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Fly-over Country?

A Glimpse of South Dakota through Its Aviation History

The contemporary expression "fly-over country" is usually meant to characterize rural America as unimportant. Those who use the term find little inspiration in the fields of grain, the sprawling grasslands, the intricate web of rivers, or the mountains that reach up toward their airplanes. The Danish writer Karen von Blixen, whose 1937 memoir *Out of Africa* was adapted for the award-winning 1985 film of the same name, commented on the term well before it came into common usage. Reflecting on her relationship with English pilot and big-game hunter Denys Finch Hatton, she observed that he gave her "an incredible gift—a glimpse of the world through God's eye." Finch Hatton took Blixen on a flight over beautiful Kenyan vistas. The scenery depicted in the film is breathtaking, and for those of us familiar with the Great Plains, it evokes the beauty and majesty of South Dakota, with its mighty rivers, herds of cattle and bison, the Black Hills, and the Badlands. Blixen said about the flight, "And then I thought. . . . This is the way it was intended."[1]

The experiences of South Dakota aviators may not have been so romantic, but the men and women who brought aviation to the state were much like Denys Finch Hatton. They learned on the run; they innovated in the face of necessity; and they witnessed, just as those who still fly Dakota skies, a land much "the way it was intended." These pioneering aviators, and the ones who created the institutions to over-

Portions of this article appear in slightly different form in Steven J. Bucklin, "Going Places: History of the South Dakota Department of Transportation 1956–Present" (Pierre: South Dakota Department of Transportation, 2013). This document is available at the Department of Transportation Research Office in Pierre.

1. *Out of Africa*, directed by Sydney Pollack (1985; Los Angeles: Universal Studios Home Video, 2000), DVD.

see what became an industry in the state, would likely only smile and shake their heads at those who see nothing of value when flying over the plains.

Few people who think about the amazing feat of the Wright brothers on the wind-swept beaches of North Carolina are likely to find their minds wandering to the equally wind-swept plains of South Dakota, but it is possible that Orville and Wilbur did so as they contemplated their achievement. Their first successful airplane flight at Kitty Hawk, North Carolina, on 17 December 1903 made transportation history. Originally cyclists and bicycle mechanics, the brothers had experimented with internal combustion engines since 1896 at their bicycle shop in Dayton, Ohio. Before that, they had spent summers on a ranch near Holabird, South Dakota, tinkering with farm machinery and windmills.[2] It is too much to claim that modern aviation was rooted in South Dakota, but perhaps not too much to assert that the concept was nourished here.

It was not until 1911 that South Dakotans could see an airplane in action in their local airspace. That year, the South Dakota Stock Growers Association hired the Curtiss Exhibition Company to provide a biplane as the main attraction at its annual convention in Rapid City. Of course, the "Gateway to the Black Hills" then had no airfield or even a designated landing strip. A freight train delivered the plane on Saturday, 8 April 1911. As South Dakota aviation historian Robert D. Orr has observed, "Cross-country flights were never made at this time. . . . The planes were dismantled and shipped in crates to the locality where the flight was to take place." The "flying bird cages," as aircraft were sometimes called in 1911, were then reassembled for the performance.[3]

That first flight lasted only three minutes, and the landing was a little rough. A *Rapid City Daily Journal* article noted that the impact broke one wheel and caused "some other slight damage."[4] Adverse winds prevented the pilot from attempting "spectacular work" during

2. Bernie Hunhoff and Roger Holtzmann, "South Dakota's Wild Blue Yonder," *South Dakota Magazine* 29 (July/Aug. 2013): 32.

3. Robert D. Orr, "A History of Aviation in South Dakota" (master's thesis, University of South Dakota, 1957), p. 16.

4. *Rapid City Daily Journal*, 11 Apr. 1911.

the second flight.[5] Nonetheless, members of the South Dakota State Fair Board who attended the show were duly impressed—they hired three pilots and planes from the Curtiss Company for the annual event in Huron that year.[6]

The public response to the flights and the large number of attendees at the State Fair convinced the fair board to try to entice Cromwell Dixon, one of the "bird-men" who had given particularly inspiring performances, to stay beyond his contract. Curtiss corporate headquarters declined the opportunity and ordered Dixon to make 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."[7] The fair board repeated the attrac-

5. Ibid., 13 Apr. 1911.
6. Orr, "History of Aviation," pp. 18–19.
7. *Daily Huronite*, 12 Sept. 1911.

Some of the earliest flights in South Dakota took place during the 1911 and 1912 state fairs held at Huron. This postcard commemorates the appearance of a flying machine at the 1912 fair.

tion in 1912, convincing Hugh Jaynes, a prominent resident of Pierre, to ride in the plane for publicity purposes. A fifty-car caravan accompanied him from Pierre to Huron. The trip was 120 miles each way on dirt roads, for there were no gravel-surfaced highways in South Dakota until 1921. It was not until 1912 that the first flight took place in the state's largest city, Sioux Falls. The pilot flew a Curtiss Model D biplane and used Coats Athletic Field, east of what is now Twenty-sixth Street and Southeastern Drive, as a temporary airfield.[8]

Barnstormers—aeronauts who entertained audiences—flew to all points in the state, providing rides and executing daring stunts in the years before and after World War I. The ranks of barnstormers increased substantially when soldiers and sailors came home after the war. Among their numbers were approximately twenty thousand young men who had been military aviators.[9] Their skills were no longer in high demand for either commercial or governmental purposes, but one thing was certain—many of these pilots were determined to fly again.

Private-sector aviators found flying expensive before World War I, but the situation changed with the sale of war-surplus aircraft and parts beginning in 1919. The United States government, as well as several foreign countries, often sold surplus aircraft at prices below cost. Although a great boon for individual pilots, the undercutting caused increasing consternation for American aircraft manufacturers. The Curtiss Aeroplane and Motor Company announced in June 1920 that it would cease to manufacture motors and accessories for airplanes due to the failure of Congress to address the "dumping of British machines" on the American market at a fraction of their production cost.[10]

Despite what may have been a dampening effect on the aircraft 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 W. Ice, Harold W. Tennant, and others resumed stunt-flying en-

8. Orr, "History of Aviation," p. 24; Herbert S. Schell, *History of South Dakota*, 4th ed., rev. John E. Miller (Pierre: South Dakota State Historical Society Press, 2004), p. 364; Norma J. Kraemer, *South Dakota's First Century of Flight* (Charleston, S.C.: Arcadia Publishing, 2010), pp. 9, 16.

9. Orr, "History of Aviation," p. 45.

10. *Aberdeen Daily American*, 12 June 1920.

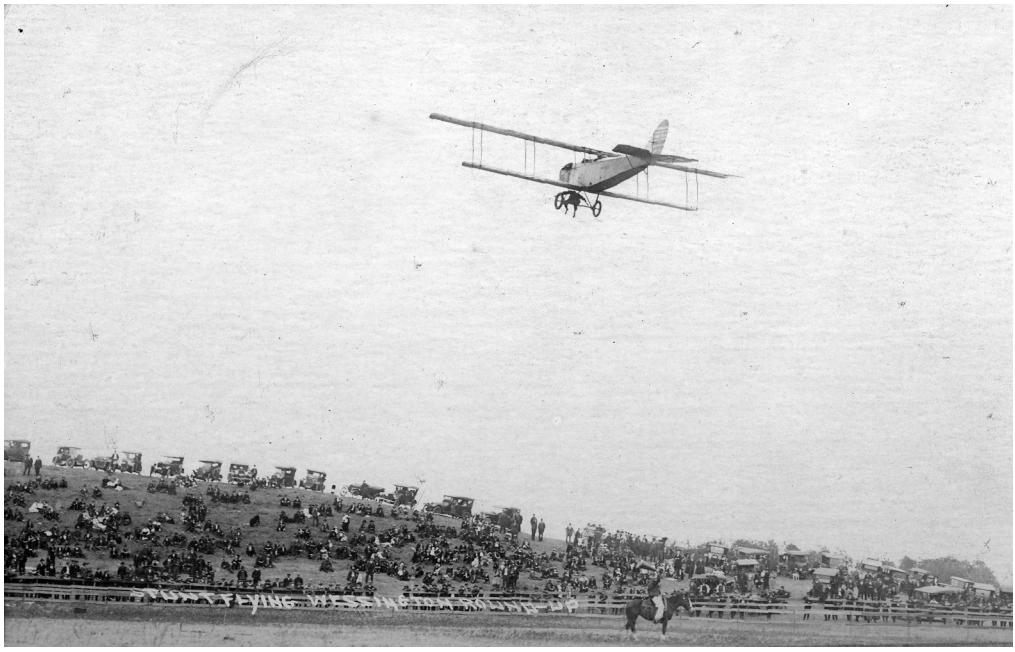
tertainment after the war and also began commercial ventures. Landing strips, both public and private, became a more frequent sight, their windsocks waving to interested passersby. One of the state's earliest aviation businesses was established in 1919 in Huron. Merle Hagen and Charles Ward formed the Huron Aerial Rapid Transit Company with one Curtiss JN-4D aircraft. They hauled passengers and freight and provided flight instruction and aerial entertainment. Hagen and Ward recorded five hundred passengers in 1921 and flew a total of twenty thousand miles around South Dakota, Minnesota, and Nebraska. Business came to an abrupt end when Hagen crash-landed the plane in 1923 near the old Armour meatpacking plant in Huron. Entrepreneurs engaged in similar ventures in Volga, Pierre, Rapid City, Mobridge, and elsewhere, but few were lasting, and many experienced disastrous crashes.[11]

Joseph W. Parmley, a pioneer of automotive transportation and an early advocate for good roads in South Dakota, sought to establish an airline that would connect the state 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 association's failure to achieve immediate results disappointed its members, but the group did generate public interest in establishing landing strips in several communities.[12]

As promoters as well as pilots, barnstormers continually sought new thrills to generate ticket sales. In 1925, Harold Tennant, an early barnstormer originally from Elk Point, decided that breaking the gender barrier in a male-dominated business would boost revenues. Accordingly, he hired Ella Carlson of Sioux Falls to perform in an aerial show over her hometown. Carlson began the exhibition by donning "a helmet, goggles, and leather jacket, the necessary equipment for stunting."[13] She was about to become South Dakota's first female parachutist.

With Carlson's father and brother watching from the ground, the airplane took off and climbed to a suitable altitude. Tennant made sev-

11. Orr, "History of Aviation," pp. 86–91.
12. Ibid., pp. 91–92.
13. Ibid., p. 72.



Barnstormers played an important role in popularizing aviation after World War I. This 1918 rodeo at Wessington featured a "wing-walker" performing aboard a Curtiss JN–4 "Jenny."

eral passes at the field that was Carlson's targeted landing area, but she did not jump when the pilot gave the command "Go." In the windy open cockpit, she thought he had said "Hold." When Tennant said "Go" again, he gave Carlson what she later described as a "little shove." She recalled, "I closed my eyes, held my breath and jumped."[14] The *Sioux Falls Argus Leader* reported that "though her parachute caught in a tree and dumped her unhurt on the top of a shed," Carlson declared that "she will be a parachute jumper all her life."[15] Two years later another Sioux Falls parachutist, Cecil C. Williams, would not be so lucky. He fell fifteen hundred feet to his death in front of two thousand spec-

14. Unidentified newspaper clipping, scrapbook, Harold Tennant, Sioux Falls, S.Dak., quoted ibid., p. 73.

15. *Sioux Falls Daily Argus-Leader*, undated clipping, scrapbook, Harold Tennant, quoted ibid.

tators at Rickenbacker Field in Stevens (now North Sioux City, South Dakota), on 4 September 1927.[16]

Carlson and other female parachutists helped to open the business of aviation to other women.[17] Nellie Zabel 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. Willhite was also almost completely deaf and was the first deaf person to earn a pilot's license in the United States. During World War II, she helped train military pilots.[18]

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 they had with old World War I-vintage aircraft. Improved technology, coupled with an adventurous young pilot, opened a new era for aviation in the late 1920s.

The eyes of the world were focused on one twenty-five-year-old American in the spring of 1927. Charles A. Lindbergh, a Minnesota native, became a world hero when he flew the *Spirit of St. Louis* across the Atlantic Ocean. Lindbergh departed from New York City's Roosevelt Field on 20 May and landed at Le Bourget airport near Paris, France, the next day. "Lucky Lindy" was the first person to accomplish a solo, nonstop Atlantic crossing. The implications were tremendous. Perhaps most ominously, the flight meant that the United States was no longer afforded the protection from attack that two oceans had long provided. From a commercial standpoint, Lindbergh's flight foretold increased air transportation of goods and passengers. The young Min-

16. *Sioux Falls Daily Argus-Leader*, 5 Sept. 1927.

17. Veteran South Dakota pilot Clyde Ice talked about another female aviation pioneer whom he identified only by last name—Peterson—in a 1975 interview. Ice noted that on one occasion while she was parachuting for him near Milbank, she got caught in an updraft at an altitude of thirteen hundred feet. Interview of Clyde W. Ice by Eugene Van Alstyne, 23 June 1975, transcript, South Dakota Oral History Center, University of South Dakota, Vermillion, S.Dak., pp. 9–10.

18. Orr, "History of Aviation," p. 79; Kraemer, *South Dakota's First Century of Flight*, p. 114.

nesotan also influenced scores of young men and women to become aviators.

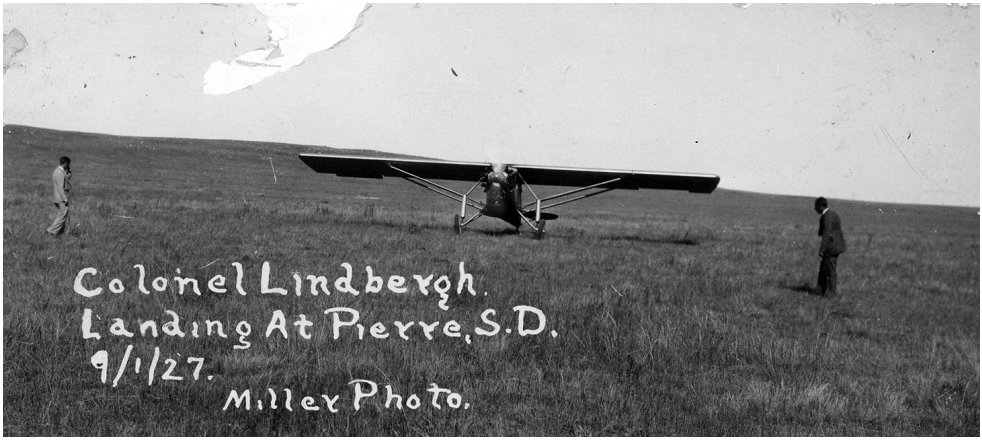
When Lindbergh flew the *Spirit of St. Louis* to Renner Field, about five miles north of Sioux Falls, on 27 August 1927, a young father took his entire family to see the hero. At that moment, twelve-year-old Joseph J. Foss began his romance with airplanes. His first flight came in 1934 when Spearfish pilot Clyde Ice took Foss and his father for a spin over Sioux Falls at night in an old Ford Trimotor. "They were taking off and landing west of Covell Lake," the future World War II fighter pilot later recalled, and the "landing lights were oil barrels [burning] burlap soaked in kerosene." The fare was $1.50.[19]

Around 1937, Foss began taking flying lessons. His instructor, Roy Lanning, started him in an airplane called the Taylorcraft, or "T-craft for short," as he told interviewer Robert Ellingson in 1991. Foss went on to say: "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."[20]

Lindbergh's flight led enterprising people to recognize a greater business potential for aviation. In order to capitalize on that potential, both private investors and communities began to set up infrastructure for air service. Whereas the earliest pilots landed their airplanes in open fields, newer aircraft required dedicated runways and other services. Thus, several South Dakota locations obtained relatively modern flight facilities after 1927. Sioux Falls, the "Queen City," was one of them. Interested citizens had formed several organizations between 1919 and 1926 to encourage construction of an airport for the state's most populous city, but none succeeded. Not even congressional passage of the Airmail Act (or Kelly Act) of 1925 could spur the requisite financial

19. Steven J. Bucklin, *From Cold War to Gulf War: The South Dakota National Guard, 1945 to the Millennium* ([Vermillion, S.Dak.]: By the Author, 2004), pp. 19–20; Interview of Joseph J. Foss, Sioux Falls, S.Dak., by Robert Ellingson, 7 Jan. 1991, Oral History Program, South Dakota Air National Guard, Joe Foss Field, Sioux Falls, S.Dak.

20. Interview of Foss by Ellingson.



Two unidentified men approach Charles A. Lindbergh's *Spirit of St. Louis* as it taxis to a stop at an improvised landing strip near Pierre on 1 September 1927.

The aviation hero visited all forty-eight state capitals after his historic solo transatlantic flight. Here, Lindbergh greets dignitaries upon landing in Pierre.

backing for a Sioux Falls airport. In fact, the city had no airfield until Lindbergh's visit, and South Dakota remained without airmail service until 1932.[21]

The Kelly Act heralded the end of what might be called the first phase of civil aeronautics in South Dakota. During the first phase, aviation enthusiasts propelled aviation growth with their own limited resources. In the second phase, government, especially the federal government, would be the primary engine of growth. Although the policy record is mixed, without the direct intervention of the federal government, it is likely that the course of aviation development, at least in South Dakota, would have floundered along much as it had during its first two decades. Still, the effects of new federal legislation were realized only slowly in the Sunshine State.

The Kelly Act authorized the postmaster general to contract with private companies to carry airmail. Contractors would receive up to 80 percent of the postage paid. Because airmail postage was expensive, however, the public used it infrequently; as a result, both the United States Post Office and airmail carriers lost money. By 1926, federal regulations allowed airlines to be paid by the pound for carrying airmail rather than by the quantity of letters and packages. Unscrupulous operators capitalized on this opportunity by sending large quantities of airmail to themselves. They mailed thousands of letters stuffed with large reports, telephone directories, and even 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 exceeded six thousand dollars, but because the Post Office paid the airline by the pound, the contractor received twenty-five thousand dollars.[22]

Gradual privatization led the Post Office to abandon its own airmail operations, with the last such flight occurring on 9 September 1927. Since 1918, airmail service had cost the United States government $17

21. Orr, "History of Aviation," pp. 77–78, 86.

22. Rich Freeman, "Walter Folger Brown: The Postmaster General Who Built the U.S. Airline Industry," http://www.centennialofflight.net/essay/Commercial_Aviation/Brown/Tran3.htm.

Representatives of Watertown's business community turned out to greet the first scheduled passenger and airmail flight to their city in 1934. Kneeling in front are Lyle Spencer, George Jackson, and A. R. Ferguson. The second row includes Dan T. Scully, Robert Hart, L. H. Thodes, Walter Miller, George Tallon, J. M. Ruhe, Sr., Sumner Thompson, and Frank L. Bramble. Standing at rear are Ralph Hubbard, Andy Anderson, and Frank B. Michaels. At top is pilot Jack Parshall.

million. The public, however, had purchased only $5 million in airmail postage during those nine years. In the view of one historian, the federal government had, in effect, "paid $12 million to establish the basic air transportation system in the United States."[23]

Like the Kelly Act, the federal Air Commerce Act of 1926 also had little immediate effect on South Dakota. The legislation directed the secretary of commerce to foster air commerce, issue and enforce air traffic rules, license pilots, certify aircraft, establish airways, and op-

23. Ibid.

erate and maintain air navigation aids. The act also established an Aeronautics Branch in the Department of Commerce whose primary responsibility was aviation oversight. Secretary of Commerce Herbert C. Hoover chose William P. MacCracken, Jr., as its first director. The appointment was unsurprising, as MacCracken had been involved in drafting the new law. Because of South Dakota's low population, the state had little commercial air traffic to regulate.[24]

Lindbergh's Sioux Falls visit in 1927 encouraged residents to renew their effort to develop aviation facilities. In anticipation of his arrival, the Sioux Falls Chamber of Commerce Airport Committee insisted that the city find a suitable landing strip.[25] As the *Sioux Falls Daily Argus-Leader* observed, "Officially the famous air hero . . . is the guest of Sioux Falls, but the state's metropolis could find no place for his landing as suitable as a pasture just outside the little town."[26] The fact that fifty thousand people attended Lindbergh's arrival at the field near Renner clearly indicated that South Dakotans were interested not only in the man, but in his business, as well. The Sioux Falls City Commission announced on 10 October 1927 that it would lease the field at Renner as a municipal airport.[27]

The sheer size of the crowd that met Lindbergh indicated a profit potential for aviation businesses in South Dakota, but it also demonstrated that future facilities would have to accommodate much greater traffic than they had in the past. A limited number of ventures had started up, but few had been successful. Dakota Airlines was one of several businesses incorporated in the state in the wake of the Lindbergh visit. The Larson Motor Company, Robinson Motor Company, Harold Tennant, J. W. Von Neida, and Knapp Brown combined their talents to lead the new firm in October 1927. The partners intended to provide passenger service and flying lessons, as well as selling airplanes.

24. U.S., Department of Transportation (DOT), Federal Aviation Administration (FAA), "Brief History of the FAA," http://www.faa.gov/about/history/brief_history/; F. Robert van der Linden, *Airlines and Air Mail: The Post Office and the Birth of the Commercial Aviation Industry* (Lexington: University Press of Kentucky, 2002), pp. 15–16.

25. Orr, "History of Aviation," p. 78.

26. *Sioux Falls Daily Argus-Leader*, 2 Aug. 1927.

27. Orr, "History of Aviation," p. 79.

These entrepreneurs knew that Lindbergh's feat had demonstrated new commercial potential for aviation and were ready to build a business on it.[28]

By 1928, the Dakota Airlines partners concluded that the five-mile distance between Sioux Falls and 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 Forty-first Street and built a hangar there.[29] Although Sioux Skyways was a private operation, cities and counties were starting to build their own aviation facilities. An issue that attended this development was whether government would run such operations or lease them to private firms. Liability was another concern until the South Dakota Legislature passed a law in 1939 allowing municipalities and counties to lease airport operations and transfer liability to the lessee.[30]

Technological developments continued to affect aviation both locally and nationwide. 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 Model 247 in 1933 took passenger air service to a new level of comfort. Three years later, the Douglas DC-3 became the workhorse of not just the American civil aviation fleet, but of airlines around the world. In 1938, Boeing introduced its Model 307 *Stratoliner*. The "Strat" had a pressurized cabin, enabling it to fly high above most turbulent weather. These planes greatly stimulated passenger air travel.[31]

28. Ibid.

29. Ibid., p. 80.

30. South Dakota, *Report of the South Dakota State Aeronautical Commission* (1939), p. 4. The commission's annual reports are hereafter cited as *SDAC Report*.

31. Smithsonian Institution, National Air and Space Museum, "Boeing 247-D," http://airandspace.si.edu/collections/artifact.cfm?object=nasm_A19540069000; Aviation History Online Museum, "Douglas DC-3," http://aviation-history.com/douglas/dc3.html; Smithsonian Institution, National Air and Space Museum, "Boeing 307 Stratoliner 'Clipper Flying Cloud,'" http://airandspace.si.edu/collections/artifact.cfm?object=nasm_A19730267000.

Administrative and legislative developments at both the national and state levels also encouraged the growth of the airline industry. President Herbert Hoover appointed Walter Folger Brown to be the nation's postmaster general in 1929. When Brown took office, there were forty-four small airline companies operating across the country. Many were undercapitalized and relied almost exclusively on government 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 lobbied Congress fiercely for two years until the passage of the McNary-Watres Act, commonly known as the Airmail Act of 1930. With this legislation, "Congress gave the postmaster general nearly dictatorial powers over the airlines" and their future.[32]

The Post Office was now authorized to pay airlines "for available space on their aircraft rather than actual mail carried." This new policy 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."[33] Implementation of the McNary-Watres Act forced smaller companies into mergers to survive, forming 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 1933, order rather than chaos prevailed in the airline industry.[34]

The Department of Commerce, which had begun overseeing commercial aviation at the end of the previous decade, renamed its Aeronautics Branch the Bureau of Air Commerce in 1934. In order to improve the safety of flights, 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

32. Freeman, "Walter Folger Brown."
33. Ibid.
34. Ibid.

of planes using maps and blackboards and little boat-shaped weights," reports one historical overview. "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."[35] Local governments continued to operate airport towers during the transition to federal oversight of air traffic control. Several high-profile accidents, such as the 1931 crash that killed University of Notre Dame football coach Knute Rockne and the 1935 mishap that killed United States Senator

35. "Brief History of the FAA."

By the mid-1930s, South Dakota could boast air connections to major business centers via United Air Lines. This brochure included schedules for flights from Watertown and Sioux Falls.

Bronson Cutting of New Mexico, brought public pressure for a more effective system. Congress eventually passed the Civil Aeronautics Act of 1938, which further expanded federal regulation of the airline industry.[36]

The increase in air transportation led South Dakota lawmakers to recognize the need to regulate the industry. Until 1935, no regulatory agency existed at the state level to govern aviation. That changed when the legislature passed the Uniform State Aeronautical Regulatory Act, creating the South Dakota State Aeronautical Commission (SDAC).[37] When the state legislature adopted the uniform aeronautics law in 1935, only eleven other states out of the forty-eight then in the Union had such laws. South Dakota was, in this instance, one of the earlier states to assert regulatory authority over a new industry. The SDAC would continue as an independent agency until Governor Richard F. Kneip reorganized state government in 1973. At that time, the commission became part of the South Dakota Department of Transportation.[38]

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. Thomas B. Roberts, Jr., of Pierre, was the first commission chairman, serving in that capacity until 1942. Windsor Doherty and Floyd Barlow were the other two commissioners signing the initial report. Doherty, a lawyer from Winner, also served on the South Dakota Railroad Commission. Barlow, of Rapid City, replaced original appointee Austin Lytle, who resigned to take a job with the federal Bureau of Air Commerce. Roberts, a licensed pilot, wrote the report and in doing so immediately addressed a continuing theme in South Dakota transportation history. Just as the original state railroad and highway commissions before it, the Aeronautical Commission was an underfunded mandate. The state legislature had appropriated only one thousand dollars for its operations in 1935. The commissioners drew

36. Ibid.

37. *SDAC Report* (1935), p. 3. Beginning with its 1940 annual report, the word "Aeronautics" replaced "Aeronautical" in the commission's name.

38. Ibid. (1947), p. 1; South Dakota, *Laws Passed at the Forty-Eighth Session of the Legislature of the State of South Dakota* (1973), Executive Order 73–1, Sec. 227–28.

no salaries or per diem allowances, but were expected to attend regular meetings, maintain an office in Pierre, and hire a stenographer.[39]

Roberts recommended a solution to the commission's financial woes—repeal of the law that imposed a four-cent tax on each gallon of aviation fuel sold. Rather than supporting aviation, the tax on aviation fuel went to pay interest on rural credit bonds, a legacy of the state's failed experiment in agricultural lending from 1917 to 1925.[40] This tax, 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."[41] He recommended new legislation that would retain the four-cent tax but direct it to be placed in a fund controlled by the SDAC to support its operations and promote aviation in the state. Roberts also noted that if such a tax were passed, it would enable the commission to purchase an airplane.[42]

The SDAC began its work during the worst economic crisis in American history. The Great Depression affected the development of aviation in South Dakota, just as it affected nearly every aspect of life in the state, but South Dakota was spending state funds in addition to grants received from the federal government to expand aviation facilities. There were many justifications for these expenditures, which came at a time of great hardship, but two carried the most weight: the New Deal emphasis on economic stimulus through public works projects and national security needs. In the Aeronautical Commission's 1936 report, Chairman Roberts wrote that foreign nations were forcing the United States to expand its air industry "as a matter of national defense."[43] Roberts likely was referring to the rapid growth of the German and Italian air forces and their effective performances in

39. *SDAC Report* (1935), pp. 1–2, (1942), p. 1, (1946), p. 1.

40. Ibid. (1935), p. 3; Schell, *History of South Dakota*, pp. 265–66, 278–80.

41. *SDAC Report* (1935), pp. 9–11. The case to which Roberts referred is *United States v. Butler*, 297 U.S. 1 (1936). The Supreme Court's decision invalidating the Agricultural Adjustment Act is dated 6 January 1936.

42. *SDAC Report* (1935), pp. 9–11.

43. Ibid. (1936), p. 2.

the ongoing Spanish Civil War and Italian occupation of Ethiopia. The commission's report noted contacts with the proper federal authorities to develop a Reserve Officers Air Corps in South Dakota like those in other states.[44] In 1937, the commission also touted gliders as an inexpensive way to spur public interest in aviation, citing the German government's methods of getting around post-World War I restrictions on motorized aircraft as an example. Their report for that year suggested that an "army of pilots" could be trained in "this comparatively simple and inexpensive manner" and further noted that the "sport does hold out thrills galore, along with practical instruction."[45]

Although military needs during World War I had undoubtedly stimulated the development of aircraft technology, the war's end did not bring rapid development of general aviation. The impact of the Great War was indirect—surplus aircraft came on the market, and pilots trained during the war flew what little commercial traffic there was and entertained the public. The demands placed on the United States military by late-1930s foreign crises, World War II, and the Cold War would have a much greater and more lasting impact on general aviation. By 1938, the SDAC emphasized the impact that the federal government's pursuit of "world supremacy in air defense" was having on aviation in the state—an interesting comment given the isolationist tendencies of both the state and the nation at that time.[46] Issues of national security and defense continued to influence the reports of the SDAC well into the 1970s. The developments during these years represent a third phase in general aviation, one that led to an enormous increase in investment in aviation infrastructure and regulation.

By 1936, there were twenty-seven airports, eighty-three licensed pilots, and eighty-four registered airplanes in the state.[47] The difference in technology between then and now when it came to identifying airport locations for pilots in the air is stark. Federal authorities in 1936 proposed marking the largest roof in each of two hundred and fifty towns "with the name of the town, a directional arrow pointing north,

44. Ibid.
45. Ibid. (1937), p. 7.
46. Ibid. (1938), p. 3.
47. Ibid. (1936), p. 6.

Despite the Great Depression, general aviation grew in popularity, requiring the construction of new facilities. This photograph shows the Spearfish airport during the 1939 Black Hills Air Fair.

and a second arrow pointing toward the airport giving the distance, or toward the nearest airport giving the distance."[48] The SDAC identified the requisite buildings in the designated towns and obtained easements, but the unemployment relief agencies in charge of providing labor could not come up with foremen for the crews. The commission reported that it had done all that was required of it but was at the mercy of the relief authorities, as the entire project depended upon a federal grant. Relief authorities informed commissioners in 1937 that

48. Ibid., p. 4.

the problems of the previous year were being addressed, and over one hundred towns had been marked under the program.[49]

Pilots not only experienced difficulties in locating airports, but also in obtaining reliable weather reports. The SDAC contacted every telephone 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, as there is no mention of a budget for training, was apparently done pro bono. The commission reported that almost every telephone exchange in the state could aid pilots in this way by the end of 1936.[50]

The 1937 legislature approved the SDAC's recommendation that the aviation fuel tax be earmarked for aviation purposes rather than rural-credit bond interest. Revenues from the fuel tax exceeded eleven thousand dollars in 1939. The commission did not itemize disbursements from these funds, but its annual report for that year indicated that communities benefited from them.[51] The SDAC spelled out its funding mechanism in another 1939 commission document. 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 purposes of "marking and maintenance of airports" and for paying SDAC operating expenses.[52]

The Aeronautical Commission began its work at a time when entrepreneurs were experimenting with scheduled passenger service in the state. In addition to Dakota Airlines, one of the earliest such ventures had been the Rapid Air Lines route connecting Rapid City with Watertown via Huron in 1929. Due to low passenger volume, the company ended service on this route after only six months. Another pioneering effort was that of Hanford Airlines, which began scheduled service from Rickenbacker Field at Stevens (North Sioux City, South Dakota) to Minneapolis in 1930. By 1936, Hanford advertised ten-passenger aircraft service from Kansas City, Missouri, to Bismarck, North

49. Ibid. (1936), p. 4, (1937), p. 5.
50. Ibid. (1936), p. 4.
51. Ibid. (1939), p. 7.
52. South Dakota, *Laws and Rules and Regulations of the South Dakota Aeronautical Commission* (1939), p. 14.

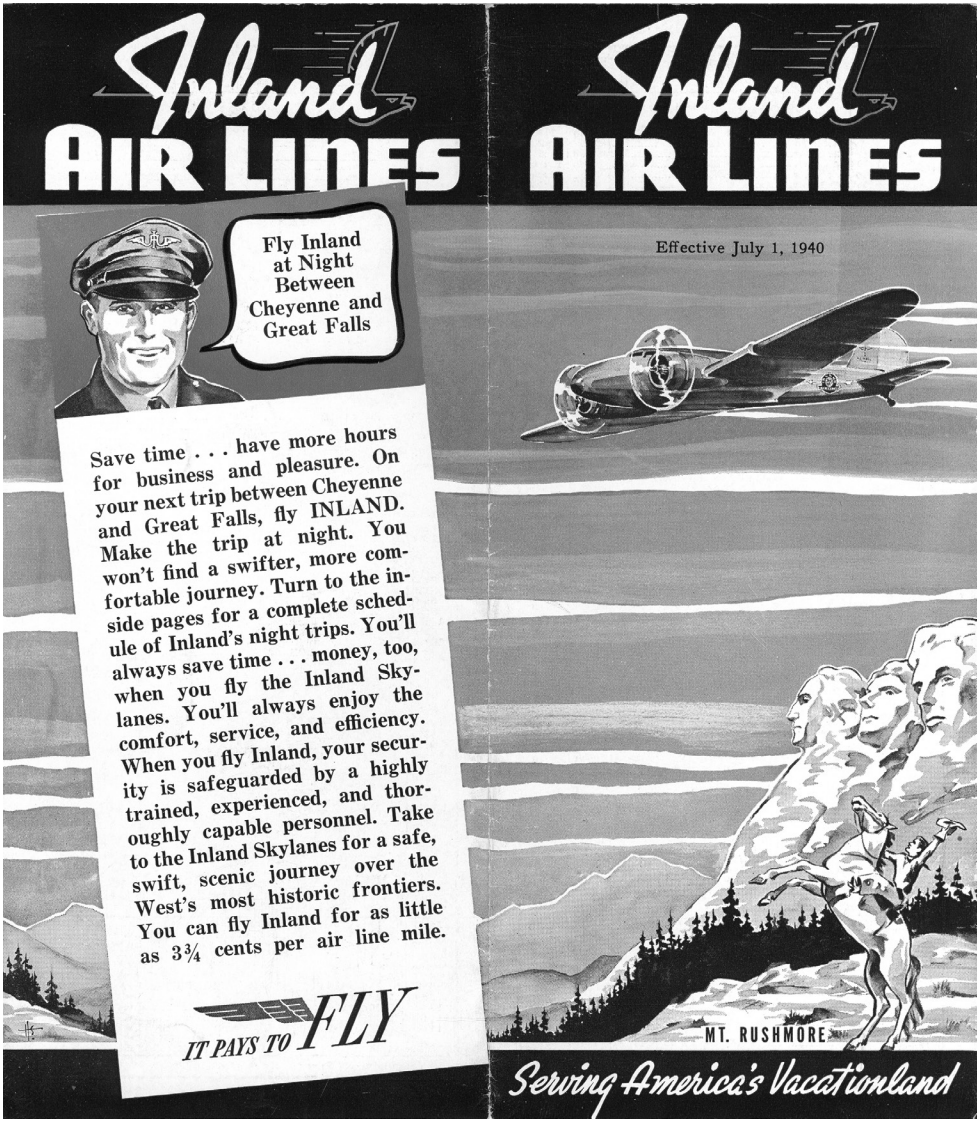
Dakota, via Omaha, Nebraska. The South Dakota stops on this route included Stevens (serving the Sioux City, Iowa, market), Sioux Falls, Huron, and Aberdeen.[53]

Like many fledgling airlines at the time, Hanford worked hard to secure government airmail contracts as a means of generating revenue. The company received its first such contracts in 1934. When Hanford began airmail service between Huron and Minneapolis under contract in 1937, the news came as an unmistakably positive development for South Dakota aviation. Another bright spot was congressional authorization for an airmail route connecting Huron with Cheyenne, Wyoming. This new route provided a complete east-west crossing of South Dakota near its geographical center and spurred interest in new airports among city leaders across the state. Inland Airlines, formerly known as Wyoming Air Service, operated the Huron-Cheyenne route. In 1938, Hanford Airlines underwent a name change, becoming Mid-Continent Airlines. Inland and Mid-Continent held between them all government airmail contracts for South Dakota.[54]

Although no new South Dakota airports were built in 1937, several were improved. New airports were started in 1938 in Sioux Falls, Rapid City, and Pierre. Airports in Huron, Spearfish, and Watertown underwent major or minor improvements, while city leaders in Aberdeen and Mitchell considered following suit. Madison leased land for a planned airport. The SDAC took credit for organizing the State Pilot's Association that year to represent aviation interests in Pierre.[55]

The issue of safety grew in importance as aviation expanded in the late 1930s. In 1938, President Franklin D. Roosevelt signed the Civil Aeronautics Act, which "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, the president divided the CAA into a new Civil Aeronautics Administration, under the De-

53. Orr, "History of Aviation," pp. 114–16, 129–32.
54. *SDAC Report* (1937), p. 4, (1938), p. 3, (1939), p. 6.
55. Ibid. (1937), p. 6, (1938), pp. 4–5.



Inland Air Lines, based in Wyoming, featured Mount Rushmore in its advertising materials in 1940. (Opposite) The brochure's interior detailed the cities served, including four South Dakota locations.

Great Falls—Billings—Cheyenne—Denver

Southbound—Read Down — Northbound—Read Up

Trip 7 (b)	Trip 1* (b)	Trip 5* Daily	Effective July 1, 1940	Trip 2* (b)	Trip 6* Daily
9:00		1:05	Lv..... GREAT FALLS ..(MT) Ar.	12:35	1:00
x		1:50	Lv..... LEWISTOWN .....Lv.	x	12:20
10:35		2:40	Ar..... BILLINGS .....Lv.	11:00	11:25
	7:50	4:25	Lv..... BILLINGS .....Ar.	10:45	11:10
	8:40	5:15	Lv..... SHERIDAN .....Lv.	x	10:20
	9:45	6:20	Lv..... CASPER .....Lv.	8:55	9:15
	10:50	7:25	Ar..... CHEYENNE .....Lv.	7:35	7:55
	11:05	8:00	Lv..... CHEYENNE (UAL) ....Ar.	7:20	7:40
	11:50	8:45	Ar... DENVER (UAL) ..(MT) Lv.	6:35	6:55

(b) Daily except Sundays and Holidays.
(UAL)—United Air Lines. (INL)—Inland Air Lines.
(NWA)—Northwest Airlines. *Air Mail and Air Express.
xStop temporarily suspended until field is lighted.

Denver—Spokane—Seattle

VIA CHEYENNE-CASPER-BILLINGS

Read Down — Read Up

6:55	†6:35	Lv..... DENVER (UAL) ..(MT) Ar.	†11:50	8:45
7:40	7:35	Lv..... CHEYENNE (INL) .....Lv.	11:05	8:00
9:15	8:55	Lv..... CASPER .....Lv.	9:45	6:20
10:20	x	Lv..... SHERIDAN .....Lv.	8:40	5:15
11:10	10:45	Ar..... BILLINGS .....Lv.	7:50	4:25
11:15	4:55	Lv..... BILLINGS (NWA) .....Ar.	2:35	2:40
12:45		Lv..... HELENA .....Lv.	1:20	
	6:20	Lv..... BUTTE .....(MT) Lv.		1:25
1:50	7:05	Ar..... SPOKANE .....(PT) Lv.	10:40	10:40
4:15	9:00	Ar..... SEATTLE .....(PT) Lv.	8:50	8:45
9:30	1:40	Ar..... PORTLAND .....(PT) Lv.	3:45	8:30

Great Falls—Chicago—New York—Washington

VIA BILLINGS-CASPER-CHEYENNE-DENVER

Read Down — Read Up

1:05	†9:00	Lv..... GREAT FALLS (INL) ..(MT) Ar.	†12:35	1:00
1:50	x	Lv..... LEWISTOWN .....Lv.	x	12:20
4:25	7:50	Lv..... BILLINGS .....Lv.	11:00	11:25
5:15	8:40	Lv..... SHERIDAN .....Lv.	x	10:20
6:20	9:45	Lv..... CASPER .....Lv.	8:55	9:15
7:25	10:50	Ar..... CHEYENNE .....Lv.	7:35	7:55
8:00	11:05	Lv..... CHEYENNE (UAL) .....Ar.	7:20	7:40
8:45	11:50	Ar..... DENVER .....Lv.	6:35	
9:07	5:20	Lv..... DENVER .....(MT) Ar.	6:20	
3:22	11:39	Ar..... CHICAGO .....(CT) Lv.	1:10	2:55
9:03	5:18	Ar..... NEW YORK .....(ET) Lv.	9:00	10:40
10:45	5:24	Ar.... WASHINGTON (PCA) ..(ET) Lv.	8:40	10:55

Great Falls—Twin Cities—Chicago

VIA LEWISTOWN-BILLINGS

Read Down — Read Up

1:05	†9:00	Lv.....GREAT FALLS (INL)..(MT) Ar.	†12:35	1:00
1:50	x	Lv..... LEWISTOWN .....Lv.	x	12:20
2:40	10:35	Ar..... BILLINGS .....Lv.	11:00	11:25
2:55	10:50	Lv..... BILLINGS (NWA) .....Ar.	4:10	10:55
7:30		Lv..... FARGO .....(CT) Lv.	1:15	7:55
8:55	4:35	Ar..... MINNEAPOLIS .....Lv.	11:30	6:10
	7:00	Lv..... MILWAUKEE .....Lv.	8:40	3:30
11:20	7:40	Ar..... CHICAGO (NWA) ....(CT) Lv.	8:00	2:50

Billings—San Francisco—Los Angeles

VIA CHEYENNE—DENVER—SALT LAKE

Read Down — Read Up

4:25	†7:50	Lv..... BILLINGS (INL) ..(MT) Ar.	†10:45	11:10
5:15	8:40	Lv..... SHERIDAN .....Lv.	x	10:20
6:20	9:45	Lv..... CASPER .....Lv.	8:55	9:15
7:25	10:50	Ar..... CHEYENNE .....Lv.	7:35	7:55
8:00	11:05	Lv..... CHEYENNE (UAL) .....Ar.	7:20	6:47
8:45	11:50	Ar..... DENVER .....Lv.	6:35	
12:35	6:30	Lv..... DENVER .....Ar.	5:07	
6:48	9:51	Lv..... SALT LAKE .....(MT) Lv.	2:20	4:10
10:34	1:21	Ar... SAN FRANCISCO (UAL) ..(PT) Lv.	8:45	10:10
9:45	12:45	Ar... LOS ANGELES (WAE) ..(PT) Lv.		11:00

Cheyenne—Casper—Chicago

VIA SHERIDAN-BILLINGS

Read Down — Read Up

7:55	†7:35	Lv..... CHEYENNE (INL) ..(MT) Ar.	†10:50	7:25
9:15	8:55	Lv..... CASPER .....Lv.	9:45	6:20
10:20	x	Lv..... SHERIDAN .....Lv.	8:40	5:15
11:10	10:45	Ar..... BILLINGS .....Lv.	7:50	4:25
2:55	10:50	Lv..... BILLINGS (NWA) .....Ar.	4:40	4:10
7:30		Lv..... FARGO .....(CT) Lv.	1:40	1:15
8:55	4:35	Ar..... MINNEAPOLIS .....Lv.	11:55	11:30
11:20	7:40	Ar..... CHICAGO .....(CT) Lv.	9:15	8:00

Minneapolis—Huron—Black Hills—Cheyenne—Denver

Southwest Bound—Read Down — Northeast Bound—Read Up

Trip 3* Daily	Miles	Effective July 1, 1940	Trip 4* Daily
9:45	0	Lv..... MINNEAPOLIS (MCA) .....(CT) Ar.	4:57
11:10	194	Lv..... WATERTOWN .....Lv.	3:47
11:43	258	Ar..... HURON (MCA) .....(CT) Lv.	3:00
12:00	258	Lv..... HURON (INL) .....(CT) Ar.	2:15
12:50	360	Ar..... PIERRE .....(CT) Lv.	1:25
11:55	360	Lv..... PIERRE .....(MT) Ar.	12:20
1:25	533	Lv.....BLACK HILLS AIRPORT(a).....Lv.	11:15
2:00	575	Lv..... RAPID CITY .....Lv.	10:45
3:30	799	Ar..... CHEYENNE (INL) .....(MT) Lv.	9:00
8:00	799	Lv..... CHEYENNE (UAL) .....(MT) Ar.	7:40
8:45	896	Ar..... DENVER (UAL) .....(MT) Lv.	6:55

(a) Black Hills Airport serves Belle Fourche, Deadwood, Lead, Spearfish and Sturgis. Free lunch served aboard for through passengers on trips 3 and 4.
(UAL)—United Air Lines. (MCA)—Mid-Continent Airlines.
(INL)—Inland Air Lines. *Air Mail and Air Express.

Denver—Minneapolis—Chicago

VIA CHEYENNE-BLACK HILLS-HURON

Read Down — Read Up

6:55	Lv..... DENVER (UAL) .....(MT) Ar.		8:45
7:40	Ar..... CHEYENNE .....Lv.		8:00
9:00	Lv..... CHEYENNE (INL) .....Ar.		3:30
10:45	Lv..... RAPID CITY .....Lv.		2:00
11:15	Lv..... BLACK HILLS .....Lv.		1:25
1:25	Lv. (CT)..... PIERRE .....(MT) Lv.		11:55
2:15	Ar..... HURON .....(CT) Lv.		12:00
3:00	Lv..... HURON (MCA) .....Ar.		11:43
4:57	Ar..... MINNEAPOLIS .....Lv.		9:45
8:25	Ar..... CHICAGO (NWA) .....(CT) Lv.		2:50

Minneapolis—San Francisco—Los Angeles

VIA BLACK HILLS-CHEYENNE-SALT LAKE

Read Down — Read Up

9:45	Lv..... MINNEAPOLIS (MCA) .....(CT) Ar.		4:57
11:43	Ar..... HURON .....Lv.		3:00
12:00	Lv..... HURON (INL) .....Ar.		2:15
11:55	Lv. (MT)..... PIERRE .....(CT) Lv.		1:25
1:25	Lv..... BLACK HILLS .....(MT) Lv.		11:15
2:00	Lv..... RAPID CITY .....Lv.		10:45
3:30	Ar..... CHEYENNE .....Lv.		9:00
8:00	Lv..... CHEYENNE (UAL) .....Ar.		6:47
8:45	Ar..... DENVER .....Lv.		
12:35	Lv..... DENVER .....Ar.		
6:48	Lv..... SALT LAKE .....(MT) Lv.		4:10
10:34	Ar..... SAN FRANCISCO (UAL) .....(PT) Lv.		10:10
9:45	Ar..... LOS ANGELES (WAE) .....(PT) Lv.		11:00

Billings—Denver—Wichita—Dallas

VIA CASPER-CHEYENNE-PUEBLO

Read Down — Read Up

†7:50	4:25	Lv..... BILLINGS (INL) ..(MT) Ar.	11:10	†10:45
8:40	5:15	Lv..... SHERIDAN .....Lv.	10:20	x
9:45	6:20	Lv..... CASPER .....Lv.	9:15	8:55
11:05	8:00	Lv..... CHEYENNE .....Lv.	7:55	7:35
11:50	8:45	Ar..... DENVER (UAL) .....Lv.	6:55	6:35
3:00	8:15	Lv..... DENVER (CAL) .....Ar.	5:55	12:20
3:45	9:00	Ar..... PUEBLO .....Lv.	5:10	11:35
3:50		Lv..... PUEBLO .....(MT) Ar.		11:25
7:25		Ar..... WICHITA .....(CT) Lv.		9:40
1:17		Lv..... WICHITA (BNF) .....Ar.		2:02
2:28		Ar..... OKLAHOMA CITY .....Lv.		12:35
3:40		Ar..... DALLAS .....Lv.		11:15
3:55		Ar..... FT. WORTH .....(CT) Lv.		10:40

Billings—Denver—El Paso—Dallas

VIA CASPER-CHEYENNE-PUEBLO-ALBUQUERQUE

Read Down — Read Up

‡4:25	†7:50	Lv..... BILLINGS (INL) ....(MT) Ar.	†10:45	‡10:45
5:15	8:40	Lv..... SHERIDAN .....Lv.	x	x
6:20	9:45	Lv..... CASPER .....Lv.	8:55	8:55
8:00	11:05	Lv..... CHEYENNE (UAL) .....Lv.	7:35	7:35
8:45	11:50	Ar..... DENVER (UAL) .....Lv.	6:35	6:35
8:15	12:05	Lv..... DENVER (CAL) .....Ar.	5:55	11:49
8:45	12:35	Lv..... COLORADO SPRINGS .....Lv.	5:30	11:24
9:10	1:00	Lv..... PUEBLO .....Lv.	5:10	11:04
10:38	2:28	Lv..... SANTA FE .....Lv.	3:37	9:31
11:15	3:05	Lv..... ALBUQUERQUE .....Lv.	3:10	9:04
12:35	6:14	Ar..... EL PASO .....Lv.	1:25	5:40
	11:07	Ar..... PHOENIX (AAL) ..(MT) Lv.		2:15
8:37	11:06	Ar..... DALLAS (AAL) ....(CT) Lv.	7:24	1:41

‡These trips via Roswell, Hobbs, Carlsbad.

partment 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."[56]

In South Dakota, aviation safety advocates encouraged the SDAC to sponsor zoning legislation to prohibit obstructive buildings or tow-

56. "Brief History of the FAA."

The Work Projects Administration constructed this administration building for the Black Hills Airport near Spearfish around 1940. It is no longer standing.

ers from being built near airports. Interested parties also lobbied the commission to support legislation that would allow cities and counties to exceed their legal bonded debt limits for aeronautical purposes. The commission withheld its endorsement of both measures in 1940, noting that issues of jurisdiction over zoning needed to be decided. The commissioners advised local governments to wait before taking on debt for aviation purposes, because they anticipated that huge sums of federal money were going to be spent on aviation in the near future.[57]

That anticipation was due largely to European events. The aggressive expansionism of Nazi Germany and fascist Italy sparked war fears and dominated diplomacy on the continent for much of the 1930s. Under Franklin Roosevelt's adept leadership, the federal government began preparing for the possibility that the United States would be drawn into a global conflict even before World War II broke out in September 1939. One aspect of defense preparations had a significant impact on South Dakota aviation. In 1939, the federal government launched the Civilian Pilot Training Program with an appropriation of $4 million per year for five years to train one hundred thousand civilian pilots. The program would recruit student pilots from eighteen to twenty-five years of age, including some female candidates. Once selected, students would train for a private license entitling them to "do everything in the flying field except commercialize their flying." Training was to be provided at a "nominal expense" to students. Although the SDAC noted the obvious vocational benefit to the young men and women involved, its discussion of the program emphasized that it would bring student pilots "to a point, where within thirty days of intensive training, [instructors] can make army aviators out of the group." Most of South Dakota's public institutions of higher learning participated in the Civilian Pilot Training Program, while pilot candidates not enrolled in college could train in Pierre.[58]

The Civil Air Patrol (CAP), established on 1 December 1941, was another product of federal defense planning. Its missions were to encourage interest in aviation, provide flight opportunities for newly trained pilots, and maintain the nation's security. Colonel Tim Roberts

57. *SDAC Report* (1940), pp. 5–6.
58. Ibid. (1939), p. 3.

of Pierre was appointed commander of South Dakota's CAP wing. The CAP became a permanent peacetime institution on 1 July 1946 when President Harry S. Truman signed legislation recognizing it as a nonprofit organization devoted to serving the nation's interests.[59]

By 1940, many Americans were certain that it was only a matter of time before the United States would enter World War II. Measures to prepare the country for that eventuality included not only the Civilian Pilot Training Program, but also the nation's first peacetime draft, instituted in 1940. In South Dakota, just as the SDAC had anticipated, federal funds hastened the development of airports that year. Vermillion, Yankton, Miller, and Philip got new airports, while existing facilities at Aberdeen, Huron, and Watertown underwent improvements. Upgrades were anticipated soon at Pierre, Rapid City, Sioux Falls, and Spearfish.[60]

The aviation commissioners indulged in some self-congratulatory remarks with their 1941 report to Governor Harlan J. Bushfield. "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." At the same time, the group referenced two ongoing themes in South Dakota politics. First, reflecting the state's longstanding fiscal conservatism, 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." The second theme demonstrates a discontinuity in the state's political culture—while eager to accept federal dollars, South Dakotans were equally eager to assert states' rights. Members of the SDAC were willing to accept centralization of federal power over aviation during wartime, but they also warned that the states "must exercise care to retrieve lost powers after the war."[61]

As of 1941, there were 415 licensed pilots in South Dakota, exactly five times the number in 1936, and 226 registered planes. In the opinion of the SDAC, these numbers, coupled with increased federal spending on aviation in the state, would require a full-time administrator for aviation interests in South Dakota at some point in the near fu-

59. Ibid. (1941), p. 3; Bucklin, *From Cold War to Gulf War*, p. 22.
60. *SDAC Report* (1940), p. 4.
61. Ibid. (1941), pp. 3–6.

ture. Accordingly, the commission requested funding for a permanent, full-time executive secretary in its 1941 report. The state legislature declined to authorize such a position until 1944, however.[62]

Most aviation was military or military-related during the war years, but just two months before the Japanese attack on Pearl Harbor, South Dakota pilot Clyde Ice made national news as a result of his efforts to rescue a foolhardy publicity-seeker. George Hopkins, a nationally renowned pilot and parachutist, staged a parachuting exhibition at the Rapid City Airport. Two weeks before the event, Earl Brockelsby, owner of Reptile Gardens, bet Hopkins fifty dollars that he could not parachute onto the top of Devils Tower, a large rock formation jutting out of the Black Hills in nearby Wyoming. Hopkins took the bet and succeeded in landing on the tower on 1 October 1941. Unfortunately, his plans to descend were fundamentally flawed.[63]

For the next six days, while authorities considered various rescue operations, including the possibility of using the Goodyear Blimp, Clyde Ice kept Hopkins alive.[64] As National Park Service historian Jeanne Rogers wrote, "Ice dropped a bearskin-lined flying suit, a megaphone, and a medium rare T-bone steak. Ice became a lifeline for Hopkins, braving the updrafts and crosswinds to glide within feet of the summit, and drop packages to the top of the Tower."[65] It took a group of skilled mountaineers from across the country more than one attempt to bring "Devils Tower George" to safety.[66] Upon reaching the tower base, the mostly undaunted Hopkins declared, "I want a shave and a haircut."[67]

Several years after visiting the barber, Hopkins capitalized on the national publicity his stunt had generated.[68] In 1946, the *Montrose Her-*

62. Ibid. (1941), p. 6, (1946–1947), p. 1.

63. *Rapid City Daily Journal*, 1 Oct. 1941; Jeanne Rogers, *Standing Witness: Devils Tower National Monument, A History* ([Devils Tower, Wyo.]: National Park Service, 2007), ch.5, http://www.nps.gov/parkhistory/online_books/deto/history/chap5.htm. *See also* Interview of Ice, pp. 31–35.

64. *Rapid City Daily Journal*, 2 Oct. 1941.

65. Rogers, *Standing Witness*, ch. 5.

66. *Rapid City Daily Journal*, 3, 4 Oct. 1941.

67. Ibid., 7 Oct. 1941.

68. *Time* and *Newsweek* did feature stories on the Hopkins incident. Rogers, *Standing Witness*, ch. 5. *See also New York Times*, 7 Oct. 1941.

ald ran an advertisement for the first annual CAP air show featuring George "Devils Tower" Hopkins performing parachute jumps to be held 21–23 June at the Sioux Falls Army Air Base. Admission was $1.67, plus 33 cents federal tax.[69] Clyde Ice, on the other hand, continued to rescue people. In March 1947, Ice "flew into the teeth of a West River blizzard to take a Spearfish doctor 80 miles northward to a Camp Crook ranch where a woman was about to give birth three months prematurely." The veteran pilot would later recall this episode as his "proudest moment in 62 years of flying."[70]

Soon after the United States entered World War II, the federal government took control of civil aviation. 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."[71] The United States Army took over the airports in Sioux Falls, Pierre, and Watertown. Other towns closed their facilities because they could not afford to maintain twenty-four-hour guards. Airline operations declined due to the fact that the federal government requisitioned their aircraft and personnel for military service. The SDAC praised the CAP for its important security and training work and recommended that the legislature appropriate money to cover some of the volunteer organization's costs.[72]

Within one month of the Japanese attack on Pearl Harbor, the War Department established Rapid City Army Air Base to train B-17 bomber crews. The authorization came on 2 January 1942, and the military runways opened in September 1942. According to one history of the Twenty-eighth Bomb Wing, instructors "taught thousands of pilots, navigators, radio operators and gunners from nine heavy bombardment groups and numerous smaller units."[73]

Military training took place simultaneously on the opposite side of the state. Sioux Falls received notification that the Army Air Corps

69. *Montrose Herald*, 14 June 1946.

70. Hunhoff and Holtzmann, "South Dakota's Wild Blue Yonder," p. 25.

71. *SDAC Report* (1942), p. 3.

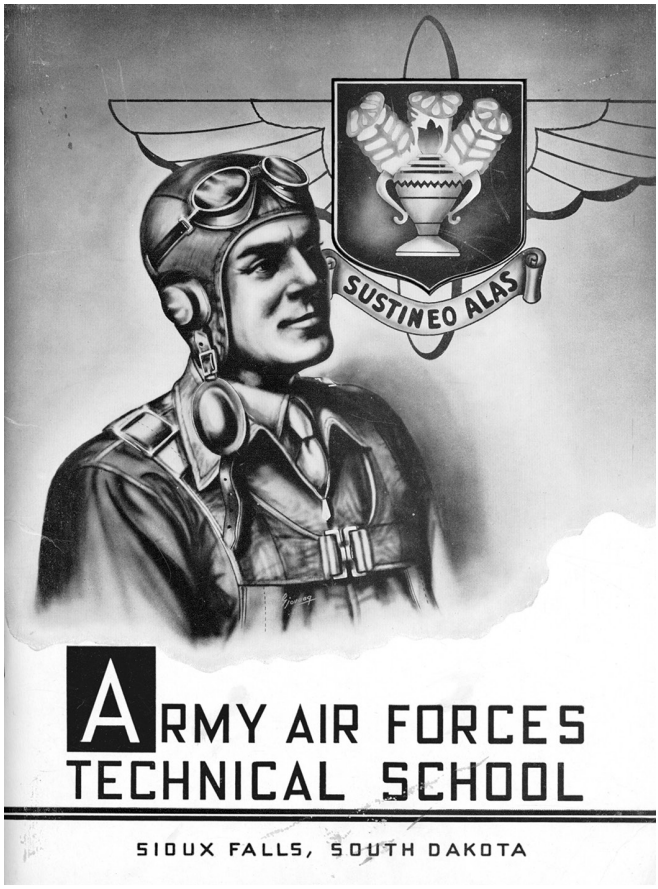
72. Ibid., pp. 6–8.

73. U.S., Department of the Air Force, "28th Bomb Wing History," p. 23, http://www.ellsworth.af.mil/shared/media/document/AFD-110729-042.pdf.

Rapid City Army Air Base brought a significant military presence to western South Dakota during World War II. The wartime base was expanded and modernized to become today's Ellsworth Air Force Base.

would locate a field and training school in the city. Local officials transferred over fifteen hundred acres of land, including the municipal airport, to the army for the project. Initially known as the Army Air Corps Technical Training Command School, the base opened in July 1942. At its peak in July 1945, over twenty-seven thousand military personnel were stationed at the Sioux Falls base. After the war ended, demobilization proceeded rapidly, and the base was inactivated on 31 December 1945.[74]

74. Lynwood E. Oyos, *Reveille for Sioux Falls: A World War II Army Air Forces Techni-*



The Army Air Forces Technical School brought thousands of airmen to Sioux Falls for training during World War II. This booklet, similar to a yearbook, served as a memento for trainees.

South Dakota produced its share of courageous military pilots during World War II, including such men as Navy aviator John C. Waldron and bomber pilot and future United States senator George S. McGovern. Two South Dakota pilots who compiled distinguished war records and went on to leave a lasting mark on aviation in the

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cal School Changes a South Dakota City (Sioux Falls, S.Dak.: Center for Western Studies, Augustana College), pp. 11, 24, 189.

state during peacetime, as well, were Joe Foss and Duane L. ("Duke") Corning. Sioux Falls native Joe Foss was a United States Marine Corps fighter pilot. Flying a Grumman F4F Wildcat in the Pacific theater, he was the first American pilot of World War II to equal Eddie Rickenbacker's World War I record of twenty-six aerial victories. Foss was credited with downing twenty Japanese fighters, four bombers, and two biplanes. In recognition of his achievements, President Franklin D. Roosevelt presented Foss with the Congressional Medal of Honor. Admiral William F. ("Bull") Halsey pinned the Distinguished Flying Cross on his chest. Foss also earned the Navy Cross and a host of other medals and citations.[75] After the war, Foss organized and commanded

75. Interview of Joseph J. Foss, [Sioux Falls, S.Dak.], by Robert G. Webb, 17 Aug. 1979, transcript, p. 3, Folder NG 79–81, Box 10, South Dakota National Guard Oral History Project, Northern State University Archives and Special Collections, Williams Library, Aberdeen, S.Dak.

Reflecting his background as a World War II fighter pilot, Governor Joe Foss kept a collection of aviation memorabilia in his office.

the first fighter squadron in the new South Dakota Air National Guard (SDANG). As governor of South Dakota from 1955 to 1959, he would have a lasting impact on both general and military aviation in the state.

Duane L. ("Duke") Corning was an indispensable partner to Joe Foss in running not only the South Dakota Air National Guard but in several postwar business ventures, such as Foss Flying Service and Joe Foss Motor Company in Sioux Falls. A deep faith and trust in one another characterized the relationship. "The two of us," Foss said, ". . . worked together in business without any contract."[76] Corning was born in Madison, South Dakota, on 1 April 1917, just days before the United States formally entered World War I. He graduated from Washington Senior High School 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 South Dakota National Guard and was discharged as a sergeant in 1939. He enlisted in the Navy in August 1941. Corning finished flight training in England and was commissioned an ensign in January 1942. Subsequently, he flew 104 combat missions over European targets, earning the Distinguished Flying Cross, the Air Medal, the Navy Commendation Medal, and many more decorations. After the war, Corning served with Foss in the South Dakota Air National Guard. He eventually rose to the position of adjutant general of South Dakota, which he held for nearly twenty years until his retirement in February 1983. In addition to his military duties, Corning served as a member of the SDAC for much of the 1950s.[77]

South Dakota women were also involved in aviation during World War II. Ola Mildred Rexroat was the last surviving South Dakota member of the Women Airforce Service Pilots (WASPs) when she sat down for an interview with Nick Penzenstadler of the *Rapid City Journal* in 2010. Rexroat, an Oglala Lakota, was the only American Indian member of the WASPs. She spent four months towing targets for aerial gunnery school at Eagle Pass Army Airfield in Texas and became an air

76. Interview of Foss by Ellingson, p. 109.

77. Harold Schuler, *South Dakota National Guard Adjutant Generals* (Rapid City, S. Dak.: Adjutant General's Office, 1999), p. 39.

traffic controller after the WASPs were disbanded in December 1944. A graduate of Saint Mary's Indian High School for Girls in Springfield, South Dakota, Rexroat was inducted into the South Dakota Aviation Hall of Fame in 2007.[78]

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 the summer of 1944, all War Training Service contract flying schools in the state were closed, and some wartime restrictions on civil aviation were lifted. By the end of 1945, four of the five Army Air Corps airports in South Dakota (Sioux Falls, Pierre, Mitchell, and Watertown) had been deactivated and were awaiting transfer to the respective communities. Rapid City Army Air Base remained in operation until September 1946. After a brief closure, it reopened in 1947 as Rapid City Air Force Base, reflecting the new status of the air force as a service independent of the army.[79]

Both the SDAC and the South Dakota Legislature remained interested in the future of general aviation in the state after the war. The legislature appropriated four thousand dollars over two years to survey South Dakota's aeronautical potential. The commissioners' unbridled enthusiasm led them to claim that ranchers would eventually ship their cattle to market via cargo plane. Rural South Dakotans 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.[80]

Mid Continent and Western Air Lines (which had recently purchased Inland Air Lines) were the state's two passenger service carriers. Anticipating major growth in civil aviation in the postwar era, the SDAC joined the National Association of State Aviation Officials (NASAO) in 1944. The legislature had long been parsimonious with money for salaries, but that situation changed in 1945. Legislators, too, were expecting growth in aviation. The SDAC annual report for 1944 listed

78. *Rapid City Journal*, 11 Nov. 2010; "WASP Ola Mildred Rexroat Honored by South Dakota Aviation Association," http://www.wingsacrossamerica.us/news/rexroat.html.

79. *SDAC Report* (1944), p. 3, (1945), pp. 6–7.

80. Ibid. (1943), pp. 4–5, (1946), p. 4.

salaries and wages totaling less than eighteen hundred dollars for office staff, while the 1945 report indicated an appropriation of fifty-seven hundred dollars for salaries and wages as of 30 June 1945.[81]

The state legislature also acted on several SDAC recommendations in its 1945 session. House Bill 132 authorized the commission to regulate scheduled passenger and cargo flights operating wholly within the state, while 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 to contract for airport construction, improvements, or operations and to handle federal airport aid funds. House Bill 130 authorized cities to create aeronautics boards. Aberdeen and Sioux Falls created such boards that year.[82]

South Dakota had fifty 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 sites had been selected, purchased, or leased for new airports. By June 1946, seven aviation schools in the state had joined the Veterans' Flight Training Program, established under the Servicemen's Readjustment Act of 1944, or the GI Bill of Rights. The SDAC reported considerable interest in flight training among South Dakota veterans.[83]

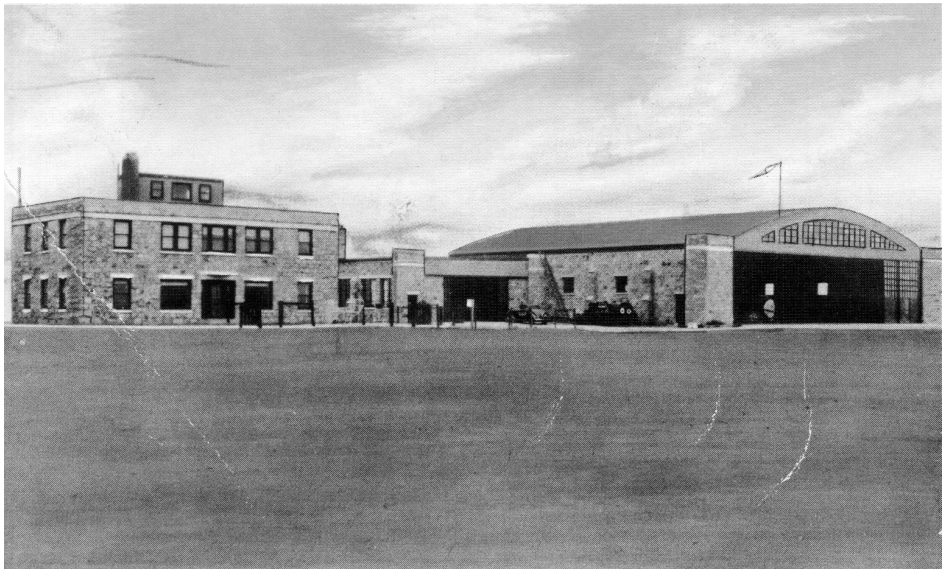
In addition, President Truman signed the Federal Airport Act into law on 13 May 1946. The legislation allocated $500 million for the construction of airports nationwide over a seven-year period. South Dakota's share was over $5.4 million, with $458,690 expected in the first year. Federal funds would pay up to half the cost of an eligible project, while state and local governments were responsible for the rest. All projects had to meet Civil Aeronautics Administration engineering standards. Further, all revenue from local taxes on aviation facilities or fuel had to be spent on airport operations and maintenance.[84]

81. Ibid. (1944), pp. 4–7, (1945), p. 8.

82. Ibid. (1945), p. 5.

83. Ibid. (1945), pp. 6–7, (1946), p. 4.

84. United States Centennial of Flight Commission, "Government Funding of Airports," http://www.centennialofflight.net/essay/Government_Role/govt_funding/POL11.htm; *SDAC Report* (1946), p. 5.



This 1944 postcard shows the administration building and hangar at Huron's municipal airport.

The terminal at the Sioux Falls airport, pictured here around 1945, housed airline ticket counters, a waiting area, and the weather bureau.

Policymakers who had anticipated a boom in general aviation in the postwar era were proven correct. What they had not anticipated was that a rivalry 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 bring new, and mostly unforeseen, developments in both ground and air transportation to South Dakota. This period was also one in which a new generation began to influence the course of aviation history, and aviation itself affected popular culture.

South Dakotans who tuned into a National Broadcasting Corporation (NBC) affiliate radio station in 1946 might remember hearing the cry, "Out of the clear blue of the western sky comes Sky King." Schuyler ("Sky") King was a fictional hero, perhaps based on the real-life escapades of Jack Cones, the "Flying Constable" of Twentynine Palms, California, during the 1930s. The plots of the radio drama were predictable in that the episodes were essentially western action stories, but they were set in the 1940s and 1950s, and the hero piloted an airplane instead of a horse. His opponents were more likely to be spies than horse thieves, a scenario that reflected the Cold War mentality that swept the nation in the post-World War II era. The show advertised premiums for younger members of the audience. A listener or, after 1952, a television viewer could, for example, get the "Sky King Spy-Detecto Writer" to enable young sleuths to capture spies in their own neighborhood![85] The series was especially popular with young viewers like future astronaut Scott Altman, who "dreamed of being a pilot from the time he was three years old after watching TV reruns of *Sky King*."[86] South Dakota had its own space-age celebrity in KELO television's "Captain 11." Every weekday afternoon beginning in March 1955, Dave Dedrick donned a blue flight suit, fired up his "time converter," and hosted a cartoon show for kids from the station's Sioux Falls studio. Dedrick signed off as "Captain 11" for the last time in December 1996, having completed a run of nearly forty-one years.[87]

85. Sky King Productions, "Sky King Home Page," http://www.skyking.com.

86. National Aeronautics and Space Administration, "Astronauts and Their Support Teams," http://www.nasa.gov/50th/50th_magazine/astronauts.html.

87. For Dedrick's career, *see* Dave Dedrick, *It Ain't All Cartoons: Memoirs of the Captain* (Huron, S.Dak.: East Eagle Co., 1989).

Rural South Dakotans' enthusiasm for flying had resulted in the creation of the South Dakota Flying Farmers and Ranchers (SDFFAR) organization in 1946. Members promoted the airplane as a means of breaking the isolation of rural America. After receiving a 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 three hundred fifty planes and twelve hundred people in attendance. The SDFFAR promoted a sense of camaraderie, encouraging its members to wear distinctive patches on their clothing and to place official decals on their airplanes. Membership numbers grew rapidly. In 1951, the organization began the practice of crowning a state queen. Dorothy Woodward from Long Valley was the first such "royal" and also served as state president.[88]

By some accounts, the Flying Farmers and Ranchers played an important role in encouraging women to become pilots. In 1948, the organization's national president, Forrest Watson, wrote that women "need only make up their minds to become the equal of men in this game called flying."[89] Although women like Woodward continued to promote aviation in the state and in the nation, it would be a long time before they entered the cockpit as commercial pilots. Joy Geide Hohn, who piloted a Beech 1900 for Great Lakes Airlines in 1991, was the first woman to break that barrier in South Dakota. She had been a member of the SDFFAR and earned her pilot's license as a teenager. More typical of women in aviation during the 1950s and 1960s were stewardesses (now called flight attendants). They were required to be single, female, young, and attractive. They worked long hours for little pay. Western Air Lines experienced an annual stewardess turnover rate of 40 percent for years. The rate leveled off to about 18 percent in 1969, when the company removed its ban against married flight attendants.[90]

88. Kraemer, *South Dakota's First Century of Flight*, pp. 112–13. *See also* South Dakota *Aero News* 3 (Sept. 1963): 2.

89. Watson, quoted in Giles Lambertson, "An Airplane in Every Barn," *Air & Space/Smithsonian*, Aug. 2007, http://www.airspacemag.com/history-of-flight/an-airplane-in-every-barn-20047970.

90. Kraemer, *South Dakota's First Century of Flight*, p. 123; *Aero News* 7 (Feb. 1969): 7.

Dorothy Woodward led the South Dakota Flying Farmers and Ranchers in 1951–1952 and served as the organization's first queen.

William Piper of Piper Aircraft flew his Tri-Pacer to the 1951 SDFFAR state convention in Spearfish, where he was made a life member. The honor likely came in recognition of the company's leading role in creating affordable light aircraft for the private market. That same year, the South Dakota State Fair Board invited the organization to conduct a "fly-in" at Huron, and the SDAC, in conjunction with the SDFFAR, hosted a booth at the fair. In addition, each of the five state districts hosted a fly-in that year. In 1950, the SDFFAR had lobbied the SDAC for state aviation maps to show farm runways. The commission complied and three years later produced a map costing fifty cents a copy that included farm airstrips. Today, all South Dakota pilots receive a color map with their annual aircraft registration. The SDFFAR organization merged with North Dakota and Minnesota groups in

2005 after years of declining membership. The combined group is now called the Minnkota Chapter of International Flying Farmers.[91]

South Dakota educators and researchers became actively involved in promoting aviation and space technology to an interested public in the years after World War II. In 1947, the SDAC sponsored an Air Age Education Program in cooperation with the South Dakota De-

91. Kraemer, *South Dakota's First Century of Flight*, pp. 112–13; *SDAC Report* (1952–1953), p. 1.

Young, attractive flight attendants enhanced Americans' perception of air travel as a glamorous experience during the 1950s.

partment of Public Instruction. Together, they produced an "Air Age Education" bulletin, of which eight thousand copies were printed for distribution in schools around the state. A workshop for classroom teachers was then held at the University of South Dakota from 9–13 June 1947 to promote the program. Air Age Education programs and workshops, such as the one held in Spearfish on 15–20 June 1953, were a means to spark interest among the state's young people. The commission established a film library to loan materials to schools and other interested parties, including such titles as *Airplanes Make Markets*, *Air Age*, *Wings for Roger Windsock*, and *Flying Business Man*. There were 170 showings, reaching a total audience of 5,871 people during fiscal year 1953–1954.[92]

By 1961, the University of South Dakota offered a special minor in aviation that carried twelve hours of credit.[93] The following year, Jack Robinson, chief of special services for the SDAC, conducted a full-day seminar on "the various phases of Aerospace Education" for the Brookings County Teachers Institute.[94] Throughout the years, the commission continued to emphasize "Air Age Education" in order to attract a younger cohort of pilots and encourage public awareness of national security interests.

The South Dakota School of Mines and Technology promoted aviation, as well. The State Board of Regents created an Institute for Atmospheric Sciences at the school to research weather modification through cloud seeding in 1959. By 1965, Congressman Ellis Y. Berry and Senator Karl E. Mundt obtained federal funding to support the research under the United States Bureau of Reclamation's "Project Skywater."[95]

The reports of the SDAC reflected the growing popularity of private as well as commercial flying in the years following World War II. Revenue generation was always of interest to the public and remained

92. *SDAC Report* (1946–1947), p. 7, (1952–1953), pp. 3–4, (1953–1954), p. 16.

93. *Aero News* 1 (Nov. 1961): 8.

94. Ibid. 2 (May 1962): 5.

95. South Dakota School of Mines and Technology, "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; Kraemer, *South Dakota's First Century of Flight*, pp. 103–4.

a concern for the commissioners of the SDAC. The state legislature approved a partial rebate of the aviation fuel tax for large-quantity users effective 1 July 1947. The SDAC opposed this move because only the airlines benefited from the rebate, and the airports that served them were up to twenty times more expensive to operate than those that many private pilots used. The fuel-tax rebate system was apparently an ongoing issue for the commission, as its 1965–1966 report also addressed the matter.[96]

In 1949, there were three scheduled interstate passenger air carriers serving the state: Mid-Continent, Western-Inland, and Northwest. A fourth carrier—Mid-West Airlines—began operations in South Dakota in November 1950. By 1952, Western Air Lines and Braniff Airways, which bought out Mid-Continent, were the only carriers. Western Air Lines provided regular, scheduled service to Brookings, Huron, Pierre, Rapid City, Spearfish, and Hot Springs, while Braniff served Sioux Falls, Mitchell, Huron, Watertown, and Aberdeen. That year, the SDAC opposed both Braniff's request to the Civil Aeronautics Board to suspend its South Dakota service north of Sioux Falls and Western's request to suspend service to Black Hills Airport at Spearfish. The commission got its way in one of the cases, as the federal board denied Western's request in April 1954. Western subsequently received approval 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.[97]

By 1961, Western Air Lines, which hauled both passengers and cargo, carried over 47,500 South Dakota passengers, a 6.8 percent increase over 1960. In terms of tonnage, it experienced a 64.2 percent increase in 1961 over the previous year. In 1963, Ozark Air Lines began carrying passengers in South Dakota along with Braniff, Frontier, North Central and Western. 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

96. *SDAC Report* (1947), p. 9, (1965–1966), p. 21.

97. Ibid. (1948–1949), p. 8, (1949–1950), p. 5, (1951–1952), p. 5, (1952–1953), p. 5, (1953–1954), p. 13, (1959), p. 10.

Sioux Falls; and Western served Pierre, Sioux Falls, and Rapid City.[98] The number of passengers originating their air travels in South Dakota grew steadily along with scheduled airline service. In 1951, there were 39,908 such passengers; in 1953, 44,953; in 1956, 61,753; in 1958, 69,319; in 1961, 113,186; in 1963, 142,043; in 1964, 153,570; and in 1965, 178,900.[99]

Of the South Dakota-originating passengers in 1965, 88,754 boarded in Sioux Falls, while 45,015 did so in Rapid City. The next-busiest point of origin was Pierre, with 13,492 passengers. Nearly 75 percent—133,769 of the 178,900 total—of all passengers originating in South Dakota did so in just two cities.[100] These numbers help to explain why airlines often did not want to provide service to outlying communities and how federal airline regulation before 1978 limited the obvious result of a laissez-faire approach to airline service—no service for rural or small communities.

There had been seventy-six airports in South Dakota at the time the SDAC submitted its 1947 report, which also noted that the commission had authorized its executive secretary to hire a civil engineer as chief airport engineer. The commission then consisted of three members appointed by the governor for four-year terms, which were increased to five years in 1960. Some members, such as Leonard Thompson of Lake Preston, served for over a decade. The commissioners selected a chairman in July of each year. They also appointed the executive secretary, a full-time, salaried administrator, subject to the governor's approval, for a two-year term. In turn, the executive secretary could employ other staff as the commission authorized.[101]

The commissioners' 1949 report may have caught Governor George T. Mickelson's eye when they misspelled his name as "Michelson," although it does not appear that any heads rolled as a result. Much of that year's report was devoted to new legislation that defined the SDAC's

98. *Aero News* 2 (May 1962): 7; *SDAC Report* (1963–1964), p. 9, (1965–1966), p. 8. Western Air Lines terminated service in Huron on 5 January 1965. *See SDAC Report* (1965–1966), p. 9.

99. *SDAC Report* (1962), p. 9, (1965–1966), p. 8.

100. Ibid. (1965–1966), p. 9.

101. Ibid. (1947), pp. 3, 10–11, (1948–1949), unnumbered page; *Aero News* 2 (Aug. 1962): 2.

powers, responsibilities, purview, and organization, but the group 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."[102] Rather than the proverbial "chicken in every pot," it was now "an airport in every city."

That idea apparently received significant support, if the construction of new airports is any benchmark. The cities of Dupree, Faulkton, Harrold, and Wasta completed new airports by 1953. Federal funds paid 53 percent of the costs, with state and local funds covering the rest. Upgrades were underway at Pierre, Watertown, and Yankton. Revolving-beacon 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, and McIntosh, while Brookings, Herreid, Huron, and Rapid City had projects in the planning stage.[103]

By legislative act in 1949, membership on the SDAC was increased from three to five, and the commissioners' per diem was raised from $7.50 to $10.00. George Hunter chaired the commission at the beginning of the 1950s, with Harold Markey as vice chair. Duane Corning, Curtis Mateer, and Leonard Thompson were commissioners. Corning's presence on the commission was a natural fit, given his role in the South Dakota Air National Guard and his long-standing friendship with Joe Foss, whom voters elected governor in 1954. The 1947 legislation also changed the job title of the SDAC executive secretary to "Director of Aeronautics of the State of South Dakota." Lyndon V. Hanson served in that position until his retirement in 1973.[104]

In its 1949–1950 report, the SDAC referred for the first time to a "commission-owned" rather than a "state-owned" aircraft when it traded in a Stinson Station Wagon on a Ryan Navion. The airplanes were flown for a combined total of 304 hours, eighty-six of which were used

102. *SDAC Report* (1948–1949), p. 11.
103. Ibid. (1952–1953), pp. 7–8, (1961), p. 20.
104. Ibid. (1949–1950), unnumbered page; *Aero News* 9 (Apr. 1974): 2.

in transporting the governor or members of other state departments. Fifteen years later, the commission owned three aircraft: a Model H Bonanza, a Twin Bonanza D50C, and a Piper Super Cub. Flight time in 1964–1965 was 155 hours for the Model H, 264 hours for the Twin Bonanza, and 37 hours for the Super Cub. In 1965–1966, the flight hours were 243, 332, and 140 respectively. The commission traded in its Piper Super Cub and the Model H Bonanza on a Beechcraft Baron B55 in July 1969. The Baron flew 467 hours and the Twin Bonanza 569 hours that year.[105]

The SDAC recommended in 1959 that the governor seek legislative approval to establish a Division of Air Transportation to serve the travel needs of state government. The commissioners pushed for the purchase of an additional airplane and an appropriation for a pilot because the two aircraft then in service were insufficient to meet air-travel demands from other departments. Two years later, the commission had four aircraft. The governor's office accounted for 35 percent of the flight hours, while the commission used 49 percent and other departments of state government 16 percent of the flying time.[106]

Appropriations for the SDAC exceeded eighty-seven thousand dollars in 1950, with just over seventeen thousand of that amount designated for salaries and wages. The SDAC took in nearly sixty thousand dollars in fuel-tax receipts in fiscal year 1949–1950. Twenty years later, fuel-tax revenues had grown slowly, to just under $75,500. By way of comparison, wages and salaries at the South Dakota Highway Commission for the fiscal year ending 30 June 1951 totaled over $180,000. The SDAC served 1,017 licensed pilots and 762 registered aircraft by the end of fiscal year 1951–1952.[107]

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 in 1951, a year when fifteen airport construction projects were underway or completed. The com-

105. *SDAC Report* (1949–1950), p. 6, (1965–1966), pp. 7–8, (1968–1970), p. 4.

106. Ibid. (1959), pp. 5–7, (1961), p. 6.

107. Ibid. (1949–1950), pp. 13–14, (1951–1952), p. 2, (1968–1970), p. 11; South Dakota, *Annual Report of the South Dakota State Highway Commission for the Year Ending 30 June 1951*, p. 31.

This 1958 photograph shows a state-owned Beechcraft Bonanza based at the Pierre municipal airport.

mission members met monthly and still were not paid a salary but were reimbursed for their travel and other official expenses.[108]

Americans elected a new president, Dwight D. Eisenhower, in 1952. Eisenhower's military policy, known as the "New Look," emphasized the principle of "more bang for the buck," a maxim that encouraged reliance on the United States Air Force. As the air force expanded rapidly under Eisenhower, the number of military flights increased dramati-

108. *SDAC Report* (1950–1951), pp. 6–7, (1952–1953), p. ii.

The hangar at the Pierre airport also housed a Piper Super Cub owned by the South Dakota Aeronautics Commission.

cally, as did the amount of restricted military airspace. Consequently, it became imperative that federal agencies be made aware of commercial and private flight plans. Accordingly, representatives of the SDAC and other aviation stakeholders in the state such as airport managers, the CAP, and the Flying Farmers attended a December 1953 meeting at Great Falls Air Force Base in Montana. The gathering focused on the seriousness of unscheduled civilian flights, or flights without flight plans, that violated military airspace control procedures. 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 accidental shootdowns, to the attention of the flying public.[109]

In May 1958, Senator Almer S. ("Mike") Monroney, a Democrat from Oklahoma, introduced a proposal to create an independent Federal Aviation Agency. President Eisenhower subsequently signed the

109. Ibid. (1953–1954), p. 9; *Aero News* 2 (Mar. 1962): 3.

Federal Aviation Act on 23 August. The legislation "transferred the Civil Aeronautics Authority's functions to a new independent Federal Aviation Agency (FAA) responsible for civil aviation safety." Retired Air Force General Elwood ("Pete") Quesada took charge as the first FAA administrator on 1 November 1958.[110]

Less than one year earlier, the Soviet Union had successfully launched the first man-made earth-orbiting satellite. The October 1957 event had a dramatic impact on aviation in the United States. Not only did *Sputnik* prompt legislation creating the National Aeronautics and Space Administration (NASA) on 29 July 1958, but the Soviet satellite 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. Reports and publications of the SDAC reflected post-*Sputnik* concerns. "Air Age Education" programming became "Air and Space Education" programming.[111] More substantively, the commission's new publication, *Aero News*, became a vehicle to alert pilots and the public to national defense matters. 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 Command will conduct a defense test during the 12-hour period against air attack."[112] Not until 11 September 2001, nearly forty years later, would another grounding of general aviation aircraft take place, and it would not be the result of a defense test.

Director of Aeronautics Lyndon V. Hanson's comments in the November 1961 issue of *Aero News* reflected the constant fear of nuclear war, as well as federal and state efforts to persuade the public to accept the fiction of survivability—the idea that citizens could survive a nuclear attack if they followed appropriate protocols. The federal government was urging state aviation officials to update their civil-defense plans. The assumptions that underlay this urgent request were unnerving.

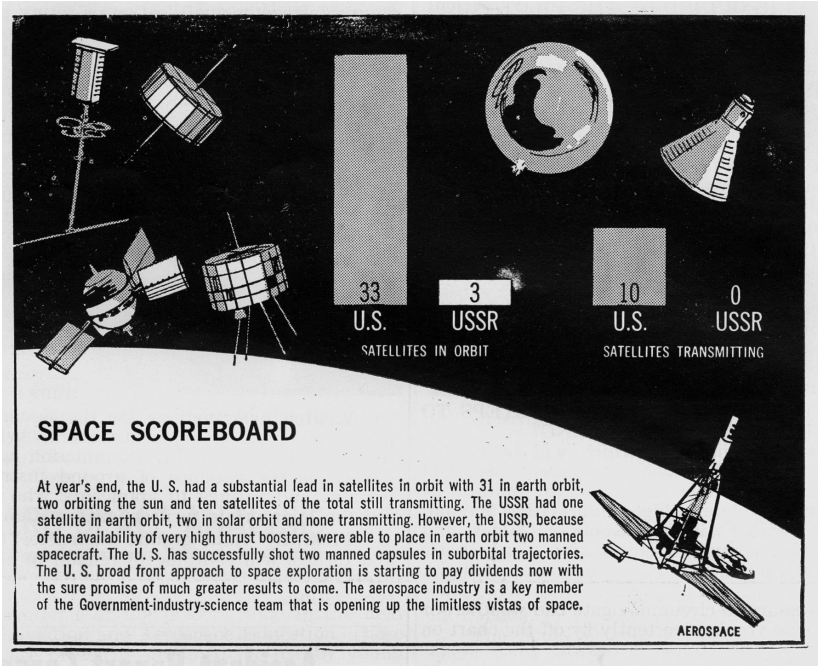
110. "Brief History of the FAA."
111. *SDAC Report* (1959), p. 14.
112. *Aero News* 1 (Sept. 1961): 4.

"This is not a pleasant activity for anyone," Hanson commented, "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 [medical] personnel and materials during the post-attack recovery period."[113]

The SDAC's Special Services Department subsequently began "a relatively new phase of public education that we prefer to call Aerospace Education. . . . In today's Air Age world, Aerospace Education is everybody's business." *Aero News* asserted that average adults had limited knowledge about the world around them—a dangerous state of affairs. 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."[114]

By 1962, developments had taken some of the edge off fears that the Soviets were technologically superior to the United States. The March 1962 issue of *Aero News* included an illustration entitled "Space Scoreboard." According to the "scoreboard," the United States had thirty-one satellites in earth orbit and two orbiting the sun. Ten of those satellites were still transmitting signals. In contrast, the Soviets had but one satellite in earth orbit and two in solar orbit, and none of them were transmitting. However, the scoreboard also reported that the Soviets had built rocket boosters powerful enough to place manned spacecraft into earth orbit, whereas the United States had only launched manned capsules on suborbital flights. Nevertheless, "the U.S. broad front approach to space exploration," the reader was assured, was "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."[115]

113. Ibid. (Nov. 1961): 2.
114. Ibid. 2 (Jan. 1962): 5.
115. Ibid. (Mar. 1962): 8.



Competition with the Soviet Union in the realm of aerospace technology was keen during the Cold War era, as this illustration from a 1962 issue of *Aero News* shows.

Director Hanson discussed civil-defense plans for evacuation in the event of a nuclear attack or a natural catastrophe in 1964. The State and Regional Defense Airlift (SARDA) plan anticipated that under such circumstances, all aviation resources in the state would volunteer their services to ensure the survival of "the Nation, State, and local areas."[116] The SDAC completed its SARDA plan and submitted it to the Federal Office of Emergency Planning in 1965. The commission divided South Dakota into five SARDA districts, with designated "control airports" in Aberdeen, Huron, Sioux Falls, Pierre, and Rapid City. The Emergency Operations Center in Pierre would coordinate air movements, but if communications were down, officials at the control airports would take charge.[117]

116. Ibid. 4 (Dec. 1964): 2.
117. Ibid. 5 (Sept. 1965): 4; *SDAC Report* (1965–1966), p. 19.

No one seemed to have considered where evacuees would be taken in the event of a nuclear war. By 1965, the Soviets and the United States each possessed thousands of nuclear weapons with intercontinental ballistic missiles as delivery systems, to say nothing of the weapons of the other nuclear powers. Movies such as *On the Beach* (1959), *Dr. Strangelove* (1964), and *Fail-Safe* (1964) reflected a widely held belief that the fiction of survivability was just that—a fiction—but authorities continued to fund such delusions.

Federal funds for civil-defense programs such as SARDA did not require matching state funds, but such was not the case with airport construction. South Dakota was eligible for over $657,000 in federal funds for that purpose in 1960, but because state and local governments matched only $210,000, more than $450,000 reverted to the federal government. In other words, South Dakota lost federal airport dollars due to the shortage of state and local funds. The number of approved public airports fell to sixty-eight that year, as Clear Lake and Burke were no longer on the list.[118]

The financial situation worsened in 1961, when South Dakota matched less than $37,000 of the $657,256 allocated to it under the Federal Aid Airport Program. That year, over $620,000 reverted to the federal government for redistribution to other states. President John F. Kennedy signed an extension of the Federal Airport Act for three more years in September 1961, meaning a total of $1.3 million was available to fund airport projects in South Dakota at a 53-percent federal to 47-percent state and local ratio, but it remained to be seen whether the state would meet its matching requirement. Once again, the state came up with only a small portion of matching funds, returning over $540,000 to the federal government in 1962. After paying salaries that totaled $38,500, travel expenses of $10,000, and office expenses of $8,000, and taking in $88,000 in aviation fuel-tax receipts, the SDAC had a positive balance of $233,000 at the end of the fiscal year. Most of the money was in the fuel-tax fund, which could be spent only to aid cities and counties with their airport improvements.[119]

118. *SDAC Report* (1960), pp. 17, 20.
119. Ibid. (1961), p. 17, (1962), p. 19; *Aero News* 1 (Nov. 1961): 4.

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 on 17 August 1962. One of the 707s carried newsmen and women; the other carried President Kennedy, who had come to dedicate the Oahe Dam powerhouse and used the opportunity to comment on the nation's energy and transportation needs.[120]

In 1962, Director of Aeronautics Lyndon Hanson organized an air-inspection tour of South Dakota for the state's legislators, seeking to garner support for aviation budget increases. Fifty-five representatives and senators flew fourteen hundred statute miles. Seventeen aircraft, most of which private owners provided, flew the legislators to various South Dakota destinations, including the Homestake gold mine in Lead, for tours.[121] The following year, Hanson noted that although the SDAC had requested funding of one hundred thousand dollars for construction and development of small airports, the South Dakota Legislature approved only twenty thousand dollars. The lobbying effort had failed.[122]

In 1963, Hanson reported that over twenty-five general aviation airports had been built over the previous decade through a combination of federal, state, and local funds. Such investments included the Clark County Airport dedicated in 1961 and runway improvements completed that year at Vermillion, as well as projects planned for Highmore, Miller, and Custer under the Federal Airport Program. Additional improvements were either completed or planned for municipal airports in Chamberlain, Clear Lake, Kimball, Mobridge, Rapid City, Mitchell, Springfield, and White River in 1961. The SDAC secured fifty thousand dollars in state appropriations in 1964 for airport construction and development.[123]

120. *Sioux Falls Argus-Leader*, 17 Aug. 1962. Kennedy was one of the few sitting presidents to fly into South Dakota. George W. Bush did so in 2002, as did Barack H. Obama in 2015.

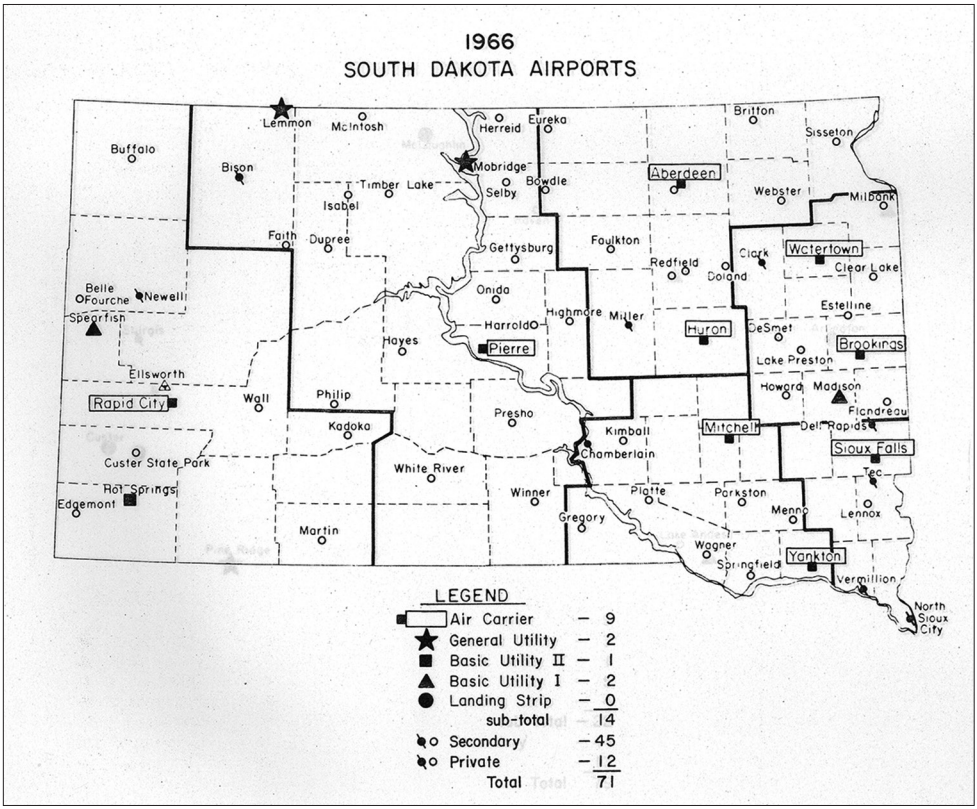
121. *Aero News* 2 (Oct. 1962): 1–2, 4.

122. Ibid. 3 (May 1963): 2.

123. Ibid.; Ibid. 1 (Sept. 1961): 2; Ibid. 4 (May 1964): 2.

Airport construction and improvements continued during the 1960s even though South Dakota could not or would not take advantage of all available federal funds. A new airport was completed in Madison, while air asset improvements were planned in Arlington, Redfield, McLaughlin, Lake Andes, Sioux Falls, and Hoven during 1964. The SDAC disbursed approximately $1.1 million during fiscal year 1965–1966, but over $380,000 of that sum was invested in bonds, not spent directly on airport construction. There were seventy-seven commission-approved public airports at the end of 1966.[124] Airport improvements were re-

124. Ibid. 4 (Dec. 1964): 2; *SDAC Report* (1965–1966), pp. 29–36.



This map included in a South Dakota Department of Transportation report shows the state's airport system in 1966. Only those airports classified as "Air Carrier" had scheduled passenger service.

ported at Arlington, Brookings, Britton, Hoven, Huron, Lake Andes, McLaughlin, Mobridge, Pierre, Redfield, Rapid City, Sioux Falls, Springfield, and Sturgis in 1966–1967.[125]

Effective 1 July 1967, all cities with airport boards were allowed to levy up to two mills in property taxes for airport purposes instead of only one-half mill. This change was probably a response to South Dakota losing Federal Aid Airport Program funds due to the lack of local matching dollars. The 1967 legislature appropriated slightly more than $75,000 to pay the salaries of seven professional aeronautics commission staff. The legislators also approved an additional $12,300 for travel expenses and $11,000 for office expenses. Another development in 1967 affecting the SDAC was the creation of the United States Department of Transportation on 1 April. The Federal Aviation Agency, renamed the Federal Aviation Administration (FAA), became part of the Department of Transportation. A model now existed for the reorganization of South Dakota's myriad state agencies dealing with transportation issues.[126]

That reorganization came in 1973 under Governor Richard F. Kneip's administration. The once-independent SDAC now reported to the South Dakota Department of Transportation, while the SDAC staff became the new department's Division of Aeronautics. Monte Schneider led the division after the reorganization, having succeeded Lyndon Hanson, South Dakota's first aeronautics commission director, in 1973. Hanson had served in the post for twenty-eight years. Commissioners at the time of the reorganization were chairman Roland Parcel, a petroleum distributor from Aberdeen; vice chairman Charles Rozum, an automobile dealer and pilot from Mitchell; Keith Montgomery, an insurance and real estate agent from Huron; William Mechaley of Rapid City; and Don DeVries of Sioux Falls. Chairman Parcel retired in 1974, and the commissioners elected Rozum as his successor. Governor Kneip appointed Paul Hartung of Aberdeen to fill the vacancy.[127]

Schneider became director at a difficult time. Writing in *Aero News* in August 1974, he noted that the 1975 airport program included re-

125. *Aero News* 7 (Feb. 1967): 4.
126. *SDAC Report* (1967–1968), pp. 4, 30; "Brief History of the FAA."
127. *Aero News* 9 (Apr. 1974): 2–5, (Aug. 1974): 1.

quests for $4.9 million in air-carrier projects and $1.8 million in general aviation projects. The state was counting on federal funding, but, as Schneider reported, "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."[128] This state of affairs likely reflected the budget difficulties President Gerald R. Ford's administration inherited from his predecessor, Richard M. Nixon.

Safety was always a primary focus for the SDAC regardless of lean times. Many issues of *Aero News* discussed potential in-flight problems to help pilots work toward an appropriate solution. Other articles covered aviation "best practices," updates on airport construction and improvements, tips on flying under difficult weather conditions, accident reports, prescription drugs to avoid when flying, and alcohol awareness. Pilots licensed in South Dakota eventually received a directory of airports in the state containing sketches of all approved landing facilities as part of their annual registration. These and other efforts to improve flying safety appear to have had an effect, for the number of accidents reported in 1961—sixty-two—fell to thirty-two in 1968.[129]

Private citizens encouraged safe flying, too. Ken Hirsch, a longtime Sioux Falls weatherman, travel-agency owner, pilot, and SDAC member, began to combine weather reports for pilots with his regular weather reports on television channels KSFY and KABY in 1970.[130] People in the public eye like Hirsch and South Dakota's pilot governors—Joe Foss, Frank L. Farrar, William J. Janklow, and M. Michael Rounds—served as air advocates in both their public and private lives. The cover of the February 1969 issue of *Aero News* featured a photograph of Farrar in an airplane.

Foss, who was an avid hunter, took great pride in the fact that South Dakota had become a hunter's destination and that airplanes brought first hundreds, and later thousands of hunters to the state for pheas-

128. Ibid. 9 (Aug. 1974): 3.

129. Kraemer, *South Dakota's First Century of Flight*, p. 113; *Aero News* 1 (Sept. 1961): 7, (Nov. 1961): 5; Ibid. 2 (Mar. 1962): 7.

130. *Aero News* 9 (Nov. 1974): 4.

Frank L. Farrar was one of several South Dakota governors who have held pilot's licenses. Farrar flew this Mooney Mark 20 extensively during his successful run for office in 1968.

ant season each fall. The cover of the January 1962 issue of *Aero News* showed the Mitchell Municipal Airport loaded to capacity with private planes during the first week of the 1961 pheasant season. The caption read, "South Dakota Airports Invaded." The same issue noted that 186 aircraft used the Huron Municipal Airport that week and deplaned 995 passengers. All told, eleven hundred aircraft flew into South Dakota for the opening day of pheasant season in 1961. Fifteen hundred aircraft flew in for the same event the next year.[131]

Much like hunters, many South Dakota ranchers made good use of light aircraft. One appeal of private airplanes for ranchers was their ability to overcome long, roadless distances. Especially in the area west of the Missouri River, ranches encompassing thousands of acres of land are not unusual. The airplane made it easier to account for the herds of cattle roaming those vast stretches of range. In November 1974, *Aero News* noted that aerial observation could be an effective deterrent to livestock rustling. Airplanes were frequently used to airlift feed to stranded herds. After the severe blizzards of 1949 and 1952, aircraft from the South Dakota Air National Guard and the United States Air Force participated in "haylift" operations.[132]

Although the airplane 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. During the years of Prohibition (1917–1933 in South Dakota), there was no requirement to file flight plans and no radar to track air traffic. Bootleggers used aircraft to carry loads of booze early on during Prohibition, although cars, trucks, boats, and trains were more popular means of transporting the merchandise due to the payload limitations of airplanes. In many instances, smugglers flew from Canada to the United States, including a network of bootleggers who flew hooch into Minneapolis from Winnipeg.[133]

131. Ibid. 2 (Jan. 1962): 7, (Dec. 1962): cover.

132. Ibid. 9 (Nov. 1974): 2; Harl A. Dalstrom and Kay Calamé Dalstrom, "It's 'Going Down in History': The Blizzards of 1949," *South Dakota History* 29 (Winter 1999): 275–78, 308; Kraemer, *South Dakota's First Century of Flight*, p. 94.

133. J. Anne Funderburg, *Bootleggers and Beer Barons of the Prohibition Era* (Jefferson, N.C.: McFarland, 2014), pp. 297–98. *Fortune* magazine commented on this element of

The cover of the December 1962 issue of *Aero News* shows private aircraft crowding the ramp at Mitchell's municipal airport during pheasant hunting season.

In the wake of severe blizzards in 1948 and 1952, Air Force and Air National Guard cargo planes delivered hay to South Dakota ranchers whose herds needed emergency feed. This "haylift" photo was taken in 1952.

South Dakota bootlegger Roy Giard, who was born in Spink County in 1895, had been a World War I pilot. After the war, the Huron city directory listed him as an "aviator." He and his wife, Edna, maintained a small airstrip between Volga and Brookings. The fact that he was "running alcohol all over the Midwest" at the time may not be a "smoking gun" indicating that he used his aviation skills to run rum, but it is certainly a smoldering one.[134] At the very least, according to Edna, Roy once refused to use his plane to apprehend a group of bank robbers from Minnesota. She later recalled: "One day we were sunning ourselves, [and] a great big Cadillac drove up with four fellas. Roy said, 'These are my friends from St. Paul.' They said they were just driving

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liquor transportation in a 1931 article entitled "U.S. Liquor Industry." *See* http://fortune.com/2013/02/24/u-s-liquor-industry-fortune-1931/.

134. Kelsea Kenzy Sutton, "Female Moonshiners and Bootleggers in South Dakota: The Prohibition Story Less Travelled" (master's thesis, University of South Dakota, 2014), pp. 54–55. Sutton relied on an oral history interview conducted by Frank Day with Edna Giard in Dallas, S.Dak.

around. The next day, Roy got a call from the sheriff of Brookings County saying get in the airplane and fly towards Lake Preston, South Dakota, about twenty miles to the west. I put two and two together that that was those fellas. They had robbed the bank, and the sheriff wanted Roy to spot these cars getting away. Roy went east because he wasn't gonna betray his friends."[135]

The market for illegal liquor virtually disappeared after Prohibition ended in 1933, but there was still demand for other illegal substances, a demand that grew with the counterculture of the 1960s. Anecdotal evidence abounded on South Dakota's college campuses in the late 1960s and early 1970s about private planes returning from spring break loaded with marijuana. As the popular band New Riders of the Purple Sage sang in 1973, "Panama Red is back in town." The most famous of these aerial smuggling efforts resulted in the confiscation of twenty-six thousand pounds, not of "Panama Red," but "Colombian Gold."

Five ice fishermen seeking walleye along the banks of the Missouri River near Akaska, South Dakota, heard the approach of a low-flying DC-7 as the sun was setting on 20 January 1980. The four-engine airplane was an unusual sight in an area that rarely saw anything but single-engine aircraft. The plane circled and landed on a bluff near the confluence of the Moreau and Missouri rivers. Concerned that something was wrong, the five fishermen drove to the site to investigate. A local rancher also witnessed the landing and called the Walworth County sheriff. The pilot escaped in a waiting pickup truck, but authorities apprehended three smugglers almost immediately, with two more arrested the next day. The fishermen climbed into the abandoned plane and saw bale after bale of marijuana—393 bales, to be precise. They had interrupted the biggest pot delivery in the state's history. Investigators believed the cargo originated in Colombia.[136] Mark V. Meierhenry, South Dakota's attorney general at the time, observed of the smugglers' misfortune: "Only a bunch of South Dakotans would be out ice fishing on Super Bowl Sunday."[137] The state confiscated the plane

135. Interview of Edna Giard, Dallas, S.Dak., by Frank Day, ca. 1973, transcript, pp. 3–4, Frank Day Oral History Collection, South Dakota Oral History Center.

136. *Sioux Falls Argus Leader*, 21, 22 Jan. 1980; *Mobridge Tribune*, 29 Dec. 1999.

137. *Sioux Falls Argus Leader*, 22 Jan. 1980.

and sold it for sixty thousand dollars, with twenty-seven thousand going to reimburse Walworth County for the costs incurred in dealing with the incident. Most of the marijuana was hauled to Pierre, where it was shredded and burned at the local landfill on 6 February 1980.[138]

The pilots of the 1980 pot plane landed in an isolated area where there were almost no obstacles or humans who could be hurt in the event of a crash, but as the number of passengers, pilots, and aircraft had begun to increase in the 1960s, so had the need for safety regulations. The 1965 SDAC report counted 953 aircraft and 1,577 pilots registered in South Dakota, a 14-percent increase in pilots over 1964 and 4.5-percent increase in the number of aircraft.[139] The 1965 legislative session passed House Bill 610 unanimously, and Governor Nils A. Boe signed it into law. The legislation authorized city and county governments to regulate the height of structures near airports and prohibit obstructions to safe takeoffs and landings. The new state law also "empowered and directed" the SDAC to draft "an airport approach plan for each publicly-owned airport in the state," but enforcement of their provisions was left to local authorities.[140]

There was no standard for lighting potential obstructions such as radio towers during the SDAC's first three decades. South Dakota, Minnesota, and Wisconsin lobbied the FAA to provide specifications for strobe lights in 1966. Even with the adoption of standard lighting for towers, airplanes 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 hit a support wire and brought the two-thousand-foot structure down on 24 June 1968. All nineteen passengers, one of whom was on his way to serve in Vietnam, and three crew members survived.[141]

The SDAC also cooperated with the Game, Fish and Parks Commission on safety issues. The two agencies installed a lighting system at Custer State Park Airport in 1965 to improve the safety of the facility. At the request of the SDAC, the South Dakota Department of

138. *Aberdeen American News*, 19 Jan. 2005.
139. *Aero News* 6 (Jan. 1966): 8.
140. Ibid. 5 (Apr. 1965): 2.
141. Ibid. 6 (Aug. 1966): 2; *Sioux Falls Argus-Leader*, 25 June 1968.

Highways produced fifty new signs labeled "Approved Airport" that directed road traffic to such airports. Each sign cost $8.82. The two-year program covered all approved airports in the state.[142]

Despite the growth of aviation in the 1960s, the South Dakota Legislature, following past precedent, seemed content to keep the aeronautics commission operating staff static. In 1965, legislators denied the commission's request to upgrade one staff position from part-time to full-time but did release some funds for airport construction. The general appropriations bill for the 1965–1967 biennium provided a total of two hundred thousand dollars, divided equally between two SDAC revolving funds. One fund supported projects for general aviation facilities, while the other financed construction and development of air-carrier airports, or those with scheduled airline service.[143]

Airlines that served South Dakota were in transition in the mid-1960s. Frontier, North Central, and Ozark were the state's local service carriers at the time, while Braniff and Western were trunk carriers. The trunk carriers desired to shift from piston-driven to jet aircraft, a change that required nearly $7.8 million worth of airport upgrades for the period 1966–1969. 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 intraregional and intrastate commercial service. Dakota West Airlines inaugurated service from Brookings to Minneapolis and Saint Paul on 18 April 1974 with a British-built DeHavilland DH-104 Dove.[144]

In 1966, the SDAC approved matching funds for general aviation projects at Custer, Faulkton, Mission, Canton, Beresford, and Sisseton. The allocations included 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 each for Canton, Beresford, and Sisseton to cover 50 percent of the planning expenses for proposed new airport layouts. The commission also increased a previous allocation to the town of McLaughlin from $7,000 to $9,000 to cover a runway lighting

142. *Aero News* 5 (June 1965): 8, (Sept. 1965): cover.
143. Ibid. 5 (Apr. 1965): 2.
144. Ibid. 6 (Jan. 1966): 2; ibid. 9 (June 1974): 1.

system. 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, while Aberdeen received $178,000.[145]

In 1969, the aeronautics commission requested $4.5 million for South Dakota airports. The single largest project was a new terminal building at Joe Foss Field in Sioux Falls. Construction was scheduled to start in the spring of 1969 at a cost of over $2.1 million. The SDAC commended the people of Sioux Falls for approving the bond issue to raise funds for the new terminal, asserting that as a result, businessmen seeking new locations would find South Dakotans progressive and their infrastructure inviting.[146] Five years later, Sioux Falls airport manager John Orr reported 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."[147] The new facility had proven to be an excellent investment in the future of the city and the state.

Over the years, 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 aviation's impact on business. The May 1963 issue, for example, featured the management team at Ball Aero Company of Huron. Tracy Gitchell, the firm's secretary-treasurer, was also a judge and later the owner of The Inn hotel in Huron. Ball Aero Company handled Piper aircraft sales for eastern South Dakota as well as flight line and hangar services at the Huron airport. The same issue also featured H. J. Jensen, president of Electronics, Inc., his Piper Aztec, and his product, the Electro Magic pressure cleaner. Jensen told *Aero News* that his business would be 50 percent smaller had air transportation not been available.[148]

145. Ibid. 6 (Apr. 1966): 2–3.
146. Ibid. 7 (Jan. 1969): 2, (Mar. 1969): 3, 5.
147. Ibid. 9 (Aug. 1974): 2.
148. Ibid. 3 (May 1963): 5, 7.

Other aviation-related activities benefited South Dakota businesses, as well. The Flying Farmers and Ranchers, Business Aviation, Inc., and the local Holiday Inn at Sioux Falls sponsored a "fly-in" in 1964. Activities included a "buffet luncheon, door prizes, fashion show, and underwater demonstration of skin diving equipment."[149] In October of that year, Rapid City hosted the national conference of the National Association of State Aviation Officials, which serves as the liaison between state and local governments and federal aviation authorities. Over two hundred people participated.[150] Clearly, aviation was good for business in South Dakota.

The governors of North Dakota, South Dakota, Wyoming, Montana, and Nebraska realized that aviation improvements would benefit the entire region. The five governors served together on the Old West Regional Commission, one of nine multistate economic-development commissions created by Congress in 1965. The regional commission approved a motion in 1974 to seek aid from the federal Department of Transportation for construction of a regional airport that would provide air service equivalent to that of a big-city airport. South Dakota Governor Richard Kneip was the commission's co-chair at the time. Each aeronautics department in the five states was asked to report on the feasibility of the concept, and the commission sought input from consultants on the proposed facility, to be called Old West Regional Airport. The proposal, however, failed to gel before President Ronald Reagan dismantled the regional commissions in 1981.[151] Had the project gotten off the ground, there would have been significant debate as to the location of the airport, for each governor recognized the impact aviation had on the local and regional economy.

As part of an effort to anticipate future aviation needs, the federal government began requiring aviation system plans from the states as a condition for receiving FAA funds. South Dakota submitted its first State Aviation System Plan (SASP) in 1978. At that time, the nine air-

149. Ibid. 4 (Aug. 1964): 7.

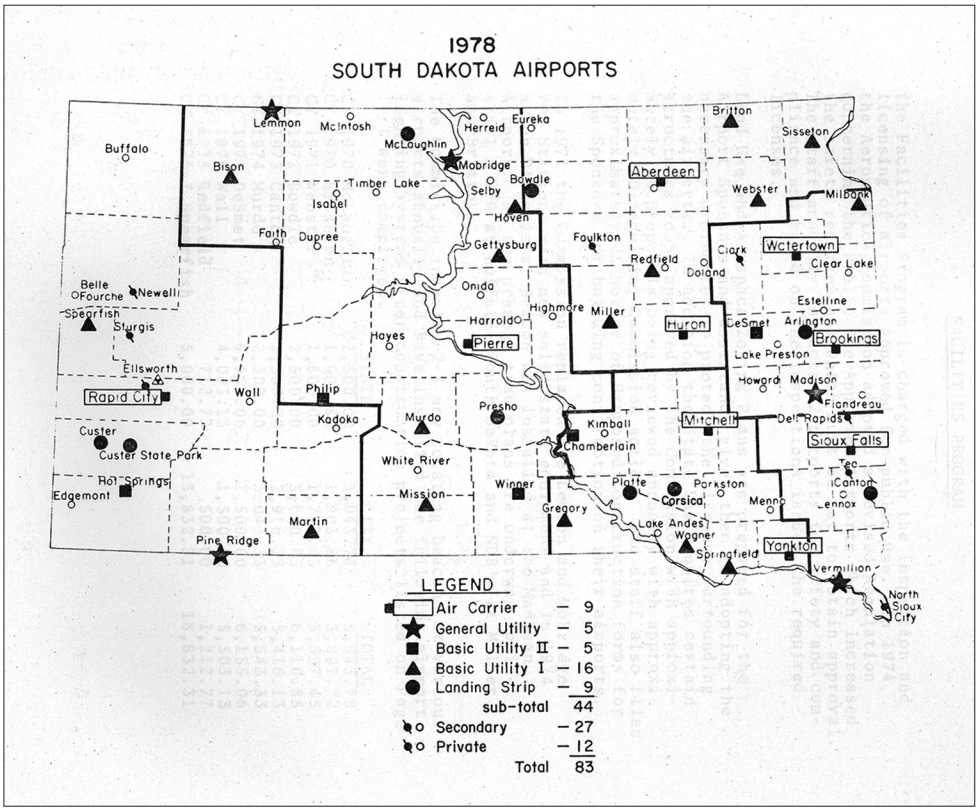
150. Ibid., p. 2.

151. John J. Brasch, "The Old West Regional Commission International Program: A Biased Evaluation," *Journal of the Academy of Marketing Science* 11 (Summer 1983): 333; *Aero News* 4 (Aug. 1964): 7.

ports in the state with scheduled passenger service were in Aberdeen, Pierre, Rapid City, Sioux Falls, Brookings, Huron, Mitchell, Watertown, and Yankton. More than one airline served the first four cities on the list, while the other five relied on only one carrier.[152]

At the same time South Dakota submitted its SASP, the aviation industry experienced a fundamental change as a result of legislation Congress passed in 1978 with President Jimmy Carter's support. The

152. South Dakota, Department of Transportation, Division of Air, Rail and Transit, *South Dakota Aviation System Plan*, Apr. 1996, p. VI-1 (this document is hereafter cited SASP 1996).



This South Dakota Department of Transportation map shows eighty-three airports operating in the state by 1978. In addition, many of the airports classified as "secondary" in 1966 had been upgraded.

Airline Deregulation Act, which Carter signed on 24 October, removed many of the regulations that had governed the industry since the 1930s. Competition among airlines increased during the first few decades after deregulation, but market forces invariably led to the demise of many of the upstart carriers, as well as the bankruptcies of several established airlines such as Eastern, Braniff, and Pan Am. By the turn of the twenty-first century, a few major airlines dominated the national market once again.

South Dakota's Republican United States senator, Larry Pressler, chair of the Senate Committee on Commerce, Transportation, and Science, requested a General Accounting Office (GAO) study of airline deregulation in 1996. In its 19 April report, the GAO found that from a passenger's perspective, deregulation made it significantly cheaper to fly. The report noted that by 1994, airfares had declined on average by about 9 percent at small community airports, 11 percent at medium-sized community airports, and 8 percent at large community airports. Still, airfares in the southeastern United States and Appalachia increased nearly 20 percent during the same period. The GAO attributed this development to the lack of competition in the region from commuter or start-up airlines such as Southwest.[153] Another trend the GAO identified was the existence of more air service in the country as a whole. The number of scheduled departures between May 1978 and May 1995 had 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."[154]

Some areas, though, experienced a decline in service. Not surprisingly, given that Senator Pressler represented South Dakota, the GAO used Sioux Falls as an example. As the agency noted, "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

153. U.S., General Accounting Office, *Airline Deregulation: Changes in Airfares, Service, and Safety at Small, Medium-Sized, and Large Communities* (Washington, D.C.: Government Printing Office, 1996), pp. 4–6.

154. Ibid., p. 6.

percent fewer departures and 31 percent fewer available seats in 1995" than it had in 1978.[155] The report indicated that the sharpest decline in air service (at least 20 percent) had occurred in three upper midwestern communities: Sioux Falls; Lincoln, Nebraska; and Rochester, Minnesota. The GAO asserted that part of the explanation for this trend was that all three cities "had relatively slow economic growth during the period studied. 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."[156]

The 1996 SASP confirmed the decline in service for Sioux Falls. Civil Aeronautics Board data indicated that enplanements at Sioux Falls had peaked in 1979 at nearly 281,000. By 1981, passenger boardings had dropped to under 171,000. Enplanements then increased slowly for the next decade and a half, reaching almost 280,000 in 1994, still less than the 1979 level. Yet another reason for the trend was a change in the types of aircraft and carriers that served South Dakota. Some major carriers reduced or eliminated service in the state. For example, Delta and United ended service to Rapid City after deregulation. Some of the airlines that remained in the South Dakota market used smaller, more fuel-efficient turboprop planes instead of jets.[157]

Governor George S. Mickelson and other state and local leaders had recognized those trends in the late 1980s. They supported the state legislature's March 1989 creation of the South Dakota Airline Authority to "improve intrastate air service . . . with the responsibility of planning, establishing, acquiring, developing, constructing, purchasing, enlarging, maintaining, equipping, and protecting an airline and airline facilities, including aircraft."[158] In short, the state would enter the air transportation business. 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 Airline Authority board.

155. Ibid.
156. Ibid., p. 36.
157. SASP 1996, p. VI-6.
158. *Aero News*, July 1989, p. 1.

Each member represented a city that had passenger air service.[159] Mickelson actively encouraged intrastate air travel development. As his secretary of transportation, Richard L. Howard, later recalled, the governor believed "we needed air travel to connect our major cities to the capital and each other."[160]

The board investigated options for creating a state-operated airline versus contracting with private companies to provide subsidized passenger service. In a report prepared for the 1990 session of the South Dakota Legislature, the Airline Authority recommended that the state contract with GP Express, based in Grand Island, Nebraska, to operate two passenger routes. One, a direct east-west route, would serve Rapid City, Pierre, and Sioux Falls, while the other route was a loop connecting Huron, Pierre, Aberdeen, Watertown, Brookings, and Sioux Falls. The authority also proposed a contract with Falcon Aviation of Yankton to operate a Yankton-Mitchell-Pierre service. The Airline Authority estimated that these proposed routes would require a first-year subsidy of approximately $1.2 million, assuming that paying customers filled 50 percent of the flights. The state and the nine cities involved were to share subsidy costs. Fifteen-passenger Beechcraft 99 aircraft were to provide the east-west service between Sioux Falls and Rapid City via Pierre, with smaller planes for the other routes.[161]

The state-subsidized air service began operations on 9 October 1990 with a slightly different route structure than originally planned. Spearfish, not Rapid City, was the western terminus. The venture was an abject failure. Passenger revenue for the period 9 October–31 December 1990 was less than $105,000, while almost $520,000 in subsidy funds were used in that time. On 8 February 1991, Governor Mickelson recommended that the project be shut down. The last flights took place on 22 February.[162] In 2012, former Transportation Secretary Howard

159. Ibid.

160. Interview of Richard L. Howard, Pierre, S.Dak., by Steven J. Bucklin, 8 June 2012, transcript, p. 51, South Dakota Department of Transportation (SDDOT), Pierre.

161. South Dakota, Airline Authority, "A Proposal for Intrastate Air Service Prepared for Presentation to the 1990 Session of the South Dakota State Legislature," pp. 2–3, Box 7302, State Archives Collection, South Dakota State Historical Society, Pierre.

162. *Sioux Falls Argus Leader*, 30 Jan., 9, 23 Feb. 1991.

remarked of the experiment, "We just did it way too big . . . and we just didn't have the ridership."[163]

In 1995, the South Dakota Department of Transportation authorized a strategic planning update to consider current and future aviation needs in the state. Two years later, the South Dakota Legislature passed HB 1030, which eliminated duplication of effort between the South Dakota Transportation Commission and the SDAC. Previously, the SDAC had final authority over air safety, but the transportation commission had to approve expenditures on aeronautics projects. House Bill 1030 gave "the Aeronautics Commission full responsibility for administration of aviation matters within the budget established by the Legislature."[164]

Governor William Janklow, a licensed pilot who "flew a lot," signed HB 1030 into law. During a 2010 interview, Janklow recalled being involved with numerous general aviation issues, such as "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." As South Dakota attorney general in the 1970s, he flew himself to many meetings around the state. At the time, the governor had an airplane, but "there was none for anybody else, so I flew myself in my own airplane."[165] Janklow attributed many aviation accomplishments in South Dakota to local 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." Rapid City did the same thing. "They built a beautiful terminal out there," Janklow noted, and "got a great airport facility."[166]

A product of the South Dakota Department of Transportation's 1995 strategic planning update was the 1996 SASP. Prepared large-

163. Interview of Howard, pp. 51–52.

164. Ben Orsbon, "Accomplishments, Department of Transportation, January 1, 1997–December 31, 1997," p. 15, SDDOT.

165. Interview of William J. Janklow by Steven J. Bucklin, 7 Apr. 2010, transcript, p. 22, South Dakota Department of Transportation History Project, SDDOT.

166. Ibid.

The Joe Foss Field airport complex appears in the background in this image from a late-1970s brochure for Business Aviation, Inc., of Sioux Falls.

ly by private-sector consultants, the document corroborates some of Janklow's recollections. The introduction to the 1996 report referred to several past accomplishments that had been realized with the help of strategic planning. A 1985 study had recommended that computer technology be used to track and prioritize maintenance for runways, taxiways, and other paved surfaces at the state's airports. The computerized pavement maintenance system recommended in 1985 was fully operational in 1996. The 1996 report also recorded the construction of new airports in Belle Fourche and Eagle Butte "and substantial improvements at other facilities throughout the State" since 1985.[167]

Funding for such improvements came from several different sources. Federal funds, which were vital to the state's aviation system, were allocated in at least three ways. The number of passenger boardings at a given airport during a given year determined a portion of feder-

167. SASP 1996, p. I-1.

al airport funding. Only commercial service airports with a minimum of ten thousand passengers enplaning annually qualified for the guaranteed minimum of five hundred thousand dollars. Aberdeen, Pierre, Rapid City, and Sioux Falls were the only South Dakota communities receiving funds of this type in 1994. A second type of federal funding used the amount of air cargo delivered to a given airport in a year as the benchmark for appropriations. To be eligible, an airport had to receive fifty thousand tons of air freight annually. No South Dakota airport met this requirement in 1994. The third type of available federal aviation funds was distributed to the states according to area and population. South Dakota received over $1.75 million in such funds for fiscal year 1995. These funds could be used to pay up to 90 percent of the cost of a qualifying project, with the remainder to come from state and local sources.[168]

The state raised revenues for aviation projects through taxes on aviation gasoline and jet fuel. Aviation gasoline was taxed at six cents per gallon, with two cents of that earmarked for the Airport Construction Fund. Jet fuel was taxed at four cents per gallon, of which 2.7 cents was designated for the fund. The aviation gasoline tax typically raised $50,000, while the jet fuel tax generated $220,000 on an annual basis.[169]

One purpose of strategic planning is to forecast trends, a necessary part of meeting federal regulations that require five-year planning for airport capital-improvement programs. In preparing the 1996 SASP, analysts assessed a variety of data, including a socioeconomic profile of the state's residents and population growth trends. The SASP noted only slight growth in the state's population between the 1980 federal census (690,768) and the 1990 census (696,004). Per-capita personal-income data from the United States Department of Commerce demonstrated significant growth for the same period, with South Dakota ranking "among the Nation's top 10 states for seven years."[170]

The authors of the 1996 SASP 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. Records indicate that as

168. Ibid., p. IX-10.
169. Ibid., p. IX-11.
170. Ibid., p. III-1.

of April 2015, there were 2,182 registered aircraft in South Dakota, but only 1,103 were registered to individuals.[171] Regardless of whether the analysts considered only individually owned aircraft, or individually and corporately owned aircraft, they were significantly off the mark in their prognostications. The 1996 SASP authors were aware of their limitations when it came to predicting future trends, however, noting that "forecasting is an imprecise activity" and that it was "virtually impossible to predict with high accuracy" future commercial or general aviation activity. They recommended periodic updates to the plan "to reflect factors and developments unforeseen at the time these forecasts were prepared."[172]

The only economic development in the state that the plan anticipated as having a significant impact on aviation was actor Kevin Costner's proposed Dunbar Resort near Deadwood, which led to a recommendation for construction of an additional road connecting the Rapid City Regional Airport to Interstate 90. The Dunbar Resort, intended to capitalize on the 1990 movie *Dances with Wolves*, which was filmed in South Dakota, never got off the ground. Meanwhile, economic growth in the Black Hills associated with the legalization of gambling in Deadwood and the increasing popularity of the Sturgis Motorcycle Rally continued to place additional demands on Rapid City Regional Airport during the 1990s.[173]

The economic impact of aviation on South Dakota during the 1990s was 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; airport expenditures for various goods and services not associated with payroll were $20.1 million. Taking economic multiplier effects into account, the SASP estimated the total economic impact of South Dakota aviation, excluding taxes, for 1994 at $164 million.[174]

171. Ibid., pp. III-1, III-6. "South Dakota, List of Aircraft Owners & Registrations by South Dakota (SD) County," http://www.aircraftone.com/aircraft/registrations/south-dakota-aircraft-owners-counties.asp.

172. SASP 1996, p. III-21.

173. Ibid., pp. V-21, VI-7; *Rapid City Journal*, 12 July 2013.

174. SASP 1996, pp. C3–C4.

No economic multiplier is as important as safety, and the safety record of aviation in South Dakota—commercial, general, and military—has been exemplary. Still, several crashes have had significant impact on the state's history. Two such crashes involved South Dakota Air National Guard pilots and planes. Captain Rodney E. Sherman was piloting an unarmed F-100 fighter plane when it crashed into the shoreline of Lake Madison on 25 June 1970. Eyewitnesses reported heavy black smoke from the fuselage before the plane rolled over, spiraled, and plunged straight into a cabin on the south shore shortly before 3:00 P.M. Dick Anderson of Sioux Falls was on his way to the cabin, but his sons had sidetracked him with a request to stop at a market. Had they not done so, they may not have lived to tell their story. No one on the ground was killed, but Captain Sherman died in the crash.[175]

Twenty years later, on 30 May 1990, the South Dakota Air National Guard lost two A-7 attack aircraft as a result of a mid-air collision over Spencer, Iowa. Wreckage was strewn over a four-square-mile area. Although the two pilots, Major Duncan Keirnes and Major Gregory Gore, and their passenger, Ward Bushee, survived, the collision was a public-relations nightmare. Bushee was executive editor of the *Sioux Falls Argus Leader*. He had written an editorial critical of the air guard and was subsequently invited on the flight to learn more about the institution. Despite the incident, the South Dakota Air National Guard continued to allow civilian guests on board some flights but limited these opportunities to public officeholders and photojournalists.[176]

The aviation accident with the greatest direct impact upon South Dakota was the crash of a state-owned Mitsubishi MU-2 in a rainstorm near Dubuque, Iowa, on 19 April 1993. All eight people on the airplane were killed, including Governor George S. Mickelson, state economic development officials Roland Dolly and Ron Reed, businessmen Angus Anson, David Birkeland, and Roger Hainje, and South Dakota Department of Transportation pilots Ron Becker and Dave Hansen. Mickelson and his colleagues were traveling back to South Dakota after a

175. *Sioux Falls Argus Leader*, 26 June 1970. *See* also Bucklin, *From Cold War to Gulf War*, p. 144.

176. *Sioux Falls Argus Leader*, 5 June, 12 July 1990. *See* also Bucklin, *From Cold War to Gulf War*, p. 187.

meeting in Ohio. Lieutenant Governor Walter Dale Miller succeeded to the governorship in the wake of the tragedy.

The aircraft involved in the fatal crash had been purchased by the administration of Mickelson's predecessor, Governor William Janklow. James R. Myers, who served as state secretary of transportation when the Mitsubishi was acquired, later described it as "a great plane for us because it was relatively fast and it got the Governor where he needed to go in a timely basis."[177] Richard Howard, Mickelson's transportation secretary, also noted that the MU-2 was fast and that the state pilots "were totally confident with it. They liked to fly it."[178] Unfortunately, the plane did not prove to be as reliable as South Dakota Department of Transportation officials first thought.

177. Interview of James R. Myers, Pierre, S.Dak., by Steven J. Bucklin, 4 Nov. 2010, transcript, p. 25, SDDOT.

178. Interview of Howard, p. 27.

Capt. Travis Barnett, pilot, and Tech. Sgt. Christopher Thesenvitz, crew chief, perform pre-flight checks on a South Dakota Air National Guard F-16 fighter at Ellsworth Air Force Base in September 2012.

Linda Mickelson Graham learned about her husband's death as she was driving home to Pierre. She had stopped at a Chamberlain gas station to make a telephone call when she "received the shocking news." It was, she said, "Horrifying, it's something unbelievable, it's something that you read about but you don't think will ever happen in your family."[179] Richard Howard recalled that he was in Branson, Missouri, on the day of the crash attending a conference of state transportation officials. He received a message to call his secretary. When he did, she said, "Mr. Howard, you [had] better sit down" and then relayed the terrible news to him.[180] Howard later attended the National Transportation Safety Board (NTSB) hearing regarding the crash. According to the NTSB, after one of the plane's propellers failed, the pilots radioed their situation and were diverted to Dubuque. 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.[181]

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 a thrown propeller 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 the crew had also declared, "The closest airport we can get to" in response to the controller's "Roger, tell me what you need."[182]

The NTSB, nonetheless, declared that "the controllers might have been more prone to search for a more suitable diversion airport" had the pilots provided more specifics. Controllers considered Clinton, Iowa, and the Quad Cities International Airport at Moline, Illinois, as alternatives, but believed that Dubuque was closer than Moline, and that Clinton was not as well equipped for an instrument landing. The

179. "Mickelson's Wife Talks about Plane Crash Anniversary," 19 Apr. 2008, http://www.keloland.com/NewsDetail6162.cfm?Id=68613.

180. Interview of Howard, p. 26.

181. Ibid., pp. 22–27.

182. Russell Lawton, "Inflight Loss of Propeller Blade on MU-2B Results in Uncontrolled Collision with Terrain," *Accident Prevention* 51 (Apr. 1994): 1–2.

NTSB concluded that had the flight been diverted to Moline, the crew would have had "more time to 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."[183]

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 losing pressure. Eventually, the two crew members and four passengers, including United States Open golf champion Payne Stewart, lost consciousness due to a shortage of oxygen. The aircraft flew for almost four hours, covering nearly fifteen hundred miles until it ran out of fuel and crashed into a field near Aberdeen, South Dakota. The crash occurred around noon local time. The plane was almost completely destroyed, and all on board were killed.[184]

None of these crashes was the result of any failure on the part of the SDAC or any employee at any South Dakota airport. South Dakota's record of air safety is outstanding, especially with regard to general aviation, but given the large volume of military traffic at Ellsworth Air Force Base and South Dakota Air National Guard operations, as well as Army National Guard air assets, it is fair to say that the record is extraordinary. Technological developments continued to aid aviation safety during the last two decades of the twentieth century. Instrument approach procedures were established at Belle Fourche, Mobridge, Spearfish, and Vermillion, while existing facilities were 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 some ground-based approach and navigational aids and promised to reduce airport instrumentation costs substantially.[185]

No technological development, however, anticipated the brutal terrorist attacks of 11 September 2001 on the World Trade Center and the

183. Ibid., p. 7. The South Dakota Department of Transportation headquarters in Pierre is now called the Becker-Hansen Building in honor of the two pilots.

184. "Payne Stewart Plane Crash Information," http://www.airsafe.com/stewart.htm.

185. SASP 1996, p. II-8.

Civilians take the opportunity to view military aircraft up close as part of Ellsworth Air Force Base's "Black Hills Community Appreciation Day" in 2014.

Pentagon. The nation's airspace was shut down, and security, such as it had been before that day, was irrevocably altered. A University of South Dakota professor who had been teaching in the Netherlands was scheduled to return home 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 now lined the sidewalks and the roads. National Guard personnel were on duty with loaded M-16s. Police cars patrolled the road, and the freedom that had once marked air travel in the United States—indeed, across the globe—was forever gone. Although security measures are no longer so omnipresent in Sioux Falls and other South Dakota airports, they are ongoing and evolving.

South Dakota's most recent SASP, completed in 2010, includes "maintaining a safe and secure system of airports" among its goals. Although the FAA required emergency-response plans only at commercial-service airports, the 2010 SASP recommended that all South Dakota airports "have an emergency response plan which is appropriate

to the size and type of operations the airport serves."[186] South Dakota's aviation system included seventy-two public-use airports as of 2010 that support "more than 700,000 annual aircraft operations moving people and cargo around the world."[187] Nonetheless, nearly a decade after 9/11, only twelve airports in South Dakota reported having a security plan in place.[188] The latest SASP "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." The Office of Aeronautics within the Department of Transportation promotes state and local collaboration with regard to "individual airport development, as well as overall system growth."[189]

South Dakota's seventy-two public-use airports provide service across the state's seventy-seven-thousand-square-mile area. They are an integral part of South Dakota's transportation system and economy. All seventy-two airports serve general aviation operations (in fact, sixty-six serve only general aviation), and six support both commercial and general aviation. Two of the six commercial airports—Huron Regional and Watertown Regional—have passenger service only through the federal Essential Air Service program (EAS), which pays subsidies to the airline providing the service. The four South Dakota airports with nonsubsidized scheduled passenger service as of April 2015 are Pierre, Aberdeen, Sioux Falls, and Rapid City. Brookings, Mitchell, and Yankton all lost their scheduled passenger service between 1996 and 2010. Since 1998, carriers supplying service to South Dakota EAS airports have taken in $55 million in subsidies. Great Lakes Air took in $1.8 million in subsidies for flights between Denver and Pierre from 2002 to 2006. The EAS program has not subsidized air service to Pierre since 2006.[190]

186. South Dakota, Department of Transportation, Office of Aeronautics, *South Dakota State Aviation System Plan, 2010–2030* (2010), p. 21 (this document is hereafter cited SASP 2010–2030).

187. Ibid., p. 9.

188. Ibid., p. 82.

189. Ibid., p. 9.

190. Ibid., pp. 14–15, 97; SASP 1996, p. VI-2; *Washington Times*, 19 Oct. 2014.

In July 2011, the *New York Times* reported that the two daily Delta Air Lines flights to Pierre were "on average less than half full."[191] According to Pierre Regional Airport Manager Michael Isaacs, Delta flew thirty-four-passenger Saab 340 turboprop aircraft twice per day from Pierre to Minneapolis from 2010 until December 2011. Delta then switched to the Bombardier Canadair Regional Jet (CRJ) fifty-passenger aircraft and one flight per day until 31 January 2012, Delta's "last day serving Pierre."[192] Total enplanements for Pierre, which had grown each year since 2009 to a total of 15,184 in 2011, plummeted to just 11,565 in 2012. In 2014, the number of passengers fell below the federal benchmark of ten thousand enplanements needed for recognition as a "primary commercial service airport." One of the principal reasons for the drop is that the commuter airlines came under new regulations regarding copilot training and were forced to cancel flights into Pierre because the personnel they had available to pilot the aircraft did not meet the new federal standard. Passengers to Pierre often found themselves stranded in Minneapolis or other airports. Instead of rolling the dice in terms of reliable arrivals and departures, Pierre passengers now frequently choose to drive to Sioux Falls or Rapid City for their flights.[193] Regardless of one's opinion regarding the current debate over federal budgets, it may be that most South Dakotans—indeed most Americans—can agree that reliable passenger service to a state's capital is by definition "essential air service."

Joe Foss Field in Sioux Falls serves a regional community, including southwest Minnesota and northwest Iowa. Five passenger airlines operate at Joe Foss Field as of April 2015, providing service to several major cities, including Atlanta, Orlando, Minneapolis, Denver, Chicago, and Dallas. Joe Foss Field is also a United States Customs Service port of entry and can provide service to international flights. Rapid City Regional Airport serves the second largest concentration of people in the state and links the Black Hills to eight major cities as of April 2015. The Sioux Falls and Rapid City airports both provide complete general aviation facilities. In fact, noncommercial aircraft accounted for over

191. *New York Times*, 18 July 2011.

192. Michael Isaacs, Pierre Municipal Airport manager, to Jon Becker, aeronautics planning engineer, South Dakota Department of Transportation, e-mail, 1 Apr. 2015.

193. Ibid.; *Washington Times*, 19 Oct. 2014; *Pierre Capital Journal*, 6 Jan. 2015.

This terminal had served Pierre Regional Airport for nearly fifty years at the time this photograph was taken in 2010. The building was demolished in 2013 to make way for a new facility.

The new terminal at Pierre Regional Airport was completed in 2012. The capital city continues to struggle to keep reliable airline service.

60 percent of total operations at Rapid City in 2010.[194] In 2009, the federal Bureau of Transportation Statistics conducted a survey at Joe Foss Field and Rapid City Regional Airport 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.[195]

Data from the 2010 United States Census was not available when the current SASP was developed, so it relied on the 2000 count, which reported 755,844 resident South Dakotans. Census Bureau estimates indicated that the state's population grew by 14.4 percent, or 56,539 people, through 2009, placing South Dakota's population forty-sixth in the United States at 812,838. The 2010 SASP projected that the state's population, total employment, per capita income, and retail sales would all increase at an average rate of between 0.42 and 1.14 percent between 2010 and 2030. The net result was expected to be "a marginal increase in aviation demand" over the next twenty years.[196]

Great changes took place in the aviation industry from 2000 to 2009. Commercial aviation declined during the recession of 2008–2009 as fewer people chose to travel by air. Airline capacity fell as carriers entered bankruptcy or ceased operations between 2005 and 2010. Thirty-three "mainline carriers" that used ninety-passenger or larger jets were based in the United States in 2005. Five years later, that number had fallen to just eighteen. Forecasts indicated, though, that aviation demand would grow again over the next twenty years.[197] The FAA projected that domestic air passenger capacity would "increase at an average annual rate of 2.9 percent." Mainline carrier capacity was expected to rise at an annual rate of 2.7 percent, while regional carriers would see a greater increase at 4.0 percent. Passenger volume was expected to grow at an average annual rate of 2.6 percent for most of the period between 2010 and 2030. Domestic enplanements of 522.3 million in 2008 were projected to reach 760.9 million in 2030.[198]

194. SASP 2010–2030, pp. 14–15.
195. Ibid., p. 15.
196. Ibid., p. 88.
197. Ibid., p. 91.
198. Ibid., p. 92.

Growing demand for business jets is an indicator that general aviation will expand in that sector "at a more rapid pace than that for personal or sport use." Corporate safety and security concerns, combined with traffic and security delays affecting commercial flights, have made small private aircraft an appealing travel option for many businesses.[199] As a consequence, South Dakota is likely to experience aviation growth in some areas and a decline in others.

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, generating over $157 million in income for those employees. Business sales attributable to aviation amounted to nearly $502 million. All told, the state estimated that 8,200 people are employed in the aviation industry or related businesses. When the impact of visitor spending, the Sturgis Motorcycle Rally, the pheasant-hunting season, agricultural spraying, and a few other categories is added in, the total annual economic impact of aviation on the state's economy is estimated at over $1.145 billion.[200]

Many South Dakotans have actively encouraged the development of aviation. Since the first biplane flew into Rapid City for the 1911 annual meeting of the South Dakota Stock Growers Association, to the Flying Farmers and Ranchers promotions, to the continued growth of such facilities as Joe Foss Field and Rapid City Regional Airport, South Dakotans have taken proactive measures to ensure that their air service meets their needs. The efforts of individual enthusiasts, the stimulative effects of federal and state investments, and national defense needs have all contributed to the growth and success of general aviation in South Dakota. Perhaps the story of these aviators and those who worked to advance the aviation industry will spur young boys and girls who find themselves on the windswept plains of South Dakota to pursue their tinkerings and dreams, drawing inspiration not only from the sky, but from the "fly-over country" they call home.

199. Ibid., p. 94.
200. Ibid., pp. 138–43.

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On the covers: Since the time of the Wright brothers, flight and progress have become synonymous. In this issue, Steven J. Bucklin gives a bird's-eye view of the development of aviation in South Dakota from the days of the barnstormers to the present. (Front, top) A Curtiss Model D biplane races a train past the newly finished South Dakota capitol around 1915. (Front, bottom) This flying machine thrilled spectators at the South Dakota State Fair in Huron in 1912. (Back) Pheasant-hunting season has remained a peak time for general aviation for decades, as seen here at the Pierre Regional Airport at the opening of the 2011 hunting season. (Photograph by Jim Peitz).