig tail bridge along Iron Mountain Road
(Courtesy of the SD Department of Tourism)

Figure 8: View of Mount Rushmore along U. S. Route 16 A
(Courtesy SD Department of Tourism)

No one could deny that Norbeck was a man of grand vision. He left a lasting legacy in South Dakota and the nation when he died in 1936 just after the dedication of Jefferson's head. That legacy includes one of the world's most famous monuments and one of its most famous scenic byways.

Another Iowan and former student of Kirkham's brought change to the SHC in 1919.[142] Thomas Harris MacDonald, from Montezuma, Iowa, was appointed Chief of the Federal Bureau of Public Roads in 1919. It was MacDonald who that year "arranged for the government to transfer $130 million worth of surplus military trucks and equipment to state highway departments."[143] He and General John Pershing, who served for three years as the Chief of Staff of the U. S. Army from 1921 to 1924, also envisioned a network of routes across the country that they deemed essential for military and national security purposes. Once drawn, it came to be known as the "Pershing Map," and as "a prototype of an interstate system."[144]

As a result of MacDonald's vision, Congress authorized Secretary of War Newton D. Baker to transfer to Secretary of Agriculture David F. Houston surplus war materials suitable for building roads. The Bureau of Public Roads would distribute the materials to the State Highway Departments. The materials included hundreds of "trucks and automobiles, a few tractors and some road grading machines." The SHC requested "as many trucks and tractors as the Bureau of Public Roads could

[142] Oral History Project entitled "Missouri River Bridges of South Dakota, 1920 to 1980," p. 6.

[143] Lewis, p. 16.

[144] Ibid.

possibly spare" as well as a request "for some road grading machinery, which appeared from the description available to be suitable for use on highway construction." The commissioners anticipated giving most of the items received to the counties.[145]

The commission's Annual Report for 1922 noted that South Dakota received 439 trucks, 83 tractors, 68 cars, and miscellaneous supplies worth $2,013,371.93. Two-thirds of the trucks were allotted to the counties.[146] The State also received one million dollars' worth of explosives.[147] A central distribution center called the Supply Depot was established in Mitchell in 1920 to service, maintain, and distribute the war surplus. The State invested $32,598 dollars in this facility.[148] Total receipts for the year were $4,805,458.19 ($25,000 from the U. S. Government Indian Department) and total expenditures were $3,769,556.67.[149]

The machines highway builders and engineers were using in the 1920s were bigger and more sophisticated than earlier technology. The application of new technologies to road building had a gradual impact. During the years that machines replaced men and animals, the cost of moving "a cubic yard of earth declined from 40 cents in 1922 to 21 cents in 1938."[150]

Federal monies continued to drive many of the construction projects of the early 1920s. The Federal Aid Highway Act of 1921 provided an average of $75 million per year for federal roads and brought the idea of a national road system from theory to reality. Lewis observed that MacDonald's vision under this law was that each state "would designate seven percent of its roads to be linked with those in other states. Linking all the county seats in the country, these primary routes would create, MacDonald wrote in his best bureaucratic style, a 'complete and economical highway transport service throughout the nation.'"[151]

South Dakota was allotted 8,000 miles of road in the federal system of "an adequate and connected system of highways interstate in character."[152] The impact of federal aid was enormous just five years after the landmark legislation of 1916. One measure of that is the number of miles of road completed or nearly completed in calendar year 1922. They included 2183.17 miles of grading and structures (Federal Aid, 972.70 miles; State Aid, 1,210.47 miles) and 572.58 miles of gravel surfacing (Federal Aid, 552.53 miles; State Aid, 20.05 miles. Bridges and culverts included Federal Aid for 253 miles of grading and structures and 266.55 miles of gravel surfacing over 71 bridges and 195

[145] All quotes in this paragraph are from the Annual Report of the South Dakota Highway Commission, 1919," pp. 3-4.

[146] "Annual Report of the South Dakota Highway Commission, 1922," p. 9.

[147] New York Bureau of Municipal Research, "General Report on the Administration and Management of the State of South Dakota," (New York, 1922), pp. I; 74. As found in Cracco, p. 33.

[148] Cracco, p. 33.

[149] "Annual Report of the South Dakota Highway Commission, 1922," pp. 8-9.

[150] Lewis, pp. 17-18.

[151] Ibid., p. 18.

[152] "Annual Report of the South Dakota Highway Commission, 1922," p. 7.

culverts. State Aid projects included 316.12 miles of bridges and culverts, including $10,644.34 spent on wood bridges.

The Department also made agreements for 286.89 miles of construction for 30 projects, with the federal share being $1,689,102.91 and the state advanced $1,213,731.42 on them. Federal Aid Bridge and Road Contracts included 56 contracts entered during fiscal year and 47 uncompleted contracts at the beginning of the fiscal year. Surveys were made for 335.79 miles of Federal Aid roads for 43 projects and plans were made for 48 more containing 256.23 miles, costing $64.65 per mile for plans and $46.35 for survey.[153]

The Federal Aid Highway Act of 1916 apportioned aid as follows: 1/3 "in the ratio which the area of each state bears to the total area of all the states; 1/3 in the ratio which the population of each state bears to the total population of all the states; 1/3 in the ratio which the mileage of mail routes in each state bears to the total mileage of mail routes in all of the states."[154] South Dakota's share from 1917-1925 appropriations was $8,710,700 out of $540,000,000.[155]

Of course, the state had to provide matching funds. The state's leaders had experimented with various methods of raising revenues for road construction and maintenance. In general, South Dakota leaders adopted a philosophy that those who used the highways and roads should pay for them. In turn, the people who used the roads expected that their taxes would be used for roads.

Although this was a general principle, it was tested severely on a number of occasions when the legislature diverted highway funds to other projects, including to the veterans' fund, to the Rural Credit Interest Fund, and the Sinking Fund. The revenue figures from 1937 provide some context for the impact this practice had on highway construction. Fuel tax receipts for that year were $4,313,620.05. Of this, $2,125,739.08 was transferred to the Highway Fund; $2,120,834.42 went to the Rural Credit Interest and Sinking Fund; $29,000 went to the State Treasurer for Motor Fuel Expense; $9,000 to Highway Motor Fuel Expense; $9,000 to the State Auditor for Motor Fuel Expense; and $3,000 to Attorney General for Motor Fuel Expense. An additional $225,000 was allocated to the Motor Fuel Exemption Fund. Over half of the motor fuel taxes went to something other than highway related expenses, so that these taxes provided only 24% of the total highway revenue.[156]

The public outcry against diversion led the 26th Legislature to pass a resolution to submit to the people for referendum in 1940 a constitutional amendment that would prohibit the diversion of gas tax funds from transportation projects.[157] The amendment passed and the SHC made a final payment

[153] Ibid., p. 5.

[154] Ibid., p. 6.

[155] Ibid., p. 7.

[156] "Annual Report of the South Dakota Highway Commission, 1937," pp. 9-10.

[157] Cracco, p. 63; pp. 67-68; "Annual Report of the South Dakota Highway Commission, 1939," p. 11.

of $950,000 from the State Highway Fund to the Soldiers Compensation and Interest and Sinking Fund in 1941.[158]

In 1917, the legislature enacted a measure that placed a one-tenth mill levy on personal and real property for road construction. The law required that eighty percent of the monies raised would be spent in the county where they were collected. If a given county had no highway project underway, the state could divert that county's revenues to other counties where projects were being pursued. The counties were also designated to receive seventy-five percent of the six million dollar bond issue that the 1919 legislature had authorized on the basis of assessed valuation. This was popular with the residents of counties with higher valuations, but there was significant opposition to the formula from people residing in counties with low assessments.[159]

Economic efficiencies were important in any state government, but in a state like South Dakota where the extremes of both geography and weather led its residents to refer to it as the "land of infinite variety," they were essential. Road maintenance and construction was done mostly in the clement months and could continue even through October and into November in most years. That was not the case in 1919, though, when "[f]reezing weather and snowstorms set in early in October and all grading had to be given up for the season." Above average rainfall in April, May, and June of 1920 prevented contractors from working more than a few days in each of those months.[160]

Despite these setbacks, the commissioners anticipated great progress in completing the State Trunk Highway System "of dirt and gravel roads connecting all points of the State."[161] Expenditures grew along with expectations. The SHC spent $845,877.65 for the period 1 July 1919 to 30 June 1920. Of that, $700,221.33 was spent on construction.[162] Anticipated available funds from all sources for the period ending in 1921 were $8,469,380.75. This figure included the $6 million in authorized bonds.[163]

To stimulate their sales, which had reached only $250,000 as of 30 June 1919, the Legislature raised the interest paid on them from five to six percent in 1921.[164] The levy of 1/10th of one mill had produced $291,841.91 by 1919. Still, for the first time in its history, South Dakota had resources more than sufficient to fund its transportation development needs. Out of a total of $546,288.91 available during Fiscal year 1919, the Commission spent only $49,906.92. Fifteen projects were underway by 30 June 1919 and "preliminary surveys had been made on twenty others."[165]

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[158] "Annual Report of the South Dakota Highway Commission, 1941," p. 27.

[159] Cracco, pp. 63-64.

[160] "Annual Report of the South Dakota Highway Commission, 1920," p. 3.

[161] Ibid.

[162] Ibid., p. 4-5.

[163] Ibid., p. 8.

[164] Cracco, p. 64.

[165] "Annual Report of the South Dakota Highway Commission, 1921," p. 5.

Table 1: Costs per mile of road construction according to Preliminary Surveys
(Figures do not designate the types of road, surfaces, bridges, land costs, etc.)

County	Miles	Cost per mile
Aurora County Fed Aid Project	7.76	$47.41
Brown County Fed Aid Project	12.84	$37.34
Brown County State Aid Project	11.05	$26.36
Butte County Fed Aid Project	11.81	$29.98
Clay County Fed Aid Project	9.97	$18.76
Clark County Fed Aid Project	16.45	$29.84
Day County Fed Aid Project	34.87	$37.18
Davison County Fed Aid Project	13.95	$25.15
Hanson County Federal Aid Project	28.35	$32.22
Lawrence County Fed Aid Project	22.94	$70.05
Lake County Federal Aid Project	12.44	$28.26
Minnehaha County Fed Aid Project	21.82	$35.50
Pennington County Fed Aid Project	15.02	$78.10
Stanley County Fed Aid Project	18.53	$32.25
Union County Fed Aid Project	9.04	$21.06
Yankton County Fed Aid Project	10.08	$19.17
Hughes County Fed Aid Project	27.73	$16.92
Hyde County Fed Aid Project	6.96	$42.06
Hand County Fed Aid Project	15.03	$29.59
Walworth County Fed Aid Project	24.82	$34.42

During the fiscal year ending June 30, 1920, the Commission spent $815,828.44, $190,650.14 of which came from the federal government. Thirty-nine State and Federal Aid projects received $700,221.33. Counties received significant assistance 1919 and 1920 in planning and building bridges.[166]

Productivity during 1920 was less than had been hoped due to problems of weather and inflated prices for material and labor. That trend would be reversed in 1921 as commodity prices declined significantly.[167] An example of this was that the SHC quit letting bids for gravel surfaces in 1920 and rejected all that came the year before the ban. They did award contracts for grading and drainage structures. This reduced by 65% in 1921 the price asked in spring 1920 for several projects.[168]

Considerable progress was made on a variety of projects during fiscal year 1920-1921. It was now possible, the Commission asserted, "to travel across the State on a number of various highways, both north and south and east and west and be on good graded roads practically all the way."[169] This included roads built as a result of the construction of Custer State Park and the State Game Lodge. "In order to make the park accessible to the people of the State," the Commission built roads to it

[166] "Annual Report of the South Dakota Highway Commission, 1921," p. 6.

[167] Ibid., p. 5.

[168] Ibid., p. 6.

[169] Ibid.

using convict labor to a "considerable extent."[170] The park and the State Game Lodge would become the Summer White House for President Calvin Coolidge.

Figure 9: Custer State Game Lodge
(http://www.custerresorts.com/state-game-lodge/photo-gallery/)

Another significant development with regard to revenue came in 1921 when the U.S. Congress passed legislation that required the states to provide maintenance for all roads built with federal monies. This required an increased flow of revenue and it was found in the application of a gas tax of one cent per gallon. The Legislature restricted the use of these funds to construction and maintenance and limited its own ability to influence how the funds were spent. The Legislature also passed a measure to provide for a graduated motor vehicles tax but delayed its implementation until I January 1923 because of the perception that the state had sufficient revenues in 1921.[171]

South Dakota farmers resented a gasoline tax to support roads. They argued that much of the fuel they consumed was not related to road use, but to the planting and harvesting of crops. The argument was disingenuous in that without the roads, the farmer could not market her product, but a rebate program was established anyway. The possibilities for abusing such a program were numerous. Many South Dakotans can recall a farmer using non-taxed gasoline to fill up his personal vehicle and drive on tax-supported highways. The state paid out nearly one million dollars in refunds in 1929 alone.[172] C. T. Charnock, a former commissioner on the SHC from Sioux Falls, pointed out in a 1930 article entitled "Paving Problems" that another state collected seven times South Dakota's gas tax revenue yet refunded only half of what South Dakota did.[173]

The Legislature continued to modify other laws to increase revenues. Motor Vehicle Registration rates increased gradually throughout the 1920s and 1930s. In 1931, the Legislature changed the distribution of funds to provide forty-eight percent of registration revenues to the County Motor

[170] Ibid.

[171] Cracco, p. 65.

[172] Cracco, p. 68.

[173] C. T. Charnock, "Paving Problems," *South Dakota Highway Magazine,* vol. V (January 1930), p. 10. As found in Cracco, p. 69.

Vehicle Fund, thirty percent to the Special Highway Fund, two percent to the Secretary of State, and twenty percent to the State Highway Fund.[174]

Common carriers were also a source of revenue. A 1923 law applied an annual tax of five dollars on any vehicle operated for profit. Lawmakers altered the formula in 1925. They created four carrier classifications with a common registration fee of ten dollars. To incentivize carriers to move from hard rubber to pneumatic tires (which were less destructive of roads), the law also taxed the first two tiers at the rate of three percent of gross earnings on vehicles with pneumatic tires but four percent if the vehicle was outfitted with hard rubber tires. The law taxed the vehicles in the second two classifications according to weight, with fees ranging from twenty dollars to one hundred dollars.[175] The state revised the law again in 1933 to include an additional classification with several sub-classifications for farm-to-market vehicles. With the exception of a five percent administrative charge, the State Highway Department received all these funds.[176]

These actions—the gas tax, the common carrier tax, and the motor vehicle registrations—allowed the South Dakota Highway Department a revenue stream nearly independent of the State Legislature. If the SHC deemed increases in the rates of these taxes necessary, its members would have to go to the lawmakers, but they did not have to request and submit a specific budget each year. By 30 June 1937 there were 144,803 licensed automobiles, 25,710 trucks, 16,791 trailers, 342 motorcycles, and 76 buses in South Dakota. The Motor Vehicle Tax revenue stream for the Highway Fund that year was $763,547.33 ($328,349.21 was from the 20% of license plate fees; the remaining $435,198.12 was from the 95% the state got from the special carriers fee). License fees accounted for 9.70% of revenues that year.[177]

The Commissioners believed they were obligated in 1921 to explain the disparity between costs per mile for Federal Aid and State Aid projects. Federal aid projects cost considerably more money per mile, they noted, due to the fact that in most instances the worst part of the main road through a county was selected first for construction and wherever expensive construction was encountered it was a Federal Aid project. The State Aid work has been more of a temporary nature and owing to the vast stretches of unimproved highway that had to be traversed, especially in the sparsely settled country west of the Missouri River, in order to make connection possible by highway traffic it was necessary to resort to a cheap type of construction for temporary use at least, and part of these roads will no doubt have to be re-built before placing gravel surfacing thereon.[178]

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[174] Homer Reese, *A History of the State Highway Commission in South Dakota,* vol. 2, unpublished and unfinished Works Progress Administration project, 1938, p. 43. As found in Cracco, p. 70.

[175] *Session Laws of South Dakota, 1925,* Chapter 224, Sections 19-20. As found in Cracco, pp.71-72.

[176] Cracco, p. 72.

[177] "Annual Report of the South Dakota Highway Commission, 1937," p. 10.

[178] "Annual Report of the South Dakota Highway Commission, 1921," p. 7.

There were many problems in the building of roads. One common problem was that grades frequently had to be increased in low places, causing a need for more materials and thus causing the cost of the project to increase. Other problems included the need to renew bridges. Federal Aid Project No. 2 in Lincoln County experienced both these problems. L. E. Gage of Sioux Falls was the contractor for 9.97 miles of road from Canton to Worthing. The original bid price was $55,926.40; the actual price was $76,372.58.[179]

Other problems included the location of gravel pits and availability of gravel. The pits themselves sometimes required roads to be built to them in order to get the gravel to the sites. In other instances, pits did not contain sufficient gravel to complete the project. One such case was Federal Aid Project 12, which involved 22.68 miles of road from the south Minnehaha County line to the north county line through Sioux Falls and Dell Rapids. It was part of the "King of Trails" highway and was originally to be surfaced with bituminous materials and concrete, but costs reduced it to mostly gravel surface. It was thought that a gravel pit between Sioux Falls and Dell Rapids had enough gravel to cover ten miles of the road, but when it was excavated, it contained only enough to cover one mile.[180]

Necessity required a solution, as it was deemed too expensive to ship in gravel. Crushed Sioux Quartzite from the Dell Rapids quarry was used as a subbase and then it was covered with gravel, reducing the amount of gravel needed. This solution was applied just south of Dell Rapids all the way to the north county line.[181]

In the case of Federal Aid Project No. 9, 12.84 miles of the Yellowstone Trail was being built from Aberdeen to Webster. Gravel was again an issue, and when a large quantity—30 acres sitting on 15 to 20 feet deep of highway quality gravel—was found in Brown County, the SHC and Brown County built a 1.5 mile railroad spur from it to the Chicago, Milwaukee, and St. Paul line in Aberdeen, including the construction of a bridge over the Elm River, in order to access the gravel.[182]

The building of bridges had inherent problems, too. One of these was the impact of ice during winter. Federal Aid Project No. 27 called for the construction of a bridge over the White River south of Presho. The Standard Bridge Company of Omaha, Nebraska, was awarded the contract and began construction in 1919. Progress was slow, and when the ice went out in the spring of 1920, so, too, did the false work under one of the spans. Half of the steel for that span ended up in the river. The bridge was finally completed in the late fall of 1920.[183]

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[179] Ibid., p. 18.

[180] Ibid., p. 23.

[181] Ibid.

[182] Ibid., p. 21-22.

[183] Ibid., p. 30.

Road and bridge maintenance was always an issue. The SHC recommended legislation that appropriated funds for the maintenance of the State Trunk Highway System. The commissioners also requested legislation "to enable the county or township officials to mow weeds along roads and bill the property owner." The current law "required notice to the property owner and if he failed to mow, the county would mow and assess it to the land."[184] There was no mention of snow removal, as the public apparently did not expect it at that time, although by 1930, snow removal was mandatory. This caused the state to build "higher grades and wider cuts to facilitate snow removal.[185]

As the new decade began, the nation and the state experienced the effects of the continuing influence of Progressive Era philosophy on the relationship between the state and experts. Although few Americans remember Warren G. Harding and his administration for anything other than the scandals that accompanied both, Harding's appointment of Herbert C. Hoover as Secretary of Commerce had a lasting effect for the way Americans do business.[186]

Hoover, a mining engineer with a degree from Stanford University, emphasized efficiency in government and in industry. He turned the Department of Commerce into a data warehouse for American businessmen. He promoted standardization of construction products, weights and measures, and a host of other practices to encourage efficiencies in government and business. This trend can be seen in developments in the SHC. One was in the creation of the Materials Testing Laboratory.

The Bureau of Public Roads had always promoted research, but especially so after World War I. Lewis observed that "MacDonald established and helped finance the Highway Research Bureau in 1920 to study matters such as the economics of highways, traffic analysis, maintenance, and materials. The results appeared regularly in *Public Roads,* which highway builders and officials across the country read avidly."[187]

The negative impact of wartime truck convoys on public roads led the bureau to "redouble its research efforts."[188] That research focused on answering such questions as what was the best sand and in what ratio it should be used when mixed with cement to make concrete? How much mixing time created the optimum product? How did variations in time, pouring, and curing conditions affect the outcome? What type of steel was best for reinforcing concrete and where should it be placed? Was one type of joint filler better than another and under what circumstances? Bureau engineers

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[184] "Annual Report of the South Dakota Highway Commission, 1922," p 6; p. 8.

[185] Cracco, p. 79.

[186] Standard reading on Progressive Era philosophy includes Ellis W. Hawley's *The Great War and the Search for a Modern Order: A History of the American People and Their Institutions* (New York, NY:), William Leuchtenberg's *Perils of Prosperity, 1914-1932* (Chicago, IL: University of Chicago Press, 1993) and Robert Wiebe's *The Search for Order* (New York, NY: Hill and Wang, 1966).

[187] Lewis, pp. 14-15.

[188] Ibid.

"laid control sections of pavement and tested each with a variety of pounding machines" on the Bureau's test farm in Arlington, Virginia, in order to find answers.[189]

Working with the National Bureau of Standards and AASHO, the Bureau also determined the best shapes, colors, lettering, and placement of road signs. One result of this effort was the adoption of a standardized system of numbering highways in 1925. North-to-South routes were assigned odd numbers "beginning with 1 on the East Coast and 101 on the West. East-to-West routes began with the number 2 in the north and the number 70 across the South. The job was complete by 1926 and the familiar federal shield signage with route numbers was erected on federal interstate roads throughout the country."[190]

Prior to 1921, the SHC had to send materials out of state for testing. In that year, a Materials Testing Laboratory was approved to test "cement, sand, sand-gravel, gravel, surfacing material and corrugated iron pipe."[191] The SHC approved the purchase of: a Fairbanks Morse 1000 pound Cement Testing Machine; Tyler screens and sieves; Scales and balances; Vicat Apparatus; Spencer No. 74 microscope; Rotap Sieve Shaker; Steam bath; moist closet; and other necessary items. The commissioners noted the tremendous benefit in terms of efficiencies in their annual report that year. The lab also tested materials for the counties at no charge, although that practice would continue only if it did not require additional personnel.[192] C. J. Loomer was reassigned as Engineer of Tests.[193]

The lab was originally located in the basement of the Capitol Building in a damp room with no natural light and limited ventilation from an airshaft. Commissioners noted in several subsequent annual reports that the working environment was harmful to its employees.[194] Nonetheless, they continued to work under such conditions even as the staff grew. It was not until 1931 that the State Legislature approved the construction of a "69-foot-by-168-foot annex to be attached to the north side" of the 1910 Capitol. Contractors completed the four-story annex in December 1932 at a cost of $295,857. All 624 state employees whose jobs were in Pierre, including those in materials testing, were now housed in the Capitol with modern facilities.[195]

Another development that occurred as a result of the search for efficiencies was the creation of the State Cement Plant. Peter Norbeck had campaigned for reelection as governor in 1918 on a platform that included development of state owned businesses, one of which was a proposed

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[189] Ibid.

[190] Ibid., pp. 18-19.

[191] "Annual Report of the South Dakota Highway Commission, 1921," p. 15.

[192] Ibid., p. 16-17.

[193] Ibid., p. 3.

[194] See "Annual Report of the South Dakota Highway Commission, 1923," pp. 7-9 as an example.

[195] Marshall Damgaard, *The South Dakota State Capitol: The First Century* (Pierre, SD: SD State Historical Society Press, 2008), p. 82.

cement plant. State lawmakers approved legislation authorizing the plant, but it was not until 1921 that construction began on the facility outside Rapid City.[196]

Norbeck's original proposal called for the State to sell cement at the cost of production, but Governor William McMaster appointed a cement commission to examine whether such a proposal was prudent. The commission conducted a study of the cement industry and concluded it would serve the state better to sell its product at market prices. The state began selling cement in December 1924.[197] It continued to do so until Governor William Janklow pushed the legislature to allow him to sell the plant to a private Mexican firm in 2001.[198] The proceeds of the sale were subsequently placed in a trust.

McMaster also took on "big oil" during his second term as governor in a fashion that involved the SHC. The governor believed the oil companies were gouging South Dakota residents in 1923. The companies price of 26.6 cents per gallon of gasoline was excessive, in his opinion, so he ordered the State Highway Department "to sell motor fuel to the public at sixteen cents" per gallon. The oil companies relented and began to sell at the same price as the state.[199]

It was a short-lived victory, though, and the gas wars continued over the next two years. Each time the companies raised their prices above what McMaster thought was a reasonable level, the State Highway Department began to sell gasoline again. The Legislature even gave "statutory authority to the Highway Department to engage in the sale of gasoline, oil, and lubricants whenever the Governor or other designated state officials considered retail prices 'unreasonable and excessive.'" The private oil dealers challenged this law and the South Dakota Supreme Court sided with them in a 28 October 1925 decision. The state was now out of the oil business.[200]

It was, though, still in the business of building bridges. Rivers are an important feature, if not the defining feature, of South Dakota. The Missouri River bisects the state and the James River bisects the eastern half of the state. The Grand, the Cheyenne, the Moreau, the White, and the Big Sioux are prominent features of the landscape as well. Bridging these rivers was an important part of the development of transportation.

The first bridge in South Dakota was more than likely the one built across the James River in Spink County at Armadale.[201] The oldest known bridge in the state is a railroad bridge near Brandon

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[196] Schell, p. 268; p. 274.

[197] Ibid., pp. 274-275.

[198] Janklow received approval by way of a concurrent, or joint, resolution of the South Dakota Legislature on 28 December 2000. See http://legis.state.sd.us/sessions/2000s/bills/scr1enr.htm as accessed 25 May 2011.

[199] Schell, p. 275.

[200] Ibid.

[201] Doane Robinson, *Doane Robinson's Encyclopedia of South Dakota* (Pierre, self-published, 1925), p. 348; as found in "Historic Bridges in South Dakota." Prepared for SDDOT by Renewable Technologies, Inc, Butte, MT, January 1990, p.6.

that the Chicago, Minneapolis, St. Paul and Omaha Railroad built over the Big Sioux River.[202] Early South Dakota bridges were flimsy structures and in Minnehaha County it was a rare bridge that lasted more than a few years.[203]

Although counties began to award annual contracts to bridge building firms for all bridge construction in a county during the year in 1903, the Legislature did not pass a law requiring the practice until 1911. Called the Issenhuth Bill after its sponsor E. C. Issenhuth of Redfield, it required county commissioners to award bids for bridges on a per lineal foot basis.[204] This became a bonanza for bridge companies as they would become the *de facto* county bridge company. As an example, the "Iowa Bridge Company held the annual contracts in Spink, Beadle, and Brookings counties from 1903 until at least 1919."[205]

Early bidding procedures for bridges were based on the practice of pooling. Eli Imberman documented this in his dissertation on the Chicago Bridge and Iron Company. The bridge companies, he observed,

agreed to divide states among themselves, assigning particular counties to specific bridge companies. Whenever a county advertised a bridge construction project, agents for each of the companies would meet near the site and discuss the cost of the project. If they could agree, they would permit the company in whose territory the bridge was to be built to submit the low bid, allowing for a comfortable profit. The others would submit higher bids. At the conclusion of the project, the successful bidder would disperse a portion of the profit to the other companies in the pool.

Several firms doing business in South Dakota were known to engage in this practice in other states.[206] This bidding system was effectively eliminated on 2 March 1917 when the S. D. State Legislature enacted Chapter 359 (H. B. 312).

Because rivers define South Dakota's borders with three states, it made economic sense to construct bridges cooperatively when possible. A bridge was built over the Big Sioux River between Sioux City, Iowa and Union County, South Dakota as a joint effort in 1922-23. Sioux City paid 2/3 of the $60,000 cost and Union County 1/3. This was a special viaduct type bridge. The crew used 2.5

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[202] Frederic L. Quivik, "Determination of Eligibility, Determination of Effect, and Proposed Mitigation Measures for Cultural Resources Effected by Chicago and Northwestern Railroad Abandonment of the Line Between Agate, Minnesota, and Ellis, South Dakota," report prepared for the Chicago and Northwestern on file at the South Dakota Historic Preservation Center, Vermillion, 1988, p. 14, n. 6. As found in "Historic Bridges," p. 9.

[203] Minnehaha County Commissioners Records, 4 July 1881. As found in "Historic Bridges," p. 7.

[204] "Historic Bridges," p. 29.

[205] "DRAFT: Historic Bridges," p. 26.

[206] Eli Woodruff Imberman, "The Formative Years of Chicago Bridge and Iron Company," Ph. D. Dissertation, University of Chicago, 1973, pp. 153-164, 173-176, 260-262, 267-269, 288. For a list of those bridge builders partaking in pooling arrangements from 1880-1897, see the appendix on pp. 603-605. As found in "DRAFT: Historic Bridges in South Dakota," p. 27.

inches of asphaltic concrete to surface a 30-foot roadway and two 6-foot sidewalks. The bridge could carry 40-ton loads. Ever conscious that state legislators were on the lookout for bloat in administration, the SHC noted in its report that "administrative costs are 7/10ths of one percent of the project costs."[207]

No one could contemplate a system of transportation without taking into consideration the need to bridge the Missouri. Railroad bridges spanned the river in 1907 at Pierre and Mobridge and a pontoon bridge was built at Chamberlain, but ferries carried all vehicular traffic between the two sections of the state until 1924. The Bridge Department section of the SHC Annual Report for 1923 noted that plans had been drawn for two Missouri River bridges and commended the department for doing this and all its other work with such a small staff.[208]

The Meridian Bridge, completed at Yankton in 1924, was the first highway bridge to span the Missouri River in South Dakota. It was privately financed and connected Yankton with Nebraska. Although construction of the substructure began in 1920, capital problems stalled work on the superstructure until 1923. Twenty years after the bridge was opened, shareholders in the company had received just a two percent return on their investment, so they sold the bridge to the City of Yankton in 1946. The city leaders' vision was encapsulated in the slogan "Let's make it free in '53." The city collected tolls until it recovered its investment. Beginning in 1953, tolls were discontinued and the city transferred ownership of the bridge to the States of Nebraska and South Dakota on 1 December 1953.[209]

[207] "Annual Report of the South Dakota Highway Commission, 1923," p. 6. This annual report is 48 pages long and reflects a changed style of report. The commissioners wrote: "The former reports have contained a short write-up and explanation of each project ..... It is believed that these reports are read by very few people and therefore are not included in this report, but the tabulation will show the comparative amount of work done during the year and also the comparative prices for the last five years." The lack of a narrative weakened the historical value of the reports.

[208] "Annual Report of the South Dakota Highway Commission, 1923," p. 6.

[209] See document entitled "State of South Dakota, Yankton Toll Bridge, 1948, Folder 96-42 and "Audit of Yankton Municipal Bridge," by Harry H. Hobbs, CPA, 11 May 1954. Folder 96-42.

Figure 10: The Meridian Bridge in Yankton
(Courtesy of fhwa.dot.gov)

A month after the Meridian Bridge opened, the first public highway bridge carried traffic across the river along U. S. Highway 12 at Mobridge.[210] Four more bridges were completed at Wheeler, Chamberlain, Pierre, and Forest City over the next two years. These bridges represented a key component of the Trunk Highway System and it was with this feat of engineering that Kirkham left his legacy.

Kirkham was frugal. He developed a bridge crew that worked for the SHC. He would loan them out to counties, but insisted that they be paid only for the hours they worked, not straight time. In a letter to Butte County commissioners, he said that paying straight time eliminated the "incentive to work when the weather was a little disagreeable."[211]

His frugality was behind the effort to free the counties from the stranglehold the private bridge building companies had over them. He developed a series of standardized bridge plans "especially suited to South Dakota's conditions of climate, terrain, and rural traffic needs."[212] The annual reports of the SHC during Kirkham's tenure always make reference to the cost-saving efficiencies of the Bridge Department.

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[210] See Greg M. Wysk, "'The East and West Are One'": The Missouri River Bridge at Mobridge," *South Dakota History* 29 (Spring 1999), pp. 23-43 for more on the bridge at Mobridge.

[211] Glen Preston to J.E. Kirkham, 21 February 1921; J.E. Kirkham to Glenn Preston, 23 February 1921, Folder 22109, DOT Collection, SDCHC, as found in "DRAFT: Historic Bridges in South Dakota," p. 35.

[212] Historic Bridges, 15.

The fact that he had delivered on his promises for efficiencies, coupled with his penchant for publicity, led him to claim that he could build five bridges across the Missouri River for two million dollars in 1923. It turned out that was just a few hundred thousand dollars more than the cost of the privately constructed Meridian Bridge in Yankton when it was completed in 1924.

The Legislature had already begun to collect funds for bridge construction across the Missouri. The state augmented those funds with increases in the gas tax. The members raised the gasoline tax to two cents per gallon in 1923, to three cents per gallon in 1925, and to four cents per gallon in 1927, although one penny of the last increase was designated for the general fund.[213] That same Special Legislature of 1927 enacted a law that used the new gasoline tax receipts to retire the remaining debt from the 6 million dollar bond, which was $3,120,000, at the rate of $80,000 per month. The projection was for the retirement of the bond in January 1931.[214]

According to Kenneth Scurr, the bridges "were to be constructed only as funds became available. This would have stretched the construction period over eight or nine years. [215] Herbert Schell also noted that the original plans called for three bridges, but stated that the plan was changed "to avoid a deadlock over the selection of prospective sites. In order to hasten construction, counties and municipalities were permitted to advance funds" that would "be reimbursed later out of the bridge fund."[216]

Among Kirkham's most vocal supporters were Joe Parmley of Ipswich, Gene Sargent of Gettysburg, and Julius Skaug of Mobridge. Sargent and Skaug were lawyers and "their help became invaluable when controversy arose over financing and sequence of construction of the bridges at the several locations."[217] Parmley, too, was a lawyer. He served two terms as a State Legislator and would become a State Highway Commissioner in 1925.[218]

Legislators from the contiguous Missouri River counties had proposed many locations. State traffic patterns indicated that Mobridge, Forest City, Pierre, Chamberlain, and Wheeler "were the proper locations." In order to determine where the first bridge would be built, the 1923 legislature decided each legislator would "vote on all five sites in order of preference." A first place vote counted for five points, a second place four, down to a fifth place counting for one. This resulted in backroom bargaining that put "Wheeler, the least populous community, in first place with 480 points followed by Pierre 425, Chamberlain 411, Mobridge 408 and Forest City last with 406." Such wheeling and dealing led some South Dakotans to begin talk of a referendum on the issue.[219]

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[213] Cracco, pp. 66-67.

[214] "Annual Report of the South Dakota Highway Commission, 1928," p. 7.

[215] Scurr Interview, p. 1. The interview contains specific engineering details of the bridges.

[216] Schell, p. 365.

[217] Scurr Interview, p. 1.

[218] "Dakota Images," *South Dakota History,* vol. 29, # 4, p. 364.

[219] All quotes and statements of fact from the Scurr Interview, p. 2.

State Historian Doane Robinson, with the support of Sargent, Parmley, and Skaug, proposed a plan to finance the construction of all five bridges simultaneously. Their proposal allowed the communities and counties along the roads designated to receive bridges to provide funds for construction in advance of the collection of the one-tenth mil revenue. The state would reimburse the counties as funds became available in the order the Legislature had voted bridge construction.[220]

The Legislature and the interested counties supported the plan and the State Court system declared it was legal. This enabled the Bridge Department to proceed with design and construction "on a very expeditious schedule." It took only eight years to reimburse all of the Counties and the tax "expired as planned." The payment of back taxes accrued in a small Missouri Bridge Maintenance Fund.[221]

It was then necessary to choose a specific site in each location for bridge locations. That required assessments of the "approach to the structure, the profile of the streambed and the suitability of the foundation material." Scurr recalled that the Corps of Engineers "furnished boats and crews for the inspection trips and gave assistance to our drilling crews who determined the location of the underlying shale. Mr. Kirkham and I were on these site location…trips and were often accompanied by Senator Norbeck whose interest in the program never faltered."[222]

To the surprise of many of his critics and supporters alike, Kirkham built all five bridges for $2.1 million. The 1923 legislature had appropriated funds for 5 Missouri River bridges on the basis of Kirkham's estimate that he could do it for $2 million. The designs for each of the 5 bridges were very similar, with "minor variances due to local sub-surface conditions."[223]

The first of the five bridges was built at Mobridge along U. S. Highway 12. This bridge was completed and opened to traffic on 12 November 1924. It was first because citizen leaders like Julius Skaug and others came up with significant funds.

[220] Ibid.

[221] Ibid.

[222] Ibid., pp. 1-2.

[223] "DRAFT: Historical Bridges," p. 39.

Figure 11: The 1924 Mobridge Missouri River Bridge
(Courtesy of the Klein Museum, Mobridge, South Dakota)

The next completed bridges were located at Wheeler along what is now SD Highway 1804 and Chamberlain along US Highway 16, both of which were completed in September 1925. The bridge at Pierre along US Highway 14 was completed 26 June 1926 and the Forest City Bridge along US Highway 212 was completed in May 1927. Four of the five bridges would last only twenty years due to the passage in 1944 of the Flood Control Act calling for the construction of four dams on the Missouri in South Dakota that would require four of the five to be placed in different locations. Spans of the old Chamberlain and Wheeler bridges were used to build the new bridge at Chamberlain in 1953.[224]

Although the bridges that spanned the Missouri River were a positive development for many people in South Dakota and beyond, they were the beginning of a long and troubled period for railroads in South Dakota. Herbert Schell observed that the "improvements in road construction, the developments in motorized transportation, and the decline in trade centers forced the railroads to adjust themselves to a loss of business, abandoning depots in small towns and curtailing service in general."[225] Railroads in South Dakota abandoned nearly three hundred fifty miles of track between 1928 and 1968. Passenger service had all but disappeared by 1968 "except for a single train on the transcontinental line of the Milwaukee Road serving Aberdeen and Lemmon."[226] The trucking industry had also heavily diminished the amount of freight railroads carried. As one example, trucks carried only 12% of livestock to the market in Sioux Falls in 1930; by 1950 trucks carried 98% and by 1960 trucks carried all shipments of hogs to Sioux Falls.[227]

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[224] "DRAFT: Historical Bridges," p. 40.

[225] Schell, p. 365.

[226] Ibid., pp. 365-366.

[227] Ibid.

Changes were in the offing for both South Dakota and the nation in 1928. Kirkham resigned in that year after a "squabble with the Highway Commission," which apparently was not an uncommon occurrence according to Scurr.[228] Kirkham returned to the academic world and later pursued private business interests, including the establishment of a highly respected consulting firm, Kirkham Michael.[229] Harper Hamilton became the Bridge Engineer and Kenneth Scurr was appointed the Assistant Bridge Engineer. Scurr would become Bridge Engineer in 1931 and remained in that position until 1963.[230]

Herbert Hoover was elected in November 1928 and took the presidential oath of office in March 1929 as the "roaring twenties" came to a close. The new president, as well as many of his economic advisers, were already concerned that a bubble had developed on Wall Street. Hoover's belief that the role of the federal government must be limited prevented him from taking measures to address the problems on Wall Street, but several private organizations, like a syndicate that J. P. Morgan and Associates put together to spur stock purchases did, but it was too little, too late. The market crashed in October 1929 and the U.S. entered the worst depression in its history by 1930.

The depression hit South Dakota with a double-whammy. Not only did federal aid diminish from 1930 to 1933, but a drought and dust storms also slammed the state's most important industry.

It was during the Depression that another memorable road was built to provide people direct access to another memorable geographic feature of South Dakota. The Pinnacles are part of *mako sica,* the name the Lakota gave to the area English speakers call "the Badlands." They are a majestic sight today as you view them from Interstate 90, but prior to 1931, they were nearly impossible to reach.

Figure 12: Pinnacles
(Courtesy of the SD Department of Tourism)

Governor Warren Green came to Wall, South Dakota, in 1931 for a dedication ceremony on the opening of the Gypsy Oil Well north of Wall. Dale Lewis, a journalist and historian of West River Country, recounts

[228] Scurr Interview, p. 8.

[229] Ben Orsbon to Bucklin, 7 August 2012.

[230] DRAFT: Historic Bridges, pp. 40-41.

that after the ceremony, the governor commented about the Badlands to local rancher Leonel Jensen. Jensen asked Green if he had seen them and he replied that he had not. "Well," said the rancher, "if you haven't seen the Pinnacles, now is a good time to go."[231]

There was nothing but a dirt trail, rutted and bumpy, leading south from Wall to the Badlands. Fences bisected the trail in numerous places, requiring the men to get out, open the gate, cross into a different pasture, shut the gate, and continue on to the next one. This was a routine many West River residents knew well, and it was time consuming. Apparently, the governor found the trip worthwhile, because upon their arrival he declared how beautiful the area was.

His next comment, though, elicited an unexpected response. Green asked why there was no road to such a place. Jensen replied, "Governor, you are the one to answer that question." Within two weeks, heavy equipment had begun construction of a state highway to the Pinnacles.[232]

Figure 13: Peter Norbeck
(Courtesy of the South Dakota State Historical Society)

When the Pinnacles road was finished, U. S. Senator Peter Norbeck, always in tune to the issues of roads in South Dakota, lobbied his colleagues in Congress for additional federal funds to complete a highway through the rest of the Badlands. The two engineering firms hired to plot a route both concluded that it could not be done. Norbeck had heard that story previously when it came to the Iron Mountain Road and the Pigtail bridges and his response was the same. According to Lewis, Norbeck drove his car south of Quinn on the new state road and stopped at…the face of what the engineers said was an impossible cliff. The portly senator, then in his 60s, returned to his car for a hammer and a handful of nails…tore his red handkerchief into strips…climbed the cliff again and nailed strips of the red cloth as he went. When

[231] Dale Lewis, "Badlands Road Builders," *South Dakota Magazine,* July/August 2006, p. 53.

[232] Dale Lewis, "Badlands Road Builders," *South Dakota Magazine,* July/August 2006, p. 53.

he came back down he exclaimed, "The road goes here." And that is where the road goes to this day.[233]

The Great Depression required President Franklin Roosevelt, sworn in for his first term on 4 March 1933, to seek different solutions than his predecessor had to combat the severe economic conditions. There was, though, at least one area in which government spending was not only appropriate, but a stimulus for recovery. Both Hoover and FDR believed in public works projects, and both men supported the construction of highways as a means of relieving unemployment and providing infrastructure.[234]

The commissioners characterized the use of highway funds as "a very satisfactory method of giving aid to the unemployed" in that "approximately 10,500 were given employment during Fiscal Year 1931-1932 through county relief projects. These were, of course, temporary jobs, but they could last through more than one construction season or project.[235] The Emergency Construction Highway Funds regulations limited skilled and unskilled laborers "to thirty hours per week on a minimum wage scale."[236]

Scurr recalled that FDR's administration "initiated some make work programs, one of which was the National Work Relief Program." Federal funds were made available for county and township road projects that would be "high in labor and low in materials." The SHC staff drew plans "with that objective in mind even though the total cost might exceed that of a properly designed structure." Because each county "submitted several applications for these projects," more staff was needed. Scurr noted this was a very positive development for the graduating engineering students at South Dakota School of Mines and Technology and the engineering program at South Dakota State University in Brookings. Engineering jobs for new graduates "were not plentiful."[237]

At the same time, the SHC was working on the Grade Crossing Elimination Program. As early as 1922, the SHC was raising concerns about this issue. The commissioners spent considerable effort to eliminate dangerous railroad crossings. It was their opinion that "all railroad crossings are dangerous though some are not as dangerous as others." The Commission had relocated forty-six railroad crossings on the highways it had built and another five by grade separation.[238] The objective was to eliminate as many railroad-constructed grade crossings as possible. Railroads had begun abandoning

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[233] Ibid.

[234] Rose, p. 2. In addition, the standard treatment of FDR's various programs during the New Deal remains William Leuchtenburg's *Franklin D. Roosevelt and the New Deal, 1932-1940* (New York, NY: Harper Perennial, 2009).

[235] "Annual Report of the South Dakota Highway Commission, 1932," p. 6. This is the first annual report to reference the economic crisis of the Great Depression, although in indirect terms.

[236] "Annual Report of the South Dakota Highway Commission, 1933," p. 10.

[237] All quotes in this paragraph are taken from the Scurr interview, pp. 8-9. It is likely Scurr meant the Works Progress Administration, as there is no organization in the New Deal named the "National Work Relief Program."

[238] "Annual Report of the South Dakota Highway Commission, 1922," p. 5.

their lines and no longer maintained them. This program would provide jobs for the employees of the bridge contractors and address the safety issue associated with the crossings.

Scurr also commented on the havoc politics played in terms of staffing the SHC. Governor Tom Berry appointed F. D. Kriebs, who according to Scurr believed in the spoils system, as Highway Commission Secretary in charge of personnel. Kriebs fired the entire engineering force of the previous administration save one—Scurr—and he had received his notice, too. Before Scurr left to take another job, Gardner Gantz, a son-in-law of U. S. Senator William Bulow of South Dakota and a professional engineer who had worked with the Anaconda Mining Company in Peru, arrived to become Highway Engineer.[239] He was "horrified to find that all of the experienced engineers had been let go. After some stormy sessions with the Highway Commission and a conference call to Senator Bulow he got the carnage stopped" and Scurr continued in his post as Bridge Engineer. [240]

The SHC divided the state into five engineering districts by 1920. An engineer was assigned to each district and they answered to the Maintenance Engineer. James Cracco noted that jobs with the road crews in each district "depended entirely on political affiliation" and that a "wholesale turnover of laborers often took place when the opposition party became the party in office."[241] By 1931 the districts remained in Aberdeen (District 1), Huron (District 2), Mitchell (District 3) and Rapid City (Districts 4 and 5).[242]

Roosevelt's famous "alphabet soup" programs contained significant funds for South Dakota to put into effect his "three Rs": relief, reform, and recovery. The National Industrial Recovery Act (NIRA) provided $6,011,479 non-matching dollars in 1933. The only restrictions were that fifty percent had to be spent on Federal Aid Systems outside municipalities, twenty-five percent within municipalities, and the remaining amount on "secondary or feeder roads." The Works Progress Administration (renamed Works Project Administration in 1939) and other federal programs provided additional funds with the same restrictions. All of this was in addition to the regular matching funds that the federal government continued to provide.[243] New Deal programs like the Works Progress Administration, the Public Works Administration, and the Reconstruction Finance Administration worked in conjunction with the Bureau of Public Roads to channel more than $1.8 billion in road construction funds from 1933-1940.[244]

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[239] William Bulow had been governor of South Dakota from 1927 to 1931, the first Democrat to hold that office.

[240] Scurr interview, p. 9. Scurr did not identify Kriebs by name, but it is listed in the Annual Report for 1933. This problem has had recent news coverage given the State of South Dakota now wants to eliminate the right of appeal for state employees who are discharged. See "Proposal Alarms State Workers," *Argus Leader,* 25 May 2011. As found at http://www.argusleader.com/apps/pbcs.dll/article?AID=2011105260326 on 7 June 2011.

[241] Cracco, p. 81.

[242] "Annual Report of the South Dakota Highway Commission, 1931," p. 6.

[243] Cracco, pp. 58-59.

[244] Lewis, p. 23.

Some of the funds came from a one cent per gallon federal levy on gasoline that Congress imposed in 1932 to make up for declining revenues during the Depression. That revenue was not earmarked for highway construction and was instead put into the general revenue fund.[245]

Federal funds were available for 7% of the total mileage of the state. Because the State Trunk Highway System did not exactly coincide with the Federal Aid System, some state roads were not eligible for federal funds. The SHC worked throughout the 1930s to expand the number of roads eligible for federal aid.[246]

By 1935, the general type of completed construction in South Dakota was a "permanently graded and drained road surfaced with 1,500 cubic yards of gravel per mile": that, according to the commissioners, "meets present traffic requirements on approximately one half of the State System."[247]

Nonetheless, starting in 1931 with the construction of the first bituminous highways in the state under the direction of the new Bituminous Surfacing Department created that same year, the SHC had responded to public complaints about the dust from gravel roads with a vigorous hard surface program.[248] The SHC spent $239,097.33 on treating roads with oil (57.23 miles of road) and $756,273.10 on concrete pavement for 28.46 miles of the State Highway System during Fiscal Year 1935.[249] There were 1,913.4 miles of bituminous surfaced roads in South Dakota as of 1 January 1940 located in 58 of the 64 organized counties. It represented a capital investment of $8,484,232.67 and cost on average $4,434.11 per mile to build.[250]

All told, the state had built 2,275 miles of "dustless roads" by the beginning of the new decade. All new construction in FY 1939-1940 was "on the basis of a 100 foot right-of-way and a 32-foot travel surface." The Commission adopted a policy "to hard surface across the state from east to west five arterial trunk highways" to link SD traffic to the majority of national traffic that flowed east-west. The Commission noted in its report that four of those roads would be completed "within the next few years."[251]

Maintenance costs per mile were by far the cheapest, though, for concrete roads, with rates as follows: concrete, $84.54; bituminous, $122.00; gravel, $244.33; and earth $176.62. Because

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[245] Rose, p. 4.

[246] "Annual Report of the South Dakota State Highway Commission to the Governor for the Year Ending June 30, 1935," p. 6.

[247] Ibid., pp. 7-8.

[248] "Annual Report of the South Dakota State Highway Commission to the Governor for the Year Ending June 30, 1940," p. 6; p. 22. This report contains a valuable historical perspective.

[249] "Annual Report of the South Dakota Highway Commission, 1935," p. 11.

[250] "Annual Report of the South Dakota Highway Commission, 1940," p. 23.

[251] Ibid., pp. 6-7. Current SDDOT usage of "right-of-way" excludes the hyphens.

maintenance costs had become nearly a quarter of the annual expenditures, concrete made sense as the surface of choice for future roads.[252]

The budget for FY 1935 included total receipts of $6,965,115.12 while disbursements totaled $6,900,975.81.[253] Total federal revenue for the SHC was $4,396,225.87 or 65.49% of total highway revenue. National Recovery Work Relief Projects Administration funds through the NIRA amounted to $481,916.19.[254] Funds from federal sources continued to come into the SHC throughout the decade. Works Program funds in 1936 were $2,976,454. The federal government allocated an additional $3,249,086 to be spent on railroad highway grade crossing separation and protection. On 30 June 1936 there remained $620,459 to be apportioned to individual highway projects and $2,301,389 for grade crossing projects.[255]

Fifty-percent of the federal funds allocated to South Dakota had to be spent on "the Federal Aid System outside municipalities or metropolitan areas, 25% within municipalities or metropolitan areas, and the remaining 25% on secondary or feeder roads," but these funds could not be used for maintenance.[256]

Maintenance costs in 1936 were $2,083,130.40, the vast majority of which was spent on gravel roads because they were the majority of road miles in the state. Concrete remained the cheapest to maintain, in large part due to the fact that there were only 250.37 miles of concrete roads in the state system compared to 613.07 miles of bituminous, 4,167.72 miles of gravel, and 537.48 miles of earth grade roads.[257]

Fuel tax receipts accounted for the majority of funds that originated with the state. They amounted to $4,646,191.10 in FY 1938. This was collected for half the reporting year (1 July 1937 to 1 January 1938) at .03 per gallon and at .04 per gallon from 1 January to 1 July 1938.[258] Federal funds that year were $3,931,514.13 and amounted to 51.74% of the total highway revenue of $7,598,279.66.[259]

The Legislature amended the Motor Fuel Tax Law in Section 16, Chapter 255 of the Session Laws of 1937. After 1 January 1938, "seven-eighths of the Motor Fuel Tax after deducting administrative costs and costs of refunds was allotted to the State Highway Fund and one-eighth to the counties to be transferred monthly and placed in the County Highway and Bridge Fund pro-rated to the counties

[252] "Annual Report of the South Dakota Highway Commission, 1935," p. 15.

[253] Ibid., p. 13.

[254] Ibid., p. 9.

[255] "Annual Report of the South Dakota State Highway Commission to the Governor for the Year Ending June 30, 1936," p. 7.

[256] Ibid.

[257] Ibid., p. 15.

[258] "Annual Report of the South Dakota State Highway Commission, 1938," p. 9.

[259] Ibid., p. 11.

on an assessed valuation basis." The State transferred $181,023.93 during the first six months of 1938 to the counties.[260]

By the 1930s, the SHC had a well-established process for road development and construction. The annual reports of the commission reflect this. Surveying was the first step in the process. The survey crew determined the exact location for a project and secured the data necessary for design and construction. By 1933, though, the state had only one full-time survey crew and relied heavily on the resident engineers and their crews to conduct surveys as a cost-reduction measure.[261] After this, the staff drew plans that could, according to the reports, approximate the actual costs of a project to within five percent. The state then let contractors bid for construction rights. There were fifteen resident engineers who supervised such projects according to where the project took place.[262]

The Materials Testing Laboratory continued to provide essential services to the SHC as part of its evolving process for highway construction. That it did so at significant savings to both the state and the counties was a given. The Aggregate Lab tested sand, sand-gravel, gravel, crushed stone, bricks, expansion joints, concrete culvert pipe, and water for concrete. The Soils Lab tested surfacing material, binder, filler, mineral aggregate and seal coat. The Bituminous Lab tested asphalts, tars, and creosotes. The Chemical Lab tested paints for bridges, guardrail, equipment, and traffic stripes. The Cement Lab made all physical tests on Portland cement.[263]

Maintenance remained a significant part of the total budget for the SHC throughout the 1930s. Those costs were nearly 21% of the budget for FY 1931-1932. The SHC had what it called the "patrol system" to carry on maintenance. The system included 305 patrolmen, 145 power patrols, 24 truck patrols, 60 county power patrols that the state rented, and 75 horse patrols. The state also maintained five auxiliary units for "heavy blading, scarifying and snow removal" and additional units for "resurfacing oil and bituminous treated highways."[264]

Although there were many reasons maintenance costs grew in the "land of infinite variety," including the freeze-thaw cycle, blizzards, tornados, and floods, the biggest reason was the impact of the growth of the trucking industry. An example of this was the change that took place in livestock transportation. In 1920, trucks brought 13% of cattle, 1.73% of hogs and 1.65% of sheep and lambs to the state's largest livestock market. By 1940, trucks brought 97.8% of cattle, 99.9% of hogs, and 90% of the sheep and lambs to that same market. This factor alone explains the increased demand for maintenance. It also explains the significant decline in the fortunes of the railroads in the state.[265]

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[260] Ibid., p. 9.

[261] "Annual Report of the South Dakota Highway Commission, 1933," p. 9.

[262] Ibid., p. 10.

[263] "Annual Report of the South Dakota Highway Commission, 1940," pp. 21-22.

[264] "Annual Report of the South Dakota Highway Commission, 1932," p. 11.

[265] "Annual Report of the South Dakota Highway Commission, 1940," p. 24.

Public expectations for maintenance services grew, too, and not only for the physical care of roads. The public demanded information. By the end of the 1930s, the Maintenance Division published a weekly road report that was "mailed to 700 points within and outside of the state." The division also sent telegraph reports "to all radio stations that serve South Dakota" during the winter months and in emergencies sent reports out "over amateur short-wave," telephone, and telegraph."[266]

A Safety Department was also established "in connection with the Maintenance Department and Division of Motor Patrol."[267] Prior to this, the Commission had created an Accident Prevention Bureau in 1935, but the need for a department level organization came about as a response to the 136 deaths reported on the state's highways in 1939 as well as the 1,397 traffic accidents.[268] It was also the result of the fact that cars had exceeded the speed for which the highways of the 1920s had been designed. The SHC also adopted a no passing zone system based on line of sight and average traffic speeds and added a Safety Contact Man to the Motor Patrol to coordinate educational programs focused on safe driving and traffic safety engineering.[269]

The SHC was responsible for policing the state's highways in the 1930s. The 1931 legislature required the SHC to employ two patrolmen. The cost of this in FY 1931-1932 was $9807.85. The patrolmen generated only $5921.70 in revenues.[270] The SHC reorganized the Motor Patrol in 1938. The patrolmen enforced highway laws, collected fees, engaged in education activities for safe driving, and "rigidly" enforced the drunk driving law.[271]

There were several other important changes to the organization as a result of the growth federal funds enabled during the Depression. The SHC and the U. S. Bureau of Public Roads "initiated the Statewide Highway Planning Survey to determine the future policy of the State and local agencies with respect to the construction of highways" in 1936. It would evolve in a few years to have five primary areas of concern: road life study; fiscal study of all receipts and disbursements; allocation of registered motor vehicles in relation to urban and rural residents; road use surveys; and a travel distance study to determine accessibility to State Highway System for rural residents.[272]

Road surveys would be conducted to ascertain the number of miles and type of construction completed within the State. Traffic surveys would determine "the character and volume of traffic" on the state's roads, to eventually include the use of "electric eyes" for counting traffic. A financial survey would determine current revenues and sources in an effort to consider future road

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[266] Ibid., p. 24.

[267] Ibid., pp. 30-31.

[268] The Accident Prevention Bureau is referred to in the "Annual Report of the South Dakota Highway Commission, 1942," p. 16.

[269] "Annual Report of the South Dakota Highway Commission, 1940," pp. 30-31.

[270] "Annual Report of the South Dakota Highway Commission, 1932," p. 11.

[271] "Annual Report of the South Dakota Highway Commission, 1940," p. 29.

[272] "Annual Report of the South Dakota Highway Commission, 1940," p. 26.

construction needs "in accordance with the findings of the survey."[273] This department was the precursor to the Division of Research.

The SHC appointed a full-time Right of Way Agent during FY 1937-1938 "to contact the county commissioners and county highway superintendents concerned as soon as a strip map is available on any project." The ROW agent and his assistants kept "in constant touch with those agencies charged with the duties of acquiring the right of way, urging them to have all the right of way deeds, easements, dedications, or contracts signed up and recorded before the letting of the contract, helping them to iron out" any difficulties.[274]

This seems to be the result of a failure on the part of the counties to properly secure rights of way in the past. The ROW agent was also assigned the task of making an inventory of all past rights of way to ensure they were done properly and that the state did, indeed, have the rights of way it assumed it did. The SHC also charged this office with inventorying county highway systems to include mapping of their definite locations. The commission expected to have a "complete record of the original county highway systems, together with all the changes therein legally made" by the end of the calendar year.[275]

The State Legislature passed Senate Bill 55 the next year that authorized the State Highway Fund to purchase all rights of way. Counties had in some case exceeded their legal debt limits to meet their obligations to acquire rights-of-way and in other cases had failed to acquire legal title for the right of way. The new statue also shortened the time required for condemnation proceedings if they were necessary.[276] The Commissioners were pleased with the ROW Agent and his staff after their first full year of operation. "It has been proven," the SHC asserted, "that the right-of-way can be acquired more quickly, more satisfactorily, and with better certainty than under the old system" and that the purchase price did not exceed that of similar right-of-way under the counties. During the fiscal year 1939-1940, $121,800.29 was spent for right-of-way, $11,723.80 of which was overhead. These represented direct savings to the counties.[277]

The Survey and Design Department was also established in 1938. Its staff worked closely with the Plans Department "in that it decides on the general design while the Plans Department works out the details." The department staff were also charged with anticipating future needs and maintaining cost effective procedures, especially when it came to maintenance. The Commission assured the public

[273] "Annual Report of the South Dakota Highway Commission, 1936," p. 11. See "Annual Report of the South Dakota Highway Commission, 1940," p. 25 for reference to the "electric eye."

[274] "Annual Report of the South Dakota Highway Commission, 1938," p. 12.

[275] "Annual Report of the South Dakota Highway Commission, 1938," p. 12.

[276] "Annual Report of the South Dakota Highway Commission, 1939," p. 9.

[277] "Annual Report of the South Dakota Highway Commission, 1940," p. 21.

that "every effort is made to so locate and design the highways as to reduce maintenance to a minimum, as maintenance is expensive and repairs disrupt the free flow of traffic."[278]

Members of the Commission believed in South Dakota's potential as a tourist and sporting Mecca. Determined to take advantage of this, the SHC inaugurated a program to promote South Dakota to out-of-state visitors in an effort to increase gas tax and other revenues. They advertised in "magazines and newspapers with a total paid circulation of 10,000,00" in 1939-1940 and distributed 500,000 brochures emphasizing sites of historical and scenic interest. Maps were provided upon request. The Commission claimed the net results were an increase in visitors of 12% and an increase in gas tax revenue of $250,000.[279] This effort resulted in the creation of the Publicity Division in 1939.[280]

The SHC and the departments responsible to it experienced phenomenal growth in the 20 years following 1919. Organizationally, the decade ended with the governor as the *ex officio* chairman, three full-time commissioners, and the secretary, who the commissioners hired. In addition to the commissioners and other prominent positions, the Annual Report for 1939 indicates there were 3 accountants, 2 bookkeepers, 11 clerks, 16 stenographers, 2 bridge designers, 2 road designers, 12 computors, 13 draftsmen, 27 engineering assistants, 1 tracer and blueprinter, 19 resident engineers, 1 locating engineer, 14 junior resident engineers, 31 instrument men, 16 inspectors, 34 checkers, 108 rodmen and chainmen, 7 maintenance superintendents, 136 patrolmen, and a "variable" number of laborers and fieldmen "not classified." In addition the Statewide Highway Planning Survey Force consisted of 40 more employees.[281]

Total income under direct jurisdiction of the SHC in 1940 was $6,273,954.67, with 29.02% ($1,820,881.27) coming from the federal government.[282] Maintenance costs were $2,249,065.85.[283] Administrative costs were $209,860.16 (3.12% of the expenditures).[284] In what was seen as an important development in terms of federal-state relations, a new agreement was signed wherein the feds would pay "100% in the cost of construction of highways on the state system across four Indian Reservations."[285]

E. W. Meeker, the State Highway Engineer commented in the 1940 Annual Report that South Dakota, with an area of 77,615 square miles and a population of approximately 675,000, had "100,000 miles of county, township, and State roads, including city streets. Of this total, 6,000 miles

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[278] Ibid., p. 20.

[279] Ibid., p. 31.

[280] See "Annual Report of the South Dakota Highway Commission, 1947," p. 20 for the date the Publicity Division was created.

[281] "Annual Report of the South Dakota Highway Commission, 1939," p. 6.

[282] "Annual Report of the South Dakota Highway Commission, 1940," p. 12.

[283] Ibid., p. 6.

[284] Ibid., p. 15.

[285] Ibid., p. 7.

of State Trunk Highways comprise the System of State Roads." One-third of the State Trunk system was now "dustless."[286]

Despite the ravages of the Depression, South Dakota's leaders had managed to oversee a significant increase in highway infrastructure. They had done so even during the economic downturn of 1936-1937 that resulted from FDR's effort to balance the federal budget. They had done so despite declining tax revenues. It seemed that with a new decade ahead and perhaps the worst of the economic crisis behind them in 1940, the new decade would hold the promise of at least similar gains.

Just as they had done in 1917, though, international events once again intruded on the course of South Dakota's transportation developments. World War II broke out in Asia in July of 1937 when Japanese forces invaded China and in September of 1939 after German and Soviet forces invaded Poland. Kenneth Scurr, an officer in the South Dakota Army National Guard as well as the State Bridge Engineer, recalled that most National Guard units "were called into active Service in November of 1940, ostensibly for one year of training. However, most of us realized that it was probably a prelude to our entry into the war." He was placed on military leave of absence "and went to Fort Ord as a Battalion Commander and later as Executive Officer and Commander of South Dakota's 147th Field Artillery. They completed their training and "embarked for the Philippines in November 1941. We were seven days west of Pearl Harbor when that attack occurred. We were diverted to the South Pacific and served in multiple combat operations until late 1945 when Japan capitulated and we were released from service."[287]

During Scurr's absence, his assistant, Phil Schultz, acted as Bridge Engineer. Upon his return, Schultz told Scurr the only bridge construction that went on while he was gone was at "Red Shirt leading to the bombing range for Ellsworth Air Force Base at Rapid City."[288]

Like so much else in the nation, business-as-usual was put on hold. Scurr believed that the entire US Highway system had been "put on standby" so that the effort and materials associated with it could be committed to the war effort.[289] He was correct. As an example, South Dakota's portion of US Highway 16 was completed in 1938. No other section of a federal highway would be completed in the state until 1948 when US Highway 14 was finished.[290] According to the authors of a document entitled "History of the South Dakota Department of Transportation,"

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[286] Ibid., p. 8.

[287] Scurr Interview, p. 9. Many State Highway Department/Department of Transportation employees have served and continue to serve in the SD National Guard.

[288] Ibid. Scurr was referring to Rapid City Army Air Base, which was opened on 2 January 1942. The name was not changed to Ellsworth Air Force Base until 13 June 1953. See "Ellsworth Air Force Base History," http://www.ellsworth.af.mil/library/history.asp, as accessed on 7 June 2011.

[289] Scurr Interview, p. 9.

[290] "History of the South Dakota Department of Transportation," unpublished three page document, South Dakota State Archives, ACC 85125 Folder 2325 A, 1988, p. 2.

By December 2, 1941 all highway construction had stopped except for Federal –Aid projects under contract. With the exception of those projects designated as part of the Strategic Network Highways, construction jobs laid unfinished and unprotected from the elements for the duration of the war. Throughout the war, the Highway Department focused its attention on planning for post-war projects.[291]

Victory was everyone's immediate goal and everyone sacrificed to ensure the goal was met. Once it was, a new era would begin in surface transportation development.

[291] Ibid., p. 1.

CHAPTER 3 FROM "GYPSY FLIERS" TO FLYING FARMERS: AVIATION IN SOUTH DAKOTA TO 1946

The year 1927 was a "big one" for South Dakotans in that it was the year the last of the four Missouri river bridges was opened. It was as well a momentous year for Americans in general. "Talkies" were introduced at the movie theaters in 1927 with Al Jolson's *The Jazz Singer.* The Mississippi River brought record flooding to the states that bordered it. Babe Ruth hit sixty homeruns with the New York Yankees that year.

The eyes of the world, though, were on one 25-year old American that year. Charles Lindbergh, a Minnesota native, became a world hero when he soloed his plane, *The Spirit of St. Louis,* across the Atlantic, having departed from Roosevelt Field and landing at *Le Bourget* field in Paris, France. "Lucky Lindy" was the first person to accomplish that daring feat.

When he flew his plane to Renner Field north of Sioux Falls on 27 August 1927, a young father took the whole family to see the hero. That was the moment 12-year old Joe Foss began his romance with the airplane. His first flight came in 1934 when Spearfish pilot Clyde Ice took Foss and his dad for a flight over Sioux Falls. The flight was at night in an old Ford Tri-motor. "They were taking off and landing west of Covell Lake," Foss recalled, and the "landing lights were oil barrels with burlap soaked in kerosene." The fare was $1.50.[292]

Around 1937, Foss started flying at Sioux Skyways. His instructor, Roy Lanning, started him in a plane called the Taylorcraft, or "T-craft for short." Foss said:

> I just had a wonderful time in that thing. I soloed in eight hours and five minutes. It was required by law that you get eight hours. I wanted to get that instructor out of there as fast as I could. I would go out and it would cost six dollars an hour to rent the airplane--eight dollars an hour with the pilot--he was getting overpaid. I just flew around looking at the countryside doing eights over pylon and stuff like that. I flew it enough that I got my private license.[293]

Lindbergh flew to Pierre on 1 September 1927 and stayed the night. The next day, he flew over the State Game Lodge in Custer where President Coolidge liked to stay when trout fishing in the Black Hills and then flew over Deadwood, Lead, and Spearfish on 3 September. A new era in aviation was taking flight.

South Dakotans had been fascinated with aviation since its early years, and the first "gypsy" fliers who had performed in Rapid City at the Stock Grower's Convention and in Huron at the State Fair in

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[292] Steven J. Bucklin, *From Cold War to Gulf War: The South Dakota National Guard, 1945 to the Millennium* (Sioux Falls, SD: Pine Hill Press, 2004), pp. 19-20; Interview with Brigadier General Joseph J. Foss (Retired), 7 January 1991. South Dakota Air National Guard. Robert Ellingson, interviewer.

[293] Interview with Brigadier General Joseph J. Foss (Retired), 7 January 1991.

1911 drew great crowds. Barnstormers flew to all points in the state, providing rides and daring stunts.

The ranks of barnstormers increased substantially when the "doughboys" came home from World War One in 1919. Among their numbers were approximately 20,000 young men who had been flying officers.[294] Their skill was one that was not in high demand from either commercial or governmental sources, but one thing was certain: many of these pilots were determined to fly again.

It was expensive to fly in the private sector prior to the end of the war. That changed with the sale of surplus aircraft and parts that began in 1919. Not only did the U.S. government sell surplus aircraft, so, too, did other governments. Although this was a great boon to the individual pilot, it caused increasing consternation for American manufacturers. The Curtiss Company announced in 1920 that it would cease to manufacture motors and accessories for airplanes due to Congressional failure to address what company officials called the serious problem of dumping British machines on the American market at a fraction of production costs.[295]

Despite what may have been a dampening effect on the aviation industry at the national level, the availability of pilots and machines led to an ever-growing awareness of aviation in South Dakota. Men like Clyde Ice, Harold Tennant, and others resumed stunt-flying entertainment after the war, but they also began to form commercial ventures. Landing strips, both public and private, became a more frequent site with their windsocks waving to interested passersby.

One of the earliest aviation businesses in South Dakota was established in 1919 in Huron. Merle Hagen and Charles Ward formed the Huron Aerial Rapid Transit Company with one Curtis J.N.-4D aircraft. They hauled passengers and freight, and provided flight instruction and aerial entertainment. They recorded 500 passengers in 1921 and flew a total of 20,000 miles around South Dakota, Minnesota, and Nebraska. Business came to an abrupt end when Hagen crashed the plane in 1923 near the old Armour Meatpacking plant in Huron just east of the Third Street roller dam over the James River.[296] Entrepreneurs engaged in similar ventures in Volga, Pierre, Rapid City, Mobridge, and elsewhere, but few were lasting and most met with some type of disaster as the result of a crash.[297]

Perhaps not surprisingly, J. W. Parmley, one of the pioneers of automotive transportation and an early supporter of the Good Roads Movement in South Dakota, sought to establish an airline that would connect South Dakota to the West Coast. He brought together interested parties from several states in Aberdeen on 6 March 1921 to organize the Yellowstone Aerial Association. The lack of

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[294] *Fifty Years of Aviation Progress,* National Committee to Observe the 50th Anniversary of Powered Flight, James H. Doolittle, Chairman, 1953, p. 17. As found in Orr, p. 45.

[295] *Aberdeen Daily American,* 12 June 1920. As found in Orr, p. 43.

[296] Robert Orr, "A History of Aviation in South Dakota," unpublished Master's Thesis, University of South Dakota, 1957, pp. 86-87. Herbert Schell directed Orr's research.

[297] Orr, pp. 89-91.

immediate results disappointed the members of the association, but the hype that surrounded their goal generated public interest in establishing landing strips in a variety of communities.[298]

Barnstormers were not only pilots, but often served as their own public relations managers. As the novelty of the stunts wore off on the public, barnstormers sought new thrills for the audience to generate ticket sales to events. Harold Tennant, originally from Elk Point and an early barnstormer, decided that breaking the gender barrier in what was a male dominated business would boost revenues. He hired Ella Carlson of Sioux Falls to participate in an aerial show in Sioux Falls in 1925.

As Robert Orr noted in his 1957 Master's Thesis "A History of Aviation in South Dakota," Tennant began the exhibition with Carlson donning "a helmet, goggles, and leather jacket, [and] the necessary equipment for stunting."[299] She was about to become the first female parachutist in South Dakota.

Her brother nervously followed the plane after it took off and climbed to a "considerable altitude." Tennant made several passes at the field that was her targeted landing area, but Carlson did not jump when he gave the command "go." In the windy world of an open cockpit aircraft, she thought he had said "hold." When he said "go" again, he gave her what she later described as a "little shove." Carlson recalled "I closed my eyes, held my breath and jumped."[300] The *Argus Leader* reported that "though her parachute caught in a tree and dumped her unhurt on the top of a shed," she declared "she would be a parachute jumper all her life."[301] Two years later another Sioux Falls parachutist, C. C. Williams, would not be so lucky. He fell 1500 feet to his death in front of two thousand spectators at Rickenbacker Field in Stevens, South Dakota, just four days after aviation hero Charles Lindbergh flew into Renner.[302]

Miss Carlson and other female parachutists opened the business of flying to other women. Nellie Willhite attended the Dakota Airlines Flight School in 1927 and soloed on 13 January 1928, earning her the distinction of being South Dakota's first woman pilot. Ms. Willhite was also almost completely deaf.[303]

The days of the barnstormers were numbered as aviation came into its own in the mid-1920s. A new generation of aircraft, more powerful and more expensive, was changing the industry and the public's perception of it. Commercial services had begun to fly passengers and goods more safely, more reliably, and more economically than had the old World War I vintage aircraft that so many of the early services had used.

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[298] Ibid., 91-92.

[299] Ibid., p. 72.

[300] Ibid., p. 73.

[301] Undated clipping in Harold Tennant scrapbook. As found in Orr, p. 73.

[302] Orr, p. 77.

[303] Ibid., p. 79. For more on Willhite, see SDDOT Office of Aeronautics, http://www.sddot.com/fpa/aeronautics/general_history.asp as accessed on 9 June 2011.

These changes would also demand changes in the accommodations communities set up for air service. Whereas the early planes landed in farm fields, the new planes required dedicated runways and other services. This led to the construction of relatively modern flight facilities in several South Dakota communities. Sioux Falls, the "Queen City," was one of them.

Interested citizens formed several organizations between 1919 and 1926 to encourage the city fathers to build an airport for the state's most populous city. None of them were successful. Not even the passage of the Airmail Act (Kelly Act) of 1925 could get the requisite backing for an airport. In fact, South Dakota remained without airmail service until 1932.[304]

The Air Commerce Act of 1926 also had little immediate effect on South Dakota. That act directed the Secretary of Commerce to foster air commerce, issue and enforce air traffic rules, license pilots, certify aircraft, establish airways, and operate and maintain air navigation aids. The act also established an Aeronautics Branch in the Department of Commerce whose primary responsibility was aviation oversight. William P. MacCracken, Jr., was its first director.[305]

The Kelly Act allowed private airmail carriers to earn up to 80 percent of their revenue from airmail postage, but because airmail was expensive, the public used it infrequently with the result being a losing revenue situation for both the Post Office and airmail carriers. Airmail rates were then reduced and public demand increased dramatically.[306]

The Act was amended in 1926 to allow airlines to be paid by the pound rather than by individual letters. The airlines capitalized on this opportunity to "increase their revenues by sending large quantities of airmail to themselves. They sent thousands of letters stuffed with large reports, telephone directories, and even mailed spare airplane or engine parts to their various branch offices. One airline contractor mailed itself two tons of lithographed material from New York to Los Angeles." The postage cost more than $6,000, but because the Post Office paid the airline by the pound, it received $25,000.[307]

Gradual privatization led the Post Office to abandon its own airmail flights, with the last such flight occurring on 9 September 1927. It had cost the United States government $17 million for airmail service since 1918 to that date. The public had purchased only $5 million of airmail postage

[304] Orr, p. 86.

[305] Federal Aviation Administration," A Brief History of the FAA," http://www.faa.gov/about/history/brief_history/. Accessed 20 September 2011.

[306] U.S. Centennial of Flight Commission, "Walter Folger Brown: The Postmaster General Who Built the U.S. Airline Industry," http://www.centennialofflight.gov/essay/Commercial_Aviation/Brown/Tran3.htm. Accessed 20 September 2011.

[307] Ibid.

during those nine years. The federal government had, in effect, "paid $12 million to establish the basic air transportation system in the United States."[308]

The announcement that Lindbergh was going to make a stop in Sioux Falls in 1927, though, encouraged Sioux Falls residents to renew their effort. In anticipation of his arrival, the Sioux Falls Chamber of Commerce Airport Committee declared that a suitable landing field was essential for such a visit. The committee members, though, insisted that this was a city concern, not a private one, and that the city should therefore be responsible for the arrangements. Eventually, a field near Renner, five miles north of Sioux Falls, was selected.[309]

The fact that fifty thousand people attended Lindbergh's arrival in Renner was a clear indicator that the people of South Dakota were interested not only in the man, but in his business. The Sioux Falls City Commission announced on 10 October 1927 that it would lease the field at Renner as a municipal airport.[310] The commissioners found out very quickly that this plan was ill conceived.

The sheer size of the crowd that met Lindbergh indicated a profit potential for aviation

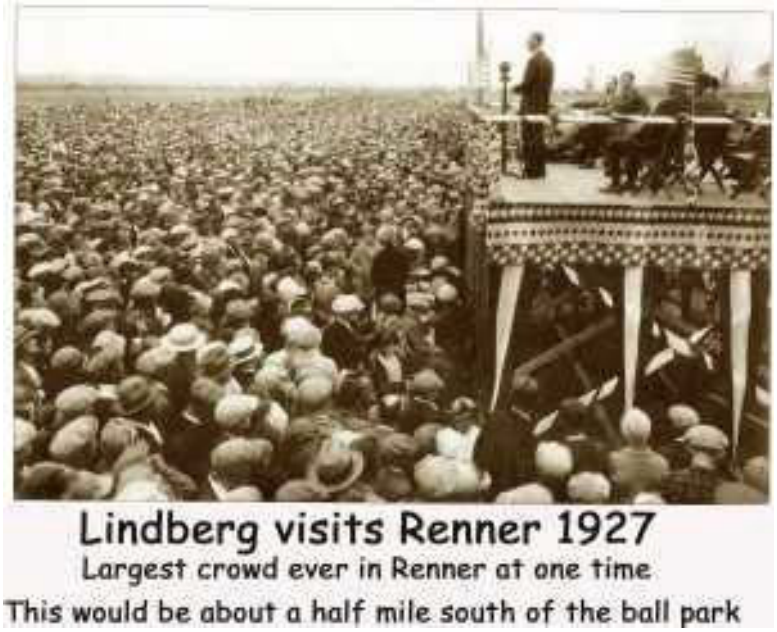

Figure 14: Lindberg Visit to Renner 1927
(Photo found at http://www.sodcity.com/gallery2/ view_album.php?set_albumName=renner&page=5)

businesses in South Dakota. There had been limited ventures before, but few of them had been successful. Dakota Airlines was one of several business incorporated in the wake of the Lindbergh visit. The Larson Motor Company, Robinson Motor Company, Harold Tennant, J. W. Von Neida, and

[308] Ibid.

[309] Orr, p. 78.

[310] *Argus Leader,* 10 October 1927. As found in Orr, p. 79.

Knapp Brown had combined their talents to lead the new company in October 1927.[311] Their target customers were those who sought passenger service, those who sought to purchase airplanes, and those who sought to learn to fly. These entrepreneurs knew that Lindbergh's feat had demonstrated new commercial as well as military potential for aviation and were ready to capitalize on it.

By 1928, they concluded that the five miles to the landing field in Renner made it inefficient and uneconomical. They formed a corporation called Sioux Skyways and took an option from the City of Sioux Falls on a field near the pipeline terminal south of 41st Street and built a hangar there.[312]

Although this was a private air operation, cities and counties were starting to build their own facilities. An issue that attended this development was whether the government would run such operations or lease the facility to a private firm to operate. One impediment was the issue of liability. The Legislature altered statute law in 1939 to allow municipalities and counties to lease airport operations and transfer liability to the lessee.[313]

Technological developments continued to affect aviation nation wide and locally. Robert Goddard's successful test flight of a liquid fueled rocket in 1926 foreshadowed developments in the 1950s and 1960s that would permanently alter the landscape of South Dakota aviation. More immediately, the introduction of the Boeing 247 in 1933 took passengers to a new level of comfort. Three years later the DC-3 became the workhorse of not just the American fleet, but of the world's fleets. Three years after that, Boeing introduced its 307 Stratoliner that had a pressurized cabin and was able to fly high above most turbulent weather. These planes greatly stimulated general aviation air travel.

Administrative and legislative developments at both the national and state levels also encouraged the growth of the airline industry. President Herbert C. Hoover appointed Walter Folger Brown to be the nation's Postmaster General in 1929. When Brown was sworn in, there were 44 small airline companies operating across the country. Many of them "lacked capital and the financial incentive to grow" and were almost "entirely on government airmail contracts" for their livelihood. This state of affairs curtailed investment in new equipment. Cost cutting measures, including flying obsolete aircraft, also reduced safety margins. Brown's solution "was to eliminate competitive bidding for airmail contracts" and instead "direct airmail contracts to large and sufficiently financed companies." Brown engaged in fierce lobbying for two years that resulted in passage of the McNary-Watres Act, commonly known as the Airmail Act of 1930. Under this act, "Congress gave the postmaster general nearly dictatorial powers over the airlines" and their future.[314]

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[311] Orr, p. 79.

[312] Ibid., p. 80.

[313] "Report of the South Dakota State Aeronautical Commission, 1939," p. 4.

[314] All quotes in this paragraph are from U.S. Centennial of Flight Commission, "Walter Folger Brown: The Postmaster General Who Built the U.S. Airline Industry." http://www.centennialofflight.gov/essay/Commercial_Aviation/Brown/Tran3.htm. Accessed 20 September 2011.

The Post Office was now authorized to pay the airlines "for available space on their aircraft rather than actual mail carried." This incentivized the airlines to purchase larger aircraft, for once they loaded the mail, they could fill empty space with paying passengers. The new system also established cash allowances for "flying over difficult terrain, in bad weather, and at night" and "paid for radio equipment and safer multiengine aircraft."[315]

The McNary-Watres Act, and Brown's implementation of it, forced smaller companies "to merge or die." The ones that survived became some of the huge airlines of the second half of the twentieth century: United Air Lines, American Airlines, Trans World Airlines, and Eastern Air Lines. When Brown left the Post Office in 1934, he also left an airline industry where order rather than chaos prevailed.[316]

The Department of Commerce renamed the Aeronautics Branch the Bureau of Air Commerce in 1934. The Bureau immediately "encouraged" the airlines to establish air traffic control centers. The Bureau took over operation of these centers in 1936. Controllers "tracked the position of planes using maps and blackboards and little boat-shaped weights. They had no direct radio link with aircraft, but used telephones to stay in touch with airline dispatchers, airway radio operators, and airport traffic controllers."[317]

Local governments continued to operate airport towers during the transition to federal oversight of air traffic control. Several high profile accidents brought public pressure for a more effective system. The 1931 crash that killed University of Notre Dame football coach Knute Rockne and the 1935 crash that killed U.S. Senator Bronson Cutting of New Mexico would eventually lead to the passage of the Civil Aeronautics Act of 1938.[318]

The increase in air transportation led South Dakota lawmakers to realize the need to regulate the industry. Until 1935, there was no regulatory agency at the state level to govern aviation. That changed when the legislature passed the State Uniform Aeronautical Regulatory Act, Chapter 53 of the laws of the 1935 Session and created the South Dakota State Aeronautical Commission (SDAC).[319] When the South Dakota Legislature passed the 1935 legislation adopting a uniform aeronautics law, only 11 other of the 48 states had such laws.[320] South Dakota was for once on the cutting edge of something rather than being ranked last. The SDAC would continue as an independent agency until state government was reorganized in 1973. At that time, the Aeronautical Commission became a division in the State Department of Transportation.

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[315] Ibid.

[316] Ibid.

[317] Federal Aviation Administration," A Brief History of the FAA." Accessed 20 September 2011.

[318] Ibid.

[319] "Report of the South Dakota State Aeronautical Commission, 1935," p. 3.

[320] "Report of the South Dakota State Aeronautical Commission, 1947," p. 1.

The commission's first annual report was addressed "To His Excellency, Governor Tom Berry." This form of address, antiquated as it was, continued through 1946. T. B. Roberts chaired the commission and Floyd Barlow and Windsor Doherty were the other two commissioners. Doherty, from Winner, was a lawyer and a member of the South Dakota Railroad Commission. Roberts was a pilot, as was original appointee Austin Lytle. Lytle resigned to take a job and Floyd Barlow of Rapid City replaced him.[321]

Roberts wrote the report and in doing so immediately raised an issue that was a continuing theme in transportation history in South Dakota. Just as had been done with the creation of the original railroad and highway commissions, the Aeronautical Commission was an underfunded mandate. The state appropriated only $1000 for its operation. The commissioners were not allowed per diem, but were expected to attend regular meetings. They were also expected to maintain an office in Pierre and hire a stenographer.[322]

Roberts recommended a solution: repeal of the current law that provided a four-cent tax on each gallon of aviation fuel sold. This was in concert with the legislature's passage of the additional penny tax on non-aviation fuels in 1927 that went into the general fund rather than to the SHC.[323] The tax on aviation fuel was not subsequently used to support aviation, but went instead to pay interest on Rural Credit bonds. This, Roberts wrote, was "an improper tax on the industry, and amounts to class legislation, raising the question of its constitutionality. It amounts to the same question as was decided in the Agricultural Adjustment Act decision of the United States Supreme Court."[324]

He recommended new legislation that would retain the four-cent tax, but direct it to be placed in a fund at the disposal of the Aeronautical Commission to support its legislative charge and to promote aviation in the state. He also noted that if such a tax were passed, it would enable the commission to purchase an airplane.[325]

The Depression affected the development of aviation in South Dakota, just like it affected nearly every aspect of life in the state, but the state was spending funds in addition to grants they received from the federal government to expand aviation facilities. There was, though, in addition to the stimulative nature of such spending, a national defense justification as well. Roberts noted in 1936

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[321] "Report of the South Dakota State Aeronautical Commission, 1935," p. 2.

[322] "Report of the South Dakota State Aeronautical Commission, 1935," p. 3. Box 7302A.

[323] See Chapter Two, p. 70 of this manuscript.

[324] "Report of the South Dakota State Aeronautical Commission, 1935," pp. 9-11. Box 7302A. The case Roberts referred to is *Butler v. US* in 1935 that declared the first Agricultural Adjustment Act unconstitutional. It was one of the Supreme Court decisions that led Franklin Roosevelt to seek court reform.

[325] "Report of the South Dakota State Aeronautical Commission, 1935," pp. 9-11. Box 7302A.

the fact that foreign nations were forcing the U. S. to greatly expand its air industry "as a matter of national defense."[326]

This, of course, was a reference to the growth of the German and Italian air forces, as well as to the recent wars in Spain and Ethiopia where German and Italian air forces tested tactics and aircraft capabilities. The Commission noted that it was in contact with the proper authorities to develop a Reserve Officers Air Corps in South Dakota with federal support like those that exist in other states.[327]

The commission wanted to promote gliders as an inexpensive way to spur public interest in aviation. They cited the German government's methods of getting around the Versailles Treaty restrictions on motorized aircraft as an example. An "army of pilots can be brought on in this comparatively simple and inexpensive manner." They also note that the "sport does hold out thrills galore, along with practical instruction."[328]

By 1938, the commissioners emphasized the impact that the federal government's pursuit of "world supremacy in air defense" was having on aviation in the state.[329] This is an interesting comment, given the isolationist tendencies of the Congress and of South Dakota in the 1930s. By that time, Congress had passed three neutrality acts (with the support of the South Dakota Congressional delegation) and had not been overly sympathetic to calls for increased military spending.[330] Not only that, but Charles Lindbergh was promoting good relations with the Nazis. Issues of national security and defense continued to color the reports of the SDAC well into the 1970s.

By 1936, there were 27 airports in the state, 83 licensed pilots, and 84 registered airplanes.[331] The difference in technology then and now when it came to designating the location of airports for pilots is stark. Federal authorities were promoting an "Airmarking Campaign" that proposed marking the largest roof in 250 towns "with the name of the town, a directional arrow pointing north, and a second arrow pointing toward the airport giving the distance, or toward the nearest airport giving the distance." The SDAC identified the buildings in the designated towns and obtained easements, but the relief agencies in charge of providing the laborers could not come up with foremen for the crews. The report noted that the commission did all that was required of it, but now was at the mercy of the relief authorities as the entire project was a federal grant.[332] The Relief Administrator

[326] "Report of the South Dakota State Aeronautical Commission, 1936," p, 2. Box 7302A.

[327] Ibid.

[328] "Report of the South Dakota State Aeronautical Commission, 1937," p. 7. Box 7302A.

[329] "Report of the South Dakota State Aeronautical Commission, 1938," p. 3. Box 7302A.

[330] Schell, p. 298.

[331] "Report of the South Dakota State Aeronautical Commission, 1936," p. 6. Box 7302A.

[332] Ibid., p. 4.

informed the commission the next year that the problems of the previous year were being addressed and over 100 towns had been marked under the program.[333]

Pilots not only had difficulty locating airports, but it was also difficult for them to get reliable weather reports for their destinations. The SDAC contacted every phone company in South Dakota and requested that their operators be trained to provide meaningful weather reports for pilots based on a chart the commission provided. The response was positive, and apparently done *pro bono* as there is no mention of a budget for training, and the commission reported almost every exchange in the state could now aid pilots in this way.[334]

The 1937 Legislative session acted on the recommendation with regard to the aviation fuel tax and earmarked it for aviation purposes rather than Rural Credits interest relief. Revenues from the gas tax totaled $11,661.71 by 1939. No disbursements from these funds were itemized that year, but the commission indicated that communities shared in it.[335] The "Laws and Rules and Regulations of the South Dakota Aeronautics Commission, 1939" included the provision that the State Treasurer would determine the number of gallons of aviation fuel sold in the state, collect the tax on it, and transfer that amount to the State Aeronautics Fund for the express purpose of "marking and maintenance of airports, and for the paying of salaries of employees, office and traveling expenses of the South Dakota Aeronautics Commission."[336]

South Dakota got a regular carrier in 1937—Hanford Airlines—that operated a route from Minneapolis to Huron. A second carrier was authorized to operate a route from Huron to Cheyenne, Wyoming. This provided a complete crossing of the state from east to west at the state center and it spurred interest in new airports amongst city leaders across the state.[337] The 1938 report identified the new carrier as originally being Wyoming Airlines, but its owners had changed the name to Inland Airlines. Hanford Airlines underwent a name change too: it was now Mid-Continent Airlines.[338] These two companies held the government airmail contracts for SD.[339]

This seemed to be a disproportionate amount of effort for a state whose licensed pilots numbered only 115 people with only 109 registered aircraft in 1937, but those who did fly wielded both political and public influence.[340] There was as well a spirit that they were paving the way for the future of South Dakota.

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[333] "Report of the South Dakota State Aeronautical Commission, 1937," p. 5. Box 7302A.

[334] "Report of the South Dakota State Aeronautical Commission, 1936, p. 4. Box 7302A.

[335] "Report of the South Dakota State Aeronautical Commission, 1939," p. 7. Box 7302A.

[336] "Laws and Rules and Regulations of the South Dakota Aeronautical Commission, 1939," p. 14. Box 7302A.

[337] "Report of the South Dakota State Aeronautical Commission, 1937," p. 4. Box 7302A.

[338] "Report of the South Dakota State Aeronautical Commission, 1938," p. 3. Box 7302A.

[339] "Report of the South Dakota State Aeronautical Commission, 1939," p. 6. Box 7302A.

[340] "Report of the South Dakota State Aeronautical Commission, 1937," p. 6. Box 7302A.

Although no new airports were built in 1937, several were improved.[341] Three new airports were started in 1938 in Sioux Falls, Rapid City, and Pierre. Airports in Madison, Mitchell, Huron, Spearfish, Watertown, and Aberdeen underwent major and minor improvements.[342] State pilots created the State Pilot's Association that year to represent their interests to Pierre.[343]

Other issues emerged as the growth of aviation continued in the late 1930s. Safety was one. It was in 1938 that President Franklin Roosevelt signed the Civil Aeronautics Act. The Act "established the independent Civil Aeronautics Authority (CAA), with a three-member Air Safety Board that would conduct accident investigations and recommend ways of preventing accidents." The legislation also gave the CAA regulatory power over airline fares and airline routes. In 1940, "Roosevelt split the CAA into two agencies, the Civil Aeronautics Administration, which went back to the Department of Commerce, and the Civil Aeronautics Board (CAB)." The new CAA oversaw Air Traffic Control, pilot and aircraft certification, enforcement of safety regulations, and air traffic development. The CAB made safety rules, investigated accidents, and was responsible for "economic regulation of the airlines."[344]

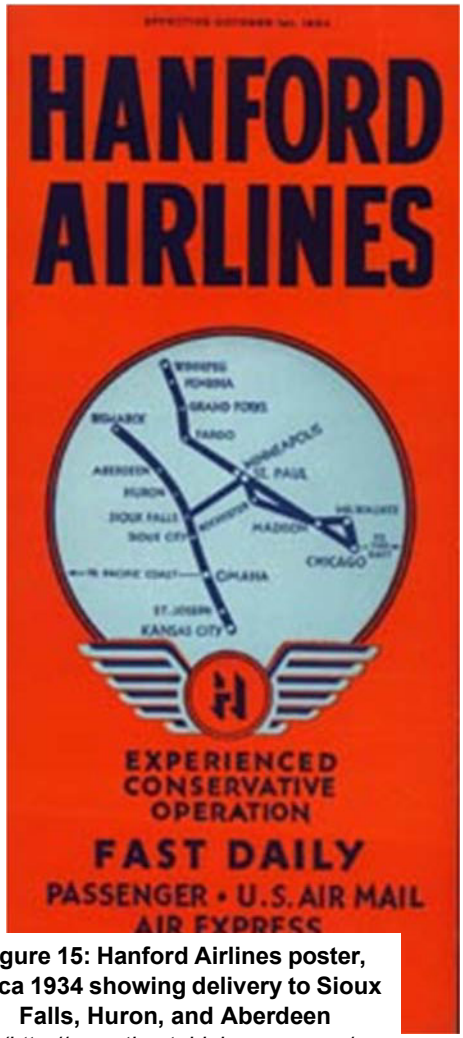

Figure 15: Hanford Airlines poster, circa 1934 showing delivery to Sioux Falls, Huron, and Aberdeen *(http://www.timetableimages.com/ttimages/mc.htm)*

In South Dakota, safety advocates encouraged the SDAC to sponsor zoning legislation to prohibit obstructive structures from being built within certain distances of airports. Interested parties also lobbied the commission to sponsor legislation that would allow cities and counties to exceed their legal limit for bonded indebtedness for aeronautic purposes. The commission withheld its endorsement of either measure, noting that issues of jurisdiction over zoning need to be decided first and that in the case of indebtedness, it would be better to wait because they anticipated that huge sums of federal money were going to be spent on aviation in the very near future.[345]

[341] Ibid.

[342] "Report of the South Dakota State Aeronautical Commission, 1938," p. 4. Box 7302A.

[343] Ibid., p. 5.

[344] Federal Aviation Administration, "A Brief History of the FAA." Accessed 20 September 2011.

[345] "Report of the South Dakota State Aeronautical Commission, 1940," pp. 5-6. Box 7302A.

That anticipation was due to the fact that Americans were once again interested in European events. The Munich Conference of September 1938 had narrowly averted war, but only through the willingness of British and French leaders to sacrifice the nation of Czechoslovakia to Hitler's quest for *lebensraum.* Future president John F. Kennedy wrote a Harvard senior thesis in 1940 entitled *Why England Slept* condemning the appeasement and urging the US and its leaders to awaken to the threat in Europe. Of course, the warning was directed at Congress, for the Executive Branch under Franklin Delano Roosevelt's adept leadership had been making preparations for the possibility that the US would be drawn into the global conflict that began in September 1939.

One example of dozens of such actions had a significant impact on South Dakota aviation. The Federal government launched a program to train pilots so that the nation would not be caught off guard in case of national emergency. This program received an appropriation of four million dollars a year for five years to train one hundred thousand civilian pilots. The cohort was to be recruited from "boys and some girls between the ages of 18 and 25 years."[346]

Once selected, the program, at "a nominal expense to them of thirty or forty dollars," would take the students "to a private license where they will be entitled to do everything in the flying field except commercialize their flying." Although the SDAC noted the obvious vocational benefit to the young men and women, it emphasized the fact that the nation will have "trained these students to a point, where within thirty days of intensive training, they can make army aviators out of the group." The State University (USD), Brookings College (SDSU), Yankton College, Spearfish Normal College, Sioux Falls College, Huron College, and the South Dakota School of Mines all requested to participate in the program. Non-college youths were trained in Pierre.[347]

The Civilian Air Patrol (CAP) was also established in the wake of this training program to encourage interest in aviation, to provide opportunities to continue to fly to the newly trained pilots, and to maintain the nation's security.[348] Although established on 1 December 1941, South Dakota's CAP did not begin until the appointment of Colonel Tim Roberts of Pierre as Wing Commander. The CAP became a permanent peacetime institution on 1 July 1946 when President Truman signed legislation that recognized it as a non-profit organization devoted to serving the interests of the nation.[349]

As former state Bridge Engineer Kenneth Scurr observed, by 1940 many Americans were certain it was only a matter of time before the U.S. would enter World War II. Measures to prepare the U.S. for that eventuality included not only the pilot training program mentioned above, but the nation's first peace-time draft was introduced in 1940. In South Dakota, just as the SDAC had anticipated,

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[346] "Report of the South Dakota State Aeronautical Commission, 1939," p. 3. Box 7302A.

[347] Ibid.

[348] "Report of the South Dakota State Aeronautical Commission, 1941," p. 3. Box 7302A. See also South Dakota National Guard Department of Military Affairs, *Biennial Report, FY 1989-1990*, 46.

[349] Steven J. Bucklin, *From Cold War to Gulf War*, p. 22.

federal funds had been appropriated to aid in the development of airports. Vermillion and Yankton got new airports and existing facilities at Aberdeen, Huron, Miller, Philip, Pierre, Rapid City, Sioux Falls, Spearfish, and Watertown, underwent improvements.[350]

The commissioners engaged in some very self-congratulatory remarks in their 1941 report to Governor Harlan Bushfield of Miller. "It is with a considerable amount of satisfaction," they noted, "that we look back over five of these reports and find that with unerring accuracy we have in every instance been able to fore-tell what has subsequently taken place."[351] At the same time, they repeated two themes in South Dakota politics, one of which had always influenced transportation issues in the state. The commissioners told the governor "So long as we can keep the people free from major taxation in the improvement of aviation, we work on safe ground."[352]

The second theme is one that demonstrates a discontinuity in the political culture of many South Dakotans: always eager to accept federal dollars, they were equally eager to protect states' rights. The commissioners were willing to accept centralization of federal power during time of war, but also asserted that the states "must exercise care to retrieve lost powers after the war."[353]

South Dakota pilots now numbered 415, exactly five times the number in 1936, and there were now 226 registered planes. These numbers, coupled with the increased federal spending on aviation in the state, would require at some point in the near future a full-time administrator for aviation interests in South Dakota.[354]

The point in the future would not arrive until after the war. Most aviation was military or military-related during the war years. All pilots and planes were grounded in January 1942 in order to identify them. After that, "civil aircraft were released for flights to and from designated and patrolled airports under clearance papers."[355]

The Army took over the airports in Sioux Falls, Pierre, and Watertown. Other towns closed their airports because they could not afford to maintain 24-hour guards. Airline operations declined due the fact that the federal government required them to ferry military personnel and supplies. Revenues from the gas tax declined, but only by $443.25 from the previous year. The total for 1942 was $21,571.81.[356] The SDAC praised the CAP for its important work and recommended the legislature appropriate money to cover some of the costs of the volunteer organization.[357]

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[350] "Report of the South Dakota State Aeronautical Commission, 1940," p. 4. Box 7302A.

[351] "Report of the South Dakota State Aeronautical Commission, 1941," p. 3. Box 7302A.

[352] Ibid., p. 4.

[353] Ibid., pp. 4-6.

[354] Ibid., p. 6.

[355] "Report of the South Dakota State Aeronautical Commission, 1942," p. 3. Box 7302A.

[356] Ibid., p. 8.

[357] Ibid., p. 6-7.

Within one month of the Japanese attack on Pearl Harbor, the U. S. War Department established Rapid City Army Air Base to train B-17 Flying Fortress crews. The authorization came on 2 January 1942, one day after the Declaration of the Allied Nations against the Axis Powers, and the military runways opened in September 1942. Field instructors "taught thousands of pilots, navigators, radio operators and gunners from nine heavy bombardment groups and numerous smaller units. All training focused on the Allied drive to overthrow the Axis powers in Europe" until July 1945.[358]

The Army closed Rapid City Army Air Base from September 1946 to March 1947 while the new Department of the Air Force was being organized. As base historians note, "When operations resumed in 1947 the base was a new United States Air Force asset. The primary unit assigned to Rapid City Air Force Base was the new 28th Bombardment Wing (BMW) flying the B-29 Superfortress."[359]

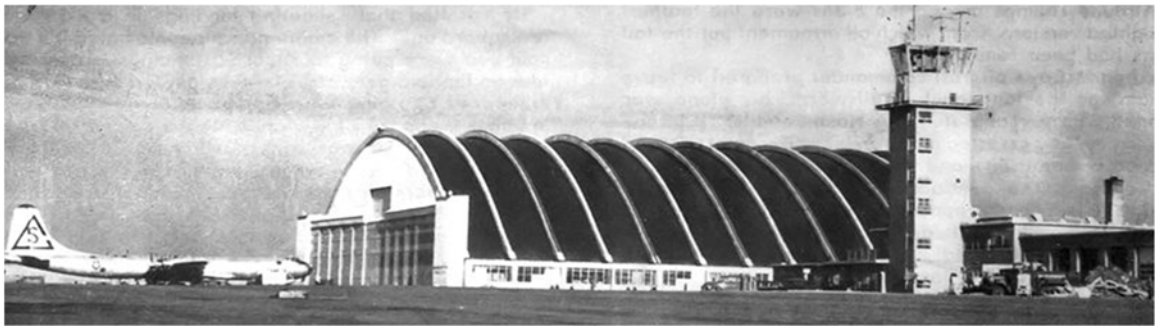

Figure 16: Hangar at Rapid City Air Force Base, 1952
(Photo from Wikimedia Commons)

Training took place simultaneously on the opposite side of the state. Officials in Sioux Falls received notification that the Army Air Corps would locate a field and training school in Sioux Falls. The City transferred 1,500 acres and title to the City airport for the project. The base was officially known as the Sioux Falls Radio Technical Training School. It opened in July of 1942 and "members of the Army Air Corps began to arrive in Sioux Falls by train from all over the country. Eventually their numbers would grow to over 20,000 GIs at the base."[360]

During the war, Sioux Falls native Joe Foss was a Marine Corps fighter pilot. Flying a Grumman Wildcat, he was the first American to equal Eddie Rickenbacker's WWI record of "kills." Among the

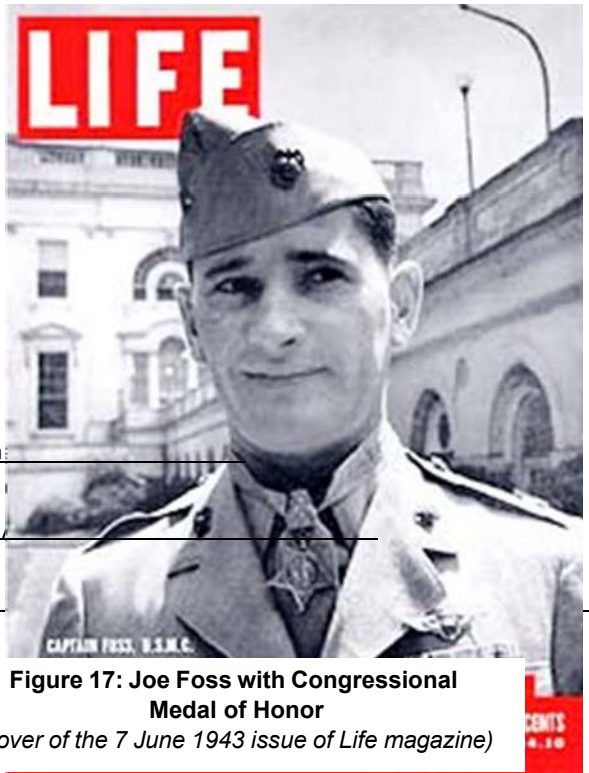

Figure 17: Joe Foss with Congressional Medal of Honor
(Cover of the 7 June 1943 issue of Life magazine)

[358] "Ellsworth Air Force Base History, p. 1, http://www.ellsworth.a
[359] "Ellsworth Air Force Base History, p. 1. As accessed 15 June 20
[360] City of Sioux Falls, http://www.siouxfalls.org/Information
June 2011.

Japanese planes Foss downed were twenty Zero fighters, four bombers, and two biplanes. In addition to receiving the Congressional Medal of Honor, which President Franklin Roosevelt presented him, Admiral William "Bull" Halsey pinned the Distinguished Flying Cross on his chest. Foss also earned a Presidential Unit Citation, the Navy Cross, the Asiatic Pacific Ribbon with seven stars, and a host of other medals and citations.[361] Joe Foss was a national hero. As commander of the SD Air National Guard (SDANG) and then as governor, he would have a lasting impact on both general and military aviation in the state.

Duane "Duke" Corning was an indispensable partner to Joe Foss in running not only the SDANG, but in several business ventures. After the war, Foss and Corning started Foss Flying Service in Sioux Falls. In addition, they were partners in Joe Foss Motor Company, a Packard dealership. A deep faith and trust in one-another characterized the relationship. Said Foss: "The two of us…worked together in business without any contract."[362]

Corning was born in Madison, South Dakota, on 1 April 1917, just days before the U.S. Congress declared war on the German Empire and its allies during World War I. He graduated from Washington Senior High in Sioux Falls and earned a Bachelor of Arts degree from Sioux Falls College, where he captained the football team and boxed. Corning began his military career in 1935 as a private in the SDNG assigned to Battery D, 147th Field Artillery in Sioux Falls and was discharged as a Sergeant Cannoneer in 1939. He enlisted in the Navy Air Corps in August 1941. Shortly after the United States joined the alliance of the United Nations in January 1942, Corning finished flight training in England and became an ensign. Subsequently, he flew 104 combat missions over European targets during WWII. He earned the Distinguished Flying Cross, the Air Medal, the Air Medal Gold Star, the Navy Commendation Medal, and many, many more. He served as a commissioner on the SDAC and as Adjutant General of South Dakota for twenty years, from November 1963 to February 1983 when he retired.[363]

By 1943, it was clear to almost any neutral observer that the Allies were going to win the war. What was not so clear was how much longer it would take. Still, indications were such that by 1944, all War Service Training contract schools in the state were closed.[364] By 1945, four of the five Army Air Corps airports in South Dakota (Sioux Falls, Pierre, Mitchell and Watertown) had been deactivated (Rapid City was not) and were awaiting transfer to the respective communities.[365]

Both the SDAC and the State Legislature remained interested in the future of general aviation in the state after the war. The Legislature appropriated two thousand dollars per year for two years to

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[361] Joe Foss Interview, 17 August 1979, SDNGOHP, box 10, NG 79-81, 3.

[362] Brigadier General Joseph Foss Interview, 7-8 January 1991, p. 109, Air National Guard Oral History Program (ANGOHP), South Dakota Air National Guard, Joe Foss Field, Sioux Falls, South Dakota.

[363] Harold Schuler, *South Dakota National Guard Adjutant Generals* (Rapid City, SD: Adjutant General's Office, 1999), p. 39; unattributed document in possession of author.

[364] "Report of the South Dakota State Aeronautical Commission, 1944," p. 3. Box 7302A.

[365] "Report of the South Dakota State Aeronautical Commission, 1945," pp. 6-7. Box 7302A.

survey aeronautical potential of South Dakota.[366] The commissioners' unbridled enthusiasm for the potential of aviation led them to claim that ranchers would "some day ship their cattle to market via cargo plane."[367] South Dakota farmers and ranchers reflected that enthusiasm when they created the South Dakota Flying Farmers and Ranchers in May 1946 and held their first annual statewide meeting on 3 June that year.[368]

Mid Continent and Western Air Lines (which had recently purchased Inland Air Lines) were the state's two carriers. Gas tax receipts were $16,515.36. In anticipation of major growth in the number of airports in the post-war era, the SDAC joined the National Association of State Aviation Officials (NASAO) in 1944.[369]

The Legislature had been parsimonious with money for salaries, but that changed in 1945. Legislators, too, were expecting growth in aviation. The 1944 annual report included a "Salaries and Wages" statement totaling $1,782.46 for office staff.[370] The 1945 report indicated an appropriation of $5,700 for salaries and wages as of 30 June 1945.[371]

The state legislature also acted on several recommendations from the commission in the passage of House Bill (HB) 132 (Chapter 2); HB 183 (Chapter 4); HB 131 (Chapter 5); and HB 130 (Chapter 6) under laws of 1945. House Bill 132 authorized the Commission to "permit and regulate common carriers of persons and property in scheduled operation by aircraft in purely intrastate commerce." House Bill 183 removed the previous ten-year limit on airport leasing. House Bill 131 allowed municipalities and counties to designate the SDAC as their agent for certain purposes as they related to aviation interests. House Bill 130 authorized cities to create Aeronautics Boards.[372]

South Dakota had 50 civilian airports at the end of the war. That figure did not include the deactivated military bases in Mitchell, Pierre, Sioux Falls, and Watertown that were in the process of being transferred to civilian authorities. Twenty new sites had been selected for additional airports.[373] In 1946, the federal government and the state approved seven aviation schools to provide GIs fight training under the Veterans' Flight Training Program, part of the GI Bill.[374]

In addition, President Truman signed the Federal Airport Act into law on 13 May 1946. It allocated $500 million for the construction of airports over a seven-year period. As the U.S.

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[366] "Report of the South Dakota State Aeronautical Commission, 1943," p. 5. Box 7302A.

[367] Ibid., p. 4.

[368] "Report of the South Dakota State Aeronautical Commission, 1946," p. 4. Box 7302A.

[369] "Report of the South Dakota State Aeronautical Commission, 1944," p. 4-7. Box 7302A.

[370] Ibid., p. 7.

[371] "Report of the South Dakota State Aeronautical Commission, 1945," p. 8. Box 7302A.

[372] Ibid., p. 5.

[373] Ibid., pp. 6-7.

[374] "Report of the South Dakota State Aeronautical Commission, 1946," p. 4. Box 7302A. This report is for the period January 1, 1946-June 30, 1946.

Centennial of Flight Commission observed, the "maximum federal grant for an eligible project would provide half of the project's costs. Local airport sponsors would issue bonds to finance the rest of the cost." All projects had to meet Civil Aeronautics Administration (CAA) standards "for location, layout, grading, drainage, paving, and lighting. Further, all tax money collected by local governments for aviation facilities or fuel had to go for airport operations and maintenance.[375] South Dakota's share was $5,410,000 with $458,690 the first year.[376]

Those policymakers who had anticipated a boom in general and civil aviation in the post-war era were proven correct. What they had not anticipated was that a cold war between the Soviet Union and the United States would propel the boom into a hypersonic state. The Cold War, as well as American prosperity during the 1950s and 1960s, would take South Dakota to new, and mostly unforeseen, developments in transportation.

[375] U.S. Centennial of Flight Commission, http://www.centennialofflight.gov/essay/Government_Role/govt_funding/POL11.htm. As accessed 16 June 2011.

[376] "Report of the South Dakota State Aeronautical Commission, 1946," p. 5. Box 7302A.

CHAPTER 4 PAVING THE WAY TO THE INTERSTATE HIGHWAY SYSTEM, 1941-1956

In November 1941, Congress passed the Defense Highway Act to plan for a new system of highways to meet the nation's military needs. After the attack on Pearl Harbor the following month and the subsequent invasion scares, a new road system seemed even more essential to the nation's defense. Under the guidance and recommendations of the National Resources Planning Board, the President could "give purpose, organization, and standardization to the nation's highways."[377]

State Highway Engineer E. W. Meeker addressed that act when he wrote that "During these days when all of the energies of the nation are being applied to National Defense, it has been pointedly demonstrated that an adequate System of Highways throughout the country is doubly essential during such an emergency. As this is being written the recognition for further improvement of certain strategic highways by our Congress brings special attention to the importance of highways."[378] The sense that the nation needed a dedicated highway system constructed as the result of a unified system of planning and design was something the nation's people recognized.

There were, however, more immediate needs from the South Dakota State Highway Commission's perspective. Harry C. Westphal, secretary of the SHC, wrote in the Annual Report for 1941 that "National defense will no doubt make some changes in the future plans of road construction. Just what these changes will be is impossible to foretell at this time, or how they will affect the immediate future. There is no doubt that some revision in the long-term planning that the Commission has inaugurated will have to be made."[379]

Westphal's most urgent concern, though, was that the "present emergency has seriously affected the personnel of the Highway Department." National Guard members like State Bridge Engineer Kenneth Scurr had been called to active duty. Other personnel would be drafted or volunteer. Still others found the lure of higher wages in defense industries impossible to resist. The war, Westphal observed, had already "reached down into the clerical force and made a necessity of training new personnel in practically all offices. A total of 71 changes in the personnel were made in the past year."[380] Personnel issues would plague the South Dakota Department of Highways and other state agencies during and after the war.

The commissioners were concerned as well that "public demands for stream lined highways with ever-increasing amenities" was sometimes inconsistent with revenues, "especially for a government agency that operates on a 'pay as you go' policy."[381] Fuel tax receipts were $5,653,074.25 for 1941.[382]

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[377] Mark H. Rose, Interstate Express Highway Politics, 1941-1956 (Lawrence, KS: Regents Press of Kansas, 1979), 17.

[378] "Annual Report of the South Dakota State Highway Commission, June 30, 1941," p. 7.

[379] Ibid.

[380] Ibid.

[381] Ibid.

[382] Ibid., pp. 24-25.

Declining fuel tax receipts in subsequent years led the SHC to study the issue. This study resulted in a document titled "The Taxation of Motor Fuel in South Dakota," submitted on 31 December 1944. The author noted that the rate of tax on all motor fuels had been 4 cents per gallon since 1927, although tractor fuels were exempt from the tax.[383]

Concern that fraud was taking place with regard to the Motor Fuel Tax continued during this period. Governor M. Q. Sharpe ordered an investigation.[384] Statistics provided in the document "A Discussion of Probable Gas Tax Evasion in South Dakota" dated June 1946 indicated that refunds on fuel taxes had more than doubled in a seven-year period ending in 1945. Given that farmers were the only ones who could claim refunds, the report concluded they were claiming more refunds than those to which they were legally entitled.[385]

Federal revenues were an issue as well. Total Federal Aid in 1941 was $2,799,645.98, or 38.64% of total South Dakota highway revenue.[386] That percentage was down significantly from "salad days" of the Great Depression when highway spending served not only to build highways, but also to provide work to the unemployed.

The public's expectations for highways had grown considerably since the creation of the SHC, but the public's attention had largely been focused on construction of highways at the expense of greater issues. Maintenance costs had become a significant part, both of the annual highway budget for roads already built and of considerations with regard to whether a new highway *should* be built. Commissioners frequently commented on the high costs of maintenance. As early as 1927, they considered it the "leading highway problem" in South Dakota. Maintenance costs accounted for 31.5% of all highway expenditures for the Fiscal Year 1927-1928.[387] Twenty years later, maintenance costs were 49.16% of the total SHC budget.[388]

Another important issue was that of sustainability. Although it was not a term current in the 1940s, it was an issue just the same. Commissioners needed to consider not only whether a highway should be built to meet current demands, but also whether those demands were likely to change in decades to come. This was especially important in a state whose population was largely rural and subject to the vicissitudes of the farm market and other factors. As the railroads abandoned track and as increasingly efficient farm machinery and farming practices prevailed in the 1940s, population flight from farm to town become a recognized phenomenon.

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[383] "The Taxation of Motor Fuel in South Dakota," 31 December 1944, Folder 96-40, p. 3.

[384] Sharpe to R. K. McMillan (State Manager State-Wide Highway Planning Survey), 21 April 1945, Folder 96-40. For more on Sharpe, see "Dakota Images," *South Dakota History,* vol. 16, #2, 1966.

[385] Ibid.

[386] "Annual Report of the South Dakota State Highway Commission, 1941," pp. 24-25.

[387] "Annual Report of the South Dakota State Highway Commission, 1928," p. 10.

[388] "Annual Report of the South Dakota State Highway Commission, 1947," p. 6.

The need to maintain "a number of miles of old and obsolete highways" was a significant problem by the late 1940s.[389] Some roads that had been built as "farm-to-market" roads no longer had farms to serve. Political pressure was applied to keep these roads in place and such pressure was often difficult to resist. This meant that funds and other limited resources had to be diverted from more important projects.

At least the commissioners could look forward to the fact that their agency would no longer have to pay into the Soldiers Compensation and Interest and Sinking Fund. They made the last legally required payment in 1941 after the public endorsed the 1940 referendum that adopted Article XI, Section 8 of the South Dakota Constitution that prevented such diversion. The $950,000 savings over 1941 would pay Commission salaries and expenses of $89,529.54 and office employee salaries and wages of $42,696.95 seven times.[390]

It was difficult to predict with any certainty the conditions, especially whether revenues would decrease, that would prevail for the war's duration, but some things seemed likely. Military equipment had decimated roads during World War I and it was likely to do so again. Weight restrictions would be tested as military traffic increased in volume and as a result of the War Department's "request" that loading restrictions on trucks be lifted. The increased pace at which railroads pulled up track and abandoned service also increased military and civilian demands on the highway system.[391] This wreaked havoc on South Dakota roads.

Many of those roads had been designed in a different era with little attention to future needs. A case in point was the need to compact embankments. Much work was being done to reconstruct embankments that were collapsing or had collapsed. A new technique was developed to address this that included the use of a "Sheep Foot" studded roller.[392] Other issues included the depth of the bituminous mat surface. If it was too thin for the newer, larger automobiles and trucks—and it was—it was definitely too thin for the tanks, deuce-and-a-halfs, and artillery pieces that would soon be travelling the nation's and state's highways.

If revenues did decrease, it would have a huge impact on construction, but that was something the commissioners could address in their budget. A more difficult issue to predict was the maintenance needs of the state's highways and their costs. Maintenance costs rose every year in terms of total dollars spent, and had also risen with regard to its percentage of the total expenditures, although that would vary slightly from year-to-year depending on whether it was a slow or busy construction year. It also depended in a small, but not insignificant way, on the level of vandalism. State Engineer Harvard C. Rempfer of Parkston observed that vandalism of highway signage, largely from vandals using them as rifle targets, cost South Dakotans $20,000 in FY 1946-

[389] Ibid., p. 12.

[390] "Annual Report of the South Dakota State Highway Commission, 1941," p. 27.

[391] "Annual Report of the South Dakota State Highway Commission, 1943," p. 12.

[392] "Annual Report of the South Dakota State Highway Commission, 1941," p. 12.

1947.[393] Maintenance added a Director of Signs and Markings to oversee such activity in the state that year.[394] The trend of rising maintenance costs was likely to continue.

It was unclear whether revenues from the fuel tax and licensing fees would increase, decrease, or remain static. Fuel tax receipts were now shared with the Aeronautics Board, but they received only $23,865.72 of gross receipts of $6,028,634.58 in 1942.[395] No one anticipated a huge increase in that share.

As of 30 June 1941, 153,273 automobiles, 30,452 trucks, 117 special trucks, 21,529 trailers, 348 motorcycles, and 114 busses were licensed in the state.[396] The numbers of each of these types of vehicles had risen consistently over the past decade and the amount of revenue they brought in had, too, due not just to the sheer increase in numbers, but to increases in fees.

The future became clearer in 1942. The War Production Board, the Office of Price Administration, and the War Department all implemented policies that would diminish revenues. The rationing of both tires and gasoline that was imposed that year meant fewer miles traveled on the state's highways. Tourism was likely to decline, not only due to rationing, but because the federal government had called upon the people to curtail such activities as a means of saving strategic resources. Restrictions on the use of strategic materials like steel and oil meant fewer bridges and fewer bituminous projects. Work in those departments was curtailed as well as in the Right-of-Way Department due to the fact that the state was not building new roads. The same held true for many other departments.

Even if the commissioners had been able to let new projects, they would have had to deal with the fact that all contractors' equipment was "busily engaged in War Defense Projects in the state and adjoining states, airports and munitions dumps."[397] Highway construction was frozen "as of December 2 status" following Pearl Harbor. This meant that all construction of Federal Aid highways could continue "only if it had been contracted and had work started" before that date.[398] All projects with federal aid contemplated after that date had to serve a military base or be essential to the nation's defense.[399] There was, too, the previously noted problem of a depleted professional staff as well as laborers.

This state of affairs was difficult to accept, especially given that the previous fiscal year "had been the biggest in the state's history as far as highway construction was concerned."[400] It was

[393] "Annual Report of the South Dakota State Highway Commission, 1947," p. 8.

[394] Ibid., p. 12.

[395] "Annual Report of the South Dakota State Highway Commission, 1942," p. 18.

[396] "Annual Report of the South Dakota State Highway Commission, 1941," p. 25.

[397] "Annual Report of the South Dakota State Highway Commission, 1942," p. 6.

[398] Ibid., p. 7.

[399] Ibid., p. 18.

[400] Ibid., p. 8.

unlikely that the state would experience such a year in highway growth again until after the end of the war.

Still, there were areas of growth in the SHC. The Motor Patrol was now used to check all bridges, airports, pumping stations and power plants to aid "in the prevention of SABOTAGE and countering ESPIONAGE." It was also working with the War Department "in coordinating CIVILIAN and DEFENSE needs" to include aiding in the identification of the shortest, fastest routes for moving troops and equipment. It also extended "its full cooperation to the Wing Commander of the Civil Air Patrol."[401] The Motor Patrol had also taken responsibility for the Accident Prevention Bureau in 1942.[402] Accident prevention now included the use of "reflectorized signs" on all oil-surfaced roads.[403]

Other additional duties the Motor Patrol participated in included directing traffic and convoys around the new military facilities that were built in the state in 1942. Those included the Ammunition Dump at Provo, the airbase at Rapid City, the air technical school in Sioux Falls, and the airbases at Watertown, Mitchell, and Pierre.[404] The addition of the Statewide Police Radio System, inaugurated in 1945, greatly aided the MP in discharging its duties. Such a radio system was possible due to the use of Frequency Modulation (FM), which provided clearer and more energy-efficient broadcasts as opposed to those that had been tried over Amplitude Modulation (AM).[405]

The promotion of safe driving was also an area that received additional attention in the 1940s. There was a National Safety Contest for the states in 1940. South Dakota had the least number of motor vehicle deaths of any state, but due to the "lack of drivers' education in our high schools and colleges we were penalized in this contest, receiving only honorable mention." As a consequence, a "driver's course was prepared for teachers and presented to the University of South Dakota who adopted it and have offered it through their Extension Division, giving a two-hour credit toward a Bachelor of Arts Degree."[406]

As of 1946, there was still no law requiring a driver's license examination.[407] Accident statistics for that year included: 1,964 reported; 122 killed (88 rural, 34 urban); and 1,305 injured (839 rural, 466 urban).[408] Of at least passing interest here was the fact that South Dakota was the last state to require driver's license tests, and it did not do so until 1958.[409]

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[401] Ibid., p. 14.

[402] Ibid., p. 16.

[403] Ibid., p. 9.

[404] "Annual Report of the South Dakota State Highway Commission, 1943," pp. 15-16.

[405] "Annual Report of the South Dakota State Highway Commission, 1945," pp. 17-18.

[406] "Annual Report of the South Dakota State Highway Commission, 1941," p. 23.

[407] "Annual Report of the South Dakota State Highway Commission, 1946," p. 21.

[408] Ibid., p. 22.

[409] Lynwood Oyos, ed., *Over a Century of Leadership: South Dakota Territorial and State Governors* (Sioux Falls, SD: The Center for Western Studies, 1987), p. 171.

The SHC created the Soils Laboratory and Materials Section as a separate division on 1 January 1946. A new laboratory building with office space was "designed and built during 1947 and was occupied in January 1948." The commissioners were proud to report that the new building had "five rooms with toilet facilities."[410]

The Bridges Division, too, was busy. On 1 June 1942, the War Department instructed states to provide an inventory of bridges. This was in part due to transportation needs, but it was also a result of the still very real fears of invasion. Military leaders knew that bridges were prime targets in sabotage campaigns. The staff of the Bridge Department did not know how many bridges the counties had built on their own, so it was busy conducting the inventory.[411]

Net state receipts did decline $776,816.84 in FY 1943. Federal aid declined by $1,503,609.64. The commissioners predicted even fewer revenues for the next few years. They were correct. Motor Fuel gross tax receipts were only $2,936,409 in 1944 compared to $6,028,634.58 in 1942.[412] All receipts of the SHC for FY 1943-1944 totaled $4,593,065.78 as compared with the receipts of $7,177,369 in FY 1940-1941, the last year before the war. Revenue declined from $4,875,090 in FY 1941-1942 to a low of $3,818,950 for FY 1943-1944.

The Commission employed 1,395 people on average during FY 1941-1942. By FY 1943-1944 that number was reduced to 846 employees, many of whom were inexperienced and required training. An extreme example was the reduction of Statewide Planning Survey personnel from 25 to 12.[413] At the same time as these reductions occurred, "the wage scale increased from 1942 to 1943 on an average of about 33%."[414]

Maintenance costs skyrocketed due to the incredibly difficult winter of 1942-1943. "Unprecedented snow blockage" occurred in most of the West River counties. In February 1943, the Commission faced an emergency. A three-to-four-feet deep blanket of snow covered many West River Counties. The commission's resources proved inadequate to the task. Governor Merrell Q. Sharpe consulted with the commanding officer of the Army Service Command at Omaha, who then sent 60 men and 25 machines including rotary plows, V-plows, and bulldozers. Congressman Francis Case secured 12 Army trucks to haul feed to marooned ranchers.[415]

Normally, this would be a dismal fiscal situation, but because the War Production Board and War Department policies, coupled with diminishing labor supplies, had severely curtailed road

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[410] "Annual Report of the South Dakota State Highway Commission, 1948," p. 13.

[411] "Annual Report of the South Dakota State Highway Commission, 1942," p. 17.

[412] "Annual Report of the South Dakota State Highway Commission, 1944," p. 29; "Annual Report, of the South Dakota State Highway Commission 1942," p. 19.

[413] "Annual Report of the South Dakota State Highway Commission, 1944," p. 9.

[414] Ibid., p. 6.

[415] Ibid., p. 8.

construction, the SHC found it had "some idle money on hand" in 1942-1943.[416] The commissioners invested one million dollars in 7/8% interest Treasury Certificates (Series B-1944) and one hundred thousand dollars in U. S. Savings Defense Bonds (Series G-1943).[417]

This development had both a practical value and as a lesson for the future. The practical value was that once federal funding returned to peace-time levels, the SHC would have sufficient matching funds available to resume normal work activity. In fact, by the end of FY 1944, the SHC had $479,780.10 cash–on-hand and $2,550,000 in US Government Certificates.[418]

A lesson that could be drawn from this is that a state agency can be trusted to steward excess funds in such a fashion as to meet the interests of the people. Had the SHC been in operation today and depended on General Fund revenues instead of its own revenue flow, it would be required to revert such a surplus to the General Fund or spend down the surplus before the end of the fiscal year to ensure a similar budget for the next fiscal year.

Administrative leadership was elated at the prospect of peace. In language unique in the years of annual reporting, the Commissioners wrote in 1945: "As the light of victory creeps into the sky of today and peace may soon again cover our land, the business confronting a highway department will bestir itself as the rustle of singing birds in the dawn of a new day. This will surely be music to the ear of the motorist …"[419]

The Publicity Division had been busily promoting the state as a tourist destination since the Division's inception in 1939. It sent out 1 million pieces of literature in 1941, double the number of the previous year. It also authorized production of three Kodachrome movie reels that were shown in eight states and were "constantly in demand" and "booked several months ahead."[420]

In anticipation that business would "revive swiftly as soon as travel conditions again become normal," the Publicity Division made sure that its promotional literature reached the far corners of the European and Pacific Theaters.[421] The staff distributed literature about South Dakota tourist attractions to USO public relations offices.[422] Returning GIs were going to want to travel, and South Dakota would be ready to receive them.

The division also produced a sound track color movie "America Takes a Holiday" in conjunction with Game, Fish and Parks Department and some private businesses. The two organizations

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[416] "Annual Report of the South Dakota State Highway Commission, 1943," pp. 6-7.

[417] Ibid., pp. 6-7.

[418] "Annual Report of the South Dakota State Highway Commission, 1944," p. 9.

[419] "Annual Report of the South Dakota State Highway Commission, 1945," p. 8.

[420] "Annual Report of the South Dakota State Highway Commission, 1941," p. 24.

[421] "Annual Report of the South Dakota State Highway Commission, 1945," p. 8.

[422] "Annual Report of the South Dakota State Highway Commission, 1944," p. 24.

produced another "full color sound movie" called "South Dakota, Land of Infinite Variety" by 1947.[423] They produced yet another movie, "New Horizons," in 1949 that promoted South Dakota as an excellent place not just to visit, but to reside in permanently.[424] By 1950, the Division reported that it was a "clearing house for all types of information on South Dakota" for many other state agencies.[425]

Tourists contributed $750,000 in gas tax revenues in the last year before the war and South Dakotans wanted them to return, whether they stayed or not, in increased numbers after the war. The commissioners anticipated an increase in fuel tax revenues of 20% or more in the first full year of peace and by 1947 claimed the Publicity Division's activities result in an additional one million dollars in gas tax revenues.[426]

Figure 18: Apatosaurus at Dinosaur Park, Rapid City
One of the many tourist attractions in South Dakota in the 1940s.
Construction of Dinosaur Park was a 1936 Works Progress Administration Project.

Those tourist dollars would be essential for maintenance. State Engineer Harvard C. Rempfer of Parkston explained in 1947 that the winter of 1946-1947 caused an "unusual 'break-up' of bituminous surfaces in the early spring" that the department did not recover from by the end of the

[423] "Annual Report of the South Dakota State Highway Commission, 1947," p. 21.

[424] "Annual Report of the South Dakota State Highway Commission, 1949," p. 27.

[425] "Annual Report of the South Dakota State Highway Commission, 1950," p. 25.

[426] "Annual Report of the South Dakota State Highway Commission, 1945," p. 19; "Annual Report of the South Dakota State Highway Commission, 1947," p. 21.

fiscal year.[427] Bituminous surfacing construction costs were "more than 50% higher than in 1941" and expected to go higher.[428]

Maintenance reports that the automatic load restrictions that went into effect on 1 March 1948 for 60 days aided in their job. This was a response to the spring break-up of the previous year. Axle loads were limited to 65% of the 18,000 pounds on gravel and dirt roads and 75% on concrete pavement. The department wanted reduced speeds for large loads during the period, too.[429]

There were also increased costs associated with new technology or upgraded equipment. Three new centerline stripe-painting machines were put into use and two more were on ordered in FY 1947/48.[430] Nine thousand dollars were budgeted for additional purchases of radio equipment for the State Radio System.[431] In the next decade, the purchase of International Business Machines (IBM) computers would add to rising costs.

The winter of 1946/47 was bad, but the winter of 1948/49 was worse. Perhaps authors Harl and Kay Dalstrom put it best in an article they published about the horrible winter weather that year entitled "It's 'Going Down in History': The Blizzards of 1949."[432] The U. S. Army and units of the South Dakota Army National Guard (SDARNG) were called in for "Operation Snowbound" to remove snow.[433] The State Legislature appropriated $100,000 for a Special Disaster Fund to provide relief for humans and livestock due to the extreme conditions of winter 1948-1949. The Highway Department administered the fund.[434]

It was the opinion of the Maintenance Department staff that highway conditions for FY 1946/47 had been only "fair to good."[435] In part, this was due to a personnel issue in that the counties were snatching personnel away from the state by offering wages that "bring their paychecks up to their needs for living costs and medical expenses."[436] This was the same time that President Harry Truman was trying to get national health insurance through Congress.

There was a singular event in terms of personnel during this period, although it was more of an anomaly than a sign of immediate and lasting change. Prior to 1948, the only female employees listed by name in annual reports had been employed as stenographers and as secretaries. The 1948

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[427] "Annual Report of the South Dakota State Highway Commission, 1947," p. 7.

[428] Ibid., p. 11-12.

[429] "Annual Report of the South Dakota State Highway Commission, 1948," p. 10.

[430] Ibid., p. 7.

[431] "Annual Report of the South Dakota State Highway Commission, 1947," p. 6.

[432] Harl and Kay Dalstrom, "It's 'Going Down in History': The Blizzards of 1949," *South Dakota History,* vol. 29, #4 (Winter 1999).

[433] "Annual Report of the South Dakota State Highway Commission, 1949," p. 7.

[434] Ibid., p. 29.

[435] "Annual Report of the South Dakota State Highway Commission, 1947," p. 12.

[436] Ibid.

Annual Report lists Hazel Dean as the Financial Supervisor of the State Highway Planning Survey.[437] This was an important first, but it would take a few decades before women served as department or division heads or in the role of Secretary of Transportation.

A contributing factor to the dearth of women in the field was the fact that 22,000 men and only 62 women earned engineering degrees in 1956. Civil engineering programs did not actively recruit, nor were they friendly to, women.[438] The fact was there were very few women to recruit. The Bureau of Public Roads "did not employ a female engineer until 1962."[439] The fact that the State of South Dakota had by the late 1950s hired several engineers from ethnic minority groups—Iranians, Puerto Ricans, and Filipinos—spoke to the fact that ethnicity would not stand in your way to gaining employment with the State of South Dakota's Highway Department if you had an engineering degree, but gender was another issue. If a woman with an engineering degree had applied, it is possible she would have received an interview, but despite the need for engineers, it is unlikely she would have received an offer of employment. Vernon Bump recalled that resistance to hiring female engineers was part of the institutional culture well into the 1970s. The personnel director at that time, when asked to hire Geological Engineer Carol Retzlaff as a field engineer in charge of a field crew, was "absolutely not about to hire a female."[440]

The need to recruit additional engineers accompanied the need to address the ever-increasing demands of maintenance. By 1948 the commissioners wrote that "in order to properly accomplish necessary maintenance of highways and to match Federal Aid funds made available to South Dakota, additional funds must be provided over and above those forthcoming from present sources of income." They knew matching requirements for the upcoming Federal Aid highway programs would soon exhaust the funds invested during the war. They expressed concern that with "current income sources only, maintenance costs will require almost the entire income and little will remain for construction purposes unless additional sources of funds are provided."[441] Their prediction was prescient: the SHC had to borrow one million dollars from the General Fund in 1949 to meet needs. Given that the commission had to repay it and the Legislature offered no significant increase of revenue, it was a double affront to the budget.[442]

The winter of 1951-1952 proved to be the "most severe and costly of any previous winter" since the Highway Commission Maintenance Department had been created. Snow removal and ice treatment costs were over $1,000,000. The snow storms and blizzards that hit the State in December 1951 and January, February, and March 1952 brought snow accumulation that was "three times the snowfall of an average winter" and the subsequent spring melting "caused flooding in many parts of

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[437] "Annual Report of the South Dakota State Highway Commission, 1948," p. 3.

[438] Lewis, p. 131.

[439] Ibid., p. 132.

[440] Bump recollection per David Huft editorial mark up.

[441] "Annual Report of the South Dakota State Highway Commission, 1948," p.8.

[442] "Annual Report of the South Dakota State Highway Commission, 1949," p. 6.

the State." The Missouri River set its "highest flood stage on record and, along with its tributaries, "caused considerable damage to bridges and highways in addition to damage to private property. Flash floods in the Black Hills area also caused bridges and highway grades to be washed out and resulted in much damage to bituminous surfaced roads."[443]

Although the commissioners did not know it at the time, the next year would bring them some relief in that the Korean War was brought to an armistice. The impact was direct, both in the increased availability of personnel and in declining prices for certain materials. An example was that the cost for bituminous materials declined by 3%. By 1954, construction costs decreased 8.3% from 1953.[444]

By 1954, there was a distinct possibility that motorists would be traveling on a new system of highways in the not-to-distant future. Leaders in state highway organizations, in the Bureau of Public Roads, and in the White House had been promoting a system of inter-regional highways for some time and it had coalesced, at least in terms of its authorization, in Congressional action in 1944.

Thomas MacDonald, who served as Chief of the Bureau of Public Roads from 1919 to 1953, nurtured the concept in its formative years. It was MacDonald and the staff of the Bureau of Public Roads [BPR] who FDR asked to consider an interstate system of highways in 1938. Herbert Fairbank, MacDonald's "right hand man" and the Deputy Commissioner for Research for the Bureau, developed the concept in the 1939 report *Toll Roads and Free Roads*.[445]

Roosevelt requested that the BPR consider a toll- financed system of just six roads: three north and south, three east and west. Their report indicated that toll roads would not be self-sustaining and they recommend instead an interregional highway network of 26,700 miles.[446] A subsequent report titled *Interregional Highways* published in 1944 recommended "a system of 33,900 miles, plus an additional 5,000 miles of auxiliary urban routes."[447]

Congress authorized construction of the National System of Interstate Highways in 1944, but it was an unfunded mandate.[448] The Federal Aid Highway Act of 1944 envisioned four federal road networks: the primary or trunk roads; the farm-to-market roads; urban roads; and the Interstate.[449] Only the "ABC" roads (primary, secondary, and urban roads) had appropriations under this

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[443] "Annual Report of the South Dakota State Highway Commission, 1952," p. 11.

[444] "Annual Report of the South Dakota State Highway Commission, 1954," p. 7.

[445] Richard F. Weingroff, *From 1916 to 1939: The Federal-State Partnership at Work*, http://www.fhwa.dot.gov/publications/publicroads/96summer/p96su7b.cfm. As accessed 20 June 2011.

[446] "Dwight D. Eisenhower National System of Interstate and Defense Highways," http://www.fhwa.dot.gov/programadmin/interstate.cfm. As accessed on 29 June 2011.

[447] Ibid.

[448] Rose, xiv.

[449] Ibid., 26.

legislation, which may explain why the SHC made little mention of the proposed Interstate system, but it was significant funding.

Congress allocated $500 million per year for three years after the war ended. South Dakota's share would be $3,500,000 for Regular Federal Aid; $2,500,000 for secondary and farm-to-market roads; and $213,000 for urban roads.[450] As of the end of FY 1945, the SHC had unobligated balances of $2 million in regular Federal Aid; $650,000 in Secondary funds; and $800,000 in grade crossing elimination funds.[451] The Commission's resources also included $3,300,000 in government securities.[452] Money for matching funds appeared not to be an issue, at least in the first year of peace, when restrictions on road building were lifted immediately after V-J Day, which was announced on 14 August 1945 in the U.S.[453]

The biggest concern in 1945 was getting back to appropriate staffing levels.[454] Whether it is a reflection of that situation or not, the fact was that as of 30 June 1946 the Commission employed 35 veterans of WWI, five veterans who served in both world wars, and two veterans of the Spanish-American War![455] Even upon the war's conclusion, there was no immediate relief from personnel shortages. Many men were killed or wounded and unable to return to their jobs. Universities had not been graduating engineers during the war due to wartime draft regulations.[456] In addition, the post-war double-digit inflation rate drove prices up, as did shortages of materials.[457]

An additional problem with recruiting personnel was that the State of South Dakota offered no retirement benefits. Exit surveys indicated that those leaving the State Highway Department in 1960 cited the "absence of retirement pay and civil service plans" as the most important reasons they left for other jobs.[458]

It was not until Wallace "Wally" Larsen, an engineer who came to the SD Department of Highways in 1960 and served in several capacities including Project Engineer, State Highway Engineer, Director of the Division of Engineering, and Deputy Secretary until retiring in 1993, and Ron Williamson, Executive Secretary for the League of Municipalities from 1972-1979 and later South Dakota's Adjutant General, worked together to get legislation passed that created a retirement system for state employees.[459]

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[450] "Annual Report of the South Dakota State Highway Commission, 1945," p. 8.

[451] Ibid., pp. 8-9.

[452] Ibid., p. 7.

[453] "Annual Report of the South Dakota State Highway Commission, 1946", p. 25.

[454] "Annual Report of the South Dakota State Highway Commission, 1945," p. 9.

[455] "Annual Report of the South Dakota State Highway Commission, 1946," p. 26.

[456] Ibid., p. 11.

[457] Ibid., p. 16.

[458] "Annual Report of the South Dakota State Highway Commission, 1960," p. 12.

[459] Wallace Larsen Interview, 29 April 2010, p. 3; p. 20; p. 19. pp. 25-27 for various job titles; on Williamson, see pp. 28-29.

Larsen recalled that George Ducey, an employee with the South Dakota Department of Highways (SDDOH) in Rapid City, "began an effort to get legislation introduced to create a retirement system for State employees" in the 1960s. Unidentified people of influence then told him if he wished to remain a state employee, he would cease his effort, and he did. Larsen, who was president of the South Dakota Engineering Society in 1966, and Williamson then took up the cause.[460]

They got resolutions from their respective organizations calling for retirement programs for both state and municipal employees who had no retirement programs. Because state employees "were not allowed to offer testimony at the legislative hearings unless invited to do so" by a legislator, a legislative committee, or the Governor, Williamson became the point man. Regardless, when the State Legislature passed Chapter 303 of the 1967 Session Laws that authorized the retirement programs, State Senator Sheldon Songstad (R) advised Larsen that the Legislature had passed "his" bill.[461]

Rules had changed by 1974 and Larsen was able to actively lobby on behalf of legislation that sought to consolidate various retirement systems for a variety of state employees under what is now the South Dakota Retirement System (SDRS). This resulted in Chapter 35 of the 1974 Session laws. The SDRS is consistently rated among the top one percent of state retirement systems in the nation.[462]

The fact that the proposed Interstate Highway System was unfunded certainly explained in part the lack of attention it received in the official reports of the SHC during the years immediately following 1944. There was, too, the development of the "Red Scare," the Korean War, and the paranoia of McCarthyism from 1946-1954. The Motor Patrol Department report for 1950 reflected the concerns of the day. "The existing emergency," wrote its author, while not permitting relaxation of vigilance in accustomed fields, has multiplied the functions and broadened the scope of the [Motor Patrol] Department. We now must look beyond the accustomed field of state law and state boundaries to a horizon that embraces the internal security of the nation. To that end the Highway Patrol is dedicated to complete cooperation with all Federal and local agencies and the intelligence service of the Armed Forces.[463]

Despite national and international events that could potentially set back highway construction, South Dakota had seen significant accomplishments in the development of its State Trunk Highway System. By 1952, Pennington County had the highest mileage of trunk highways with 221.80; Meade County was next with 210.76; followed by Butte County with 182; Spink County with 170.43; Brown County with 170.16; and with Minnehaha County well down the list with only 141.08 miles, although

[460] Wallace Larsen to Steven Bucklin, 19 August 2011, p. 1. Letter in possession of the author.

[461] Ibid.

[462] Ibid.

[463] "Annual Report of the South Dakota State Highway Commission, 1950," p. 22.

it had the most concrete highways at 79.56 miles. Union County had 49.27 miles of concrete highway for second place even though it had only 74.74 miles of road designated as Trunk.[464]

The growth of both the trunk roads and farm-to-market roads in the post-war period reflected several important factors that have already been addressed, to include the growth of truck traffic, the growth of automobile ownership, and the growth of tourism, but a significant contributing factor was the growth of South Dakota agriculture during this period. Modern chemical farming was introduced and widely applied in the post-war period. More and more land that in the past could not produce a profit if planted with corn or beans now could be profitably farmed, especially in areas immediately west of the Missouri River.

Yet another reason the Interstate System proposal does not feature prominently in the history of the SHC during these years was the passage of legislation to implement the Pick-Sloan Plan for Missouri River flood control. President Roosevelt signed the Flood Control Act of 1944 (Public Law 534, 78th Congress, 2d session) on 22 December 1944 that approved a plan that combined separate plans the Corps of Engineers and the Bureau of Reclamation had submitted earlier in the year.[465]

The plan included the construction of four rolled-earth dams in South Dakota: Fort Randall Dam, Oahe Dam, Gavins Point Dam, and Big Bend Dam. Both the construction of the dams and the bridges were enormous undertakings and they would alter significantly transportation in South Dakota. As just one example, the Fort Randall Dam would require relocation of State Trunk Highway No. 47 and U. S. Highways 16, 18, and 281.[466]

The damming of the Missouri River would also cause water levels to change dramatically and require the Bridge Department of the SHC to design and build new bridges to replace the ones that already spanned the Missouri River. The SHC was responsible for all but one of the bridges that spanned the river Congress passed the Flood Control Act: the Meridian Bridge at Yankton was still privately owned and would not require replacement. This was because it was located downstream of Gavins Point dam, which was the furthest south in the series of the dams, meaning that the pools would be above it. As a consequence, the Bridge Division staff focused attention on the bridges at Chamberlain, Forest City, Mobridge, Pierre, and Wheeler.[467]

Because the Corps of Engineers controlled the dams and the pools behind them, the SHC had to negotiate the terms of the bridge replacements with that agency. State Engineer Harvard C. Rempfer, Secretary of the Highway Commission Frank Mitchell (an attorney), and State Bridge Engineer

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[464] "Annual Report of the South Dakota State Highway Commission, 1952," pp. 69-70.

[465] "Pick Sloan Missouri Basin Program," http://www.usbr.gov/projects/Project.jsp?proj_Name=Pick+Sloan+Missouri+Basin+Program. Accessed 6 July 2011.

[466] "Annual Report of the South Dakota State Highway Commission, 1949," p. 7.

[467] Wheeler was located in Charles Mix County and is currently under Lake Francis Case.

Kenneth Scurr represented South Dakota in the negotiations with the Corps staff at its Omaha office.[468]

The Corps took what appeared to be an unreasonable bargaining position in the early negotiations claiming that all it was legally liable to do was provide in-kind replacement costs pegged to the size and value of the extant bridges. In addition, the Corps argued that it would "only pay for a bridge of the same roadway width and capacity as the original ones."[469]

South Dakota's negotiating team took the more logical position that the Corps, having created the circumstances that required bridge replacements and removal, would be responsible for the entire costs of the new bridges, which would be significantly longer and more expensive than the ones they replaced. Negotiations concluded when the Corps "agreed to replace the structures with roadway widths and capacities of current standards."[470]

Despite this understanding, the Corps fudged on the agreement when its staff took the position that "the crossing that they were providing on the Gavins Point Dam was an adequate replacement for the Wheeler Bridge." Rempfer, Mitchell, and Scurr did not agree to this and turned to U. S. Senator Francis Case for help. Case proposed legislation that would require the Corps to pay full replacement costs according to the spirit of the earlier agreement. The Corps countered that it would reimburse up to $4,500,000 and the State would be liable for costs beyond that amount. Case then asked Scurr if the amount was adequate. Scurr replied that it was and the funds were used to build the Platte-Winner Bridge/Francis Case Bridge, which was completed in 1966.[471]

Although these negotiations entailed some difficulties, Scurr observed that the relationship between the representatives of the SHC and those of the Corps of Engineers was a good one. "The Corps," said Scurr, "recognized our capabilities and welcomed our willingness to co-operate. I think that this was also instrumental in securing very generous treatment from the Corps in all of our negotiations."[472]

Preparations began for design and construction and for recruiting sufficient labor and professional forces for the projects. Unlike some other states involved in federal bridge projects, South Dakota's engineers produced their own plans rather than hire consultants, a practice that saved the Corps money.[473] The Bridge Department also was developing "precast sectional concrete culverts and precast small bridges and abutments. These will be of a type that can be made centrally by county forces…and hauled to the site and put in place with a minimum of on-the-job labor." This

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[468] Scurr Interview, pp. 10-11.

[469] Ibid., p. 11.

[470] Ibid.

[471] Ibid.

[472] Ibid., p. 14.

[473] The South Dakota engineers produced the plans "for about one and one half percent as opposed to the usual six or seven percent consultant fees." Scurr Interview, p. 14.

was being done due to the fact that commercial contractors did not compete with one another for such jobs and could get what they wanted for the work.[474]

The Bridge Department noted continued problems getting sufficient labor, especially when the projects were so far from a town that it required crews to live in on-site barracks and in the face of higher federal salaries.[475] Bridge Department reports in subsequent years noted continued progress in planning Missouri River bridges as well as continued problems due to restricted availability of materials and labor.[476]

The personnel problem was a persistent theme during the period of planning and constructing these bridges, which was more than a decade. Competition from other state highway departments, as well as from private firms, was intense and South Dakota salaries were inadequate in that environment. During FY 1951-1952, the Bridge Department operated as two divisions: one division was "entirely employed producing plans for structures required by the Missouri River Development projects" while the other focused on "the normal functions of the Highway Department with reference to drainage structures." The fact that personnel losses were "in the face of undiminished work loads" resulted in "diminished service to Counties and delay in production of plans until it can be corrected."[477]

The passage of the Interstate Highway Act of 1956 exacerbated the situation in that every highway department in the nation was seeking additional staff. South Dakota's highway commission faced double pressure given it was engaged in not one, but two extraordinary projects.

It was necessary to expand the staff to thirty engineers at the height of the bridge program and that was a real problem. The SHC advertised in technical magazines and wrote to all of the large consulting firms and structural steel fabricators in the hope they would identify recent retirees who might be interested in work, but the effort produced no results.[478] The situation was so desperate that in order to promote from within, the SHC offered classes in college algebra and trigonometry taught twice a week in 1956 for staff members who wanted to improve themselves and their utility to the Department.[479]

Bridge Department personnel then "canvassed the placement officers of the technical universities with excellent results, many of their new graduates being of foreign origin, being sent to U.S. schools for education. We were a little skeptical at first, but most of these young men turned out

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[474] "Annual Report of the South Dakota State Highway Commission, 1950," p. 12.

[475] "Annual Report of the South Dakota State Highway Commission, 1947," p. 13.

[476] "Annual Report of the South Dakota State Highway Commission, 1948," pp. 11-12.

[477] "Annual Report of the South Dakota State Highway Commission, 1952," p. 13.

[478] Scurr Interview, p. 14. Page 6 of the 1956 Annual Report confirms Scurr's memory.

[479] "Annual Report, of the South Dakota State Highway Commission 1957," p. 10. The report does not indicate who taught the classes.

to be valuable assets. They all had degrees in Structural Engineering, some at the Masters level."[480] The Annual Report of 1957 recorded that the Department of Highways offered employment to ten foreign engineers, including "seven Filipino graduate engineers, one Chinese engineer, one Hungarian engineer, and one German engineer." The Department approved hiring these engineers in September 1956, but due to immigration restrictions only three had arrived during the reporting period. The remaining seven were expected to arrive later in 1957.[481]

Lutheran Social Services also helped bring talent to the SHC. The Lutheran agency, which sponsored displaced persons following World War II, aided three Latvians and one Hungarian in their journey to South Dakota. Elek Kirchner had been a senior government engineer before seeking refuge in Switzerland from Nazi-occupied Hungary. The Latvians, including Rudy Kreso, had advanced degrees from the University of Riga.[482]

The Interstate program and the replacement of the Missouri River Bridges placed new demands on the SHC infrastructure. Drafting and office space was designed with the normal workload of the department in mind and it now proved inadequate to the needs of an expanded workforce. The SHC requested that the Corps of Engineers allow the SHC to charge the cost of expanding certain facilities as a legitimate engineering charge under their agreement and the Corps staff agreed. A new insulated metal building was put up on Sioux Avenue in Pierre. When the project was completed SHC retained possession of the building.[483]

The order in which the Corps constructed and closed the dams determined the sequence in which the bridges were replaced. Gavins Point Dam near Yankton was the first dam to be completed. Highways were re-routed over the dam to allow the Bridge Division to close the Wheeler Bridge, which was destined to be submerged, and begin dismantling it in order to make use of its spans and those of the old Chamberlain Bridge in the construction of the new bridge at Chamberlain. In 1947, President Truman had requested delays in bridge programming "if they involved large tonnages of structural steel."[484] Shortages of strategic materials continued throughout the late 1940s and into the 1950s, a situation that the Korean War exacerbated from 1950-1953. These conditions, coupled with the South Dakota culture of frugality, created an incentive to recycle, and the engineers of the SHC Bridge Division became experts at doing so.

The original plan was to use the Wheeler spans to extend the existing Chamberlain Bridge. Designers realized quickly that the elevation of the pool the Ft. Randall Dam was creating would reduce the clearance above high water at the old bridge to less than the 38 feet the Corps required

[480] Scurr Interview, p. 14.

[481] "Annual Report of the South Dakota State Highway Commission, 1957," p. 27.

[482] Scurr Interview, p. 15.

[483] Ibid.

[484] "Annual Report of the South Dakota State Highway Commission, 1947," p. 13.

for barge traffic. Scurr noted the irony in this given that barge traffic was "non-existent" on that portion of the Missouri River because there was no barge traffic above Sioux City.[485]

A new plan was drawn that called for placing the bridge at a higher elevation one-half mile downstream. The engineers decided that using the old Wheeler and Chamberlain spans on new foundations would result in the most economical structure. "The new foundations," Scurr recalled, "were designed for a dual roadway structure using the old spans side-by-side on the new foundations." The four 336-foot Chamberlain spans were paired and the five 256-foot spans from Wheeler were paired after they arrived at the site and a new 256-foot span could be built.[486] Moving the spans required removal of the floors and then awaiting the rising waters of the pool so the spans could "be picked off their original piers as the level of the lake rose after closure of the Fort Randall Dam."[487]

The engineers used some innovative methods in the project. The standard technique for concrete pouring was to use gas fired heaters and blowers to prevent the concrete from freezing. The Bridge Division personnel allowed the substructure contractor to use insulated forms to pour the concrete in the piers during what turned out to be a severe winter. The temperature in the forms before the pour was about 70 degrees Fahrenheit, but the chemical action involved in the setting up process raised the temperature within the forms to about 100 degrees. Scurr recalled that the "heat was gradually reduced, for about twelve days until the forms could be removed safely. This apparently was a first in winter construction. It was written up in many of the technical journals, and the manufacturer of the insulating blankets for the forms used it in his advertising for several years."[488]

Transporting the spans both up and downstream required innovation as well in that it would require special rigging and barges. The Corps of Engineers provided special barges with "mule" power units that had been used in WW II to make floating temporary docks. The project was very difficult as the Missouri was still a flowing river as the barges moved upstream from Wheeler to Chamberlain. Moving the Chamberlain spans offered fewer problems due to the fact they only had to be moved one-half mile downstream. The operation went as planned without incident.[489]

Traffic flow continued across the river during construction. The SHC personnel borrowed Bailey Bridge units from the Corps of Engineers and used them to create a crossing upstream from the original bridge. Many of the state employees were familiar with these portable bridges through their service in the SDARNG. This effort to meet the needs of the public is a constant theme in the history of the SHC and the South Dakota Department of Transportation. Ironically, on the day the

[485] Scurr Interview, p. 11.

[486] Ibid.

[487] Ibid.

[488] Ibid., p. 12.

[489] Ibid.

reconstructed bridge was opened, the river washed away the temporary bridge. The State did not have to reimburse the Corps for the loss of the Bailey Bridge units as the reimbursement agreement covered the cost.[490]

Recycling the old spans resulted in an estimated savings of about 300,000 dollars in construction costs and an additional 150,000 dollars that would have been spent in removing the spans according to Corps standards. There was considerable interest in replicating this process with the Forest City and Mobridge bridges, but that proved to be impractical.[491]

In large part, this was due to the fact that the maximum operating level of the Oahe Reservoir combined with the standard clearance the Corps required would mean that the piers would have to be very high at both locations: about 190 feet at Forest City and about 160 feet at Mobridge. Scurr observed that the "cost of the additional piers, if the shorter old spans were used was such that the economic balance was destroyed and the use of the old spans would have added an estimated $1,000,000 to the cost of each bridge."[492] The final cost of the two new 5,000-foot long bridges was approximately $4,500,000 per bridge. Both of the old bridges remained in service while the new bridges were being built, a fact that kept traffic and commerce flowing smoothly. If they had recycled the old spans, it would have required traffic on U. S. Highway 12 to be detoured over U. S. Highway 212 while the Mobridge construction was underway, and U. S. 212 traffic to be detoured over U. S. 12 while the Forest City Bridge was completed. Avoiding this situation saved the people and businesses that used these roads thousands of hours of inconvenience and millions of dollars in indirect costs.[493]

The fact that these two bridges were the longest of any American bridges over interior as opposed to coastal waterways attracted the attention of the *Engineering News Record*. A senior editor spent a week with Bridge Division personnel and wrote an article "Big Bridges Prove Big Bargain" that appeared in the January 1959 issue of the publication.[494] He was also impressed with the low cost of the structures, although part of the explanation for this when compared to other long and high bridges was because the South Dakota bridges were designed for only two lanes of traffic and H-20 loading.[495]

Some anticipated problems developed at the Mobridge and Forest City sites involving the sliding of approach fills. The sheer volume of water in the reservoir puts enormous pressure on the lower depths and that pressurized water infiltrates seams of bentonite adjacent to the pool. Once the

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[490] Ibid.

[491] Ibid., p. 13.

[492] Ibid.

[493] Ibid.

[494] "Big Bridges Prove Big Bargain," *Engineering News Record,* 15 January 1959.

[495] Scurr Interview, p. 13.

bentonite is so lubricated, earth slides occur.[496] Some ten years after the Forest City Bridge was completed, Vernon Bump, who served as an engineer in various capacities for the SDDOT from 1961-2001, recalled that he resorted to an ancient technology in an effort to draw down the water table. His crew installed a windmill on the land above the bridge and it had the desired effect.[497]

The Forest City and Mobridge bridges were the last replacements for the original four Missouri River Bridges negotiated with the Corps. The original Pierre Bridge over the Missouri was not included as a Corps responsibility because the operating level of the Big Bend Reservoir did not reduce the Corps' required clearance at the site. Nonetheless, the bridge was obsolete and could no longer handle the increased traffic on U. S. Highway 14.

The SHC and the Bureau of Public Roads approved its replacement in 1958 and a new four-lane bridge was opened in 1960.[498] The old bridge was not salvaged, even though it was offered free of charge to anyone who would remove it according to Corps specifications. Salvagers were likely aware of the fact that Cuyahoga Salvage Company of Cleveland, Ohio, had taken a financial bath when it contracted to remove the old bridges at Mobridge and Forest City.[499] The old Pierre Bridge remained standing until 1986.[500]

[496] Ibid., p. 18.

[497] Vernon Bump Interview, 29 April 2010, p. 57.

[498] Scurr Interview, p. 13.

[499] Gentry Stanley, "History of the South Dakota Highway Department, 1941-1960," unpublished M.A. Thesis, University of South Dakota (1971), p. 109.

[500] Renewable Technologies, Inc., "Final Report on Historic Bridges of South Dakota," November 1990, p. 51.

Figure 19: The Forest City Bridge
(Courtesy of the SDDOT)

Two more bridges had to be built that were not part of the original negotiations with the Corps. One of these is the Wakpala Bridge that spans the Grand River near its entrance into the Missouri just north and west of the western terminus of the Mobridge Bridge. The Corps took the position in the original negotiations that the pool of the Oahe Reservoir would not back up the Grand River to the extent that it would cause problems with the bridges that spanned the Grand. That proved incorrect. The Oahe pool significantly altered the elevation of the Grand, rendering the old bridges unusable and interrupting the flow of commerce into Mobridge. The Corps accepted responsibility and the new 4,500-foot long Wakpala Bridge, which locals used to call "the singing bridge" because of the sound tires made when crossing it, was subsequently constructed at the Corps' expense.[501]

[501] Scurr Interview, p. 14. Vernon Bump spoke to the "singing" issue. Bump stated: "I don't know if that was because of the concrete tining work roughness that they'd put in the deck or if it was a matter of the frequency of their lay down machine. I don't know what might have caused that but sure, certainly quite a bit of it." Bump Interview, 29 April 2010, p. 11.

The Platte-Winner Bridge above the Fort Randall Dam was "the finale" to the program and it represented a much different set of circumstances than those associated with the replacement of the other bridges. After Senator Case secured the funding for the bridge, the SHC bridge designers came up with a plan under the allocated amount. Vernon Bump was a member of the foundations crew and recalled they spent so much time in Platte that they "knew the motel owner so well that he invited us to dinner several times, the whole crew."[502] That was an auspicious start for the project, but significant problems arose that would make this project a memorable one.

The conditions at this location were "vastly different" from those at the other sites. Because the other bridges were constructed before their respective dams had been completed, the river "could be manipulated to permit most of the construction to proceed under near dry land conditions."[503] That was not the case at the Platte-Winner site. The Fort Randall Reservoir had been at full capacity for several years before construction on the bridge began. As a consequence, discussion turned during the planning phase to possibility of different structures than those used at the other sites. Some Corps personnel suggested a suspension bridge, but that idea was quickly dismissed, as it would have cost nearly 60% more than the type of bridge eventually selected.[504]

According to Scurr, the "most economical and practical type consisted of Steel Deck Girder Spans supported on large diameter pre-stressed concrete piling sunk to the underlying Carlisle Shale. This type of construction had been successfully used in deep water structures in the Puget Sound area and at Chesapeake Bay in Maryland."[505] The successful bidder for the Platte-Winner Bridge substructure was Peter Kiewit of Omaha, Nebraska.

The preliminary operations of the Bridge Department reveal just how different things were for bridge engineers in those days before computers and Global Positioning Systems (GPS). Vern Bump remembered "not knowing where piers might be, was interesting because the design of that bridge, the preliminary design length of the bridge was based on a calibrated propeller." The Corps of Engineers had a boat "they would drive across the river, hopefully in a straight line, and so many turns of the propeller was so many feet of water crossed. And that was the preliminary design that we had to go by."[506]

They "put survey targets on both ends of the bridge with centerline, and we had a left offset and a right offset that you could see about where you were. So we drilled that bridge based on going down centerline as best as we could optically follow it, just drilling random holes." The distance between the two banks was a mile. They used survey triangulation "to figure out about where we were. Just basic, real old technology survey." When they reached the distance where they "were

[502] Bump Interview, p. 48.

[503] Scurr Interview, p. 15.

[504] Ibid.

[505] Ibid. Vern Bump noted that it was Niobrara Chalk, not Carlisle Shale.

[506] Bump interview, p. 47.

supposed to be on the bank, the abutment," they were actually about 150 feet offshore. The calibrated propeller had not arrived at the correct distance.[507]

The State then authorized purchase of a Geodimeter, which used a light beam for accurate measurements. Bump, Ed Flocke, who was the chief surveyor, and Bob Whyte, who worked in Materials, but was a registered land surveyor, then set themselves to the task of running an accurate measurement.[508]

They placed a reflector on one side of the river and "this magic instrument" on the opposite bank. The operation had to be done at night. Flocke rented a boat with a gasoline engine. Whyte and Bump went across the river, from east to west, and set the target. It required "hours and hours and hours in the middle of the night" and they were not, Bump chuckled, being paid overtime. When they were done, Whyte crossed the river to get the reflector. Bump laughed as he recalled that his friend "got about a third of the way back and ran out of gas. And it's just dead calm and you could hear him 'cause it was one oar—splash, splash, splash—God damn, cuss, cuss, cuss, cuss—and then to the other side of the boat and then splash, splash and the same curse words." Bump said "you could have heard it for miles. And he was hopping mad when he finally made it across. But the point of that is in those days they didn't have accurate measures of surveying."[509]

Casting was done on site and the piling was then "rolled onto floats and taken to the pile rigs at the pier sites. Transporting them was a tricky operation given that some piles were 188 feet long. Nonetheless, the contractor ran into no problems when "jetting the piling to the required bearing on the Carlisle stratum."[510]

It was at the next phase, though, that a problem arose that would that would not be fully resolved until 1969. Special provisions written into the design specifications required placement of a three-foot seal of Class A Concrete "at the bottom of the pile next to the foundation material. Then a sand fill was to be placed to the level of the riverbed." Class C concrete was then to be placed on top of the pile to an elevation twenty-feet below the top. The last twenty feet was to be filled with Class A Concrete and an interior cage of re-bars.[511]

The specifications required the contractor to use either the tremie or drop bottom bucket methods to place all the concrete in the piling. This was to maintain the concrete's integrity, for if concrete is dropped through the air for more than a few feet its component parts separate; if dropped through any depth of water, almost complete segregation of component materials occurs.

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[507] Ibid.

[508] Ibid., p. 48.

[509] Ibid.

[510] Scurr Interview, p. 16. Again, Vern Bump notes that it was Niborara, not Carlisle.

[511] Ibid.

Once the contract had been let, the SHC bridge personnel were no longer directly involved in the project. Supervision of construction was now the Resident Engineer's responsibility. For whatever reason—the fact that tremie and drop bucket work is slow and tedious or inexperience on the part of the state personnel in charge—the contractor did not use the prescribed method to place the concrete.

The result was segregation of the component parts of the concrete, with the water floating to the top. During late December 1963, the water froze inside the piling and ruptured them. That led to several years of piling repairs. It also delayed the American Bridge Company's placement of the superstructure. That company had already fabricated the girders and was ready to place them. That could not happen until the pilings were repaired. The girders had to be stored for more than a year before they could be placed on the repaired foundation. After a year in open storage they had to be re-cleaned and re-painted.

A legal battle over the repair costs ensued, with Kiewit claiming an additional $3,000,000 for repairs. Bump recalled that Kiewit was way behind schedule because they were cracking the piling. The company maintained that they were hitting glacial boulder fields that were not indicated on the plans. Bump and other members of the Bridge crew investigated and did not find the alleged fields of boulders.

In an effort to determine exactly what was happening, Bump bought an aquarium and "modeled the gravel sizes from boulders to sand to silt" to model scale. The technician that ran Bump's lab—Joe Waldman—made a jetting rig to run with the little pump from the aquarium store and an airlift and so they could run an airlift and jet." Their model tests revealed that when the company "ran those airlifts, those jets, they blew all the fines out of the hole, so you had a big crater down there…So as they jetted, the fines went out and the bigger rocks rolled back down in the hole." As they picked the pile up and set it on top of the rock the pile broke. Bump filmed the process, which the judge viewed.[512]

The trial began in Circuit Court in Mitchell on 3 February 1969 with the Honorable James R. Bandy presiding over the proceedings. The judge ruled on 3 March 1969 that Kiewit was entitled to only $161,000 of its three million dollar claim. Both parties waived appeal.[513]

Of course, the SHC had been busy with other projects during this period. South Dakota's portions of U. S. Highway 14, U. S. Highway 18, and U. S. Highway 212 were completed in 1948, 1954, and 1957 respectively.[514] The Pigtail bridges in the Black Hills had undergone necessary repairs to preserve them. The Bridge Division also built an "unusual four-lane prestressed concrete viaduct

[512] Bump Interview, pp. 49-50.

[513] Scurr Interview, p. 18. Scurr provides a lengthy commentary on the claims and their settlement. Pages 27-28 of the "Biennial Report of the South Dakota Department of Highways, 1969-1970" corroborate the basic facts of his account.

[514] "History of the South Dakota Department of Transportation," State Archives (ACC 85125 Folder 2325A; 1988), p. 2.

across the railroad yards at Aberdeen" that was the first large bridge in the US "to provide for snow removal by electrical radiant heat in the floor."[515]

Administratively, the State had paid off its debt and celebrated it with a "mortgage burning" in Pierre. Governor Sigurd Anderson led the ceremony marking the retirement of the State's debt at the Capitol in 1954.[516] Under any circumstance, this was a remarkable achievement; that it happened just a few years before the legislation was passed that marked the most important transportation development in the State and nation's history placed South Dakota in a unique position to accept the responsibilities of the Interstate Highway System.

Another important administrative change began in 1955. Joe Foss, in his first term as governor, authorized a reorganization of the South Dakota Highway Commission. He created the South Dakota Department of Highways (SDDOH) and established the position of Director of Highways to oversee what was the largest of all state departments.

Foss focused on the remarkable growth of the SHC in his 1955 Inaugural Address. "Our State Highway Department," he said, "is the largest single agency of state government. It employs over 1,100 persons and during the past fiscal year spent over 20 million dollars."[517] To provide some perspective, the total projected budget for all South Dakota Board of Regents institutions (the seven universities and colleges, as well as the School for the Blind and the School for the Deaf) for 1955 was $4,112,293.[518] The scope of SHC growth was such that the 1953 Legislature appropriated $800,000 to construct a new building to house transportation workers in Pierre.

Foss noted in his address that "like Topsy," the SHC had 'just growed.'"[519] He supported measures to ensure that such growth came as the result of foresight and planning and not simply as part of the dynamic of unchecked bureaucratic expansion. To that affect, Foss, following the recommendations of two independent research reports, appointed a Director of Highways who would exercise the authority vested in, and shoulder the responsibilities of, a Chief Executive Officer.[520]

Although the creation of a director may have been an act of efficiency, it was not necessarily an act of progress. The office was and still is a political one, without the protection of a civil service

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[515] "Annual Report of the South Dakota State Highway Commission, 1959," pp. 10-11.

[516] Lynwood Oyos, ed., *Over a Century of Leadership: South Dakota Territorial and State Governors* (Sioux Falls, SD: The Center for Western Studies, 1987), 155-158.

[517] Inaugural Address and Message of Governor Joe Foss to the Legislature of South Dakota, 34th Regular Legislative Session, 1955, p. 11.

[518] Chapter 323, 1953, SB53, General Appropriation Act of 1953 (for Fiscal Years 1954 and 1955).

[519] Inaugural Address and Message of Governor Joe Foss to the Legislature of South Dakota, 34th Regular Legislative Session, 1955, p. 11.

[520] The two reports are Griffenhagen and Associates, Legislative Research Council State of South Dakota, "Report on Reorganization of the Executive Branch of the State Government of South Dakota (1954) and the "Report of the Little Hoover Committee" (1954).

position and without any specific educational or professional qualifications. The only prerequisite for holding this office was political loyalty.[521]

Additional reforms Foss implemented were directed at solving problems previous commissioners and other members of the transportation community had identified over the years. Pay scales were adjusted upward to help reduce the high turnover rate among professional and blue-collar employees.

An example of this is found in the Maintenance Division. There had been no changes to hourly wages since 1 January 1953 when average hourly wages "for the various classifications are lower than the same classifications in the other eight north central states." Salaries for maintenance supervisory personnel were "much below the average for other states" per the American Association of State Highway Officials' report.[522] The workweek for maintenance personnel was reduced from 50 hours to 48 while at the same time wages were increased; not surprisingly, so were morale and productivity.[523] The "reasonable salary increases" made it possible for the new full-time Director of the Personnel Division "to secure a much higher type of personnel than was possible under the program which existed prior to 1955."[524]

Subsequent developments would dampen this sense of optimism with regard to wages and salaries. One example occurred in FY 1958/59 when 22 of the 33 graduate engineers hired resigned.[525] The lack of benefits and of competitive salaries and wages for state employees in South Dakota continued to hamper hiring for decades to come.

Projections for each new mile of Interstate Highway to be constructed indicated that more than the usual number of bulldozer operators, gravel contractors, and compactor operators would be needed to undertake the project. Each mile would require fifty tons of cement for the concrete pavement and twenty tons of steel for reinforcing screens and rods. Perhaps more importantly, each new mile of highway "depended on the services of an average of eight engineers. State highway departments" were under enormous pressure "to increase their staffs."[526]

The SDDOH Personnel Division also adopted a policy at this time that no "blood relatives of the first degree" would be employed in the "same area or unit of service." Although the Annual Report does not indicate it, this was likely in response to a widely held public perception that nepotism was a problem in state government. Effective 1 January 1956, the SDDOH implemented a mandatory

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[521] "Annual Report of the South Dakota State Highway Commission, 1957," p. 6.

[522] "Annual Report of the South Dakota State Highway Commission, 1954," p. 10.

[523] "Annual Report of the South Dakota State Highway Commission, 1955," p. 6.

[524] Ibid. Prior to this, a part-time "head" had been in charge of Personnel.

[525] "Annual Report of the South Dakota State Highway Commission, 1959," p. 26.

[526] Lewis, p. 87.

retirement policy for all state highway employees at age 65. This could be waived, however, "for key personnel needed for short-term employment."[527]

The SDDOH staff anticipated that the acquisition of right of way for the Interstate System would require condemnation proceedings in order to proceed in a timely fashion. To that end, the SDDOH authorized preparation of the necessary bills to create an Assistant Attorney General position within the Department of Highways and introduced them to the legislature in 1957.[528] By 1957, the full-time legal adviser for the Department held the rank of Assistant Attorney General.[529]

The newly reorganized SDDOH also included a Comptroller to supervise purchases and track inventories. To aid in the discharge of these duties as well as those of the Chief Auditor, the SDDOH purchased International Business Machines (IBM) computers to make the production of reports and analyses more efficient.[530] Subsequent reports contained expressions of disappointment with the actual performance of the machines, which were of the old IBM punch card data entry variety. By 1957, the conclusion was that the system did not provide "the efficiency and economy standards the Department anticipated when it was installed. Many improvements must be made before it can be labeled an entirely satisfactory operation."[531]

The use of these machines in the SDDOH led to the creation of a committee a to examine the use of "electrical computers" in all state government agencies to bring about efficiencies. Members were Highway Commissioner Hoadley Dean of Rapid City; Director of the Division of Employment Harry Tunge of Pierre; Chief Auditor of the Department of Highways Carl Lindner of Pierre; Donald Macken of the South Dakota School of Mines and Technology in Rapid City; Gerald Fort from South Dakota State College in Brookings; and Wayne Gutzman from the University of South Dakota in Vermillion. They concluded that the "computers are expensive either to rent or purchase. South Dakota is not ready for the installation of a complicated device of this type until the state is successful in finding competent personnel for its operation."[532]

The 1957 Legislative Session brought further change to the SDDOH. Legislation that year created an independent Department of Motor Vehicles (DMV). The law mandated the transfer of the financial responsibilities section of the Department of Highways to the newly created DMV. The Legislature also required creation of an independent Division of Motor Patrol, so responsibility for the Motor Patrol passed from the Department of Highways 1 July 1959 to the new division. Both

[527] "Annual Report of the South Dakota State Highway Commission, 1956," p. 24.

[528] Ibid., p. 7.

[529] "Annual Report of the South Dakota State Highway Commission, 1957," pp. 9-10.

[530] "Annual Report of the South Dakota State Highway Commission, 1956," p. 6.

[531] "Annual Report of the South Dakota State Highway Commission, 1957," p. 10.

[532] Ibid., p. 8.

actions generated controversy and the State Highway Director C. J. Dalthorp made it clear he did not support the two actions, especially the transfer of the Motor Patrol.[533]

The leaders of transportation developments during the 50 years since the inception of the South Dakota Highway Commission in 1913—Issenhuth, Parmley, Norbeck, and Kirkham—were gone. Even the generation they had trained, including men like Scurr, had or were about to retire. Their accomplishments were many, their failures few. They had built a network of highways and roads that served the people of South Dakota efficiently and effectively, and they had done so with limited resources. Their bridges over the Missouri River stood as monuments to sound engineering; their highways through the Black Hills as clarion calls to harmonize engineering with nature; and their dedication to the state and its people as a symbol of the vast majority of state employees.

Clearly, though, as John F. Kennedy observed in his 1961 Inaugural Address, "the torch has been passed to a new generation of Americans." That new generation would find new tools and new perspectives applied to their work. Computers would come to be an integral part of transportation, not just in the office for computation of lists, but also in the field for conducting complicated mathematics and analyses. New machines for the laying of concrete would greatly increase the pace at which highways could be built. Consideration of the impact highways had on social issues, urban development, and on the environment would affect their work more directly than they had in the past. These and many other developments would guide them in their work on one of the greatest engineering projects in world history: The Dwight D. Eisenhower National System of Interstate and Defense Highways.

[533] Ibid., pp. 10-11.

CHAPTER 5 THE INTERSTATE HIGHWAY ERA, 1956-1983

The Interstate Highway system is so closely associated with Dwight D. Eisenhower that many people either forget or are unaware that other policymakers set the stage for the system well before Eisenhower's presidency. What Eisenhower did was to build a coalition in Congress that supported the concept with funding. Ike drew upon his own experiences on the convoy in 1919, his understanding of the Pershing Map, and his travels on the *autobahn* after the Allies occupied Germany to sell the idea that the US needed a comprehensive, limited access highway system to meet economic and defense needs.[534]

The successful Soviet tests of a fission weapon in 1949 and a fusion bomb in 1954 led to new arguments for a national defense highway system. Civilian and military planners now looked to such a system as a means to evacuate cities. Given enough warning, or so the reasoning went, Americans could pack the kids, dogs, cats, and grandma into the Chevy or Ford and high-tail it to the countryside. The military wanted beltways built around major cities so they could by-pass the roads that Soviet bombs hit directly in city interiors.[535]

The ultimate solution would be to find refuge in the country before the Soviets attacked. Tom Lewis observed in his book *Divided Highways: Building the Interstate Highways, Transforming American Life* that "Paul Yount, chief of transportation for the army, estimated that at least seventy million people might have to be evacuated in a war." The Bureau of Public Roads assessed highway needs for the 185 U.S. cities thought to be the likeliest targets of a Soviet attack. Subsequently, "federal civil defense authorities consulted with state highway engineers in order to smooth the way" for civilian evacuation.[536]

The Soviets, on the other-hand, did not build an analogue to the U.S. Interstate Highway System. This was a deliberate decision, one based on hard-learned lessons of the past. Russia had been invaded three times—1812, 1914, and 1941—and Soviet policy makers and military analysts believed such a highway system might aid a future invader.

Although Cold War contingency planning promoted construction of the U.S. Interstate Highway System, Cold War realities worked against it. The Korean War broke out on 25 June 1950. The war's impact on the economy was such that on 17 August 1950 Harry Truman came out against increased highway spending as a means to hold down inflation. He also argued that materials necessary for road construction were essential to the war effort in Korea.[537] Even when Secretary of the Army

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[534] Two of the best biographies of Eisenhower are Stephen Ambrose's *Eisenhower: Soldier and President* (New York, NY: Simon and Schuster, 1991) and Blanche Wiesen Cook's *The Declassified Eisenhower: A Startling Reappraisal of the Eisenhower Presidency* (New York, NY: Penguin Books, 1984).

[535] Tom Lewis, *Divided Highways: Building the Interstate Highways, Transforming American Life* (New York, NY: Viking, 1997), p. 108.

[536] Ibid.

[537] Harry Truman to Dennis Chavez, US Senator, NM, 17 August 1950, OF 129, Truman Library. As found in Mark H. Rose, *Interstate Express Highway Politics 1941-1989* (Knoxville, TN: University of Tennessee Press, 1990), p. 39.

Frank Pace argued in 1952 for increased highway spending for a high-volume Interstate system to aid traffic flow, Truman believed the inflationary potential of such a program meant the time was not right for it to be implemented.[538]

Apparently, Cold War ideology worked against some highway construction, too. The conservative U. S. Chamber of Commerce was on record as of 17 May 1950 opposing certain highway funding. Aid to farm-to-market roads was, according to the Chamber, "just plain national socialism."[539]

Whether it was or was not "national socialism," critics continued to attack the Interstate proposal even after passage of the 1956 Federal Aid Highway Act. Joseph C. Hazen, Managing Editor of *The Architectural Forum* declared, in a speech delivered to the 43rd Annual Road School on 24 April 1957 at Purdue University, that the Interstate was too late because the automobile was becoming an anachronism. His reasoning was based on the facts that General Motors had announced the formation of a new Electronic Highway Division and that the Rotor-Craft Corp. of Glendale, California had "announced the production of a jet-powered helicopter for civilians [that are] as simple to operate as an outboard and priced at half the cost of our cheapest automobile—less than $1000! Who," he asked, "needs roads?"[540]

It was clear before, during, and after Eisenhower's election in November 1952 that he thought Americans needed roads. Ike thought of highway development not only in terms of national defense, but also as a public works/employment opportunity and an economic investment in the future. This was especially apparent after the Armistice of 27 July 1953 ended direct hostilities in Korea. The end of the Korean War brought about a recession and unemployment was an important concern for the new administration.[541] Highway construction had been used to employ thousands of workers during the Great Depression and had received bipartisan support. That precedent was certainly on the minds of policy makers in 1953.

Another side of the economic impetus for increased highway construction to include an Interstate system was that fact that significant congestion existed on the nation's highways in the early 1950s. Truck traffic had increased dramatically, as had private ownership of vehicles. This resulted in further highway deterioration, increased maintenance costs, decreased efficiency in delivering goods and services, more accidents, and, subsequently, demands for new and safer highways.[542]

A contributing factor to the congestion was increased ownership of automobiles. Cars were getting cheaper, better, and more comfortable by 1953. A new Ford six-cylinder, two door coupe

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[538] Rose, pp. 44-45.

[539] National Highway Users Conference, *Information Service,* 18 May 1950, Holland Papers, Truman Library, as found in Rose, p. 40.

[540] From "Building the Interstate: Section 2," http://www.fhwa.dot.gov/infrastructure/build02.cfm

[541] Rose, p. 49.

[542] Ibid., p. 69.

sold for $1,734, although the "heater, power steering, automatic transmission, and directional signals [were] extra." Cadillac introduced air conditioning in 1953 for an extra $620. From 1950 to 1960, "the number of families owning automobiles rose from sixty to seventy-seven percent…the number of families owning two or more automobiles [rose] from four to twelve percent." A contrasting development was that in "the same decade the number of railway passenger cars declined from 37,359 to 25,746."[543]

Safety was another critical issue and an underlying justification for the Interstate System. Many old roads were designed for slower speeds than the capabilities of new cars. J. J. Kibbe, a former Federal Bureau of Investigation (FBI) agent, was hired in 1957 as the Superintendent of the South Dakota Motor Patrol. He reported that the increased use of "radar control" greatly increased public safety in that the number one killer on public roads was speeding drivers.[544] The new Interstate System would allow cars to travel safely at higher speeds, but the S. D. Motor Patrol was going to make sure those speeds were at or under the legal limit.

President Eisenhower and his advisers came to the conclusion by the spring of 1954 "that the existing level of highway construction failed to solve the traffic crisis and failed to serve as a long-range foundation for economic growth."[545] The president asked for two proposals for a highway construction program. One came from a group that retired U. S. Army general and trained engineer John H. Bragdon led. This plan called for a highly centralized program in which the secretaries of Commerce, Defense, and Treasury would constitute the board of directors of a National Highway Authority. Such a system would have reduced state highway officials to lackeys of the federal government. The other proposal, which had the support of presidential aide and White House Chief of Staff Sherman Adams, would allow state officials to remain involved with daily operations.[546]

Ike then appointed General Lucius Clay to coordinate a compromise plan. Ike sought $50 billion in road spending with priorities being Interstate construction, airport-to-downtown routes, and "access roads near defense installations."[547] Vice-President Richard Nixon presented Eisenhower's vision to a conference of state governors in a 1954 speech he gave in the president's absence for a funeral. The speech was based on detailed notes that Ike provided to Nixon.

The Vice President told the governors that "a $50 billion highway program in 10 years is a goal toward which we can—and we should—look" because "our highway network is inadequate locally, and obsolete as a national system." He then "cited five 'penalties' of the nation's obsolete highway network: the annual death and injury toll, the waste of billions of dollars in detours and traffic jams, the clogging of the nation's courts with highway-related suits, the inefficiency in the transportation

[543] All information in this paragraph is from Lewis, p. 81.

[544] "Annual Report of the South Dakota State Highway Commission, 1957," p. 21.

[545] Rose, p. 70.

[546] Ibid., pp. 71-84.

[547] Ibid., p. 71.

of goods, and "the appalling inadequacies to meet the demands of catastrophe or defense, should an atomic war come."[548]

The bomb and the threat of nuclear war permeated the entire culture. South Dakota Department of Highways personnel received survival training, stockpiled supplies, and had bomb shelters available in various buildings. The administration designated certain personnel as Civil Defense officers. Dosimeters were available and other radiological monitoring devices.

The appointment of Clay to head the President's Advisory Committee on a National Highway Program "made plain the connection between highways, national defense, and the fear Americans had about their security."[549] Comments from the South Dakota Division of Motor Patrol in 1957 reflected the issue of national security. The Division director noted continued cooperation with Civil Defense authorities and included in the report the comment that "The Department is dedicated to complete cooperation with this Federal and State Agency, so important to our being in these trying times of jet bombers, intercontinental ballistic missiles and nuclear warfare."[550]

General Clay also recognized the importance of having partners outside government in any proposed program. Clay, who was himself "an engineer and a long-time associate and advisor to the president," brought Steve Bechtel of Bechtel Corporation, Sloan Colt of Bankers' Trust Company, Bill Roberts of Allis-Chalmers Manufacturing Company, and Dave Beck of the International Brotherhood of Teamsters into the committee. Francis C. (Frank) Turner of the BPR "was appointed to serve as the advisory committee's executive secretary." Turner "had direct knowledge of highway finance and construction, gained through a career that began when he joined BPR in 1929. He also had a direct link to the data resources of BPR."[551]

The Clay Committee submitted its final report on 11 January 1955. It recommended spending $101 billion over ten years on primary, secondary, urban, rural, and interstate highways.[552] The plan recommended cost sharing at a 90:10 ratio for the federal/state financing of the project.[553] Clay characterized the interstate system proposal of controlled access highways "'the top national economic and defense priority.'"[554] Eisenhower said the Clay plan was "vitally essential for national defense."[555]

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[548] Richard Weingroff, "Federal Highway Aid Act of 1956: Creating the Interstate System," *Public Roads,* Summer 1996, Vol. 60, No. 1. As accessed 22 July 2011 at: http://www.fhwa.dot.gov/publications/publicroads/96summer/p96su10.cfm.

[549] Lewis, p. 107.

[550] "Annual Report of the South Dakota State Highway Commission, 1957," p. 22.

[551] Weingroff.

[552] Lewis, p. 112.

[553] Rose, p. 76.

[554] Lewis, p. 112.

[555] Hagerty Diary, 21 February, Eisenhower Library. As found in Rose, p. 78.

There were influential opponents to the plan. The Farm Bureau Federation and Farmers Union opposed the Clay Plan because in their opinion it emphasized interstates at the expense of farm-to-market roads. More importantly, Virginia Senator Harry Byrd (D-Virginia), chair of the powerful Senate Finance Committee after the Democrats took control of the Senate in 1954, opposed the Clay Plan because "it raised the specter of the iron hand of the federal bureaucracy" and a stronger central government.[556] He was also an opponent of deficit spending, preferring a "pay-as-you-go" philosophy.[557]

The policies of the two parties in this instance went against conventional wisdom with regard to their economic philosophies. Given that the Democrats controlled both the Senate and the House, it seemed a certainty that the 84th Congress would pass the Highway Bill of 1955, but Harry Byrd "crushed the Clay Committee's proposals."[558]

Unlike so many members of the 112th Congress in 2011, politicians of the 1950s, at least in regard to this issue of vital national importance, seemed to operate on the principle that the road to progress is paved with compromise. Senator Albert Gore, Sr. (D-Tennessee) offered an alternative of a five-year program with the federal share at 75% and that required the Bureau of Public Roads to return to Congress each year to get an annual appropriation. The Senate passed this legislation.[559]

Maryland Congressman George Hyde Fallon (D) was crafting another compromise bill. He chaired the subcommittee on roads of the House Public Works Committee.[560] Fallon realized that there were problems in both the Administration's Clay proposal that would require $11.5 billion in interest to be paid over thirty years and Gore's proposal that would raise the public debt. His compromise, which he called "pay-as-you-go" funding in order to appease Senator Byrd, "created a highway trust fund supported by revenues from the federal gasoline and oil taxes." Fallon's bill would raise the gasoline tax from 2 to 3 cents per gallon, the diesel fuel tax from 2 to 4 cents per gallon, and raise taxes on "trucks, trailers, buses, tires, inner tubes, and recapped tires."[561] The Fallon bill also included the Davis-Bacon Act that required "payment of prevailing wages to workers as determined by the Secretary of Labor." Fallon's bill was voted down on 27 July 1955 with only 94 Democrats voting for it and 128 voting against it.[562]

Congressman Fallon, working closely with future Speaker of the House Hale Boggs (D-Louisiana), then began to work on the bill that would become the Federal Aid Highway Act of 1956 (Public Law 84-627). It was a bill that gave something to nearly every interest group and asked for few

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[556] Harry F. Byrd, "Statement by Senator Harry F. Byrd Relative to Clay Commission Highway Report," *Virginia Municipal Review* (January 1955). As found in Rose, 78.

[557] Lewis, p. 114.

[558] Ibid., pp. 113-114.

[559] Ibid., p. 116.

[560] Ibid.

[561] Ibid., p. 117.

[562] Ibid., pp. 117-118.

sacrifices.[563] In addition, it created the Highway Trust Fund whose revenues were dedicated to road construction. The bill provided "record high sums" for farm, urban, trunk roads, and Interstate highways, and did so "without a significant increase in gasoline taxes."[564] The House passed the bill 388-to-19 and the Senate by a margin of 89-to-1 with the only "no" vote coming from Senator Russell Long of Louisiana.[565]

The Highway Trust Fund was in some ways the most important component of the legislation. The fund directly addressed the issues of revenue diversion and sustainability. The original federal one-cent per gallon levy of 1932 "was not earmarked for highway construction and was instead put into the general revenue fund."[566] The revenues the new trust fund received from fuel taxes, tire taxes, surcharges on truck tonnage, and new vehicle taxes were to be dedicated forever to road construction, a principle that was adhered to until the Nixon administration.[567]

Throughout the entire process, South Dakota Senator Francis Case (R) was active behind the scenes. Many of his concepts and amendments shaped the Federal Highway Acts of 1954, 1956, and 1958. As Richard Chenoweth notes in an article in *South Dakota Historical Collections* entitled "Francis Case: A Political Biography," Harry McPherson, an aide to then Senate Majority Leader Lyndon Johnson, gave Case credit for building a "monument which archaeologists a millennium from now may find to be proof of our productive genius, or madness, or both—the Interstate Highway System."[568] Senator Case chaired the Subcommittee on Roads and Highways and was also a member of the Armed Services Committee, positions that allowed him to secure significant funds for South Dakota highways and military installations.[569]

The proposed location of the interstate highways was as important as the location of railroads in the 19th century: communities adjacent to the interstates would see commerce and population increase while those communities that were by-passed faced an uncertain future.[570] Location had political significance and could lead a Congressman or Senator to oppose legislation that did not include their district or state in a way that suited perceived needs.

United States Congressman Harold R. Lovre (R) of South Dakota, whose district included Minnehaha County and Sioux Falls, voted against the Fallon Bill in 1955 because he did not approve of the proposed location of interstate highways. The BPR then created a publication that came to be known as the "Yellow Book." It included a graphic of additional miles of Interstate for cities. Lovre

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[563] Rose, 85. See also "Previous Interstate Facts of the Day," http://www.fhwa.dot.gov/interstate/previousfacts.cfm. Accessed 4 September 2011.

[564] Lewis, 122.

[565] Weingroff.

[566] Rose, p. 4.

[567] Ibid., p. 90; for the Nixon changes, see p. 111.

[568] Richard Chenoweth, "Francis Case: A Political Biography," South Dakota Historical Collections, 39, 1978, p. 414.

[569] Ibid., p. 382.

[570] Lewis, p. 141.

could now see that Sioux Falls would be connected to the black lines representing Interstates 90 and 29 at the north and west edges of the city, and also a new black line—Interstate 229—that diverged from Interstate 29 south of the city, crossed the Big Sioux River, and curved north to connect at the northeast corner with Interstate 90. Sioux Falls, a city that numbered 52,696 men, women, and children in 1950, had its own beltway.[571]

The image of a vast construction project surrounding the largest city in his state and the jobs it would generate was tantalizing, both from a practical and from a political perspective. As Tom Lewis, author of *Divided Highways* noted, Lovre could now justify a vote to increase federal taxes. He voted for the 1956 legislation, as did all but one congressman whose city was included in the Yellow Book. That congressman lost his bid for reelection to the 85th Congress.[572]

Senator Case is also believed to have influenced the eventual placement of the portion of I-29 that runs through South Dakota. As John Miller, professor *emeritus* of History from South Dakota State University, observed: "The original intent, apparently, was to route the interstate through western Minnesota and towns such as Pipestone and Jasper. The decision to have it track through or near Brookings and Watertown instead had huge economic implications for those towns and for the whole southeastern 'I-29 corridor,' where the bulk of economic growth and development in the state have occurred in recent decades."[573]

Eventually, 678 miles of Interstate Highway were built in South Dakota. Interstate 29 would account for 252.50 miles and Interstate 90 for 412.76 of the total.[574] None of those miles would service the state's capital city, Pierre. It was one of five state capitals that did not—and do not—have Interstate service, including: Juneau, Alaska; Dover, Delaware; Jefferson City, Missouri; and Carson City, Nevada.[575]

South Dakota's share of total Interstate mileage originally did not include what is now I-29 between Sioux Falls and the North Dakota border. The decision to extend I-29 north from Sioux Falls to Fargo was made on 18 October 1957 in accordance with Section 108(l) of the Federal-aid Highway Act of 1956.[576] The initial appropriations for South Dakota under the Federal Aid Highway Act of 1956 were $19 million for interstate construction in 1956-57 and $23 million for fiscal year 1958-59. The

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[571] Ibid., p. 121.

[572] Ibid.

[573] John Miller, "Traveling the Road of Change: Historical Forces in the Development of South Dakota Transportation," *South Dakota History,* vol. 41, no. 2, p. 289.

[574] "Main Routes of the Dwight D. Eisenhower National System Of Interstate and Defense Highways as of October 31, 2002," http://www.fhwa.dot.gov/reports/routefinder/table1.htm. As accessed 5 September 2011.

[575] "Previous Interstate Facts of the Day," http://www.fhwa.dot.gov/interstate/previousfacts.cfm. Accessed 4 September 2011.

[576] "The Dwight D. Eisenhower System of Interstate and Defense Highways, Part I – History, http://www.fhwa.dot.gov/highwayhistory/data/01.cfm. As accessed 20 August 2011.

cost sharing ratio was 91.2% Federal and 8.8% for South Dakota. The ratio for primary, secondary and urban highways remained 56:44%.[577]

One of the principle components of highway construction is the acquisition of right of way. With a project as vast as the Interstate Highway System—some 41,000 miles of highways in the original plan—the potential for land speculators to drive up prices was significant. The SDDOH began to acquire right of way around Sioux Falls and Rapid City as soon as the routes of I-90, I-29, and I-229 were designated.

The fact that South Dakota had no right of entry law complicated the system of acquiring right of way in the Sunshine State. Right of entry allowed a state to "appraise a piece of land, offer a fair sum of money for it, and begin construction immediately. If the owners of the property were not satisfied with the offer, the matter could be taken to court without delaying construction."[578] The Highway Department's Annual Report for 1958 noted that the failure of the State Legislature to enact such a law had caused South Dakota to fall behind other states in Interstate construction. Delays occurred in the construction of "the west by-pass to Sioux Falls, the west and north by-pass to Rapid City, and the west leg of the Cactus Flats Interstate highway" as a direct result of this impediment.[579]

The State Legislature considered right of entry legislation in 1958 only to have political shenanigans prevent it from passing. Opponents kept the proposal from being filed with the Secretary of State. An amendment to the State Constitution was finally passed in 1960 that provided for right of entry.[580]

Right of Way Division director A. M. Urdahl commented in 1960 that the division operated under a "fixed price policy." Once appraisals were made, only a justified variation could be made from the appraised value. The Division representative negotiated for right of way with property owners and brought the agreement "to a conclusion by signing of an option, deed, voucher and plat." If the owner tendered a right of entry, contracts could be awarded and construction begun on a timely basis. Under such an agreement, a Circuit Court judge would determine "payment for the taking" at a later date. The landowner retained legal possession of his property until that payment was made, but the tender of a right of entry allowed "the state to take possession, begin construction, and defer the determination of just compensation and payment to a later date." If a property owner rejected either of the above options, the Department of Highways would certify the case to the US Bureau of Public Roads and it would acquire the property.[581]

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[577] "Annual Report of the South Dakota State Highway Commission, 1957," p. 6.

[578] Gentry Stanley, "History of the South Dakota Highway Department, 1941-1960," unpublished M.A. thesis, University of South Dakota (1971), p. 93.

[579] "Annual Report of the South Dakota State Highway Commission, 1958," p. 6.

[580] Stanley, 94-95.

[581] "Annual Report of the South Dakota State Highway Commission, 1960," pp. 8-9.

John Wehde, director of the Legal Division, noted that the number of legal problems "multiplied tremendously" once work began on the Interstate Highway System. During the 1959-1960 fiscal year, his division "filed and brought to a satisfactory conclusion 31 condemnation cases, 10 of which were related to the Interstate system. All cases not brought to trial were settled out of court upon the mutual agreement of the state and the parties involved."[582] The Legal Division handled 57 right of way negotiation problems, "most of which pertained to the Interstate. These were matters of legal procedure to properly convey title to the land, not cases where the landowners were dissatisfied with the appraisal and price offered them."[583] The Legal Division also handled negotiations with the Corps of Engineers over road construction to the Big Bend Dam and a variety of miscellaneous issues.

Given that each mile of the new interstate required surveyors to site a three hundred foot-wide right of way, Wehde's assessment was correct.[584] Property owners were compensated for twenty-four and a quarter acres of land.[585] The Annual Report for 1961 is a 109-page document and 41 of those pages are devoted to identifying right of way acquisitions. Clearly, this was an important and time-consuming issue. The decision to make the Legal Division part of the Attorney General's office had been a good one.

Acquiring right of way generated many interesting stories. Wally Larsen, who was the Resident Engineer at Watertown from 1963 to 1966, noted that after working on the location plan for I-29 from Brookings to Watertown, he was going to bring it to Pierre for approval. He stopped for some last minute work and a farmer came up to him and said: "Hey, I forgot to tell you something. See those lilac bushes out there in the pasture? That marks a grave." It was right in the middle of the proposed path for the highway!

Larsen did some checking as to the cause of death, for if it was from a communicable disease, exhumation posed a problem. In this case, he discovered that a runaway team of horses killed the deceased while he was spreading manure. Larsen then located the relatives and they agreed to relocate the casket to a cemetery a couple of miles from the burial site.[586]

Larsen experienced a similar problem while working on U.S. Highway 83 south of White River. A "rancher who owned the land on the west side of the highway had given property to the Episcopal Church in White River for a graveyard with the stipulation that the first burial be just outside the right of way fence on the west side. His objective was to keep us from taking land from him and force us to take it from his neighbor when we widened that highway." Larsen contacted the priest of the

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[582] Ibid., p. 9.

[583] Ibid.

[584] See "Highway History," http://www.fhwa.dot.gov/infrastructure/50size.cfm, for right of way dimensions. Accessed 3 January 2013.

[585] Lewis, p. 87.

[586] Wallace Larsen Interview, 29 April 2010, pp. 9-10.

church and it turned out that the church needed an organ. The cost of that organ "was just the same as the cost of moving three graves and we made a deal.[587]

Another aspect of right of way acquisition in South Dakota was the fact that there are nine Indian reservations within the state.[588] This meant that right of way negotiations often took place with representatives of a sovereign people. In many cases, individuals do not hold title to land within the reservations; instead, the tribe as a whole holds it and the Tribal Council had to decide such issues.

While working for the Right of Way Division, Larsen learned that having a contact on each reservation was invaluable in determining where "the thoughts are on the reservation."[589] White men dominated not only the S. D. Department of Highways, but also the rest of state government agencies. It was no secret that many Native people believed the men in Pierre did not understand their concerns, or worse, did not care about them. That did not appear to be the case with regard to the South Dakota Department of Highways.

Larsen learned something about Native concerns when he negotiated with representatives of the Oglala Sioux regarding a proposed highway from Corn Creek to Quiver Hill, which is part of S. D. Highway 44 west of White River. The Tribal Council passed a resolution asking the SDDOH to acquire funding to build that stretch of road in order to connect to the tribal high school at the other end of the road. The SDDOH acquired Federal Lands Highway Funds for the road and Larsen contacted the Tribal Chairman to negotiate right of way. He initially refused. There were new people on the Tribal Council and they had new priorities. When Larsen told the chairman the funds were specific to the proposed road and if they did not use it there it might get transferred to another reservation, he was invited to "come on down and visit with us and we'll see."[590]

The tribal leaders did not want to lose the funds, but they also wanted to protect the future. They asked Larsen to insert a clause that provided reversion of the right of way to the original owners if the highway were abandoned. That posed no problem, as it is a specific circumstance addressed in the State Constitution. The second concern the tribal leaders had was that the construction project should have at least two training slots for minorities. That, too, posed no problem. Larsen drafted a resolution and, after four Council meetings, it passed. There was an interpretive issue at the Assistant Attorney General level as to whether the resolution was a legal document, but Carl Quist, Assistant Attorney General for Highways, determined in favor of moving forward with the project.[591]

Another project that required Larsen to negotiate with Native Americans was when the SDDOH moved S. D. Highway 44 from the north side of the town of White River to the south side. This raised

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[587] Ibid., p. 10.

[588] The reservations are Cheyenne River, Crow Creek, Lower Brule, Pine Ridge, Rosebud, Santee, Sisseton-Wahpeton, Standing Rock, and the Yankton.

[589] Larsen Interview, p. 25.

[590] Ibid.

[591] Ibid., pp. 25-26.

a concern with the Indian community of Swift Bear, a subdivision of the town of White River. Although the community was all for the proposal, especially given the fact that what they had for a road amounted to little more than a trail and was snow bound in the winter, the Bureau of Indian Affairs opposed it because the highway and lagoon would be too close to housing.[592]

Larsen called his contact on the Rosebud, Elmer Compton, explained his problem, and asked for help. Compton said "meet me in White River at the courthouse and I'll bring the right people." Among those people was "a young lad named Her Many Horse that worked for the BIA or for the public health service there" who said "I think I can solve that with a phone call." He made the phone call and then told Larsen: "you send the plans to this guy for approval." Larsen asked who the person was and Her Many Horse replied: "That's the boss of the guy giving you trouble. He'll approve it."[593] Larsen sent it in and got it approved. Larsen also had successful dealings with the Cheyenne River Sioux with regard to building a road from White Horse down to U. S. Highway 212.[594]

Although Interstates 29 and 90 ran close to five reservations, only I-29 runs through one of them, that being the Sisseton-Wahpeton Reservation in the northeast corner of South Dakota. Nonetheless, the Interstate system brought direct benefits to the Crow Creek, Flandreau, Lower Brule, Pine Ridge, Rosebud, Sisseton-Wahpeton, and Yankton reservations. Interstate exits granted much easier access to tribal headquarters for tourists and other interested parties. The *Akta Lakota* Museum in Chamberlain, as well as tribal casinos, would also benefit. The only reservations that did not directly benefit from an exit or two on the interstate were Cheyenne River and Standing Rock.

The costs of acquiring land for the Interstate were enormous. So, too, were the construction costs. By way of comparison to early highway work, "engineers had to labor seven years and spend $1 billion to construct 6,500 Interstate miles; 19,000 miles of farm-market roads, built between 1950 and 1951, cost only $232 million." By 1958, the cost of an average mile of Interstate in Montana was $379,000; it was over $12 million per mile in Washington, D. C.[595]

The cost of South Dakota's 678-mile share of the Interstate was set at $252 million.[596] The formula for fund distribution was to follow the Senate system from 1957-59 in that funds went to each state according to land, population, and road mileage. From 1960-69, funds would be allocated as a percentage of total Interstate costs to accelerate completion.[597] Given the 90:10 federal-to-state dollar ratio, South Dakota would pay approximately $25 million, or $37 thousand per mile of Interstate highway costs.[598]

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[592] Ibid., p. 27.

[593] Ibid., pp. 27-28. Larsen meant to say the Indian Health Service.

[594] Ibid., p. 26.

[595] Rose, pp. 31-32.

[596] "Annual Report of the South Dakota State Highway Commission, 1961," p. 7.

[597] Rose, p. 92.

[598] "Annual Report of the South Dakota State Highway Commission, 1961," p. 7.

By the end of 1958, only 15 miles of Interstate were complete and open to traffic in South Dakota. Another 23 miles had been graded and had sub-base completed and another 18 miles were in the beginning phase of grading and sub-basing.[599] The slow pace of construction was due in part to problems with the Highway Trust Fund in that the accumulation of funds in it had not kept pace with Congressional authorizations for the building of highways. As of the end of FY 1959, Congress had not addressed the issue and the states were on the hook. South Dakota should have had 62 million dollars available for FY 1960, but would instead only be able to use $23 million dollars of the allotted funds.[600]

State Highway Engineer W. V. Buck observed that accumulation of funds in the Federal Highway Trust Fund "has not kept pace with the Congressional authorization for building all these highways. Thus it became necessary for the federal government to establish controls on the amount and rate of contract awards in order to meet promptly its obligations to the states."[601]

The 1958 recession caused Ike to seek greater spending for existing public works projects like the Interstate Highway System. Surprisingly, he opposed Democrats' calls for tax cuts.[602] Congress authorized a temporary increase in the federal gasoline tax from 3.5 to 4 cents per gallon in 1959. In part, this was necessary due to the growing popularity of gas-sipping foreign imports like the Volkswagen Beetle. Americans were buying 500,000 of them a year and they got much better mileage than the average 11 miles per gallon (MPG) of American manufactured cars. General Motors and Ford then began to offer high MPG models like the Corvair and the Falcon.[603] President Kennedy signed legislation for a permanent gasoline tax increase at that level on 29 June 1961 saying it was essential to "our security, our safety, and our economic growth… Timely completion [of the Interstate Highways] is essential to a National Defense that will always depend, regardless of new weapon developments, on quick motor transportation of men and materiel from one site to another."[604]

Because "practically all the revenue available for construction and maintenance came from the gasoline tax and motor vehicle registration fees," South Dakota followed the federal lead and raised its gasoline tax in 1957 from five to six cents per gallon. There were some proposals to issue highway bonds, as had been done in 1919, but they generated little support.

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[599] "Annual Report of the South Dakota State Highway Commission, 1959," p. 12. The AR does not specify where the completed fifteen miles were.

[600] Ibid., p. 7.

[601] "Annual Report of the South Dakota State Highway Commission, 1960," p. 8.

[602] Lewis, p. 143.

[603] Ibid., p. 162. This remains a problem in the 21st century. High mileage hybrid and electric vehicles reduce the flow of gas tax revenues. One solution being considered is to place a chip in all vehicles that registers Vehicle Miles Travelled (VMT), reports them to the DOT, and the owner pays a tax accordingly.

[604] Ibid., p. 163.

The State of South Dakota addressed collection of fees from the trucking industry through proration on 1 July 1959. Chapter 258, SL 1959 authorized motor vehicle proration with other states. By October 1959, South Dakota had entered into proration agreements with Illinois, Iowa and Nebraska in the Midwest Proration Compact, and with North Dakota, Montana, Washington, and Oregon in the Supplemental Northwestern Proration Compact. Carriers would now pay motor vehicle fees on the basis of the miles traveled in each state that was party to a proration agreement. Although there was some resistance from the SD trucking industry, those organizations representing truckers "enthusiastically" supported the proration policy after it was implemented. The SDDOH added the Proration Division in 1960.[605]

Herbert Schell observed that even though the pay-as-you-go basis remained in place, "an increasing volume of revenue derived from the gasoline tax and direct legislative appropriations from the general fund enabled the highway department to keep pace with modern road-building needs," including matching federal funds. State Highway Department expenditures for maintenance and new construction had risen from $25,809,000 in 1953 to a $69,511,000 in 1965. Federal grants for highways "increased from $10,700,000 to $43,518,000 during the same period."[606]

State Highway Director E. F. McKellips confirmed that the Highway Department continued to operate under Federal Reimbursement Planning limitations during the FY 1959/60 due to the "temporary shortage of federal matching funds. Federal-aid money, already allocated to South Dakota, was metered in restricted amounts on a quarterly basis to the department." Nonetheless, the total of lettings for highway construction was $37 million, a figure only exceeded in FY 1958/59.[607]

He anticipated $50 million in lettings for 1961. Part of the increase would result, he claimed, from the BPR releasing $10 million more for Interstate construction than in 1960 and from the collection of $3 million in backlogged federal matching funds for right of way purchases, preliminary engineering costs, and other expenses.[608] The actual amount let in 1961 was $43,105,415.35, but even though nearly seven million dollars less than McKellips had anticipated, it was a record amount for the SDDOH.[609]

In addition, McKellips expected Interstate construction to remain on schedule. "Sometime" in 1962, there would be 119 miles of continuous Interstate open to traffic in the Sioux Falls area including Interstate 29 from Sioux Falls to Sioux City, Interstate 229 around Sioux Falls, and Interstate 90 "from the Minnesota line past Sioux Falls to a junction with SD 38 two miles east of Hartford." "Sometime" in 1963, he wrote, "123 miles of continuous Interstate open to traffic in the Rapid City

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[605] "Annual Report of the South Dakota State Highway Commission, 1960," pp. 23-24.

[606] Schell, p. 309.

[607] "Annual Report of the South Dakota State Highway Commission, 1960," p. 6.

[608] Ibid.

[609] "Annual Report of the South Dakota State Highway Commission, 1961," p. 6.

area" including "Interstate 90 from northwest of Sturgis via Rapid City to Kadoka, and Interstate 190 spur into Rapid City." This did not include "two separate stretches of highway in the Kennebec and the Reliance-Oacoma areas with a combined length of 23 miles built in 1955 and 1956 under the 1952-54 Interstate Act. It will take all of the 1962 allocation, and perhaps $2 million more, to complete the above listed Interstate construction."

McKellips predicted that South Dakota's Interstate would be completed "sometime" between 1972 and 1975.[610] The director claimed that South Dakota was one-third complete on Interstate construction and anticipated it would be two-thirds complete by 1966 and mostly complete by 1972.[611] This was somewhat optimistic given that by 1961 only 8,000 miles of the projected 41,000 miles of the national system had been opened for traffic. The dedication ceremony marking the connection of Minnesota and South Dakota's share of I-90 at the border had only just taken place on 11 September 1960 and South Dakota's share barely reached Sioux Falls.[612]

A. W. Potter, Construction Division director, noted that Interstate progress for Calendar year 1959 included only 15 miles that was complete and open to traffic. That was the same as the previous year. There were, though, 23 miles of completed grading and subbase and another 63 miles of grading and subbase under construction. He reported an additional 64 miles of structures (excluding box culverts) had been built, 45 miles of concrete paving had been laid, and 20 miles of base course, brown base, and bituminous surfacing had been placed. That rounded out the accomplishments in Interstate highway construction for the year.[613] Interstate Highway historian Tom Lewis noted that "It was clear that at that pace of construction the original completion deadline of 1972 would not be met. Construction had to be 50% complete by 1964 to stay on schedule.[614]

McKellips also asserted, and in this case with greater insight, that "The major factor in doing a better job has been the wholesome approach of so many of the state highway personnel in their work. An open mind, an interest in research, and a consuming desire to improve every operation has upgraded the construction and maintenance of state highways in South Dakota."[615]

The fact that few people had experience working on a project that could be compared to the scope and scale of the Interstate Highway System made such praise doubly meaningful. The Interstate System required construction of "the equivalent of 410 Pennsylvania Turnpikes, 16,000 exits and entrances, nearly 55,000 bridges and overpasses, and scores of tunnels." Much of the construction took place in "sparsely populated places where the citizens had little or no experience with limited-access highways." Because "seventy-five percent of the Interstates would be

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[610] "Annual Report of the South Dakota State Highway Commission, 1960," p. 7.

[611] "Annual Report of the South Dakota State Highway Commission, 1961," p. 7.

[612] Ibid., p. 6.

[613] "Annual Report of the South Dakota State Highway Commission, 1960," p. 13.

[614] Lewis, p. 161.

[615] "Annual Report of the South Dakota State Highway Commission, 1960," p. 6.

constructed on new right of way, they would have to take more land by eminent domain than had been taken in the entire history of road building in the United States."[616]

The Interstate was designed to meet 1975 traffic projections. Traffic lanes were to be at least 12 feet wide; shoulders 10 feet wide; median strips separating the traffic lanes in rural areas were to be 36 feet wide whereas urban medians could be as little as 16 feet wide. Grades were to be no greater than 3%. The highways were built for a speed of 70 mph and would have no railroad crossings or grade level intersections. Overpasses were to be at least 14 feet above traffic lanes and access would be limited to entrances and exits.[617]

The United States was planting nuclear missiles in its prairies at the same time the first sections of the Interstate System were under construction. The groundbreaking ceremony for the first Minuteman Missile silo in South Dakota was on 11 September 1961.[618] The cost to "construct and deploy all 150 silos and 15 adjacent support structures for South Dakota's Minuteman Missile field was $56 million in the early 1960s.[619] That was one-fifth of the projected cost of South Dakota's share of the Interstate over a fifteen-year period.

The amount of federal dollars flowing into South Dakota for these two projects alone was a classic example of the tremendous impact redistribution of income had on the state. Whether one approved of such fiscal policy or not, when you drove on South Dakota's Interstate highways or benefited from the nuclear umbrella in the state, you were the beneficiary of income redistribution.

Those missiles posed a problem with the fourteen feet requirement for overpasses. Wally Larsen recalled that during the time his crew was building I-29 near Beresford "we made adjustments so that we got sixteen-foot, which the missiles required. Now north of the Beresford area we built some that only had the fourteen-foot. Now that's a problem, especially if it's a separation and not an interchange…'cause you couldn't transport the missiles under the bridges then.[620]

Larsen also recalled that the Department of Highways built interchanges "that specifically served the missiles" but now that the missiles are gone, studies have been made to determine whether those interchanges should still be maintained. Recently, a group interviewed Larsen as to the viability of closing such interchanges near Wall. Larsen replied that such an action would lead to a lot of unhappy ranchers![621]

Engineers in South Dakota sometimes faced a hostile environment and significant obstacles in constructing their portion of the Interstate System. Vernon Bump, a graduate of the South Dakota

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[616] Lewis, p. 128.

[617] Ibid., p. 140.

[618] http://www.nps.gov/mimi/historyculture/oral-histories.htm. As accessed 16 August 20011.

[619] http://www.nps.gov/mimi/historyculture/intercontinental-ballistic-missiles.htm.

[620] Larsen Interview, p. 48.

[621] Ibid., pp. 48-49.

School of Mines and Technology in geological engineering, began his 40-year career with the SDDOH in 1961 as an Assistant Engineer.

At the same time, a young University of South Dakota student began working for one of the contractors building the Interstate. Every summer during his school years, beginning in 1961, he worked on the Interstate. "Sometimes," he recalled, "it was all summer. Sometimes it was for several weeks. My last job on the Interstate was by Baltic…driving a semi-truck hauling cement from the rail head at Baltic out to the batch plant where they were loading it on to the dump trucks to take it out to the site."[622] That young man was William "Bill" Janklow, who would subsequently be elected four times as governor of South Dakota and would be Bump's ultimate boss for a number of years.

Bump identified several of the geological issues the foundations team faced. He observed that nearly all of East River South Dakota is covered in glacial debris. West of the Missouri River right up to the black Hills is the Pierre shale formation. At about Rapid City, engineers run into the Black Hills uplift and then, said Bump, "you go through all kinds of geology right back to the oldest rocks. You go from the Badlands, the youngest material and the place of sea gravels, [to] recent gravels right down through the basement rock or the Deadwood [formation] in the pre-Cambrian rock, which is the oldest [sedimentary] rock there is. So it's quite different as you go across the state."[623]

Bump noted that there are very deep alluvial channels in the southeast corner of the state around Vermillion with maybe 200 foot of alluvial material. Just twenty miles north of Vermillion the engineers dealt with good, sound glacial tills. This meant that most of the East River structures were founded. They are close to, or founded on glacial tills. By way of contrast, the West River structures had to cope with the Pierre shale, which "can be a very weak clay shale." Bump stated that the Pierre shale "has very interesting properties in that it has a high swell potential and a high settlement potential, depending on moisture content. If it dries out it shrinks; if it gets wet it swells; it never comes down as much as it goes up as it cycles. So that causes all types of land sliding type problems, but it also creates certain problems you have to handle in the foundations that you use. And as you get to the Black Hills, that's everything—all types of material there."[624]

The engineers of the SDDOH experimented with many different solutions to their problems, but there is no evidence they ever considered using nuclear weapons to aid them in overcoming their difficulties. The same could not be said for engineers in California. They considered, but did not implement, "the nuclear option" in 1963 when faced with a mountain barrier along the route of Interstate 40 between Barstow and Needles, California. They wanted to place 22 atomic bombs beneath the mountains and blow them to smithereens! The engineers only rejected the option when

[622] William Janklow Interview, 7 April 2010, p. 35.

[623] Vernon Bump Interview, 29 April 2010, p. 13.

[624] Ibid., p. 14.

scientists could not tell them with any certainty how long it would take for the radiation to "dissipate to the point it would be safe to travel the road."[625]

By 1963, 75% of the original system "had been opened, was under construction, or had been designed."[626] Not all had gone according to plan, though, and in the case of South Dakota there had been a significant setback on April Fool's Day, 1962.

Wally Larsen got a call on 1 April telling him "that our bridge had collapsed. Of course, on April Fools' Day, you wonder about those kinds of calls, but it was true." Upon arriving at the bridge, located at the Iowa-South Dakota border and spanning the Big Sioux River, Larsen found that "the west-bound bridge was already in the drink." The eastbound bridge appeared stable, so he walked across to take pictures of the collapsed bridge. Subsequently, a diver discovered fifteen feet of the piling under the "stable" bridge was exposed to water and that the pile cap was fifteen feet up above the bottom of the river. This was likely the result of contraction scour from the increased volume and speed of water moving through the bridge opening as the result of unprecedented snow fall, rains, and flooding that spring.[627] They were able to save the bridge, but they had to build a new base under it.[628]

It is difficult to imagine from the perspective of the 21st century that the engineers of the 1960s did not have the aid of computers but that was the case. This was still the day of the slide rule. In fact, Larry Weiss, who came to work of the SDDOH in May 1965 at the Chamberlain Residency and left in 2002 as the Director of Engineering and Chief Engineer, donated his slide rule to the SDDOT historic collection in the lobby of the SDDOT offices in the Becker-Hansen Building so that younger engineers could see one.[629]

A primary reason for this was that the computers of the 1960s were bulky and anything but portable. Orville Dixon, Chief Auditor of the SDDOH recorded that "Over $51 million of receipts were accounted for during the fiscal year, with detailed costs computed according to the various requirements. Recording income, processing 28,000 vouchers, and accounting for the inter-department costs, required *589,155* IBM cards."[630]

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[625] Lewis, pp. 170-171.

[626] Ibid., 158.

[627] "Annual Report of the South Dakota State Highway Commission, 1962," p. 6.

[628] All quotes in this paragraph are from the Larsen interview, p. 54.

[629] Larry Weiss, "It's All About People," South Dakota Department of Transportation publication, (Pierre, SD: SDDOT, March 2002), p. 4.

[630] "Annual Report of the South Dakota State Highway Commission, 1960," p. 29. Emphasis added.

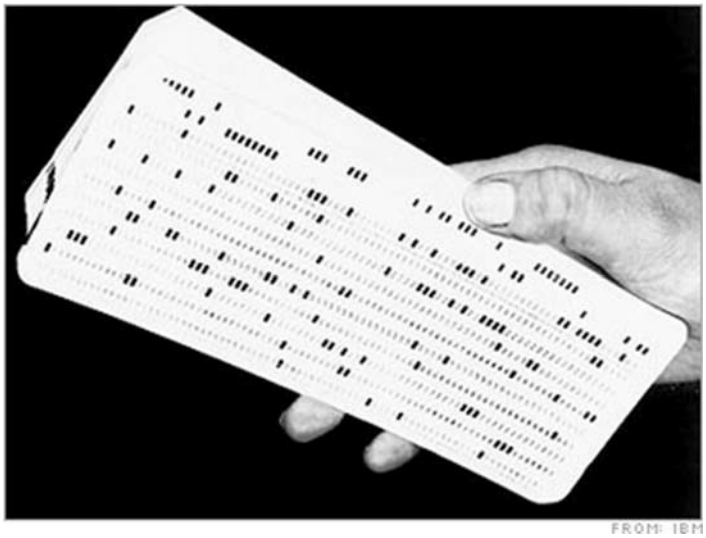

Figure 20: IBM Cards. Each one held 80 bytes of data.[631]

Although the Interstate caught the imagination and the attention of the public and the media, the majority of vehicle miles traveled continued to be on the "ABC" (primary, secondary, and urban) roads, and by 1961, SDDOH Director Don Haggar of Watertown was worried that a financial crisis was in the making with regard to those roads. He wrote that $127 million was needed to improve unsatisfactory roads over the next five years yet only $85 million dollars would be available for such projects.[632]

"There are," he asserted, "three approaches the department has in securing this necessary income—through increased taxes, reducing standards, or through attracting a greater volume of tourist traffic to provide more gas tax revenue."[633] Reflecting a cardinal principle of South Dakota political culture, he declared that raising taxes was a last resort. Reducing standards, he observed correctly, only delayed needs. Consequently, the SHC increased the advertising and promotion budget 33% and pinned its hopes for finding the additional $42 million on the pockets of tourists. The director noted that the Highway Commissioners were considering a scenic highway along the Missouri River reservoirs to stimulate tourist traffic, but that its costs were projected at $25 million. Haggar also believed that Black Hills roads were at capacity, which would require construction of additional roads there if tourism were to increase.[634]

Federal contract controls were lifted at the end of 1962 and that meant an increase in lettings for work in 1963. This enabled the SDDOH to use available federal funds in a more efficient manner in

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[631] http://www.umass.edu/molvis/workshop/imgs/ibm_card.htm. As accessed 25 August 2011.

[632] "Annual Report of the South Dakota State Highway Commission, 1961," p. 7.

[633] Ibid.

[634] Ibid., p. 8.

order to take full advantage of the short construction season."[635] The director anticipated that portions of Interstate 29 from Sioux Falls to Sioux City, the Interstate 229 around Sioux Falls, and Interstate 90 from Sioux Falls to the Minnesota border, as well as significant portions of I-90 east of Rapid City, would be completed in late 1962 and in 1963.[636]

The SDDOH also revised its internal organization during FY 1961/62. In an effort to address the problems that attend rapid growth in a bureaucracy, including a confusing chain-of-command and to promote efficiencies, the SDDOH consolidated the engineering branch into "four main divisions—Research, Pre-Construction, Operations, and Maintenance—with ten sections directly responsible to these divisions. The position of Urban Engineer was combined with that of Traffic Engineer and a Hydraulics Section was established." By 1967, Mansour Karim, one of the foreign engineers recruited in the late 1950s, was the Hydraulics engineer.[637] In addition, three new positions were created—Director of Computer Services, Director of Purchasing and Inventories, and Inventory Accountant—in order to "provide tighter and more efficient control of supplies."[638]

The lack of computers did not impede progress on the construction of the Interstate and other highways in South Dakota. The SDDOH "completed a total of 2,544 miles of various types of construction" during the years 1965-1966, including 202 miles of Interstate surfacing and an additional 89 miles of grading and structure work on I-29 and I-90.[639] By 1966 South Dakota had "8,490 miles of state trunk highways, 20,040 miles of country roads, and 50,690 miles of secondary rural roads. This constituted approximately a mile of road for every eight inhabitants." There were 110,026 trucks in operation and 280,147 cars as of 1966.[640]

By 1965, the Department of Highways had "five districts, 25+ residencies and 65+ maintenance shops." The Central Office had five Divisions—Preconstruction, Construction, Maintenance, Materials, and Finance—each under a separate division manager. Larry Weiss recalled "a lack of coordination at various levels" that resulted in inefficiencies. An example he gave was that a new centerline stripe on an asphalt roadway might be applied in June and then an asphalt overlay was applied in July because "neither leader of those activities [knew] when nor what the other had planned." A further complicating factor "was the fact that there was no published five-year construction program."[641]

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[635] "Annual Report of the South Dakota State Highway Commission, 1962," p. 6.

[636] Ibid.

[637] Weiss, p. 3.

[638] "Annual Report of the South Dakota State Highway Commission, 1962," p. 6.

[639] "Biennial Report of the South Dakota Department of Highways to the Governor for the Fiscal Years 1965 and 1966," p. 6. The shift to biennial rather than annual reports was a cost saving measure. The report is 170 pages, but contains just a single page of narrative.

[640] Schell, p. 364.

[641] Weiss, pp. 2-3.

Part of the problem the SDDOH faced was the considerable growth it had experienced as a result of the Interstate program. During the last FY before the passage of the Federal Aid Highway Act of 1956, the SHC employed "an average of 1,345 people each month throughout the year," including 250 temporary employees during the summer months.[642] The average grew to 1,515 in 1960 and peaked at 2,070 in 1968.[643] By 1970, the SDDOH employed 1,820 people.

Despite the problems such growth entailed, SDDOH Director John E. Olson noted that great progress had been made in all phases of highway construction—Interstate, primary, secondary and urban—but in his opinion "the most noticeable area of productive development is in the new State Secondary Farm-to-Market Road Improvement Program" that came into effect on 1 July 1965.[644] The State Legislature appropriated $1 million for secondary road construction and established the Farm-to-Market Program. This allowed the SDDOH to improve more than 100 miles of rural highways to all-weather standards during the last 18 months of the biennium.

The program was popular, according to Olson, in that it served "a long-neglected need within our state in terms of providing all-weather roads throughout the agriculture areas leading to market centers, as well as educational, civic and religious centers."[645] He attributed the program's success to "the excellent cooperation between the counties and the Department of Highways" and "strongly" recommended that the program "be continued to meet the ever-increasing transportation needs of rural South Dakota."[646]

Olson also directed his attention to what were and are continuing themes in the history of transportation in South Dakota: maintenance and sustainability issues. Although in his estimate the SDDOH had accomplished "substantial progress in highway work throughout South Dakota" during the biennium, the issue of maintenance required an increased commitment of resources. "Maintenance operations" he insisted, "must necessarily become an expanded program to cope with the full and entire surface transportation needs of the state." Adding to the maintenance burden was the fact that "each mile of interstate highway is comparable to two miles of primary road in terms of maintenance costs."[647]

Like his predecessors, Olson was keen to speak to the conventional wisdom in South Dakota that government is of its very nature wasteful and bloated. To counter than notion, at least as far as his department was concerned, he concluded the report for the 1965/1966 biennium by way of noting that 87% of South Dakota's highway revenue went into new construction and that the state ranked

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[642] "Annual Report of the South Dakota State Highway Commission, 1955," p. 23.

[643] "Annual Report of the South Dakota State Highway Commission, 1960," p. 23; "Biennial Report of the South Dakota State Highway Commission, 1969 and 1970," p. 8.

[644] "Biennial Report of the South Dakota State Highway Commission, 1965 and 1966," p. 6.

[645] Ibid.

[646] Ibid.

[647] Ibid.

highest in the nation in that category. He also noted that administrative costs "are the lowest in the nation."[648]

The same year Olson wrote the biennial report, Congress passed the Department of Transportation Act. This created a new cabinet level department with the Secretary of Transportation as its leader. Prior to this, an under secretary of commerce for transportation had been in charge of administering overall federal highway policies. Included in the new Department of Transportation were the Federal Aviation Administration, the Federal Highway Administration, and the Federal Railroad Administration.[649] The State of South Dakota would enact a similar restructuring in 1973 during Governor Richard Kneip's administration.

The Act also declared that "the Secretary of Transportation could not approve a highway through a historic site unless 'there is no feasible and prudent alternative.'" The act also allowed the Advisory Council on Historic Preservation an "opportunity to comment on any highway that would have an effect on a historic site."[650]

This legislation reflected the interests of First Lady "Lady Bird" Johnson. She adopted highway beautification as her cause and influenced her husband to include it as part of his "Great Society" legislation. President Lyndon Johnson supported passage of the Federal Highway Beautification Act a year earlier on 22 October 1965. The law required billboards to be placed 600 feet from the Interstate highways. It also required the screening of any junkyards adjacent to the Interstate to hide them from the view of drivers and passengers.[651]

The legislation had little immediate impact. The next year, U. S. Senator Joseph Sill Clark (D) of Pennsylvania declared that the highway system "is presently being operated by barbarians. We ought to have some civilized understanding of just what we do to spots of historic interest and great beauty by the building of eight-lane highways through the middle of our cities."[652] Fellow Democrats Senators Wayne Morse of Oregon and Ralph Yarborough of Texas gave speeches in the Senate calling upon Americans to stop "the uglification of America" and to "save as much as possible of America the beautiful."[653]

Lewis asserted that one reason for criticisms like the ones above was that the training engineers received was one-dimensional in the 1950s and early 1960s. It "[d]iscouraged independent thinking" and resulted in "students [who] learned next to nothing about the effect their actions would have

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[648] Ibid.

[649] National Archives, General Records of the Department of Transportation [DOT], (Record Group 398), http://www.archives.gov/research/guide-fed-records/groups/398.html. As accessed 4 September 2011.

[650] Lewis, p. 202. See also "Department of Transportation Act, DECLARATION OF PURPOSE AND SECTION 4(F), AS AMENDED," www.nps.gov/history/local-law/fhpl_dotact.pdf. As accessed 4 September 2011.

[651] Lewis, pp. 172-173.

[652] Ibid., p. 200.

[653] Ibid., p. 201.

upon millions of citizens."[654] Engineers, he wrote, "had little understanding of, nor did they care about, socioeconomic and environmental considerations that should also be factors in the decision of where to place a highway."[655]

South Dakota's transportation leaders seemed to disprove that assertion. They had been engaged in long-range planning and in conducting traffic studies and projections for decades. The state engineers had consulted with county officials on every ABC road project. Resident engineers knew the leaders and the citizens of their districts and both consulted with and helped educate them in regard to various transportation issues. Certainly, politicians could and sometimes did influence road placement, but such instances were beyond the control of the engineers. In any case, the BPR was responsible for the original Yellow Book placement of the Interstate System.

Parties disappointed with what appeared to them to be a haphazard approach to social issues succeeded in passing a variety of legislation to address these issues, not just the Highway Beautification Act. The Federal Highway Act, 1962 "stated that the federal highway administrator should not approve a highway project unless it is based on a 'continuing, comprehensive transportation planning process.'" The Department of Transportation Act of 1966 "stated that the Secretary of Transportation could not approve a highway through a historic site unless 'there is no feasible and prudent alternative.'" That act also allowed the Advisory Council on Historic Preservation an "opportunity to comment on any highway that would have an effect on a historic site." In addition, the National Historic Preservation Act of 1966 required the Secretary of Transportation to "consider the impact highways have on historic sites when considering their approval."[656]

South Dakota was not in compliance with the Federal Highway Beautification Act of 1965 because South Dakota's legislature had chosen to fight what many of its members perceived as federal intrusion into a local issue, not because of insensitive engineers. The South Dakota Legislature passed a law that sought to bypass federal restrictions on the placement of billboards along its stretches of the Interstate.

The federal law stated that if the land adjacent to the Interstate was zoned commercial or industrial, billboard controls did not have to be applied. The legislators in Pierre then passed a law "that essentially zoned the entire state along the interstate primary highways as commercial." The federal government took the state to court and the judge agreed with the U. S. Attorney that this was a deliberate effort to circumvent the Highway Beautification Act.[657]

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[654] Ibid., p. 133.

[655] Ibid., p. 134.

[656] All quotes in this paragraph are from Lewis, p. 102.

[657] Larsen Interview, p. 14.

By 1969, the state faced a 10% penalty on its allocation of federal highway funds for non-compliance. In part, this was also due to the fact that South Dakota had resisted paying just compensation to sign owners whose signs would be removed under the beautification laws.[658] There was also a possible legal issue in SD in that the state Highway Department was prohibited from diverting funds for the purchase of lands outside the right of way. A measure to allow this passed the House in 1965, but the Senate killed it.[659] By 1967, Kenneth Morgan, Assistant Attorney General for Highways, wrote that the subject of highway beautification was one "that I would prefer to sweep under the rug."[660]

Wally Larsen was in charge of billboard control for the Department of Highways during much of this period. He accepted an invitation to talk to the South Dakota Roadside Businessmen at their annual meeting, to be held at Wall Drug Store. Tempers were short, and one physically intimidating rancher came "charging up complaining because he lost all the income from advertising, he should have had because of billboard control." Larsen, a tall man himself, "more or less ignored him." Later on, he talked to the same group at Chamberlain about billboard control. Larsen recalled "there was a fellow there that had gotten a little bit tanked up and he was harassing me trying to get me to lose my cool. Finally Al Mueller says, 'you just as well quit trying to do that. I watched a 300-pound rancher charge the podium and pound on it—he didn't flinch then, and you're not 'gonna get to him either.'"[661]

Not surprising was the fact that State Senator Bill Hustead (R), owner of Wall Drug Store, was a key opponent of the Highway Beautification program. Wall Drug billboards were as ubiquitous in South Dakota as cattle or grain. There were just so many of them you simply took them for granted. Hustead worked with a Minneapolis law firm to try to prevent South Dakota from changing its laws to comply with the federal legislation while at the same time Morgan advised the director of the Department of Highways to seek legislative support to change South Dakota law in order to avoid the ten-percent penalty that was coming 1 January 1969.[662] Morgan spent significant time writing letters to a variety of agency directors, governors, legislators, and businessmen in order to keep South Dakota from losing the funds.[663]

Some South Dakotans tried to use the Highway Beautification Act of 1965 to block things other than junkyards and outdoor advertising. State Senator and Mobridge lawyer Ervin Duper wrote

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[658] Dowell H. Anders to Kenneth Morgan, 23 November 1966, Box 0615: Highway Beautification, 1966-1969, Cultural Heritage Center, Pierre, SD. Morgan was Assistant Attorney General for Highways. There is more material on this subject than any other in the record group in the State Archive materials on the history of the Department of Highways.

[659] Morgan to Herman Walker, Meade County States Attorney, 4 June 1965.

[660] Memo from Morgan to Legal Division Director, 12 May 1967.

[661] Larsen Interview, pp. 13-14.

[662] Morgan to John Emmett Olson, 26 March 1968.

[663] See Inter-Department Correspondence from Morgan to John Emmett Olson, Director, Department of Highways, 30 September 1968, Box 0615: Highway Beautification, 1966-1969, Folder entitled "Federal Aid Highway Act of 1968. See also Morgan to Karl Mundt, 12 September 1967 and Mundt to Morgan, 15 September 1967, Box 0615.

Morgan for his opinion about how to block proposed construction of a hog facility with a lagoon east of Mobridge along Highway 12. Morgan determined that there was nothing in the 1965 federal legislation to block such a facility and advised Duper to seek an injunction on the basis of public health or nuisance to adjoining landowners.[664]

Speaker of the House James Jelbert sought the Highway Department's legal opinion about three proposed ways to get around the federal requirements. Special Assistant Attorney General for the South Dakota Department of Highways John Wehde replied that the solutions Jelbert suggested would "cause more problems than they would correct."[665]

The issue continued to pose problems when the legislature amended Section 7 of Chapter 118 of the 1967 Session Laws with Chapter 127 of the 1969 Session Laws. The Legislature wanted to allow local zoning boards to determine commercial zones. This would also have had the potential to side-step federal regulations.[666] County Zoning Boards "started zoning everything commercial along the Interstate and primary highways."[667]

The struggle between the Feds and the state continued until 1979. The State hired a consultant from Washington, D. C., to do a study and recommend what could logically be zoned as commercial or industrial property to avoid the federal charge of intentional circumvention. Based on that report, and with Governor William Janklow's direction to write a bill that was as "liberal as could be and still get it passed," Wally Larsen wrote the legislation that finally brought South Dakota into compliance.[668]

When asked how he came to know how to write legislation, Larsen responded that over the years he "had spent so much time working with the legislature and our attorney" that he just knew what was needed. He ran the draft past the SDDOT attorney and "it worked."[669] This is an affirmation of E. F. McKellips' declaration about the impact of the "wholesome approach of so many of the state highway personnel in their work" and their "consuming desire to improve every operation."[670]

The South Dakota Department of Transportation Annual Report for FY 1979 indicated that "a break in the standoff came with the passage of a minimum compliance bill by the SD Legislature. The Federal Highway Administration had held back $4.2 million of the FY 1979 funds and threatened to hold back $4.4 million for 1980." The SDDOT expected to sign the Billboard Compliance agreement between state and federal officials in October 1979, an act that would release the sanctioned

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[664] Morgan to Duper, 3 August 1967. Highway Beautification, 1966-1969, Folder entitled "Highway Beautification-Scenic." Cultural Heritage Center, Pierre, SD. Box 0615.

[665] John Wehde to James Jelbert, 22 January 1968.

[666] Morgan to C. B. McDonald, 13 May 1969, Folder entitled "Signboard Compliance." Box 0615.

[667] Larsen Interview, p. 14.

[668] Ibid., pp. 14-15.

[669] Ibid., p. 16.

[670] "Annual Report of the South Dakota State Highway Commission, 1960," p. 6.

funds."[671] The Annual Report for FY 1980 indicated that the SDDOT received the final draft of the agreement on 22 October 1979. The appropriate authorities signed it in November of 1979, "triggering the release of the sanctioned FY 1979 funds of $4.2 million and approximately $4.4 million of FY 1980 funds."[672] Larsen noted that the state permanently lost four million dollars in federal funds.[673]

Despite the 15-year legal battle, SDDOH Director Morris Hallock reported in 1970 that "the billboard law has been extremely effective in the removal of some 12,000 signs adjacent to our highway systems." Most of those were either abandoned or were no longer authorized. The junkyard program, however, was restricted due to the dispute over funds. The state had programmed 117 junkyards for abatement relocation, screening, or burial, but only ten had been completed and just two more would be so in the near future.[674]

Progress on the Interstate itself continued throughout the legal battle. Dozens of bridges had to be built for interchanges and overpasses. As an example, during the period 1969-1970, the SDDOH built 112 bridges, 66 of which were on the Interstate.[675] Among those bridges was the new I-90 Bridge at Chamberlain.

The old U. S. Highway 16 Bridge that had been built as a result of the damming of the Missouri did not meet Interstate highway standards and would have to be replaced. Highway 16 passed through downtown Chamberlain, but I-90 was planned to run south of town. The new bridge, which would span the Missouri south of Chamberlain, would "form a section of Interstate-90, 5500 feet in length, composed of 3500 feet [of] causeway and approximately 2000 feet of bridge."[676] Costs for grading 3,000 feet of causeway and 2,030 feet of substructure had already reached $3,994,000 dollars by 1970.[677] When asked if he had a favorite bridge, Vern Bump replied that he did not, but he did have a few "headache bridges" and the I-90 Chamberlain bridge was one of them.[678] The bridge was not completed until 1974. The old bridge remains and serves local traffic between Oacoma and Chamberlain, even though Highway 16 was decommissioned as a US highway in 1979 and is now SD Highway 248.

Although it was not part of the Interstate system, the Keystone Wye was built during the period and represented a significant accomplishment for the SDDOH. The tri-level arch was designed to ease traffic congestion in the Keystone-Rapid City area of the Black Hills. It was dedicated in September of

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[671] "Annual Report of the South Dakota Department of Transportation, 1979," p. 3.

[672] "Annual Report of the South Dakota Department of Transportation, 1980," p. 3.

[673] Larsen Interview, p. 15.

[674] "Biennial Report of the South Dakota State Highway Commission, 1969 and 1970," p. 20. This is an informative narrative format that includes reports from every division and district.

[675] Ibid., p. 5.

[676] Ibid., p. 6.

[677] Ibid., p. 31.

[678] Bump Interview, pp. 46-47. In part, this may have resulted from innovative bridge design.

1968.[679] The unique design and innovative use of laminated timber brought national and international recognition and inquiries to the Bridge Section of the South Dakota Department of Highways.[680]

According to the authors of a document called "History of the South Dakota Department of Transportation," road construction had slowed considerably by the late 1960s, so much so that "the year 1968 went into the records as one of the slowest construction periods in the history of the Department."[681] By 1970, there were still significant gaps in I-90 and I-29 in South Dakota. The State had acquired only 65% of the right of way necessary for the Interstate (443/678 miles) by 1970. Total costs for right of way for the biennium of 1969/1970 were $2,083,988.44.[682] The pace of construction was slow throughout the system: I-80 "crossed only four states without a break" by 1970.[683]

Figure 21: Keystone Wye
(From http://en.wikipedia.org/wiki/Keystone_Wye)

One of the reasons for this was inflation. By the late 1960s and early 1970s, the costs of the Great Society social programs, of the Cold War, and of the Vietnam War were taking a toll on the

[679] "Biennial Report of the South Dakota State Highway Commission, 1969 and 1970," p. 6.

[680] Ibid., p. 15.

[681] "History of the South Dakota Department of Transportation," 1988, Cultural Heritage Center, Pierre, South Dakota, ACC 85125 Folder 2325 A, p. 3.

[682] "Biennial Report of the South Dakota State Highway Commission, 1969 and 1970," p. 19.

[683] Lewis, p. 212.

economy. President Lyndon Johnson had successfully lobbied for significant reductions in individual and corporate tax rates that resulted in the Revenue Act of 1964. The result was a net increase in revenue for the federal government in 1964 and 1965, but by his exit from the presidency in January 1969, federal expenditures far outpaced federal income. By 1972, President Richard Nixon had to impose wage and price controls in an effort to ease inflation. The impact of the 1973 OPEC oil embargo exacerbated an already difficult economic situation.

These conditions meant that the "early 1970's were trying years for the SDDOH, as inflation eroded its budget's purchasing power. According to one source, "inflation resulted in an estimated increase of 40 percent in overall maintenance and construction costs in just one year."[684] Despite this, "Interstate construction continued with approximately 50 miles being completed each summer."[685] That number, though, is suspect given that the Biennial Report for 1969 and 1970 stated that 439 miles of the Interstate had been completed by 1970.[686] That meant only 239 miles were left to complete and at 50 miles per summer, it would have been done in five years. Interstate 90 in South Dakota was completed in 1976, but Interstate 29 was not completed until 1983.

There were a number of significant national events in 1969 that made it stand out then and now when compared to previous years. The United States successfully landed the first men on the moon. President Richard Nixon began the process of withdrawing American troops from Vietnam. Yasgur's farm in upstate New York hosted 350,000 people at the Woodstock Festival. The forerunner of the Internet—ARPANET—was created. The microprocessor was invented. American Telephone and Telegraph employees developed the UNIX system. The year-end close for the Dow Jones Industrial Average was 800.[687] The nation also mourned the death of the father of the Interstate, Dwight David Eisenhower, on 28 March 1969.

South Dakotans would remember Ike's death in conjunction with a winter snowfall in excess of 100 inches that resulted in massive spring flooding and SDDOH maintenance costs of $2,524,893.96. Fortunately, those costs declined the next year to less than half that amount at $1,027,942.73.[688] They had a new governor—Frank Leroy Farrar of Britton—who faced the task of dealing with the natural disaster. They also celebrated the Golden Anniversary of the State Highway Commission.

The SDDOH formed a committee of interested citizens and highway personnel to plan observances of the occasion, with the highlight being a 50th Anniversary banquet held on 17

[684] "History of the South Dakota Department of Transportation," p. 3.

[685] Ibid., p. 3.

[686] "Biennial Report of the South Dakota State Highway Commission, 1969 and 1970," p. 5.

[687] See http://www.thepeoplehistory.com/1969.html for other items of interest from 1969.

[688] "Biennial Report of the South Dakota State Highway Commission, 1969 and 1970," p. 22.

November 1969. The keynote speaker was R. R. Bartelsmeyer, Director of Public Roads, U. S. Department of Transportation.[689]

Things were much different for the SDDOH than they had been in 1919. The South Dakota Highway Department now occupied a 77-room complex in Pierre as opposed to the two rooms it was allocated in the Capitol Building. The department had "expanded from two divisions and an administrative staff of four in 1919 to 48 divisions and sections and approximately 1800 employees in 1969."[690]

Budgets had grown commensurately, too. Highway construction and maintenance contracts approved during the fiscal years 1969 and 1970 totaled $91,359,791.98. Interstate construction accounted for $44,436,771.42 of that figure; Primary Roads for $22,860,804.90; County Secondary Roads for $10,544,660.99; State Secondary Roads for $2,759,160.46; Maintenance for $2,759,160.46; and Miscellaneous expenses for $1,783,447.22.[691] The entire state allocation for the fiscal year ending 1919 for road and bridge construction and maintenance, as well as salaries, was $120,000.[692] A further contrast would be the fact that there was no fuel tax in 1919; the State Legislature raised it to seven cents per gallon effective 1 July 1969.[693]

By June of 1970, the SDDOH had completed 439 miles of the Interstate and estimated the state's 678-mile system of Interstate Highways would be completed in 1976.[694] The sixty-five miles of I-29 that ran through District I had only reached the design stage by 1970, although the entire section was "under contract for preliminary design" as of that year.[695] District II Engineer W. M. Gere reported that I-29 was complete and opened to traffic as far north as Brookings by 1970 and that grading and structure work had reached SD Highway 28. His staff was also engaged in construction of a small section of I-29 near Watertown.[696] District III reported that the "cloverleaf interchange at the junction of I-90 and I-29 northwest of Sioux Falls, South Dakota, was constructed on level terrain, with I-90 passing over 1-29." District IV reported the majority of its Interstate construction during the biennium was on the section of I-90 that ran parallel from Cactus Flat to Reliance while District V completed 19 miles of Interstate in the Wall and Whitewood areas.[697]

Crews installed special lighting at the interchange that included eight 100-foot towers and drew interest from "state and federal highway engineers from as far away as Texas." The SDDOH awarded

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[689] Ibid., p. 4.

[690] Ibid.

[691] Ibid., p. 4.

[692] "Annual Report of South Dakota Highway Department to the Governor, for the Term Beginning July 1st, 1917 and ending June 30, 1918," p. 13.

[693] "Biennial Report of the South Dakota State Highway Commission, 1969 and 1970," p. 6.

[694] Ibid., p. 5.

[695] Ibid., p. 29.

[696] Ibid., p. 30.

[697] Ibid., pp. 31-32.

a $496,998.60 contract for interchange lighting at the junctions of I-90 and I-229, I-90 and U.S. Highway 77, I-229 and U.S. Highway 16, I-229 and U.S. Highway 77, and I-29 and U.S. Highway 16 with an expected completion date before 1 July 1971. [698]

Seventy-two miles of the Interstate was "programmed for asphalt surfacing" and 43 miles of that was open to traffic and 16 miles under construction at the close of the biennium. The SDDOH surfaced those sections in stages. They would receive additional surfacing before the completion of the Interstate to address distortions that may have arisen after the first surfacing. The additional thickness was "placed when required and at the same time any distortion which has developed in the first placed surfacing is leveled out."[699]

The SDDOH had also placed two test sections of I-90 that were each 3000 ft. long. Robert Crawford, the Research Engineer at that time, was the man responsible for this innovation.[700] The test sections indicated the success of a process called "continuously reinforced concrete pavement" and it was going to be universally adopted.[701] In fact, the test sections performed so well they were not removed until 2008.[702]

At the same time, the SDDOH was investigating methods of construction "to minimize soil erosion causing water pollution." The Department was also concerned about "pollution of the air from asphalt plants" because pollution factors were "adding to the problems in highway construction and will undoubtedly cause rising costs in this area."[703]

Noise pollution would also come to the attention of the SDDOH during the Interstate Era. The National Environmental Policy Act of 1969 required the evaluation and mitigation of highway noise while the Federal Aid Highway Act of 1970 called for noise standards. Richard Nixon created the Environmental Protection Agency (EPA) in late 1970 through executive order.[704] Subsequent environmental legislation, like the Noise Control Act of 1972, authorized the EPA to establish noise standards.

There was as well an issue regarding the separation of church and state during this phase of the Interstate's construction. The presence of "wayside chapels" and whether they could remain on right

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[698] Ibid., p. 30.

[699] Ibid., p. 23.

[700] Dave Huft to Bucklin, 21 May 2012.

[701] "Biennial Report of the South Dakota State Highway Commission, 1969 and 1970," p. 18.

[702] Dave Huft to Bucklin, 21 May 2012.

[703] Biennial Report of the South Dakota State Highway Commission, 1969 and 1970," p. 8.

[704] Jack Lewis, "The Birth of the EPA," EPA Journal, November 1985, http://www.epa.gov/aboutepa/history/topics/epa/15c.html. Accessed 6 September 2011.

of way was a "perennial" one according the Highway Director in 1970. Both governors Nils Boe and Frank Farrar fought to retain them and the chapels were still along the Interstate as of 1970.[705]

Chapels had existed along several highways before the Interstate era, including U.S. Highway 16, which ran parallel to much of the proposed route for I-90. According to Wally Larsen, the South Dakota Highway Department agreed to allow the church that sponsored the chapels to move them to the two rest areas on I-90. At a subsequent meeting held in Minneapolis, personnel from the FHWA requested a meeting with SDDOH officials with regard to chapels on rest areas in Aurora County. Larsen recalled that SDDOH officials reminded the Federal Highway Administration (FHWA) representatives that they already allowed chapels on public land at two locations in South Dakota. One of the chapels on federal land was near the east end of the Platte-Winner Bridge on the north side of the highway. The other was south of Sturgis along I-90 on the east side, opposite the National Cemetery. The Federal Government subsequently resolved this problem by deeding the land the chapels were on to the institutions that ran the chapels.

The issue was still unresolved, though, in late 1971, early 1972. South Dakota Highway Director Jack Allmon of Rapid City met with Larsen in Allmon's office and told Larsen he was about to receive a "Christmas present." The American Civil Liberties Union was threatening to sue South Dakota if the Aurora County chapels were not removed Allmon assigned Larsen the task of solving the issue.

Larsen discovered that the Couples Club of the Corsica Reformed Church maintained the chapels. He also found out that "the widow who owned the land next to the rest area on the north felt we had caused her husband's death since he died of a heart attack during the period we were negotiating for the right of way. The bachelor who owned the land on the south side of the other rest area also resented the taking of his land that had occurred to build the Interstate, so he was not friendly toward us either."

Larsen conducted several meetings with members of the Couples Club, including Harold Noteboom. They agreed to negotiate with the widow and the bachelor for a relocation of the chapels to their land. Larsen agreed to prepare the plats and deeds if the Couples Club were successful in securing the landowners' signatures on the deeds. The widow apparently had no objections and quickly deeded the portion of her land. They had some trouble with the bachelor, but with the help of his priest they secured his cooperation. Larsen then got the second in command of the FHWA to sign off on the arrangement. Because the chapels were no longer on public land, the American Civil Liberties Union dropped their objection.[706]

The department also published a Highway Handbook in 1969 designed to be a "concise guide to the organization and operation of the Department of Highways" for the public. Publicity surrounded the dedication of U.S. Highway 385 "as the Hearst Memorial Highway" on 27 July 1970 "in honor of

[705] "Biennial Report of the South Dakota State Highway Commission, 1969 and 1970," p. 6.

[706] Email from Wallace Larsen to Steven Bucklin, 7 September 2011.

the late George and Phoebe Hearst who were instrumental in developing Homestake Mine."[707] In part, the designation may have been to ease hard feelings over the Legal Division's ongoing condemnation case against Homestake Gold Mine.[708]

The Legal Division was involved in several other suits, including the Frawly Ranch condemnation proceedings. The owners were asking $150,000 for their land when a settlement was reached for $90,000 and some "auxiliary structures."[709]

The Legal Division also participated in several anti-trust suits, including one against Armco Steel Company, a case involving price fixing within the plumbing industry, and a suit against "the five major drug companies in the United States for price fixing in the broad spectrum antibiotic field." These cases resulted in awards to the state and 57 of its counties totaling $669,458.[710]

The Department received approval to create an Assistant Highway Director position in 1970.[711] Job classifications and salary scales were upgraded. Department leaders noted that employee morale increased as a result of the new merit system that "limited upgraded salary scales to deserving employees." Replacement staffing "was held to a minimum" in order to accommodate the added costs of revised salary scales.[712]

In an effort both to recruit promising engineers and keep South Dakota graduates in South Dakota, the Personnel Services department established interviewing schedules at South Dakota State University, The School of Mines and Technology, and Southern State College in Springfield. Ten "quality graduate engineers" were hired from 1970 graduating classes. This was "the first time in five years that engineers had been recruited or hired from in-state colleges."[713]

The application of Frederick Taylor's principles of time and motion studies enhanced training for new employees. This was the result of increasing use of video recordings. Personnel equipped with portable video cameras recorded on-the-job performances. The correct way to perform a job was also taped and then compared with the taped performance of the employee. A trainee could then see how he performed and where corrections were required.[714]

The administration established a Stenography Center that operated an IBM PBX system 24/7 to meet stenographic needs and also authorized a "greatly expanded micro filming" project in order to

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[707] "Biennial Report of the South Dakota State Highway Commission, 1969 and 1970," p. 6.

[708] Ibid., p. 26.

[709] Ibid., p. 27.

[710] Ibid. The Legal Division was also involved at this time in the case Peter Kiewit Company brought over the Platte-Winner Bridge discussed in Chapter Four.

[711] Ibid., pp. 7-8.

[712] Ibid., p. 8.

[713] Ibid., pp. 8-9.

[714] Ibid., p. 10.

reduce space requirements for files. The Highway Department Library was started "modestly" in 1967 to ensure access to professional literature, models of best practice, and items of historic interest.[715]

The SDDOH introduced a two-way radio system in June 1968 to enhance communication with engineers in the field. There were "eight repeater stations and 150 mobile units at the end of 1970. This resulted in "considerable savings in man hours and has met with general approval from both engineers and administrative personnel."[716] Credit cards assigned to individual vehicles were introduced in August 1968.[717] This, too, was a popular change as it reduced paper work and increased accountability.

Computer use expanded dramatically during the Interstate Era. The Era started with a group of state employees concluding that the state could not afford computers. Just one year after the completion of I-29 in South Dakota, Steve Jobs introduced the MacIntosh, the world's first successful personal computer. Whereas there were no programmers who wrote code at the beginning of the era, 20 new programmers and 7 systems analysts were being trained by 1970.

The SDDOH installed a Calcomp Digital Plotter to aid in "centerline profiles, cross-section, soils test, and COGO (coordinate geometry.) Future plans called for "plotter applications in Bridge, Hydraulics, Financial, Highway Safety, and Right-of-Way." The department was engaged in preliminary planning "for possible remote data input from the outlying district offices directly to the computer, and for high usage data files on-line to terminals in order that a more efficient highway operation may be achieved."[718] The Preconstruction Division report noted increased usage of "the electronic computer," a trend that was leading to "better designed highways" for South Dakota.[719]

Although the Interstate and other projects might have given the impression that South Dakota's transportation network would have a net gain in mileage, that was not the case. The Research and Planning department noted in 1970 that "Statistics compiled during the past 15 years indicate that, as the number of farm units in the state dwindled, total miles of roads decreased by 7,492 miles. The reduction in mileage was almost entirely at the expense of township roads. "City streets and state highways," they noted, "increased and county highways remained static." The state had 84,356 miles of highways and 4.361 billion vehicle miles were recorded in the

Figure 22: Figure 22: Chamberlain rest area tipi.

(Courtesy of SDDOT)

[715] Ibid., p. 9.

[716] Ibid., p. 22.

[717] Ibid., p. 6.

[718] Ibid., p. 10.

[719] Ibid., p. 16.

state in 1969. Despite a 2.8% population decline since 1960, the "development of interstate highways I-90 and I-29 and increasing numbers of tourists [were] contributing significantly to travel volumes." Motor vehicle registrations had increased, too.[720]

Many of those motorists would see a new structure along Interstate 90 near Wasta as of the summer of 1968 that would be replicated at the rest areas of both I-90 and I-29. This was the first of what would eventually be nine tipi rest areas and tourist information centers that would become tourist attractions themselves.[721] District III Engineer T. B. Hillmer reported the opening of two more tipi rest areas near the junction of U. S. Highway 81 and I-90 in 1970 at the cost of $295,000.[722] The nine tipis were the result of the emphasis of the Highway Beautification Act of 1965 on the "esthetics" of the rest areas. The tipis are on the National Register of Historic Places[723].

The election of Richard F. Kneip (D) as governor of South Dakota in 1970 led to significant changes for not only the SDDOH, but for the entire executive branch. His election also meant that he would be in charge when the State faced its worst natural disaster on record.

The year 1972 began as most years did in South Dakota: snow and cold blanketed the state. Farmers looked forward to spring planting. Some residents worried about the possibility of spring flooding from snow melt. It is likely that few, if any, South Dakotans worried about the possibility that a freak storm would cause a flood the likes of which had never before been experienced.

Rain began to fall in the area around Rapid City on 9 June 1972. So much of it had fallen that the State Radio System sent a request to commercial broadcasters at 1800 hours for them to announce flood warnings to their listeners and to warn them to stay away from Canyon Lake Drive in Rapid City. Station KOTA ran the warning as early as 1815 hours. At the same time, twelve inches of water were running across the highway west of Sturgis and heavy rains were blanketing the Black Hills southwest of Rapid City.

By 1830 hours, the Civil Defense Director for Rapid City and Pennington County, Harold Irish, had notified Rapid City police that Rapid Creek was rising swiftly and that Pactola Dam was reaching its limit. At 1845, Lawrence County officials informed Duane "Duke" Corning, Adjutant General of South Dakota, that water was running over the road at Boulder Canyon between Deadwood and Sturgis.

By the time Corning received this information, rains were falling at the rate of two inches per hour in the northern Black Hills, with Galena getting four inches in just two hours. At 1915 hours, a

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[720] All quotes and statistics in this paragraph are from the "Biennial Report of the South Dakota State Highway Commission, 1969 and 1970," p. 11.

[721] Ibid., p. 6.

[722] Ibid., p. 30.

[723] "Concrete rest-stop tipis receive national recognition," *Argus Leader*, 15 February 2015, http://www.argusleader.com/story/news/2015/02/15/concrete-rest-stop-tipis-receive-national-recognition/23465947/, accessed 16 October 2015.

flash flood warning was issued for the northern Black Hills; by 1930 hours, the warning was extended to the southern Black Hills. Evacuations were begun in several low-lying areas, but it was not an extensive operation. Rapid City Mayor Don Barnett addressed the public at 2230 hours and urged immediate evacuation of the areas in the flood path. Fifteen minutes later, Canyon Lake Dam burst, releasing the floodwaters that would crest in downtown Rapid City at 0015 10 June 1972.

The flood killed 238 people, destroyed 1,300 homes, and severely damaged 2800 other buildings. Total damages exceeded $165 million dollars. Many state agencies, including the South Dakota National Guard and the South Dakota Department of Highways, worked tirelessly to avert further damage and loss of life and to help repair the damage.[724]

That damage was extensive. Three spans of the westbound I-90 bridge settled and personnel declared it unsafe for traffic and closed it. The Interstate 90 Bridge at Omaha and Mountain View was badly damaged and the southbound bridge at the West Boulevard Exit across Rapid Creek in Rapid City had settled spans that required it be closed. United States Highway 16 south of Rapid City had washed-out areas and debris clogs at the Spring Creek Bridge. The Keystone Bridge on Highway 16A had similar damage. Additional damage along the same highway included washed out culverts south of Rushmore. Box culverts were washed out on S. D. 87 near Sylvan Lake. There was extensive damage to S. D. 40 in and west of Rapid City including damaged bridges, washed out culverts, and eroded road grades. Damage on and along S. D. 79 included settling of four spans of the Box Elder Creek Bridge near Black Hawk, making it unsafe for traffic, and damage to the bridge spanning Bear Butte Creek made it similarly unsafe. Four miles of the lower Boulder Canyon U. S. 14A along Boulder Creek were destroyed.[725]

The extent of damage was almost unfathomable. Vernon Bump could not remember "the exact number, but it seems like there was only one bridge in Rapid City that wasn't damaged or destroyed. A lot of the structures that failed were on timber pile and those pile were driven down into the underlying gravels or alluvium. They were driven to refusal. And there was enough scour in that situation that a lot of those piles simply fell over sideways."[726]

Richard Howard, who was working with the State Department of Health on the scene, recalled that "DOT was there. I mean they were, they were helping move brush piles, trying to find bodies, and I mean it was just really terrible out there."[727] Wally Larsen had to negotiate right of way issues with the residents of Keystone to prepare for reconstruction of the damaged roads. It was a difficult

[724] All information on the flood to this point is taken from Chapter Six, "The Flood," Steven J. Bucklin *From Cold War to Gulf War: The South Dakota National Guard, 1945 to the Millennium* (Sioux Falls, SD: Pine Hill Press, 2004), pp. 151-164.

[725] *Highway Lines,* (Pierre, SD: South Dakota Department of Transportation, July 1972), p. 6.

[726] Bump Interview, p. 17.

[727] Richard Howard Interview, 8 June 2012, p. 38.

task, he observed, because they were "still burying their dead and I'm down there trying to talk to them about how we're going to rebuild this."[728]

The fact that the Highway Department had repaired and reopened all but the four miles of U. S. 14A by the middle of July was remarkable.[729] Jack Allmon was Director of Highways at the time of the flood and was from Rapid City.[730] Much of the publication *Highway Lines* of July 1972 was devoted to the flood and the Highway Department's response to it. Allmon noted that during operations, the Department had "at times well over 100 dump trucks, 20 loaders, 4 cranes, basket cranes, semitrailers, fuel tanks, pickups, rollers, graders, radio equipped vehicles and many other pieces of equipment in operation." All five of the Districts contributed personnel and equipment to the cleanup activities. Writing to the men and women of his department, Allmon declared "there are not enough words of praise in my vocabulary or any dictionary to laud what you have done."[731]

After the flood, Governor Kneip turned his attention back to the issue of what he perceived to be a bloated and sometimes unresponsive state government. The issue of reorganizing state government was a recurring one in South Dakota history. Governor William McMaster and the State Legislature retained the services of the New York Bureau of Municipal Research in 1921 to make recommendations toward streamlining state government. The Bureau's plan would have reduced the executive branch to five major departments, all of which would have reported to the governor. The Legislature apparently did not approve of such a significant increase in the power of the executive and voted the plan down in 1923.

Governor Harlan Bushfield then acted on his own through executive order and the elimination and consolidation of various departments resulting in a 26% reduction in state government costs and the elimination of 300 state jobs in the early 1940s. Two reports—the Griffenhagen Report and the Little Hoover Report—of the 1950s recommended further reorganization, some of which Governor Joe Foss adopted.[732]

Historian John Andrews noted that by the time Kneip was elected, "South Dakota's executive branch had grown to encompass more than 160 different departments, boards, and agencies, many over which the governor had little or no authority." The sheer size of the branch "led to a certain degree of inefficiency and unresponsiveness."[733] The *Watertown Public Opinion* described the executive branch as "a jerry-built establishment composed of a foundation of constitutional offices

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[728] Larsen Interview, p. 39.

[729] *Highway Lines,* p. 6.

[730] Larsen Interview, p. 39.

[731] *Highway Lines*, p. 2.

[732] John Andrews, "South Dakota During the Administration of Governor Richard F. Kneip, 1971-1978," unpublished M.A. Thesis, Department of History, The University of South Dakota, August 2007, pp. 49-50. Andrews' thesis is the most current account of Kneip's reorganization and his bibliography includes the most important primary sources and secondary literature on the subject.

[733] Ibid., p. 50.

groaning beneath a shapeless superstructure of boards, commissions, committees and whatnot—the product of decades of legislative creation and gubernatorial appointment with no particular thought given to how unwieldy and inefficient the whole was becoming."[734]

Kneip asserted in a 1979 interview that he quickly realized that as governor he "had very little authority in government." He took "all the flak from letters and the public about something being wrong in some agency of government, but I didn't have the authority to go over there and correct it."[735] He was determined to change that for the sake of "efficiency and economy."[736]

After meeting with considerable resistance from people and organizations with a vested interest in the status quo, Kneip and his staff skillfully maneuvered political currents over the next two years to counter opponents of reorganization and secure public support. Kneip delivered his Executive Order 73-1 to the 1973 legislature on 22 January 1973. It resulted in the consolidation of the executive branch into 16 departments. Included among these was the new South Dakota Department of Transportation (SDDOT).[737]

The governor appointed a Secretary of the DOT as the chief executive. An 11 member Highway Commission provided "the overall guidance and establishe[d] policies for Departmental employees." The Secretary of Transportation was a commission member. The reorganization divided the department into four sections: Highways, Railroads (brought into the DOT in 1975), Aeronautics, and Policy Development.[738]

It was under the supervision of the new SDDOT that Interstate 90 was completed in 1976. Interstate construction in South Dakota was now confined to the northeastern portion of I-29. Of the 678.96 miles of authorized South Dakota Interstate, 626.36 miles were open to traffic in FY 1979. The remaining 52 miles were under contract during the year. The last stretch of road opened in FY 1979 was a seven-mile stretch from the North Dakota border to Victor, South Dakota. The SDDOT estimated that the final bids for completion of I-29 would be let in FY 1981 and that all sections of the Interstate would be open to traffic in 1982.[739]

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[734] Editorial, *Watertown Public Opinion,* 30 June 1971. As found in Andrews, p. 51.

[735] Richard Kneip Interview with Professor Herbert T. Hoover, 5 July 1978, Tape 1779, South Dakota Oral History Center, The University of South Dakota, Vermillion. As found in Andrews, p. 51.

[736] Richard F. Kneip, "Inaugural Address," Box 256, Folder 2, Kneip Papers, Richardson Collection, Archives and Special Collections, I. D. Weeks Library, The University of South Dakota, Vermillion. As found in Andrews, p. 51.

[737] Andrews, p. 64.

[738] "Annual Report of the South Dakota Department of Transportation, 1979," p. 1.

[739] Ibid., p. 3.

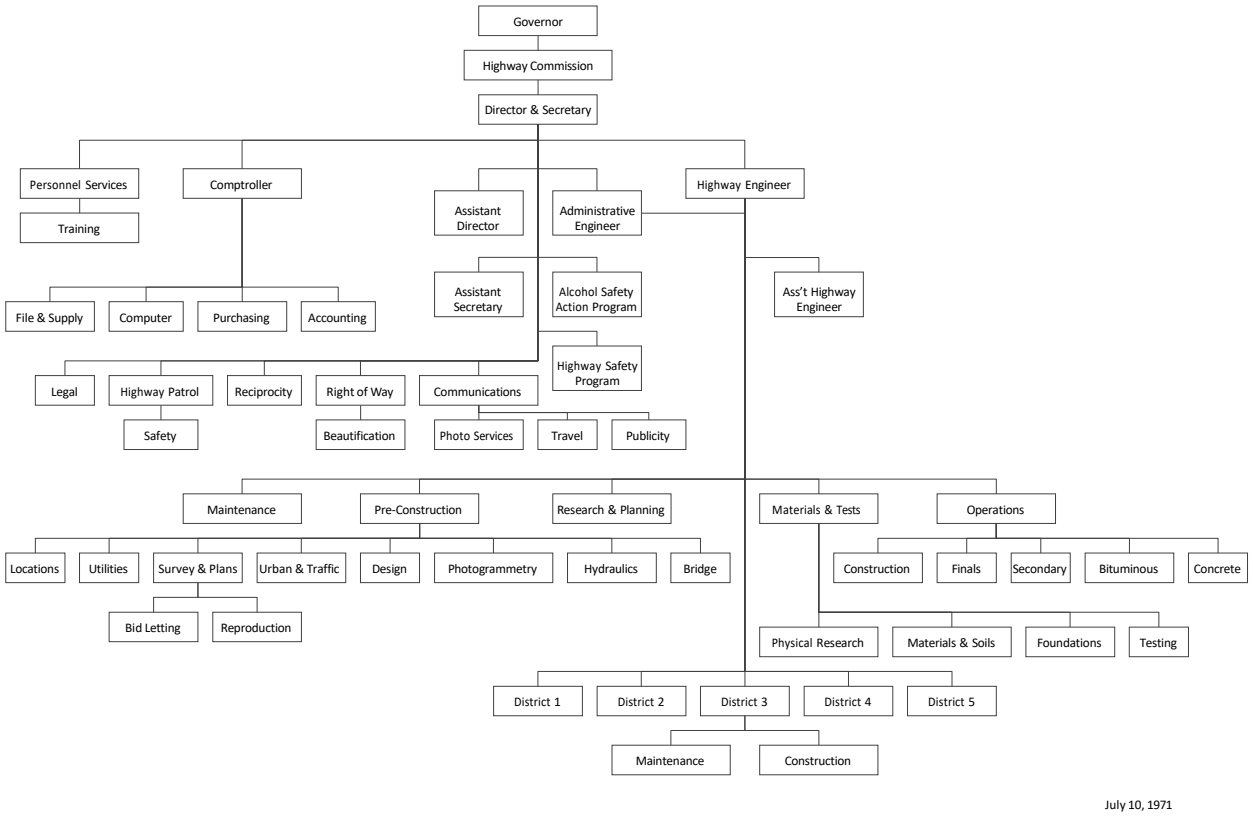

Figure 23: Organizational Chart for the South Dakota Department of Highways before Reorganization
(Annual Report SDDOH, 1971)

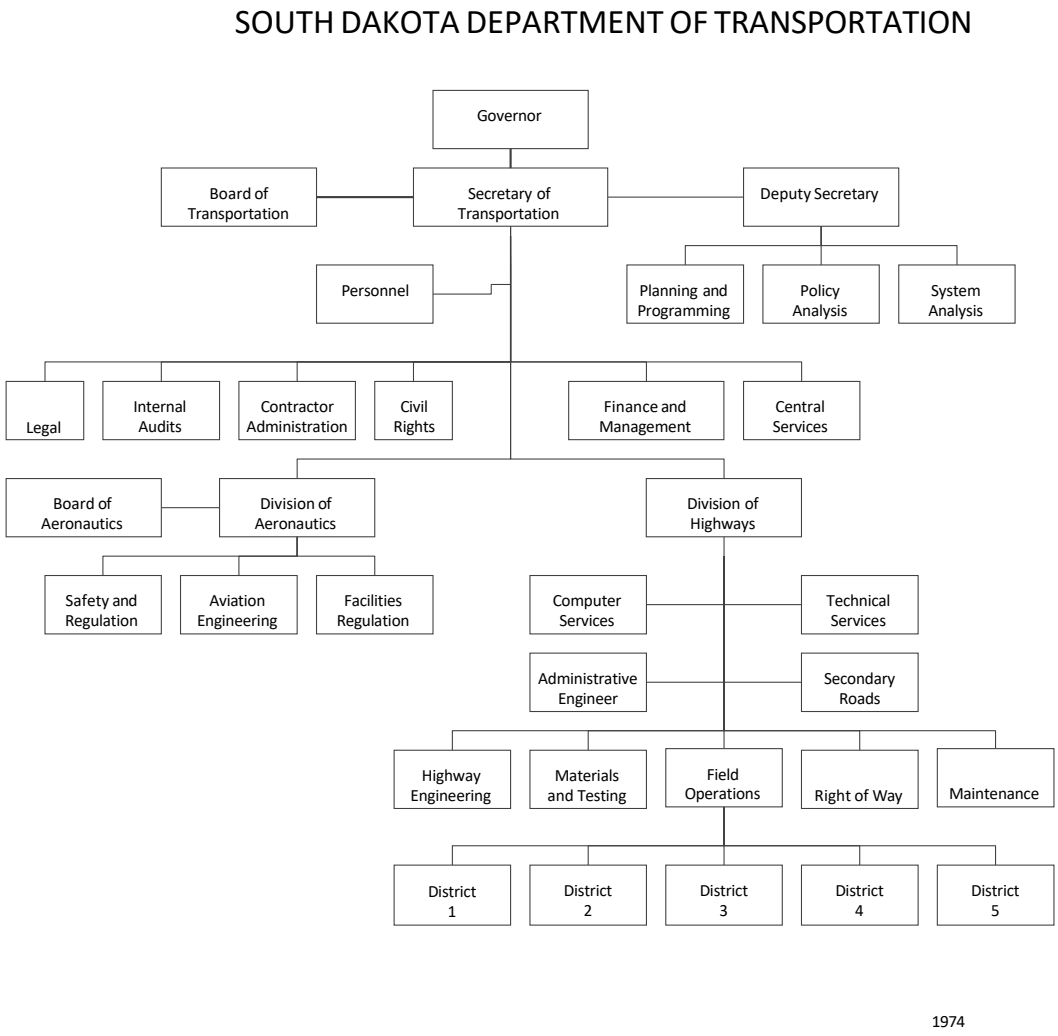

Figure 24: Organizational Chart for the South Dakota Department of Highways after Reorganization
(Annual Report SDDOH, 1974)

South Dakotans continued to feel the pain of inflation and of the oil embargo throughout the 1970s. The SDDOT was particularly vulnerable to fluctuations in oil prices, not only for its fleet of vehicles, but for the various surfacing products it used that were based on petrochemicals. The SDDOT emphasized energy conservation practices and sought ways to lessen the impact of inflation on the budget process.[740]

Historically, construction and maintenance of highways consumed approximately 85 percent of the DOT budget. Federal matching funds accounted for a "significant portion of these funds" with the remainder coming from "the motor fuel tax, vehicle registration and licensing fees." The DOT continued to receive 7/8s of the net motor fuel receipts with the counties taking the other 1/8th. The

[740] The Annual Reports for the period all reflect these concerns.

DOT received the entire initial registration fee placed on vehicles and netted 54.5% of the license plate fees collected. The remaining 45.5% went "to the counties, townships, cities, Motor Vehicle Administration and the license plate revolving fund."[741] Federal funds were reduced significantly in the late 1970s as Interstate construction entered its drawdown phase and, as always, new revenues and economies were needed to replace them.

Governor Kneip requested an opinion from the South Dakota Supreme Court in 1977 as to whether the State Bridge Authority could constitutionally sell bonds. The issue at hand was Article XI, Section Eight. This was the amendment that was approved in 1940 to prevent diversion of highway funds to the general fund or for the retirement of debts like the Soldiers Compensation Fund.[742]

The amendment stated that the proceeds from licenses, registration fees, or other charges "with respect to the operation of any motor vehicle upon any public highways in this state and the proceeds from the imposition of any excise tax on gasoline or other liquid motor fuel except costs of administration and except the tax imposed upon gasoline or other liquid motor fuel not used to propel a motor vehicle over or upon public highways of this state *shall be used exclusively for the maintenance, construction and supervision of highways and bridges of this state.*[743]

The S. D. Supreme Court observed that South Dakota's "constitutional provision is more specific and restrictive than most state constitutional provisions on highway funds which generally simply state that the funds must be used for highway purposes, and then specifically list payment of bonds as a highway purpose."[744] All but three states, including South Dakota, had amended their constitutions as a response to the Hayden-Cartwright Act, 48 Stat. 993, s 12, enacted in 1934 that designated federal highway construction funds be apportioned only to "states that use state motor vehicle registration fees, licenses, gasoline taxes, and other special taxes on motor-vehicle owners and operators 'for the construction, improvement, and maintenance of highways and administration expenses in connection therewith, including the retirement of bonds for the payment of which such revenues have been pledged, and for no other purposes.'"[745]

The court held that because "South Dakota did not choose to include the latter portion of this federal statute" and because "there is no provision in the constitutional amendment for the payment of bonding costs and interest," the Bridge Authority could not legally issue bonds because the cost of issuing them as well as the interest paid on them was not "used exclusively for the maintenance,

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[741] "Annual Report of the South Dakota Department of Transportation, 1979," p. 4.

[742] In re OPINION OF the SUPREME COURT RELATIVE TO the CONSTITUTIONALITY OF CHAPTER 239, SESSION LAWS OF 1977 (SDCL 31-4a), South Dakota Supreme Court, 257 N. W.2d 442, p. 1; see Chapter Two of this manuscript for a discussion of the diversion issue.

[743] South Dakota Codified Laws, Legislative Research Council, http://legis.state.sd.us/statutes/DisplayStatute.aspx?Type=Statute&Statute=0N-11-8. Accessed 131 October 2011. Emphasis added.

[744] 257 N. W.2d 442, p. 3.

[745] Ibid.

construction and supervision of highways and bridges of this state."[746] With reference to the specific bonding issue, they concluded "that the diversion of roughly thirty-seven percent of the first annual appropriation from the special highway fund for the payment of bond issuance costs and interest would be contrary to the clear intent of the people in enacting this amendment in 1940." The sale of revenue bonds to support South Dakota highways was not an option.[747]

The State Legislature increased the gasoline tax from nine cents a gallon to 12 cents per gallon in 1980 in order to help replace lost revenues. The SDDOT phased out maintenance shops in Keystone, Hermosa, Burke, and Kimball as a cost saving measure and implemented a departmental reorganization in 1980.[748] The department eliminated sixty-one positions, granted more autonomy to the five DOT highway districts, and cancelled leases on some rented space in Pierre. Officials anticipated $1.4 million in annual savings as a result of reorganization.[749]

Another important change occurred with regard to the distribution of revenues from the Motor Vehicle Registration fees, the 3% Vehicle Excise Tax paid in lieu of sales tax when a customer purchased a vehicle in South Dakota, and the Motor Fuel tax. As noted previously in this chapter, the SDDOT received seven-eighths of the net motor fuel receipts with the counties taking the other one-eighth. The DOT received the entire initial registration fee placed on vehicles and netted 54.5% of the license plate fees collected. The remaining 45.5% went "to the counties, townships, cities, Motor Vehicle Administration and the license plate revolving fund."[750]

In 1985, the Highway Users Conference, which is made up of agricultural groups, contractors, the State Chamber of Commerce, and a variety of other groups whose members use highways, proposed that the state should get all of the Motor Fuel tax and the Vehicle Excise tax and that local governments should get the Vehicle Registration fees. The Legislature passed legislation approving the change in 1985.[751]

Richard "Dick" Howard, former Secretary of Transportation, observed that although the change took effect on 1 July 1985 before his appointment, "as Secretary of Transportation I thought it was good public policy, and a good way to do it." Howard was born in Pierre in 1942, raised on a ranch 30 miles east of the capital, and, like so many other SDDOT personnel, graduated from the South Dakota School of Mines and Technology. He worked for Shell Oil before joining the US Environmental Protection Agency and later joining the staff of the South Dakota Department of Environmental Protection during the Kneip Administration. He eventually served as the director of the state's water pollution control program from 1975 to 1979.

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[746] Ibid.

[747] Ibid., p. 5.

[748] "Annual Report of the South Dakota State Department of Transportation, 1980," p. 3.

[749] Ibid., p. 4.

[750] Ibid.

[751] Richard Howard Interview, p. 30.

When Bill Janklow was elected governor in 1978, it was in part a result of his campaign promise to streamline government and eliminate waste. In order to deliver on those promises, he began to scrutinize state government operations immediately after his inauguration in January 1979. He appointed Howard Acting Secretary of the Department of Environmental Protection. Six weeks later, he abolished the department through executive order and combined it with the Department of Natural Resource Development to create the Department of Environment and Natural Resources. Howard was Deputy Secretary of the Department of Environment and Natural Resources until 1985.[752]

Janklow appointed Howard as Secretary of Transportation in October 1985, a role he would continue to fill until 1996. He has been a key figure in South Dakota transportation issues since his 10.5 years as Secretary of Transportation, including his subsequent time as Director of Intergovernmental Affairs for the SDDOT, and his role as a lobbyist for county commissioners and for the Township Association. [753] One of his principle concerns was, and remains, funding.

Howard observed that under the system of revenue sharing that existed before July 1985, if the state needed additional revenue and increased the Motor Fuel tax, the increase was automatically shared with the governments because they got one-eighth of it. "If they increased license plate fees," he continued, then "local governments got a share of that whether they actually needed it or not." It was also "easier to administer in that you weren't dividing up the funds."[754]

As a result of what SDDOT personnel now refer to as "the Great Compromise," local governments received an increase of approximately five million dollars a year and a like amount was subtracted from the State's share. To make up for the SDDOT's loss, the Legislature altered the application of the Motor Vehicle Excise tax to only new vehicles in 1985 to a 3% charge reflecting the trade differential on new and used vehicles when a trade took place. According to Howard, "that was supposed to bring in the 5.7 million dollars. Well it's brought in a lot more than that."[755]

It was also during the 1980s that David Huft, who as of 2012 was the Program Manager of Research and Intelligent Transportation Systems Coordinator, developed a technology that has become synonymous with innovation on the part of SDDOT personnel and with efficiencies. It was Huft who developed the South Dakota Road Profiler. The machine measures the elevation of the surface of the road so that engineers can determine the rutting and the smoothness while traveling at road speeds. The data is recorded and software then analyzed the data and provided a report. The old way of doing it with a level and crew was very time consuming and laborious.[756]

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[752] Ibid., pp. 5-6.

[753] See ibid., p. 7; p. 11; p. 32 for various job titles.

[754] Ibid., p. 31.

[755] Ibid. Howard observed that the excise tax brought approximately $54 million into the State highway fund in 2011. Howard to Huft, 25 October 2012.

[756] Larsen Interview, pp. 46-47.

Most of this work was done in 1981-82. Huft recalled that the SD Road Profiler was not the first automated profiling device. "General Motors," he noted, had invented one several years earlier, but the commercial version was prohibitively expensive. The availability of smaller and less expensive computers and less expensive sensors made a cheaper profiler possible. We actually designed and built much of the electric circuitry needed to interface the sensors to the computers, along with the software. The first states that adopted the technology also built them in-house, but commercial companies soon followed. The acoustic (Polaroid) sensors were later replaced with laser sensors, which are more accurate and became commercially available.[757]

Jim Myers credited Huft with the idea to "put the sensors out of Polaroid cameras on the front bumper of a vehicle so that we could drive the vehicle and monitor the road surface. And, you know, it was a remarkable thing and ultimately something similar has been adopted by a lot of other states."[758]

Wally Larsen remembered one state in particular that adopted the road profiler technology. "I remember," he said, "we took that over and demonstrated it in Minneapolis to the folks there.

They were trying to measure the roughness and the rutting on their road taking a shot every fifty-feet, but…doing it with a level and a crew of people and the traffic control, was terrible…And we come along with our Road Profiler, drive over the road at 55 miles an hour with the rest of the traffic, pulled the report out of the computer and hand it to them at the end. No notes, no nothing to do with. And they immediately built one, by the way.[759]

That application of technology made it easier to prioritize road repair and construction and to reduce the influence of politics on such decisions. Myers noted that Wally Larsen "did a remarkable job with planning based on input that he was getting from" the road profiler data.[760] This innovative machine is now used around the world, and it was the result of the idea of one dedicated SDDOT employee and the help he received from his peers.[761]

Politics, or at least political influence, did, however, occasionally enter into the prioritization of highway construction. Dick Howard recalled that Meyers himself was involved in such a situation when he was Bill Janklow's Chief of Operations for State Government. Howard remembered that the road between Sioux Falls and Brandon was "pretty crappy" when Governor Janklow purchased property adjacent to it during his first administration. "Myers," said Howard, "came over and said the

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[757] Email from David Huft to Steven Bucklin, 24 January 2012.

[758] James Myers Interview, p. 29.

[759] Larsen Interview, p. 46. Larsen discusses the technical details of the road profiler in the interview. His characterization of them is corroborated in a website that the Washington State DOT maintains (http://training.ce.washington.edu/wsdot/Modules/09_pavement_evaluation/09-2_body.htm) and at Pavement Interactive (http://pavementinteractive.org/index.php?title=Roughness). Accessed on 30 December 2011.

[760] Myers Interview, p.29.

[761] Larsen Interview, p. 48.

Governor wants that road between Sioux Falls and Brandon rebuilt NOW. So we figured out a way to get it amended into the construction program…[b]ut other than that I can't remember any other direct involvement of the Governor."[762]

Howard recalled only a few other instances in which politics played a role in determining highway priorities. Those included the origins of the non-interstate four-lane highways that would eventually connect Aberdeen and Huron to the Interstate System, and in Rapid City having nearly every downtown city street designated as part of the State Highway System. In each of these cases, construction or designation was the result of a Highway Commissioner being from each city. This occurred before the 1973 reorganization.[763]

The SDDOT phased out maintenance shop buildings at Groton, Hecla, Howard, Wessington Springs, Dupree, and New Underwood in 1981 as part of the general movement toward efficiency.[764] The Legislature increased the gas tax again, although this time only by a penny to 13 cents per gallon, but the increase was to be temporary and end in 1984.[765] In 1983, the central DOT office in Pierre reorganized "from a modal organization to a functional organization to avoid duplication and to decrease the administrative overhead."[766] It was clear the halcyon days of expansion during the Interstate Era were coming to an end.

What was also clear was that opportunists had sought to take advantage of the dollars flowing into the state. Not unlike the pools that had divvied-up the market for bridge construction back in the first decades of the development of a transportation system in South Dakota, certain construction firms sought to limit competition in their favor during the Interstate Era. Governor Janklow recalled that there were not that many construction companies in South Dakota during that period. There was a statute that stated if a company or individual were found to be "involved in bid rigging and things of that nature," it would be banned from doing business with the state and other government agencies within the state for a certain period of time.[767]

When Mark Meierhenry was Attorney General in South Dakota (1979-1986) and Janklow was governor, a wave of rigged highway bidding cases were heard. Janklow said that in order to keep highway construction from grinding to a standstill, he and Meierhenry "actually had to arrange how people pled guilty in a progression so they didn't all plead guilty at one time because we wouldn't have had any highway construction in South Dakota." The Governor and Attorney General "worked together with contractors and their lawyers so they could face their penalties for what they had done

[762] Howard Interview, p. 15.

[763] Ibid.

[764] "Annual Report of the South Dakota Department of Transportation, 1981," p. 4.

[765] Ibid., p. 5.

[766] "History of the South Dakota Department of Transportation," p. 3.

[767] Janklow Interview, p. 37.

years before…but by the same token, it wouldn't wipe out construction in one year in South Dakota. That's one of the things people don't know about that you end up dealing with."[768]

Meierhenry observed that "Bill's recollection is correct" with regard to the corruption cases. Senator John A. Blatnick (D-MN) was chairman of the U. S. House Public Works Committee from 1971 to 1974. He launched an investigation into allegations that several states engaged in wasteful and corrupt practices in connection with Federal highway aid. Meierhenry recalled that the United States Justice Department initiated a nationwide investigation "on highway construction anti-trust and bid rigging activities" and that the investigation came to the attention of South Dakota officials as a result of information gathered from investigations in other states. Janklow was Attorney General at the time and Meierhenry "took over about half way through the prosecution stage."[769]

"The bid rigging in South Dakota," according to Meierhenry, "had less to do with actual price than competition." The arrangements were essentially that if a job were in Company A's area, companies B and C would put in higher bids to ensure that Company A got the work and the favor would be reciprocated. "There was," said Meierhenry, "little evidence of serious price rigging, just work rigging. I always thought it showed that many of our rightwing contractors had a little socialism in the genes somewhere. The rigging in SD allowed a club of contractors to have work and retain good workers."[770]

The convictions were felonies and the penalties included jail, fines and debarment. Meierhenry stated that neither the federal or state prosecutors went for much jail time for the offenders. "The debarment," he observed, "was the biggest penalty the construction companies in South Dakota faced. Our thoughts, Bill and mine, [were] that if we debarred everyone, then the bastards from Minnesota and Nebraska would boost up the bids, costs DOT more money to build roads and take the money and jobs out of state."[771]

Meierhenry carried on the argument Janklow had with the Justice Department people when he was Attorney General to prevent any debarments, but the State had no leverage. The Attorney General's office conducted a study that indicated "the State suffered little or no damage due to the monetary side of the bid rigging. We looked at what jobs cost in other states and compared them. As I recall, we would have had a tough time showing damages—that is increased costs—in trials." Meierhenry arranged a meeting with each entity that was to be charged. They arrived with corporate and criminal lawyers. He "laid out the evidence against the company and individuals, said if there was resolution today, the company only would be charged with crimes." There would be a serious fine that would have to be paid in full at the time of the plea, as well as a period of debarment. Meierhenry staggered the debarments so that a highway firm would miss only one construction bid

[768] All quotes in this paragraph are from the Janklow Interview, p. 38.

[769] All quotes in this paragraph are from Mark Meierhenry to Steven Bucklin, email correspondence, 30 December 2011.

[770] All quotes in this paragraph from Meierhenry email to Bucklin, 30 December 2011.

[771] All quotes in this paragraph from Meierhenry email to Bucklin, 30 December 2011.

letting; if the firm was a bridge builder, then there would be a period during which it would be barred from submitting bids. He worked with the SDDOT to ensure that competition existed between South Dakota companies during the period of debarments.[772]

According to Meierhenry, only one contractor—Gustafson Construction of Sioux Falls—"told the State to shove it." That firm "paid a very stiff price in money, reputation and lost work." Meierhenry concluded that much of Governor Janklow's "best work was done behind closed doors with a high level of intelligence and practicality." He also commented on Janklow's work ethic: "Bill handled these cases himself. In almost every other state, no elected Attorney General would personally handle this type of case nor actually try cases."[773]

By 1981, there were only 22 miles of unopened Interstate in South Dakota.[774] South Dakota was the fifth state to complete its portion of the Interstate when Interstate 29 was finished in October of 1983.[775] The impact of the new highways was dramatic, but it had taken years to complete them. Historian Tom Lewis put it into perspective:

It took forty years—not thirteen as specified by the legislation President Eisenhower signed in 1956—to build the Interstate Highway System. In that period the Soviet Union launched the first artificial satellite and humans walked on the moon; the federal government extended civil rights to all Americans and a civil rights leader who held the Nobel Prize for peace was slain; two new states, Alaska and Hawaii, entered the Union; the population of the nation rose from 165 million to 250 million; the United States fought two wars…and the number of professional baseball teams increased from sixteen to twenty-six, most playing in new ballparks accessible only by car and Interstate."[776]

South Dakota reflected the two dynamics that drove the construction of the Interstate Highway System. From a military standpoint, South Dakota's mission in national defense was much more efficient. Air Force personnel benefitted directly from the close proximity of I-90 to Ellsworth Air Force Base and the outlying missile fields. South Dakota National Guard personnel found it much easier to reach Camp Rapid for Annual Training missions. The same held true for the South Dakota Air National Guard's installation in Sioux Falls. Transportation time to important state missions like the recovery efforts following the 1972 Rapid City Flood was reduced, even though I-90 was not yet complete.

From the economic perspective, the flow of tourist dollars that came with the thousands more visitors who now visited the Badlands, the Black Hills, Big Stone Lake, and the other attractions along the routes brought new tax revenue. Farmers could bring their crops and livestock to market in much

[772] All quotes in this paragraph from Meierhenry email to Bucklin, 30 December 2011.

[773] All quotes in this paragraph from Meierhenry email to Bucklin, 30 December 2011.

[774] "Annual Report of the South Dakota Department of Transportation, 1981," p. 1.

[775] "History of the South Dakota Department of Transportation," p. 3.

[776] Lewis, p. xi.

shorter time, thus reducing stress on the animals and the crops alike. Cities along the Interstate like Sioux Falls, Rapid City, Watertown, Brookings, Mitchell, and Chamberlain grew, and there was a sense that just as a rising tide lifts all ships, the Interstate would bring growth to all the communities adjacent to it.[777]

That was not necessarily the case. As Bill Janklow noted:

> Go look at White Lake, South Dakota. Go look at…Draper. Go look at Belvedere. Go look at Okaton. Mt. Vernon. White Lake, Kimball, a whole host of communities. And I'm not being critical of them. They are nice places, but the fact they got an Interstate highway going by 'em certainly didn't help them grow. They're decreasing at the same rate as communities that don't have an Interstate by them…Highways don't make communities. Highways can help economically, but they don't make a community.[778]

Still, few would argue that the Interstate was not a huge boon to the state when examining the big picture. The employees of the SDDOH and later the SDDOT had demonstrated ingenuity, perseverance, and professionalism in building their share of the Interstate Highway System. Their department grew significantly, not only in terms of the number of people employed, but in terms of the growth of new technology that aided them in achieving their mission of providing South Dakotans "a safe, efficient and effective transportation system."[779]

[777] See Bernie Hunhoff, "When the Highway Came to Elk Point: How Eisenhower's interstate program changed South Dakota," *South Dakota Magazine,* July/August 2011, for the impact Interstate 29 had on one South Dakota community.

[778] Janklow Interview, p. 27.

[779] South Dakota Department of Transportation "Fact Book 2009," p. 6.

CHAPTER 6 MODERN AVIATION, 1946 TO THE PRESENT

South Dakotans who were tuned into a National Broadcasting Corporation (NBC) affiliate radio station in 1946 might remember hearing the by-line: "From out of the clear blue western sky comes Sky King." "Sky" King was a fictional hero based on the real-life escapades of Jack Cone, the "Flying Constable of Twenty-nine Palms" during the 1930s. The plots were predictable in that the episodes were essentially westerns, but they were set in the 1940s and 1950s and the hero piloted a plane, not a horse. His opponents were more likely to be spies rather than horse thieves, a fact that reflected the Cold War mentality that swept the nation in the post World War II era. The show featured "premiums" through which a listener or, after 1952, a television viewer could get the "Sky King Spy-Detecto Writer" to enable young sleuths to capture spies in their own neighborhood! The series was especially popular with youthful viewers like American astronaut Scott Altman, who "dreamed of being a pilot from the time he was 3 years old after watching TV reruns of Sky King."[780]

That many rural South Dakotans were enamored of flying was reflected in the creation of the South Dakota Flying Farmers and Ranchers (SDFFAR) organization that same year. The members promoted the airplane as a means of breaking the isolation of the Northern Plains and its residents. After receiving their charter from the International Flying Farmers organization later in 1946, the South Dakota Chapter began to conduct "fly-ins" at various locations across the state and even sponsored the 1963 International Flying Farmers convention in Rapid City "with 350 planes and 1,200 people in attendance.[781]

The SDFFAR "provided felt patches for clothing and decals for planes" to promote a sense of membership and member numbers grew rapidly. In 1951, they began the practice of crowning a state queen. Dorothy Woodward from Long Valley was the first such "royal." Norma Kraemer wrote in *South Dakota's First Century of Flight* that Woodward "flew her Stinson Stationwagon to the National Convention in Fort Worth, Texas, that year and was also elected South Dakota state president."

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[780] See "History," Sky King Home Page, http://www.skyking.com/ for information on the show. See "Astronauts and Their Support Teams," National Aeronautics and Space Administration, http://www.nasa.gov/50th/50th_magazine/astronauts.html for a specific example of the show's influence. Accessed 12 September 2011.

[781] Norma Kraemer, *Images of Aviation: South Dakota's First Century of Flight,* p. 112. See also *Aero News,* Vol. III, No. 3, September 1963, p. 2. Box 7302A.

Figure 25: Dorothy Woodard, the first Flying Farmers Queen and head of the SDFF&R '51-'52, taken in 1952

Women like Woodward continued to promote aviation in the state and in the nation, although it would be a long time before they entered the world of commercial pilots. Joy Geide Hohn piloted a Beech 1900 for Great Lakes Airlines in 1991. She had been a member of the South Dakota Flying Farmers and Ranchers and earned her pilot's license as a teenager.[782] More typical of women in aviation were the careers of many stewardesses (now Flight Attendants). They were required to be single, young and attractive and work long hours for little pay. Western Air Lines experienced an annual stewardess turnover rate of 40 per cent for decades. The rate leveled off to about 18 per cent when the company removed "the ban against marriage as a requirement of continued employment."[783]

William Piper of Piper Aircraft flew his Tri-Pacer to the SDFFAR state convention in Spearfish in 1951 and was made a life member. That same year, the South Dakota State Fair Board invited the organization to conduct a fly-in" at Huron.[784] The South Dakota Aeronautics Commission (SDAC), in

[782] Kraemer, p. 123.

[783] *Aero News,* Vol. Vii, No. 2, February 1969, p. 7. Box 7302A.

[784] Kraemer, pp. 112-113.

conjunction with the SDFFAR, hosted a booth at the State Fair that year as well.[785] In addition, each of the five state districts hosted a fly-in that year.[786]

The organization lobbied the SDAC "to produce a state aeronautical chart showing farm runways. The Commission complied and produced a map in 1953 that included farm airstrips and cost 50 cents. Today all South Dakota pilots receive a color map as part of their annual aircraft registration. The SDFFAR chapter merged with North Dakota's and Minnesota's in 2005 after years of declining membership. The group is now called the Minnkota Chapter.[787]

Nothing quite caught the public's attention in the late 1940s with regard to issues of flying, though, like the reports that an Unidentified Flying Object (UFO) had crashed in Roswell, New Mexico, in 1947. That incident gave pause to the military. South Dakota's Adjutant General, Theodore Arndt, came to believe that the search for UFOs was a means of attracting attention to the South Dakota Air National Guard (SDANG). He wanted the SDANG to be the first outfit to get a plane that could chase UFOs. Arndt instructed Joe Foss, who was the head of South Dakota's 175th Fighter Squadron, to pursue the issue.[788]

In part a response to the potential alien violation of American airspace, but more so due to Cold War concerns, Congress passed the National Security Act of 1947. That act allowed for the creation of an independent United States Air Force (USAF) as a separate branch of the United States military. Subsequently, a movement began to include the Civilian Air Patrol (CAP) under the aegis of the USAF. Those efforts culminated when the 80th Congress, often referred to as the "do nothing" Congress, passed Public Law 557. That law made the CAP a "permanent civilian auxiliary of the Air Force."[789]

The reports of the SDAC reflected the continued popularity of private as well as commercial flying in the years following World War II. In 1947, the SDAC sponsored the Air Age Education Program in cooperation with the Department of Public Instruction. Together, they produced an "Air Age Education" bulletin. Lillian Schaefer, the State Supervisor of Elementary Education and A. A. Thompson, the State Supervisor of Secondary Education distributed eight thousand pamphlets in SD schools. An Air Education workshop was then held at USD from 9-13 June 1947 to promote the program.[790] By 1961, USD offered a Special Minor in Aviation that carried 12 hours of credit and was taken as a "free-elective" minor.[791]

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[785] "Annual Report of the South Dakota Aeronautics Commission to the Governor of South Dakota, 1952-1953," p. 1. The South Dakota Aeronautics Commission will hereafter be referred to as the SDAC.

[786] Kraemer, p. 113.

[787] Ibid.

[788] Steven J. Bucklin, *From Cold War to Gulf War: The South Dakota National Guard, 1945 to the Millennium* (Sioux Falls, SD: Coyote history, 2004), pp. 21-22.

[789] Ibid, p. 22.

[790] "Report of the SDAC, July 1, 1946, to December 31, 1947," p. 7. Box 7302A.

[791] *Aero News,* Vol. I, No. 1, November 1961, p. 8. Box 7302A.

Jack Robinson, Chief, Special Services for the SDAC, conducted a full day seminar in Brookings for Brookings County Teachers Institute focused on "the various phases of Aerospace Education" in 1962.[792] The SDAC was also interested in educating the public about the missile development that was taking place in the state. The back cover illustration of a 1962 edition of their publication *Aero News* noted that the unit cost of a major missile system dropped six per cent during the last year.[793]

The South Dakota School of Mines and Technology also promoted aviation. The South Dakota Board of Regents created an Institute for Atmospheric Sciences to research weather modification through cloud seeding in 1959.[794] By 1965, Congressman E. Y. Berry and Senator Karl Mundt obtained federal funding to support the research under the Bureau of Reclamation's "Project Skywater."[795] South Dakota educators were actively involved in promoting "Air and Space" to an interested public.

The SDAC commissioners continued to take pride in the fact that when the State Legislature passed the 1935 legislation adopting a uniform aeronautics law, only 11 other states had such laws. As of 1947, all but one of the 48 states had such a law, and California was the 47th to do so.[796] South Dakota had been among the leaders in regulating aviation.

The Legislature approved a rebate on the gas tax for large quantity users that went into effect on 1 July 1947. The SDAC opposed this because only the airlines benefitted from the rebate and the airports that served them were 20 times more expensive than those private pilots used. They believed the rebate should either be across the board or not allowed.[797]

By 1962, there was a four-cent tax on aviation fuel. Wholesalers were allowed .0018 cents of that tax per gallon for collecting the tax after which .0382 cents per gallon then went to the Aeronautics Fund, which the SDAC administered.[798] Only purchasers of 50,000 gallons or more of aviation fuel were eligible for a refund of a penny-per-gallon for 50-100,000 gallons and two-cents per gallon for over 100,000 gallons per calendar year. This meant only the airlines were eligible for refunds.[799]

Due to the nature of CAB regulations, the airlines had little competition and were in a position to essentially blackmail states like South Dakota with threats to withdraw service if their demands were not met. By 1949, there were only three scheduled interstate carriers serving the state: Mid-Continent, Western-Inland, and Northwest.[800] A fourth carrier—Mid-West Airlines—began

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[792] *Aero News,* Vol. II, No. 3, May 1962, p. 5. Box 7302A.

[793] August 2011. *Aero News,* Vol. II, No. 4, August 1962, p. 6. Box 7302A.

[794] "The Institute of Atmospheric Sciences at South Dakota School of Mines and Technology: Celebrating 50 years of Success," http://www.ias.sdsmt.edu/Publications/IAS-50yrs-protected.pdf, p. iii.

[795] Kraemer, pp. 103-104.

[796] "Annual Report of the SDAC, 1947," p. 1.

[797] Ibid., p. 9.

[798] *Aero News,* Vol. II, No. 4, August 1962, p. 2. Box 7302A.

[799] "Biennial Report of the Aeronautics Commission for the Period Ending June 30, 1966, 1965-1966, p. 21." Box 7302A.

[800] "Annual Report of the SDAC to the Governor of South Dakota, 1948-1949," p. 8. Box 7302A.

operations in South Dakota in November 1950.[801] By 1952, though, Western Airlines and Braniff Airways were the only carriers. Braniff bought out Mid-Continent.[802] By the end of the 1950s, carriers included Braniff, Frontier, North Central, and Western Airlines.[803]

Western Airlines provided regular, scheduled service to Brookings, Huron, Pierre, Rapid City, Spearfish, and Hot Springs. Braniff served Sioux Falls, Mitchell, Huron, Watertown, and Aberdeen. The Commission opposed Braniff's request to the Civil Aeronautics Board to suspend its service north of Sioux Falls within South Dakota in 1952 and Western's request to suspend service to Black Hills Airport at Spearfish. Western received approval from the CAB in Washington, D.C., to extend service from the Twin Cities to Los Angeles with stops at Huron, Pierre, and Rapid City. The airline assigned the high-speed Convair aircraft to the route.[804]

By 1961, Western Air Lines, which hauled both passengers and cargo, carried 47, 594 passengers, a 6.8% increase over 1960. In terms of tonnage, it experienced a 64.2% increase in 1961 over 1960 volume.[805] In 1963, Ozark began carrying in South Dakota along with Braniff, Frontier, North Central and Western.[806] Braniff served Sioux Falls; Frontier served Rapid City; North Central served Aberdeen, Watertown, Brookings, Huron, Mitchell, Sioux Falls, Pierre, Rapid City, and Yankton; Ozark served Sioux Falls; and Western served Pierre, Sioux Falls, and Rapid City.[807] As an example of monthly volume, Frontier Airlines had 888 passengers leave Rapid City in October 1962, a 4% increase over the same month in 1961.[808]

The number of passengers originating in South Dakota grew along with airline service. In 1951 there were 39,908 such passengers; in 1953, there were 44,953; in 1956 there were 61,753; in 1958 there were 69,319; in 1961 there were 113,186; in 1963 there were 142,043; in 1964 there were 153,570; and by 1965 there were 178,900.[809]

A further breakdown of the number of originating passengers in 1965 reveals that 88,754 boarded in Sioux Falls; 45,015 did so in Rapid City. The next highest number of passengers began their journey in Pierre at 13,492. Nearly seventy-five percent—133,769 of the 178,900—of all

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[801] "Annual Report of the SDAC to the Governor of South Dakota, 1949-1950," p. 5. Box 7302A.

[802] "Annual Report of the SDAC to the Governor of South Dakota, 1951-1952," p. 5. Box 7302A.

[803] "State of South Dakota: Annual Report of the SDAC, June 30, 1959," p. 10. Box 7302A.

[804] "Annual Report of the SDAC to the Governor of South Dakota, 1952-1953," p. 5. Box 7302A.

[805] *Aero News,* Vol. II, No. 3, May 1962, p. 7. Box 7302A.

[806] "State of South Dakota: Annual Report of the SDAC, June 30, 1964, 1963-1964," p. 9. Box 7302A.

[807] "Biennial Report of the SDAC for the Period Ending June 30, 1966, 1965-1966," p. 8. Box 7302A. Western Air Lines terminated service in Huron on 5 January 1965. See "Biennial Report of the Aeronautics Commission for the Period Ending June 30, 1966, 1965-1966," p. 9. Box 7302A.

[808] *Aero News,* Vol. II, No. 6, December 1962, pp. 5. Box 7302A. The fact that opening day of pheasant season is in October may skew this figure, but Rapid City is not the primary destination of pheasant hunters.

[809] "State of South Dakota: Annual Report of the SDAC for the Year Ending June 30, 1962," p. 9. Box 7302A; "Biennial Report of the SDAC, June 30, 1966, 1965-1966," p. 8." Box 7302A.

passengers originating in South Dakota did so in just two cities.[810] These numbers help explain why so many airlines did not want to provide service to outlying communities and why the federal government passed legislation to limit the obvious result of a laissez faire approach to airline service: no service for rural or small communities.

The Commission authorized the Executive Secretary to hire a Civil Engineer to be Chief Airport Engineer at the 15 December 1947 meeting.[811] There were 76 airports in South Dakota at the time of the report.[812] The Commission consisted of three members that the governor appointed for four-year terms. By 1960, commissioners served five-year terms. In some instances, men like Commissioner Leonard Thompson of Lake Preston, served for over a decade.[813]

The members selected a chairman in July of each year. They also appointed a full-time salaried secretary, subject to the governor's approval and to removal without cause, for a two-year term. In turn, he could employ other workers to fill posts that the commission approved.[814]

The Commissioners' report certainly caught Governor George T. Mickelson's eye in 1949 when they misspelled his name as "Michelson," although it does not appear any heads rolled as a result. Much of the report was devoted to specific legislation the SDAC supported that was directed at defining its purview and powers and defining the role of individual officers of the Commission.[815]

The Commission also suggested that to "give the airplane more utility all communities, large or small, must have an airport or landing field. Airport facilities at the small towns serve a purpose similar to the secondary highway system, which acts as a feeder to the trunk highways."[816] Rather than the proverbial "chicken in every pot," it was now "An airport in every city"!

Support for that idea was significant if the construction of new airports is the benchmark. Dupree, Faulkton, Harold, and Wasta had New Class I Airports completed by 1953. Upgrades were underway at Pierre, Watertown, and Yankton. Beacon and tower installation was completed at Britton, Brookings, Buffalo, Faith, Lemmon, Miller, Mitchell, Mobridge, Sisseton, Spearfish, Wagner, Webster, Winner, and Yankton. Still other projects were at various stages of completion in Aberdeen, Bowdle, Hayes, Miller, McIntosh, Brookings, Herreid, Huron, and Rapid City.[817] Nonetheless, there

[810] Biennial Report of the SDAC, June 30, 1966, 1965-1966, p. 9." Box 7302A.

[811] "Annual Report of the SDAC, 1947," p. 3.

[812] Ibid., p. 10-11.

[813] *Aero News,* Vol. II, No. 4, August 1962, p. 2.

[814] "Annual Report of the SDAC, 1948-1949." Introduction, no page number. Box 7302A.

[815] Ibid., pp. 1-3. Box 7302A.

[816] "Annual Report of the SDAC, 1948-1949," p. 11. Box 7302A.

[817] "Annual Report of the SDAC, 1952-1953," p. 7-8. Box 7302A.

were five fewer public use airports (71) ten years later.[818] By 1961, there were 863 registered aircraft and 1331 registered pilots in South Dakota who used those facilities.[819]

George Hunter chaired the commission coming into the 1950s. Harold Markey was vice-Chair. Duane Corning, Curtis Mateer, and Leonard Thompson were commissioners. L. V. Hanson served as director. Corning's presence on the Commission was a natural fit given his role in the S. D. Air National Guard and his long-standing friendship with Joe Foss, who was elected governor in 1954. The introduction to the report indicates the membership was increased from three to five and their per diem was raised from $7.50 to $10. As of 1949, the Governor changed the title from "Secretary of the South Dakota Aeronautics Commission" to "Director of Aeronautics of the State of South Dakota."[820]

This is also the first report that refers specifically to a commission-owned aircraft rather than "state-owned" aircraft. The commission traded in a Stinson NC 171C on a Ryan "Navion" N 4969K. Both planes were flown for a combined total of 304 hours, 86 hours of which were used transporting the governor or members of other departments.[821]

Fifteen years later, in 1964, the Commission owned three aircraft: a Model H Bonanza, a Twin Bonanza D50C, and a Piper Super Cub. In 1964-65, flight time was 155 hours for the Model H, 264 hours for the Twin Bonanza, and 37 hours for the Super Cub. In 1965-1966 the hours were 243, 332, and 140 respectively.[822] By the end of the decade, the Commission traded in the Piper Super Cub and the Model H Bonanza on a Beechcraft Baron B55 in July 1969. They flew it 467 hours and the Twin Bonanza 569 hours that year.[823]

The number of state-owned aircraft and how they are used has been an issue in news coverage of state government for decades and continues to be raised in such venues today. State Senator Gene Abdallah sought an answer to the question in 2009 from the Legislative Research Council, and he was challenged as to why he wanted to know.[824]

The Commission recommended in 1959 that the governor seek legislative approval to establish a Division of Air Transportation to serve the Governor and other State Departments. They pushed for the purchase of an additional airplane and an appropriation for a pilot.[825] By that time, the Commission owned a Beechcraft Bonanza Model H and a Piper Super Cub, but they were insufficient

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[818] "Annual Report of the SDAC for the Year Ending June 30, 1961," p. 20. Box 7302A.

[819] Ibid., p. 11. Box 7302A.

[820] "Annual Report of the SDAC, 1949-1950." Introduction, no page number. Box 7302A.

[821] Ibid., p. 6. Box 7302A.

[822] "Biennial Report of the SDAC, 1965-1966," pp. 7-8." Box 7302A.

[823] "Biennial Report of the SDAC for the Period July 1, 1968 Through June 30, 1970," p. 4. Box 7302A.

[824] Argus Leader, "State plane info sparks clash," January 18, 2009, as found at http://sunshinereview.org/index.php/State_plane_info_sparks_clash. Accessed 2 October 2011.

[825] "Annual Report of the SDAC, June 30, 1959," pp. 5-6. Box 7302A.

to meet the demands from other departments for air travel.[826] There were 70 public use airports and there were many members of state government who found business in nearly all the communities those airports served.[827] Two years later, the Commission had four aircraft. The Governor's office used the aircraft 35% of the time, the Commission 49%, and other departments of state government 16% of the time.[828]

Appropriations for the SDAC reached $87,370 in 1950, with $17,220 of that designated for salaries and wages. The SDAC took in nearly $60,000 in fuel tax receipts in FY 1949/50.[829] Twenty-years later, fuel tax revenues had grown slowly to just $75,465.04.[830]

By way of comparison, wages and salaries at the South Dakota Highway Commission for the year ending 30 June 1951 totaled $180,415.45.[831] Those funds, and the SDAC, served the 1,017 licensed pilots and 762 registered aircraft in the state as of the end of FY 1951/52.[832]

There was little change in the membership of the SDAC in the first half of the 1950s. Sigurd Anderson kept the commission membership the same upon being sworn in as governor. The Commission continued to emphasize on "Air Age Education" to attract a younger cohort of pilots. There were 15 airport construction projects underway or completed from 1950-1951.[833] The commission members met on the first Tuesday of each month and were not paid, but they were "reimbursed for actual and necessary travel expenses and disbursements incurred by them in the discharge of their Official duties."[834]

Commission representatives attended a Civil Defense workshop at Ft. Snelling, MN, to "indoctrinate" them with regard to the Security Control of Air Traffic and Air Navigation Aids (SCATANA) during times of National Emergency. Civil Defense appears as an independent category in the annual reports of the SDAC as of 1952/1953.[835]

Air Age Education programs and workshops continued, too, as not only a means to spark interest among the state's young people, but certainly as a way to encourage the public to be aware of national security interests. One was held in Spearfish 15-20 June 1953.[836] The Commission established a film library to loan materials to schools and other interested parties. Titles included

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[826] Ibid., p. 7. Box 7302A.

[827] Ibid., pp. 22-23. Box 7302A.

[828] "Annual Report of the SDAC for the Year Ending June 30, 1961," p. 6. Box 7302A.

[829] "Annual Report of the SDAC, 1949-1950," pp. 13-14. Box 7302A.

[830] "Biennial Report of the SDAC for the Period July 1, 1968 Through June 30, 1970," p. 11. Box 7302A.

[831] "Annual Report of the SDSHC for the Year Ending 30 June 1951," p. 31.

[832] "Annual Report of the SDAC to the Governor of South Dakota, 1951-1952," p. 2. Box 7302A.

[833] "Annual Report of the SDAC, 1950-1951," pp. 6-7. Box 7302A.

[834] "Annual Report of the SDAC, 1952-1953," p. ii. Box 7302A.

[835] Ibid., p. 2. Box 7302A.

[836] Ibid., p. 3-4. Box 7302A.

"Airplanes Make Markets," "Air Age," "Wings for Roger Windsock," and "Flying Business Man." There were 170 showings to a total audience of 5871 during FY 1953/1954.[837]

The SDAC disbursed $31,801.78 during FY 1952/1953 for office and salary expenses. That left $4,522.22 to revert to the Treasury. The Construction Emergency Airport Fund began with $41,385.43, but because the SDAC took in receipts in the form of federal and city warrants, that total increased to $92,220.99 of which the Commission disbursed $60,419.98. The Gas Tax Fund totaled $211,397.98 with $103,115.26 in disbursements. The balance on hand as of 30 June 1953 was $108,282.72.[838] Commission Chair George R. Hunter, of Deadwood, Vice Chair Harold Markey of Huron, Commissioner Duane L. Corning of Sioux Falls, Commissioner Curtis Mateer of Pierre, Commissioner Leonard Thompson of Lake Preston, Director Lyndon. V. Hanson of Pierre, and Governor Sigurd Anderson, were overseeing a thriving, though still small, arm of the state's transportation network.[839]

President Dwight D. Eisenhower was also overseeing a significant expansion of the United States Air Force (USAF) during his first administration. Eisenhower brought the "New Look" policy to the U.S military that emphasized the principle of "more bang for the buck," a principle that encouraged reliance on the USAF. This meant that the number of military flights in the U. S. increased dramatically, as did restricted military air space. This made it imperative that the federal government be aware of commercial and private flight plans.

The SDANG flew two SDAC employees and "key personnel representing the Civil Air Patrol, Airport Operators Association, Airport Managers, Flying Farmers and Civil Aeronautics Administration to Great Falls Air Force Base in Montana" for a meeting focused on the seriousness of unscheduled civilian flights, or flights without flight plans, that were serious violations of the Air Defense Identification Zones protocols.[840] Ten years later, the SDAC continued to bring the problem of private pilots flying into military air space and the potential for such actions to lead to shoot downs to the attention of the flying public.[841]

There was least one man in state government who knew aviation issues as well as anyone else. Joe Foss was elected to the State Legislature and served two terms. He had, to say the least, an interesting perspective on what it took to be a politician.

He readily admitted he knew little about government before he was elected to the State House. "As soon as I was elected," he observed in a 1991 interview, "I started studying about it." He wanted

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[837] "Annual Report of the SDAC, 1953-1954," p. 16. Box 7302A.

[838] "Annual Report of the SDAC, 1952-1953," pp. 9-11. Box 7302A.

[839] Ibid., p. i. Box 7302A.

[840] "Annual Report of the SDAC, 1953-1954," p. 9. Box 7302A.

[841] *Aero News,* Vol. II, No. 2, March 1962, p. 3. Box 7302A.

to “know something about the issues” before he went to Pierre. He consulted with a variety of people, including Pierce McDowell, John Griffin, and Tom Reardon, all of Sioux Falls.[842]

A senior senator advised him not to introduce any new bills and not to give a lot of speeches, but to “shut up, and listen." He followed that advice. Foss said he “always listened to all sides of every question that came up. I never made any commitments. I made no “behind the scenes" deal and I figured out if I stayed in politics that was the way it was going to be. The same senator advised Foss “to never get obligated to anyone” and Foss recalled, “I never did.”[843]

When he was later asked to run for governor, Foss recalled thinking “that wouldn't be a bad job” so one day he “just called up the paper and told them that I was running for Governor.” He got all sorts of calls telling him "You can't just run out and announce that you are running for Governor. What you have to do is be Speaker of the House, all this and that, and you have to have your own organization and have to raise money." Foss said he told them he did not want “to ever be Speaker of the House. I am not that good a speaker, but I think I understand government enough to be Governor."[844]

The election of Joe Foss as governor meant that a pilot was in office. Foss promoted aviation. After World War II, he and his partner, Duane “Duke” Corning established Foss Flying Service. In telling the story, Foss recalled that they needed a loan. They arranged a meeting with the president of Norwest Bank in Sioux Falls and told him they needed money for their business, which included airplane sales, a pilot training school, a maintenance shop, a charter service, and commercial agricultural spraying. They wanted $75,000.

The president of the bank asked what security they had for such a loan and either Foss or Corning replied: “Our face!" It was clear they meant Foss’s face, as it was nationally known. Corning then recited something from a class the two of them had taken at Sioux Falls College about business and banking. “The next day,” said Foss, “the phone rang. We had a phone between the two of us. We invested in one and rented this old building. And by golly, they called up and said our loan has been granted and that is how we got started.” They paid off the loan in two years, which was one year ahead of schedule.[845]

Foss’ two terms as governor spanned the years 1955-1959. From a local perspective, that meant he was governor when, on 7 March 1955, South Dakotans first heard the voice-over: “One man in each century is given the power to control time. The man chosen to receive this power is carefully selected. He must be kind. He must be fair. He must be brave. You have fulfilled these requirements;

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[842] Interview with Brigadier General Joseph J. Foss (Retired), 7 January 1991. South Dakota Air National Guard. Robert Ellingson, interviewer.

[843] Ibid.

[844] Ibid.

[845] Ibid.

and, we of the Outer Galaxies designate to you the wisdom of Solomon and the strength of Atlas. You are Captain 11!"

The voice belonged to KELO-TV anchorman Leo Hartig. The introduction was for "The Captain 11 Show." Dave Dedrick played the Captain, decked out in a captain's suit on a set that are both now housed in the Cultural Heritage Center in Pierre. The audience was primarily children and the character of Captain 11 encouraged them to take an interest in aviation as well as cartoons. Dedrick donned his captain's gear to welcome the first jet pack demonstration held at Lewis Drug Southgate in Sioux Falls in the late 1960s.[846]

Foss was also in office when the Soviet Union successfully launched the first man-made Earth orbiting satellite in October 1957. That event had a dramatic impact on aviation in the U.S. Not only did *Sputnik* prompt legislation like the National Aeronautics and Space Act on 29 July 1958 and the National Defense Education Act on 2 September 1958, the Soviet spacecraft also increased a sense of paranoia among Americans that their technology had fallen behind that of a dangerous enemy. Fears of a "missile gap," of imminent nuclear attack, and the growing need for civil defense measures, including "duck –and-cover" drills, filled American minds.

Figure 26: "Kolonel Keds" of Bell Systems and his jet pack performance at Lewis Southgate in Sioux Falls, with Dave Dedrick as Captain 11 in the foreground
(Photo courtesy of Lewis Drug stores)

[846] Sources for information on Dave Dedrick include his memoir *It Ain't All Cartoons: Memoirs of the Captain* (East Eagle Press, 1989) and my personal memories as a friend of the Dedrick children, Dana and Dawn "Sunshine" Dedrick.

The reports and publications of the SDAC reflected the post-*Sputnik* concerns. "Air Age Education" programming became the "Air and Space Education" programming.[847] More substantively, the publication *Aero News* became a vehicle to alert its readers to national defense issues. The September 1961 issue reported "All Civil aircraft will be grounded from 1700Z (11:00 A.M. CST) to 0500Z (11:00 P.M. CST) on October 14, 1961. The Strategic Air Command and North American Air Defense will conduct a defense test during the 12-hour period against air attack. Remember," it warned its readers, "October 14 all General Aviation aircraft will be grounded."[848]

The Director's comments in the same issue reflected the fact that nuclear war was a constant fear. They also reflect that the federal as well as state governments were encouraging the public to accept the fiction of survivability. He asserted that the public understood that "the world situation during the past several months has become more precarious due to Communist agitation in such places as Berlin, Laos, Cuba, and South Viet Nam. Many of us have recently awakened to the fact that friends or relatives belonging to reserve units…have been called to active duty." The federal government was urging State Aviation Officials to update their "State Plans for Aviation in Civil Defense."[849]

The assumptions that underlay this urgent request were unnerving. "This is not a pleasant activity for anyone," continued the director, "but it is necessary for all of us in aviation…to act in preparation for possible disaster. We must all move forward with plans to survive any nuclear attack…Maximum preparatory measures to protect human life and all aviation property [are] essential in an all-out effort to provide [health care] personnel and materials during the post-attack recovery period."[850]

A year later, the Special Services Department began to present "some of the overall aspects of a relatively new phase of public education that we prefer to call Aerospace Education…[and] in today's Air Age world, Aerospace Education is everybody's business." The report assured its reader that lack of public interest or understanding meant that the average adult had limited knowledge about the world around them. Such ignorance was not only "extremely unhealthy," but it could also "cost us dearly." Aviation and space flight had such profound political, economic, and social effects upon the world that if "children and adults alike, are to be educated to live in tomorrow's world, they **must** be made aware of the tremendous forces for good or evil…We sincerely hope that those of you with an aviation background will [make] yourself known to the elementary teacher and [offer] any help you can give."[851]

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[847] "Annual Report of the SDAC, June 30, 1959," p. 14. Box 7302A.

[848] *Aero News,* Vol. 1, No. 1, September 1961, p. 4. Box 7302A.

[849] *Aero News,* Vol. 1, No. 1, November 1961, p. 2. Box 7302A.

[850] *Aero News,* Vol. 1, No. 1, November 1961, p. 2. Box 7302A.

[851] *Aero News,* Vol. II, No. 1, January 1962, p. 5. Box 7302A. Original emphasis.

By 1962, events that were public knowledge had taken some of the edge off fears that the Soviets were technologically superior to the U.S. The back cover of the March 1962 issue of *Aero News* included a captioned illustration entitled "SPACE SCOREBOARD" that noted that at the end of 1961, the U.S. had 31 satellites in earth orbit and two orbiting the sun. Ten of those satellites, the authors were proud to report, were still transmitting. In contrast, the Soviets had one satellite in earth orbit and two in solar orbit, but none of them were transmitting.[852]

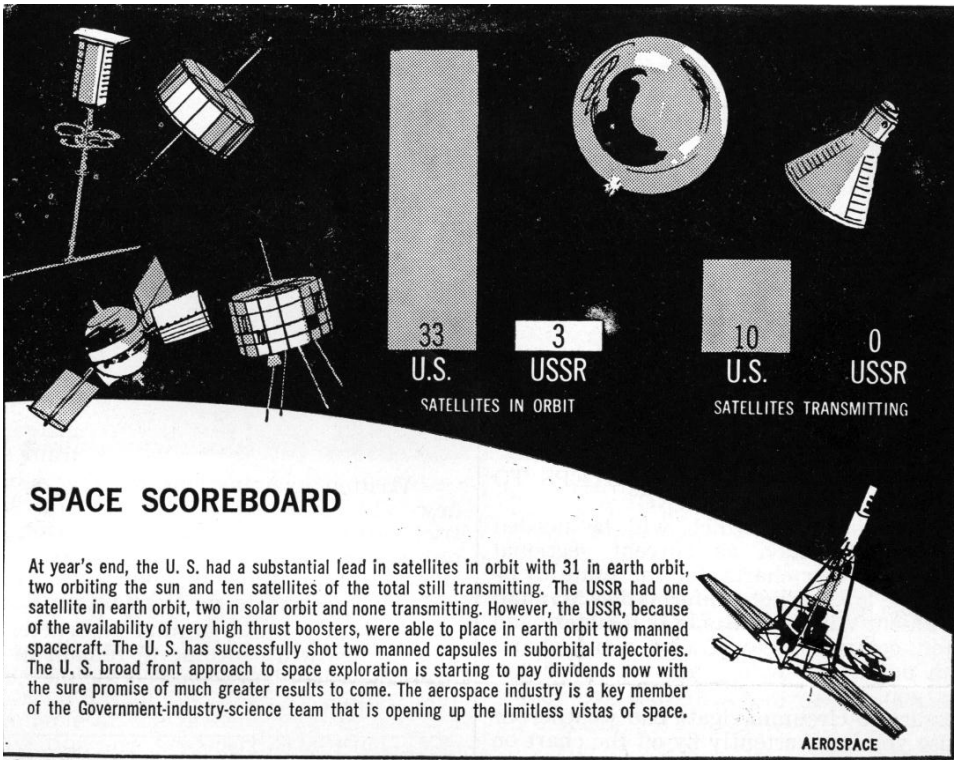

Figure 27: Space Scoreboard

However, the SCOREBOARD also reported that the Soviets had built rocket boosters whose thrust was powerful enough to enable them to place two manned spacecraft in earth orbit, whereas the U.S. had "successfully shot two manned capsules in suborbital trajectories. The U.S. broad front approach to space exploration," the reader was assured, "is starting to pay dividends now with the sure promise of much greater results to come. The aerospace industry is a key member of the Government-industry-science team that is opening the limitless vistas of space."[853]

The Director discussed Civil Defense plans for evacuation in event of a nuclear attack or natural catastrophe in 1964. The "State and Regional Defense Airlift" or "SARDA" anticipated that under such circumstances, all aviation resources in the state would volunteer their services to ensure the

[852] *Aero News,* Vol. II, No. 2, March 1962, p. 8. Box 7302A.

[853] Ibid.

survival of "the Nation, State, and local areas."[854] The SDAC completed the SARDA and submitted it to the Federal Office of Emergency Planning in 1965. The Commission divided South Dakota into 5 SARDA Districts. The designated "control airports" were in Aberdeen, Huron, Sioux Falls, Pierre, and Rapid City. The Emergency Operations Center in Pierre would coordinate air movements, but if communications were down, Area Chiefs would "honor local requests."[855]

Of course, no one seemed to have taken under consideration where evacuees would be taken in the event of a nuclear war. By 1965, the Soviets and the United States possessed tens-of-thousands of nuclear weapons and delivery systems. That did not take into account the weapons of the other nuclear powers. Movies like *Dr. Strangelove, Fail-Safe,* and *On the Beach* had made it clear that the fiction of survivability was just that—a fiction—but authorities continued to fund such delusions.

Federal funds for programs such as SARDA did not require matching state funds. That was not the case with regard to airport construction. South Dakota was eligible for $657,256 in federal funds in 1960, but because state and local funds matched only $210,000 dollars, $447,256 reverted to the federal Discretionary Fund. In other words, South Dakota lost federal dollars due to the shortage of local funds.[856] The number of approved public airports fell to 68 that year, as Clear Lake and Burke were not on the list.[857]

The financial situation worsened in 1961 when South Dakota only matched $36,912 of the $657,256 allocated it under the Federal Aid Airport Program, so $620,344 reverted to the federal Discretionary Fund.[858] President Kennedy extended the Federal Airport Act for three more years in September 1961. That meant a total of $1.3 million was available to South Dakota at a 53% Federal to 47% local matching ratio, but it remained to be seen whether South Dakota would meet its matching requirement.[859]

Once again, the state came up with only a limited amount of its required matching funds. In 1962, $544,759 in federal funds were returned to the Discretionary Fund.[860] This was a bit perplexing given that after paying salaries that totaled $38,500; travel expenses of $10,000; office expense of $8,000 and taking in $88,000 in gas tax receipts, the SDAC had a positive balance of $233,000 at the end of the fiscal year.[861] Fortunately, the State had spent some money updating the Pierre Airport in the not too distant past. Those improvements allowed the facility to host two Boeing 707 jet aircraft

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[854] *Aero News,* Vol. IV, No. 3, December 1964, p. 2. Box 7302A.

[855] *Aero News,* Vol. V, No. 4, Sep 1965, p. 4; "Biennial Report of the SDAC, 1965-1966." Box 7302A.

[856] "Annual Report of the SDAC for the Year Ending June 30, 1960," p. 17. Box 7302A.

[857] Ibid., p. 20. Box 7302A.

[858] "Annual Report of the SDAC for the Year Ending June 30, 1961," p. 17. Box 7302A.

[859] *Aero News,* Vol. I, No. 1, November 1961, p. 4. Box 7302A.

[860] "Annual Report of the SDAC for the Year Ending June 30, 1962," p. 19. Box 7302A.

[861] Ibid.

on 17 August 1962. One of the 707s carried newsmen and women; the other carried John F. Kennedy, the president of the United States.[862]

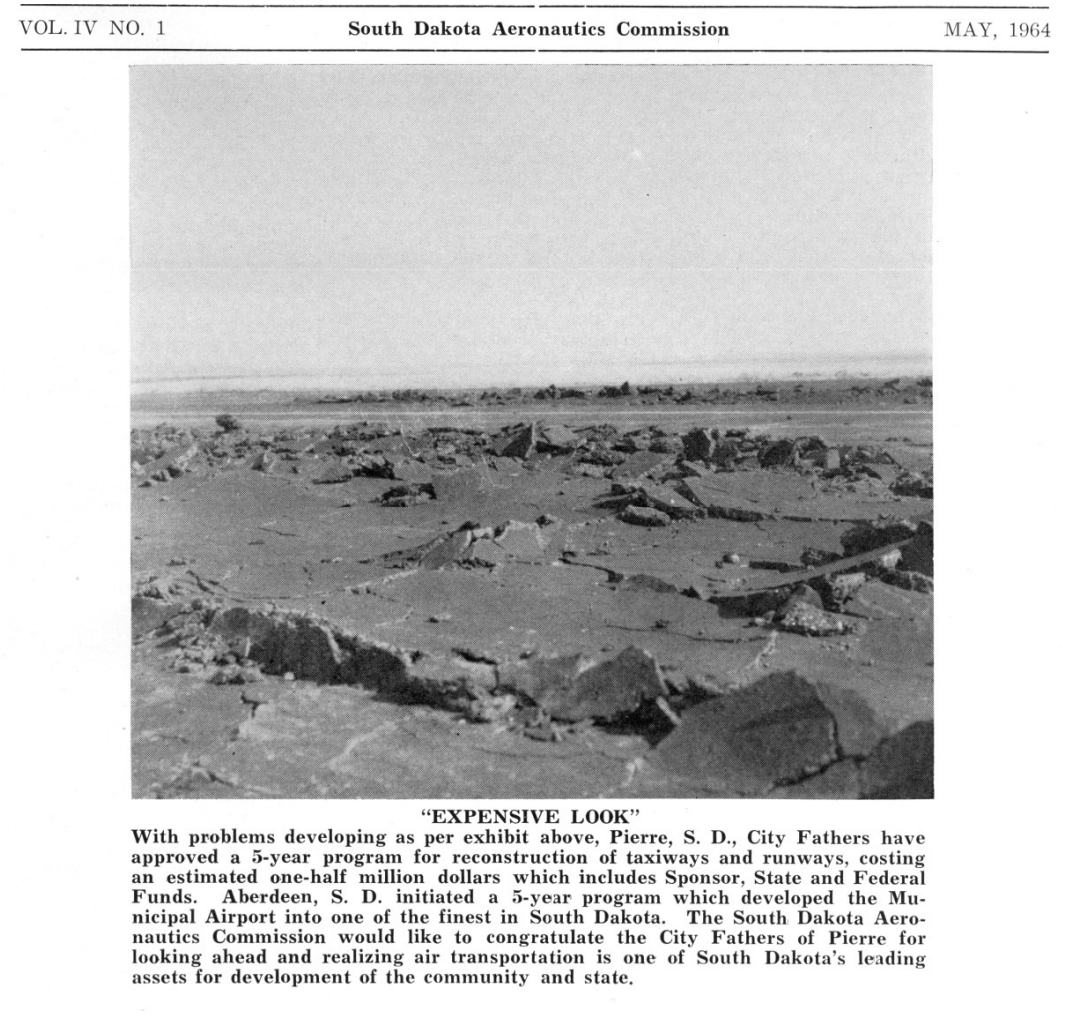
Figure 28: President John F. Kennedy working the crowd at the Pierre Airport, 17 August 1962
(From the National Portrait Gallery, http://www.npg.si.edu/exh/travpres/jfks.htm)

Director L. V. Hanson put together a Legislative Air Inspection tour of South Dakota to spark interest in the state's elected representatives and senators in supporting the budget. Fifty-five legislators were flown 1,400 statute miles. Seventeen aircraft, most of which were privately owned and provided at the owner's cost, flew the legislators to various South Dakota destinations, including Homestake Gold Mine, for tours.[863] The following year, Hanson noted that although the Aeronautics Commission had requested legislative funding of $100,000 for construction and development of small airports, the Sub Committee on Appropriations reduced it to $20,000 and that was what passed the legislature.[864]

[862] JFK was one of the few sitting presidents to fly into South Dakota. George W. Bush did so in 2002.

[863] *Aero News,* Vol. II, No. 5, October 1962, pp. 1, 2, and 4. Box 7302A.

[864] *Aero News,* Vol. III, No. 2, May 1963, p. 2. Box 7302A.



VOL. IV NO. 1 South Dakota Aeronautics Commission MAY, 1964

"EXPENSIVE LOOK"

With problems developing as per exhibit above, Pierre, S. D., City Fathers have approved a 5-year program for reconstruction of taxiways and runways, costing an estimated one-half million dollars which includes Sponsor, State and Federal Funds. Aberdeen, S. D. initiated a 5-year program which developed the Municipal Airport into one of the finest in South Dakota. The South Dakota Aeronautics Commission would like to congratulate the City Fathers of Pierre for looking ahead and realizing air transportation is one of South Dakota's leading assets for development of the community and state.

Figure 29: A runway at the Pierre airport less than two years after Kennedy's visit

Hanson also reported that since 1952, "more than twenty five such airports have been constructed with 50% State-Local and 50% Federal funds."[865] Such investments included the Clark County Airport, which was dedicated in 1961, and improvements at Vermillion, Highmore, Miller, and Custer under the Federal Airport Program.[866] Additional improvements were made in the Big Bend Landing Strip, Chamberlain Municipal Airport, Clear Lake Municipal Airport, Kimball Municipal Airport, Mobridge Municipal Airport, Rapid City Municipal Airport, Mitchell Municipal Airport, Springfield Municipal Airport, and White River Municipal Airport.[867] The SDAC secured $50,000 in appropriations in 1965 for airport construction and development.[868]

[865] Ibid.

[866] *Aero News,* Vol. 1, No. 1, September 1961, p. 2. Box 7302A.

[867] Ibid., p. 4.

[868] *Aero News,* Vol. IV, No. 1, May 1964, p. 2. Box 7302A.

Construction and improvements continued during the sixties regardless of the fact that South Dakota could not take advantage of all available federal funds. Air asset improvements occurred in Arlington, Redfield, McLaughlin, Lake Andes, Sioux Falls, and Hoven during 1964.[869] The SDAC spent approximately $1.1 million dollars during FY 1965/66 and reported 77 commission approved public use airports at the end of 1966.[870] Improvements were reported at Arlington, Brookings, Britton, Hoven, Huron, Lake Andes, McLaughlin, Mobridge, Pierre, Redfield, Rapid City, Sioux Falls, Springfield, and Sturgis airports in 1967.[871]

Effective 1 July 1967, all cities with Airport Boards were allowed to levy up to two mills instead of only ½ mill for airport purposes.[872] This was in response to South Dakota losing so much Federal Aid Airport Program funds. The Legislature appropriated $75,190.59 for salaries for the Director, Chief Pilot, Chief of Aviation Safety, Airport Engineer, Asst. Airport Engineer, Chief of Facilities Section, and Chief of Special Services. The legislators also approved an additional $12,300 for travel expenses and $11,000 for office expenses.[873]

An additional development in 1967 that would have an impact on the SDAC was the creation of the United States Department of Transportation (DOT) on 1 April 1967. The Federal Aviation Agency, renamed the Federal Aviation Administration, was now part of the DOT. A model now existed for the reorganization of the State of South Dakota's myriad agencies that dealt with transportation issues.

That reorganization came in 1973 under Governor Richard F. Kneip's administration. The once independent South Dakota Aeronautics Commission was now a division under the South Dakota Department of Transportation. Monte Schneider was Director of the Division in 1974. He succeeded Lynn Hanson, South Dakota's first Aeronautics Director, in 1973. Hanson had served for 28 years in the post.[874] Commissioners under the reorganization were Roland Parcel, Chairman (a petroleum distributer from Aberdeen); Charles Rozum, Vice Chair (an auto dealer and pilot from Mitchell); Keith Montgomery (an insurance and real estate man from Huron); William Mechaley (Rapid City); and Don DeVries (Sioux Falls).[875] Chairman Parcel retired in 1974 and the commissioners elected Charles Rozum as the new Chair. Governor Richard Kneip appointed Paul Hartung (Aberdeen) to fill the vacancy.[876]

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[869] *Aero News,* Vol. IV, No. 3, December 1964, p. 2. Box 7302A.

[870] For expenditures, see "Biennial Report of the SDAC for the Period Ending June 30, 1966, 1965-1966," pp. 29-36. Box 7302A; for the number of airports, see "Biennial Report of the SDAC for the Period Ending June 30, 1966, 1965-1966, p. 28." Box 7302A.

[871] *Aero News,* Vol. VII, No. 1, February 1967, p. 4. Box 7302A.

[872] "Annual Report of the SDAC, 1967-1968," p. 4. Box 7302A.

[873] Ibid. p. 30.

[874] *Aero News,* Vol. 9, No. 1, April 1974, p. 2. Box 7302A. The spelling here of Hanson's first name is that used in *Aero News.*

[875] Ibid., p. 5. Box 7302A. The occupations of Parcel and Rozum are taken from the Biennial Report of 1965-1966 and personal knowledge of the author for Montgomery.

[876] *Aero News,* Vol. 9, No. 3, August 1974, p. 1. Box 7302A.

Schneider became director at a difficult time. He noted that the 1975 airport program included requests for $4.9 million in air carrier projects and $1.8 million in general aviation projects. The state was counting on FAA funding, but Schneider wrote "it is now obvious that…South Dakota's airport development has received a crippling blow due to a reported insufficiency of funds in the Airport Development Aid Program (ADAP). As of this writing it appears that only $1,260,000 of air carrier and $427,000 of general aviation projects will be funded."[877] This likely reflected the budget difficulties and inflation the Ford Administration inherited from the Nixon Administration and the impact of the 1973 Oil Embargo against the US.

Safety was always a primary focus for the SDAC. Many issues of the *Aero News* included hypothetical in-flight problems and helped pilots work through them to the appropriate solution. The issues also included tips about best practices, updates on airport construction and improvements, tips on how to fly under difficult conditions, accident reports, what drugs to avoid when flying, alcohol awareness, and other stories of interest to pilots. Pilots licensed in South Dakota eventually received a Pilot's Directory as part of their annual registration fee. The directory contained "the most current information and sketches of the…approved airports in South Dakota."[878]

The SDAC tracked accidents, injuries, and fatalities and reported them. Thirty-five accidents were reported in the first six months of 1961, with no fatalities.[879] Seventeen more accidents were reported during the period between September and November 1961.[880] The final accident total for 1961 was 62.[881] A review of the reports of the SDAC for the rest of the decade indicates that this was an average year.

Long time Sioux Falls weatherman, travel agency owner, pilot, and member of the Division of Aeronautics Commission, Ken Hirsch began to combine weather reports for pilots into his regular weather reports on television channels KSFY and KABY in 1970.[882] People in the public eye like Hirsch, and South Dakota's pilot governors—Joe Foss, Frank Farrar, Bill Janklow, and Mike Rounds—served as air advocates in both their public and private lives. The cover of an *Aero News* issue featured Farrar in an airplane.[883] Prior to that, Joe Foss appeared on the cover of *Life* magazine during World War II for his actions as an ace while flying in the Pacific Theater.

An avid hunter, Foss took great pride in the fact that South Dakota had become a hunter's destination and that airplanes brought hundreds, and later thousands of hunters to the state. The cover photo of Mitchell Municipal Airport in *Aero News,* Vol. II, No. 1, January1962, showed a loaded-

[877] Ibid., p. 3.

[878] "South Dakota Airport Directory, 1989," p. 1. Box 7302A. See also Kraemer, p. 113.

[879] *Aero News,* Vol. I, No. 1, September 1961, p. 7. Box 7302A.

[880] *Aero News,* Vol. I, No. 1, November 1961, p. 5. Box 7302A.

[881] *Aero News,* Vol. II, No. 2, March 1962, p. 7. Box 7302A.

[882] *Aero News,* Vol. 9, No. 4, November 1974, p. 4. Box 7302A.

[883] *Aero News,* Vol. Vii, No. 2, February 1969, cover photo. Box 7302A.

to-capacity airport and was headlined: "South Dakota Airports Invaded." It was the first week of pheasant season. The same edition notes that 186 aircraft used the Huron Municipal Airport that week and de-planed 995 passengers.[884] One thousand one hundred aircraft were flown into South Dakota for opening day of pheasant season in 1961. Fifteen hundred aircraft were flown in for the same event the next year.[885]

Vol. II No. 1 **South Dakota Aeronautics Commission** January, 1962

South Dakota Airports Invaded

MITCHELL, S. D.—Photo above shows ramp area at Mitchell Municipal Airport loaded to capacity for first week of pheasant hunting in South Dakota.

Figure 30: Photo of Mitchell Municipal Airport during 1961 Pheasant Season

One of the appeals of private airplanes to South Dakota ranchers was the fact that they made their world smaller. It is not unusual, especially in West River South Dakota, to have ranches that encompass thousands of acres of land. The airplane made it easier to account for herds of cattle that roamed those vast stretches of range. As recently as 1974, the authors of *Aero News* noted that

[884] *Aero News,* Vol. II, No. 1, January 1962, p. 7. Box 7302A.

[885] *Aero News,* Vol. II, No. 6, December 1962, cover page. Box 7302A. Opening day of pheasant hunting remains the single largest passenger volume day at the Sioux Falls Regional Airport.

"Observation planes are currently in the air in order to cut down on livestock rustling …"[886] Planes were frequently used to airlift feed to stranded herds.

Although the plane was the scourge of rustlers, it was the friend of smugglers. South Dakota's vast and relatively unpopulated plains and prairies made ideal illicit landing strips for people who sought to distribute contraband in the state. Anecdotal evidence abounded on the state's college campuses in the late 1960s and early1970s about private planes returning from spring break loaded with marijuana. The most famous of these events was, of course, one that resulted in the arrest of the pilot and crew and the confiscation of 26,000 pounds of Colombian marijuana.

Five ice-fisherman seeking walleye along the banks of the Missouri River near Akaska, South Dakota, heard the approach of a low-flying aircraft as the sun was setting on 20 January 1980. It was a four-propeller DC-7. It was an unusual sight in an area that rarely saw anything but two-or-four-seat, single engine aircraft.

The plane "circled once and landed on a bluff overlooking the spot where the Missouri and Moreau rivers meet." The five fishermen, concerned that something was wrong, "hopped in their pickup trucks and headed to the site." A local rancher also witnessed the landing and called the sheriff.

The pilot escaped in a waiting pick-up. The fishermen climbed into the abandoned plane and saw bale-after-bale of pot. They had interrupted what would have been the biggest pot delivery in the state's history. As Mark Meierhenry, the State Attorney General at the time observed, "Had those guys not been out on the river ice fishing, it would have worked." The state confiscated the plane and sold it for $60,000. Nearly $27,000 went to Walworth County for the costs it incurred from the incident. Most of the marijuana was hauled to Pierre where it was shredded and burned on 6 February 1980 at the local landfill.[887]

As the number of passengers, pilots, and aircraft increased, so did safety issues. The Commission noted that in 1965 there were 953 aircraft and 1577 pilots registered with the Department. That was a 14 percent increase in pilots over 1964 and 4.5 percent increase in number of aircraft.[888]

The 1965 Legislative Session passed House Bill No. 610 unanimously in both houses and Governor Nils Boe signed it into law. It provided amendments "to Section 2.0504 of the 1960 Supplement to the South Dakota Code of 1939 relating to zoning regulations for public airports." This legislation authorized "municipalities and counties to protect airport approaches outside their territorial limits in addition to what is presently authorized within their corporate limits." The act also

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[886] *Aero News,* Vol. 9, No. 4, November 1974, p. 2. Box 7302A.

[887] "Pot plane landed on barren South Dakota field 25 years ago," January 18, 2005, duluthsuperior.com, AP. As found at http://www.marijuana.com/drug-war-headline-news/17646-sd-pot-plane-landed-barren-south-dakota-field-25-years-ago.html. Accessed 30 September 2011.

[888] *Aero News,* Vol. VI, No. 1, January 1966, p. 8. Box 7302A.

provided that in "addition to regulating the location and height of structures, trees, etc., the obstruction by lights, smoke, electronic devices, or any other means, of the safe operation of aircraft near airports may also be prohibited." State law empowered and directed" the SDAC "to formulate and adopt, and from time to time as necessary revise, an airport approach plan for each publicly-owned airport in the state," but the airport owner was required to adopt and enforce the plan."[889]

There was no standard for lighting obstructive structures such as radio towers during the first four decades of the SDAC. The states of South Dakota, Minnesota, and Wisconsin led the way to get the FAA to provide specifications for strobe lights.[890] Even with the adoption of standard lighting for radio towers, planes still occasionally crashed into them. Such was the case with the KELO television tower near Rowena, South Dakota. A North Central Airlines passenger plane flying during a thunderstorm "clipped a guide wire" and brought the 609.6-meter structure down on 24 June 1968.[891]

The SDAC, like the SDDOH, engaged in inter-agency cooperation with the Games, Fish and Parks Commission. The two agencies installed a lighting system at Custer State Park Airport in 1965 to improve the safety of the facility.[892] At the SDAC's request, the SDDOH produced fifty new signs labeled "Approved Airport" that directed road traffic to such airports. Each sign cost $8.82 and the District Highway Offices installed them at cost. The two-year program covered all approved airports in the state.[893]

Despite the growth of aviation in the 1960s, the State Legislature, following past precedent, seemed content to keep the Aeronautics Commission operating staff static. The State Treasurer was authorized to transfer $50,000 on 1 July 1965 and again on 1 July 1966 to the Emergency Airport Revolving Fund for continuing General Aviation Airport construction programs. The Treasurer was also authorized to transfer $100,000 on 1 July 1965 to the Special Aviation Revolving Fund for construction and development of airports that Scheduled Airlines served.[894]

Those airlines that served South Dakota were in transition in the mid-1960s. Their desire to shift from piston-driven to jet aircraft required $7,791,000 for airport upgrades for the period 1966-1969. Local Service Carriers in South Dakota at the time were Frontier, North Central, and Ozark and Trunk Carriers Braniff and Western.[895]

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[889] *Aero News,* Vol. V, No. 2, April 1965, p. 2. Box 7302A.

[890] *Aero News,* Vol. VI, No. 3, August 1966, p. 2. Box 7302A.

[891] http://www.keloland.com/ourhistory/june241968/.

[892] *Aero News,* Vol. V, No. 3, June 1965, p. 8. Box 7302A.

[893] *Aero News,* Vol. V, No. 4, September 1965, cover page. Box 7302A.

[894] *Aero News,* Vol. V, No. 2, April 1965, p. 2. Box 7302A.

[895] *Aero News,* Vol. VI, No. 1, January 1966, p. 2. Box 7302A.

That desire on the part of the major airlines created an opening for smaller businesses. South Dakota got its first commuter airline service in 1974, which was the beginning of a new focus on short intra-regional and intrastate commercial service. A British-built DeHavilland DH-104 Dove "left the Brookings Municipal Airport bound for the Minneapolis-St. Paul International Airport and St. Paul Downtown Airport" on 18 April 1974.[896]

The SDAC approved matching funds for General Aviation projects at Custer, Faulkton, Mission, Canton, Beresford and Sisseton. The funds were designated as up to $10,000 for the new airport at Custer; up to $10,000 for runway paving at Sisseton; $3,500 for runway paving at Faulkton; and $500 dollars each for Canton, Beresford, and Sisseton to cover 50% of proposed new airport layouts. The Commission also raised a previous allocation to the town of McLaughlin from $7,000 to $9,000 to cover a runway lighting system. The Commission also asked North Central Airlines to establish a reduced student fare.[897]

State matching aid to Air Carrier Airports in 1966 was $591,000. Seventy-five thousand dollars went to Rapid City; $20,000 went to Huron; $115,000 went to Pierre; Brookings received $90,000; and Yankton $24,000. Rapid City received an additional $89,000 in 1967 and Aberdeen $178,000.[898]

By the close of the 1960s, the SDAC requested $4.5 million for South Dakota airports.[899] One project was the terminal building at Joe Foss Field in Sioux Falls. Construction was scheduled to start in the spring of 1969 on the $2,154,784 building. Although the State Constitution would later be interpreted as barring the state government from selling bonds to generate highway revenues, local governments could sell bonds for airport improvement.[900] The SDAC commended the progressive thinking of the people of Sioux Falls for voting in the bond issue to match funds for the new terminal. The Commission asserted that this was good for South Dakota in that businessmen seeking new locations would find South Dakotans progressive and their infrastructure inviting.[901]

The Sioux Falls Airport manager, John Orr, reported in 1974 that for the third year in a row, his facility did not have to ask for city tax money. Orr was proud of the fact that "revenues generated by concessions, rents, and airline fees not only covered operating costs, but also provided the local match for federal and state construction funds." The new facility had proven to be an excellent investment in the city's and the state's future.[902]

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[896] *Aero News,* Vol. 9, No. 2, June 1974, p. 1. Box 7302A.

[897] *Aero News,* Vol. VI, No. 2, April 1966, p. 2. Box 7302A.

[898] *Aero News,* Vol. VI, No. 2, April 1966, p. 3. Box 7302A.

[899] *Aero News,* Vol. VII, No. 1, January 1969, p. 2. Box 7302A.

[900] See Chapter Five, p. 231, of this manuscript for the court ruling with regard to the State selling bonds for highways.

[901] *Aero News,* Vol. VII, No. 3, March 1969, p. 3; p. 5. Box 7302A.

[902] *Aero News,* Vol. 9, No. 3, August 1974, p. 2. Box 7302A.

The SDAC consistently emphasized that good aviation facilities and an aviation-savvy public would serve to promote business investment in South Dakota. *Aero News* frequently featured stories of how aviation affected business. One issue featured a photo of the chief operating officers of Ball Aero Company of Huron, including Tracy Gitchell, who was secretary-treasurer. Gitchell was also a judge and later the owner of "The Inn" hotel in Huron.

Ball Aero Company would handle Piper aircraft sales for eastern South Dakota as well as the line and hangar service at the Huron Airport.[903] Another issue featured H. J. Jensen, president of Electronics, Inc., his Piper Aztec, and his product: the Electro Magic Pressure Cleaner. The issue used his story as an example of what airplanes do for South Dakota businessmen.[904]

The Flying Farmers and Ranchers had a "fly-in" that Business Aviation and the Holiday Inn of Sioux Falls sponsored in 1964. The activities included a "buffet luncheon, door prizes, fashion show, and underwater demonstration of skin diving equipment."[905] Rapid City hosted the National Conference of the National Association of State Aviation Officials (NASAO), which is the liaison between state and local governments and the federal government, in October 1964 with over 200 participants.[906] Clearly, aviation was good for business in South Dakota.

The governors of North Dakota, South Dakota, Wyoming, Montana, and Nebraska realized that fact. They were board members of what was called the "Old West Regional Commission." They approved a motion in 1974 to seek aid from US Secretary of Transportation Claude Brinegar to approve construction of a regional airport "equal in size and service to that of a major metropolitan area." South Dakota Governor Richard F. Kneip was co-chairman. He was instructed to initiate talks with Secretary Brinegar about federal participation in the project. Each aeronautics department in the five states was asked to provide recommendations with regard to the regional airport concept's feasibility. The commission was also authorized to "accept proposals from consulting firms for further study of the regional airport concept." It would be called "Old West Regional Airport."[907]

There is no "Old West Regional Airport," so the proposal did not gel. There would have been significant debate as to where the airport would have been located. What is important, though, is the fact that the governors recognized the impact aviation had on their state economies and that they sought to promote its growth.

As part of the overall planning process to anticipate aviation needs, and as a requirement to receive FAA funds, the federal government required and funded State Aviation System Plans from

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[903] *Aero News,* Vol. III, No. 2, May 1963, p. 5. Box 7302A.

[904] Although the caption does not say so, I believe his business was located in Alcester. *Aero News,* Vol. III, No. 2, May 1963, p. 7. Box 7302A.

[905] *Aero News,* Vol. IV, No. 2, August 1964, p. 7. Box 7302A.

[906] Ibid., p. 2. Box 7302A.

[907] *Aero News,* Vol. 9, No. 4, November 1974, p. 1; p. 3. Box 7302A.

the states. South Dakota submitted its first "South Dakota State Aviation System Plan" (SDSASP) in 1978. At that time, there were nine air carrier airports in the state.[908]

At the same time the SDSASP was submitted, the aviation industry experienced a fundamental change as a result of legislation Congress passed in 1978 with President Jimmy Carter's support. The Airline Deregulation Act, which Carter signed on 24 October, removed many of the regulations that had governed the industry since the 1930s. Competition between airlines increased during the first few decades after the Act, but invariably market forces led to the demise of many of the upstart airlines as well as the bankruptcies of many established airlines and, by the turn-of-the-century, once again a few major airlines dominated the national market.

United States Senator Larry Pressler (R-SD) chaired the Senate Committee on Commerce, Transportation, and Science in 1996. He requested that the General Accounting Office (GAO) study the impact of deregulation after nearly two decades. The GAO report was forwarded to Pressler on 19 April 1996 and contained a mix of conclusions.[909]

From the perspective of a passenger, it was now significantly cheaper to fly than in the days of regulation. The GAO noted that airfares by 1994 had declined on average about nine percent at small community airports, 11 percent at medium sized community airports, and eight percent at large community airports. Still, airfares in the Southeast and Appalachia increased nearly 20 percent during the same period. The GAO attributed this to the lack of competition from commuter or start-up airlines like Southwest in the region.[910]

Another trend the GAO identified was more and safer service. The number of scheduled departures between May 1978 and May 1995 increased "by 50 percent at airports serving small communities, 57 percent at airports serving medium-sized communities, and 68 percent at airports serving large communities. Likewise, the number of available seats increased for all three groups."[911]

Some areas, though, experienced a decline in service. Not surprisingly, given Senator Pressler was from South Dakota, the GAO used Sioux Falls as an example. The agency noted that "Some airports—particularly those serving small and medium-sized communities in the Upper Midwest—had less air service in 1995 than they did under regulation. Sioux Falls, South Dakota, for example, had 25 percent fewer departures and 31 percent fewer available seats in 1995" than in 1978.[912]

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[908] Bandy and Associates, *et al,* "South Dakota Aviation System Plan," April 1996, p. 76. For ease of reference, I am referring to the pagination as it occurs in the PDF of the document available at the SDDOT website.

[909] United States General Accounting Office Report to the Chairman, Committee on Commerce, Science, and Transportation, U.S. Senate, "Airline Deregulation: Changes in Airfares, Service, and Safety at Small, Medium-Sized, and Large Communities," Washington, D.C., GPO, April 1996.

[910] GAO Report, pp. 4-6.

[911] Ibid., p. 6.

[912] Ibid.

The report included data that explained that the sharpest decline in air service (at least 20 percent) had occurred in three Upper Midwestern communities: Sioux Falls, South Dakota; Lincoln, Nebraska; and Rochester, Minnesota. The report asserted that part of the explanation for this was that all three "had relatively slow economic growth during this period. For these three communities, the average annual growth rate was only 0.4 percent in population, 1.3 percent in personal income, and 1.4 percent in employment."[913]

The 1996 SDASP confirmed the trend for Sioux Falls. Civil Aeronautics Board data indicated enplanements at Sioux Falls peaked in 1979 at 280,926. By 1981, the number of enplanements there was 170,865. A slow trend then developed of increased enplanements over the next fifteen years to the point when in 1994 they numbered 279,680, nearly what they had been in 1979.[914]

Yet another trend was a change in the types of aircraft and carriers that served South Dakota. Several of the major carriers pulled their service. Others used smaller, more fuel-efficient turboprop planes instead of jets.[915]

Governor George S. Mickelson, the son of Governor George T. Mickelson, and other leaders had recognized those trends in the late 1980s. They supported the State Legislature's creation of the South Dakota Airline Authority in the wake of airline de-regulation. The Legislature created the Authority in 1989 to "improve intrastate air service and charged [it] with the responsibility of planning, establishing, acquiring, developing, constructing, purchasing, enlarging, maintaining, equipping, and protecting an airline and airline facilities, including aircraft."[916]

Mickelson appointed Robert Abbott (Yankton), Patris Eidsness (Brookings), Dennis Maloney (Aberdeen), Harold Bisch (Huron), Charles Gaetze (Mitchell), Dick Gregerson (Sioux Falls), and Thomas Roby (Watertown) to the Authority. They held in common the fact that a commercial airline served each of their respective towns. Mickelson encouraged intrastate air travel development, as he believed it was essential to South Dakota's continued economic growth.[917]

Other aviation leaders in 1989 were the members of the SDAC, including Patris Eidsness, Chair; Kenneth Hirsch, Vice-Chair (Sioux Falls); Dick Flynn (Sioux Falls); Dr. B. Lindbloom (Pierre); Harley Taylor (Aberdeen); Brent Dykstra (Pierre); and Don Brockel (Selby). South Dakota Transportation Commissioners in 1989 included E. Baer, Chairman (Spearfish); B. Michael Broderick (Canton); Robert Appelwick (Madison); Dr. V. B. Sibley (Pierre); James Rothstein (Mobridge); Dr. William Hustead (Wall); Jim Long (Huron); Jim Mahowald (Watertown); Wayne Peters (Sioux Falls); and Richard

[913] Ibid., p. 36.

[914] Bandy and Associates, p. 81.

[915] Ibid.

[916] *Aero News,* July 1989, p. 1. Box 7302A.

[917] Ibid.

Howard, Secretary of Transportation (Pierre).[918] This group submitted "A Proposal for Intrastate Air Service Prepared for Presentation to the 1990 Session of the South Dakota State Legislature" in 1990.[919]

Secretary Howard announced the reorganization of the Aeronautics functions within the SDDOT "to increase the efficiency and productivity of the Department of Transportation and to promote better awareness and response to the public on aviation issues" in 1989. Dave Jagim was appointed Administrator of the Office of Aeronautics and Dean Gretschmann Deputy Administrator.[920]

One result of all this was, according to Howard, who served as Secretary of Transportation from October 1985 to March 1996, that the State entered into the business of operating a commercial airline. Howard noted that Governor Mickelson's "big, big push, you know, was economic development" and he believed "we needed air travel to connect our major cities to the capital and to each other." The Governor and his Secretary of Transportation set up a committee and conducted "surveys of all cities on their potential and projected usage of the airline."[921]

Unlike the State's excursion into the railroad business, the effort to run an airline was an abject failure. After the Legislature authorized the Airline Authority, Howard recalled: "We just did it way too big, because we connected Madison, and Spearfish, and Brookings and…all the bigger cities" to too many smaller cities "and we just didn't have the ridership." Despite the fact that the Legislature had authorized and funded the proposal, "in a matter of months we were paying a subsidy to the operator that we had contracted with and we didn't have the ridership to support it." It was, said Howard "an ambitious program" that "was directly impinging on private enterprise."[922]

In the wake of the 1989 reorganization, the SDDOT authorized a strategic planning update in 1995 for current and future aviation needs in the state. Two years later, HB 1030 eliminated the duplication of effort on the part of the Transportation Commission (TC) and the SDAC. Previously, the SDAC had final authority over air safety, but the TC approved "all expenditures and disbursements of State and Federal funds for aeronautics issues. This bill [gave] the aeronautics Commission full responsibility for administration of aviation matters within the budget established by the Legislature."[923]

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[918] South Dakota Airport Directory, 1989, Box 7302A.

[919] "A Proposal for Intrastate Air Service Prepared for Presentation to the 1990 Session of the South Dakota State Legislature." Box 7302A.

[920] *Aero News,* July 1989, p. 1. Box 7302A.

[921] Richard Howard Interview, p. 51.

[922] Ibid., pp. 51-52.

[923] Document entitled "Accomplishments, Department of Transportation, January 1, 1997-December 31, 1997," SDDOT Library, p. 15. Ben Orsbon, who is currently a Federal Funding Specialist and a Fellow of the American Institute of Certified Planners wrote the draft and submitted it to the Secretary who in turn made changes and submitted it to the governor. No one seems to know where the final copies are located. This particular document contains some important information. It is twenty pages, not including two pages of table of contents.

William Janklow was the governor of the state at that time and a pilot. He volunteered that he had accumulated "about 44,122 hours, not that I keep track…I flew a lot."[924] Janklow recalled being very involved in general aviation, "fixing the airports in the Mitchells and the Watertowns, the Philips, the Belle Fourches, the extension of the runways in the Spearfishes. Putting a runway in Mission, South Dakota. Upgrading the runway so that they can fly the ambulance airplanes off the Rosebud Reservation. The White River Airport."[925] He flew himself to meetings many times in his own airplane when he was State Attorney General because although the governor had an airplane, "there was none for anybody else, so I flew myself in my own airplane."[926]

While reflecting on aviation accomplishments in the state, he often attributed them to communities. "I knew," he said, "that Sioux Falls—this community, these people—had the leadership to build a great Sioux Falls airport. They didn't need the governor's help—any governor—to help do that" and "they built the terminal…That's what happens when you have leadership that does something." Rapid City did the same thing, according to the governor. "They built a beautiful terminal out there," he noted, and "got a great airport facility."[927]

The strategic planning document, entitled "South Dakota Aviation System Plan," corroborated some of Janklow's recollections. Bandy and Associates, in conjunction with Clark Engineering Corporation and ARP, Incorporated, produced the plan for the SDDOT and its Division of Air, Rail and Transit (DART) in April 1996.[928]

The introduction to the report refers to some of the accomplishments through the process of strategic planning. The 1985 study had recommended a "pavement maintenance program with a computerized data base capability" to aid in prioritizing runway maintenance, taxiways, and other "pavement sections of the State's system of airports." That system had been developed and adopted by 1996.[929] The report also recorded the construction of new airports in Belle Fourche and Eagle Butte "and substantial improvements at other facilities throughout the State."[930]

Funding for such improvements came from several different sources. As far as federal funds were concerned, there were two types: entitlement and discretionary funds. The number of enplaning passengers at a given airport during a given year was one method of determining a portion of entitlement funds. Only commercial service airports with a minimum of 10,000 passengers enplaning

[924] Janklow Interview, p. 22.

[925] Ibid.

[926] Ibid.

[927] Ibid.

[928] Bandy and Associates, p. 1.

[929] This seems like a duplication of what the SD Road Profiler does.

[930] Bandy and Associates, p. 1.

annually qualified for the guaranteed minimum of $500,000. Only Aberdeen, Pierre, Rapid City, and Sioux Falls received funds of this type in 1994.[931]

A second type of federal entitlement funding used the amount of cargo delivered to a given airport as the benchmark for appropriations. To be eligible, an airport had to receive "aggregate landed weight in excess of 100,000,000 pounds" and no South Dakota airport met the requirement in 1994.[932]

The third type of available federal funds was state apportionment funds. These funds were based "on the area and population of the recipient state. South Dakota received $1,757,684 in such funds for FY 1995. These funds were made available on a matching basis of 90:5:5 of federal, state, and local funds.[933]

The State raised revenues for aviation projects through taxes on aviation and jet fuel. Aviation fuel was taxed at six cents per gallon, with two cents of that earmarked for the Airport Construction Fund (ACF). Jet fuel was taxed at four cents per gallon by 1994 of which $.027 per gallon was designated for the ACF. This typically raised $50,000 and $220,000 respectively on an annual basis.[934]

One of the purposes of strategic planning is to forecast trends, and knowledge of the type of data referenced in the preceding paragraphs is an essential aid to that process. Federal regulations required five-year planning for Capital Improvement Programs. The analysts assessed a variety of data including a socio-economic profile of the state's people and population growth. Based on previous U.S. Census Bureau data, the SASP noted only slight growth in the state's population between the 1980 census (690,768) and the 1990 census (696,004). They derived Per Capita Personal Income (PCPI) data from the U.S. Department of Commerce. That data demonstrated significant growth in PCPI for the same period, with the state ranking "among the Nation's top 10 states for seven years."[935]

The authors of this document projected that the number of aircraft registered to owners with South Dakota addresses would rise slowly to 1,742 by 2000, 1,758 by 2005, and 1,808 by 2015.[936] Records indicate that as of 2011, there are 2,324 registered aircraft in South Dakota, but only 1,244 are registered to individuals.[937] Regardless of whether Bandy and Associates were including just

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[931] Bandy and Associates, p. 127.

[932] Ibid.

[933] Ibid.

[934] Ibid., p. 128.

[935] Ibid., p. 23.

[936] Ibid., p. 23; p. 28.

[937] "South Dakota, List of Aircraft Owners & Registrations by South Dakota (SD) County," http://www.aircraftone.com/aircraft/registrations/south-dakota-aircraft-owners-counties.asp. Accessed 10 October 2011.

individually owned aircraft, or individually and corporately owned aircraft, they were significantly off the mark in their prognostications.

The authors were aware of their limitations when it came to forecasting future trends. They noted that "forecasting is an imprecise activity" and that it was "virtually impossible to predict with high accuracy the future levels" of aviation activity whether it was commercial or general aviation. They recommended periodic updates "to reflect factors and developments unforeseen at the time these forecasts were prepared" as a corrective measure.[938]

Economic growth in the Black Hills associated with the legalization of gambling in Deadwood and the increasing popularity of the Sturgis Motorcycle Rally placed additional demands on Rapid City Regional Airport (RAP) during the 1990s. The report anticipated significantly increased demand for services at the RCRA after the Dunbar Resort was completed. This led to a recommendation for construction of an additional road connecting the airport to I-90.[939] This was the only economic development in the state that the plan anticipated as having a significant impact on aviation.[940]

The economic impact of aviation on South Dakota was and remains substantial. Direct economic impact came from several sources. The 590 airport and private business employees associated with aviation had payrolls that amounted to $39.8 million in Calendar Year 1994. Capital expenditures that year were $12.2 million dollars; airport expenditures for various goods and services not associated with payroll were $20.1 million dollars.[941] Taking into account the multiplier effect, this meant that the total economic impact excluding taxes for 1994 was $164 million dollars.[942]

Of all the multiplier effects, none is as important as safety, and the safety record of aviation in South Dakota—commercial, general, and military—has been an exemplary one. Still, there have been several crashes that have had significant impact on the state's history. Many private citizens have lost their lives in air accidents, but they rarely make the news. It is the accidents that involved prominent citizens or spectacular crashes that have lasting memory in the public mind.

Two such crashes involved SDANG pilots and planes. Captain Rodney E. Sherman was piloting an unarmed F-100 when it crashed into the shoreline of Lake Madison on 25 June 1970. Eyewitnesses reported that black smoke was "pouring from the fuselage" before the plane did a roll-over, went into a spiral, and then plunged straight into the ground on the south shore near Woods Resort at 1450 hours. No one on the ground was killed, but the pilot died in the crash.[943]

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[938] Bandy and Associates, p. 43.

[939] Ibid., p. 68; p. 82.

[940] Ibid., p. 82.

[941] Ibid., p. 169.

[942] Ibid., p. 170.

[943] *Argus Leader,* 26 June 1970, p. 1. See Bucklin, *From Cold War to Gulf War,* p.144.

Twenty years later, the SDANG lost two A-7 attack aircraft on 30 May 1990 as a result of a mid-air collision over Spencer, Iowa. Wreckage was strewn over a four square mile area of farmland. Although the two pilots—Major Duncan Keirnes and Major Gregory Gore—and their passenger—Ward Bushee—survived, the collision was a public relations nightmare given Bushee's job: he was executive editor of the *Argus Leader.* He had written an editorial critical of the SDANG and was subsequently invited on the flight to learn more about the institution. Despite Bushee's injuries, the SDANG continued to allow civilians on board flights, but limited them to public officeholders and photojournalists.[944]

Jim Myers, a native of Yankton, South Dakota, served the SDDOT in a variety of capacities in the 1980s and 1990s, including being the Secretary of Transportation. He recalled that when he joined the DOT, "they had a Director of Highways, and they had a Director of the Aeronautics and they had a Director of Railroads. And for a period of time in addition to being secretary I was all of the above."[945] He was "big on safety" and required pilots that flew for the state to attend flight safety training at a program in Texas.

He also was hesitant to fly with Governor Janklow at the controls. He was in Aberdeen one day when the Governor offered to fly him back to Pierre. Myers replied: "Governor the one person I will not fly with is you," to which Janklow responded "Why? Who do you know that's had three crashes and survived them?"[946]

The state had, according to Myers, a couple of airplanes, including "an older Beechcraft." Governor Janklow authorized Myers to negotiate the purchase of a Mitsubishi MU-2. Myers recalled that it "was a great plane for us because it was relatively fast and it got the Governor where he needed to go in a timely basis. And of course during the railroad thing there were a lot of trips to Chicago." Dick Howard also noted that the MU-2 was fast and that the SDDOT pilots "were totally confident with it. They liked to fly it."[947] The plane did not prove to be as reliable as they first thought.

After Governor Mickelson took office, he and a group of South Dakota businessmen were promoting the state "in Cincinnati…and on the way back there was a rainstorm." The group included Roland Dolly, Ron Reed, Angus Anson, David Birkeland, Roger Hainje and pilots Ron Becker and Dave Hansen (both SDDOT employees) and they were, indeed, returning from Cincinnati.

Linda Mickelson Graham learned about her husband's death as she was driving home to Pierre. She had stopped a Chamberlain gas station to make a phone call "when she received the shocking

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[944] *Argus Leader,* 5 June 1990, Section C, p. 1; 12 July 1990, Section C, p. 1. See Bucklin, p. 187.

[945] Myers Interview, p. 38.

[946] Ibid., pp. 38-39.

[947] Howard Interview, p. 27.

news." It was, she said, "Horrible, it was horrifying, it's something unbelievable, it's something that you read about but you don't think will ever happen in your family," Mickelson Graham said.[948]

The plane, according to Myers and KELO Television reporter Perry Groten, threw a prop on 19 April 1993.[949] The pilots tried to make it to safety, but flew into a silo. "And so," Myers said, choking up, "I lost eight friends that day."[950] All on board were killed.

Dick Howard recalled that he was in Branson, Missouri, that day attending an AASHTO conference. He received a message from his secretary to call her. When he did, she said, "Mr. Howard you better sit down" and then she relayed the terrible news to him.[951]

Howard offered more details about the accident. He attended the National Transportation Safety Board (NTSB) hearing into the crash. After the propeller failed, the pilots radioed their situation and were diverted to Dubuque, Iowa. That meant they passed over two other airports that were closer and where the weather was good, but those airports did not have instrument landing. They were a few miles short of the Dubuque runway when they came down out of the clouds and ran head-on into a silo.[952]

The NTSB ruled that the accident was the result of a combination of factors. Foremost was the propeller hub failure and subsequent engine failure, fuselage damage from the thrown blade, decompression in the plane, and an uncontrolled descent. Another conclusion was that the crew did not clearly state the seriousness of their situation to controllers, although "Mayday, mayday, mayday, Six-Sierra-Delta, we're going down here" seems extraordinarily clear, especially when accompanied with the statement "The closest airport we can get to" when the controller responded "Roger, tell me what you need."[953]

The NTSB, nonetheless, declared that "The controllers might have been more prone to search for a more suitable diversion airport" if they had more specifics. Controllers considered Clinton, Iowa, (CWI) and the Quad Cities International Airport (MLI) as alternatives, but Dubuque was closer. The NTSB concluded that had the flight been diverted to MLI, the crew would have had "more time to

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[948] "Mickelson's Wife Talks About Plane Crash Anniversary," April 19, 2008, http://www.keloland.com/NewsDetail6162.cfm?Id=68613. Accessed 10 October 2011.

[949] Myers Interview, p. 39; "Mickelson's Wife Talks About Plane Crash Anniversary," April 19, 2008, http://www.keloland.com/NewsDetail6162.cfm?Id=68613. Accessed 10 October 2011.

[950] Myers Interview, p. 39 The SDDOT building is now officially the Becker-Hanson Building named in honor of the two pilots.

[951] Howard Interview, p. 26.

[952] Ibid., pp. 22-27.

[953] Russell Lawton, "Inflight Loss of Propeller Blade on MU-2B Results in Uncontrolled Collision with Terrain," *Flight Safety Foundation, Accident Prevention,* Volume 51, Number 4, April 1994, pp. 1-2.

locate a flat, open area on the ground to crash land the airplane, and the probability of flight crew and occupant survival would have been greatly increased."[954]

Six years after the MU-2 crash, on 25 October 1999, a chartered Learjet 35 took off from Orlando, Florida, en route to Dallas, Texas. Having reached cruising altitude, the pilot and first officer turned on the autopilot. What they did not know was that the cabin was gradually losing pressure.

Eventually, the two-crew members and four passengers, including U. S. Open Golf champion Payne Stewart, lost consciousness due to hypoxia. The aircraft flew for almost four hours covering nearly 1,500 miles until it ran out of fuel and crashed into a field near Mina, South Dakota. The crash occurred around noon CST after a total flight time of 3 hours, 54 minutes. The plane was almost completely destroyed and all on board were killed.[955]

None of these crashes were the result of any failure on the part of the SDAC or of any employee at any airport in South Dakota. South Dakota's record of air safety is extraordinary, especially with regard to General Aviation, but given the huge volume of military traffic at Ellsworth and the 175th Fighter Group out of Sioux Falls and SD Army National Guard air assets, it is fair to say that the record is extraordinary, period.

Technological developments continued to aid in the safety of aviation during the last two decades of the Twentieth Century. Instrument approach procedures were established at Belle Fourche, Mobridge, Spearfish, and Vermillion and upgraded at Brookings and Mitchell. Global Positioning satellites were coming into use in the 1990s for what were called "non-precision approaches." The Global Positioning System (GPS) eliminated the need for ground-based approach and navigational aids for such approaches. The system promised to reduce costs substantially for airport instrumentation.[956]

No technological development, however, anticipated the brutal terrorist attacks of 11 September 2001. The nation's air space was shut down. Security, such that it had been before that day, was irrevocably altered. A South Dakotan flew to the Netherlands in early August 2001 and was scheduled to return to South Dakota on 12 September 2001. When he finally arrived at Joe Foss Field in Sioux Falls on 16 September, it was a changed place.

Cement barricades were now in place on the sidewalks and the roads. National Guard personnel were on duty with loaded M-16s. Police cars patrolled the road and the innocence that had once marked air travel in the United States—indeed, across the globe—was forever gone. Although

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[954] Ibid., p. 7.

[955] http://en.wikipedia.org/wiki/1999_South_Dakota_Learjet_crash; http://www.ntsb.gov/news/speeches/hall/jhc001128.htm; "Payne Stewart Plane Crash Information," http://www.airsafe.com/stewart.htm. Sites accessed 10 October 2011.

[956] Bandy and Associates, p. 15.

security measures are no longer so omnipresent in Sioux Falls and other South Dakota airports, they are ongoing and evolving.

The Final Report of the SDSASP for 2010 noted that "Maintaining a safe and secure system of airports is an important goal of the SDSASP." The key objectives to achieve this goal in South Dakota are: "to maintain clear approaches to runway ends" and to maintain emergency response plans that provide "procedures and guidelines for airport responses to emergencies, such as accidents and natural disasters, and suggest a predetermined course of action" to include "command, communication, protective action, security, firefighting and rescue, medical services, resource management, operation, and maintenance." Although the FAA required only the commercial service airports "to have an emergency response plan, it is an objective for each airport in the system to have an emergency response plan which is appropriate to the size and type of operations the airport serves."[957] Nonetheless, nearly a decade after 9/11, only 12 airports in South Dakota have a security plan available.[958]

South Dakota's aviation system included 72 public use airports as of 2010 that "support more than 700,000 annual aircraft operations moving people and cargo around the world.[959] The SDDOT Office of Aeronautics is responsible for that system and, as already noted, for planning for its needs.

The latest SDSASP "provides a comprehensive framework to assess, manage, and develop the State's aviation system, while offering guidance to the FAA, the South Dakota DOT, local planning agencies, local decision makers, and airport sponsors to make informed decisions on the use of available resources."[960] The Aeronautics Office promotes State and local collaboration with regard to "individual airport development, as well as overall system growth."[961]

Those 72 airports provide service across the 77,000 square miles of the state. They are an integral part of South Dakota's transportation system and economy. All 72 airports serve General Aviation (GA) operations (in fact, 66 serve only GA) and six support both commercial (CA) and GA.[962] Two of the six commercial airports—Huron Regional Airport and Watertown Regional Airport—are operational only through the U.S. DOT Essential Air Service (EAS).[963]

These facilities are critical to some of South Dakota's largest industries. The system serves a variety of users with diverse interests including recreational flying, cargo shipping, search-and-rescue

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[957] "South Dakota State Aviation System Plan, 2010-2030," (South Dakota Department of Transportation, Pierre, South Dakota, 2010), p. 21. Hereon referred to as SDSASP, 2010-2030.

[958] Ibid., p. 82.

[959] Ibid., p. 9.

[960] Ibid.

[961] Ibid.

[962] Ibid., pp. 14-15.

[963] Ibid., p. 97.

operations, and agricultural uses. They also provide vital access to rural regions that would otherwise not be served."[964]

Of the six of airports that provide commercial service, Sioux Falls Regional Airport/Joe Foss Field is the largest. Rapid City Regional Airport is the next largest. The other four commercial service airports at this time are Aberdeen Regional, Huron Regional, Pierre Regional, and Watertown Regional. These airports serve users who find it difficult to book a flight or ship cargo in and out of Sioux Falls and Rapid City.[965]

Joe Foss Field, which is located in the state's largest city, serves a regional community, including the residents of southwest Minnesota and northwest Iowa.[966] Thirteen airlines fly in and out of Joe Foss Field as of 2010, providing service to several major U.S. cities including Los Angeles, Orlando, and Detroit. Joe Foss Field is also a U.S Customs Port of Entry, so it can provide service to international flights. In addition, it serves GA operations.[967]

Rapid City Regional Airport serves the second largest concentration of people in the State and links Rapid City to seven major cities. In addition to providing access to the many tourist attractions in area, RAP also provides complete GA facilities. In fact, non-commercial aircraft account for over 60 percent of total operations at RAP.[968]

According to the *Airline Origin and Destination Survey (2009)*, the Bureau of Transportation Statistics conducted a survey at Joe Foss Field and RAP that revealed *"*approximately 28 percent of travelers were visitors," many of whom came to see South Dakota's numerous national parks and monuments or participate in events that draw "thousands of people and millions of dollars each year" to the state.[969]

Data from the 2010 U.S. Census was not available when the current SDSASP was developed, so it relied on data from the 2000 Census. The 2000 census reported 755,844 resident South Dakotans. Estimates indicated a 14.4 percent (14.4%) growth, or 56,539 people, through 2009. The Compound Annual Average Growth Rate (CAGR) was 0.82 percent (0.82%). This ranked South Dakota's population 46th in the United States at 812,838.[970]

During that same period, 20 of South Dakota's 66 counties experienced population growth. Nine counties grew at a rate greater than the CAGR. Lincoln County "experienced the greatest population increase, growing by 41.46 percent (41.46%) or 17,087 people." Of the 46 counties whose population

[964] Ibid., pp. 14-15.

[965] Ibid., p. 15.

[966] Ibid., p. 14.

[967] Ibid., p. 15.

[968] Ibid.

[969] Ibid.

[970] Ibid., p. 88.

declined, "Campbell County experienced the greatest decline of 4.07 percent (4.07%) or a decrease of 1,316 people."[971]

Population, total employment, per capita income, and retail sales figures serve as the basis for "long-term economic and demographic projections." The 2010 SDSASP projected that all four factors would experience an increase through the year 2030 of "between 0.42 percent (0.42%) and 1.14 percent (1.14%) CAGR. The net result will be "a marginal increase in aviation demand" over the next 20 years.[972]

Great changes in the aviation industry from 2000-2009 altered "aviation demand at the individual airports." Those trends are "detailed in the FAA's Aerospace Forecasts Fiscal Year 2010-2030." They included a decline in commercial aviation "in late 2008 through 2009 as the recession slowed demand for air travel." Airline capacity declined as a result of carriers entering bankruptcies or ceasing operations over a five-year period. The FAA forecasts indicated, though, "that domestic and international aviation growth will continue during the 20-year forecast."[973]

As of 2010, "18 mainline air carriers that use large passenger jets (over 90 seats) and 66 regional carriers that use smaller piston, turboprop, and regional jet aircraft (up to 90 seats)" were the backbone of U.S. commercial aviation. Five years earlier, there were 33 mainline carriers and 81 regional carriers. The decline is the "result of airline mergers and air carriers ceasing operations.[974]

Projections indicate that domestic capacity will "increase at an average annual rate of 2.9 percent. Of that annual rate, mainline carriers will grow at 2.7 percent (2.7%) and regional carriers at 4.0 percent (4.0%). The authors of the report forecast passenger enplanement to grow "at 0.4 percent (0.4%) in 2010, following a 7.3 percent (7.3%) decline in 2009. Passenger volume is projected to increase in 2011 as the economy begins to recover, and is expected to grow at an average rate of 2.6 percent (2.6%) through the remainder of the forecast period." Domestic enplanements of 522.3 million in 2008 are seen to grow to 760.9 million in 2030.[975]

Growing demand for business jets is an indicator that general aviation aircraft will expand in that sector "at a more rapid pace than that for personal or sport use." Corporate safety and security concerns "combined with increased processing times at many U.S. airports have made fractional, corporate, and on-demand charter flights practical alternatives to travel on commercial flights."[976] What all of this means is that South Dakota is likely to experience aviation growth in some areas and a decline in others.

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[971] Ibid.

[972] Ibid.

[973] Ibid., p. 91.

[974] Ibid.

[975] All quotes and figures from "SDSASP, 2010-2030," p. 92.

[976] Ibid., p. 94.

Aviation brings jobs to South Dakota. There were 2,043 people whose jobs were directly related to "on-airport" activities in 2010 and an additional 1,368 in spinoff jobs. This generated $157,325,000 in income for those employees. Business sales amounted to $501,979,000.[977] All told, the state estimates that 8,200 people are employed in the aviation industry or related businesses.[978] When the impact of visitor spending, the Sturgis Rally, the pheasant hunting season, agricultural spraying, and a few other categories is added to this, the total economic impact on the State's economy is significant: $1,145,081,000.[979]

The American Recovery and Reinvestment Act of 2009 (ARRA) provided $12.7 million in airport funding. This money went to improvements at Martin, Mitchell, Pierre, and Rosebud.[980] Senator Tim Johnson (D-SD) announced in September 2011 that the Sioux Falls and Watertown airports received federal grants in 2011 to rehabilitate runways. Joe Foss Field in Sioux Falls received $4 million and the Watertown Regional Airport received $7.5 million. The grants were "part of the Federal Aviation Administration Airport Improvement Program, which funds projects such as improvements related to enhancing airport safety, capacity, security and environmental concerns."[981]

The citizens of the state, individually and through their businesses and governments, have actively encouraged aviation. Since the first plane flew in Rapid City for the Cattleman's Association, to the Flying Farmers and Ranchers promotions, and to the continued growth of such facilities as Joe Foss Field and RAP, South Dakotans have taken proactive measures to ensure that their air service meets its role in the mission statement of the SDDOT: "We provide a quality transportation system to satisfy diverse mobility needs in a cost effective manner while retaining concern for safety and the environment. To accomplish this mission we must maximize the use of our assets, which include: tax dollars, buildings, equipment, supplies, and people."[982]

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[977] Ibid., p. 138.

[978] Ibid., p. 143.

[979] Ibid., pp. 138-143.

[980] "2010 Accomplishments, Department of Transportation," p. 2.

[981] "Sioux Falls, Watertown airports getting grants to improve runways," *Argus Leader,* 14 September 2011; see also "Recent Press Releases, Tim Johnson Senate homepage, http://www.johnson.senate.gov/public/index.cfm?p=PressReleases&ContentRecord_id=27a32def-5e02-49ee-a170-285561ee81ee&ContentType_id=c3d73cfe-c14b-4676-96ed-43a65aea57c0&Group_id=5170fc2b-d402-44fb-8102-8ac79b66eafe.

[982] "SDSASP, 2010-2030," p. 19.

CHAPTER 7 ABANDONMENT AND ADOPTION: RAILROADS IN SOUTH DAKOTA TO 2013

The railroad boom years peaked in 1911 with total track mileage that year at 4,420 miles. According to the authors of *A New South Dakota History,* "After that date, abandonment set in—no one has laid a mile of new track since 1948" in the state.[983] Herbert Schell observed that improvements in roads and in cars and trucks, coupled with a decline in trade centers, "forced the railroads to adjust themselves to a loss of business, abandoning depots in small towns and curtailing service in general. Nearly 350 miles of railroad were abandoned between 1928 and 1968."[984]

The abandonments did not mean that people did not still use the railroads. In fact, during World War II, hundreds of thousands of military personnel traveled through Aberdeen. The United Service Organizations (USO) and the American Red Cross set up a canteen on 19 August 1943 in space the Chicago, Milwaukee St. Paul and Pacific Railroad donated at the depot. It was called the Aberdeen Railway Station Canteen and the volunteers soon began to serve a "special treat": the famous pheasant sandwich. They fed, on average, 500 servicemen per day. One day, 1000 men ate pheasant sandwiches. By the time it closed in March 1946, the canteen had served 586,000 troops.[985]

The war traffic was the exception, not the rule. All passenger service in the state had been discontinued by 1968 except for a single train on the transcontinental line of the Milwaukee Road serving Aberdeen and Lemmon."[986]

The rapid and extensive growth of the trucking industry also cut into the once gigantic railroad freight business. In 1915 railroads carried over one million people and two million tons of freight each year. There were 65,000 locomotives, 55,000 passenger cars, and 2.5 million freight cars. The nation's railroads employed 1.8 million people.[987] This would change rapidly with the passage of the Federal Aid Highway Act of 1916.

Figure 31: Passengers on the last Milwaukee Road passenger service between Mobridge and Minneapolis, 1964

[983] Harry F. Thompson, General editor. A New South Dakota History (Sioux Falls, SD: The Center for Western Studies, 2005), p. 489. See also RAILPLAN SOUTH DAKOTA, 1986. SDDOT Division of Planning publication, April 1986, III: 1. ACC 86-061, Folder 02216 A, for the 1948 figure.

[984] Schell, p. 365.

[985] The information in this paragraph is taken from http://www.youtube.com/watch?v=OOoqe_JEEeY. The WWII Pheasant Canteen Team and the McQuillan Creative group produced the film from footage Professor Robert Webb of Northern State University preserved.

[986] Hebert Schell, *History of South Dakota*, pp. 365-366.

[987] Tom Lewis, Divided Highways: Building the Interstate Highways, Transforming American Life, p. 21.

Herbert Schell noted that trucks carried only 12 percent of all livestock to the Sioux Falls market in 1930 whereas by 1950 trucks carried 98 per cent of livestock to the same market. By 1960, trucks carried 100 percent of hogs to the Sioux Falls market.[988] If South Dakota's transportation system were to remain a multimodal system, something needed to be done and it did not appear that the private sector was going to come to the rescue. This philosophy came to be the core value of South Dakota's involvement in the railroads: that the State must "provide and maintain essential services and facilities in South Dakota which [sic] serve the public interest but which [sic] cannot otherwise be profitably continued by private carriers."[989]

There was interest in preserving or even extending rail service in the early 1970s on the national level. President Nixon signed legislation creating the national railway service known as AMTRAK on 30 October 1970.[990] Nixon's first Secretary of Transportation, John Volpe, called for the use of the Highway Trust Fund to support modes of transportation other than highways. Volpe believed the nation needed multi-modal forms of transportation and believed the railroads were essential to such a system, but many railroads had gone bankrupt by the time he was appointed and many more faced enormous investments to repair deteriorating infrastructure.[991]

Following the historic trend of reorganization of government to secure efficiencies, the State Railroad Commission was combined with the SDDOT in 1975 just two years after Governor Richard Kneip reorganized the executive branch.[992] This prepared the SDDOT to coordinate plans for railroad rehabilitation as Congress followed through with funding for railroad planning and projects in the form of "Section 5, Department of Transportation Act, as amended by the Railroad Revitalization and Regulatory Reform Act of 1976 and the Local Rail Service Assistance Act of 1978."[993]

This was a crucial development given the continued deterioration of rail service in South Dakota in the late 1970s and early 1980s. Rail abandonments since 1909 resulted in "the loss of service on over 75% of the maximum system."[994] Historically, "nearly 47% of all rail abandonments in South Dakota" occurred from 1980-1982, a period in time during which 1571 miles were abandoned, or "36% of the total rail miles constructed in the State."[995] When the Milwaukee Road embargo ended in 1980, South Dakota faced "the loss of over 50% of its total operating rail mileage."[996]

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[988] Schell, pp. 365-366.

[989] SDRAILPLAN97, chapter 2, p. 12.

[990] Lewis, p. 218.

[991] Ibid., 217.

[992] See the document "History of the South Dakota Department of Transportation" 1988, ACC 85125, Folder 2325 A for the 1975 date.

[993] *RAILPLAN SOUTH DAKOTA, 1986*, II:3. ACC 86-061, Folder 02216 A.

[994] Ibid., *1986*, III: 1.

[995] Ibid., III: 3.

[996] Ibid., II: 10.

One other effect of abandonment proceedings in South Dakota was the delay of the completion of the Interstate Highway System. The Milbank-to-Sisseton line of Milwaukee Road track was being considered for abandonment and until the bankruptcy trustee made his decision, construction on the bridge on I-29 near Sisseton could not be finished.[997]

That situation resulted in several actions to address the situation. The legislature transferred the authority to deal with railroad abandonment issues from the Public Utilities Commission to the SDDOT Division of Railroads in March 1979. Assistant State Attorney General John Wiles was assigned to the Division for that purpose.[998]

Another action was the creation of the South Dakota Railroad Authority in Spring 1980. Elected officials were ineligible to serve on the Authority. It consists of seven members who the Governor appointed for four-year terms. No more than five members could be of the same political party. Those members then select a chairman from amongst themselves on an annual basis. The authority members annually choose a chairperson from among the members.[999] Governor Janklow appointed the first members on 25 July 1980.[1000] The Legislature also allowed the creation of regional or local rail authorities that could take advantage of low interest loans from the state.[1001]

In addition, Governor Janklow established a Special Task force during his first term in office. Janklow served 16 years as governor. He recalled that the "railroads were bankrupt when I walked into the Governor's office" and that he was "deeply, deeply involved in railroads." As anyone who has been involved with the Rotary, Kiwanis, Lions Club, and Cosmopolitans organizations knows, "at noontime they always sing a song. Invariably," Janklow remembered, "when I came it was "I've Been Working On the Railroad" and they would then give him "these wooden carved out engine locomotive horns and little model trains."[1002]

At the time of his first inauguration, the Milwaukee Railroad—the major railroad in the state—was in bankruptcy, having filed for reorganization under Section 77 of the Federal Bankruptcy Act on 14 December 1977.[1003] According to the Governor, the state "had one thousand, five hundred miles of Milwaukee railroad" stretching from "Sioux City to Yankton to Mitchell to Huron to Wolsey to Aberdeen across South Dakota coming from Minnesota, Aberdeen, and out of Lemmon. Going from

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[997] "Chronological History of SD Division of RR and Milwaukee Road." SDDOT PDF document, p. 22.

[998] Ibid., p. 3.

[999] http://legis.state.sd.us/statutes/DisplayStatute.aspx?Type=Statute&Statute=49-16B-3. SL 1980, ch 323, § 3; SL 2011, ch 74, § 7. Accessed 20 November 2011. See also SL 1980, ch 325, § 7.

[1000] "Chronological History of SD Division of RR and Milwaukee Road," p. 14.

[1001] Ibid., p. 26.

[1002] Janklow Interview, p. 16.

[1003] "Chronological History of SD Division of RR and Milwaukee Road," p. 1.

Sioux Falls to Rapid City along old Highway 16, which is now Interstate 90, we had no trains running because the railroad had gone bankrupt."[1004]

One story that stuck with him in particular was that of a "railroad locomotive yard north of Yankton South Dakota that ran for two weeks idling because the crew got out and walked away from it when they went into bankruptcy. Nobody bothered shutting the train locomotive off so it just sat there idling with a diesel engine. It was a mess."[1005]

He spent much of his first two years in office trying to get the trains running. In order to do so, he "ended up buying the railroad. I bought the entire railroad across South Dakota along Highway 16," he recalled, "because I never knew if the state would need it to run pipelines or power lines or something else. It's so difficult to acquire land but I figured we might as well keep it as long as we own it…I bought a lot of railroad, a lot of railroad."[1006] It should be made clear, though, that the State bought no rolling stock. Purchases were of track and right-of-way.

Equally important was the cooperation of the unions that represented the workers of the Milwaukee Road and other lines. Members of ten different unions agreed to exchange 10% of their 1980 wages and 7% of their 1981 wages for stock in the reorganized Milwaukee Road.[1007]

Janklow was to railroads what Governor Peter Norbeck was to highways: a champion and promoter. These two men left huge footprints on South Dakota's transportation system, but so, too, did the men they chose to aid them.[1008]

The Special Task Force met in Jim Myers' office. Myers, born 29 July 1937, was a native of Yankton. His father was a grocer and his mother a nurse. He graduated from Yankton High School and was working at Gurney's Feed and Seed when a group of California Institute of Technology recruiters showed up and convinced him to go to Cal Tech. Initially enrolled in computer design, Myers faced financial difficulties, dropped out of school, and joined the Navy in 1956. He trained as an electronics technician and wrote the plans for an overhaul of the electronics system of the aircraft carrier *USS Randolph*.[1009]

Myers worked for Litton Industries, a major defense contractor, after leaving the Navy in 1960. One of the executives left to form a new company, National Astro Laboratories, and he took Myers with him. He eventually became Vice President and Director of Technical Operations. He was responsible for five labs in Pasadena and two remote labs, one at Yuma Proving Grounds and the

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[1004] Janklow Interview, p. 16.

[1005] Ibid.

[1006] Ibid., p. 17.

[1007] "Chronological History of SD Division of RR and Milwaukee Road," p. 15.

[1008] That being said, it is important to note that Bill Janklow's career in politics ended as a result of his careless driving. He ran a stop sign while speeding on 16 August 2003 and killed motorcyclist Randy Scott.

[1009] Myers Interview, pp. 1-5.

other at Edwards AFB. He also did work for the National Aeronautics and Space Administration (NASA) and the Jet Propulsion Laboratory.[1010]

Myers eventually returned to Litton, but he and his wife decided they wanted to raise their son in the Midwest. They returned to Yankton in August 1972 and Myers found work with Dale Electronics, a subsidiary of Lionel Corporation that had a factory in Yankton. This may have been the beginning of his love for railroads.[1011]

He ran for and won a place on the Yankton County Commission. Subsequently, after six years of service, the Commission elected him mayor for two years. It was during this period that he became aware of the impact railroad abandonment was having on his local community and on his state.[1012]

He got involved in state government because he learned that "the rail line that went through Yankton was under consideration for abandonment and that ultimately lines that branched off of it were also going to be abandoned [and] because the Milwaukee Railroad was going to file for bankruptcy." He invited some railroad executives to Wagner, South Dakota, "to meet with some of the rail users there."[1013]

Impressed, the executives invited him to Chicago for a major conference on railroad issues. He attended not as the mayor of Yankton, but as the Executive Director of the South Dakota Rail Users Association.[1014] Myers gave a talk and later "wound up at the Union League Club, which was an old railroad baron hotel catty-corner just across the street from the Dirksen Building, which was the Federal Court's Building in Chicago." He spent "several hours with twelve senior railroad executives from all over the country and got into quite a debate. And out of that," he recalled, "I was hooked."[1015]

He began to lobby the legislature on some railroad related issues. When the Milwaukee Road filed for bankruptcy, Myers knew it was an extremely important issue for South Dakota. That line fed the lignite coal from the Gascoyne Field in North Dakota to the Big Stone power plant on the South Dakota-Minnesota border. Abandonment would also affect Ottertail Power, Northwestern Public Service, and Montana-Dakota Utilities.[1016]

Governor Harvey Wollman (D), who was filling out the end of Governor Kneip's term after he was appointed Ambassador to Singapore, took Myers to Washington, D.C., to meet with South Dakota's

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[1010] Ibid., pp. 7-8.

[1011] All information from Jim Myers Interview, 4 November 2010, pp. 9-10. Myers died in August 2011.

[1012] Ibid., pp. 10-11.

[1013] Ibid., p. 11.

[1014] Ibid., p. 12. This organization was formed in October 1975. See "Chronological History of SD Division of RR and Milwaukee Road," p. 1.

[1015] Myers Interview, p. 12.

[1016] Ibid., pp. 12-13.

Congressional delegation, including Senator George McGovern, and federal officials. The problem they faced, though was really two-fold: it was an election year and Wollman, a caretaker governor and a Democrat, did not run in the general election. Democrat Roger McKellips faced Republican Bill Janklow in the gubernatorial contest. Janklow won.

Wollman suggested to the Governor-elect that he hire Myers. Myers recalled that he and Janklow did not necessarily share the same "views on how things should come together and so we met on three occasions and finally on the third occasion I suggested that I would do things his way for one year and then we would decide where to go from there."[1017] Governor Janklow, according to Myers, did not know whether he was Republican or Democrat. That seemed to fit Janklow's reputation for seeking the best candidate for a given job. Janklow appointed Myers Director of the Division of Railroads in January 1979. It was his first job in state government. He continued in that role until January 1983 at which time Governor Janklow appointed him Secretary of Transportation.[1018]

It was during this period that the state was developing the Core Rail concept. The Milwaukee Road was the spine. It had a line that ran from about Sioux City through Yankton and Wolsey and Redfield and on up to Aberdeen. Its big drawback was that much of its track was ninety-three pound light rail, some of which had been rolled at the Krupp Works in Germany in the late 19th century.[1019] Another line that entered the state around Canton and went across to Mitchell was also an early core component.

Myers and his staff put together a color-coded map of existing lines in the state. Red lines represented the Core. Yellow lines represented lines that could not continue without subsidies from local entities like the grain elevators. Green lines were those railroads that did nothing to support themselves and that the Governor had indicated the state must purchase.[1020]

Myers recalled that although the Director of the Division of Railroads technically reported to the Secretary of Transportation, he was instructed to report directly to the Governor. Myers office was "in a far corner of the DOT building" and, with just three people at the beginning, began to study the situation. "We put together rail plans," he recalled, "and we had the best record in the country for participation in those programs."[1021]

Present at that first meeting of the Special Task Force on 18 December 1980 were Senator Curtis Jones, Senator John Bibby, Representative Dale Andersen, and Jim Myers. Representative Lars Herseth was unable to attend. Legislative Research Council staff members present were Randall

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[1017] Ibid., p. 13.

[1018] Ibid., pp. 13-14.

[1019] Ibid., pp. 18-19.

[1020] Ibid., pp. 17-18.

[1021] Ibid., p. 14.

Stuefen (Research Analyst), Wade Hubbard (Staff attorney), and Jeanne Feldhaus (Secretary). In attendance for the Division of Railroads were James Myers, Nanette Daily, and Mark Rodvold.[1022]

Figure 32: Minnesota, and Eastern hopper car used to carry bulk commodities able to be loaded and unloaded automatically
(Courtesy of the SDDOT)

The minutes deal primarily with tracking hoppers and other rolling stock with regard to using them efficiently. The Division of Railroads worked with a company called RAILTEX out of Texas to develop a computerized tracking system. Any car equipped with the tracking system could be tracked to "observe what actions were made and the time lapse between actions. The goal was to increase the use of hoppers from two cycles per month to three. The meeting included a demonstration of the process.[1023]

Myers had done some significant research to "truly understand what South Dakota's needs were and what the South Dakota infrastructure was to support those needs" before the meeting. He spent time at the University of California—Berkley, to learn how to "effectively use satellite data and soil data to look at South Dakota as a producer of agricultural products and get some idea of what the trends were going to be." He sought to "match that up to the highway system because it was clear we were going to lose a lot of rail lines. It was clear that we had to find a way to have the highway system help resolve at least part of the problem."[1024]

[1022] Minutes of SPECIAL TASK FORCE TO OVERSEE THE IMPACT OF THE RAIL CAR UTILIZATION PROGRAM, First Meeting, 18 December 1980. Box 02157 A.

[1023] Ibid.

[1024] Myers Interview, p. 15.

He found himself focused "on the Burlington Northern properties in the eastern part of the state" because it appeared that it would be the only railroad in the state to survive. Myers recalled that Governor Janklow "was not happy with the Burlington Northern at all because…they weren't going to be an active part of our solution." When the Milwaukee Railroad announced that they were going to shut down the main line to Big Stone Power Plant, because they couldn't afford the repairs that it needed, Myers went to Chicago and met with the trustee. During the course of that meeting, Myers "told the trustee that I would raise the money that was needed to band-aid the main line so that it could continue its service."[1025]

Myers had to hustle. Governor Janklow was in Kansas and Myers needed him to testify to the commitment in court in Chicago in front of the special master. Myers contacted the Chief of Staff, who in turn got a hold of the Governor, who then called Myers. The Governor said: "you can't go to court, they won't believe you." Myers replied: "that's why you're coming to Chicago, Governor." They went to court the next morning, the Governor made the commitment, and the band-aids were placed on the main line.[1026] Said the former Governor: "We went to an emergency proceeding and bankruptcy court in Chicago and got the trains running."[1027]

Myers returned to Chicago and suggested that the state might buy branch and core line properties in South Dakota. Janklow then proposed a one-cent sales tax increase to fund the purchase of the rail property. He recalled that:

> We ended up buying the railroad at the height of what I call the Jimmy Carter recession because he was at the switch so that's what I call it. At the height of that recession we put a special tax of a penny on the sales tax for two purposes, to buy the railroad and to pay state aid to schools. That was when I was dealing with a fiscal crisis that's as bad or worse than what the state's facing now. Back in '79, '80, '81 and '82 then we did it that way because I didn't want the railroad to know how much we paid for the railroad. If we did something stupid like a fixed amount they'd know what we were willing to pay.[1028]

The legislation authorized the governor to buy the railroad and when the sales tax reached the point of what the railroad would cost, the governor would sign a proclamation and then end the tax.[1029]

A group of citizens calling themselves "IRATE" filed suit against the tax. The State Supreme Court placed the tax in abeyance and ordered that the State Rail Plan be delayed until the case could be

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[1025] Ibid.

[1026] Ibid., p. 16.

[1027] Janklow Interview, p. 16.

[1028] Ibid., pp. 17.

[1029] Ibid.

heard.[1030] Such delays created a serious threat that the state's plan would not be implemented in time to save the core line, but the Supreme Court ruled that the penny tax was constitutional on 17 April 1980. Collection of the tax began on 1 May of that year and the plan was set in motion.[1031]

The Court would be involved in at least one more issue with regard to funding the railroads after the sales tax was passed, and it was one South Dakotans had visited before: diversion of gas tax revenues. The State Legislature, with a necessary two-thirds majority, passed a one-cent gasoline tax increase on 28 February 1981 to help fund railroad purchases and rehabilitation.[1032] This raised almost immediate opposition.

A coalition of interested parties, including truckers, agricultural producers, and the American Automobile Association (AAA) of South Dakota announced on 27 March 1981 that they would test the constitutionality of diversion of highway funds for railroads in the State Court. They filed suit on 3 April 1981.[1033]

The Court ruling more than likely did not surprise anyone, given the referendum of 1940, but memories are often short.[1034] The court held that revenues gained from on-highway use could not be diverted from highway funds for railroads. Only off-highway motor fuel taxes could be used for such projects.[1035]

At the same time, U. S. Senator Larry Pressler was seeking federal support for railroads "of a different color." President Jimmy Carter had raised the possibility that U.S. might build what was called the MX Missile system as a response to the tensions with the Soviet Union over its invasion of Afghanistan in 1979. Carter withdrew the Strategic Arms Limitation Treaty-II from the Senate and threatened the Soviets with a whole new round of missile construction. The MX proposal would have had missiles carried on trains that ran random routes across less inhabited areas of the nation. Pressler asked the Reagan Administration to base some of the MX system in South Dakota.[1036] The system never came to be, largely due to the recession and the budget constraints of the early 1980s, but if it had, Pressler wanted South Dakota to benefit from it.

Myers went to Chicago with the authority to spend twenty-six million dollars and negotiated the purchase for "about eighteen million."[1037] Because the South Dakota State Treasurer could not write a check larger than six million dollars, Myers made "several trips to Chicago with a six million dollar

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[1030] "Chronological History of SD Division of RR and Milwaukee Road," p. 11.

[1031] Ibid., p. 12.

[1032] Ibid., p. 30.

[1033] Ibid., pp. 32-33.

[1034] *Going Places*, Chapter 2, p. 55.

[1035] "Chronological History of SD Division of RR and Milwaukee Road," p. 35.

[1036] Ibid., p. 32.

[1037] Myers Interview, p. 16-17.

check in my pocket."[1038] The first 6 million dollar installment was delivered on 28 November 1980.[1039]

The remaining eight million dollars would be used to revitalize the infrastructure, especially that of the light rail. Some of the companies "were moving grain in forty foot boxcars with cardboard in them to keep the grain from running out" at less than five miles an hour.[1040]

After the negotiations were completed and the purchase made, Myers hired a number of ex-Milwaukee Road track personnel to start the rehabilitation of track. The original plan was to leave the lines under state ownership, but to search for an interested operator. The green lines were put on hold, but yellow were in the process of rehabilitation so that in the event an operator expressed an interest, the state would have something to operate.[1041]

Despite the fact that the Governor had expressed his frustration with the Burlington Northern (BN) vocally, it was the only game in town when it came to the necessary assets to run a railroad in South Dakota. Myers laid the groundwork in negotiations with BN people in St. Paul and then Governor Janklow invited Dick Grayson from the BN to lunch at the Governor's mansion. The state "had a young engineer that had built high rail for the entire system and he knew what weight rail we had at every point and they were impressed with our knowledge of it and we began to get along."[1042]

That young engineer was Toby Wolf. He was "assigned to the Division of Railroads during that timeframe" and hi-railed the rail systems in the state to examine "their physical conditions, reviewing track charts, verifying rail weights and rehabilitation estimates" for Myers to use during the negotiations and development of the State Core System.[1043]

Some of the items that the state negotiated required Federal approval, primarily from the Surface Transportation Board and the Federal Railroad Administration, but primarily these were private negotiations. The state wanted preferred shares from the BN as a result of any partnership agreement. Jerry Prostrollo of Madison, who was on the State Railroad Board, was president of Prostrollo Motors, and who had a lot of financial experience, set up the financing through New York Life. As a result, Burlington Northern agreed to participate with the state in the purchase of the main line. Myers recalled that we "probably put another thirty million dollars in that." When asked

[1038] Ibid., p. 18.

[1039] "Chronological History of SD Division of RR and Milwaukee Road," p. 22.

[1040] Myers Interview, p. 17.

[1041] Ibid., p. 18.

[1042] Ibid., pp.19.

[1043] Toby Wolf email to author, 13 July 2012. "Hi-railing" refers to the use of modified highway vehicle, usually a truck, to ride railroad tracks.

whether the State Constitution authorized such financial dealings, Myers could only answer that apparently it does, because he was unaware of any test of this in the courts.[1044]

There was at least a hint of irregularity at the federal level with regard to preference shares. Technically, traffic on the main line was insufficient to warrant the issue of preference shares. Myers "set out to prove that for a theoretical instance in time that the tonnage on the line exceeded that threshold." The Federal Railroad Board approved, but at the cake-cutting ceremony in Washington, D.C., Federal Railroad Administrator Robert W. Blanchette said, as he cut Myers' piece of the cake: "Myers you got it away with this once, you'll never do it again."[1045]

Myers had acted within the law. He was a man concerned not only that his actions actually were above board, but also that he avoid any appearance of impropriety. When he was preparing to leave state government, Burlington Northern management offered him a job. He turned it down for two reasons: given that his name was so closely associated with railroads developments in South Dakota, someone might have gotten the impression that such a job was a pay-off for preferential treatment; and, he had received a diagnosis of diabetes.[1046]

Funding continued to be an issue. The nation experienced a severe recession during the first three years of Ronald Reagan's presidency. Money was tight. By 1981, House Minority Leader Lars Herseth sponsored a plan to fund the State Highway Patrol with motor fuels tax funds and then earmark the general funds previously used for the Highway Patrol to railroad development. The proposal received bipartisan support.[1047] In the first special session of the State Legislature in 31 years, the state's representatives approved the plan "overwhelmingly."[1048]

At least one legislator did not approve: Senator Don Frankenfeld [R] of Rapid City vowed to oppose the transfer in the courts or in the form of a referendum.[1049] Mike Sougstad of Rapid City put together a group styling itself "Restore Free Enterprise Railroads" (REFER) and began a petition drive to get the necessary signatures for a referendum.[1050] Public opinion did not reflect the opposition's concerns as the petition failed to get even half of the total number of necessary signatures.[1051]

Undaunted, Frankenfeld, facing the reality that the State was now in the railroad business, now sought to secure benefits for some of his constituents. He called on the state to conduct tests of pine as a source of railroad ties. Such tests had already been conducted and the results showed that hard woods lasted 36 years and pine only half of that. A suggestion was then made that the State Cement

[1044] All information in this paragraph is from the Myers Interview, p. 20.

[1045] Ibid., p. 21.

[1046] Ibid., pp. 40-41.

[1047] "Chronological History of SD Division of RR and Milwaukee Road," p. 35.

[1048] Ibid., p. 36.

[1049] Ibid.

[1050] Ibid., p. 38.

[1051] Ibid., p. 43.

Plant begin to manufacture cement ties, but the startup costs indicated it would not be a sound business venture.[1052]

As a result of Myers' leadership and the work of many of his subordinates, the state had adopted the *RAILPLAN SOUTH DAKOTA, 1986.* Organizationally, as of April 1986, rail planning was the responsibility of the Division of Planning, which was responsible for planning for all modes of transportation in which the State was engaged. The Railroad Board provided "public input and policy for the Division in matters relating to the management of State-owned railroad property" and the South Dakota Railroad Authority was "a public financing mechanism created to acquire and improve railroad facilities."[1053]

The SDDOT identified the goals of its Overall Planning Process as being the establishment, construction, and maintenance of an integrated and "viable state transportation system including both the public and private sectors" that provides for "the movement of products and people in a safe, economical, timely, and efficient manner based upon available resources." SDDOT personnel identified an "accompanying goal" as being to actively work for transportation betterment through public and legislative education to support the overall objective.[1054]

The Division of Planning was one of the most important of the various elements of the SDDOT. Division staff researched basic railroad problems, maintained the State/Federal relationship on rail transportation programs, and assisted the SDDOT and other public and private agencies in coordinating railroad services with other transportation modes.

The Division was responsible for planning and analysis functions that were necessary to maintain an up-to-date State rail plan. This included the collection, analysis, and evaluation of data pertaining to rail lines and services in South Dakota, including "monitoring rail traffic and commodity flows; performing detailed line analyses on lines threatened by abandonment; monitoring changes in the status, condition and service on rail lines; continually evaluating the importance of rail facilities to the State, in light of the current situation and expected developments; [and] analyzing State Core operations."[1055]

Subsequently, the state assessed "each individual operating rail line in the State. This analysis led to the identification of a minimum set of lines constituting a core system of essential lines."[1056] The core system was the blue-print for "State purchases and rehabilitation projects…designed to

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[1052] Ibid., p. 60.

[1053] *RAILPLAN SOUTH DAKOTA, 1986*, chapter II: 1.

[1054] All quotes in this paragraph are from the *RAILPLAN SOUTH DAKOTA, 1986*, chapter II: 3-4.

[1055] Ibid., chapter II-3; chapter II-4. The administration of the SDDOT merged the Division of Planning with the Division of Engineering in 1996 to create the Division of Planning and Engineering.

[1056] Ibid., chapter II: 10.

preserve essential rail service." Some lines identified as part of the core system "remained in the private sector," but the State purchased "lines for which a private solution could not be found."[1057]

By 1986, service had "been restored to all State-owned core system lines by the State of South Dakota through an operating agreement with the Burlington Northern Railroad. The State also purchased a select group of non-core lines with either a high degree of potential for the future or that had a significant level of local interest. The State restored service to these lines "with the exception of one which is currently rail banked."[1058]

The operating agreement resulted in the first BN train to run on the state Core Line on 6 July 1981 between Mitchell and Sioux Falls.[1059] The BN agreed to eventually buy the core line, a decision that led to the dissolution of almost all opposition. The Legislature passed a revenue bond bill for up $35 million to help purchase the Milwaukee Mainline, 31-3 in the Senate and 59-7 in the House.[1060]

Five years later, as a result of these actions, South Dakota's leaders, with public approval, had restored service "on over 900 miles of abandoned rail lines in this State." Operating track in the State totaled 1,983.7 miles as of 1986.[1061] New grain sub-terminals were built across the state; new sidings were constructed; new spurs were built; elevators made improvements; and people got jobs. The state's involvement in regenerating the railroads was an economic dynamo.

There were, of course, people who saw opportunity to profit under these circumstances through something other than hard work and dedication. Robert Rice of Des Moines, Iowa, took advantage of the situation to speculate on future needs of the S. D. Railroad Authority. Rice believed that the state would eventually buy more track, so he bought the Chicago and Northwestern Railroad (C&NW) Bridge over the Big Sioux River in 1979 for $34,000. One year later, he sold it to the S. D. Railroad Authority for $141,000. He gambled on the fact that the state would need the bridge to provide service to Beresford.[1062] Although not illegal, it spurred fears that others like him would make money off the state and its taxpayers.

There were victims as well as beneficiaries to the entire process, and the C&NW was definitely a victim. The state agreement with the BN gave it advantages—access to greatly improved infrastructure, financial incentives, and beyond—that made the C&NW less competitive than it had been before the state intervention.[1063] Once one of the longest lines in the country, the C&NW began to sell and abandon track in the 1980s.

[1057] Ibid., chapter II: 10.

[1058] Ibid., chapter II: 10.

[1059] "Chronological History of SD Division of RR and Milwaukee Road," p. 41.

[1060] Ibid., p. 46.

[1061] *RAILPLAN SOUTH DAKOTA, 1986,* chapter III-1.

[1062] "Chronological History of SD Division of RR and Milwaukee Road," p. 37.

[1063] Ibid., p. 53.

Figure 33: DM&E Locomotive "City of Huron."
(http://www.rrpicturearchives.net/locoPicture.aspx?id=41755)

There was a new player in the railroad business just five months after the adoption of the *RAILPLAN SOUTH DAKOTA 1986:* the Dakota, Minnesota, and Eastern Railroad (DM&E). That company took over many miles of track from the Chicago and North Western in both South Dakota and Minnesota. Senator Larry Pressler and his chief legal counsel Kevin Schieffer conducted the negotiations. Schieffer became president of the company ten years later in 1996. As of 1995, the company operated 783.7 miles of track, with 716.5 of that located in South Dakota.[1064] The DM&E became a subsidiary of the Canadian Pacific Railway (CP) on 31 October 2008. Schieffer was ousted, although with a significant profit from the sale, when the CP got federal approval to complete the purchase.[1065]

The operating agreement with the BN and the State of South Dakota proved to be mutually beneficial. On 7 August 1991, the two parties "agreed to extend the operating agreement for the 368 mile state-owned core system" to 30 June 2020.[1066] Under the extended arrangement, the State committed "$8 million in lease payments over eight years from the BN" to assist in several projects. Those included: rebuilding the North Yard in Mitchell at a cost of $1,037,000 (this project was complete as of 1997); the relay of light rail between Mitchell and Canton at a cost of $4,556,000 (this project was fifty percent complete as of 1997); the re-lay of light rail between Mitchell and Sioux City at a cost of $4,707,000 (work had started on this segment as of 1997); and the purchase and rehabilitation of 22 miles of track between Ortonville and Appleton, Minnesota, at a cost of $2.4 million (this project was complete as of 1997).[1067]

The state developed another Rail Plan in 1992 during Governor George S. Mickelson's term. Mickelson, who died tragically in a plane crash on 19 April 1993, appointed 30-year old Murdo, South Dakota, native John Thune as Director of Railroads in South Dakota in 1991. Thune continued in that job until 1993.[1068] He would eventually enter elective politics. He served in the U.S. House of Representatives from 1997 until 2002 when he defeated Tom Daschle in the race for the U.S. Senate. He is currently in his second term as a U.S. senator.

[1064] "SDDOT/Railroads/Current Rail System/Rail Carriers/DM&E," http://www.sddot.com/fpa/railroad/carr_dme.asp. Accessed 13 November 2011.

[1065] http://mankatofreepress.com/editorials/x519292374/Our-View-The-legacy-of-Kevin-Schieffer.

[1066] The State of South Dakota sold the Core Line to the BNSF in 2005. See "Significant Events Since the 1992 Rail Plan," http://www.sddot.com/fpa/railroad/plan.asp. Accessed 11 November 2011.

[1067] "Significant Events Since the 1992 Rail Plan," http://www.sddot.com/fpa/railroad/plan.asp.

[1068] "Biography," http://thune.senate.gov/public/index.cfm/biography. Accessed 13 November 2011.

The Interstate Commerce Commission (ICC) approved the Dakota, Minnesota and Eastern Railroad (DM&E) request to abandon the rail line from Watertown to Sioux Valley Junction on 18 February 1993. This was a 44 mile-long segment that had been embargoed in 1989.[1069] According to the Association of American Railroads, an embargo "is a method of controlling traffic movements" when the serving railroad perceives "an actual or threatened Physical or Operational Impairment, of a temporary nature, that "warrant restrictions against such movements."[1070] Later that year, on 4 September 1993, the ICC approved the DM&E's request to abandon the line from Aberdeen to Hecla, which had been embargoed in 1989.[1071]

The DM&E, though, was not just abandoning lines. On 30 July 1994, the company "completed the rail rehabilitation project on the Huron to Yale rail line," which "consisted of tie replacement and adding ballast on the 12.8-mile section of track." The project costs totaled $391,500, with $256,333 coming from a Local Rail Freight Assistance (LRFA) grant and matching funds of $135,167 coming from the DM&E.[1072]

The Sisseton-Milbank Railroad also supported line rehabilitation in the early 1990s. Its 37-mile track from Sisseton to Milbank underwent tie replacement and ballast improvement. The project was completed on 14 October 1995. A LRFA grant of $274,223 and $117,524 in matching funds from the Sisseton-Milbank Railroad paid for the $391,747 project.[1073]

The C&NW completed the track rehabilitation on 60 miles of its line from Hermosa to the Nebraska State Line on 9 June 1995. This was part of the Colony Line that ran from Colony, Wyoming through Rapid City and terminated in Dakota Junction, Nebraska, which is a distance of 174.7 miles. The project included replacement of 26,000 cross ties and adding ballast. The project cost $1.4 million and was funded through an LRFA grant for $1 million and $428,572 in matching funds from the C&NW. One year later, in the spring of 1996, the Union Pacific Railroad (UP), which had acquired the Colony Line as a result of its merger with the C&NW in 1995, sold that line to the DM&E. The DM&E began operations on the line on 4 May 1996.[1074]

Janklow recalled cutting a deal with the C&NW when the company president Jim Wolfe announced that they were going to abandon their track west of Wolsey. Myers, Janklow, and Wolfe met in Wolfe's private railroad car for a lunch "that lasted all afternoon." The net result was that Wolfe agreed not to abandon west of Wolsey and would come all the way to Pierre. The *quid pro quo* was that Janklow agreed not to oppose the C&NW abandoning west of Pierre.

[1069] "Significant Events Since the 1992 Rail Plan."

[1070] "Revised Circular TD-1," https://aarembargo.railinc.com/epdb/showTD1.do?step=viewTD1Circular. Accessed 12 November 2011.

[1071] "Significant Events Since the 1992 Rail Plan."

[1072] Ibid.

[1073] Ibid.

[1074] Ibid.

This also required negotiations with the railroad workers' unions, negotiations that resulted in the C&NW actually keeping service to Ft. Pierre across the river.[1075] Once again, the unions proved cooperative. The problem was that a different contract governed employees west of the Missouri than those east of it. Governor Janklow said they entered into negotiations with the railroad and the union. The union members "voted to change their contract with the railroad so Fort Pierre would become part of Pierre" contractually and, recalled the Governor, "that's how the railroad was going to be saved to Fort Pierre."[1076]

At the same time, Janklow and Myers, who was by now Secretary of Transportation, decided to strengthen the north-south line out of Rapid City to Nebraska so the state would have rail traffic through the Black Hills, north-south, and from Pierre west.[1077] There were still problems from the perspective of West River grain producers and handlers. Grain elevator operators met with the Governor to explain how abandonment would be a disaster for them.

One solution, at least in the mind of the Governor, was to change South Dakota law to allow semi-trucks to pull double trailers. West River train traffic amounted to only "2000 rail cars a year worth of wheat" which "is only 20 unit trains of 100 cars each. That's not a lot of train traffic. So, what we decided was we would move the wheat to market…on the basis of those tandem trucks. And so we changed our laws and I started building highways to accommodate those trucks with understandings that when it was a certain kind of weather outside you couldn't run tandems."[1078]

That change of law allowed 53-foot trucks and trailers and double 42-foot trailers on the Interstate. The staff of the Federal Highway Administration opposed this and filed suit that wound up being appealed to the Supreme Court. This practice meant significant savings for truckers and for shippers, but there were people who questioned whether the practice was safe. According to Myers, the "reality is it is among the safest [practices] on the road."[1079]

The SDDOT subsequently identified the Preferential Truck Network based on highways that linked elevators without rail service to elevators that still had it. The department then made improvements to include widening of shoulders and lanes and improved turning radiuses at intersections to accommodate the twin 42-foot trailers.[1080]

Myers "got a call one day from the Governor telling me to hop the plane headed for Denver and there I was picked up through an uplink, a TV uplink and…wound up debating Ray Barnhart from Federal Highway on the McNeil-Lehrer Report." Barnhart opposed the new practice and used

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[1075] Janklow Interview, p. 28.

[1076] Ibid., 29.

[1077] Ibid., 28.

[1078] Ibid., pp. 29.

[1079] Myers Interview, p. 30.

[1080] SDRAILPLAN97, chapter 1, p. 10.

"examples of some of the roads in the Black Hills." Myers countered that the new legislation did not allow them in the Black Hills area in the roads Barnhart cited. "In any case," Myers observed, "we wound up going to the Supreme Court on that issue…[and] we came out fine."[1081]

The heavy flooding of the spring of 1993 caused "extensive damage to rail lines" in eastern South Dakota and "a temporary disruption in some rail service." The Federal Railroad Administration provided a $1,422,951 grant to South Dakota to repair the flood-damage and reestablish service. The Sisseton-Milbank Railroad received $49,794, the Dakota & Iowa (D&I) Railroad $223,257, the CP Rail $141,000, and the DM&E Railroad $1,008,900.

Jim Myers identified the lightweight track and its inability to carry modern loads and equipment to the appropriate state and federal agencies in order to address the problem. They subsequently provided assistance to replace such track. In April 1995, the SDDOT received a $554,927 LRFA grant to replace 8 miles of lightweight rail near Chatsworth and Hawarden, Iowa. The State owned this line and leased it to the D&I Railroad, which provided $344,385.61 in matching funds. The project was scheduled for a summer of 1996 completion.[1082]

The DM&E completed construction of the industrial siding serving Dakota, Mill and Grain in Midland, South Dakota, in October 1994. This allowed the elevator to load 25 car unit grain trains. A unit train is one that has all cars loaded with the same product and all cars are headed for the same destination; a unit train facility is one that can load 25 rail cars or more at a time.[1083] The State Railroad Trust Fund provided a five-year $164,000 loan to the Haakon County Regional Railroad Authority, the State Railroad Authority provided an additional $27,728, and the DM&E pitched in $22,000. The project resulted in a 160% increase in car-loadings at the elevator from 1993 to 1995.[1084]

Figure 34: A unit train
http://www.shutterstock.com/pic-21603388/stock-photo-unit-train-of-ethanol-tank-cars.html. Accessed 23 November 2011

The historical force at work here was the increased role of both the federal and state governments in providing grants to the states for transportation purposes. From 1979 to 1997, South Dakota "received over $20 million in federal grants under the Local Rail Assistance Program and the

[1081] Myers Interview, pp. 30-31.

[1082] "Significant Events Since the 1992 Rail Plan."

[1083] SDRAILPLAN97, chapter 1, p. 10.

[1084] "Significant Events Since the 1992 Rail Plan."

Local Rail Freight Assistance Program."[1085] Some people have been critical of the way South Dakota has benefited from federal funds. Historian John Miller wrote that "after World War I, South Dakota lined up at the federal trough to obtain subsidies for transportation improvements, and, as in other areas, it received more than its fair share of them, in large part because of its low population density."[1086]

A more elegant way of putting this, rather than drawing upon the imagery of slopping farm animals until they are sated, would be to state that through taxation and the redistribution of those revenues, the federal government ensured that everyone had a share of the fishes and the loaves that were the national bounty. Those subsidies, whether in the form of the various Federal Aid Highway Acts already discussed in this manuscript or the LRFAs discussed in this chapter, benefitted all Americans, not just South Dakotans. The trains crossing South Dakota deliver raw materials to the nation and the world.

The Planning Division produced the last RAILPLAN in 1997. It reflected the accomplishments as well as the future concerns of the various state agencies involved in railroad development. There were originally three categories of lines after the State became involved in saving rail service: 1) core system; 2) local option lines, including operating and non-operating lines; and, 3) main line. The core system included 368 miles of track after the State turned the Mitchell-Chamberlain segment into a local option line. Four state-owned local option lines were in operation: the Dakota and Iowa (D&I) operated two of them; the Dakota Southern Railway one; and the BNSF the last. Two state-owned lines—Napa Junction to Platte and the Kadoka to Rapid City—were non-operating. The main line ran 480 miles from Ortonville, Minnesota through Aberdeen to Terry, Montana. The State sold this stretch to the BN and transfer of ownership took place in August 1991.[1087]

As of 1997, state railroad authorities did not foresee in the next three years any abandonment issues for any of the lines currently under operation within the state. In addition, there were no pending cases for abandonment. The SDDOT did identify an interstate line—the Burlington Northern Santa Fe Railroad (BNSF) line from Aberdeen to Rutland, North Dakota, as "threatened" due high water eroding the track bed. Combined with the low traffic volume on the line, its future seemed grave.[1088]

The SDDOT also identified lines that might require financial assistance in the near future. Those lines included the Rapid City to Pierre line that suffered from the "impermeable clay" that underlay the line. This made "conventional surfacing efforts ineffective" and "very costly" for the DM&E, which was the operator. So, too, did the resulting derailments and "excessive slow orders" that the

[1085] SDRAILPLAN97, chapter 2, p. 14.

[1086] John Miller, "Traveling the Road of Change: Historical Forces in the Development of South Dakota Transportation," *South Dakota History,* Vol. 41, No. 2 (Summer 2011), p. 282.

[1087] SDRAILPLAN97, chapter 3, pp. 26-29.

[1088] Ibid., chapter 4, p. 54.

condition merited. The State Legislature authorized the DM&E to issue state backed revenue bonds to rehabilitate the stretch.[1089] Other lines in need of financial assistance included the Mitchell to Kadoka line, where speeds were restricted to 5-10 miles per hour due to deteriorating bridges and track, and the Hecla to Oaks, North Dakota line.[1090]

Although these lines delivered many things, passengers were not among them. Few people involved in railroads in South Dakota see a future for passenger trains to make a return. Myers believed it would be "folly" to support passenger service in the foreseeable future. When the Milwaukee Road was in the process of abandoning passenger service between Aberdeen and Minneapolis, Myers attended a hearing at the Aberdeen Courthouse. The presiding judge asked several of the people testifying to keep the service how they got to Aberdeen. When they replied that they flew in, "a lawyer from the other side said 'I rest my case.'"[1091]

According to Myers, there "are some corridors in the country where passenger rail, if we had truly modern passenger rail, could be effective, but unfortunately South Dakota is not one of those corridors."[1092] One young entrepreneur with a national reputation as an actor, a reputation made in part due to a film he shot in South Dakota, begged to differ.

In 1991, Kevin Costner wanted to return passenger service to a portion of the Black Hills. He wanted the development of a line leading from Rapid City to his proposed Dunbar Resort in Deadwood, South Dakota. He took the name "Dunbar" from the character he played in *Dances with Wolves:* First Lieutenant John J. Dunbar.

Costner's efforts lasted more than a decade, but his desired results never materialized. Costner, through his company Dunrail, a subsidiary of Dunbar, had been working with The Northern Hills Regional Railroad Authority, an association of six cities formed in 1992 to develop passenger rail service between Rapid City Regional Airport and Lead.[1093] Costner's biggest problem was lack of financing. Instead of the spectacular Dunbar Resort, he ended up with the *The Midnight Star* in Deadwood, an operation that does not have a hotel, pool, or golf course, let alone rail service for its guests.

Wally Larsen recalled that the state had acquired "the railroad's interest in the right-of-way from Deadwood to Whitewood. And we had some talks with the Kevin Costner people."[1094] Those discussions went nowhere. Additionally, the State Supreme Court ruled that the state did not "own

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[1089] Ibid., chapter 4, p. 56.

[1090] Ibid., chapter 4, p. 58.

[1091] Myers Interview, p. 24.

[1092] Ibid.

[1093] "Significant Events Since the 1992 Rail Plan." See also "Costner pulls railroad authority out of the red," http://rapidcityjournal.com/news/local/article_3f815474-29c3-514a-829b-5b2f528ddbd5.html. Accessed 23 November 2011.

[1094] Larson Interview, p. 32.

much title," so Larsen was uncertain whether the state still retained the interest in the right-of-way.[1095]

The State's foray into the railroad business generated significant controversy. Surprisingly, Democrats like George McGovern opposed State acquisition at the same time that many Republicans supported it.[1096] Even the conservative Chamber of Commerce indicated in 1980 that its members supported Governor Janklow's plan by a margin of four-to-one.[1097] Expectations of partisan behavior were certainly not met. Perhaps only a man like Bill Janklow could have done this. In the present political environment, it is likely not even a politician like Janklow could do something this dramatic and out of character from his party's ideology.

The November 2005 sale of the Core Line to BNSF brought the state $42.5 million and overhead access rights to other major railroads. The access rights allow shippers to access Canadian Pacific Railroad (CP), Union Pacific Railroad (UP) and Canadian National Railroad (CN) track. This provided a link for South Dakota products "to all domestic and international markets those railroads serve." Burlington Northern and Santa Fe trains were scheduled to transport corn and beans from CP stations at Highmore and Harrold to BNSF served markets by mid-October 2010. The opening of BNSF track to shippers located on CP lines greatly expanded markets for SD producers. Ben Orsbon, Federal Funding Specialist with the SDDOT and a Fellow of the American Institute of Certified Planners, noted: "This is very important to South Dakota's economy because grain production represents over 60 percent of total agricultural cash receipts in our state. Continued access to competitive markets is critical to assuring the viability of South Dakota's agricultural industry, which employs 40 percent of our workforce and generates over $645 million in annual tax revenues."[1098]

The people of South Dakota and the tourists who visit the state also benefitted from another innovative use of railroads that Governor George Mickelson had championed before his death. Mickelson wanted to convert some abandoned lines to biking and hiking trails. This "rails-to-trails" program resulted in the Mickelson Trail, begun in 1991 and completed in 1998.

Different sources provide different figures for total mileage, but the South Dakota Department of Game, Fish, and Parks, which administers and maintains the trail, notes that it is "109 miles long and contains more than 100 converted railroad bridges and 4 rock tunnels."[1099] The trail follows the route of a line the Chicago, Burlington and Quincy Railroad originally built in 1890/91 connecting

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[1095] Ibid., p. 33.

[1096] "Chronological History of SD Division of RR and Milwaukee Road," p. 5.

[1097] Ibid., p. 10.

[1098] Document entitled "2010 Accomplishments Department of Transportation," SDDOT Library, Pierre, SD, p. 1. There is some confusion as to the amount the sale brought. Orsbon cites the $42.5 million figure, but a press release from the Governor's Office of 14 December 2005 indicates the amount was $40.3 million.

[1099] "George S. Mickelson Trail," http://gfp.sd.gov/state-parks/directory/mickelson-trail/default.aspx. As accessed 6 September 2012.

Deadwood to Edgemont, with such historic towns as Lead, Rochford, Mystic, and Custer located along the way.

The Burlington Northern eventually acquired the track, known as the "High Line," but abandoned it in 1983. The BN "donated its right-of-way to the state in 1989," but the governor's proposed use of the land generated significant controversy.

State Representative Jan Nicolay [R] challenged statements with regard to funding that Secretary of Transportation Dick Howard made to the Appropriations Committee as misleading. Howard rebutted that statement in a letter to Governor Mickelson and made clear once again that the SDDOT planned on using $300,000 from "transportation enhancement" funds and $100,000 in local contributions to construct Phase One of the project in FY 1993.[1100]

A more persistent opposition came from landowners with property adjacent to the proposed trail. Governor Mickelson responded to a petition that stated landowner grievances. The Governor noted that court cases and statutory law in regard to each grievance were in favor of the state.[1101] Equally important, though, was the Governor's pursuit of compromise. He concluded a letter that he sent to the petition signers with the admonition that the trail "will serve the overwhelming public interest, and I am still committed to its construction. But, I am just as committed to working with landowners to make the project workable for them. Everyone's rights must be respected in this situation—the public's rights as well as private rights…I hope we can work with landowners to make the best rail and landowner accommodations for everyone."[1102]

Mickelson's efforts to compromise went nowhere. Some of the landowners "challenged the state's right to take the right-of-way under the federal railbanking law."[1103] The suit made its way to the United States Supreme Court, whose justices upheld the South Dakota Supreme Court decision in favor of the state.[1104]

The SDDOT then participated in developing the Mickelson Trail via the Transportation Enhancement Program, including payment for bridge construction, surfacing material, fences, and National Guard tires. Dick Howard went to Washington and got permission to use prison labor (which was against federal law) on trail construction and tunnel repair work. The result of all this is one of the nation's most scenic trails.[1105]

[1100] Howard to Mickelson, 24 March 1992. South Dakota Cultural Heritage Center.

[1101] "Response to Petition of Objection to Rails-to-Trails on Private Property," two page document, 26 May 1992.

[1102] Mickelson template, 26 May 1992.

[1103] http://www.railstotrails.org/news/recurringfeatures/trailmonth/archives/0311.html, as accessed 6 September 2012.

[1104] Hiram Rogers, *Exploring the Black Hills and Badlands: A Guide for Hikers, Cross-Country Skiers, and Mountain Bikers* (Boulder, CO: Johnson Books, 1993), p. 9.

[1105] Laurie Schultz email to David Huft, 7 September 2012. Schultz is the Administration Program Manager for the SDDOT and a licensed engineer.

Figure 35: A portion of the Mickelson Trail
(Courtesy of the South Dakota Department of Game, Fish, and Parks)

There was at least one unanticipated tragedy in the development of the state's venture into railroads in the Black Hills. Whether it was associated with the acquisition of the "High Line" is uncertain, it is possible it was. Jim Myers recalled that the "Feds were really strong on protecting the black-footed ferret" and its habitat. Myers and the state were involved in a railroad project "out in the Hills" and the Feds sent a team to make certain "we were respecting the territory of the black footed ferret. And when the Federal team was ready to leave they backed their car up and ran over a black-footed ferret."[1106] Fortunately for black-footed ferrets, *Argus Leader* reporter Cody Winchester observed that they are on "the comeback trail" in South Dakota as of 2012.[1107]

The state and the BN, which morphed into the BNSF as the result of its merger with the Santa Fe Railroad, continued to do business together. The sale of the state's Core Line to the BNSF significantly reduced state involvement in railroads and, along with the 2001 sale of the State Cement Plant, reflected a growing discomfort on the part of some South Dakotans with regard to state actions in what traditionally had been considered the private economic sector.[1108]

From a strictly practical perspective, though, Vern Bump, speaking from his years of experience with the Foundations Program, may have summed up the feelings of many members of the SDDOT about the State's venture into the railroad business. "We were glad for one thing," he said with a

[1106] Meyers Interview, p. 35.

[1107] "Ferrets spotted on comeback trail," *Argus Leader,* 27 December 2012, http://www.argusleader.com/apps/pbcs.dll/article?AID=2012312270022&nclick_check=1. Accessed 29 December 2012.

[1108] "Significant Events Since the 1992 Rail Plan."

smile. "That it took some of the truck traffic off the roads that had been destroying some of our sub grades that we had to face and work with, too."[1109]

The USDOT, as part of President Barack Obama's economic recovery program under the American Recovery and Reinvestment Act of 2009, provided Transportation Investment Generating Economic Recovery (TIGER) grants. The TIGER Discretionary Grant Program "was included in the Recovery Act to spur a national competition for innovative, multi-modal and multi-jurisdictional transportation projects that promise significant economic and environmental benefits to an entire metropolitan area, a region or the nation. Projects funded with the $1.5 billion allocated in the Recovery Act include improvements to roads, bridges, rail, ports, transit and intermodal facilities.[1110]

The SDDOT received a TIGER II grant to rehabilitate part of the Mitchell to Rapid City Line from Mitchell to Chamberlain. One thousand-six hundred ties per mile were replaced along the 61.6 miles of track for a total of 106,000 ties. The older 65-pound-per-yard rail was upgraded to 115 pound to 136 pound per yard rail in order to carry "heavier and more frequent rail traffic loaded in the larger jumbo hoppers grain cars. The cars…hold about 100 tons (200,000 lbs.) net and have a gross weight of 286,000 pounds."[1111]

That rehabilitation will reduce the cost of transporting crops and hopefully have a major impact on South Dakota's economy. Reducing haul distance and fuel expenses means more money for farmers and the local community. Officials at SDDOT estimated that subsequent transportation savings will "allow the local elevator to pay farmers 15-25 cents more per bushel for their product."[1112] The rehabilitated Mitchell-Rapid City line will carry grain and fertilizer over 60 miles between Mitchell and Chamberlain.

The initial investment in the rail line included $16 million from the TIGER grant and $12 million in railroad and rail board funds. The area "experienced a spike in job creation as a result of the rail reconstruction. There are over 100 employees working on the railroad. Hotels in towns along the line haven't had a vacancy all summer. It has been quite [a] boom for the local economy.[1113]

The investment in the railroad stimulated additional economic growth. Investors put up $30 million to construct a grain elevator near Kimball and began planning another $25 million elevator. This meant many new construction jobs as well as the anticipated 30 long-term operating jobs for

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[1109] Bump Interview, p. 39.

[1110] "DOT Information Related to the American Recovery and Reinvestment Act of 2009 (Recovery Act)," http://www.dot.gov/recovery/ost/. As accessed on 24 July 2012.

[1111] Document entitled "2011 Accomplishments, Department of Transportation," p. 1.

[1112] Ibid.

[1113] Ibid.

the elevators. This was significant development for a town like Kimball with a population of less than 800.[1114]

The state was still in the railroad business as of 2012. The South Dakota Railroad Board announced it would accept proposals "from companies wanting to restore service on an abandoned line from Platte to Napa Junction near Yankton."[1115] This resulted from the failure of Wagner Native Ethanol to "shore up financing" for its 2006 bid of $1.5 million for the project. In 2012 the USDOT announced that it would provide $16 million dollars to help rebuild the state-owned line between Mitchell and Chamberlain in order to improve service across the state to Rapid City.[1116] This improvement will reduce wear and tear on Interstate 90.

In addition, the Federal Railroad Administration's Rail Line Relocation and Improvement Program is providing the SDDOT with a $1.8 million dollar grant to relocate a section of the Sioux Valley Railroad that runs along the side of a hill near the Big Sioux River along the South Dakota and Iowa border. The relocation is expected to "eliminate frequent srvice interruptions that are required to maintain the existing track."[1117] Clearly, the state's venture into the railroad business has been a major benefit to South Dakotans.

[1114] Ibid.

[1115] "S.D. rail line up for grabs: State seeks investors to rebuild track, spur ethanol development," *Argus Leader,* Friday 23 December 2011, p. 6B.

[1116] Ibid.

[1117] "South Dakota to receive $1.8M to move railway section near Iowa," Argus Leader, 5 March 2012, http://www.argusleader.com/viewart/20120305/UPDATES/303050025/South-Dakota-receive-1-8M-move-railway- section-near-Iowa. As accessed 5 March 2012.

CHAPTER 8 THE POST-INTERSTATE ERA AND THE ERA OF SUSTAINABILITY: 1983 TO THE PRESENT

The SDDOT shifted focus after the completion of the Interstate. An increasingly important issue in the three decades following that accomplishment was the financial sustainability of an extensive multimodal transportation system in a geographically large state with a small population base. This made efforts to ensure that South Dakota continued to receive federal support increasingly important. Federal highway funds are extremely important to South Dakota in that they account for 80% of its highway construction program. South Dakota's transportation officials, working in conjunction with other states and interested parties, successfully garnered funding increases from 1985 to 1997 that allowed the SDDOT to complete $1.96 billion in construction projects critical to South Dakota's transportation system.[1118]

From 1987 to 1997, South Dakota "received $36,327,173 in additional Federal spending authority as a bonus for efficiently and effectively letting highway construction projects to contract early in the Fiscal Year and as a redistribution from other states that were unable to obligate their Federal funds during the Fiscal Year."[1119] This was very significant evidence that SDDOT personnel and leadership were doing their jobs in a very efficient manner.

South Dakota DOT leaders exerted influence at a regional and national level during this period. The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 under Section 1006 National Highway System (NHS) paragraph (b) (1) designated and defined a National Highway System. Its purpose was to "provide an interconnected system of principal arterial routes which serve major population centers, international border crossings, parks, airports, public transportation facilities and other intermodal transportation facilities and other major travel destinations; meet national defense requirements, and serve interstate and interregional travel."[1120]

South Dakota Secretary of Transportation Richard "Dick" Howard believed the proposed National Highway System did not designate adequate mileage in South Dakota, as well as in Idaho, Montana, Wyoming, and North Dakota. Howard provided his argument on behalf of these states to the Federal Highway Administration during a presentation made in Rapid City, South Dakota, on 11 May 1993. He also made a presentation in Washington, DC to Jane Garvey, Deputy Administrator of the Federal Highway Administration. In both presentations, Howard made the case that adding additional miles

[1118] The statistics contained in this paragraph come Richard Howard's comments on 26 October 2012.

[1119] Document entitled "Accomplishments, Department of Transportation, January 1, 1997-December 31, 1997," p. 12. Located in SDDOT Library.

[1120] "A Presentation on the National Highway System Designation made to the Federal Highway Administration by Richard L. Howard, Secretary South Dakota Department of Transportation on behalf of the States of Idaho, Montana, Wyoming, North Dakota and South Dakota, 11 May 1993—Rapid City, South Dakota," p. 4. SDDOT Library, Pierre, South Dakota.

would not cost the federal government anything in that the draft system was significantly under the Congressionally authorized maximum of 186,000 miles of highways.[1121]

The FHWA Illustrative map below designated 1,862 miles of NHS for South Dakota. The State Regional NHS map shows 2,906 miles as a result of Howard's efforts.

Howard also facilitated a strategic alliance with two tribal leaders in South Dakota—Gregg Bourland, Chairman of the Cheyenne River Sioux Tribe, and John Yellow Bird Steele, President of the Oglala Sioux Tribe—to strengthen the argument for additional miles to reflect tribal lands in the interested states.[1122] The two tribal leaders were particularly interested in U. S. Highway 18 in southwestern South Dakota.[1123] Both Bourland and Yellow Bird Steele wrote Secretary of Transportation Federico Pena expressing support for the increased designated mileage in South Dakota and copied their letters to Senators Tom Daschle and Larry Pressler and Congressman Tim Johnson.[1124]

That effort proved successful, as did other joint efforts with the tribes. Howard recalled that he and Mike Jandreau, Tribal Chairman of the Lower Brule Sioux Tribe, "did some good things together." Jandreau, according to Howard, had a compelling personal interest in seeing improvements on reservation roads: one of his sons had been killed on a poor road. He and Jandreau, along with Senator Tom Daschle, worked to get federal funds for such improvements, as there was a specific federal funding program for roadwork on reservations. Howard recalled that he and Daschle were even asked to join in a ceremonial dance during one visit to Lower Brule. It was either the *kahómni wačhípi* or *naslóhaŋ wačhípi*, but Howard, who does not speak Lakota, referred to it as the "Circle Dance."[1125]

Certain elements of relations with the nine tribes were much different than those with other entities with whom SDDOT personnel conducted business. In particular was the fact that certain tribal leaders still spoke Lakota, or one of its two dialects. Howard travelled with Francis White Bird, Governor George S. Mickelson's Indian Affairs Coordinator, to Pine Ridge for discussions with the Tribal Council. Suddenly, the participants, with the exception of Howard, began to speak Lakota, leaving Howard dependent on White Bird to translate.[1126]

[1121] Ibid.

[1122] Howard wrote to representatives of all nine tribes, but only these two leaders responded.

[1123] Huft to Bucklin, 30 December 2012.

[1124] See 3 May 1993 letter from Bourland to Pena and 15 April 1993 letter from Yellow Bird Steele to Pena. SDDOT Library.

[1125] Howard Interview, p. 46. My thanks to Dr. Armik Mirzayan of the University of South Dakota Department of Linguistics, Languages, and Philosophy, who notes that the Lakota term for this dance is either kahómni wačhípi or naslóhaŋ wačhípi, depending on the exact dance that was performed. Mirzayan to Bucklin, 17 August 2012.

[1126] Howard Interview, p. 45.

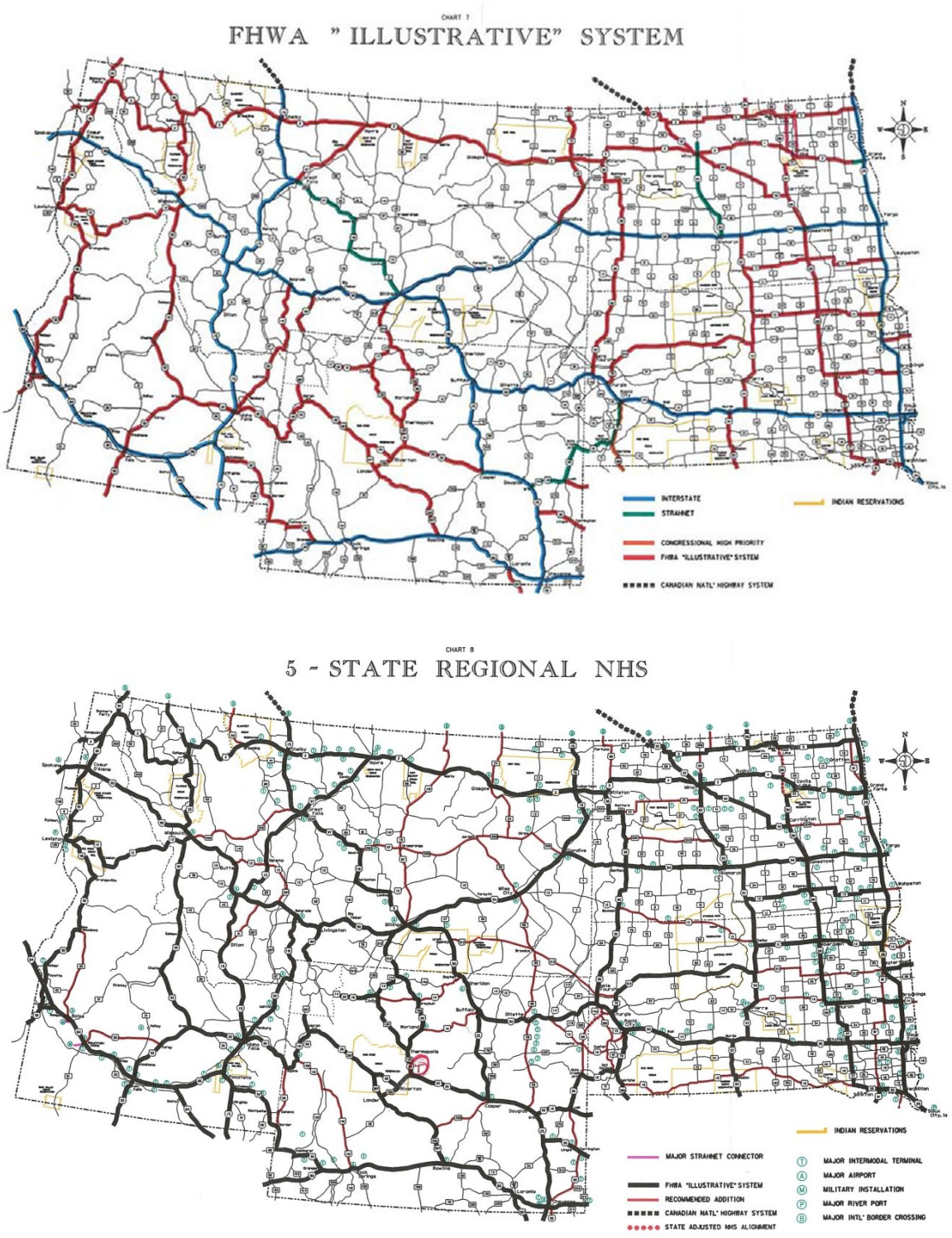

Figure 36: FHWA Illustrative Map and Final National Highway System Map for 5-State Region

On another occasion, in what Howard interpreted as an effort to "show who was in charge," the Tribal Chairman of the Cheyenne River Sioux Tribe kept him waiting for a scheduled meeting. When the chairman, who was a rancher, showed up wearing cowboy boots covered with evidence of his occupation, he put his feet up on the desk right in front of Howard. Of course, Howard, who grew up on a cattle ranch near Pierre, was unperturbed.[1127]

The SDDOT continued to deal with reductions in facilities and staff in the 1990s, even though performance and productivity evaluations indicated increased efficiency in both areas. Larry Weiss wrote at length about the Task Force (TF) review of the SDDOT that Governor Janklow ordered in 1995 and its subsequent impact on the department. The former Chief Engineer's conclusions about the process and the policies, although diplomatic, were certainly negative.

The Janklow Administration created the TF in the fall of 1995. Its members were primarily businessmen and women from across the state. The TF's focus was to eliminate inefficient practices and to find in what are*as the SDDOT could adopt the business model. This was not an unusual experience for government organizations in the 1990s. Books like *Reengineering the Corporation*, by Michael Hammer and James Champy, first published in 1993, influenced government managers at this time. Popular business books about and by Jack Welch and his leadership of General Electric also were published in the early 1990s. They championed Welch's anti-bureaucratic philosophy and his emphasis on downsizing, particularly by way of culling "dead wood." On at least one occasion, Governor Janklow ordered multiple copies of a book to share with senior managers in state government. During his second set of terms, Don Tapscott's *Paradigm Shift: The New Promise of Information Technology,* a "the-Internet-changes-everything" themed book, was in his book club.[1128] Although it proved more than tempting to apply such values to state government, administrators who implemented such policies ran the risk of losing sight of the fact that government's first responsibility is not to run a profit, but to be responsible to its citizens' needs.

Among others, the TF recommended a policy under which the SDDOT would "consider all costs to include buildings, computers, total office space costs and cost of doing business" to determine whether services should be outsourced or maintained in the SDDOT's current operational purview. This is not unlike the Responsibility Centered Management concept that is currently popular, but just like today, it was difficult then to determine what the actual value of space was, what should be charged for its use, and how to depreciate it. According to Weiss, to the best of his knowledge, the study of this element of the TF's charge was never completed.[1129]

[1127] Ibid. Anyone who has spent time in ranch country knows that it is not uncommon for a rancher to forget where he has been, and Howard is no different, but the context of being kept waiting indicated to him that this was a deliberate tactic.

[1128] Julie Bolding to Dave Huft, 26 October 2012.

[1129] Larry Weiss, "It's All About People," (Pierre, SD: SDDOT internal publication, 2003), p. 30.

David Huft indicated that this was "not completely accurate. The Department attempted to establish Activity Based Costing [that] attributed costs to delivered products and services. This was most successful for field maintenance activities, but more difficult to do with less tangible services."[1130]

It was, in Weiss' opinion, unfortunate that the underlying assumption of the TF was that private business practices and governmental regulations could somehow equate; in his experience, they did not necessarily do so. Although there were, according to him, "some good practicable suggestions" that were subsequently implemented, he was also loath to accept the ultimate impact of the TF's recommendations, for they would fall on the people who worked for him and for the department as a whole.

The TF recommendations resulted in the reduction of the maintenance work force from 500 to 300 individuals. Governor Janklow had made it clear that he did not necessarily hold maintenance workers in the highest esteem. Dick Howard recalled that his main disagreement over SDDOT issues with Janklow was about maintenance workers. During a conversation with the governor, Janklow told Howard: "any idiot can operate a snow plow." Howard replied: "I'm not going to put any idiot on a piece of equipment that weighs forty thousand pounds."[1131]

Although some of those 200 maintenance positions were already vacant through resignations, retirements, and the like, many people lost their jobs. Approximately 125 other people in administrative or engineering slots lost their jobs, too. David Jagim, Director of Railroads, had a one-day notice that his job had been eliminated. The impact on morale was significant, as Weiss notes nearly everyone was concerned that they would receive the next pink slip. Some began to apply elsewhere to prepare for what they considered to be the inevitable.[1132]

There was another casualty before the layoffs began. A day or two before the TF report came out, Governor Janklow called Dick Howard to his office. Howard waited for several hours in the lobby until being called before the governor. As he sat down, Janklow informed that, after nearly 11 years as Secretary of Transportation, and having served with the confidence of three governors, he was being dismissed. Janklow indicated that he did not believe Howard had the management skills to conduct business under the new paradigm. Howard noted that the governor was "absolutely right because it was just a matter of a few weeks and they laid off 200 maintenance workers [and] I would never have done that, no. I didn't have the management skills to do that because I had always supported our maintenance people."[1133]

[1130] David Huft to Bucklin, 21 May 2012.

[1131] Howard Interview, p. 68.

[1132] Weiss, pp. 30-31.

[1133] Howard Interview, p. 67.

Weiss noted that the 1996 restructuring resulted in some long-term difficulties that the SDDOT continued to struggle with as of 2002. A customer survey in 1999 returned less favorable reviews than had ones previous or immediately subsequent to "Black Thursday," 6 June 1996. Internal surveys of organizational health in 1998 and 2000 revealed that employees identified all 20 survey categories as areas of concern. Restructurings from 1994 to 2008 resulted in a decline in SDDOT personnel from 1311 to 1014 Full Time Employees (FTE).[1134] The continued loss of FTE lines, according to Weiss, also significantly reduced employees' trust in their institution.[1135]

Weiss also believed potential recruits aware of the restructuring might be wary to commit to the South Dakota DOT. President William Clinton signed the Transportation Equity Act for the 21st Century (TEA-21), PL 105-178, on 9 June 1998, which authorized "highway, highway safety, transit and other surface transportation programs for the next 6 years."[1136] That law built on "the initiatives established in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), which was the last major authorizing legislation for surface transportation."[1137] The new law combined "current programs with new initiatives to meet the challenges of improving safety as traffic continues to increase at record levels, protecting and enhancing communities and the natural environment…and advancing America's economic growth and competitiveness domestically and internationally through efficient and flexible transportation."[1138]

The Transportation Efficiency Act for the 21st Century (TEA-21) increased South Dakota's allocation of Federal funds and authorized funding to begin construction on expressways from Pierre to Interstate 90, from Aberdeen to Interstate 29, from Huron to Mitchell, and the Heartland Expressway from Rapid City south. The expressways met feasibility criteria and many people believed the expressways would enhance local, state, and regional economic development.[1139]

Weiss believed that to compete for new recruits under TEA-21, the department would have to convince potential candidates that their jobs would be secure and that they could expect competitive wage and benefit packages.[1140] To that effect, the department raised entry-level salaries for engineers ten percent in the spring of 2000. The next year those salaries were raised an additional five percent. Although those increases made the SDDOT more competitive, Weiss noted that "the pipeline of engineers is not as full at the entry level as the need is at the exit end."[1141]

[1134] "South Dakota Department of Transportation Fact Book, 2009," p. 18.

[1135] Weiss, p. 31.

[1136] TEA-21 - Transportation Equity Act for the 21st Century, *Moving Americans into the 21st Century: A Summary.* US Department of Transportation, http://www.fhwa.dot.gov/tea21/sumover.htm. As accessed 28 December 2011.

[1137] Ibid.

[1138] Ibid.

[1139] Richard Howard to Dave Huft, 26 October 2012.

[1140] Weiss, p. 37.

[1141] Ibid.

The Bridge Division continued to provide the state with state-of-the-art bridges after the Interstate Era. Three of them were the Running Water Bridge near Springfield, the Vermillion-Newcastle Bridge connecting Vermillion to Nebraska, and the Discovery Bridge that replaced the old Meridian Bridge in Yankton.

In the case of the Vermillion-Newcastle Bridge, there was some talk of it being "a bridge to nowhere," a phrase made famous in the 2008 presidential campaign when Alaska Governor and Republican Vice Presidential nominee Sarah Palin claimed she had opposed federal funds for a "bridge to nowhere" from Ketchikan to Gravina Island, where only a couple dozen people lived.1142 Former Governor Janklow opposed building the Vermillion-Newcastle Bridge. He was "totally against it" and "always thought that the bridge was nuts. We don't have that kind of money. That's the problem. We build stuff like that and we truly—it doesn't bring us a lot of people."1143 The Vermillion business community and Nebraska ranchers who ship their cattle across the bridge do not agree with the Governor's estimate, but regardless, he had another nominee for a "bridge to nowhere" in South Dakota: the bridge near Ardmore.[1144]

Janklow began a tradition called the "Governor's Roundup" during which he brought potential investors to South Dakota. Because he could not take people to "world-class restaurants" or to "a restaurant on the 50th floor of a skyscraper," he gave them instead "an outdoor experience that can't be matched anyplace." He liked to tell visitors that "we have more miles of shoreline in South Dakota than they do in California. That's because we count both sides of the river" whereas California can only count "one side of an ocean." He played up the fact that if you "catch walleye in our state, you can eat it…as opposed to a lot of places [where] you catch the fish but you can't eat it 'cause it'll kill you." He was quick to point out that the state offers "marvelous" waterfowl, pheasant, grouse, and turkey hunting and the longest rails-to-trails system in the nation.[1145] He was a skillful promoter.

One year when he held the roundup, he had his staff invite a variety of corporate executives, including the Chairman of the Board of Lockheed Company. They took the guests to Mount Rushmore for lunch. Then it was on to Crazy Horse where Ruth Ziolkowski and her family "were just marvelous hosts. All the people got to go up in the arm of Crazy Horse up on the mountain and look at three different states." They drove Needles Highway, went to Hot Springs, and Custer State Park. It was, said Janklow, "a magnificent deal."[1146]

It was on the drive to the Wild Horse Ranch along the Cheyenne River, driving "down the back roads gravel and bouncing along through a river creek" that they came upon a "magnificent cement

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[1142] "Palin 'bridge to nowhere' line angers many Alaskans," http://www.reuters.com/article/2008/09/01/us-usa-politics- palin-idUSN3125537020080901. As accessed 30 December 2011.

[1143] Janklow Interview, p. 45.

[1144] Ibid., 42.

[1145] All quotes in this paragraph are from the Janklow Interview, p. 42.

[1146] All quotes in this paragraph are from the Janklow Interview, p. 43.

structure that's about four or five lanes wide. It's about 150 yards long. It's as big a bridge as I've ever seen in South Dakota other than the Platte-Winner Bridge made out of concrete." Janklow thought: "what is this?" He got on his radio in the car—every car in the caravan was radio equipped—and asked the story behind the bridge. When no on could answer, the Governor turned to the Chairman of the Board of Lockheed and asked: "Is this it? Is this the secret CIA airport that America's been using to test our airplanes?" The group broke into laughter given that Lockheed built some of the greatest spy planes in American history.[1147] The real story was somewhat more mundane.

The bridge was part of a state highway project connecting Ardmore to Hot Springs. Janklow emphasized the fact that the population of Ardmore was three people. When he got back to Pierre, he cancelled the project, but that was not the end of the story. Janklow was there the next year with his Secretary of Transportation, Ron Wheeler. The governor recalled that "We all stopped at the same spot and there was this huge canvas that had been placed in place and so we had a bridge, we had a naming ceremony and then we pulled it off and it's the Ron Wheeler Bridge across the Cheyenne River. And so that's the famous bridge to nowhere. That's the bridge to Ardmore. We have a bridge there, but it's still a gravel-dirt road."[1148]

One thing is certain about that bridge: the people who designed and built it were working from a history of innovation and professionalism. The engineers of the SDDOT continued to do what was asked of them, and did it with an eye to the future. Vern Bump provided another example of their professionalism and how these state employees keep the interests of the State and its people in the front of their minds. He remembered that the last time the SDDOT redid the interchange of I-90 and I-229, they "made it wide enough—the foundations wide enough—so that it can carry more lanes of traffic." If expansion were to become necessary, Bump noted that the infrastructure is "in place right now so if that has to be done, it's already there."[1149] That expansion is taking place as of 2012.

Construction Year 1997 included 118 miles of highway construction, 77 miles of surfacing, 299 miles of resurfacing and pavement rehabilitation, 39 bridge reconstruction projects, 14 bridge rehabilitation projects, and 1128 miles of contract maintenance.[1150] The South Dakota State Highway Commission met on 28 August 1997 and approved the five-year Statewide Transportation Improvement Program (STIP) for 1998-2002 that included 847 projects totaling $830.7 million in costs.[1151]

The 1997 January blizzard "caused massive problems." Thirteen thousand miles of local roads were plowed using DOT and National Guard personnel. Costs were $15,716,502 but the budget had

[1147] All quotes in this paragraph are from the Janklow Interview, p. 44.

[1148] All quotes in this paragraph are from the Janklow Interview, p. 44.

[1149] All quotes in this paragraph are from the Vernon Bump Interview, p. 25.

[1150] Document entitled "Accomplishments, Department of Transportation, January 1, 1997-December 31, 1997," p. 1.

[1151] Ibid., p. 2.

only earmarked $5,469,949.[1152] Subsequent flooding in spring 1997 created problems, too. In particular, ice damaged several bridges, forcing the closure of the Platte-Winner Bridge for repairs.[1153] These additional costs came on top of a loss of $3.3 million in SDDOT revenues from the two-cent per gallon tax break on gasohol during CY 1997, although the Motor Fuel Tax was up to 21 cents per gallon from 18 cents.[1154] The state also saved money through the continued use of convict labor.[1155]

The SDDOT also took advantage of the Internet boom of the 1990s. The Bid Letting Office developed a World Wide Web page that provided letting information and saved staff significant time previously spent in faxing and answering telephone calls. The department also developed the Advanced Transportation Weather Information System that provided cellular phone users with up-to-date weather information at their location. This was done in cooperation with the North Dakota DOT, the University of North Dakota, the FHA, and the cellular phone industry.[1156] The department also continued to develop GPS/GIS technology to meet the needs of South Dakotans. The SDDOT completed automated mapping of 40 counties by 1997.[1157]

Other technology the department implemented included "Weigh-in-Motion" equipment that allowed weighing of vehicles in motion on bridges and pavement. This was in part a response to Governor Janklow's cause célèbre—he hated overweight vehicles.[1158]

The state's effort to develop a commercially successful non-corrosive deicer—another Janklow project—was not as successful. Even though the state granted FMC Corporation an exclusive license to market the product, was projected to cost about $200 per ton at a time when salt was $30 per ton, making the product commercially unviable.[1159]

The Federal government, caught in the partisan rancor of the Starr Investigations of President Clinton and the ultimately successful effort of Speaker of the House of Representatives Newt Gingrich to impeach the President, meant that government business came second. This was true in the case of federal failure to pass a comprehensive Surface Transportation Act. All Congress could muster was a six-month stop-gap act.[1160]

[1152] Ibid., p. 2.

[1153] Ibid., pp. 5-6.

[1154] Ibid., pp. 3-4.

[1155] Ibid., p. 8.

[1156] Ibid., p. 3.

[1157] Ibid., p. 4.

[1158] Ibid., p. 13.

[1159] Ibid.; author's conversation with Dave Huft and Ben Orsbon 6 June 2012, SDDOT Library, Pierre, SD, on failure to commercialize.

[1160] "Accomplishments, Department of Transportation, January 1, 1997-December 31, 1997," p. 9.

Consequently, SDDOT personnel worked with the states of Idaho, Montana, North Dakota and Wyoming in 1997 on legislation to reauthorize ISTEA. This resulted in the "Surface Transportation Authorization and Regulatory Streamlining Act for the Next Century" or "STARS 2000" being introduced in the Senate (S.532) on 10 April 1997. The bill had 16 co-sponsors: "two each from South Dakota, North Dakota, Wyoming, Idaho, Montana, Iowa and Nebraska and one each from Kansas and New Mexico."[1161] Dick Howard testified on STARS at a Senate Environmental and Public Works field hearing in Las Vegas on 29 March 1997 and gave presentations on the subject at several Western Association of State Highway and Transportation Officials (WASHTO) meetings.[1162]

South Dakota DOT staff also provided two bills to Congressman John Thune. They also gave him a wish list that included the Heartland Expressway Phase I, Heartland Expressway Truck Route Phase II, the Missouri River Bridge at Vermillion, US 16 across Hell Canyon, the Missouri River Bridge at Yankton, and the Eastern Dakota Expressway that would connect Huron to Mitchell, Pierre to I-90, and Aberdeen to I-29.[1163]

There was some reason for an optimistic view toward federal highway funding in 1997 due to the passage of the Tax Payer Relief Act of 1997. Prior passage of that legislation, 4.3 cents of the federal Motor Fuel tax had been directed to the General Fund for deficit reduction. Those 4.3 cents were now redirected to the Highway Trust Fund (HTF). The projection was that the HTF would grow to $65 billion over the next five years.[1164]

The SDDOT continued to build on its tradition of cooperating with local governments. The South Dakota Local Transportation Assistance Program (previously known as South Dakota Transportation Technology Transfer Service) was an example of DOT cooperation with local governments. Its staff provided "training and technical assistance to state, city, county, township and tribal government transportation workers in topics such as safety awareness, asphalt surface treatment, concrete maintenance, back injury prevention, hazardous materials handling, flagging, winter maintenance, equipment management, vegetation control, and pavement management." The program, which had been in operation since 1986, trained more than 15,000 personnel by 1997.[1165]

The SDDOT also awarded grants to individual communities to aid in business development through updated transportation facilities. The department awarded Ten Community Access Grants ($1,034,368 in state funds) and six Industrial Park Grants ($882,000 in state funds) in 1997 alone.[1166]

[1161] Ibid., p. 10.

[1162] Ibid.

[1163] Ibid., p. 11.

[1164] Ibid.

[1165] Ibid., pp. 13-14.

[1166] Ibid., p. 16.

The Office of Local Government Assistance implemented the Janklow TF recommendation of a funding exchange that would allow local governments to swap federal funds for state funds. The SDDOT would trade a local government $900,000 in state funds for the local government's $1 million in federal funds. The locals would do this to avoid federal regulations and get more "bang for the buck." Seven 90:10 fund exchange projects in 1997 "using local, reasonable design standards resulted in a savings of 20% to the counties involved."[1167]

South Dakota received a $2.4 million earmark for public transit needs in the state in the 1997 federal budget. The City of Sioux Falls received $1.536 million of the total to "fund the expansion of the City of Sioux Falls' maintenance and administrative transit facility…The City also will be purchasing trolley-style buses that would provide downtown shuttle service connecting the Washington Pavilion of Arts and Sciences, Falls Park and the Convention Center. The remaining funds, $714,000, will be used to match local funds for the purchase of vehicles and equipment."[1168]

The history of federal financial assistance for urban mass transportation dates to the administration of President Franklin D. Roosevelt. The Public Works Administration (PWA) financed many important transit projects "such as important elements of contemporary transit infrastructure of the State and Dearborn subways in Chicago, and the Sixth Avenue subway in New York."[1169] Ultimately, these projects would set the stage for Sioux Falls to get the green and gold trolleys that feature so prominently in downtown Sioux Falls during the summer and fall.

When the Eisenhower Administration committed to construction of the Interstate Highway System, consideration for alternative transportation diminished. An example of this was passage of a law in 1958 "that removed any control state governments previously exercised over petitions railroads might file to abandon various local passenger services. This immediately resulted in the closing down of several important commuter rail services, and many others were perceived as under serious threat."[1170]

A new call for federal financial assistance for mass transportation emerged in that law's wake. In 1960, supporters introduced legislation in the Senate to provide "federal assistance for mass transportation." The bill passed the Senate, but it was buried in a House Committee and never received a vote in the full House of Representatives. The next year, 1961, the "proposal to establish federal assistance for mass transportation was introduced in the Senate again, this time as part of a larger urban housing bill, and it was enacted into law. President Kennedy signed the Omnibus Housing Act on 30 June 1961.[1171]

[1167] Ibid., p. 17.

[1168] Ibid., p. 18.

[1169] "The Beginnings of Federal Assistance for Public Transportation," http://www.fta.dot.gov/about/14103.html. As accessed 19 July 2012.

[1170] Ibid.

[1171] Ibid.

According to the authors of "The Beginning of Federal Assistance for Public Transportation," the Omnibus Act "did not initiate broad scale federal assistance for mass transportation. It provided $50 million for loans and $25 million—taken out of urban renewal funds—in outright grants for demonstration pilot projects in mass transportation."[1172] In other words, it was an interim measure awaiting more detailed plans for the future.

President Kennedy sent a significant transportation message to Congress in 1962 that called for a federal program of capital assistance for mass transportation. President Kennedy was assassinated before the law was enacted. President Lyndon Johnson signed the Urban Mass Transportation Act on 9 July 1964. The new measure provided $375 million in capital assistance over three years. The House passed the bill 212-to-129 and it cleared the Senate 52-41. The legislation also created the Urban Mass Transit Administration, the forerunner of the Federal Transit Administration that oversees mass transit issues today.[1173]

Although it might seem that mass transit is somehow an oxymoron when applied to a state with such a widely dispersed and small population like South Dakota, it has become increasingly important here on the prairie. An aging population requires access to health care facilities, grocery stores, libraries, and all the other things that make up a community. Other cohorts of the population, including citizens with disabilities, school age children and low-income citizens, benefit from public transit as well. South Dakotans find resources like county transit systems a crucial element to maintaining viable communities as well as servicing the needs of significant portions of the population. By 1997, "public and specialized transportation services" had expanded greatly in South Dakota. According to the Executive Summary of the SDDOT Transit Division's Year End report for that year, "Over seventy organizations are currently providing some form of transit services [that] cover approximately 70 percent of the geographic area within South Dakota.[1174]

Senator Tim Johnson (D-SD), chairman of the Senate Banking, Housing, and Urban Affairs Committee, announced in July 2012 that South Dakota communities and organizations would receive $3.5 million in transit grants. Among those recipients were the City of Sioux Falls ($1.5 million), River Cities Transit in Pierre ($1.04 million), Arrow Transit in Lemmon, Prairie Hills Transit in Spearfish, Yankton Transit, the Rural Office of Community Services (ROCS) in Lake Andes, Brookings Area Transit, and Palace Transit in Mitchell.[1175] Clearly, federal transit funds benefit a wide spectrum of communities in South Dakota.

[1172] Ibid.

[1173] Ibid.

[1174] "Public and Special Transportation in South Dakota," Statistical Report for Fiscal Year 1997, South Dakota Department of Transportation, Division of Fiscal and Public Assistance, Office of Air, Rail, and Transit, p. 1. These reports provide a wealth of statistics—vehicles owned, miles per year, number and types of passengers, operating costs, etc.—for each group that received transit support.

[1175] "S.D. cities get $3.5 million in transit grants," *Argus Leader,* 30 July 2012, p. 2A.

Although that conclusion may be clear, there were several disputes during this period in SDDOT history that led to legal adjudication. The case of *Jacobsen v. Howard* came about as the result of the SDDOT enforcement of a state law that prohibited commercial activity at South Dakota Interstate rest stops, with the exception of drink vending machines that the Service to the Blind operated. That meant it barred distribution of Harlan Jacobson's publication "Solo RFD," a magazine for single adults, at those rest stops. Jacobsen sued and won in U. S. District Court on the basis that his first amendment freedom of expression was violated. The SDDOT appealed and lost in the U. S. 8th Circuit Court of Appeals in 1997.[1176]

In another case, *USA and Cheyenne River Sioux Tribe v. State of South Dakota,* the Federal government represented the tribe in an effort to prevent state collection of the motor vehicle excise tax and annual license registration fees on tribal members who lived on their Reservation. The U. S. District Court ruled that the State could not collect the excise fee, but that it could collect the license registration fee from tribal members who bought state plates. The State appealed and lost this case in a 2-1 vote in the 8th Circuit Court of Appeals.[1177]

The Standing Rock Sioux Tribe then filed suit in *Standing Rock Sioux Tribe v. Janklow* because the State had continued to collect the excise fee on the other reservations. The court ended collection of the excise fee on Standing Rock and the judge indicated he would grant injunctions to other tribes where it was being collected. Subsequently, the South Dakota Department of Revenue decided to stop collecting it on the reservations. The revenue department staff estimated an annual loss to the State Highway Fund of between one and two million dollars.[1178]

Although the lawsuits could be interpreted as evidence that relations between the State and the tribes were tense, there were significant areas of cooperation. The SDDOT "let 23 highway construction and maintenance projects on highways located wholly or partially within the current or historic Indian Reservations" in 1997. Those contracts amounted to $12,594,477, with eight of the nine reservations (all but Flandreau) listed as recipients.[1179] The tribes also develop Transportation Improvement Programs (TIP) in conjunction with the State STIP and the Bureau of Indian Affairs (BIA) TIP.

As part of those contracts, contractors pay the TERO fee. TERO stands for Tribal Employment Rights Ordinance. The fee is based on the actual cost of the project within the reservation or historic reservation boundaries. TERO is a federal requirement. Jane Hansen of the SDDOT stated that she and the people who work to ensure compliance with the National Environmental Policy Act (NEPA)

[1176] "Accomplishments, Department of Transportation, January 1, 1997-December 31, 1997," p. 19. See also Jacobsen v. Howard, 109 F. 3d, 1268, Court of Appeals, 8th Circuit 1997.

[1177] "Accomplishments, Department of Transportation, January 1, 1997-December 31, 1997," p. 19.

[1178] Ibid., pp. 19-20.

[1179] Ibid., p. 20.

visit each tribe in February and March of every year. The state personnel negotiate a TERO contract with each tribe. Currently, 2-2.5% of a contact is earmarked for TERO.[1180]

Secretary of Transportation Darin Bergquist is, per Hansen, taking a proactive position to explain that the state cannot negotiate new TEROs at rates the tribes want as of June 2012 (4-5%) because Congress had not passed a national highway bill. Because of that situation, the State of South Dakota was negotiating time extensions of existing TERO agreements at the time this book was written.

Governor Michael Rounds' appointment of Bergquist to lead the SDDOT brought a man with a set of job skills that were particularly well-suited to the task. Bergquist, who grew up in Milbank, South Dakota, earned a bachelor's degree in Business at Jamestown College and a Juris Doctorate from the University of South Dakota School of Law in 1993. He had a private law practice in Tyndall, South Dakota, before accepting an appointment as an Administrative Law Judge with the South Dakota Department of Labor. He joined the South Dakota Department of Transportation in 1998 "as an Assistant Attorney General in the Office of Legal Counsel and served as the Program Manager for the Right of Way Office and Director of Operations until Rounds appointed him secretary in October 2007. Governor Dennis Daugaard reappointed Bergquist in January 2011.[1181]

By 2007, all governments were beginning to feel the effects of a worsening federal revenue situation. The U.S. was fighting three unfunded wars. Congress had passed an unfunded prescription benefit for seniors. Revenue projections indicated deficit spending for at least a decade if not longer into the future, and significant deficits at that. Revenue sharing from the federal government to the states for programs like Medicare and Medicaid were under attack. All of this came before the financial meltdown of 2008.

In a document written for Secretary Bergquist entitled "2007 Challenges, Accomplishments, and Awards," Ben Orsbon wrote that inflated costs for construction materials coupled with diminished highway revenues "demand some difficult decisions this fiscal year and in the near term."[1182] One casualty Orsbon noted "was suspension of the 90/10 federal funding swap program that worked so well for local governments." Those agreements allowed local governments "to swap $100 of their federal road money for $90 in State money. The exchange allowed them to stretch their highway funding, because State road money has fewer expensive requirements compared with federal funding" and included almost $11 million in funds in 2007.[1183] The SDDOT initiated the 90/10

[1180] Conversation between Steven Bucklin and Jane Hanson, SDDOT Library, 8 June 2012, Pierre, SD.

[1181] All data on Secretary Bergquist is taken from http://sd.gov/governor/bios.aspx?id=bergquist and an email Darin Bergquist to David Huft, 9 August 2012.

[1182] "2007 Challenges, Accomplishments, and Awards," p. 2. The document is not attributed to a specific author, but Orsbon indicated he wrote it when he provided it on 7 June 2012.

[1183] Ibid.

agreements in 1997, but with the caveat "that if money got tight, they would end." As Orsbon observed with understatement: "Money got tight."[1184]

That statement accurately reflected the economy of 2008. The SDDOT cut equipment purchases by $4 million in FY 2008. Another $1.25 million was cut from building improvements. Each program director within the Department cut 10% from program operating expenses. The Department reduced its obligation under a Memorandum of Understanding (MOU) with the Game, Fish, and Parks department from an average of $2 million in previous years to $650,000 for FY2009 and $500,000 in FY2010. Public Safety staff cut $2 million from their budget.[1185]

Further cuts included slicing $2.5 million from the previous $3.5 million devoted to economic development grants. The Department staff also eliminated 100% State funded projects and began to use federal dollars to purchase Right Of Way (ROW). The latter action reduced the amount of federal dollars "available for actual construction." The SDDOT lost 14 Full Time Equivalent [FTE] positions for the 2009 budget cycle, although this was managed primarily through turnover and/or retirements. Newly elected Governor Dennis Daugaard (R) also ordered a 10% across-the-board funding reduction for all Executive Branch departments and imposed a hiring freeze.[1186] The Maintenance Division began to research ways of more efficiently managing the use of salt and adopted the Maintenance Decision Support System in 2009 that reduced use of salt and sand and made the use of deicing chemicals more efficient. This measure alone resulted in savings of $2.3 million during the severe winter of 2009-2010.[1187]

Matters worsened as Congress debated a federal highway bill. The staff of the SDDOT, as they had done before, worked with South Dakota's Congressional delegation to "reauthorize the Federal Highway funding bill for state, local and tribal highway and transit projects, which amounts to more than $1.3 billion for 2005-2009, and worked with our Congressional delegation to secure more than $255 million in additional discretionary funding for earmarked projects.[1188]

Over $100 million of the $183 million in President Barak Obama's American Recovery and Reinvestment Act (ARRA) highway funds (Stimulus Projects) designated for South Dakota had been let to contract before the year's end after the lettings began in March of 2009. About $16.8 million of the Recovery funds were reserved for city and county highways.[1189] This funding met up to 100 percent of costs for any of these projects. The ARRA funds did not require local and state matching funds, "but additional federal and state funding was provided to fully complete needed projects."[1190]

[1184] Ibid.

[1185] Document entitled "2008 Challenges, Accomplishments, and Awards," p. 1.

[1186] Ibid., p. 2.

[1187] Document entitled "2010 Accomplishments, Department of Transportation," p.6.

[1188] Document entitled "Transportation Accomplishments, 2003-2009," SDDOT Library, Pierre, SD, p. 1.

[1189] Ibid.

[1190] Document entitled "2010 Accomplishments, Department of Transportation," p.1.

A significant requirement of the ARRA funds, given that part of their purpose was to stimulate the economy, was that 50 percent of the funding had to be obligated within 120 days of its receipt and all the funding had to be obligated within one year. There were also "additional reporting requirements to the Federal Highway Administration, the Federal Transit Administration, and the US House of Representatives. The SDDOT exceeded these obligation deadlines and reporting requirements while still obligating their normal allocation of Federal Highway and Transit funding with no additional staff."[1191]

Local South Dakota governments traded their ARRA federal funds with the state for formula funds. This was particularly welcome because such swaps had stopped in 2007 due to decreased funding. The transit funding for South Dakota in ARRA "amounted to about $11.3 million." The SDDOT got $7.4 million, $3.9 million of which went directly to Sioux Falls and Rapid City. The SDDOT used the money to purchase 36 vehicles for $3.2 million and to construct or improve 12 bus facilities for $4.2 million.[1192]

Because the SDDOT developed and awarded its projects efficiently and in a timely fashion when compared to other states, South Dakota got an additional $15 million of funds in 2009 that other states had failed to let within the ARRA time constraints. Washington was the only other state to match that accomplishment.[1193]

From 2003 to 2009, the State invested $1.657 billion in new or rehabilitated state highway projects. The SDDOT repaired or reconstructed nearly 40% of the total state system during that period. That included resurfacing 25% of the asphalt roads (2,100 miles) and 630 miles of concrete, reconstructing 460 miles of highway, constructing 180 bridges and culverts, and the repair or rehabilitation of another 550 bridges and culverts.[1194]

Other milestone accomplishments included completion of the Mitchell to Huron Expressway and the Aberdeen to I-29 Expressway, entering the final project of the Heartland Expressway from Rapid City to Maverick Junction, dedication of Discovery Bridge on 11 October 2008 at a cost of $29.3 million, and progress on the Meridian Bridge, which was scheduled to be opened to pedestrian and bicycle traffic by summer 2011.[1195] The SDDOT also completed 556 local projects worth $200 million during those seven years.[1196] This included major work on US Highway 18 from Oglala to Pine Ridge. By 2010, using an ARRA grant that Craig McIntyre secured, the SDDOT had spent $150.4 million out of a total of $198 million in obligated highway projects and was "on track to spend it all by the 3 year

[1191] Ibid., p.2.

[1192] Ibid.

[1193] "Transportation Accomplishments, 2003-2009," p. 1.

[1194] Ibid., p. 2.

[1195] Ibid.; "2010 Accomplishments, Department of Transportation," p. 3.

[1196] "Transportation Accomplishments, 2003-2009," p. 2.

deadline of March 2012."[1197] In addition, SDDOT personnel, working in conjunction with South Dakota's Congressional delegation, recovered $1 million from the Federal Motor Carrier Safety Administration in 2011 that had been wrongly revoked.[1198]

The fact that Congress finally passed the Moving Ahead for Progress in the 21st Century Act (MAP-21), which President Obama signed into law on 6 July 2012, means that the long period of uncertainty with regard to federal funding is over for the short term in that it puts to rest the fear expressed in an SDDOT report of 2011 that the department stood to lose one-third of its funding if a House bill were passed. That bill failed. The MAP-21 act authorizes funds for only Fiscal Years 2013 and 2014. Still, it is the first multiyear transportation authorization since 2005.[1199] There will likely be a $16 million dollar shortfall, but that is an almost insignificant amount when compared to a one-third loss.

[1197] "2010 Accomplishments, Department of Transportation," pp. 2-3.

[1198] "2011 Accomplishments," p. 1.

[1199] "Moving Ahead for Progress in the 21st Century Act (MAP-21," http://www.dot.gov/map21/. As accessed 30 July 2012.

CHAPTER 9 CONCLUSIONS

The men and women of the SDDOT could reflect on over one hundred years of experience as they entered the new millennium. Clear themes had developed since the creation of the South Dakota Highway Commission in 1913, themes that were interwoven in many respects; themes that continued to influence the course of SDDOT activities as the institution neared its centennial in 2013.

The first clearly discernible theme with regard to the development of transportation in Dakota Territory and later the State of South Dakota was the impact of national military needs. Since the organization of the Territory on 2 March 1861, the nation has been involved in a civil war, three declared wars (the Spanish-American War, World War I, and World War II), seven undeclared wars (the Cold War, the Korean War, the Vietnam War, the First Gulf War, the Iraqi War, the Afghan War, and the War against Terrorism), and numerous other military interventions.

During and after the declared wars, federal policy focused more and more on improving various modes of transportation. The difficulties the government experienced in transporting troops for the Civil War, the Spanish-American War and World War I led to rail improvements. Concerns about both strategic vulnerabilities and the transportation of troops and materials before and after World War I and World War II led to significant federal investments in highways.

The government also made significant improvements to the aeronautics sector during and after each war, and after some of the interventions. Although not solely attributable to the wars, security improvements, runway improvements, air traffic control improvements, and a host of other improvements occurred as a result of military needs.

Another theme that has emerged from the study of transportation in South Dakota is the impact commercial needs, including tourism, has had on the state. Gold miners and pioneers alike wanted roads to access the newly available lands of the territory. Early needs to transport agricultural goods to markets outside the state drove the interest in railroads. Once automobiles and trucks began to displace railroads as the principle means of transporting South Dakota's goods to market, a new emphasis on road construction began to sweep the state. Peter Norbeck recognized the commercial value of tourism and began to push the construction of highways as a means to promote the State's sites of historical and natural interest. Every governor since Norbeck has promoted tourism as part of the package of economic growth and vitality for the State and, typically, they link good roads and airports to increased numbers of tourists.

Some of the state's most beautiful scenery is now accessible as a result of the creation of scenic byways: Spearfish Canyon Scenic Byway that runs from Cheyenne Crossing to Spearfish; the Peter Norbeck Scenic Byway that runs through Custer State Park; the Wildlife Loop Scenic Byway at Custer State Park; the Badlands Loop Scenic Byway in Badlands National Park; and the Native American Scenic Byway that starts at Running Water, South Dakota and goes to North Dakota. All were the result of the hard work of SDDOT employees. Ben Orsbon noted that these byways "required extensive and long term coordination with many local and tribal governments and many federal

agencies. The person who did most of the work is former SDDOT employee, Craig McIntyre… [who] secured the $10 million TIGER Grant to facilitate the $30 million Oglala to Pine Ridge US 18 project."[1200]

Yet another example of commercial needs influencing transportation policy was the gradual abandonment of railroad lines and the failure of private railroads to continue service to the citizens of South Dakota. The members of South Dakota's Executive and Legislative Branches, as well as individual citizens and interest groups, worked tirelessly to address what was a dismal situation in the late 1970s and early 1980s. Working together, and in the face of opposition groups who disagreed with what was an unprecedented state venture into a historically private sphere, they saved railroad service in the state.

Another theme that emerged early in the State's history and continues to affect the state's policies was the fact that South Dakota political culture had grown along lines that reflected the expectation that state agencies should be run as economically as possible. Sometimes, that expectation bordered upon the absurd, as was the case when the State Legislature refused to fund "the commission's travel, postage, stationery, salaries, or other expenses necessary to carrying out the commission's charge" for its first years of existence.[1201]

The State Legislature continued its unfunded mandate until the federal government provided matching funds on the one-to-one basis of the Federal Aid Highway Act of 1916. This reflected one of the ironies of the relationship between the state and the federal government. Many past and current members of South Dakota's Congressional delegation have gotten to Washington, D. C. with campaigns that focus on cutting federal spending, yet it is difficult to find one of them who opposed federal funds for Ellsworth Air Force Base, or for the Interstate Highway System, or for any other federal expenditure that would benefit South Dakota.

Executive, legislative, and public fear of bureaucratic bloat has exercised a constant influence in the course of SDDOT history, even during the halcyon years of Interstate construction. Governors McMaster, Anderson, Foss, Kneip, Janklow, and Dennis Daugaard all made forceful statements during their administrations, whether through reorganizations of state government or through across-the-board cuts for all state agencies, that reflected the ever present fear of bureaucracy.

Budget constraints have resulted in another common theme: difficulty in recruiting engineers and other skilled professionals. As recently as 2011, the author of a document reciting the accomplishments and challenges of the SDDOT noted that "key personnel will be eligible to retire in the next several years. In addition, the Department is experiencing difficulty in retaining our employees, which is likely to become even more difficult as the economy improves. One significant

[1200] Ben Orsbon email to Steven Bucklin, 18 September 2012.

[1201] *Going Places,* Chapter 1, p. 32.

challenge that the Department will face will be hiring, training, and preparing our employees to lead the Department in the future."[1202]

Technological developments have been both a source of greater efficiency and a cause for rethinking the organizational structure of the SDDOT. Jim Myers recalled that when he became Secretary of Transportation in 1983, he began to think about the fact that some of South Dakota's roads "were built and maintained [by] horse drawn equipment and later on they advanced to five-ton dump trucks. And, you know, here we were living in an era where there were fifteen-ton dump trucks."[1203] He began to examine the history of operations and found that the department was "spending huge sums of money to operate maintenance facilities all round the state."[1204] He also discovered that "for something like thirty-seven years there had been a bill introduced to close a maintenance office in this town or that town" and that he and Governor Janklow "decided it was time to take action."[1205] Myers subsequently "proposed closing maintenance facilities…in twenty-eight communities and a couple of engineering facilities and a regional headquarters." It was, he said, like "a firestorm" when the news hit the state.[1206]

The public response was a telling commentary, not unlike the one described above with regard to the state's Congressional Delegations. Myers and Janklow "got calls from all over the state saying, you know, you've got to come and meet with our delegation and see our facilities and so on." Myers' answer was: "I've been in your town, I have seen the facilities." He would then tell them that so many people from so many communities wanted to see him about the issue that he would meet with all the delegations in the Board Room of the Transportation Building. He promised there would be a map on the wall through which he would demonstrate "the basis for the decisions we've made. And, you know, they came. And interestingly enough they all come into agreement with all the decisions we made except for the ones for their community."[1207] There is, then, a dichotomy in the way the public views the state and its bureaucracy: it may be easy to perceive of state bureaucracies as bloat encumbered institutions in the abstract, but when it comes to the same institutions in the local community, it is just as easy to perceive of them as essential components of good state government.

One of the most enduring images of the Great Depression was that of the lazy highway worker, leaning on a shovel while engaged in a supposedly worthwhile Works Progress Administration project. There is ample evidence that this canard was baseless, yet it is a part of a conventional wisdom even today of those people and groups opposed to government-run projects.

[1202] "2011 Accomplishments," p. 2.

[1203] Myers Interview, p. 25.

[1204] Ibid.

[1205] Ibid.

[1206] Ibid.

[1207] All quotes in this paragraph are from the Myers Interview, pp. 25-26.

In part, this opposition may be the legacy of corruption in other state governments and on the federal level, but not in South Dakota. Numerous examples are available of corrupt bidding practices in other states, or of federal officials who bent to the lure of bribes, but you do not find evidence of that in South Dakota's transportation experience. The only examples of corrupt practices come from outside the government, such railroad companies providing false information to the Board of Railroad Commissioners in the late nineteenth century, the pooling of the market amongst bridge contractors in the early twentieth century, or the bidding scandal among highway contractors that Mark Meierhenry described in the late twentieth century.[1208]

The most visible of the influential figures in South Dakota transportation history—including Parmley, Issenhuth, Norbeck, Foss, Case, Kneip, and Janklow—worked tirelessly to secure federal transportation dollars for the state and its residents. These men have received the attention of historians and the public alike, and deservedly so.

What you rarely hear, though, are the stories of the many government employees who work extra hours without compensation, who develop new ways of doing things that save the state and taxpayer money, and who ask little by way of recognition or reward. As Larry Weiss noted in the title of his *memoir* of service to the South Dakota Department of Highways and later the South Dakota Department of Transportation, "it's the people."

The vast majority of the SDDOT workers, whether going back to the days of the Highway Commission or the Highway Department, served their institution and their state well. The early commissioners had no budget and paid many expenses out of their own pockets. The Bridge Department, especially under the direction of men like Kirkham and Scurr, developed the "Beadle County" box culvert and developed plans for and built the bridges across the Missouri faster and more economically than anyone thought possible. The construction of the first Missouri River Bridges in the 1920s is a signal testament to the "can do" attitude of the Department. That they built those bridges in less than the cost of a single bridge constructed across the river in another state was nothing short of astonishing.

Men like Vern Bump, Dick Howard, Wally Larsen, and Jim Myers applied common sense and engineering savvy to problems. An excellent example was Bump's use of a windmill to address the underground water affecting the approach to the Gettysburg Bridge. Wally Larsen worked tirelessly, not only for the SDDOT, but also for all state employees in helping to establish a state retirement system. Jim Myers spent countless hours of his own developing the understanding of railroads that was essential to saving the rail system in the state. Dick Howard's vision as South Dakota's Secretary of Transportation included the needs of the state, the region, and the nation. It was because he could not bring himself to fire hundreds of people that Governor Janklow removed him from the office. Dozens of state employees—past and present—have volunteered their time, energies, memories,

[1208] See Chapter One, p. 18 and Chapter Two, p. 69 of this manuscript for the false information and pooling incidents.

and memorabilia to enable this book to be written. There is a spirit of community among them that serves this state well.

Although some of the items listed above may be of intangible value, the tangible ones continue to better the lives of South Dakotans and the citizens of the nation. One example is the development of the South Dakota Road Profiler. Not only does it help ensure that highways that need maintenance most get it, it helps take politics out of the equation of highway maintenance and repair in South Dakota.

That is not to say that politics do not enter into the equation of highway construction in South Dakota, but there is little evidence of it in the modern era.[1209] Former Governor Janklow stated that the Highway Commissioners told him that as governor, "15 percent of all the highway projects" belonged to him. "Nobody knows this publicly," they continued per Janklow's memory, "but you tell us 15 percent of any of the total spending in the year—what do you want built—and we will build it for you and well take the heat. We'll cover for you."[1210]

Janklow continued by way of recalling "in my whole career, I never told 'em to build a road. And I mean that. I told them NOT to build some, but I never told 'em to build a road except one. When I was running for my third term as I traveled the state, I was on Highway 10 between Britton and Sisseton. I had never been on a more dangerous broken up mess in my life. And when I got elected governor I said to the highway commission: 'I want you to rebuild Highway 10.' And they did. It's a beautiful highway today."[1211]

No one else verified Janklow's recollection of the deal. Wally Larsen said he was unaware of a "15 percent rule."[1212] Dick Howard said that he was not personally aware of such a deal, but jokingly speculated that "they probably told him [Janklow] that," but even if they did, Howard said it "never showed in…our construction program."[1213] Jim Myers stated categorically that the State Highway Commission was, in his experience, "always objective and fair."[1214]

Other tangible innovations had to do with bridge construction. When the SDDOT inducted Kenneth C. Wilson into the South Dakota Transportation Hall of Honor on 22 June 2009, it honored not only the man, but also the division. The Bridge Division built nearly 1,300 bridges during Wilson's 33-year career, almost 70 percent of the total number of bridges in the state. Wilson, according to the Sioux Falls *Argus Leader,* "played a leading role in a steel bridge design that resulted in a jointless abutment. The technique has saved state government countless funds in bridge maintenance and

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[1209] See Kenneth Scurr's comments on the "spoils system" in Chapter Two of this manuscript for practices in the 1920s.

[1210] Janklow Interview, p. 23.

[1211] Janklow Interview, pp. 23-24.

[1212] Larsen Interview, p. 19.

[1213] Howard Interview, p. 15.

[1214] Myers Interview, p. 29.

repairs." Furthermore, the *Argus Leader* praised Wilson for developing "the use of epoxy coated reinforcing steel in bridge decks. To date, not one of those bridge decks has needed repairs or overlay due to rebar corrosion." Wilson was also a principal designer of "the Keystone Wye bridges on U.S. Highway 16 in the Black Hills, arguably the most recognizable and beautiful bridges in the state."[1215]

The SDDOT continued to incorporate state-of-the-art Internet and telecommunications technology during the new millennium as part of the department's ongoing commitment to safety. The Department introduced the "511 Traveler Information System" in November 2002. This allows anyone interested in current road conditions to dial 511 when in South Dakota and receive detailed reports of particular roads and sections of roads in South Dakota, North Dakota, Montana, Wyoming, Nebraska, and Minnesota through an easily accessed menu.[1216] The Department logged 24,000 users the first year.

Four years later, the Department launched the "511 Traveler Information System Website" to augment access to pertinent road condition information, as well as to provide live roadside camera views at http://safetravelusa.com/sd.[1217] The SDDOT also purchased and installed electronic message boards on the Interstates to inform the public of "closures, detours, incidents and other conditions that affect their travel."[1218] By 2009, the Department received 460,000 phone messages, 990,000 hits on its web site for road condition maps, and 1,100,000 text messages for road conditions.[1219]

In 2012, the SDDOT once again augmented the 511 system to include ClearPath 511. Subscribers can receive email or text messages notifying them of "road closures, no-travel advisories and highway flooding" across the state. Kristi Sandal, SDDOT Public Information Officer, noted that "Keeping the public safe is our number one priority" and ClearPath is another means of achieving that goal.[1220]

The SDDOT has a tradition of recognizing people who have played a prominent role in the development of the State's transportation system. The first thing to catch the eyes of visitors to the Becker-Hansen Building, itself named after two DOT pilots who died trying to save the State aircraft carrying Governor Mickelson, in Pierre is a wall covered with the portraits of such individuals. It is a wall, though, that affords the viewer two different meanings. The first is obviously that these people made significant contributions to fulfilling the SDDOT's mission. The second meaning reflects a problem that SDDOT has tried to address over the years with varying degrees of success.

[1215] All quotes in this paragraph are from "Wilson named to transportation hall," 1 June 2009, Sioux Falls *Argus Leader,* http://www.argusleader.com/article/20090601/UPDATES/90601026. As accessed 1 June 2009.

[1216] "South Dakota Department of Transportation Fact Book, 2009," internal publication, p. 20.

[1217] Ibid., p. 9; p. 20.

[1218] Ibid., p. 20.

[1219] Document entitled "Transportation Accomplishments, 2003-2009," SDDO Library, Pierre, SD, p. 1.

[1220] *Argus Leader,* 26 February 2012, p. 2A.

The fact is that every one of the people honored on that wall appears to be a white male as of 1 January 2013. There are no people of color and no women on that wall. This fact may reflect national, regional, and local norms up to and even during the Civil Rights Movement of the 1950s and 1960s, but the lack of diversity for the decades following the Movement in a display that grabs the eyes of any visitor who enters the front doors of the Becker Hansen Building is disconcerting.

A strategic planning document from 1990 reflects the fact that SDDOT tried to address these issues. Hal Rumpca was the point man for civil rights issues in 1990. He worked "closely with personnel on internal employment concerns and with the Operations Division on construction related areas such as employment and minority business programs."[1221] Among several primary goals established in the memo, Goal 2 was to "develop and promote cooperative working relationships with tribal governments which lead to increased Indian employment."

Two principal objectives were identified as:

> Objective A: use special contract provisions for Indian preference in hiring for projects on the reservations. Seek a 45-50% Indian workforce on construction and maintenance projects located on the reservations.
>
> Objective B: "Promote Indian employment within the Department work force by developing and implementing an affirmative action hiring plan with the goal of achieving Indian parity in the Department work force by the end of calendar year 1991.[1222]"

There was no indication whether the SDDOT met these goals and objectives, but it is evidence that there was an institutional sensitivity with regard to the state's First Peoples and its largest ethnic minority. The SDDOT's continued work with the tribal governments to negotiate and meet the goals of the Tribal Employment Rights Ordinance is also evidence of its commitment to acting upon the needs of the tribes.

As has already been established in Chapter Four, until 1948 the only female employees listed by name in annual reports had been employed as stenographers and as secretaries. Hazel Dean's listing as the Financial Supervisor of the State Highway Planning Survey in the 1948 Annual Report changed that.[1223] This was an important first, but there have been few women to serve in key management positions within the SHC or its subsequent permutations. Judy Payne was Secretary of Transportation from April 2005 to May 2007 and is the only woman to have served in that capacity.[1224] Three females served as directors of the Division of Finance (or Finance & Management): Gay Rhoades

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[1221] See Memo to Hal Rumpca from Dean Schofield, Deputy Sec DOT, 21 August 1990. Box 06100: Strategic Plans.

[1222] Ibid.

[1223] *Going Places,* p. 142.

[1224] See Peggy Laurenz email to Virginia Ripley, 10 August 2012, for dates of Payne's service.

(during Dick Howard's tenure as Secretary), Roxanne Rice, and Kellie Beck. Cynthia Jungman was a Program Manager and Tammy Williams is the current Mitchell Area Engineer. Laurie Schultz, an engineer, is now the Program Manager for the Administration office in the Division of Planning & Engineering.[1225] This represents significant progress within the SDDOT.

Political appointees to the various transportation boards, though, have been exclusively male. As of 2009, there were no women serving on the South Dakota Railroad Board, none on the South Dakota Railroad Authority, none on the South Dakota Aeronautics Commission, and none on the South Dakota Transportation Commission.[1226] Clearly, more effective efforts could be made in appointing women and minorities.

Another theme that becomes evident in the history of the SDDOT is that of sustainability. The people dealt with the problem of diversion of fuel tax revenues to non-transportation projects through amendment in 1940, but the fact is that revenues from the fuel tax are subject to fluctuation and, in a day of increasing fuel efficiency in the fleet of vehicles that travel the highways, those revenues may begin to trend downward. The Vehicle Miles Traveled tax is one of the responses recently considered nationally to this problem.

Although it might prove to be political suicide in a largely agricultural state, someday leaders in Pierre will have to give serious consideration to seeking greater tax support from the farm community. Farmers benefit from good roads as much if not more than other citizens and should contribute more directly to the expenses of our transportation system.

There is, too, the fact that at a national level, the country is in terrible financial straits. Unless a bipartisan budget is passed, Congress will be required to reduce the budget with mandatory cuts as of 1 January 2013, and transportation funds will not be immune. So, too, will funds that aid other parts of the multimodal transportation system. Several members of Congress have already targeted subsidies for rural airports, as but one example. As South Dakota Secretary of Transportation Darin Bergquist wrote in his introduction to the South Dakota Department of Transportation's "Fact Book 2009," the road for funding "may get bumpy."[1227]

Another issue is the trend toward more states' rights and responsibilities and more privatization in the transportation sector emanating from certain political groups. Gabriel Roth, a civil engineer, transportation economist, and fellow of The Independent Institute of Oakland, California, asked in the title of a recent op-ed piece that appeared in the *Argus Leader:* "Who should pay for highways?"[1228] His answer is controversial. It is also clear that Clifford Winston, a Brookings Institute scholar and author of *Last Exit: Privatization and Deregulation of the U.S. Transportation System*

[1225] David Huft email to Steven Bucklin, 26 July 2011. On Laurie Schultz, see Huft's comments of 24 October 2012.

[1226] SDDOT *Factbook 2009,* pp. 12-14.

[1227] South Dakota Department of Transportation's "Fact Book 2009," p. 5.

[1228] Gabriel Roth, "Who should pay for highways?" Sioux Falls *Argus Leader,* 30 December 2011, p. 2B.

shares a similar view.[1229] Although the focus of these works is highways, their criticisms extend to air and rail transport, too.

Roth says that the fuel tax does not meet the expenditures of current legislation in the Senate and House of Representatives. If the legislation were passed, it would require general tax revenues to address this situation. His solution is for the Federal government to "get out of transportation financing altogether, wind down the Highway Trust Fund, and leave highway financing and decision making to states, local authorities and private entities."[1230]

Such a proposal, were it adopted, would have staggeringly negative consequences for the nation, but even more so for a low population, large area state like South Dakota. South Dakota receives approximately two dollars in federal aid for every one dollar it sends to Washington in the form of taxes. In terms of highway construction, federal aid "pays for 91% of the cost of an Interstate project and, usually, about 82% of other major SDDOT projects."[1231] The SDDOT budgeted funds for non-railroad surface transportation in FY 2009 included 62.4% federal funds ($305.6 million), 36.9% State Highway Funds ($180.5 million), and 1% ($3.8 million) for other transportation expenses like railroads and aeronautics.[1232]

If federal funding diminishes significantly, the state will face the choices of: 1) curtailing future transportation projects; 2) curtailing maintenance; 3) raising taxes; 4) finding alternate forms of taxation; or, 5) some combination of the four.

Calls for privatization also ignore the lessons of the past. In some cases, private enterprises have taken advantage of government legislation to their benefit and the detriment of the consumer. The activities of airlines under the Kelly Act of 1925 offers insight to this problem. As described in Chapter Three, airlines capitalized on an amendment to the act that allowed them to charge by the pound rather than by individual letters in order to "increase their revenues by sending large quantities of airmail to themselves. They sent thousands of letters stuffed with large reports, telephone directories, and even mailed spare airplane or engine parts to their various branch offices. One airline contractor mailed itself two tons of lithographed material from New York to Los Angeles." The postage cost more than $6,000, but because the Post Office paid the airline by the pound, it received $25,000.[1233] It is not that all corporate citizens are inclined to plunder the body politic, or even the majority of them; it is, rather, that if even one of them, or a small minority of them, violates the public trust, that action has a reverberating negative effect.

[1229] Clifford Winston, *Last Exit: Privatization and Deregulation of the U.S. Transportation System.* Washington, D.C.: Brookings Institution Press, 2010.

[1230] Gabriel Roth, "Who should pay for highways?" Sioux Falls *Argus Leader,* 30 December 2011, p. 2B.

[1231] South Dakota Department of Transportation's "Fact Book 2009," p. 27.

[1232] Ibid., p. 28.

[1233] U.S. Centennial of Flight Commission, "Walter Folger Brown: The Postmaster General Who Built the U.S. Airline Industry," http://www.centennialofflight.gov/essay/Commercial_Aviation/Brown/Tran3.htm. Accessed 20 September 2011.

For-profit enterprises also have a history of abandoning unprofitable investments. The example of the railroads in South Dakota underscores this. Abandonment of railroads was at the expense of the public sector. No private enterprise stepped up to halt the process. Without the resources of the state that Governor Janklow committed to saving the railroads, it is possible the State of South Dakota would still be without dependable rail service.

The caveat of the Board of Railroad Commissioners in 1905 that "Individuals, in pursuit of their private affairs are more or less at the mercy of, and exposed to, the greed and rapacity of combinations of large corporate bodies, and consequently, it is quite necessary that the legislature should…safeguard the interests of the public " is as true today as it was then.[1234] There are some things, it appears, that just cannot be left to the vagaries of the free market, and the core transportation system is one of those things.

It will require an informed public to address these issues, and the SDDOT has excelled and set the standard for other state agencies in encouraging public participation in the planning process for the state's transportation system. Director of the South Dakota Department of Highways Morris G. Hallock observed in the Biennial Report of 1969-1970 that the Department had instituted a change of policy when it began to conduct some of its monthly meetings in communities other than Pierre. "Monthly meetings and lettings," he observed, "were held in Sioux Falls, Mobridge, and Watertown" with additional meetings "scheduled at Huron and Rapid City."[1235]

This predated the mandated public participation process found in the 2005 Safe, Accountable, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) by 27 years.[1236] A recent example is a public hearing on the development of SD Highway 100, held in Sioux Falls on 17 January 2007.[1237] Public meetings have been held in Sioux Falls during the summer of 2012 with regard to the I-229 and 26th Street Corridor. In addition, the SDDOT conducts customer satisfaction surveys and question-and-answer sessions at various locations.

The SDDOT will continue to be one of the most important agencies of state government for the foreseeable future. Few, if any, of the other departments of government have such a readily recognizable direct and daily impact on the citizens of South Dakota. The history of the SDDOT as an institution, and of the people who have made it what it is, demonstrates a level of commitment to the citizens of this state that not only deserves praise, but emulation. In difficult times and in good times, "going places" is something the SDDOT does incomparably well.

[1234] "History of the South Dakota Public Utilities Commission," SDPUC, 2001, p. 28.

[1235] "Biennial Report of the South Dakota Department of Highways for the Fiscal Years 1969 and 1970," p. 3.

[1236] "SD 100: Public Involvement," http://www.sddot.com/sd100/pi.asp. Accessed 20 February 2012.

[1237] Ibid.

INDEX