AIR MAIL OUTPOST TO INTERNATIONAL HUB

THE SALT LAKE CITY AIRPORT'S 100-YEAR EVOLUTION

The mission of the Salt Lake City Department of Airports is to develop and manage a system of airports, owned by Salt Lake City, that provides quality transportation facilities and services to optimize convenience, safety, and efficiency for aviation customers. The vision is to achieve excellence and unprecedented customer service in making Salt Lake City among the most convenient and efficient air transportation centers in the world.

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Foreword

One of humanity's most magical accomplishments is the miracle of flight. Little compares to the experience of watching the land below become smaller and smaller from the inside of a plane as it climbs into the sky. The world seems to melt away to the possibilities of the journey ahead—a journey, whether for business or pleasure, destined to become part of a life story.

Over its one hundred-year history, the Salt Lake City International Airport has undoubtedly contributed to the fabric of millions of life stories. Within the pages of this book, author Bim Oliver deftly recounts the airport's major milestones with entertaining detail, events including the airfield's 1920 dedication (and how close Ogden came to hosting Utah's first airport instead of Salt Lake City), the pivotal role air mail service played in the airport's development, the rise of commercial airlines, the revolutionary impact of 1978's Deregulation Act, Salt Lake's hub designation, and hosting thousands of athletes and spectators for the 2002 Olympic Winter Games, to name just a few.

Alongside these headline-making events are the personal memories made at or because of the Salt Lake City International Airport. Stories like how many local residents once treated the airport as a night-out destination where they'd dine and watch planes depart and arrive; how the terminal's World Map floor installation became an unexpected and yet unforgettable icon; and how the close-knit airport staff became even more cohesive in the wake of the 9/11 terrorist attacks.

It seems to us serendipitously fitting that the Salt Lake City International is embarking on its next one hundred years with the opening of The New SLC, the nation's first new hub airport of the twenty-first century. The New SLC is an awe-inspiring tribute to Utah that took more than twenty years of planning and designing and six years of construction (Amid the COVID-19 pandemic and an earthquake) to realize. It is our hope that all the travelers that pass through it, along with the staff who work there, continue to make indelibly rich memories at the Salt Lake City International Airport, just as the millions of people over the past century did before them.

Safe Travels,

Erin Mendenhall, 36th Mayor of Salt Lake City, Utah
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WESTERN AIR EXPRESS
AIR MAIL

From Airfield to Airport

On a chilly December day in 1920, a small group of dignitaries and a hardy crowd of several hundred onlookers gathered on a windswept, snow-covered plain near the Great Salt Lake. While that flat and sparsely vegetated landscape, several miles out from downtown Salt Lake City, may have seemed an incongruous venue for a gathering, it was, in fact, perfectly suited to its purpose: dedication of Salt Lake City's first permanent airplane landing field.

The ceremony included a parade, an aerial exhibition, and, of course, a series of rousing speeches delivered by local dignitaries and supporters. But perhaps no one was more effusive than Salt Lake City Mayor C. Clarence Neslen, who proclaimed, "This celebration marks the development of an important epoch in the history of the western country. It signifies just such another epoch as the celebration held fifty-one years ago at Promontory Point, which marked the joining of the Central and Union Pacific Railroads."[1] Neslen may have overstated the national significance of the dedication. But the establishment of an airfield in Salt Lake City was, for the community, a huge event that had been a full ten years in the making.

GETTING OFF THE GROUND

In January 1910, pilot Louis Paulhan had introduced Salt Lake City to the marvel of aviation when, before a crowd of 8,000 spectators, he soared 300 feet over the city's fairgrounds, staying airborne for about ten minutes. (Somewhat ironically, both Paulhan and his plane had arrived in Salt Lake City by train.) Modest as it may seem today, the flight was a spectacular display—especially considering that his first attempts the day before had ended in, according to the *Salt Lake Herald*, "ignominious defeat." While thousands of spectators "numb with cold" sat patiently for several hours, Paulhan in three attempts had been unable to fly more than eight feet off the ground. As the demonstration ended, the crowd had been "frozen into ill humor," and Paulhan himself had "uttered a few sentences in choice French" as he left the field. But Paulhan's successful exhibition the next day was more than just a dramatic show.

Above: Louis Paulhan's airplane which helped introduce Salt Lake City to aviation.

Left: In 1925, Woodward Field consisted of just a single gravel runway and a handful of hangars.

The event that transformed flight from exhilarating entertainment to an asset of tremendous social and economic significance—for the entire country—was the establishment of air mail service in 1918.

It was the first test of an airplane at high elevation and demonstrated that "a heavier-than-air machine can travel fast and well in high altitudes." [2]

The Commercial Club—precursor to the Chamber of Commerce and sponsor of Paulhan's exhibition—organized another flight exhibition a year later, this time at a spot west of the city called Barrington Park, near where the Saltair amphitheater stands today. Just two months after that, the Club hosted what it called an "aviation carnival," an event so highly anticipated that, according to local hoteliers, more rooms were booked by people coming to see it rather than by those coming to attend the semi-annual conference of the Church of Jesus Christ of Latter-day Saints. The carnival, which *Goodwin's Weekly* billed as "The Greatest Aviation Meet Ever Held In The West,"[3] included a demonstration by pilot Glenn Curtiss of his new "hydro-aeroplane," which Curtiss "sailed" on the Great Salt Lake for about ten minutes before taking off.[4] Recognizing the significance of the five-day exhibition, state and city officials proclaimed the final day a state and local holiday. Salt Lake City was now clearly consumed by the thrill of aviation.

Over the next few years, several more exhibitions were held, not only in Salt Lake City but elsewhere across the state as well. But the event that transformed flight from exhilarating entertainment to an asset of tremendous social and economic significance—for the entire country—was the establishment of air mail service in 1918.

Aviation boosters in Salt Lake, spearheaded again by the Commercial Club, recognized the potential value of air mail service to the community and began promoting Salt Lake as an air mail post. In February 1920, that vision was realized when a national coalition, that included the Commercial Club, secured a $1.25 million appropriation from Congress to initiate transcontinental air mail service with Salt Lake designated as a "control station."[5] It was not, however, an unqualified achievement. The funding primarily covered only the operational expenses of the air mail system. The community was responsible not only for identifying an appropriate site for a landing field (with approval of the federal government, of course), but also for raising most of the money to develop it.

At the time, the city already had a landing field—of sorts. The Buena Vista Racetrack had opened in 1890 about three miles west of town, hosting horse and auto races until a devastating fire in 1910 destroyed

its grandstand. Abandoned by the Utah Jockeys Club, the track lay dormant until early 1919 when it was purchased by a local air charter company and renamed Buena Vista Field. Soon, sightseeing flights over the city were departing from the field, which were, according to *The Salt Lake Tribune* "the only true way of appreciating the city and the valley."[6]

Activity at Buena Vista Field intensified throughout 1919. It wasn't long before daily sightseeing flights were complemented by special events, including air shows and aerial races. However, the most significant event in Buena Vista's short life as a landing field occurred with the arrival of the first air mail plane in August 1920, which was greeted by a reception committee headed up by Utah Governor Simon Bamberger.

Unfortunately, the exuberance of the moment was diminished somewhat by pilot Bert Acosta's assessment of Buena Vista Field's suitability as an air mail station. "Especially in this high altitude," he observed, "it is necessary for a long getaway distance and equally essential for landing."[7] In short, Buena Vista Field would be too small to handle the heavier air mail planes.

Even as Acosta was offering his grim appraisal, the Salt Lake City Commission, in partnership with the Commercial Club, was conducting an expansive search for an adequate site for a permanent airfield. So expansive, it seems, that the search committee evaluated just about every plot of open ground around the city. As the local papers variously identified them, candidates included Beck's Hot Springs, Ensign Flats, Jordan River Flats, "Gilmer landing field," "the field near the Church farm, on the southwest outskirts of the city," "the large plat of ground owned by the Denver & Rio Grande Railroad, located on their south main line," a plot "on the Saltair railroad line, seven miles out of the city," "a field owned by the city near the old Salt Lake Copper company's plant," "a 160-acre tract lying north of 21st South and west of Redwood Road," and Buena Vista Field itself. Consideration was even given, albeit briefly, to a site just west of the state prison, now Sugarhouse Park.[8] The City Commission pledged $5,000 toward the purchase of the site with management of the airfield to be turned over to the newly formed Aero Club.

So many potentially suitable locations made it difficult for the City Commission to reach a final decision. And there was—at least in the minds of

The people responsible for keeping airplanes (and the airfield) operating: the Woodward Field ground crew in 1922.

some in the federal government—another, completely different option, one that would have dramatically altered the future of aviation in Utah. After a "hurried visit" in mid-August 1920, Colonel John Jordan, superintendent of maintenance for the U.S. Air Mail Service, informed city leaders that "he must have a final and definite answer from the city in regard to the selection of a field, or that he would be compelled to accept Ogden's offer to provide one."[9]

Fortunately, the City Commission had reached a verdict on a site not previously identified in various newspaper reports and that, in fact, had been kept secret until the purchase of the property was completed. Within just a couple of days of Jordan's ultimatum, the community learned that "the field is in the northwest section of the city, just west of the fairgrounds."[10] For $600, the city had purchased one hundred acres in an undeveloped subdivision named Bast's Grove, not far from the place where, ten years earlier, the "The Greatest Aviation Meet Ever Held In The West" had been convened.

The selection of a site that far removed from what was then the edge of town was probably influenced by guidelines issued by the War Department in 1919 for municipal landing fields. "An effort should be made," the guidelines stated," to select a location where the field is unlikely to be later surrounded by building operations."[11] Optimistic as the private investors in property in Bast's Grove might have been, it was an unlikely candidate for residential development—or any other "building operations"—lying well outside the city limits and occupying barren ground described by one historian as "partially waterlogged salt grass pasture."[12]

Securing a site was one thing; developing it into an airfield was another matter entirely. To do so, the federal government pledged "to spend between $25,000 and $30,000 in putting the field in shape and in the construction of the other necessary buildings, which, it is understood, will consist of a repair shop, an oil and gasoline house, a dwelling place for the government mechanics, and other buildings. The government will also keep a force of men who will see that the landing field is kept in good shape all the time."[13] Having met its obligation to provide the field, Salt Lake City's next task was to build a hangar.

However, the City Commission lacked the funds for the requisite hangar and sought financial assistance from county commissioners, who initially agreed to commit money to the project. But protests from angry county residents caused them to change their minds. The county's "defection" (as the *Salt Lake*

Top: Loading the mail plane.

Bottom: In its early years, Woodward Field served as a key station in America's new air mail system.

Above: A plane readies for takeoff from Woodward Field.

Telegram termed it) created a crisis. “As matters now stand,” worried the *Salt Lake Telegram*, “Salt Lake is now the only city along the entire transcontinental route from New York to San Francisco that has proved derelict in preparations for the air mail service.”[14] And although Colonel Jordan had approved the Salt Lake site, as long as it sat undeveloped, Ogden remained a potentially viable alternative.

With no public financing for infrastructure, the new landing field’s future seemed tenuous at best. That is, until the Commercial Club stepped in (once again) in October of 1920 to create the U.S. Air Hangar Holding Corporation. The funds generated by selling ownership shares of $250 provided the critical gap financing to ensure that the hangar could be constructed.

So it was that on December 21, 1920, “as the American flag streamed out in the wind that swept across the snow-covered field, a great shout went up from the several hundred spectators who had gathered there to witness an event of far-reaching significance to this city.”[15]

Appropriately, the new landing field was named Woodward Field after air mail pilot J.P. Woodward who had been killed only a month before the dedication in a forced landing near Laramie, Wyoming and who, just three months earlier, had prophetically pronounced the “intermountain stretch of the transcontinental route ... the worst of the entire trip from New York to San Francisco. Practically every forced landing can be counted upon to be a crash and there are hundreds of miles where no landing can be made without the danger of almost sure death.”[16] Salt Lake City finally had its air mail post—the humble beginnings of what would grow to become a major international airport.

THE AIRFIELD TAKES SHAPE

At its opening, Woodward Field was a bare-bones, utilitarian operation with only one hangar and a single runway paved with cinders. Yet during the 1920s, the new field sprang to life. Under the management of its first superintendent, Claren Nelson, it was chosen in early 1921 as the main repair base for the Cheyenne-Salt Lake-Pacific Division of the air mail service, with thirty mechanics on site. Within only three years, air mail planes out of Salt Lake had logged nearly two million miles, carrying fifty million letters. And the War Department had designated Woodward Field as the headquarters for the 104th Division of the Army Air Service, covering Utah, Idaho, Nevada, and parts of Wyoming and Colorado.

PLANE SPOTTERS

For 1920s-era Salt Lake residents, Woodward Field brought not only a new form of transportation; it brought a new form of entertainment, as well. Families would stop by the field to watch airplanes take off and land, little realizing (or caring) that they were often parking directly in the path of oncoming planes. Pilots regularly complained about "autoists" interfering with operations—more specifically, parking their cars in the lines of approach or even on the runways. Near misses were regular events, prompting Woodward Field Superintendent Claren Nelsen to warn that "Automobile drivers should learn to watch the sky when near the flying field."[17]

At the time, the boundaries of the field weren't clearly defined—that is, there were no fences—so people could drive on and around the field whenever they wanted. "On several occasions local people have thronged the landing fields," protested the *Salt Lake Telegram* in 1927, "making it impossible for pilots to land their planes without endangering the lives of many onlookers."[18]

Even as late as 1962, auto traffic near the airfield was creating a hazard—only now not for planes, but for motorists. As a test, airport manager Joe Bergin had parked his car on North Temple Street at the south end of one of the airport's runways. When a jet taking off passed overhead, the noise of its engines shattered two of the windows in his car. So it was that in 1970, North Temple Street was rerouted to create space for the paths of take-offs and landings—and, more to the point, to divert cars from the airfield. The days of parking in the path of oncoming planes were (fortunately) over.

But not of watching them. In 1973, *The Salt Lake Tribune* reported the story of the airport's "plane watchers," people like businessman Dan Pace, who would drive to the airport and park in a small lot south of the terminal "after a day of hassling downtown." Or the couple from Bountiful who had for several years made "the pleasant drive to the airport from Bountiful on the sideroads" and "passed many hours watching the planes." Or the high school sweethearts, who parked by the airport to "watch the planes, listen to the stereo and be together."[19]

Claren Neslon, field superintendent, Woodward Field, Salt Lake, 1921

The implications of that flight for Salt Lake would be extensive. While contracting with private entities to carry the mail may have represented an immediate solution to a pressing problem, it represented a far more significant event in the history of aviation in the U.S. It was, according to the Air Transport Association, "the first major step toward the creation of a private U.S. airline industry."

Lieutenant Russell Maughan, chief air officer of the 104th division, would later pronounce Woodward as "one of the most strategical aviation centers in the country from a military standpoint."[20]

Through Woodward Field's early years, the air mail service across the country had grown exponentially. To address escalating demands on the system, Congress passed the Contract Air Mail Act of 1925 authorizing the U.S. Postal Service to contract with private airlines to ship mail. One of the first was Western Air Express, formed in July 1925 in Los Angeles, which was awarded the contract to provide air mail service between Salt Lake and Los Angeles that September.

On April 16, 1926, Betsy Dern, the twelve-year-old daughter of Utah Governor George Dern, christened Western Air Express pilot Jimmy James's plane as Mayor Neslen conducted the ceremonial unveiling of the propeller. James then took off with the first load of air mail carried from Salt Lake City by a private carrier. "Before heading onto his course, which appeared to be southwestward, Pilot James circled the field several times, waving to the cheering crowd just before he pointed the nose of his red and silver craft in the direction of Las Vegas, Nevada and Los Angeles, California."[21]

The implications of that flight for Salt Lake would be extensive. While contracting with private entities to carry the mail may have represented an immediate solution to a pressing problem, it represented a far more significant event in the history of aviation in the U.S. It was, according to the Air Transport Association, "the first major step toward the creation of a private U.S. airline industry."[22]

The next major step in Salt Lake occurred only a month after Western Air Express carried its first load of mail from Salt Lake City to Los Angeles. Ben Redman, chair of the Chamber of Commerce's aviation committee, and J.C. Tomlinson, a local booking agent for the steamship lines, clambered aboard a Western Air Express plane bound for Los Angeles, donned their leather helmets, goggles, and parachutes, and settled in among bags of mail. For the privilege of flying without seats or beverage service or in-flight entertainment (although they were given box lunches and a tin can toilet), Redman and Tomlinson paid $98 each (about $1,450 in 2020 dollars). They would

be the first commercial airline passengers in the U.S. Just a few weeks later, Salt Lake resident Maude Campbell became "the first woman in the United States to buy a ticket and fly on a commercial airline."[23] By the end of 1927 more than 1,000 passengers had flown into and out of Woodward Field on commercial planes.

Aviation's potential was now becoming abundantly clear—not only in Salt Lake but across the nation. To foster the emerging industry, Congress in 1926 passed the Air Commerce Act intended to both stimulate and regulate aviation. Rather quietly, the Salt Lake City Commission adopted rules conforming to the federal legislation a year later with an ordinance that specified provisions for licensing of pilots, the registration of aircraft, safeguarding against fire, the prohibition of smoking or lighting matches, and licensing of companies wanting to carry passengers. But perhaps the most important provision was found in Section 4: "The municipal landing field shall be and the same is hereby designated as Salt Lake City Municipal Airport ..."[24] What not that long ago had been a modest landing field was now officially a municipal airport.

Although the numbers of passengers had increased steadily, air mail was still the primary function of the airport. The air mail service, observed the *Salt Lake Telegram* in 1928, had transformed "from an experimental enterprise into a vast machinery whose hundreds of individual parts work with the precision of a smooth-running clock ..."[25] Five private companies were now transporting mail to and from Salt Lake. A year earlier, Boeing Transport had designated Salt Lake as its headquarters for the Chicago-San Francisco air mail line. And in its initial air mail flight from Salt Lake in August 1928, National Parks Airways set a record for the greatest number of pieces of mail carried (35,325), breaking the previous record (35,000) set between New York and Philadelphia. Humble Woodward Field—now the Salt Lake City Municipal Airport—had, in just a few short years, "achieved the distinction of becoming the second largest air mail center in the United States ..."[26]

More and more passengers were flying as well, prompting the airlines to develop new planes with greater comfort and—more to the point—greater capacity. Following World War I, aircraft manufacturers had adapted surplus military planes for civilian purposes. But by the late

J.C. Tomlinson (left) and Ben Redman shortly before they climbed aboard pilot Jimmy James's mail plane to become the first commercial airline passengers in the U.S.

Humble Woodward Field—now the Salt Lake City Municipal Airport—had, in just a few short years, "achieved the distinction of becoming the second largest air mail center in the United States ..."

1920s, it had become clear that the commercial airliner had to be completely redesigned. Planes became increasingly larger and increasingly luxurious. Boeing's new twelve-passenger plane, introduced to Salt Lakers in August 1928, was described by the *Salt Lake Telegram* as "huge." "The passenger compartment of this plane," noted the *Telegram*, "resembles a Pullman car, every luxury being furnished the passenger, including individual lights, buffet service, comfortable big reclining leather chairs, baggage racks, ice water, etc. Two pilots and cabin boy will constitute the crew of these planes.".[27]

By 1929, five airlines—Boeing Air Transport, National Parks Airways, Seagull Air Lines, Varney Air Lines, and Western Air Express—were transporting "scores of passengers" each month to and from Salt Lake.[28] Routes extended as far east as Chicago and as far west as Seattle with several regional destinations in between including San Francisco, California; Pasco, Washington; and Ely, Nevada. For the pleasure of flying to Pocatello, Idaho on a National Parks Airways plane, passengers paid $17.50 (about $264 in 2020 dollars). To fly to Butte, Montana, they paid an additional $20. And to travel all the way to Great Falls, Montana cost a total of $50 (about $754 in 2020 dollars).

By 1930, as Salt Lake City Municipal Airport reached the end of its first decade, there were an estimated 3,500 landings per month. Air mail service and commercial airline flights were complemented by increasing activity among small, private aviation companies, including Rankin School of Flying Instruction, Salt Lake School of Aviation, Thompson Flying Service, and Unger Aviation, among others.

The airport itself had grown to 450 acres, with plans already in the works to purchase additional property for expansion. Eleven hangars now bordered the field. Three runways ranging in length from 2,640 to 5,808 feet accommodated numerous flights and aircraft. And a sophisticated lighting system allowed for departures and arrivals at night. The once barren, windswept plain had transformed into an active community populated by 200 employees—pilots, mechanics, office workers, and postal workers—and thousands of transient passengers. No wonder that the *Salt Lake Telegram* exuberantly proclaimed Salt Lake the "airway hub of [the] west."[29]

VISITS FROM AVIATION'S FIRST—AND MOST MYSTERIOUS—LADY

Of the many celebrities who have visited Salt Lake City's airport—a group as varied as Charles Lindbergh, John F. Kennedy, and the Bee Gees—none is as intriguing as Amelia Earhart. Her story, from her achievements as an aviator to her mysterious disappearance, left a profound impression on the world. And during her several visits to Salt Lake, she brought with her that same mystique.

Her first trip—as were so many of her flights—was something of a misadventure. On September 30, 1928, as she approached Salt Lake in her Avro Avian folding-wing biplane, she experienced carburetor failure and made a forced landing near Tintic, Utah. After spending several days in nearby Eureka, to "get as much rest out of my enforced vacation as possible," Earhart traveled to Salt Lake by car.[30] While she waited for her plane to be repaired, her calendar filled quickly with several social events and engagements including speeches to 1,800 girls at West High School, at a luncheon of the Community Chest charity, and to members of the Ladies Literary Club. After a busy several days, she flew out of Salt Lake City Municipal on October 9.

Three years later, on June 5, 1931, Earhart thrilled spectators at the airport—this time, actually landing there—only not in an airplane. Her aircraft, described by the *Salt Lake Telegram* as a "flying windmill," was an autogiro, something of a cross between an airplane and a helicopter, "the first of its kind to visit Salt Lake."[31] Earhart was on a six-week, cross-country tour, promoting the craft, which she proclaimed was "going to be the plane of the future ... because it can leave the ground and can be landed at almost a vertical line."[32] After an overnight stay, Earhart demonstrated the autogiro the next morning before taking off for Reno to "rousing cheers," waving a "cheery farewell" to the crowd of more than 1,200 spectators.[33]

Earhart would visit the airport four more times, remarking in 1932 "... believe me, this mountain scenery cannot be equaled anywhere in the world."[34]

Top: Amelia Earhart with navigator Captain Harry Manning (left) and stunt pilot Paul Mantz during a brief stopover in Salt Lake in 1936.

Bottom: Curious observers inspect Amelia Earhart's autogiro at Salt Lake City Municipal in 1931.

SALT LAKE CITY

The Life of the Terminal

The situation was dire. Within only a couple of years of its rather spartan first commercial flight in 1926, thousands of passengers were arriving at and departing from Salt Lake City Municipal Airport annually—and the number was growing rapidly. But Salt Lake City Municipal lacked anything remotely resembling a passenger terminal. Arriving and departing passengers simply walked on and off the field with no place to wait or eat or meet family and friends. With no terminal, passenger safety became a priority—more specifically, eliminating the possibility of "hitting a careless visitor strolling along the taxiways and runways."[35]

In 1928, Western Air Express had constructed additions to its new hangars to serve as waiting rooms. But almost as soon as the rooms were completed, the need for a space for all of the airlines' customers to congregate before and after flights—not just those patronizing Western Air—became starkly obvious. Recognizing the problems created by the lack of a passenger terminal, the Salt Lake Chamber of Commerce in 1928 commissioned a study of the airfield's facilities and voted to encourage development of what was then called a "terminal depot." Given the glaring deficiencies, the study was, in reality, simply stating the obvious and thus more of a political gesture. But it prompted city officials and local newspapers to sound the alarm, and development of a passenger facility became an urgent civic issue.

THE FIRST TERMINAL

The dedication in May 1933 of a terminal, called the Administration Building, was therefore a seminal event. An estimated 40,000 to 45,000 people—almost a third of the city's population—came out to participate in a celebration presided over by movie stars Wallace Beery and Dorothy Burgess. On a day marking the seventh anniversary of regularly scheduled air passenger service from Salt Lake City, Burgess christened the new building

Above: A Boeing 377 Stratocruiser, one of the first large passenger planes, at the Salt Lake City Municipal Airport, 1950.

Left: Salt Lake City Municipal Airport November 19, 1952

Almost immediately, it seems, the Administration Building was overwhelmed. In 1936, only three years after it opened, more than 60,000 passengers passed through, nearly three times as many as in 1933.

"with a bottle of water from the Atlantic and Pacific Oceans and the Great Salt Lake ..."[36]

As its name suggested, the Administration Building, designed by the Salt Lake architectural firm of Young & Anderson, was essentially a no-frills, utilitarian structure. The public spaces on the first floor spanned offices, a mail room, a main waiting room, separate waiting rooms for men and women, and a café. The second floor housed more offices. The upper floors held a weather observatory, radio and teletype rooms, and a control room where an operator could manage lighting on the field, sound a siren for approaching planes, and control the airport's electrical system. The structure also included an emergency hospital and a fire station. (The concept of incorporating a hotel was abandoned in the final plans.) The final cost, $52,000 (just over $1 million in 2020 dollars), reflected an extraordinary commitment on the part of the community which was suffering in the throes of the Great Depression.

Almost immediately, it seems, the Administration Building was overwhelmed. In 1936, only three years after it opened, more than 60,000 passengers passed through, nearly three times as many as in 1933. The growth in passenger traffic reflected the trend among the airlines serving Salt Lake—National Parks Airways, United Air Lines, and Western Air Express—of flying larger and larger planes. When the Administration Building opened, the largest commercial airliners carried only twelve passengers. Within only three years, the DC-3 almost doubled that figure, and in 1940 Boeing introduced the Stratoliner that could hold thirty-three passengers. By the early 1950s, commercial airliners were carrying up to one hundred passengers. Larger planes meant decreasing fares which further encouraged air travel. At the same time, the number of flights arriving and departing Salt Lake City Municipal Airport was steadily increasing as well.

By the early 1950s, the Administration Building was experiencing more than ten times the passenger traffic that it had in its first year. The pressure to expand and upgrade the building became constant and intense. In 1956, *The Salt Lake Tribune* characterized it as "the running battle against obsolescence"[37] and demanded construction of a new terminal. But city officials were already a step ahead. Even as the *Tribune* issued its manifesto, planning for a new administration building—an

Right: The new terminal emerges from the barren landscape in May 1959.

up-to-date terminal that could more efficiently move large numbers of passengers to and from their flights—had been underway for a decade.

At a minimum, the new terminal would have to be substantially larger than the Administration Building. So it would require substantially more space. Fortunately, city administrators had, since the earliest days of the airport, possessed the foresight to purchase land adjoining the existing airfield—mostly to the west. By the late 1950s, the airport property encompassed over 1,500 acres, more than enough to accommodate even the largest of structures. The site for the new terminal was located on what was now the west side of the airport, more than a mile northwest of the Administration Building.

The community generally recognized the urgent need, but the projected cost of $8.5 million (about $170 million in 2020 dollars) was rather pointedly criticized by the *Deseret News* as a "whopping sum."[38] Although the price tag covered other facilities, as well, and the community's share would amount to less than 25 percent, civic leaders perceived that convincing voters to approve a bond for more than $2 million might be a hard sell.

As the bond election neared in early 1959, public discourse often veered into hyperbole. "If we don't approve this bond issue, which won't cost the taxpayers one red cent," exclaimed Gus Backman, executive secretary of the Chamber of Commerce, "we'll have to accept a back seat in the great jet age of air transportation." Salt Lake City Mayor Adiel Stewart was even more agitated. "To vote against this bond issue," Stewart warned, "would mean stagnation in the development of Salt Lake City."[39] A key selling point was that the bond would be repaid not with tax dollars but with revenues from leases to airlines and concessionaires and the aviation fuel tax. Just in case voters didn't get the message, *The Salt Lake Tribune* even printed a sample ballot with instructions as to how to vote "Yes." Not surprisingly, the bond proposal passed. What was surprising, perhaps, was the margin by which it passed: 16,438 "Yes" to 860 "No."

A "TOPS IN THE NATION" TERMINAL

Construction of the new terminal, designed by Salt Lake architects Ashton, Evans & Brazier, commenced in the spring of 1959. Before any building could begin, however, the terminal's forty-acre site had to be raised seven feet in order to level it with the existing runways. And then,

Top and bottom: Airport construction, January 27, 1961

Left: Salt Lake City Municipal Airport a year after the opening of the new terminal.

the same pressure to expand that had confronted construction of the Administration Building manifested itself again with new terminal. “The ramp and gate areas as originally planned already are inadequate and adjustments have been incorporated into the original construction plans,” noted *The Salt Lake Tribune,* less than a year into construction of the new terminal. [40]

Ultimately, the entire project would take two years to complete. On June 17, 1961, the new terminal was dedicated. As with the dedication of the Administration Building, it was a significant event in the life of the community. So much so that *The Salt Lake Tribune* devoted a full seven pages to an insert extolling its virtues, proclaiming “New Air Terminal Tops In Nation.”[41]

The superlative wasn’t unwarranted. For starters, it was *big*—about ten times the size of the Administration Building. (The *Tribune* noted that the Administration Building “could be comfortably fitted into the huge lobby of the new terminal.”)[42] Whereas the Administration Building, even with all its remodels and expansions, had only twelve gates, the new terminal almost doubled that number incorporating two concourses and twenty-one gates with the capacity to expand to twenty-eight.

The spacious lobby contained ticket counters for the five major airlines that were now operating out of Salt Lake (Bonanza, Frontier, United, West Coast, and Western); a “pick-and-choose,” self-service baggage handling system; a coffee shop; and a children’s day care center. On the second floor were located offices. Within the three upper floors were more offices, equipment rooms, and, at the very top, an air traffic control station, as well as the most luxurious feature of the new terminal: the Kitty Hawk Dining Room, which incorporated terraced seating and a 5,000-square-foot window that provided an expansive view of the field. The restaurant was “elegantly furnished with thick carpets and solid oak tables, railing and counters. Walls are finished with sequence-matched panels of Claro walnut and vinyl wall coverings.”[43]

The elegance of the design extended to the exterior. “One incoming pilot,” wrote *The Salt Lake Tribune*, “characterized the new Salt Lake Airport Terminal as a ‘glistening jewel of the jet age.’ The sparkling gem-like appearance of the new main terminal and passenger concourses comes

from the mo-sai [sic] precast panels which are made from a semi-precious stone—a special white onyx aggregate quarried near Nephi, Utah."[44]

Of the terminal's many modern amenities, perhaps none was more innovative than the baggage handling system. As the *Deseret News* described it, "The luggage conveyor that 'thinks' is designed to automatically select vacant slots along the baggage rack and to insert pieces of luggage into these slots."[45] According to *The Salt Lake Tribune*, the system was so efficient that bags would be waiting for travelers when they arrived at the claim area.

As important as its size and features was the new terminal's location. Because the airport's east side was already occupied by the Administration Building as well as by a growing number of hangars and ancillary buildings, architects and planners had sited the new terminal on the airport's west side with a dedicated access road from North Temple Street. In effect, the airfield now spanned two airports with shared runways. Commercial airlines would use the new terminal while the Administration Building would be designated as headquarters for smaller private operations that would come to be known collectively as general aviation.

But the key aspect of building the new terminal on the west side of the airport was space—space not just for the terminal as constructed, but for expansion. Although the new terminal had ostensibly been designed to accommodate as many as 12 million passengers per year, passenger traffic at Salt Lake's airport in the 1960s was increasing exponentially—at twice the national rate. Studies projected that, by 1990, the terminal would exceed its capacity.

Compounding the challenge of rapidly increasing passenger traffic was that, as in the Administration Building, family and friends—so-called meeter-greeters—essentially doubled the crowd in the terminal. And there was yet another group adding to the masses: sightseers. When he was a child, former Acting Airport Director Russell Pack's family took regular dates to dine at Kitty Hawk "with linens" and drove to the park-and-watch lot where they would observe planes take off and land and even listen to the broadcast from the control tower. And former American Airlines Customer Service Supervisor Carl Soderstrom's family would drive to the airport "and go up on the observation deck to watch the airplanes."[46]

Almost immediately after completion of the new terminal, the airport, of necessity, began what

In the early 1960s, the Administration Building was converted to the Executive Terminal, serving as home to the airport's general aviation operations until the late 1970s when it was replaced.

At the same time that the airport community was undergoing major growth—and attempting to address the accompanying growing pains—a sea change occurred that would transform the airline industry and, in turn, the role of Salt Lake's airport.

would evolve into an ongoing expansion program. Even as additional facilities were added, however, facilities in the terminal fell "out of balance."[47] By the 1970s, passenger traffic was overwhelming basic services like ticketing and baggage claim, but with little or no available space, expansion of the existing terminal was no longer an adequate solution. So in 1978, a second terminal was constructed exclusively for Western Airlines, more than doubling the total terminal space and adding a third concourse.

In the meantime, the airport had experienced another significant change. With an increasing number of international charter flights and expanding opportunities presented by cargo shipments and commercial flights to and from other countries, the Salt Lake City Commission in 1968 had renamed the airport "Salt Lake City International." That same year, Western Airlines initiated the first commercial international flights between Salt Lake City and Calgary.

THE HUB-AND-SPOKE EFFECT

At the same time that the airport community was undergoing major growth—and attempting to address the accompanying growing pains—a sea change occurred that would transform the airline industry and, in turn, the role of Salt Lake's airport. In response to the Airline Deregulation Act of 1978, airlines completely reconfigured their operations, shifting from the traditional point-to-point format, in which travelers simply flew from their origin to their destination, to a hub-and-spoke system, in which travelers flew from their origin to a hub or central airport where they would transfer to another flight that would take them to their destination. Those airports selected as hubs assumed a key role in the operations of the airlines that so designated them. Those that were not often experienced a diminished standing and, as a result, a loss of activity.

In 1982, Western Airlines designated Salt Lake City International Airport an operational hub, significantly elevating its status. As Assistant Director of Airport Operations Al Stuart recalled, "That switched us from a little-backcountry, medium airport to a large-hub airport."[48] Within only five years, the number of airlines serving Salt Lake City International had doubled to ten. Just a few years later, however, that new-found significance was threatened by a bidding war for Western between Delta Air Lines and Continental Airlines. Had Continental prevailed, it's likely that

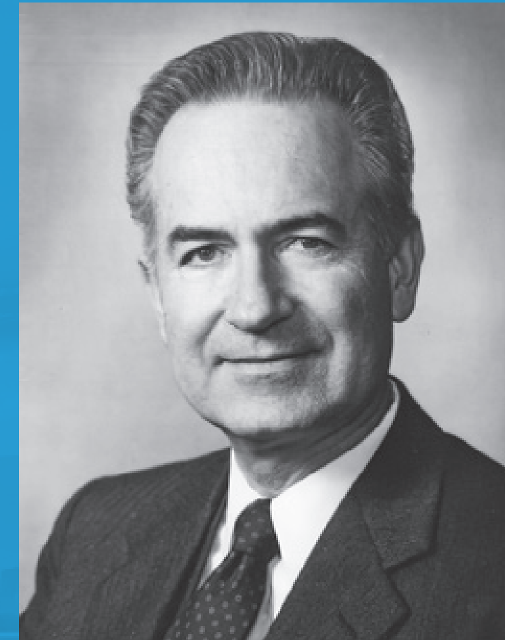
CHANGE AGENT

Salt Lake City International Airport's transformation as a major global hub might be traced all the way back to 1943. That's when Lawrence Lee took a job as a baggage handler with Western Airlines. Over the next 43 years, Lee worked in almost every department within the airline, from station operations to labor relations to inflight service.

But it was in 1982, while in his role as senior vice president of Transportation Services for Western, that Lee established Salt Lake City International as Western's first major hub. It was a bold decision that prompted widespread skepticism from, among other sources, the *Wall Street Journal* which published a story about the hub designation with the headline "Is Salt Lake City A Mistake?" Bold as it might have been, it proved to be the right decision as Salt Lake Chamber of Commerce president Fred Ball would later note. "That one occasion," Ball remarked, "was the most significant occurrence in the history of air travel service in the state of Utah."[49]

In hindsight, hub designation no doubt dramatically altered the course of the airport's history. But Western Airlines was, at the time, experiencing increasing financial difficulties and deteriorating employee morale that placed both the airline and its central role at Salt Lake City International in serious jeopardy. However, with his appointment in 1983 as Western's president and chief executive officer (with Western announcing a $50 million quarterly loss), Lee promptly led one of the most dramatic financial recoveries in airline history, a turnaround that Gerald Grinstein, who succeeded Lee, would later characterize as "a model for American industry."[50]

That recovery would prove critical to the future of the Salt Lake airport. Within the next few tyears, Salt Lake City International would become one of the busiest hubs in the country and Western Airlines' operations and financials would strengthen to the point at which it represented a substantial financial and logistical asset. So much so that, even as Lee was retiring in 1986, Delta Air Lines was in the process of acquiring Western, retaining and expanding Salt Lake City International as a major global hub.



Lawrence Lee's decision to designate Salt Lake City International as a Western Airlines hub changed the course of the airport's history.

Airport employees who moved to Salt Lake from other airports were often struck by this collective attitude of collaboration, of caring, noting that it was particularly unique to Salt Lake.

it would have moved the hub to another airport more central to its operations. The costs to Salt Lake City International (and the community as a whole) would have been substantial, as it would have been relegated—as were so many other non-hub airports—to second or third-tier status.

Delta, however, emerged as the winner and ratified the designation of Salt Lake as a hub airport. The choice, according to Delta's former District Director of Marketing Fred Rollins, was obvious, both because Salt Lake was "geographically strategic" and because "Salt Lake was up and running as a well-run, reliable airport."[51]

Because Delta (especially with the acquisition of Western) was a substantially larger airline, the numbers of flights and passengers increased dramatically. By 1993, Salt Lake City International was the fastest growing airport in the world. And in 1996 the number of passengers served by the airport exceeded 20 million for the first time.

AIRPORT CITY, UTAH

As the new century dawned, Salt Lake's terminal looked nothing like the original Administration Building. It was now a complex of three terminal buildings, five concourses, and seventy gates. The terminal complex now included a dedicated International Arrivals Building constructed in 1996 to promote the expansion of international flights and to move federal inspection services (Customs, Immigration and Naturalization, et al) from their crowded space in Concourse B to an adequate facility.

But the new century also brought with it a new and different set of expectations as to what an airport terminal should be. Salt Lake City International's terminal complex had materialized into what aviation journalist Ansel Talbert had envisioned in the middle of the twentieth century as an "airport city." "The largest of America's modern commercial flying fields might well be called 'airport cities,'" wrote Talbert in *The New York Herald Tribune* in 1953. "They include theaters, banks, restaurants, barber and beauty shops, book shops, clothing stores, jewelry shops ... instantly available to air passengers arriving or waiting to depart."[52]

On any given day, the terminal complex would be populated by thousands of people—passengers and employees—making it one of the largest cities in Utah. To a great extent, life there was

very much like life in a typical community. Passengers worked, dined, shopped, exercised—even got a massage. For airport employees like Assistant Director of Airport Operations Dave Korzep, a day in the terminal started much like a day in the neighborhood—with some notable differences. On his daily morning stroll, Korzep, would take in the airport's distinct environment. "I like the smells of the airport in the morning," Korzep remarked. "You can smell the coffee in the planes. You can smell the jet fuel. I love the smell of jet fuel in the morning."[53]

As the terminal complex awakened, it assumed the hustle and bustle of a typical city with businesses opening and the streets (the concourses) filling with passengers and staff beginning their day. Yet with all those people and all that activity, the Salt Lake airport felt less like a city and more like a village, a place where you'd be treated like a local even if you weren't one. As former Salt Lake City Mayor Ted Wilson observed, Salt Lake's was a "friendly airport."[54] To Carl Soderstrom, "it felt more small-town."[55]

That sense of community was very much about the people who worked at the airport. From airport staff, to airline employees, to the employees of the terminal's various businesses, the prevailing attitude was one of cooperation, of collaboration. "It was a very friendly atmosphere,"[56] recalled Jay Bingham, the airport's former finance director. Airport employees who moved to Salt Lake from other airports were often struck by this collective attitude of collaboration, of caring, noting that it was particularly unique to Salt Lake. And it influenced not only how airport employees worked with one another but how they treated passengers. "We really worked hard to make sure that the customers were treated right," said Assistant Director of Airport Operations Al Stuart. "I saw janitors walk people to their gate."[57]

Even with such a welcoming, small-town atmosphere, as it grew, the airport would increasingly experience the problems typical of any city—and those not so typical—including crime. And so, as with any community, it would come to require a professional police force. Early on, the airport had relied simply on a staff of retired officers. But by the mid-1970s, the limitations of an adjunct police department were manifesting themselves, and it became clear that the airport needed to maintain a full-time professional force.

The K9 team is an important part of the airport's law enforcement program.

MEET ME AT THE WORLD MAP

The World Map in Terminal 1. A digital version is displayed in the greeter area in The New SLC.

The World Map graced the floor of Terminal 1 for sixty years. Created from a design by Dallas stoneworker Julius Bartoli based on drawings by Ashton, Evans & Brazier, it was a source of delight and wonder for thousands of people from all over the world. "I remember during the slow times," former Airport Police Chief Craig Vargo recalled, "watching parents walking around it with their kids and showing them, 'Here's this place.' or 'Here's that place.' or 'How would you like to visit this place?' or 'This is where we are now and this is where we're going.'"[58] Former Ground Transportation Manager Larry Bowers worked for a number of years in an office that looked out on the map. He would watch families who were sending off Church of Jesus Christ of Latter-day Saints' missionaries spread out blankets and picnic on the places where the missionaries were headed. And, as one woman described it, the map inspired her future career. "When I was a little girl," she wrote, "my mother would bring all four of us to the airport. We would be waiting for a family member flying in and I would run around that map and dream of going to all the exciting places in the world. I remember saying, 'I am going to travel and see this great big world when I grow up!'"[59] And she did—as a flight attendant for three different airlines.

While working the night shift, Assistant Director of Airport Operations Al Stuart would often see an even more romantic scene: "The kids would come out late at night with a tablecloth and stem glasses," he said. "They'd sit down on Paris and say, 'We just had dinner in Paris.' That happened *all* the time."[60] Mike Bullen, supervisor with United Airlines, remembered a high school senior prom with couples in tuxedos and prom dresses dancing across the World Map.

No wonder, then, that it became, as Vargo described it, the "focal point" of airport life. "Anyone who was coming to the airport could say, 'Meet me at the World Map,' and anyone who had been to the airport would know exactly where to go."[61] But perhaps no one had a more immediate connection to the World Map than Utahn Chano Rubalcava. Rubalcava was one of four craftsmen who, over a period of six months in the early 1960s, transformed the terminal's blank concrete floor into a dazzling work of art. "*That* was something," he said about his experience creating the World Map. "I can't explain it to you. When I would look at it, there was a feeling that would come over me. There was a connection to it."[62] As there was for so many others who "traveled" on it.

During the 1980s, airport personnel filled that role. Although they were certified as law enforcement officers, the provisions of their certification—as well as their other responsibilities—limited their authority. So, in 1984, the state legislature created a certification for airport police that endowed them with full law enforcement authority. The designation not only substantially strengthened the airport's policing capabilities but also recognized that the airport represented a unique law enforcement environment with a different set of challenges than might be encountered in a community of comparable size. The role of the airport police therefore became significantly different than it might have been in a community setting—"not just about the call for police service," explained former Airport Police Chief Craig Vargo, "but about helping people travel through the airport the best we can while protecting the airport."[63]

ADAPTING TO CHANGING TRAVEL PATTERNS

"Traveling through" was really what the terminal had been designed to facilitate. In its various iterations, the terminal complex had functioned primarily to expedite flow: to move people from the entrance to their planes and to move people from their planes to the entrance. As with other aspects of the airport's operations, however, designation of the airport as a hub in the early 1980s dramatically changed the dynamics within the terminal. To this point, most passengers would spend relatively little time in the terminal, arriving at the airport, checking in with their airline, and proceeding to their gate, stopping perhaps for a quick bite or to buy a newspaper. Deplaning passengers would spend even less time in the terminal.

Hub designation, while generating more passenger traffic overall, affected terminal activity in a more immediate and substantial way. The shift was all about how airports and airlines had changed their operations in the wake of deregulation. "To maximize profits," airport historian Alistair Gordon wrote in *Naked Airport: A Cultural History of the World's Most Revolutionary Structure*, "hub airports adopted carefully coordinated patterns of arriving and departing flights at peak business hours. Referred to as 'waves' or 'banks,' these high-density periods brought a sudden glut of passengers rushing through terminals to reach connecting flights."[64] Now, instead of a steady stream of activity throughout the day, the terminal would experience spikes in passenger traffic, with many, if not most, of the deplaning passengers (who were connecting to other flights) staying in the terminal rather than leaving the airport. There were now more passengers

Crowding at the gates was one indicator of the pressing need for a new terminal complex.

in the terminal—particularly at the bank times when numerous connecting flights arrived at the same time.

As a result, demand for just about everything was now even greater. Demand not just for more, but for a more diverse array of dining choices and shopping opportunities. Airports took notice. In the 1990s, "marketing analysts recognized that the most profitable resource was a traveler locked in transit limbo. As one airport manager put it, the terminal was becoming a 'shopping mall with planes leaving from it.'"[65]

This shifting set of passenger expectations transformed Salt Lake City International's business mix. For many years, one company had operated virtually all of the Salt Lake airport's concessions. Because that company also managed concessions at airports around the country, Salt Lake's food and retail menu looked virtually the same as that of many other airports.

"So the question was," recalled former Director of Administration and Commercial Services John Buckner, 'How do we distinguish our airport?'"[66] The answer, beginning in the 1990s, was to think of the terminal's business mix as analogous to that of a neighborhood commercial district. To that end, the airport changed the selection of food and retail from a uniform corporate offering to one that communicated a distinctly local identity. Eventually, national restaurants like McDonald's and Gordon Biersch Brewery would share the concourse with local establishments like Greek Souvlaki and High West Distillery. Coffee drinkers could choose from Starbucks or Salt Lake's Millcreek Coffee Roasters. And shoppers could browse the selection at local institution, Weller Book Works, or national chain, Simply Books.

At the same time, that distinctly Utah identity was displayed in the terminal through the airport's growing art collection. From 1977, when the airport instituted an organized program of collecting art, its holdings would come to list a who's who of Utah artists, including Leconte Stewart, Anna Bliss, and Willie Littig. The works, noted Airport Advisory board member Cyndy Miller, had a distinctly Utah flavor, most notably (and visibly) massive, dramatic landscapes by painters Doug Snow and Tony Rasmussen.

By 2019, thousands of passengers a day thronged the concourses. They dined at over thirty restaurants and shopped at over twenty retail stores. They logged steps, got a manicure, or took in the airport's extensive art collection. The terminal, originally a small, austere Administration Building on the airport's east side, had evolved into a dynamic community, a vibrant village.

WELCOMING THE WORLD

For many Utahns, the 2002 Olympic Winter Games was a celebration, a gigantic party. The feeling was much the same in the airport. During the period of the Games, the terminal was filled not only with thousands of international visitors but with jugglers, clowns, and other entertainers in a scene akin to a large festival. Members of the "Hot Chocolate Brigade," attired in nurses' uniforms from the 1940s, "rescued" weary travelers with emergency hot cocoa while quartets of children filled the lobby with song. Airport employees distributed chocolate medals, bottles of water, and books of poetry published for the Salt Lake Olympics. "We want to keep the festival feeling alive," commented Airport Public Relations and Marketing Director Barbara Gann for a 2002 *Deseret News* story.[67]

That the terminal could be a place of festivity was a tribute to those who organized the celebration, but also to the airport personnel who, within only months of the 9/11 terrorist attacks, made it a welcoming, safe, and secure place. Two weeks after the attacks, the Federal Aviation Administration (FAA) had directed Salt Lake City International to implement screening on all baggage by January 18, 2002—just three weeks before the 2002 Olympic Winter Games' Opening Ceremonies. (All other airports were given until December of 2002.) As former Airport Planning Director Steve Domino remembered, "We had ninety days to come up with a solution, because there was no industry solution. But our program became the standard for the industry for the next two years."[68]

With the new equipment and protocols up and running, Salt Lake City International became the first airport in the country to screen checked bags for explosives. Yet the airport took it upon itself to substantially intensify security for the Olympics in other ways as well. The airlines added 400 workers to staff screening devices and checkpoints; fifty-five full-time airport police officers were supported by National Guard troops; and ten bomb-sniffing dog teams provided additional screening. Airport management maintained close contact with the FBI, Drug Enforcement Administration, and the Secret Service before, during, and after the Games. Not surprisingly, in 2003 Salt Lake City International was recognized by the Airports Council International, Aviation Security International, and the International Air Transport Association for its outstanding contribution to aviation security.

So, the party could go on—and, at times, maybe even get a little out of hand. "The terminals looked like mosh pits," said Assistant Director of Airport Operations Al Stuart, "but as far as getting people in and out, it went really well."[69] Passengers even missed flights as they stood in line to purchase the highly coveted Roots berets.

The airport's success in managing it all—all the people, all the activity, all the security—came to down to a collective attitude of pitching in. Prior to the Games, it had instituted an comprehensive training program that included everyone, from airport employees to taxi drivers. Former executive director Tim Campbell was even spotted rolling wheelchairs through the terminal. The feeling of excitement remained long after the last Olympic visitor had departed, resulting in a profound culture change that brought members of the airport community even closer together.

Beyond the Gates

Salt Lake City International Airport operates in two very distinct spaces: the landside—which is made up of the terminals, concourses, parking lots, access roads, etc.—and the airside—runways, taxiways, ancillary facilities—basically all of the airport that lies beyond the passenger gates. While the landside is about moving people to and from airplanes, the airside, also known as the airfield, is about moving airplanes into and out of the airport. For air travelers, the airport experience is defined primarily—if not exclusively—by what happens on the landside. But the actual act of flying is defined by what takes place on and around the airfield. It's ironic, perhaps, that much of this essential activity generally goes unnoticed by airline passengers. "The traveling public sees a very small portion of what actually goes on at the airport," Chief Operating Officer Pete Higgins observed. "There's a lot that has to happen behind the scenes to make everything go as seamlessly as it does."[70]

The reality is, however, that the airfield has always been as full of activity as the terminals. And just as the airport's various terminals have had to evolve to keep pace with more passengers with greater expectations, so too the airfield has had to constantly adapt to keep pace with more airplanes with greater complexity. Airfield development has focused on two very different but related elements of moving flights into and out of the airport: managing planes on the ground and managing them in the air.

EYES ON THE SKY

Perhaps no aspect of the planning and design of Salt Lake's airfield has advanced more than the latter, what we now refer to as air traffic control, the airport-based operation of directing flights. However, in the airport's early days, no such resource existed. Throughout the 1920s and into the 1930s, flying was essentially a visual endeavor—that is, pilots didn't have any reliable type of communication with airports or even navigational instrumentation that might help them accurately locate their specific destination. Finding the airfield was therefore a question of *seeing* the airfield. Or not. So it was that, during

Above: A scene from 1938 inside the Administration Building's radio control room.

Left: Salt Lake City Municipal Airport Radio Control System, January 24, 1951.

The first directional sign was painted on the roof of the Tabernacle.

an air mail test flight in 1920, "After crossing the Wasatch mountains, [pilot D.C.] Smith was unable to distinguish Buena Vista Field and flew toward Great Salt Lake before he realized that he had passed Salt Lake City."[71] Even when the airfield moved from Buena Vista to Woodward Field, finding it didn't necessarily become any easier. It was relatively small and undeveloped with a handful of utilitarian buildings. It might just as easily have been mistaken for any one of the valley's farms.

So, in 1928, the City Commission authorized the construction of directional signs that pointed pilots to the airport. The signs, with forty-foot letters, were visible from as much as ten miles away and virtually impossible to miss. The first—over 15,000 square feet in size—was painted on the Salt Lake Tabernacle; others were installed at the community baseball park at 1300 South Main Street, on Ensign Flats (north of the State Capitol), and at various locations around the city. The installation of directional signs would expand over the next couple of decades. In 1937, roofs and fields throughout the state were marked with signs pointing the way to the nearest airport. Ten years later, the Senior Boy Scouts "adopted as a top community service project a statewide air marking program for use and safety of private and commercial pilots," painting directional signs on 200 roofs in fifty-seven Utah communities.[72]

But the great advance in marking the airfield came in 1928 with the installation of the first lights. Housed in and on a new three-story, light-control station, the system included:

> *... a huge two billion candle power floodlight. This light turns the runways of the field at night into a white spot that enables the flier to make landings with safety, while the operator manipulates the glare that the eyes of the pilot are not blinded by the beams shooting across his path. On the third floor are located the floodlights for the building tops. One rotating searchlight sweeps the surrounding country for twenty-five miles. This is used for hunting oncoming planes and to guide them on their course to the field. Still another searchlight is situated at this point, to be used mainly during foggy weather.*[73]

A series of white and red lights was also installed around the boundary of the airfield, the latter indicating potential hazards (e.g. power lines). The lighting system operated by the airport was complemented by a national network of electric

and gas-powered revolving beacons that provided something of an illuminated roadmap for pilots.

So significant was the new lighting system that 15,000 people attended a dedication celebrating its installation in June 1928. Their enthusiasm was justified. With the capacity for night landings, Salt Lake City Municipal entered a new phase in its development. Perhaps no group was more excited about this transition than the airlines. Not only could they now safely take off and land at night, but—more to their immediate interests—they could alleviate concerns of anxious passengers. As airport historian Alistair Gordon noted in *Naked Airport*, "Airline companies initially believed that their passengers would be reluctant to fly in the dark and scheduled only daylight flights."[74] The airlines were quick to seize the opportunity, and less than a year after the lighting system was dedicated they were operating a night-flying schedule in and out of Salt Lake City Municipal.

The lighting system received a substantial upgrade in 1949 with the installation of high-intensity lights that, prior to World War II, had been limited primarily to military applications. The more powerful lights gave Salt Lake City Municipal, "the distinction of having the most brilliantly lighted runway in the western part of the United States."[75] More to the point, however, they greatly increased the airport's ability to adapt to variable meteorological conditions. As noted in *Western City*, "With the high intensity installation it will no longer be necessary for the airport at Salt Lake to be bypassed because of bad weather ... Flights can go on day or night, through fog, snow, rain, smoke, or dust."[76]

Like so many other aspects of airport management, the technology of airfield lighting became more sophisticated so that, as the airport entered the twenty-first century, airfield design focused increasingly not on the intensity but on the quality of light. Technicians could now dim or brighten the over 20,000 lights on the airfield as conditions warranted, significantly improving visibility for incoming pilots. (As of 2019, according to Electrical Superintendent Roger Denny, Salt Lake City International was one of only three airports in the country that could handle flights in visibility as low as 300 feet.) And the transition to LED from incandescent lights would enhance the system even further while, at the same time, making it more energy efficient.

Like so many other aspects of airport management, the technology of airfield lighting became increasingly sophisticated so that, as the airport entered the twenty-first century, airfield design focused increasingly not on the intensity but on the quality of light.

A MORE SOPHISTICATED AIR TRAFFIC CONTROL SYSTEM

As it turns out, 1949 would mark two significant milestones in the development of managing flights to and from Salt Lake City's burgeoning airfield. Along with the new high-intensity lights that would greatly improve the airport's ability to deal with varying weather conditions, a new Air Route Traffic Control Center (ARTCC) opened just east of the Administration Building that would greatly improve the airport's ability to track and communicate with flights. The ARTCC itself would monitor airplanes flying by instrument flight rules, while its counterpart, the communications center, located in the Administration Building, would monitor those flying by visual flight rules. Together the facilities would form two-thirds of a comprehensive system of tracking flights and communicating with pilots. (A system that quite likely would have prevented D.C. Smith's overshoot of Buena Vista field twenty years before.) As *The Salt Lake Tribune* reported in 1957, "Many pilots, hopelessly lost and with visibility rather poor, have been 'talked' safely into an airport by a radio operator at the center through use of the radio range signals and voiced directions."

This coordinated system of managing flights into and out of Salt Lake City Municipal was a far cry from the earliest version, incorporated in the new Administration Building in 1933, which comprised a "control room for all the electrical devices at the airport so that an observer with a complete view of the field can adjust flood landing lights and regulate the generators and the transformers from a centrally located board."[77] The "observer" also had the capability of communicating with pilots via radio.

Nevertheless, even with what *The Salt Lake Tribune* characterized as "electrical paraphernalia" installed in the airport's control tower, guiding planes into and out of Salt Lake City Municipal remained a rudimentary exercise—in part because of limited technology and in part because of limited personnel.[78] The opening of the ARTCC therefore represented a landmark moment for the airport.

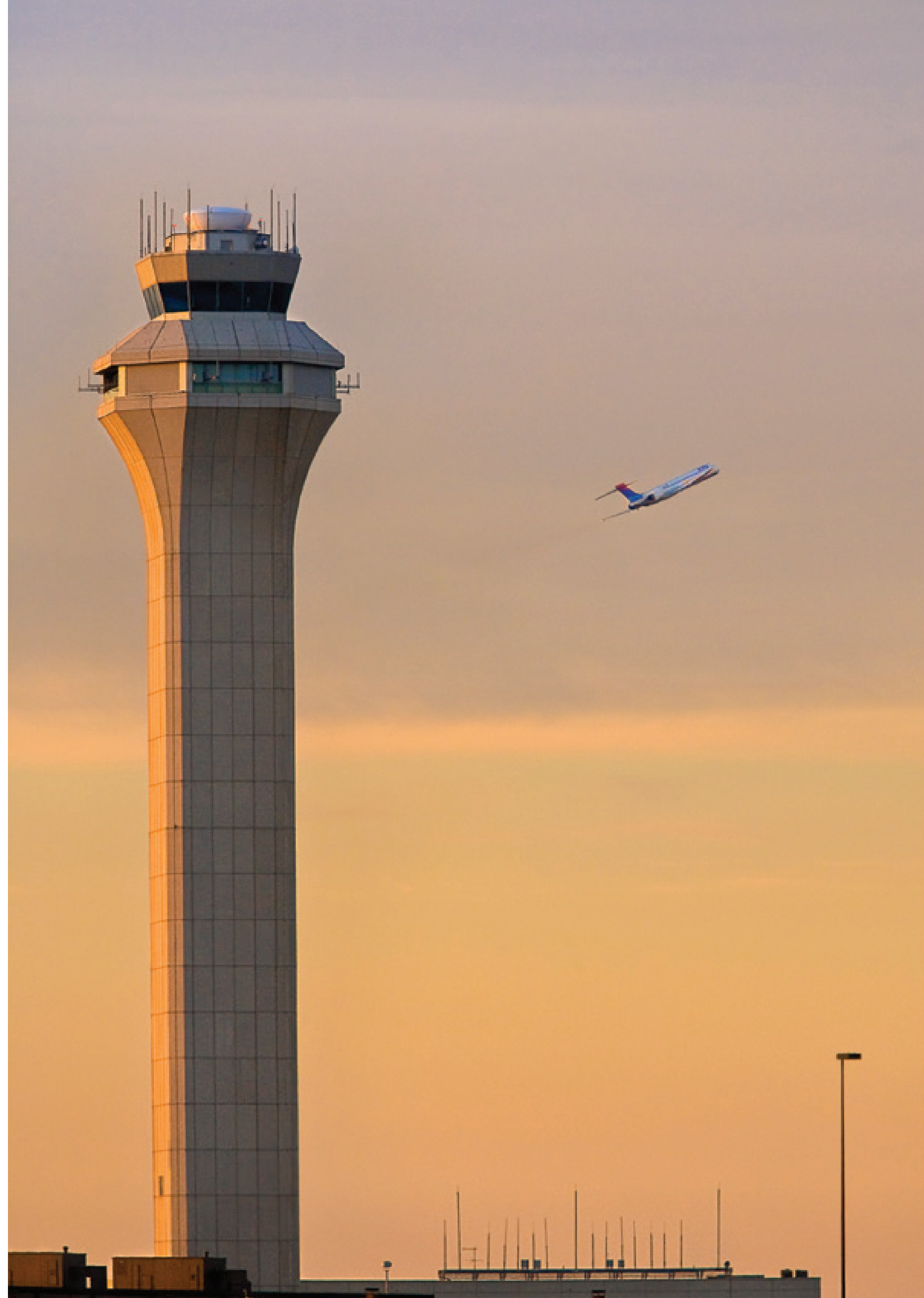
The center's thirty-three controllers (complemented by personnel in the communications center) covered the largest geographic area of any control center in the U.S., which included all of Utah and parts of Arizona, California, Colorado, Idaho, Montana, Nevada, Oregon, New Mexico, and Wyoming. They employed greatly enhanced technologies—most notably radar, developed during World War II—that allowed for much more precise monitoring

of airplanes. Yet advanced as their technology might have been, controllers in the ARTCC still tracked flights by moving "little oblong pieces of wood arranged in slanting grooves ... Each piece of wood represents an airplane flying under direction of air route traffic control."[79]

In conjunction with the two centers that utilized technology to track flights, another group of controllers (the other third of the three-part system) worked through direct visual contact to manage aircraft landings, takeoffs, and taxiing to and from the gates. Rather than operating from a facility somewhere inside a building, these controllers, of necessity, needed a place with a view, a watchtower of sorts. The first iteration, however, looked like anything but a tower. A glass box placed atop the Administration Building, it sat a mere three stories off the ground. Nevertheless, it still afforded a clear view of the relatively compact airfield. But as runways and taxiways expanded and the number of gates increased, controllers in the tower needed to be able to see farther and thus required a higher perch.

In 1961, the recently completed terminal provided that perch. Twice as high as the original, the new visual monitoring center sat atop what could

Right: Salt Lake's Air Traffic Control Center covers the largest region in the country.



D3
N350NA

D1

rightly be called a tower and afforded controllers an expansive view. But the growing terminal complex began to encroach on that view. And as runways and taxiways continued to be lengthened and gates added, the operational area of the airfield expanded. The need became increasingly apparent for a facility that would provide clearly unobstructed views of the airfield for the foreseeable future.

In 1999, the Federal Aviation Administration (FAA) completed the needed facility, a new tower north of the terminal complex. The monolithic shaft of a structure was built to extend more than three times as high as the previous one—over 300 feet—with more than four times the floor space. Still in use today, Salt Lake City International's air traffic control tower houses sophisticated equipment as well as two elements of the three-tiered air traffic control system. From the observation room at the top, controllers manage all air traffic on the airfield and up to six miles out from the airport. On the first floor, controllers are housed in a darkened room, lit only by the glow of computer screens, where they guide incoming and outgoing aircraft from six to about sixty miles out in all directions. The third tier of the system is managed from a facility northeast of the airport; from there, aircraft are integrated into the larger national air traffic control network. Still the largest in the country, the region handled by this facility (called the Enroute Center) covers an area from the Canadian border to Arizona that includes Utah, Idaho, Montana, Wyoming and parts of Colorado and Nevada.

The development of a comprehensive air traffic control system was necessitated, quite simply, by the growth in air traffic. From the beginning, the airport had been a relatively active one. In 1928, it was the second busiest air mail center in the country (only Chicago was busier), and in 1935, Salt Lake City Municipal ranked fourth in the country in the number of daily flights. Activity grew steadily. By the mid-1950s, more than one hundred airline flights were arriving and departing each day. Within twenty years, that figure doubled. By the mid-1990s the airport was handling over 500 commercial flights daily. (Other types of aviation—like cargo and recreational flying—essentially tripled the number of flights.) Today, during its busiest times, Salt Lake City International is, remarked Air Traffic Support Specialist Kevin Davis, "every bit as busy as L.A. or Chicago or Kennedy or any of the busiest airports—every bit as complex as those airports. As a controller," Davis added,

"During its busiest times, Salt Lake City International is every bit as busy as L.A. or Chicago or Kennedy or any of the busiest airports—every bit as complex as those airports," remarked Air Traffic Support Specialist Kevin Davis, "As a controller, if you can work this airport, you could handle the traffic load at any airport in the system."

Left: The air traffic control tower rises over 300 feet above the field providing an expansive view of the airfield and surrounding air space.

An aerial view of Salt Lake City Municipal Airport, December 2, 1947.

"if you can work this airport, you could handle the traffic load at any airport in the system."[80]

Numbers alone, however, don't paint the full picture. The challenges of managing air traffic on and around Salt Lake's airfield have always been amplified by the diversity of aircraft. The disparity in the sizes of airplanes—even among commercial airliners—adds a layer of complexity particularly during landing sequences. For example, larger airplanes that discharge more wake, or turbulence, from their engines, require greater separation in the approach path than do smaller aircraft. Sequencing approaching aircraft is a relatively simple task if planes of similar sizes and types arrive simultaneously. At any given time on any given day, however, controllers are managing numerous landings of planes of all sizes and types from small prop planes to corporate jets to regional jets to large commercial airliners.

According to Davis, this diversity is unique to Salt Lake. While management of the airfield—and of the airport in general—is concentrated on airline activity, the reality is that the volume of takeoffs and landings of other air traffic—known collectively as general aviation—has historically almost doubled that of the airlines. Ironically, all that activity has remained relatively unnoticed by most people who visit the airport. With the completion of the 1961 terminal, the locus of commercial aviation moved to the west side of the airfield and with it millions of passengers, meeters and greeters, and workers. The Administration Building, more than a mile away, was converted to a headquarters for general aviation, creating, in essence, a second airport that came to be referred to as the East Side.

THE OTHER AIRPORT

For years, most general aviation activity was related to recreational or personal flying. But as the airport entered the twenty-first century, that activity increasingly shifted to corporate aviation—in part because recreational flying was becoming prohibitively expensive, but also because more companies were now flying their own planes into Salt Lake on business. At the same time, the range of general aviation operations extended to "aerial firefighting, medical evacuation, search-and-rescue, agricultural spraying, and wildlife management."[81]

General aviation, from the beginning, also included military operations. In 1921, less than a year after Woodward Field was dedicated, the U.S. War

Department negotiated a lease with the city for one dollar per year to utilize it as a training facility for pilots from surrounding states. With the prospect of war in 1940, however, Salt Lake City Municipal's role as a base for military activity was substantially intensified. That fall, the first of over 2,000 personnel with the Seventh Bombardment Group arrived. "It was a gala occasion at the municipal airport," reported the *Salt Lake Telegram*, "and the activity there and the thunder of the giant bombers roaring overhead were a forecast of things to come in Salt Lake City."[82]

The city committed 160 acres—more than a third of the airport's property—to the Army for establishment of a base for the bombers. The Army constructed fifty buildings on the site, creating what came to be called Airbase Village, an entire community of more than 1,000 residents complete with apartments, a grocery store, a movie theater, an auto repair shop, and a basketball team.

But more Army personnel and more Army planes meant more Army flights. More flights on an already crowded airfield meant that something had to give. As the Army ramped up its activities in the early 1940s, it issued a directive through the Civilian Aeronautics Administration (CAA) that private aviation—primarily the training of civilian pilots for military as well as non-military purposes—had to be removed from the field. In December 1941, the CAA pointedly warned the Salt Lake City Commission that failure to provide "adequate facilities" for private training at another site could even result in the cessation of commercial operations.[83]

Forced to find a new home for private planes, the city purchased 1,100 acres west of Midvale to construct what would rather unimaginatively be called Airport Number 2, "to be used as a training school for aviators and airplane mechanics in connection with the national defense program ..."[84] Although it saw relatively little activity during the war, it provided the necessary operational breathing room demanded by the Army.

At war's end, Airport Number 2 was essentially abandoned. The *Deseret News* disparaged it as both an "ugly duckling" and a "war ghost," and at one point it was even put up for sale by the City Commission.[85] But it was suitable for one purpose: In the late 1950s, race cars, not airplanes, rolled down its runway.

Airport Number 2 would ultimately find a more noble role. In the early 1960s, the city reactivated it, providing additional facilities for rapidly expanding general aviation activity. (In the fifteen years following World War II, general aviation operations at Salt Lake City Municipal had nearly tripled.) Over time, the East Side in general would see new developments—in particular, the construction of luxurious private terminals. And the military would maintain a presence at Salt Lake City International—albeit greatly diminished—with facilities on the northeast corner of the airport for the Utah Air National Guard.

Airport Number 2, eventually renamed South Valley Regional, served as a reliever airport, adding capacity to Salt Lake City International specifically for general aviation operations. That capacity—for all types of operations—was determined by the airport's airfield infrastructure—runways, taxiways, aprons, etc. While the airport's various terminals would certainly experience the pressure of a rapidly growing aviation industry, nowhere would that pressure exert itself more than on the airfield. A relatively small terminal could still accommodate more people (however uncomfortable they might be). Inadequate runway capacity, on the other hand, could significantly hamper operations—and schedules. Or even prohibit certain types of aircraft from taking off or landing altogether.

PREPARING FOR LANDINGS

For almost twenty years after the dedication of Woodward Field, runways were primitive—just narrow gravel strips; it wasn't until the late 1930s that the airport's runways were even paved. Until then, most airplanes were slowed using spikes that dragged on the ground called skids, which paved surfaces would have rendered inoperable. As commercial airliners grew larger, brakes replaced skids. But larger planes also required more substantial runways that could withstand their greater weights—that is, that were paved. In 1937, the airport completed construction of three new runways: two asphalt and one concrete. The latter at 5,500 feet was, at the time, the second longest in the country (only Oakland's was longer). As *The Salt Lake Tribune* noted twenty years later, the new runways along with the existing Administration Building proclaimed that Salt Lake City Municipal had "entered the 'big time,'" becoming "one of the country's top seven civil flying fields."[86]

But that euphoria would be tempered by the realities of aviation industry growth and—in particular—the growth of airplanes. Only twenty years after the

Salt Lake airport entered the "big time," commercial airliners weighed up to eight times more. Now runways needed to be not only more substantial to accommodate the increasing weights of aircraft, but also longer to accommodate the increasing takeoff and landing distances they required.

In 1954, the airport replaced one of its north-south runways with one that, at over 8,000 feet, was nearly one-and-a-half times as long as the original. (The other north-south runway had already been extended to 6,800 feet.) That additional half-mile or so of pavement was critical. "Until the new runway was put into service," noted *The Salt Lake Tribune* at the time, "the field was a source of apprehension in landing jets and four-engine planes."[87]

But barely had the concrete cured when, just two years after the completion of the new runway, the *Deseret News* reported: "It appears now that the runway will have to be extended to 12,000 feet to meet the needs of the new commercial jet airliners."[88] The *News* was correct. Three years later, it would be lengthened to more than 10,000 feet. Over the next fifty years, the airport would continue to upgrade and expand its runways, eventually maintaining four: two at 12,000 feet long; one at nearly 10,000 feet long; and a 4,900-foot one for general aviation.

The impacts of larger planes on the airfield extended beyond the runways to the taxiways and aprons (the area adjoining the gate). Aprons designed to accommodate aircraft weighing up to 30,000 pounds sagged under planes weighing four times as much or more. In 1957, *The Salt Lake Tribune* expressed concern that: "Maintenance crews at the Salt Lake Municipal Airport are fighting a constant battle to keep the modern sky-behemoths from sinking into the underlying salt beds. When the plane is moving, there is no difficulty. But when it is standing still, occasionally a 12-foot-square section of the apron will sink several inches. These areas must be brought to level immediately."[89]

It wasn't just the sizes of planes placing pressure on airfield infrastructure; it was the number and different types—commercial, private, corporate, military, cargo, and others. The existing runways were becoming overcrowded, causing congestion and delays. Within fifteen years of the completion of the new runway in 1957, the volume of operations would nearly double, prompting a 1972 study to conclude that yet another runway would be required within ten years. In 1992,

"The airlines recognize," remarked former Mayor Becker, "that Salt Lake City—almost more than any other airport in the country—is extremely well run, very efficiently run."

with that additional runway still on the drawing board, an FAA study estimated annual delays due to the airport's limited runway capacity at nearly 15,000 hours with a cost of more than $16 million. It wasn't uncommon to see ten to fifteen aircraft lining up for takeoff with wait times up to thirty minutes.

However, congestion was more than a function of numbers. As it did in the terminal complex, the 1978 deregulation of airlines transformed the dynamic on the airfield. Instead of arriving and departing at a steady pace throughout the day, commercial flights were now arriving and departing in narrow windows, referred to as bank times. These new peak periods required a different approach to managing traffic. As Russell Pack, former acting airport director, explained, "In the past, use of the runways was evenly distributed throughout the day, but then all of a sudden we had to run dual operations [two simultaneous takeoffs or landings]."[90]

Running dual operations was problematic, however, because the existing runways were aligned too close to one another. So in 1991, the airport began building a new 12,000-foot runway. Its key attribute wasn't its length but its location. Constructed to the west of the terminal complex—a mile from the existing runways—it provided the proper configuration (i.e. adequate spacing) for dual operations, essentially doubling the airport's capacity. The project was complex, taking a full ten years from initiation of the planning process to the runway's completion.

With all the challenges of planning, developing, and constructing the new runway, it's no wonder that those most enthusiastically celebrating its opening included airport planners, managers, and administrators. "Before we opened the west runway—when it was brand new," recalled Assistant Director of Airport Operations Al Stuart, "we all lined up at the end and walked it for the final FOD (foreign object debris) check. That was pretty cool. And on the way home, there were planes where there weren't planes before."[91] Its opening in October 1995 was therefore cause for celebration, which included a 5km run/walk on the runway and ceremonial takeoffs and landings by "planes representing commercial, general aviation, and military flight."[92]

LET IT SNOW

The airport may have been expanding the capacity of the airfield, but operations could still be brought to a halt by a simple element for which Salt Lake is now famous. For a community that would later

promote The Greatest Snow On Earth®, it is fitting that Woodward Field was covered in snow at its dedication in December 1920. For the earliest fliers—the air mail pilots—accustomed to taking off and landing in the most daunting conditions, snow was simply one of many occupational hazards. On one particularly stormy day in February 1923, Lester Bishop was the last pilot to take off before Woodward Field was closed. Only when the runway was covered with over a foot of snow were operations cancelled.

Passenger flights, however, required a different standard of safety. As the airfield expanded—with longer runways, additional taxiways, and larger aprons—the already demanding task of removing snow became monumental. *The Salt Lake Telegram* noted in 1946 that, even with the donation by the federal government of three massive snowplows, clearing the airport's runways and aprons of snow presented a greater challenge than clearing the main highway between Salt Lake City and Ogden.

That challenge was amplified considerably with the arrival of jet airplanes. Advanced as they may have been, they required, according to then Airport Manager Joe Bergin, "immaculate" runways. (The *Salt Lake Tribune* wryly observed that "The passenger jet is a sophisticated lady and when she lands or takes off you just about have to take off your cloak and spread it before her.")[93] Bergin pointed out that just one inch of slush could reduce a jet's takeoff speed by as much as sixty miles per hour and that on landing its flaps could be damaged by ice cast up by its wheels. "What used to suffice as a cleared runway for the piston jobs simply won't do for the jets," the *Tribune* reported in 1961. "Hence, airport runways virtually have to be as dry and clear as an Arizona highway before pilots will land or take off."[94]

Fortunately, by 1961 snow removal had improved considerably, and the airport was equipped with twenty-ton snow fighters, "multi-bladed beasts that gulp the snow from the runways then hurl it aside with powerful blowers."[95] The beasts were followed by vehicles with powered rotary brooms with steel-tipped brushes that flung whatever ice and snow remained off the runway.

Over the next several decades, the process of clearing the runways developed into something of a science. By 1990, managers in the airport's Operations Division were utilizing sophisticated computer systems to track approaching storms and monitor the condition of the runways themselves right down to their

SLC Airport has been recognized nationally for effective snow removal.

temperature. That analysis would be complemented by reports from managers on the airfield who were communicating with pilots about landing conditions. In response, two 25-person crews would take to the airfield in what they referred to as a "Conga Line" of plows, blowers, brushes, and other machines.

So effective was the work of snow removal crews that, between 1976 and 2019, the airport received the prestigious Balchen-Post Award for excellence in snow and ice control seven times—including the first ever presented—even as it grew from a medium-sized hub to a large one. No other airport in its class would receive the award more times. The accolades were well-deserved—at least, as evidenced by traveler attitudes. Even in the snowiest winter weather, passengers have chosen to maintain their itineraries through Salt Lake City.

Managing runways and taxiways—in snow or sunshine—was directed at managing the airfield's capacity to handle takeoffs and landings. But much of the activity on the airfield didn't occur on a runway or taxiway; rather, it took place in the airfield's numerous ancillary buildings that were integral to the airport's operation.

As the airfield developed, it would come to be populated with well over one hundred buildings—not only terminals but facilities housing such diverse uses as, among others, airplane deicing equipment, a greenhouse, pump stations, a post office, flight kitchens, an airline reservations center, and a fuel "farm" containing over six million gallons of jet fuel. (The East Side alone was occupied by nearly sixty buildings.) And in 1996, the airport even constructed a dedicated, 200,000-square-foot "cargo city" complex to accommodate the amount of freight being shipped into and out of Salt Lake that was increasing at a faster rate than that of passenger traffic.

From a one hundred-acre plot with one runway and a lone hangar to today, the airfield has come to encompass thousands of acres with miles of runways, taxiways and ramps and dozens of buildings of various sizes and functions. Aircraft of all sizes and uses takeoff and land twenty-four hours a day, seven days a week, prompting Chief Operating Officer Pete Higgins to remark, "We're active 168 hours a week. There's always something happening."[96]

FIRE FIGHTING

In its early days, when the airport was several miles from the nearest city fire station, fire protection was provided by the city. But airport fires were different than the typical fires encountered by city firefighters, primarily because of the fuels involved. In 1931, even before there was a fire station at the airport, city firefighters designed a fire truck that could carry two 50-gallon tanks of soda and acid specifically for the types of gas and oil fires that might occur. As the city contemplated establishing a full-time fire company at the airport ten years later, the fire department provided training to airfield workers in the particular techniques of airport firefighting.

It wasn't until 1947 that the first fire station was dedicated at the airport. Staffed by two shifts of six professional firefighters, it was equipped with five engines, two high-pressure pumpers and three 500-gallon pumpers. Over time, as airplanes grew larger and more complex, firefighting equipment had to become more sophisticated. By the mid-1960s, *The Salt Lake Tribune* reported that "Equipment at the airport includes specially adapted 'crash trucks,' dry powders, foaming agents, and proximity suits. A proximity suit is an aluminum-coated garment which enables a man to withstand 800-degree temperature for as long as eight minutes. A copper-coated helmet also cuts down the blinding glare generated by an inferno of flaming fuels."[97] In order to decrease response times, the airport in the early 1970s purchased large tankers with eight-wheel drive that enabled them to cut across the softer areas between runways. That responsiveness was further enhanced with the development of two separate fire stations, one on the east side of the airport and one on the north side.

As well as specialized equipment, fighting airport fires required specialized training to deal with the unique conditions in and around burning airplanes. In 1997, the airport opened one of only two facilities in the country to provide that kind of training: the Aircraft Rescue Fire Fighting Training Center (ARFFTC). The center included a "full-scale mock aircraft in which computer controlled fires are set for firefighters to extinguish." The mock aircraft itself incorporated a "detailed cockpit, seats, luggage compartment, cargo containers, lavatory, galley, and engines at the wings and tail."[98] Fires could be set at specific points in the plane and as exterior fuel spills. Over the next twenty-one years, until it was closed in 2018, the center provided training for thousands of firefighters from around the world.

FIrefighters training on a mock aircraft at the ARFFTC.

jetBlue
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"The Best Managed Airport"

As the saying goes in airport management, "When you've seen one airport, you've seen one airport." That is, every airport is unique. Salt Lake City's airport has been no different in its uniqueness, with its own particular combination of attributes—from its stunning beauty to its challenging geography to its superlative operations.

Of the attributes that distinguish Salt Lake City International, perhaps the most distinctive is its setting. "The thing I hear all of the time from people who fly in and out of here," former Salt Lake City Mayor Palmer DePaulis remarked, "is how beautiful it is. Flying in over the Great Salt Lake or over the valley is so impressive. It's just beautiful."[99] Ralph Becker, another former mayor of Salt Lake City, was even more emphatic. "Dropping into this valley and through these mountains," he observed, "people are blown away by it."[100]

The setting is indeed breathtaking. With the Great Salt Lake to the north and the Wasatch and Oquirrh Mountains flanking to the east and west, respectively, landing at or taking off from Salt Lake City International offers spectacular vistas. But that very scenery, breathtaking as it may be, is equally formidable.

A CHALLENGING LANDSCAPE

While "dropping into the valley" may present passengers with dramatic landscapes, it presents pilots with a very different view. As the *Deseret News* described it: "... the terrain at Salt Lake is one of the most challenging in the country—with mountains on three sides and the lake on the other ..."[101] Pilots and air traffic control have coined the phrase "between the rocks" to describe the setting—between the Oquirrh and Wasatch Ranges. The topography is restrictive, limiting the airport to a north-south orientation that, in turn, limits the approach and takeoff paths for incoming and outgoing flights.

That constraint is compounded by another inherent limitation of the airport's setting: its elevation. Air

As Amelia Earhart remarked about the airport's setting in 1932, "believe me, this mountain scenery cannot be equaled anywhere in the world."

Left: Evening thunderstorms create a dramatic backdrop to SLC Airport.

is less dense at higher elevations—that is, the air is, as pilots describe it, "thinner," so airplanes need longer distances for both taking off and landing. In fact, the earliest flights near Salt Lake by Louis Paulhan and other aviators were, to a great extent, conducted less as exhibitions than as experiments. "The trials in Salt Lake will be the first high altitude tests ever attempted by aeronauts," reported the *Salt Lake Herald*.[102] "As a matter of scientific interest," the *Deseret News* explained, "the flights in Salt Lake will be epoch-making in that it has been said that the rarity of the atmosphere at great heights will interfere with the operations of all heavier-than-air machines."[103]

Those early flights demonstrated that "heavier-than-air machines" could indeed take off and land in the "rarity of the atmosphere" at higher elevations. But not without some effort. Because of the rarified air, greater distances (i.e. longer runways) are required than at airports at lower elevations. As *The Salt Lake Tribune* noted in 1956, a DC-3 landing at sea level would require a 2,500 foot runway but landing the same plane at the Salt Lake airport required a 3,750-foot-long runway.

Building longer runways—along with all the other airport infrastructure—should have been a relatively straightforward engineering undertaking, particularly since the airport was able to purchase ample property for expansion. But development of runways and taxiways and terminals—just about anything—has been complicated by the airport site's problematic geology. In particular, its soils. Located as it is on the shores of the Great Salt Lake, the airport sits on ground that is essentially saturated. A 1980 environmental impact statement (EIS) presented the rather gloomy analysis that "Poor soil conditions combined with the very high water table and groundwater conditions make settlement and differential settlement a serious engineering problem."[104] In other words, because it's so wet, the soil under the airport is unstable.

Water—rather, *removing* water—has therefore been a critical issue to airport development. That challenge was highlighted during construction of a new terminal in the early 1960s. To illustrate the point, *The Salt Lake Tribune* published a photo of a sign posted near a small pond on the construction site that read: "Lake Bergin [named after then Airport Manager Joe Bergin]. No Fishing. Boating. Swimming. City Mosquito Breeding Farm."[105] Prior to construction of the terminal, tests were conducted to ensure that the

soil on the site would indeed bear the weight of the structure and its occupants. The tests proved that it would, but as the airport developed, it installed an intricate system of pumps, drains, and canals to remove water and stabilize the soil.

But not all the water can be removed. The airport, as it turns out, is located in what wildlife biologists call a "zone of biotic transition" between upland habitat to the south and east, and wetlands to the north and west. This area encompasses a diversity of habitats, including open waters, saline marshes, saline meadows, and saline flats and playas. As much as 15 percent of airport property is occupied by wetlands. And, as a 1992 study pointed out, "Hydrological factors play an important role in this transition."[106] In other words, there are areas on the airport property that need water.

These areas—the wetlands—provide critical habitat for various species of birds. "The marshes of the Great Salt Lake," reported another environmental assessment, "including those immediately adjacent to the Salt Lake International Airport and within its present and potential area of influence, constitute an extremely important component of the Pacific Flyway of migratory waterfowl and shorebirds."[107] Wetlands demand a particular management approach. More specifically, they require water. Of the many complexities of managing the airport, perhaps none is more perplexing than this one. On the one hand, the airport needs to drain water from its property to ensure the stability of the soil under its infrastructure; on the other, it needs to retain water to ensure the viability of wildlife-sustaining wetlands.

However, not all wetlands under the airport's purview lie within the airport's "area of influence." As part of the development of a new runway in the mid-1990s, the airport was required to construct new wetlands to mitigate the loss of some due to the construction. To that end, the airport purchased 1,500 acres of marshy salt flats two-and-a-half miles northwest of the property and created a 465-acre wetlands. The project encompassed a diversity of habitats and was designed to form "a complex ecosystem to sustain hundreds of aquatic and terrestrial plant and animal species present on the runway site and surrounding wetlands."[108] The wetlands replacement project was dedicated in August 1994 and was, at the time, one of the largest ever undertaken in the U.S.

In the early 1990s, the airport purchased 1,500 acres of marshy salt flats two-and-a-half miles northwest of the property and created a 465-acre wetlands. The project encompassed a diversity of habitats and was designed to form "a complex ecosystem to sustain hundreds of aquatic and terrestrial plant and animal species present on the runway site and surrounding wetlands."

The airport created a 465-acre, marshy wetlands during construction of a new runway in the mid-1990s.

A MOVE TOWARD SUSTAINABILITY

At the same time, the airport reassessed its consumption of water—in particular, the amount applied to its landscaping. "We got rid of the golf course look, including the fountains," recalled Medardo Gomez, former director of maintenance.[109] The results were dramatic. Between 1997 and 2012, the amount of water applied to landscaping decreased by over 70 percent resulting in a reduction of the airport's total water consumption of millions of gallons a year. In 2004, the Utah Pollution Prevention Association recognized the achievement by bestowing the airport with an award for Outstanding Achievement in Pollution Prevention. There was, however, another, unanticipated benefit to the water conservation initiative. According to Gomez, "the xeriscape that we have now has become the face of the airport. People call us and want to learn from us."[110]

Meanwhile, air quality was becoming a critical issue in the Salt Lake Valley. The airport, with its daily traffic of hundreds of vehicles of different types, represented a significant source of air pollution. In the early 1990s, an aggressive program was launched to convert all airport vehicles to natural gas; at the same time, incentives were offered to private operators to do the same. Even though the technology was relatively undeveloped, "we stuck with it," Gomez remarked.[111] By 2015 more than 50 percent of the fuel utilized by airport vehicles was natural gas, which substantially lowered the airport's overall emissions. So significant was the impact of this program that in 1996 the airport received the "Clear the Air Award" from the Salt Lake Rotary Club International and the Utah Division of Air Quality.

The focus on reducing emissions was complemented by an initiative to reduce waste. Between 2002 and 2012, the airport's aggressive recycling program more than doubled the amount of material recycled per passenger and was recognized in 2004 by the Recycling Coalition of Utah for salvaging just about everything in the terminal complex and on the airfield.

With the turn of the twenty-first century, however, the airport adopted a more comprehensive perspective on its environmental impacts and in 2007 became one of the first in the nation to conduct a sustainability assessment. As outlined by the *Deseret News*, some of the early changes

prompted by the assessment included "light-colored rooftops to reflect light, LED lights for its airfield, a drip irrigation system, and water-wise plants. Inside," the *News* continued, "there are automated dimmer switches, an automated temperature-control system, energy-efficient lighting fixtures, low-flow toilets and automatic shut-off fixtures in the public restrooms."[112]

Within its first ten years, the airport's sustainability program reduced energy consumption by more than 10 percent. With its 2015 Sustainability Management Plan, the airport intensified its commitment to environmental stewardship, identifying dozens of initiatives to promote sustainable operations. By 2016, nearly all of the water used to wash cars at the newly opened rental car facility was being reused. And by 2018, the airport was recycling an annual average of 70,000 gallons of glycol (used for deicing planes) through an intricate system in which the glycol is captured at the deicing pads, carried through more than five miles of pipe, reconditioned to 99 percent purity, and then sold on a secondary market, thereby not only mitigating the environmental impacts of deicing but also reducing the cost of the program itself.

Unstable soil, migratory wildlife, and environmental impacts have, however, comprised just a small portion of the challenges of managing the airport. According to the airport's former planning and environment director, Allen McCandless, "there are hundreds and hundreds of issues associated with the airport. The issues are endless."[113] Projects—large and small—have required extended lead times. Planning, design, and construction of the 1995 north-south runway—a simple strip of concrete—took ten years. Planning of The New SLC terminal complex began in the mid-1990s and took nearly thirty years to come to fruition.

CRAFTING A LONG-TERM VISION

However, just as the airport was constructing a new Administration Building in the 1930s or a new terminal complex in the 1960s or another new terminal in the early 2000s, it has had to maintain normal operations. The ability to balance the conflicting demands of day-to-day operations and large construction projects simultaneously has therefore been critical to the airport's success.

The reality is that, in its first one hundred years, the airport was always under development—always

The airport recycles thousands of gallons of deicing fluid each year.

So, in 1948 the city issued the airport's first official master plan. Prepared by local engineer John Neff, the document looked out over twenty years, proposing a $5 million (about $54 million in 2020 dollars) expansion that included extending two existing runways and constructing a new runway, building a new administration building, and adding hangar facilities for more than 300 private planes.

a work in progress—even as hundreds of flights and thousands of passengers passed through it every day. "I've been here twenty-four-and-a-half years," General Aviation Manager Dave Teggins said, "and there hasn't been a year without construction."[114] However, it was pilot Hal Blackburn who probably best expressed the evolutionary nature of airports in general. "To the best of my knowledge," Blackburn said, "I never landed on a completed airport."[115]

The constant need to expand terminals, extend runways, strengthen aprons, add ancillary facilities, and on and on has necessitated continual planning, "relentless decision-making," as Executive Director Bill Wyatt termed it.[116] However, the first master plan—the first attempt to think comprehensively about the airport—wasn't produced until 1945. Drafted by then Airport Manager Joe Bergin, it was more outline than detailed strategy and less about looking ahead than about catching up—about restoring an airport that, because of its use as a military base during World War II, had become, as the *Salt Lake Telegram* described it, "long-neglected."[117] Salt Lake City Municipal was not alone in this regard. A 1946 report prepared by the U.S. Department of Commerce explained that "Necessity for concentration of thought and energy upon national defense during the war precluded planning and development of buildings at airports used so extensively by the civil aviation public during that period."[118]

Basically just a set of terse recommendations, Bergin's plan nevertheless nudged the city to prepare a more detailed master plan that, according to the *Salt Lake Telegram*, represented "the first step in the city's march toward reestablishing its airport in the position it enjoyed in the middle 1930s, when it was termed one of the nation's best."[119] So, in 1948 the city issued the airport's first official master plan. Prepared by local engineer John Neff, the document looked out over twenty years, proposing a $5 million (about $54 million in 2020 dollars) expansion that included extending two existing runways and constructing a new runway, building a new administration building, and adding hangar facilities for more than 300 private planes.

Approved by the Civilian Aeronautics Administration (that would provide much of the funding), the various elements of the plan wouldn't fully materialize for fifteen years.

(The 300 hangars wouldn't materialize for many more years.) The context for Neff and planners who followed him was that change was a constant and that planning was often more about adapting in the short term than envisioning an idealized future. Planning the airport became about how to balance immediate needs (e.g. longer runways to accommodate larger airplanes) with long-term goals (e.g. construction of a completely new terminal complex).

Thus, development of the airport was, for the most part, an incremental process—adding a terminal unit or a concourse or extending a runway. Rarely did the opportunity present itself to strategically rethink the entire facility, although a grand scenario would occasionally be proposed. A scrapped 1970 draft plan, for example, envisioned four major terminals, linked by a long mall, with a rapid transit system (proposed by Ford Motor Company) that would connect the airport with downtown.[120]

But the grandest of scenarios was developed in the mid-1990s with a complete reassessment of how the airport's terminal complex should be configured. Up to this point, the terminal complex had been developed in what was known as the unit-terminal approach, with expansion accomplished by adding new buildings connected to the existing ones. Over the years, the airport's terminal complex had assumed a semicircular shape of three terminal units: Terminal 1, completed in 1961; Terminal 2, completed in 1978; and the International Terminal, completed in 1996. Until the mid-1990s, the assumption was that expansion would involve adding more terminal units up to as many as five.

In the meantime, however, thinking in the airline industry about how terminals should be configured had shifted significantly. Linear layouts, such as those in Atlanta and Denver, were seen as more efficient both in moving passengers in the terminal itself as well as moving planes in and around the terminal. The concept may have been pragmatic, but it was definitely grand in its scale. To efficiently accommodate more passengers and diverse airplane types, the new terminal complex had to be big.

The concept of a super-sized airport therefore also carried a grand price tag. The initial estimate came in at slightly under $2 billion, but as the project progressed its scope expanded—as did the

cost. For most airports, such a substantial increase would have represented something of a breaking point. But Salt Lake City International was able to forge ahead because of its exceptionally sound fiscal condition, an aspect of its management that had deep roots well into the past.

A SIGNIFICANT ECONOMIC ROLE

In its early years, the airport benefited from a strong financial partnership between the city and the private sector. When insufficient funding for needed hangar facilities jeopardized the airport's status as a potential air mail center in the 1920s, the Commercial Club stepped in to provide gap financing. But within ten years, expectations had changed. "Unlike many municipal ventures," *The Salt Lake Tribune* reported in 1933, "the new facilities are expected to be self-supporting from the outset."[121] Those expectations notwithstanding, the transition to self-sufficiency would take time.

Thus in 1936, the airport stood again to lose significant federal funding, this time for much-needed runway improvements as the city, still in the throes of the Great Depression, struggled to generate a match for funds offered by the Works Progress Administration (WPA). As airport historian David Brodherson noted in a 1993 study, by the mid-1930s the days of private-sector beneficence were over. That is, the Commercial Club would not save the day this time around. The situation degenerated into a crisis, prompting the *Salt Lake Telegram* to express its grave concern. "Should anything now interfere with enlarging and improving the landing field and installing needed appurtenances," the *Telegram* stated, "Salt Lake City would forfeit its position as a western air center. This would be an incalculable loss."[122]

At the last minute, however, the Salt Lake County Commission pledged the necessary funds and the runways were built—with over 75 percent of the cost financed by the WPA. Although the project was completed, the fiscal math made city leaders uncomfortable. The "strings of control," as the *Salt Lake Telegram* characterized it, loomed behind the federal dollars.[123] Those strings compelled city leaders to push the airport toward financial autonomy.

Thus, Salt Lake City Commissioner Conrad Harrison would be able to proclaim in the late 1960s, "We haven't had to use city tax money for the airport since 1937 and we don't intend

to use it now."[124] Harrison was correct—with one qualifier. Over the years, the airport would, to a great extent, become fiscally independent, generating a diverse set of revenues, from airline and tenant fees to parking and rental car facility fees to leases for office and hangar space, among others. Nevertheless, federal funds would still play a key role in much of the airport's development, particularly for large projects. (For example, 40 percent of the cost of building Terminal 1 in 1961 was financed with federal dollars.)

Even taking into account the use of federal money, however, the airport has excelled at managing its finances. For much of its history it has operated debt-free—almost unheard-of in the aviation industry. By 2018, as Salt Lake City International grew to one of the Core 30 airports (the thirty busiest in the country), it was the only one that operated in the black. "There's a reason that Delta Air Lines has kept flying here as much as they have," Air Traffic Support Specialist Kevin Davis remarked. "It has been the most efficient airport in their system."[125]

That the airport has, for more than seventy-five years, operated without the support of local tax dollars to fund its operations and development is a significant benefit to the community. But it provides another more direct, even more significant financial benefit: its contribution to the local and state economies. As early as 1933, as Utah's unemployment rate approached 36 percent, the airport provided steady employment for dozens of people. Construction projects, such as the new Administration Building and new runways, added hundreds more desperately needed (albeit temporary) jobs. (Beyond jobs, for city leaders, completion of the Administration Building suggested the promise of improving real estate values.) Three years later, as the state continued to experience massive unemployment, Salt Lake County's financial contribution to airport upgrades was prompted to a great extent by the fact that the projects would provide unemployment relief to county residents.

The airport's value as a job creator would continue to grow as rapidly as the aviation industry itself. At the opening of Terminal 1 in the early 1960s, nearly 2,000 people worked at the airport; within twenty-five years (and the designation of Salt Lake City International as a Delta Air Lines hub), that figure had nearly tripled. And

"There's a reason that Delta [Air Lines] has kept flying here as much as they have," Air Traffic Support Specialist Kevin Davis remarked. "It has been the most efficient airport in their system."

"Salt Lake is a regional airport," Airport Maintenance Division Director Ed Clayson noted. "It may be located in Salt Lake, but it influences other communities around it." That influence extends well beyond neighboring communities to the far reaches of the state.

by the early 2000s, the airport was generating more than 100,000 jobs (taking into account both direct and indirect employment) and nearly $3 billion in wages. While much of that activity has been centered in and around Salt Lake, the reality is that the airport's impacts extend to a much broader region. "Salt Lake is a regional airport," Airport Maintenance Division Director Ed Clayson noted. "It may be located in Salt Lake, but it influences other communities around it."[126] That influence extends well beyond neighboring communities to the far reaches of the state.

So, how does the airport generate economic impacts hundreds of miles away? Accessibility. Visitors from all over the world—millions annually—land in Salt Lake and, in only a few short hours, find themselves sightseeing in any one of Utah's national or state parks. Skiers land at the airport and, often within the same day, are carving turns in the Greatest Snow on Earth®. That proximity is found only in Utah. In 2018, it was the inspiration for the state's tourism marketing slogan: More Mountain Time. "No other place," stated Vicki Varela, Utah Office or Tourism managing director, "carries that brand." Whatever the destination in Utah, the accessibility from the airport has been, according to Varela, "at the heart of our international brand."[127]

Along with playing a starring role in the state's tourism economy, the airport has become a key asset in attracting numerous businesses to Utah as well. According to a 1980 study, "Many new industrial parks, commercial facilities, and business centers have been planned and marketed with an expanding SLCIA in mind."[128]

But the airport's impact on business development has literally worked both ways. As Al Stuart, assistant director of airport operations, remarked, "There are people who couldn't live here and do the work that they do without this airport."[129] The economic mobility provided by the airport has manifested itself in particular on the airfield's east side, where, by the early 2000s more corporate aircraft could be counted than recreational planes, with an increasing number from other countries. According to former mayor DePaulis, "having the airport—the expansion of it, the development of it—was huge as to Salt Lake City's presence as a place in the Intermountain West."[130]

Central to the airport's role in generating economic activity—whether from tourists or from businesses—has been its status as a hub. The designation by Western Airlines in 1982 of Salt Lake City International as a hub elevated the airport's status; it was now a central point in Western's operations. Delta Air Lines' decision to maintain the hub following its merger with Western in 1987 significantly intensified the airport's role.

Hub designation quite literally opened up the world to Salt Lake City—and vice versa. Airports that were not designated hubs had to rely on their own immediate market areas to fill planes. Without hub designation, Salt Lake City International, with its smaller population, would have offered fewer flights. With hub designation, however, passengers began flying into Salt Lake from other places—primarily to connect to other flights. Combined with local passengers, they created the demand that has continued to generate more and more flights for the local market. In fact, by 2019 more than 340 flights departed Salt Lake every day to destinations throughout the world, including one hundred non-stop flights within the U.S. and additional non-stop flights to Europe with others planned for Asia and Latin America. In the succinct words of former Airport Police Chief Craig Vargo, hub status transformed Salt Lake City International into "the gateway to the world."[131]

The ease of global access that Salt Lake International has provided to the region extends to getting to and from the airport itself. Depending on the mode of transportation, the airport is about a fifteen-minute trip from downtown Salt Lake and not much farther from other communities in the Salt Lake Valley. According to Varela, "There's no comparable experience in a city of this size to be this close to everything you want to experience on a business or leisure trip."[132] By this standard and with the unabated growth of commercial aviation after World War II, the selection of the original site in 1920—both in terms of its location and the open land surrounding it—makes civic leaders of the time look downright visionary.

Top: The airport's wildlife management program has become a model for other airports across the country.

Bottom: A mountain lion hides in an airplane's landing gear.

WHERE FLIGHT PATHS CONVERGE

Airplanes aren't the only things flying around the airport. There are also birds. Lots of them. The airport happens to be located at the convergence of two major migratory routes for numerous species of birds, described as a "highway"[133] by Candace Deavila, manager of the airport's wildlife department (yes, Salt Lake City International has a wildlife department). The airport's wetlands development and maintenance programs have been aimed at ensuring the birds traveling the "highway" have a safe, suitable habitat in which to rest. But birds represent a significant hazard for aircraft. They can damage propellers, jet engines, flaps—just about any part of an aircraft that keeps it aloft. And birds share airspace with airplanes.

For years, the airport struggled with managing not only birds but other animals that served as prey and also represented potential hazards to airplanes. A 1967 headline in *The Salt Lake Tribune* proclaimed that "Bunnies Still Peril Aircraft Despite S.L. Airport Hunt." As the *Tribune* reported, "The rabbits, harmless in themselves, attract predatory birds such as eagles and hawks, a hazard to flying aircraft. So, at the request of the City Commission, state employees hunted the airport area and killed a truckload of rabbits."[134] Former Airport Manager Joe Bergin remarked that "at times, you can see hundreds of jackrabbits streaming across the runways and taxiways."[135]

The closest thing to a wildlife management program that the airport implemented was a periodic hunt to try to control the rabbit population. That is, until the late 1980s when it launched its own organized wildlife management program in response to an advisory circular from the FAA. Over the years, the program has developed into an expansive effort overseen by wildlife specialists employing a variety of techniques including habitat management, "hazing" (scaring away birds), and trapping (including relocation of certain species of birds). The latter approach has incorporated a system for banding birds of prey that has become a model for other airports.

ROOM TO GROW

In stark contrast with other airports around the country, space has never been an issue for Salt Lake's airport. As *The Salt Lake Tribune* reported in the mid-1950s: "In many areas, the answer has been to rebuild the airport so far out of town that the automobile ride takes longer than the airplane ride. By luck or foresight, Salt Lake City has avoided much of this municipal misfortune. While the airport was located only four miles from downtown—a comparative stone's throw—it was four miles to the west, and the city grew south and east and north."[136]

As a result, land around the airport remained plentiful and relatively cheap. And from the earliest years, those managing the airport capitalized by purchasing property on a regular basis to allow for expansion. Within only ten years of its dedication, the airport was four times its original one hundred acres. By the mid-1950s, it had grown to 1,500 acres. And by the late 1960s to 3,100 acres. But by far the period of greatest expansion was the 1970s when, in less than five years, the airport more than doubled in size to 6,245 acres. Later purchases brought the total property to 8,000 acres (including land occupied by the International Center). All told, by 2019, with the three airports under its purview—Salt Lake City International, South Valley Regional, and Tooele Valley (purchased in 1991)—the Salt Lake airport had come to manage nearly 10,000 acres of property, with uses ranging from aviation to office space to farming.

But the airport's area of influence has actually extended beyond its official 8,000 acres. Through ordinances that have limited certain kinds of development near the airport, the effective operational area has been significantly expanded. "One of the things that we wanted to do," former Mayor Palmer DePaulis explained, "was to protect the boundaries of the airport. We had to negotiate easements around the airport when properties came up for sale so we wouldn't have the growth of the city encroaching right up to the airport."[137] Ultimately, the airport was designated as a specific zoning district, with adjoining districts that regulated various development parameters, such as ensuring that the heights of buildings near the airport wouldn't impede takeoffs and landings.

As the airport grew, its extended boundaries produced an additional and, to the community,

The airport's noise management program has allowed for normal operations without disrupting nearby residents and businesses.

Outdated as it might have been, the old terminal complex worked efficiently, even in the most crowded days of the 2002 Winter Olympics.

more immediate benefit. Of the airport's diverse environmental impacts, none potentially affects the community as directly or as substantially as noise. As the 2015 Sustainability Management Plan pointed out, it is typically "the greatest concern the public has with airport development and operations."[138] However, the airport's extensive property acquisitions (including the purchase of the entire Buena Vista subdivision south of the airport) and its management of flights—particularly on take-off—substantially limited noise impacts. As verified by the community itself. According to Allen McCandless, "Many airports have thousands of complaints a month—they're just incessant. But here we have maybe a handful—like ten—a year. That's due to good airport planning."[139]

That the airport has managed the range of its complex challenges is evidenced most clearly in how well it has worked—how well it has moved passengers and flights while adapting to growth and change. Certainly, it has seen more than its share. Only twenty years after Woodward Field was established, the airport was third in the country in the volume of air mail handled and seventh in the number of passengers. A harbinger of things to come. In the seven decades following the end of World War II, passenger traffic at the Salt Lake airport grew by over 12,000 percent, more than three times the national average. The number of commercial flights grew by 300 percent, while commercial airliners nearly quadrupled in size.

Like so many other airports, from its beginnings, Salt Lake's has been in a perpetual state of change. "Airports would continue to grow in fits and starts," wrote Alistair Gordon in *Naked Airport*, "reinventing themselves as aviation advanced to its next phase of evolution. If no other lesson had been learned ... it was that airports were never finished. They were in a constant state of flux, flirting with obsolescence, reshaping themselves, and adapting to new technologies."[140]

Salt Lake's airport has, from the beginning, reshaped and adapted as well as any other airport in the country, as evidenced by an abundance of awards from a range of organizations as diverse as industry associations and environmental groups. But even greater confirmation comes from an even more significant group: those who have used the airport.

BUILDING SUCCESSFUL RELATIONSHIPS

Even with an aging, overcrowded terminal, Salt Lake City International has regularly received high customer satisfaction ratings. More than any other factor, those high ratings are directly attributable to what is likely, at least to passengers, an airport's most important quality: being on time. Salt Lake City International has consistently ranked high in on-time performance (it has ranked first in the nation more than once). In 2017, for example, it ranked lowest in the number of canceled flights among the nation's twenty-five busiest airports. But customer satisfaction is more clearly reflected in the choices passengers have made. According to Delta Air Lines personnel, for example, international passengers returning to the U.S. often make a conscious choice to land in Salt Lake because of how efficiently customs operations are managed.

The foundation of the airport's operational success—whether in developing new facilities or handling day-to-day operations—has been its focus on establishing strong relationships with its other constituents: the airlines and airport concessionaires. The airlines are clearly central to the airport's operations—without them, the airport wouldn't exist. And, as the primary tenants, airlines are the primary source of airport revenue. Establishing a positive rapport with them has therefore been a priority. "We prided ourselves at the airport in maintaining good relationships with the airlines," noted Jay Bingham, the airport's former finance director. "And the airlines enjoyed talking with us. We didn't hide anything from them. We were very honest and up-front."[141]

The airport's reputation for maintaining strong industry relationships was established from the outset. By 1927, three airlines—Boeing Air Transport, Varney Air Lines, and Western Air Express—had effectively designated Salt Lake's airport as a hub (in the years before there was such a designation). Their confidence in the airport was voiced by B.L. Graves, treasurer of Western Air Express, who pronounced in 1926 that, "Salt Lake is now the center of air travel, and her future as the airport of the West is assured."[142] What Graves was expressing was a validation of the airport not so much as a place, but as an organization.

Sixty years later, Delta Air Lines confirmed Graves's assertion when it designated Salt Lake City International as a global hub. Fred Rollins, Delta's former district director of marketing, recalled that, while the airport's location played a key role in the decision, there was another equally significant factor. "Salt Lake," he remarked, "had traditionally been one of the best-run airports in the country."[143] Steve Domino, airport planning consultant and former planning director for the Salt Lake airport, who has worked with numerous airports throughout the world, came to an even more pointed conclusion. "In my opinion," Domino asserted, "Salt Lake is the best managed airport I have come across. By far. Ever."[144]

Even though following hub designation, Delta Air Lines came to be the primary tenant, representatives from other airlines were equally pleased with their working relationships with the airport. "The airport has always been excellent," observed Mike Bullen, supervisor with United Airlines. "Whenever they've done something, they've been very open about what they're going to do and they've been very concerned about the carriers, no matter who it is. The communication has been just outstanding here."[145] According to Bullen and others who have worked in other airports before coming to Salt Lake, such positive relationships between airlines and airport management are unique to Salt Lake.

Relationships notwithstanding, another factor has strongly influenced the airlines' satisfaction with the airport. "The airlines recognize," remarked former Mayor Becker, "that Salt Lake City—almost more than any other airport in the country—is extremely well run, very efficiently run."[146] That efficiency has been reflected in two very different indicators: on-time performance and cost of operations.

For airlines, both are critical to the bottom line. And on both measures, Salt Lake's airport has consistently performed among the best in the country. During the 1990s, for example, Salt Lake City International's cost-per-passenger was less than half that of other U.S. airports, which for most airports, would represent highlights. But as the airlines have recognized, for Salt Lake's airport, low operating costs and on-time performance have represented the norm.

Significant as they are, the airlines are not the only major interest that has influenced how the airport has developed and operated. "So many of the decisions at the airport are dictated federally or are dictated by the airlines," Becker stated. "One of the first things I learned was that the federal government has more control over the airport than the city does."[147]

No federal agency has a more significant presence than the Federal Aviation Administration (FAA). Its influence on airport planning has run the gamut from operations to infrastructure—"everything down to the width of a painted line on a runway," said Air Traffic Control Specialist Kevin Davis.[148] And, as FAA regulations have changed—and they have frequently—the airport has had to update its drawings, plans, and data. At the same time, FAA approval has been critical to the airport's being certified for commercial airline activity and receiving federal dollars that are attached to FAA regulations. As with the airlines, however, management at Salt Lake's airport has maintained a healthy working relationship with the FAA, a relationship that, according to Davis, is unique. At most airports, he noted, the relationship between airport management and the FAA is difficult, even adversarial. At Salt Lake City International, however, it has been positive and productive.

So, too, with another federal agency that more recently assumed a significant operational presence at the airport: the Transportation Security Administration (TSA). Given TSA's role, it would seem likely that interactions with airport management could easily be strained. Yet, Former TSA Director at SLC Mark Lewis stated, "The relationships that we have with the stakeholders—with the airport and the carriers—I think are unparalleled. I hear from colleagues around the country that they envy the relationships that we have here."[149]

Building these kinds of relationships in what is a dynamic and often stressful environment has been the product of a collective attitude of collaboration among airport employees. "Lots of different operations. Lots of different things going on," recalled Jay Bingham. "But it all came together to produce one product, and that's the best airport we could provide. And everybody took pride in that."[150]

Salt Lake City International has become a community gathering place.

Everybody. Not just airport employees. During the shutdown of the federal government in 2019, for example, airport concessionaires catered meals for TSA, customs, and border protection employees, who were working without pay. The attitude among those working at the airport created an environment that, according to facilities manager Jim Snarr, "is almost like a family."[151]

With a warm and welcoming environment—like a family—the airport has come to represent much more to the community than simply a place of departures and arrivals. The airport has become a gathering place, "the place where we see loved ones off or welcome them home," as John Buckner, former director of administration and business services, described it.[152] So it is that the terminal has often been crowded with what airport employees call meeter-greeters, crowds of family and friends enthusiastically awaiting the arrival of a family member or friend. Sometimes too enthusiastically. Former Executive Airport Director Maureen Riley recalled one group that brought with it a Mariachi band that, for security reasons, had to be asked to leave.

The airport is therefore also a place full of emotion, of life-changing events, as exemplified by one passenger's very personal experience. "As I made my way up the ramp and out of our arrival gate," she remembered, "I saw him standing there with a single red rose. I hugged him and then turned to find a classmate I had traveled with to make introductions. When I turned back toward him, he wasn't there. Then I realized he was on one knee, ring box in hand asking me to marry him. The entire airport faded away and I could only see this man I loved on one knee."[153]

LOUIS MILLER: STABLE LEADERSHIP THROUGH TURBULENT TIMES

Throughout its history, Salt Lake's airport has been extraordinarily well managed, a tribute to its various directors who have guided the airport through myriad challenges. From growing Woodward Field into one of the busiest air mail centers in the country in the 1920s to expanding Salt Lake City Municipal following World War II to welcoming the world to a secure facility during the 2002 Olympics, the airport's directors have consistently provided strong leadership.

None, however, faced challenges like those that confronted Louis Miller when he assumed the director's role in 1982. In the wake of airline deregulation, Western Airlines had designated Salt Lake City International as a hub. Almost immediately, flights and passengers arriving in clusters rather than in a steady stream completely shifted the pattern of activity on the airfield and in the terminal in an unprecedented way, placing a new and different set of pressures on the airport.

Handling the challenges of hub designation demanded an abrupt change in the approach to managing day-to-day operations. Under Miller's steady hand, the airport responded. Concourse D was added in 1984 to accommodate not only more flights but also the peaks and valleys of flight and passenger activity. A third runway was completed to provide additional capacity for flights arriving simultaneously. New air cargo facilities were constructed to handle the rapidly growing amount of freight coming into and going out of Salt Lake. The FAA undertook construction of a greatly needed new control tower. Additional property was purchased to create a noise buffer. And the airport initiated in 1995 what would become the master plan for The New SLC.

By the time Miller resigned in 1996 to move on to new challenges at Tampa International Airport, Salt Lake City International had become, in Miller's words, "a major connecting airport for the world."[154] So significant were his accomplishments—not only at Salt Lake City International but at other airports he directed—that in 2016 he received the prestigious William E. Downes Memorial Award from the Airports Council International for excellence in airport management. As meaningful as the award might have been, for Miller the most rewarding aspect of working at Salt Lake City International "was the ability to get things accomplished."[155]

Louis Miller guided the airport through its period of greatest change.

The New SLC

"Present facilities," *The Salt Lake Tribune* reported, "are greatly overtaxed and the city is now in the process of building what is in effect a brand new airport ..."[156] Those words were written in 1957 as the community prepared to construct a new terminal. But the same commentary could well have applied in 2014 as the airport launched what would be come to be called the Airport Redevelopment Program (ARP), development of a new terminal complex, a new global hub.

When built, Salt Lake City Municipal's 1961 terminal was proclaimed to be "as fine a facility for handling air travelers as you'll find in the nation" and was projected to handle as many as 12 million passengers per year.[157] Even with the addition of Terminal 2 twenty-five years later, however, the terminal complex by the mid-1980s was itself greatly overtaxed. While the two terminal buildings together should (at least on paper) have had sufficient capacity for perhaps 20 million passengers, by the mid-1990s, they were approaching their collective capacity. More people flying, certainly, presented major challenges. But the real challenge arose from the evolving dynamics of air travel.

REACHING ITS LIMITS

The original terminal complex had been designed around Origin-and-Destination (O&D) passenger traffic—that is, passengers for whom Salt Lake was the beginning or end of their trip. (For years, more than 80 percent of these passengers came primarily from Salt Lake and Davis counties with only a fraction of airport users traveling from outside Utah.) As an O&D airport, Salt Lake City International operated with a relatively steady stream of activity throughout a given day. Even with rapid growth in passenger traffic, the terminal complex as it grew was, for the most part, able to handle the regular flow of arrivals and departures.

But the designation in the 1980s of Salt Lake City International as a hub airport by Western Airlines—and then Delta Air Lines—dramatically changed

Above: The Airport Redevelopment Program hosts a ceremonial groundbreaking on July 14, 2014, initiating construction of The New SLC terminal complex.

Left: An artist's conception of The New SLC.

Hub designation, former Airport Planning Director Steve Domino, noted, "changed the dynamic of the entire airport. That changed the need of the airport to grow organically. We had to develop facilities really fast."

the equation. By 1988, as one study noted, most of the passengers who passed through the airport were "in transit to other destinations"—in other words, were connecting to other flights.[158] Instead of a steady stream, the terminal complex was now experiencing significant spikes in activity as connecting flights arrived and departed within brief intervals. Designed to efficiently move passengers between the airport entrance and their gates, now the terminal complex had to efficiently move passengers between gates. Hub designation, former Airport Planning Director Steve Domino, noted, "changed the dynamic of the entire airport. That changed the need of the airport to grow organically. We had to develop facilities really fast."[159]

Passengers were not the only element creating space challenges inside the terminal. As late as the mid-1970s, concessions in the terminal comprised a coffee shop, snack bar, restaurant and cocktail lounge, gift shop, newsstand, boutique, barber shop, rental car agencies, insurance agencies, ski tour operators, and other concessions. After hub designation, however, more passengers were spending more time in the terminals as many waited for connecting flights. A larger passenger population resulted in greater demand for dining and shopping, according to *The Salt Lake Tribune* which pointed out: "Hubs, or central transit points for transferring passengers, typically have more restaurants and retail stores than airports where passengers only start and end their journeys."[160]

In response, the airport added concessions, reconfiguring interior spaces along the way, including the construction of a food court. By 2018, there were more than fifty restaurants and retail stores in the terminal complex. More concessions may have satisfied passengers, but they also took up precious space.

However, crowding wasn't just an issue inside the terminal. Terminals 1 and 2 had been designed based on a pier configuration: the piers, or concourses, extending from the main terminal with the gates projecting at intervals along the piers. The pier configuration worked for O&D traffic when aircraft came and went at a steady pace through the day. But as the airport transitioned to a hub, connecting flights arrived and departed in bunches, creating bottlenecks as multiple planes pulled into or away from gates in the confined areas between concourses.

Exacerbating the limitations of the existing layout was the continuing growth in airplanes—more specifically, growth in wingspan. Longer

wings, explained Chief Operating Officer Pete Higgins, "put a strain on our facilities, because we had to consider how far apart our gates were. We had to have separation from wingtip to wingtip." As wings lengthened, "we only got two planes for every three gates."[161]

Even with all of the crowding inside and around the terminal, former Acting Airport Director Russell Pack remarked that "the current airport was really pretty well thought out for a long time."[162] The original design had anticipated growth and thus had incorporated the capacity for expansion. The terminal complex as it evolved would serve its purpose for nearly sixty years, doubling the lifetime of the Administration Building that it replaced. Yet its longevity wasn't just a matter of design. According to Domino, "The effectiveness, the quality of the facilities, and how well they were maintained was a tribute to the people who worked there."[163] However, by the mid-1990s it had become abundantly clear that those facilities were outdated, even obsolete.

A NEW CONCEPT

For years the default scenario for expansion had been based in the existing unit-terminal approach and the premise that accommodating future growth and change would simply entail adding more terminal units. Throughout the planning process, however, airport managers and planners in collaboration with the airlines, including Delta Air Lines consultant Jim Greenwald, determined that future growth and change demanded a completely different concept.

As result, reported the *Deseret News*, the proposed new terminal changed the terminal complex configuration from a horseshoe-shaped format of linked terminal buildings to a linear concourse—"a single terminal connected by an underground people mover to separate concourses. This will streamline aircraft operations by allowing for easier push-back and full access to gates without waiting for traffic."[164]

The consolidated terminal—called The New SLC—provided more passenger services (e.g. ticketing and check-in) and an upgraded selection of retail stores and restaurants. The concessions in the concourses were located to be more convenient for passengers connecting between flights. John Buckner, former director of administration and commercial services, described the layout as a series of "mini town squares" with clusters of varied shopping and dining options regularly spaced along the concourse.[165] The goal, according to *The Salt Lake Tribune*, was to "put more space and

As the airport presented the two basic options—renovation of the existing complex or construction of the proposed complex—one of Delta's key consultants responded with a concise recommendation: "In Salt Lake, build new."

better facilities where passengers spend most of their time—at and beyond security around gates."[166]

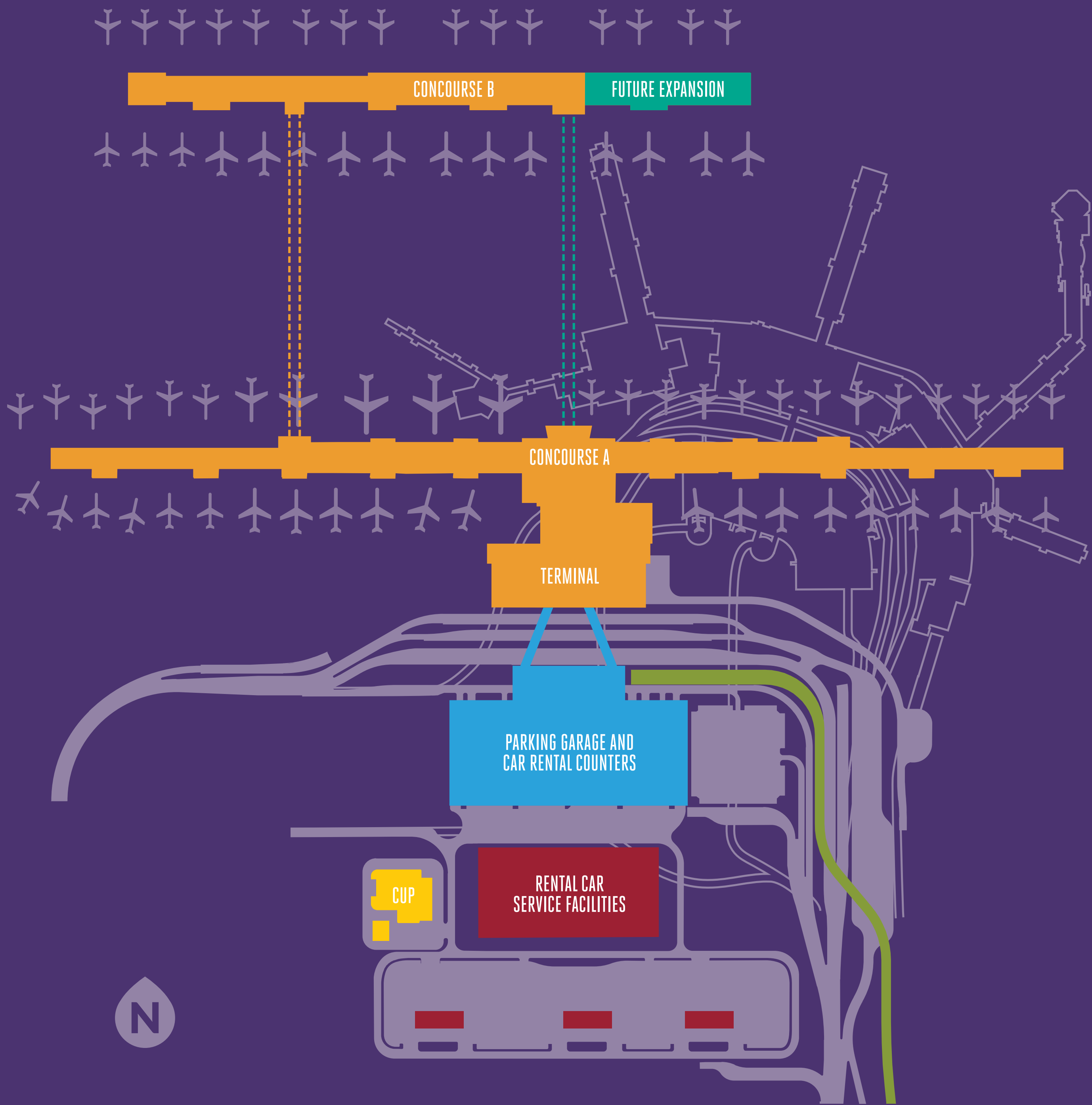
The benefits of the new design—and the more immediate operational improvements—extended outside of the terminal. As the Atlanta and Denver airports demonstrated, linear concourses substantially improved circulation efficiency in and around gate areas (i.e. no more bottlenecks) and enhanced fleet mix flexibility (i.e. the airport's ability to handle different types of aircraft).

In addition, The New SLC replaced outdated facilities with a higher efficiency, energy-saving infrastructure. Designed toward LEED Gold certification, it was planned to generate a 30 percent reduction in energy consumption with an array of sophisticated technologies, including centralized preconditioned air, radiant heating systems, "smart" escalators programmed to slow when not in use, and magnetic motors driving the baggage handling system

The proposed concept certainly appeared to be the preferred option. But the plan had to be approved by the airlines, primarily Delta, by far the largest airport user. As the airport presented the two basic options—renovation of the existing complex or construction of the proposed complex—one of Delta's key consultants responded with a concise recommendation: "In Salt Lake, build new."[167] Former Mayor Ralph Becker worked alongside now-retired Airport Executive Director Maureen Riley and airport staff during the negotiations. "It was clear," Becker recalled, "that, in the long run, the smartest thing to do was a complete rebuild of the landside of the airport. But it was a big investment. The biggest selling point was: 'We cannot retrofit it.'"[168]

The plan, produced in 1998, optimistically envisioned completion in 2003. But broader realities intervened: the 9/11 terrorist attacks; Delta's bankruptcy filing in 2005; and 2008's Great Recession. Construction finally began in 2014 with the first of two phases, scheduled for completion in 2020, that would include the central terminal, parking garage, and parts of the new concourses. The second phase, scheduled to be completed four years later, would entail demolition of the existing terminal complex to make way for an east concourse wing from the main terminal. Before anything new could be built above ground, however, significant foundational work needed to take place.

Right: A schematic diagram of The New SLC overlaid on the old terminal complex.



- Terminal and Concourses
- Mid-Concourse Tunnel
- Passenger Tunnel
- Future Expansion
- Parking Garage and Car Rental Counters
- Rental Car Service Facilities
- UTA TRAX Line to Terminal
- Central Utility Plant
- Previous Airport Facilities

The entire airport is located within what is known as the Intermountain Seismic Belt, the second most active seismic area in the continental United States, and the existing terminal complex had not been constructed to withstand the forces of a severe earthquake. One of the primary design goals of the new terminal and concourses, therefore, was to manage potential seismic impacts. To that end, the first step in construction was the installation of nearly 7,600 stone columns sunk forty-five-feet deep to stabilize the new structures.

There was another, more challenging issue related to building the new complex. Had the new terminal and concourses been located, say, a mile-and-a-half away from the existing ones (as the 1961 terminal had been), then construction and operations could have readily coexisted. But the new facility's South Concourse would effectively bisect the existing terminal complex, creating a conundrum for planners: The new complex couldn't rise at the expense of day-to-day operations in the existing terminals. As Director of Engineering Kevin Robins noted, "When we design and build something, we have to keep all the passengers and all the aircraft moving. The challenge of the project is: How do we operate first and construct second?"[169]

The Airport Redevelopment Program (ARP) therefore, became a constantly evolving balancing act of operations and construction. "We couldn't just go in and take everything out and build all the new stuff," said ARP Program Director Mike Williams. "So it was kind of a chess game of building and tearing down and building and tearing down."[170] However, with Williams and a team dedicated to managing construction of the new complex, airport personnel were able to focus on day-to-day operations, allowing both functions to proceed smoothly.

The inclusion of the North Concourse (Concourse B) made a big project even bigger—so big, in fact, that it became the largest construction project in the history of the state. Not only was it big architecturally; it was big economically. Over its 12-year lifetime, the project would generate an estimated 24,000 full-time jobs with an accompanying $1 billion in wages and $5.5 billion in total economic output. And most of those impacts were felt locally. (Two-thirds of the contracts, for example, were awarded to local contractors.) Yet, as in the past, taxpayers bore none of the costs. The new complex was paid for through a combination of airport surplus funds accrued over the years and a bond financed with airport revenues. If not for the fact that the airport was debt free, Executive Director Bill Wyatt pointed out, the project would have been prohibitively expensive.

Left: The New SLC nearing completion in 2020.

The Falls by artist Gordon Huether cascading down the main staircase in The New SLC.

The new terminal complex isn't "local" only in its economic impacts. "This is our airport," Russell Pack asserted, referring to an overall design that represents an expression of regional identity.[171] Indigenous colors and materials reflect the Utah landscape. As does the artwork, which was integrated into the architecture—most notably, *The Canyon,* a 362-foot abstraction of a Utah landscape running through the complex's main hall. Created by renowned artist Gordon Huether, it reflects his fascination with "the striations in the rock formations and the undulating surfaces that took millions of years of air and water and erosion to create."[172] *The Canyon* is complemented by *The Falls*, an sixty-five-foot glass sculpture descending through an escalator well that produces an ever-changing array of colors as the light shifts during the day. Huether's grand works, as well as those of numerous Utah artists, invoke, according to Utah Office of Tourism Managing Director Vicki Varela, "a strong sense of place, of Utah."[173]

That sense of place is reinforced by the landscape itself. The main entry hall leads to a plaza terminating in a fifty-foot-high wall of glass showcasing the landscape with expansive views of the Great Salt Lake and nearby mountains. As John Buckner, former director of administration and commercial services, had often observed in the former terminal complex, "It was common to see people standing next to the windows, looking out."[174]

Elaborate as its design aesthetic may be, The New SLC is really about functionality. Security is consolidated into one area, greatly facilitating and expediting the screening process. Enhanced wayfinding and moving walkways reduce crowding, as does a dedicated greeting area, created specifically for family and friends awaiting arriving passengers, made necessary by the large gatherings of family members welcoming home returning missionaries and military personnel returning home from service. A new parking garage has doubled the number of public parking stalls; and a station for TRAX, the light rail line, is located adjacent to the terminal.

While the number of gates in The New SLC is comparable to that in the old terminal complex, the linear concourses provide for more efficient movement: aircraft can pull into and out of gates without impeding other aircraft. In addition, as *The Salt Lake Tribune* reported, "Salt Lake City's new gates are designed to accommodate aircraft of many sizes to offer greater flexibility to airlines and their operations."[175]

On September 15, 2020, showered by a fountain of water cannons, Delta Air Lines flight 2020 pulled away from

the gate to begin the inaugural flight originating from The New SLC. The morning was, as the *Deseret News* described it, "all pomp and circumstance" with "Delta cookies, a cake replica of the new terminal paired with a frosting airplane, and balloon suitcases," as well as a bevy of dignitaries including Salt Lake City Mayor Erin Mendenhall.[176] Even with all the ceremony, the first passengers were amazed by the terminal itself. "It's beautiful. I was surprised by how beautiful it is," remarked Julie Erwin of South Jordan, Utah.[177] Her sentiments were echoed by Bryann Woodward of Tennessee. "This place is gorgeous. "It's literally beautiful and so well organized. It's like a dream compared to a lot of other airports."[178] For airport executive director, Bill Wyatt, the feeling was more personal. The opening, he reflected, was "such a bright spot in what has been such a challenging year. To see passengers actually using the facility just makes me happy."[179]

A far cry from the lone hangar that occupied Woodward Field when it opened one hundred years earlier. Then, only the occasional air mail plane landed or took off; now, hundreds of flights arrive and depart each day. The earliest terminal—the Administration Building—offered only an austere waiting area; now, passengers can dine and shop at dozens of establishments. And as the Jet Age progressed through the end of the twentieth century, the airport struggled to handle the increasing diversity of aircraft; now, the terminal complex can accommodate planes of all sizes and configurations.

Salt Lake's airport has grown into a place that would have seemed unimaginable to even the most bright-eyed optimist on that cold and windy December day in 1920 when Woodward Field was dedicated. Yet the sentiments of the *Salt Lake Telegram* seem to ring as true in 2020 as they did when expressed one hundred years earlier:

"Ten years from now every city of recognizable size in the United States will have an aviation field. The cities that early prepare to welcome the birdmen will carp the greater benefit. Salt Lake City it now seems assured will be in this class. Aviators, whether on a pleasure jaunt or fulfilling some business pursuit, will know that this city has a landing field and they will favor Utah's metropolis. While other cities are waiting to act, our city will be building its field. Before some of the others get started, Salt Lake will have been established as an aviation center, and this position, once acquired, will be easy to maintain."[180]

Top: The New SLC welcomes its first passengers in September 2020.

Bottom: Water "cannons" shower The New SLC's inaugural departure, Delta Air Lines Flight 2020.

CONSTRUCTION OF THE NEW SLC

5533A

STARBUCKS

KEEPING CALM THROUGH CRISES

Managing Salt Lake City International is about managing a dynamic place where contingency, dealing with sudden change, is a fact of life. On rare occasion, contingency may elevate to crisis, as on September 11, 2001. But the events of March 18th, 2020 elevated contingency to potential catastrophe.

For weeks, the airport had been dealing with the challenges of COVID-19. New protocols had to be implemented to ensure the safety of everyone at the airport, primarily regular sanitization of common areas throughout the terminal complex. In addition, all those entering the airport were required to wear face masks.

But by far the greater continency arose from the impact of COVID-19 on flight activity. Many people stopped flying. With lower seat counts, airlines reduced flights. In Salt Lake, Delta Air Lines—which accounted for 75 percent of all flights—eventually reduced its schedule by 70 percent. Rather abruptly, the once bustling terminals were quiet. Now, fewer than 6,000 passengers were passing through the terminals on a given day, only a quarter of the normal number. The impacts were felt throughout the airport—lower airport revenues and significantly reduced commercial activity.

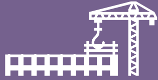
On March 18th, 2020, operating in contingency mode suddenly spiked to crisis mode. At a little after 7 a.m., a magnitude 5.7 earthquake struck the Salt Lake Valley with the epicenter just west of the airport. The already abnormal operations at the airport were immediately disrupted. More than sixty incoming flights were diverted to other airports. Outgoing flights were cancelled. The FAA Air Traffic Control Tower was evacuated with controllers forced to operate from a temporary facility.

Fortunately, damage to airport facilities was minor and limited to the existing terminals, but, as Bill Wyatt, Salt Lake City Department of Airports executive director, pointed out in a press conference that morning, the earthquake demonstrated the need to construct a new terminal complex designed with earthquakes in mind. According to ARP Program Director Mike Williams, the new terminal had been designed to withstand a much more substantial earthquake—up to as great as 7.4 magnitude—and had "performed very well."[181] The fact that the airport was again operational in only a few hours was, according to Wyatt, very much about how airport staff had responded. Wyatt was at home pouring a cup of coffee when the earthquake hit. "Before I could get to my car," he recalled, "I already had a long set of texts about everything people were doing here to secure the facility, make sure that people were safe, and that problems were being addressed."[182]

Left: Passengers stroll through *The Canyon* by artist Gordon Huether.

THE NEW SLC, BY THE NUMBERS

4.1 Billion Dollars to Construct



0 Local Tax Dollars Spent on Construction

5.5 Billion Dollars Forecasted in Utah Economic Impact

100,000,000 BTU Capacity of the New Central Utility Plant

3,600 Public Parking Stalls (2X the Old Garage)

296.7 Footprint, in Acres

7,000 Stone Columns Installed for Seismic Stability

68% of Contractors Employed Were Local

2 AND 300 Years of Construction Avoided and Millions of Dollars Saved

Made Possible by a Reduction in Passenger Numbers Due to Covid-19

76,755 Square Feet of Concessions Space

7 Miles of Baggage System

31 Escalators

32 Moving Walkways

65 Elevators

70 Passenger Gates

58 Restaurants and Shops

THE CANYON

500 TENSILE FINS

362 FEET IN LENGTH

THE FALLS

65 FEET TALL

5,000 POUNDS IN WEIGHT

300 DICHROIC PANELS

220 HAND-DRAWN GLASS AND PYREX RODS

3,163 Days From Launch to Opening Day

THRU
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-MEIKLE-

Over its one hundred-year history, the Salt Lake City International Airport has undoubtedly contributed to the fabric of millions of life stories. Within the pages of this book, author Bim Oliver deftly recounts the airport's major milestones with entertaining detail, events including the airfield's 1920 dedication (and how close Ogden came to hosting Utah's first airport instead of Salt Lake City), the pivotal role air mail service played in the airport's development, the rise of commercial airlines, the revolutionary impact of 1978's Deregulation Act, Salt Lake's hub designation, and hosting thousands of athletes and spectators for the 2002 Olympic Winter Games, to name just a few.

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