

BUILDING BOEING: JULIUS EARL SCHAEFER WICHITA'S LOST AVIATION LEADER

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The following faculty members have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirement for the degree of Master of Arts, with a major in Local and Community History.

Jay Price, Committee Chair

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DEDICATION

To my daughter Rylee, my parents, family, and friends.
I could not have done this without you

ABSTRACT

This thesis covers the life and career of Julius Earl Schaefer. He was an aviation pioneer in Wichita, Kansas, whose legacy has been lost in the history of Wichita aviation. This thesis attempts to reveal his importance in shaping the aviation community of Wichita. Schaefer managed the largest plant in town, and he had the drive to help his community grow. He was on many different boards and committees within the city. One of the more influential was the Chamber of Commerce. Schaefer helped direct the goals of the Chamber as they tried to direct the goals of the city. The main focus of the thesis is on the production of the B-29s. Wichita is remembered for these planes, but without Schaefer they would not have been built here.

Many resources were used to piece together Schaefer's life. The Boeing-Stearman collection in the Department of Special Collections at Wichita State University provided much of the material on the company life. Other company documents, such as the *Boeing Contact* and *Boeing Plane Talk* help show what life at the plant was like. Finally, a major aid to this project was the documents provided by Schaefer's remaining family. These documents helped to fill in the early years of his life and round out the story.

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INTRODUCTION

The history of Wichita is intricately wrapped up with aviation. This new technology changed the entire scope and future of the city. There was a whole list of men and women who had major roles in advancing Wichita's aviation side. In local history, Walter and Olive Ann Beech are well recognized. They were aviation as well as civic leaders of Wichita; their names are on planes, the company, and even scholarships at Wichita State University. Moreover, Olive Ann Beech became known for her role as a woman in charge of a major company. Clyde Cessna was another major aviation name. His company and the monoplanes it built were known around the world. Dwane Wallace restarted the Cessna company after its closure during the Depression. He led that company beyond the World War II building boom and kept Cessna a popular name in aviation. One of the engineering buildings on the WSU campus is named after him. All these aviation giants have had many books written about their lives and their contributions to aviation and to Wichita. All of them deserve that recognition for the impact they made. However, one man has not received the recognition he deserved. Julius Earl Schaefer, going by his middle name, Earl, was a son of Wichita, Kansas and his passion was aviation. This is his story about the city he loved and how he made a drastic imprint on that city. ¹

Many young men and women were enthralled with the modern technology of airplanes in the early years of the twentieth century. Schaefer caught the bug as a young man and went on to train at West Point and serve during World War I at an Air Signal training base. After his time in the service he moved to Wichita, where he quickly found himself working at Stearman Airplane Company. Schaefer stayed with this company for the rest of his career. He stayed with it through

¹ Dennis Farney, *The Barnstormer and The Lady: Aviation Legends Walter and Olive Ann Beech* (Kansas City, Mo: Rockhill Books, 2010); Edward H. Phillips, *Cessna: A Master's Expression* (Eagan, Minn: Flying Books, 1985); Jeffrey L. Rodengen, *The Legend of Cessna* (Ft. Lauderdale, Fl: Write Stuff Enterprises, 1998).

the uncertain Depression, and when the company joined with Boeing in Seattle. Schaefer's distinct knowledge and connections in the military dictated how he managed the company.

Schaefer saw the future of aviation in military contracts. The military had the money and need for new planes. His plan started with the Kaydet trainers that Stearman built and militaries from all over the world bought. Once the world went to war again, the country needed larger bombers and was willing to pay for them. Schaefer ended up managing the largest plane manufacturing plant in Kansas. During the war, the Kansas Boeing Plant II built 1,644 B-29 bombers, and Plant I built their 10,000th Kaydet trainers by the war's end. The plants employed nearly 30,000 people during the war. The entire city changed its structure and tempo to accommodate Boeing and other air plane manufacturers.

While Schaefer managed the largest plant in Kansas, he has not been celebrated in the same way as the Beeches or Cessna. He never had his name on the company or on a plane. Schaefer was not the founder of the company he worked at, nor did he have amazing engineering skills. He did have amazing management, sales, and people skills. With those skills he kept the company running and thriving when other the other manufacturers had to close their doors. He redirected the energy of the plant away from commercial plane production to military production and the other manufacturers did as well. The war dictated that all manufactures produce for the war effort, but Schaefer started down that path before any of the other manufacturers in town. They eventually followed Schaefer's lead and were subcontractors for the bombers Boeing built. In the war environment, every worker and manufacturer was important to get the job done. However, the question remains, if Schaefer was so important to aviation development in Wichita, why has he not been remembered?

A big reason for his absence in memory is his absence in the literature about aviation. Many historians have written about aviation in Wichita. Frank Joseph Rowe and Craig Miner wrote *Borne on the Southwind*, which covers a century of aviation history. Schaefer's contributions were covered in this book; however, he was not talked about as much as Cessna, Wallace, or Beech. Cessna and Beech both started their own companies, so their stories are different. However, Wallace's experience was closer to Schaefer's. He restarted the Cessna company in 1934. Schaefer saved Stearman from closing about the same time. Wallace did not have his name on the company just like Schaefer. Yet, the historians already cited tend to give more focus to Wallace, especially when discussing the years after the war. It also must be noted that not many historians take on a project that encompasses all aviation history. Most writers pick one company or one person to focus on. Cessna, Beech, and Wallace all left behind collections of sources for scholars to work with, so they were covered first and more often.²

Other topics related to the B-29 program have been studied by Kansas historians. Craig Miner was the premier Kansas historian. He wrote many books that covered the history of the state, a city, or a topic like aviation. Others have taken his example and started to look at some of the more intricate stories in Kansas history. In 1999, Anthony Paul Brusca wrote his masters thesis on the Battle of Kansas. His work has influenced this thesis. He focused on a major event, and this work fills in the story of one of the leading men in that event. In 2000, Julie Courtwright wrote an article for *Kansas History* about the war housing in Wichita. Her work developed the conflict that war housing caused and is still causing today for the city. This thesis helps to show how Wichita came to need that housing. Finally, in 2016, Chris Rein wrote an article about the

² Frank Joseph Rowe, and Craig Miner. *Borne on the South Wind: A Century of Aviation in Kansas* (Newton, Ks: Mennonite Press, 1994)

environmental history of the B-29 and its impact on Kansas through an environment lens. His work deals with the planes but focuses on how the military used Kansas during the war. All these topics are only the surface of what this time period has to offer. Schaefer's story fits in with them and helps inform how the B-29 came to Wichita and why it had the impact it did.³ The scholars who worked specifically on Boeing have often overlooked Schaefer and the Wichita plant in their histories. Several books tend to be the work of individuals who worked at the company during the early years. There were three major books that covered the history of the entire company, not just the founder or some of the test pilots. E.E. Bauer, a former employee, wrote *Boeing in Peace & War*. Harold Mansfield was a former employee who wrote *Vision: The Story of Boeing*. Robert J. Serling, an aviation author, wrote *Legend & Legacy: The Story of Boeing and Its People*. In hundreds of pages, Schaefer, who was on the Board of Directors for the Boeing company, was only mentioned by name on six. Schaefer has been underappreciated even in the books written only about Boeing. This may stem from the fact that the entire Wichita Division of Boeing was under appreciated by the current historiography. The Wichita plant was incredibly important to the survival and success of Boeing as a whole. Yet, it only merits a few pages out of hundreds in the company histories. This story seeks to begin balancing the coverage of Schaefer and of Boeing-Wichita. It is time to fully remember this man and the full impact he had on a company and a city.⁴

³ Anthony Paul Brusca, "A National Effort for Victory: The B-29 Development Program and the Battle of Kansas" (masters thesis, Wichita State University, 1999); Julie Courtwright, "Want to Build A Miracle City?: War Housing in Wichita," *Kansas History* (Winter, 2000); Chris Rein, "Kansas Bomber: An environmental History of the B-29 and the Sunflower State," *Kansas History*, 39 (Autumn, 2016).

⁴ E.E. Bauer, *Boeing in Peace and War* (Enumclaw, WA: TABA Publishing, 1991); Harold Mansfield, *Vision: The Story of Boeing A Saga of the Sky and the New Horizons of Space* (New York: Duell, Sloan and Pearce, 1966); Robert J. Serling, *Legend & Legacy: The Story of Boeing and Its People* (New York: St. Martin's Press, 1992)

CHAPTER ONE

Schaefer's Start

On the Kansas prairie in 1911, Julius Earl Schaefer was a young seventeen-year-old high school boy when the air show came to Kansas. The two air show pilots, Jimmy Ward and Arch Hoxey, traveled the country flying whenever and wherever they could. O. A. Boyle had a real estate development called Walnut Grove only ten miles away from Wichita, and he sponsored the show that young Schaefer saw that day. The fly boys were a wonderful way to promote Boyle's new development. Airplanes were such new technology that most had never seen one. The Wright Brothers' flight at Kitty Hawk was only seven years old. So, when the citizens of Wichita heard there would be an air show close by on the prairie, they hitched up their horses and trotted out onto the dusty plain to see it. Schaefer was so desperate to go see the show that he rode his bicycle clear out there. The planes that flew that day were fabric covered simple machines, still their graceful displays of flight captured Schaefer's heart. He later recounted, "When I went up there and saw that flying, why, I said, I was going to fly." He knew he had to be part of that amazing new lighter than air world. The passion stuck with Schaefer the rest of his life and led him to impact and dramatically shift Wichita's aviation future.⁵

Julius Earl Schaefer's early life helped shape him into the leader and manager he needed to be. Earl Schaefer was born June 11, 1893 in Wichita. His father, Julius Schaefer, had immigrated from Schramberg, Germany to America by himself in 1882. When Julius was 100 years old he recalled that his first experience on American soil was eating his first doughnut and

⁵ "Schaefer to Retire After 31 Years in Aviation Industry", *Boeing Plane Talk*, June 18, 1959, J.E. Schaefer Family Papers, These are private papers of the Schaefer family. J.E. Schaefer collected many of the clippings himself. The collection also includes letters between Schaefer and President Eisenhower as well as letters to the family after Schaefer's death (hereafter cited as Schaefer Family Papers); John Alexander, "Boss Builder of Jet Bombers," *Kansas City Star*, Dec. 30, 1950, Schaefer Family Papers; Harold Mansfield Interview with Earl Schaefer at Wichita, June 27, 1955, (Seattle: Boeing Company Archives), 1-4.

coffee. The sixteen-year-old German youth lived on the east coast for several years before venturing further inland. He eventually landed at the Stillwell Hotel in Pittsburg, Kansas, where he met Cora Calvin. Julius fell sick; however, Cora looked after him and sometime during or after that illness they fell in love. The new couple moved to Wichita, Kansas, in 1894 and Julius worked as a pastry chef at the Carey Hotel, one of Wichitas most elegant hotels. He served Presidents Teddy Roosevelt, William McKinley, and William Howard Taft during his eleven years at the Carey. Ben Eaton purchased and renamed the property the Eaton Hotel in 1900. In December that year Carrie Nation, an iron rod wielding temperance woman, attacked the bar, and broke the mirror, glasses, and damaged the painting of Cleopatra hanging in the bar. Perhaps Julius helped clean the bar up from the famous attack. Julius was not content to stay working at the Eaton Hotel. He was an entrepreneurial man and wanted to open his own business. He started with a restaurant and was able to get the lighting system put in by W.C. Coleman. Julius eventually opened another fashionable restaurant called the Old English Inn, located on Douglas where the Midian Shrine Temple now stands. During these years in Wichita, Julius and Cora started their family. They had two boys named Kenneth and Julius Earl.⁶

Earl Schaefer inherited his father's passion and work ethic. During his school years Schaefer was a busy young man. He was always looking for ways to increase his funds. He often washed dishes in his father's restaurant. In an article for the *Kansas City Star* he recalled the Old English Inn, "a very beautiful restaurant with mountains of unwashed dishes in the back end."⁷ Schaefer did not stop with only dishwashing. He could often be found roaming the streets selling

⁶ Fran Kentling, "Mind Clear After Century of Living," *Wichita Beacon*, Schaefer Family Papers; Craig Miner, *Kansas: The History of the Sunflower State, 1954-2000* (Lawrence, Kansas: University Press of Kansas, 2002), 193-194; Craig Miner, *Wichita: The Magic City* (Wichita, Ks: Wichita-Sedgwick County Historical Museum Association, 1988), 113.

⁷ Alexander, "Boss Builder," *Kansas City Star*, Dec. 30, 1950, Schaefer Family Papers.

newspapers or sweet treats. Marshmallows were a particularly popular choice of confections. He went to theaters or fairs and give his spiel: “Ladies and gentlemen, may I have your attention for just one moment, please? I am introducing for your inspection and approval a celebrated marshmallow made of pure whipped cream, the beaten whites of eggs and granulated sugar.”⁸ His flair for sales certainly started at an early age. When he was not working in one of his jobs, he was active in school activities. Schaefer attended Wichita High School, where he played football and baseball for the school teams. He also grew his leadership skills during his time as class president. Schaefer had a drive, even as a young man, to work hard and to lead.

Among all his activities in his youth, three events stood out to shape this young man’s future. The first was the air show Schaefer went to when he was seventeen. That event triggered his lifelong love of aviation. The second event was during his senior year. Schaefer landed the male lead in the school play that year and the leading lady opposite him was Miss Catherine Rockwell. Schaefer was not able to get her out of his mind. They corresponded throughout Schaefer’s time at West Point, and when he graduated, he came back to Wichita to marry her. The third event was Schaefer’s entry into West Point, although a tragedy almost kept Schaefer from attending. In 1913, his father’s restaurant was destroyed in a terrible fire. Everything was lost, so Julius decided to move to Houston to start over. Schaefer went to Texas for a few months after his junior year and would have completed school down there, but he was saved by a friend.

Stub King invited Schaefer to live with him for the last year of high school. Schaefer was able to return and be class president, an athlete, lead in a play, and still be a hard-working young man. Meanwhile, Victor Murdock, the owner of the *Wichita Eagle* newspaper, put out word that there would be competitive examinations held in Wichita for appointment to the United States

⁸ Ibid.

Military Academy. Schaefer studied hard and sat for the exams. He had a bit of testing luck when he changed one answer. The question was, “how many signers were on the Declaration of Independence?” Schaefer answered 112 at first, but before handing in the exam he thought better of it and divided by two making his answer 56, the correct answer. With this bit of luck and the backing of Victor Murdock, Schaefer was accepted into West Point and began his time there in the fall of 1914.⁹

Schaefer made lifelong friends at West Point. In his first days he met upperclassmen through his sponsor and fellow Wichitan Paul Hodgson. One day, as Schaefer visited Hodgson, an upperclassman demanded of Schaefer, “Mister, what’s the definition for leather?”¹⁰ This was a test for newcomers who were to answer it with the properties of leather from the chemistry textbook. Schaefer answered correctly, and the senior smiled in return. Schaefer’s lifelong friendship with Dwight Eisenhower began. They had an easy connection since both were from Kansas. Schaefer went on to correspond with Eisenhower for the rest of his life and he later said that, “from West Point to the White House he was always the same Ike.”¹¹ Schaefer studied alongside many other future generals. He learned how to be an officer in the military and what it meant to lead men. Much of what he studied at West Point would dictate how he managed companies later in life.

While he was at school he was as dedicated to extra activities as he had been in Wichita. Schaefer joined the baseball squad, track, Y.M.C.A. entertainment committee, and the Dialectic

⁹ “Wichita Silholiettes Aircraft Executive Began Career in Army Aviation”, April 26, 1959, Boeing-Stearman Corporate Collection, MS 99-04, box 2 file 42, Special Collections, Wichita State University (hereafter cited as Boeing Collection); Alexander, “Boss Builder,” *Kansas City Star*, Dec. 30, 1950, Schaefer Family Papers; “Schaefer to Retire”, *Boeing Plane Talk*, June 18, 1959, Schaefer Family Papers; Mike Lavelle and Marge Wells, “J.E. Schaefer led Company Through Difficulties,” September 1, 1991, Schaefer Family Papers; Mansfield Interview with Schaefer, June 27, 1955 (Seattle: Boeing Company Archives), 14.

¹⁰ Pete Wittenberg, “Wichitan Tells of Life with Ike at the Point,” *Wichita Eagle & Beacon*, March 30, 1969, Schaefer Family Papers.

¹¹ *Ibid.*

Board. He tried to join the football team alongside Eisenhower, but the coach would not take on the slight of frame young man even though he played football in high school and was quite a fast runner. Despite this disappointment, Schaefer kept busy with activities and school work. He attended the inauguration of Woodrow Wilson in 1916 and marched in the parade. Although he did not get to hear Wilson's address or meet the man, he did get to attend a wonderful ball that evening before a late-night train ride back to school. At school, his studies were sometimes difficult. He later said that perhaps a few years at college would have made the academics at West Point easier. However, in his biography page written by the school it was said that, "anyone who has had the pleasure of hearing Julius must come to the conclusion that though the dictionary was not imbibed in the above manner (swallowing), it has at least been firmly established in that mass of gray matter of his, commonly known as the brain."¹² To his classmates and instructors, he was an intelligent young man who worked diligently to improve himself in all ways. He also prepared for his future by using his time in the military to promote aviation and make important contacts for his later career.¹³

Schaefer graduated from West Point in August 1917 and wanted to quickly move into aviation. After graduating all cadets filled out a form with their top three choices for the branch of service they would like to join. Schaefer got himself into some trouble with his choices; which were: 1. aviation 2. aviation 3. aviation. He was the first graduate to request an assignment with the Army Air Corps. It came as a surprise that Schaefer was called in to see the assistant commandant of cadets, Captain A. R. Chaffee. Chaffee assumed Schaefer's answers on the form

¹² "Julius Earl Schaefer Biography," West Point Year Book, Schaefer Family Papers.

¹³ Alexander, "Boss Builder," *Kansas City Star*, Dec. 30, 1950, Schaefer Family Papers; Wittenberg, "Wichitan Tells of Life with Ike," *Wichita Eagle & Beacon*, March 30, 1969, Schaefer Family Papers; "Schaefer to Retire", *Boeing Plane Talk*, June 18, 1959, Schaefer Family Papers; Arch O'Bryant, "The Bystander," 1969, Schaefer Family Papers.

were an attempt at humor, and he was not amused. He had experienced Schaefer's devotion to flying before when Schaefer said he would rather be flying than on a horse. That was not the best thing to say to an officer who was an Olympic team horseman. So, when Chaffee saw Schaefer's choices he said, "Well, Mr. Schaefer, it looks like you have made another statement."¹⁴ He called out Schaefer for the gravity of the offense and Schaefer thought he was going to be court martialed. Schaefer was eventually able to convince Chaffee of the sincerity in his request. He told Chaffee that aviation was truly his first three choices, but he would take any branch after that.

Though the sincerity of Schaefer's passion was no longer in question, he still had a fight to make it to a plane. Since there had never been a request to go into aviation Schaefer had to write a letter to the Adjutant General of the Army requesting that branch. Schaefer did this, but was told he would have to be assigned to a line organization then detailed into the aviation section of the Signal Corps. It was a long way around to get there, but Schaefer was willing to do what he had to. By this point the United States was involved in World War I; however, his track into aviation kept his involvement in the war strictly within the states. He was assigned to the 46th Infantry in Indianapolis. As soon as he landed there, he wrote another letter requesting aviation. Ten days later the response was not good. "There are no officers being detailed to the Aviation Section of the Signal Corps at this time."¹⁵ This section was the only aviation arm of the Army and was the precursor to the Air Force. Schaefer had to wait and resubmit his application to the Signal Corps in 30 days.

Schaefer remained as determined as ever to get into aviation. However, before he could submit another letter, he was pulled into headquarters to be an assistant to Colonel Pickard. The

¹⁴ Mansfield Interview with Schaefer, June 27, 1955 (Seattle: Boeing Company Archives), 7.

¹⁵ *Ibid.*, 9.

colonel liked Schaefer's West Point background and tried hard to talk him out of aviation. He went so far as to disapprove Schaefer's application for transfer. In fact, the colonel denied the next four or five applications. Schaefer was not giving up. He would make it to the Air Corps no matter what obstacles stood in his way. So, he just kept on turning in applications very routine to Pickard. One day, the colonel came in from an inspection tour and Schaefer began having him sign a stack of forms. He kept telling the Colonel that the forms were all routine. One of those routine forms was his application for the Air Corps. Pickard signed it without realizing until it was too late. He did not hold it against Schaefer. He just said, "You're going to get killed but, I'm going to wish you well nonetheless."¹⁶ This made Schaefer the first cadet to request an aviation assignment and receive it. He later recalled, "All of my classmates at West Point and many of my contemporaries looked upon me as somewhat of a 'screwball' because I wanted to get into aviation."¹⁷ This critique did not phase Schaefer; he was off to learn to fly.

Most flight training was happening at Kelly Field in San Antonio. Schaefer went there to finally get behind the controls of an airplane. After less than five hours of training he went up on his first solo flight. While he was at Kelly, General Pershing issued a, "blistering statement about the unsoldierly bearing of the aviators who were in Europe and insisted that something be done."¹⁸ America was involved in the First World War, but the military was dealing with the ramifications of how poorly prepared they were. Schaefer was called in by Major Stratemyer at Kelly to find a solution to the ill-prepared aviators. Schaefer was put in charge of creating a garrison school to train the pilots how to be good soldiers. In return, Schaefer received preferred status in his flight training. Schaefer did his flying first thing in the morning and was supposed to

¹⁶ Ibid., 11.

¹⁷ J. Earl Schaefer to Marcellus Murdock, Nov 3, 1955, Boeing Collection, box 2 file 42, Wichita State University.

¹⁸ Mansfield Interview with Schaefer, June 27, 1955 (Seattle: Boeing Company Archives), 12.

drill the men in the fundamentals of soldiering in the afternoons. However, Schaefer admitted that they frequently skipped the drills in favor of sitting in the shade of the hangar doors and flying.

Schaefer earned his wings just in time for the war to end, wearing his wings for the first time the night armistice was announced. As the world celebrated the end of the war, Schaefer was celebrating a different major life event. His daughter was born. He joked to his mother-in-law, “Well, she’s a pretty fine baby girl but I didn’t think she rated all this celebration.”¹⁹ After the war ended, there was no longer a need for the garrison school, Schaefer was transferred to Post Field in Fort Sill, Oklahoma. This was a reconnaissance field that was being closed after the war. It was Schaefer’s job to close out the field.²⁰

Schaefer continued to fly during his time at Post Field. Two flights had great impact on his future. The first was his flight home to Wichita. In 1919, the Victory Liberty Loan Flying Circus came to Wichita to raise bonds to help pay off World War I debts. Pilots flew fake sorties over the city as spectators below saw what the “real battles” were like. Into this excitement flew Lieutenant Earl Schaefer on May 30 in an Army Curtiss Jenny. Schaefer recalled that he “followed the ‘iron compass’ most of the way, and the horse race track where I landed in West Wichita looked mighty good to me.”²¹ Navigation from the air still took a lot of guess work, so following a railroad, or “iron compass,” was a safer way of reaching the right destination. Schaefer was the first to bring an Army aircraft to Wichita, and the city turned out in mass numbers to see the plane and perhaps even catch a ride. Schaefer broke Army regulations and

¹⁹ Ibid., 17.

²⁰ Alexander, “Boss Builder,” *Kansas City Star*, Dec. 30, 1950, Schaefer Family Papers; “Schaefer to Retire”, *Boeing Plane Talk*, June 18, 1959, Schaefer Papers; Mansfield Interview with Schaefer, June 27, 1955 (Seattle: Boeing Company Archives), 17.

²¹ “Began Career in Army Aviation”, April 26, 1959, Boeing Collection, box 2 file 42, Special Collections, Wichita State University.

took many men for rides in his airplane. He could have been court-martialed for taking civilians up in military aircraft, but he wanted to stimulate interest in aviation, so he took the risk. For most of these men it was their first time up.

Before Schaefer left Wichita, E.M. Laird and Buck Weaver, two airplane engineers, asked Schaefer to take an oil man up for a ride. That oil man's name was Jake Moellendick. He was so impressed with aircraft that he began to actively work to make Wichita an aviation hub. After that eventful trip to Wichita, Schaefer subsequently flew to many towns around Kansas promoting the idea of an airport in Wichita. He wanted to grow aviation in the heart of the country and became a booster for Wichita even when he was not living there.²²

The second flight that impacted Earl Schaefer during his time in the military almost caused an impact with the ground. Schaefer was up and working through several maneuvers in his plane when he suffered a freakish accident. He went to perform a tight "Immelmann" turn. This turn was used during combat in WWI, and it was designed to set up another attack on an enemy aircraft. After performing a dive attack the pilot would climb steeply, then, just before stalling out, turn the plane over on itself and be ready to dive again. The idea was to take the plane from below the enemy to above and diving again in a short time. Schaefer was practicing this maneuver when things went very wrong. He was supposed to kick hard right on the rudder, but this day he was wearing new boots with slick soles. He went to kick out and his foot slipped

²² Sondra Van Meter, "The E.M. Laird Airplane Company: Cornerstone of the Wichita Aircraft Industry," *Kansas Historical Quarterly* 36, no.3 (Autumn, 1970): 342-343; Frank Joseph Rowe, and Craig Miner. *Borne on the South Wind: A Century of Aviation in Kansas* (Newton, Ks: Mennonite Press, 1994)57-59; Bruce Bissonette, *The Wichita 4: Cessna, Moellendick, Beech & Stearman* (Destin, Fl: Aviation Heritage, 1999), 63; "Article Draft," April 22, 1942, Boeing Collection, box 1 file 19A, Special Collections, Wichita State University; "Began Career in Army Aviation", April 26, 1959, Boeing Collection, box 2 file 42, Special Collections, Wichita State University; "Joins Stearman Air Sales Force," Boeing Collection, box 2 file 42, Special Collections, Wichita State University; Brevet-Major-General George W. Cullum, *Biographical Register of the Officers and Graduates of the U.S. Military Academy 1910-1920*, (West Point, New York: 1920), 1957; Mansfield Interview with Schaefer, June 27, 1955 (Seattle: Boeing Company Archives), 2.

off the rudder bar. However, his kick was so powerful that the unexpected slip tore muscles in his back and caused a vertebra injury. Schaefer said later, "I still don't know how I got the plane down. Everything blacked out on me."²³ Luckily, Schaefer was able to land the plane, but he had to take a break from flying and his back was always weak after this injury.

Schaefer resigned from the military on February 9, 1920. His injury made it harder to fly. Also, Schaefer was a restless and ambitious young man and the civilian life had more opportunities than the military at that time. After resigning, he worked in Houston, Texas with Goodyear Tire and Rubber Company for one year. He started as a stock clerk, but quickly moved into the district manager of sales position. Despite his quick ascent to management, the entrepreneurial bug got Schaefer, just like his father. He wanted to run his own business, so he started the Galveston Federal Bakery which lasted until 1924.²⁴

During Schaefer's time in Texas, boosters for Wichita aviation were hard at work spreading the news that Wichita was perfect for aviation. Schaefer was one of those booster voices for a time. The boosters for Wichita were confident in the future of the city and worked to stimulate modern growth. The boosters drew much of their confidence from the location of the city. Wichita is located as almost the center of the country. It is less than two hundred miles from the geographic center of the United States. This central location has been used by boosters since the late 1800s as an attractive feature of the city. However, because of its location, Wichita can be claimed by several different regions. During its lifetime the city has been considered part of the Midwest, Plains, Northern West, and Southwest. This gave the city a "fluid sense of regional identity." The local boosters in the newspapers and in businesses used the fluid regionalism to tie Wichita to different areas of the country at different times. This theme that lasted through

²³ Alexander, "Boss Builder," *Kansas City Star*, Dec. 30, 1950, Schaefer Family Papers.

²⁴ *Ibid.*

Wichita boosterism was the central location of the city, and the destiny for greatness that location brought.²⁵

When Wichita was a brand-new settlement, several men saw its potential and fought for its future. In those very early years, location almost killed the city as it fought for its first railroad. In the 1870s, the railroads did come to Wichita, and then the cattle drivers came from Texas. The city was a booming success and the newspapers began to proclaim its greatness. Marshall Murdock, owner of the *Wichita Eagle*, proclaimed Wichita as, “The Nile of America at Sunset,” “The Peerless Princess of the Plains,” “The Magical Mascot of the Meridian,” and “The Magic City.” Wichita was an established city, the center of the country, and destined for greatness. The Wichita Board of Trade issued a booster map in 1887 that showed the city as almost equidistant to everywhere in the United States. Railroads flowed to Wichita from Chicago, St. Louis, and Kansas City then continued to Denver, El Paso, San Diego, and Los Angeles. According to the map, Wichita was the central key to the migration of rail travel across the country. The *Wichita Eagle* put out another map on April 20, 1890, along with the article “Center of Centers.” This map and article proclaimed Wichita as the central city of the United States, and perfectly placed to reach the rest of the nation. It did not matter to many whether the slogans and pamphlets were true or not. Men and women from Wichita spread the word about their city beyond the Kansas borders.²⁶

The idea behind all these things was to boost the reputation and perception of Wichita in the minds of those that did not live there. Perhaps they would move to Wichita, or more

²⁵ Sally F. Griffith, “Order, Discipline, and a few Cannon”: Benjamin Franklin, the Association, and the Rhetoric and Practice of Boosterism,” *The Pennsylvania Magazine of History and Biography* 116, no. 2 (April 1992): 132-133; Sally F. Griffith, *Home Town News: William Allen White and the Emporia Gazette* (New York: Oxford University, 1989), 6-7 and passim.

²⁶ Jay M. Price, “Peerless Princess of the Southwest”: Boosterism and Regional Identity in Wichita, Kansas,” *Kansas History*, 38 (Summer, 2015): 81-88, 94-96.

importantly, do business with the companies there. Businesses were highly active in the boosterism game. The location of the city was part of the story, but what it had to sell was the other part. The Commercial Club in Wichita sent booster trains into Oklahoma to encourage business and development to come to Wichita. Dozens of men and women traveled on the trains and proclaimed the many virtues of living and working in Wichita. By the 1920s, Wichita had been through several boom and bust economic cycles, and aviation was the new boom. As aviation grew, the central location of Wichita and the flatness of the plains was a key aspect of the cities perceived aviation suitability. The work of booster men and women paid off, because Wichita was about to have an aviation explosion in the early 1920s.²⁷

Aviation in Wichita was successful because of a confluence of oil money and like-minded people. Just east of the city, an oil strike occurred at an opportune moment. The price of oil was high because of the needs of the World War I. Jake Moellendick was one of the men who took advantage of the oil strike and soaring prices. He came to Kansas from Oklahoma and made a fortune. He became enamored with aircraft after his ride with Earl Schaefer in 1919, and he poured his wealth into that venture. The business-minded men and women of Wichita had a history of supporting risky ventures. Earlier business risks included the railroad, cattle trade, and even broom corn. Massive sums of money were risked for each of those businesses to succeed, and aviation was no different. Moellendick had a true passion for airplanes. He had the money, and he knew there were other men who would come to Wichita for the chance to build airplanes. Moellendick and his associate William Burke, an automobile man from Oklahoma, recruited E.M. Laird from Chicago to come to Wichita and build airplanes. When Burke went to Chicago his proposition to Laird was said to sound like this:

Look here, Matty. You can design and manufacture airplanes. That's all you need. I have

²⁷ Miner, *Wichita: Magic City*, 16-23,43-44, 132.

a little money, and Jake Moellendick down in Wichita has money, so why don't we three form a partnership and put these things out in worth-while quantities. Wichita has a red-letter day on right now. Oil is spouting from those wells down there and making people drunk with prosperity. It's selling for \$3.50 per barrel and most of that money is staying right in Wichita. Those folks need airplanes, whether they know it or not, and we might as well sell 'em to 'em.²⁸

Laird could not turn down that offer. He came to Wichita and soon this new company would have the best aviation minds working alongside one another.²⁹

Laird was an experienced airplane designer and engineer; however, his experience with planes began with a rocky start. In 1912, Laird, at sixteen years old, built his first full sized plane. It was a small plane he called the "Baby Biplane." Once the plane was complete, he took it to an airfield to test it out. Learning to fly was not regulated; and, once the excited young Laird got the plane started he rolled down the field and took off. He flew the airplane ten feet off the ground before becoming scared and letting the machine crash back to the earth in a cloud of dust and splintering wood. His flying needed improvement, but the crash did not dissuade Laird from his love of aviation.³⁰

Laird came to Wichita in 1920, and with the financial support of Moellendick and Burke, the Laird Airplane Corporation was born that May. It was the first long-lasting aircraft manufacturing company in Wichita, and was located on the corner of Wichita and English streets behind the Forum building. Laird quickly added talented pilots and engineers from around Wichita to his company. Out of the list of employees, two men stick out as important to aviation's future in Wichita. A young Lloyd Stearman joined the company in 1920. He was an

²⁸ John T Nevill, "The Story of Wichita," *Aviation* (December, 1930): 13.

²⁹ Rowe and Miner, *Borne on the South Wind*, 59-63.

³⁰ Nevill, "Story of Wichita," 4-5; Craig Miner, *Wichita the Magic City*, 154; Sondra Van Meter, "The E.M. Laird Airplane Company: Cornerstone of the Wichita Aircraft Industry," *Kansas Historical Quarterly* 36, no.3 (Autumn, 1970): 343 The laird company was not the first aircraft factory in Kansas nor in Wichita. Clyde Cessna was already building planes out of the old Jones automobile plant when he went to work for Laird.

architecture student at Kansas State University. He had experience flying during World War I, and was able to transition his architecture skills into drawing airplane plans. Walter Beech joined Laird in 1921. He was also a pilot in World War I and brought that expertise to Laird. Many of the early aviation companies used public spectacles to gain publicity. Beech was one of the pilots that helped put on such shows. On September 30, 1921, *The Wichita Eagle* announced that Beech would pilot a plane while Clyde Duncan hung from it by his teeth. Stunts like these drew the crowds and notoriety for airplanes that the companies needed. Beech went on to be the manager of flying operations for Laird.³¹

The plane that made Laird successful was called the Swallow. It was a biplane that could carry a pilot and two passengers. Unlike many other plane designs at that time, it had room for baggage or cargo as well. The Swallow was a reliable plane that won many honors in air races, especially with the later models after 1921. Races were one of the avenues for showing off the planes and testing which design was best. The Swallow did well enough in the races to bring in consistent orders for the plane. However, the success of the Swallow did not stop the relationship between Laird and Moellendick from deteriorating. Moellendick invested large sums of his money into the company. When it came to making decisions about the company, he would often take action without consulting Laird. These actions led to a decline in the company's books. In June 1921, Moellendick began construction on a larger \$15,000 factory building at the Laird Air Field, which was to the north of the first factory. Then, in 1922, Moellendick wanted to ease the company's debt by issuing \$80,000 in stock. Laird opposed these moves because he was more financially cautious. The Chamber of Commerce was also financially cautious and could not urge people to purchase stock in a strained company. Moellendick was not one to give up. He

³¹ Rowe and Miner, *Borne on the South Wind*, 64-65; Van Meter, "Laird Airplane Company," 348-349.

continued to invest his own money and disagree with Laird over the company's direction and policies. Laird finally had enough of fighting with Moellendick. He left Wichita in 1923 with two airplanes and \$1,500. Laird's company built forty-three Swallows during his time in Wichita. He left behind the first long-lasting aircraft manufacturing company in Wichita and a legacy for others to build on.³²

Moellendick took over the company and renamed it the Swallow Airplane Manufacturing Company; however, his distinct vision for the company would cause its downfall. Designs for aircraft were continuously moving forward. Swallow had many innovative engineers who wanted to make changes to the aircraft design. Walter Beech, general manager, and Lloyd Stearman, chief engineer, approached Moellendick in 1925 with the idea to change the frame of the aircraft from wood to metal. Moellendick was strongly opposed to this kind of design change. He tore into Beech and Stearman with vigor and ended his tirade by telling them that it was, "a cold day out there and if you don't like it here, there's the door, just don't let it slap your ass on the way out."³³ Beech and Stearman left Swallow to form their own company called Travel Air.³⁴

Travel Air was the next step for three major aviators of Wichita. After they left Swallow, Walter Beech and Lloyd Stearman recruited Clyde Cessna to join them in their new company. Clyde Cessna was an established engineer and pilot. He was building and flying planes in Kansas and Oklahoma as early as 1911. In 1916, Cessna set an impressive and surprising flying mark. He flew his plane from Burden, Kansas to Belmont, Kansas in one hour. This was a ninety-mile

³² Van Meter, "Laird Airplane Company," 348-352; Rowe and Miner, *Borne on the South Wind*, 68-69; Miner, *Wichita*, 154.

³³ Quoted in, Bissonette, *Wichita 4*, 4.

³⁴ Rowe and Miner, *Borne on the South Wind*, 78; Bissonette, *Wichita 4*, 3-5; Edward H. Phillips, *Cessna: A Master's Expression* (Eagan, Minn: Flying Books, 1985), 35.

journey, and that was the fastest anyone had flown that distance. Cessna even told the *Wichita Eagle* that he, “lost his course twice and flew a considerable distance out of the direct path... had he not gotten off the straight course he would have beaten the time.”³⁵ Cessna was convinced to come to Wichita the same year as his record flight. Many in Wichita were anxious for the opportunity to fly and buy their own plane. Cessna was given a building at the J.J. Jones Motor Company on north 37th street, along with a field next to it for landings. In 1917, Wichita joined the elite group of cities that could claim to have an airplane built there. The monoplane Cessna constructed was named the *Comet* after it made a flight from Blackwell, Oklahoma to Wichita in thirty-six minutes and thirty-five seconds. Cessna had many plans to go on with aviation and even wanted to help train pilots for the military. However, the military turned down his aid, and when war rationing started, it was hard to find the fuel to fly. Cessna returned to farming to support the war effort. His feet may have been on the ground, but his head was still in the clouds.³⁶

When Walter Beech and Lloyd Stearman approached Cessna to join their new company, Travel Air, Cessna jumped at the opportunity. Beech and Cessna invested \$5,000 and Stearman put \$700 into the new company. Cessna also allowed many of his woodworking tools to be used by the company. During the second half of the 1920s, Travel Air was very successful in what was still a luxury market with several new plane designs and were a well-known name in the aviation world. It was a Travel Air 5000 plane called the *Woolaroc* that won the Dole race to Hawaii in 1927. Cessna even convinced Beech to try building the newer model monoplanes with only one wing instead of the more common biplanes with two stacked wings. The company had built over eighty biplanes but gave the monoplane a try. The new design worked so well and had

³⁵ “Kansas Aviator Flies 90 Miles in an Hour,” *Wichita Eagle*, September 10, 1916, 1.

³⁶ Phillips, *Cessna*, 12-14, 24-33.

such nice amenities that National Air Transport used eight of these planes on their Chicago to Dallas route. Cessna was always devoted to the monoplane design. “He insisted that the monoplane was the logical ship for commercial use.”³⁷ There was a time after World War I when the surplus war biplanes stunted monoplane production, but Cessna knew that commercial air traffic would increase, and he could design the best planes. In January 1927, not long after the success of that monoplane design, Cessna decided to sell his shares and start his own company. Walter Beech continued on with Travel Air and eventually renamed the company Beech Aircraft Company.³⁸

For Stearman, a change came on Friday evening, August 13, 1926, when he took a new plane out for some test flights. He was doing stunts and the plane handled fine and he landed without incident. The unfortunate series of events occurred while he taxied into the hanger. Stearman told his story of the events to the *Wichita Eagle*. He said that he, “had to pass a large government plane and was standing up and looking to the right in order to miss the plane. I would look left occasionally, but it was not until I was right on the car that I saw it. I cut the engines instantly and felt a slight tremor of the plane as the wing grazed the car.”³⁹ While Stearman was focused on taxiing his plane, a car pulled up on his left carrying George Theis, Jr, his wife, and two children. Theis was the president of the Arkansas Valley Interurban company, a commuter rail line between communities in the Wichita area. Theis was standing on the running board of his car with his back to the approaching plane. As the plane came up on the car, Theis stepped back and was struck by the propeller of Stearman’s plane. “Theis was thrown into the air twice by the propeller, and both his arms and the back of his head were torn off, according

³⁷ “A Wichita Man Who Stood,” *Wichita Eagle*, August 7, 1927, 5.

³⁸ Phillips, *Cessna*, 37-39; Miner, *Wichita: Magic City*, 160-161.

³⁹ “First Tragedy of L. Stearman,” *Wichita Eagle*, August 14, 1926, 1 and 3.

to bystanders.”⁴⁰ His wife and children witnessed the whole gruesome accident.

This accident weighed on Stearman heavily. The *Eagle* reported that Stearman said, “I hate to think about it, or of Mrs. Theis and her children. If there was only something I could do.”⁴¹ An investigation into the incident cleared Stearman of wrongdoing. It was just an unfortunate accident, but Stearman could not get it out of his head. On October 3 that same year, the *Eagle* ran a story titled, “Designer of Travel Air Plane Leaves Wichita to Organize Firm on Coast.” Stearman was leaving Wichita for California. He wanted to escape Wichita and the reminders of what had happened. He took the opportunity to form his own firm in California with Fred Hoyt, a Travel Air dealer on the west coast, and Mac Short, another Travel Air employee.

Several books tell the story of Stearman leaving Wichita, but the reasoning behind his decision to vacate the city varies. Bruce Bissonette’s book, *The Wichita 4*, gave several causes for Stearman’s departure. The first cause given was the accident, then came Stearman’s desire to focus on biplanes over monoplanes. At the time of his resignation, Cessna had Travel Air working on the new monoplane design. Finally, Bissonette pointed to Hollywood as a reason for Stearman’s departure. The movies were using more airplanes and therefore created a demand for manufacturing in California. Another source was John T. Nevill’s article, “The Story of Wichita,” written in 1930. His only explanation for Stearman leaving was the persuasion of Hoyt in California, who pulled Stearman out there to join him. In *Wichita: The Magic City*, Miner simply stated that Stearman was the first to defect from Travel Air. However, in *Borne on the South Wind*, he goes into much more detail. He was the one who saw Stearman leaving as an escape from Wichita because of the accident. Miner said that Stearman joined Hoyt and Short in

⁴⁰ “Wichita Capitalist Victim of Propeller Accident at Airport,” *Wichita Eagle*, August 14, 1926, 1.

⁴¹ “First Tragedy of L. Stearman,” *Wichita Eagle*, August 14, 1926, 1 and 3.

California but did not mention who instigated that arrangement. Regardless, there was a push and pull situation that ended in Stearman's departure. He was pushed from Wichita by the accident, the design differences, and was pulled to California by the promise of clients and funds to start his own prosperous company.⁴²

Stearman's absence from Wichita proved to be very short-lived. Several prominent business men realized they needed Stearman back in Wichita. They needed more competition for the other airplane men like Beech. A concerted effort, led by Harry Dillon and Walter Innes, Jr., of the Innes department store family, was made to lure Stearman back to Wichita in 1927. They started a corporation and helped raise \$60,000 from other Wichita businessmen. The list of contributors and later Stearman stockholders included: Howard Wheeler, J.O. Davidson, C.L. Henderson, Henry J. Allen, and Marcellus Murdock. All contributors were men highly invested in the success of Wichita and aviation. Many of these men were members of organizations that were actively promoting the city through boosterism tactics. Stearman did not have the financial success he was looking for in California, so he agreed to the favorable offer. Travel Air was started with only \$10,700 just two years prior, so \$60,000 was an extravagant amount of money to start a new aviation company. All the men involved in this venture, as well as other aviation business at this time, were gambling on their passions for flying. They had no idea that the industry would really develop as much as it did, but they trusted in the future of aviation and an eventual pay off.⁴³

When Stearman returned to Wichita, he brought his whole California company with him. The equipment, orders for airplanes, and several of the workers from California relocated with

⁴² Bissonette, *Wichita 4*, 57-58; Nevill, "Story of Wichita," 24; Miner, *Wichita: Magic City*, 160; Rowe and Miner, *Borne on the South Wind*, 79.

⁴³ "Article Draft," April 22, 1942, Boeing Collection, box 1 file 19A, Special Collections, Wichita State University; Rowe and Miner, *Borne on the South Wind*, 79.

Stearman. The company just needed a building. In October 1927, they settled into the old warehouse where the Burton car works, Bridgeport Machine Works, Jones 6, and Cessna's first airplane factory. Mac Short was one of the California men to come to Wichita. He told the *Eagle* that, "Geographically, Wichita has the advantage as an air center... we feel confident that our venture here will be successful."⁴⁴ Mac Short became the Chief Engineer and Fred Hoyt, another California man, was the first sales manager. They started piecing together planes in the small warehouse as they were able. Building planes was different in this era. A few men would shape the wood and metal by hand. Sometimes they were built in pieces as the materials were able to be purchased. Those materials were not always readily available, so some projects stalled for want of them. The new little company did well, and within its first few months the payroll was up to forty people who expected to produce six planes a month.

On January 11, 1928, Fred Hoyt was flying a Stearman plane to Boise, Idaho. It was Hoyt's job to find contracts for planes, then deliver the finished plane to the buyers. Usually these deliveries were easy and enjoyable for Hoyt, but on this delivery in January tragedy struck. While flying near the Rocky Mountains, Hoyt began to have some problems with fog and ice. Eventually, the ice caused malfunctions on the aircraft and Hoyt went down in the mountains. The snow was deep, and the temperatures were below freezing. Hoyt continued logging his experiences in his flight book. He was able to keep a fire burning for the first night, but eventually he fell asleep from exhaustion. The search for Hoyt was on the front page of the newspapers in Wichita. However, the search was not fast enough. His body was found a week later and only a few yards away from a safe shelter. It was a deeply sad loss for the Stearman company. Early aviation was often a tragic endeavor, but men continued to be passionate about it

⁴⁴ "Stearman Plant Will Be Located in North Wichita," *Wichita Eagle*, September 21, 1927, 13.

and push for its success. With the loss of Hoyt, Lloyd Stearman needed a new sales manager for his plant. Julius Earl Schaefer was the perfect man for the job.⁴⁵

When his bakery did not work out, Schaefer moved back to his home town, Wichita, in 1924. Schaefer then became the sales manager for the E.J. Rodda Motor Co. He also began to be involved in many groups around the city. The major aviation men in town remembered him from his youth and from his flight to the city in 1919. Schaefer was a very successful car salesman, but his son later remembered his father saying, "I just hate to sell cars, I wanta sell things that are more exciting."⁴⁶ For Schaefer, the more exciting thing was the airplane. When the tragedy of Fred Hoyt's death came, Lloyd Stearman turned to a man who was a capable aviator and salesman. Earl Schaefer took up the job at Stearman and did not leave the company until his retirement in 1957.

Earl Schaefer had two loves outside of his family, Wichita and aviation. Wichita was his hometown. He grew up there, met his wife there, and fell in love with flying there. Because of his hard work and connections in the city, Schaefer was able to attend West Point. This set him on the trajectory toward aviation. Schaefer's tenacity helped him overcome all of the obstacles that tried to keep him from airplanes. As a young man he did not allow a fire to keep him from completing his senior year in Wichita. He moved back and supported himself through that year. That man would not let anything keep him from flying. He fought against criticism, potential court-martials, and a colonel who did not want to let him go. Schaefer made it into the cockpit and immediately helped grow aviation fervor back in his hometown. His flight to Wichita and illegal rides fueled the fires of passion for the first men who would take the risk of starting an

⁴⁵ "Article Draft," April 22, 1942, Boeing Collection, box 1 file 19A, Special Collections, Wichita State University; Bissonette, *Wichita 4*, 62; Rowe and Miner, *Borne on the South Wind*, 81.

⁴⁶ Interview with Robert Schaefer, 1991, Boeing Collection, box 2 file 42, Special Collections, Wichita State University.

airplane business. The early companies went through many of their own troubles. As in any company, there were divisions of vision that caused some companies to fracture. However, Wichita aviation continued to grow and draw talented men to the city. When Schaefer moved back to Wichita, he had to wait for the right opportunity to get into aviation, but when it came along Schaefer jumped into it and never looked back.

CHAPTER TWO

Merger, Depression, and Trainers... Oh My

Finding exceptional leaders is always a challenge for companies. Many men and women try to fill leadership roles who are not equipped to help their firm thrive. Aviation companies in Wichita were no exception. Each of the companies chose different designs of airplanes and markets. For several years, there were plenty of orders. As manufacturing grew, the city prepared itself to be the central major air stop for cross-country flights. Leading men in the community knew that Wichita was destined to be an air travel hub, so they had to make it ready. Destiny took a turn when the Great Depression came. None of the leaders could have predicted the Depression and the horrible economic situation that would put them in. Manufacturing in Wichita ground to a slow trickle, and most companies had to close their doors for several years. Stearman was the exception. Earl Schaefer saved Stearman from that fate. His work put the company on a different trajectory through the 1930s that greatly affected how the company and the aviation industry in Wichita developed.

Earl Schaefer started his new job as sales manager for Stearman in early April 1928. By August, the plant was adding a night crew to meet the production demand. Payroll for the company jumped to ninety and the factory expanded into a second warehouse. All these increases meant, “The factory is one of the busiest places in Wichita at present.”⁴⁷ Stearman was not the only aircraft company doing well. The other major companies like Cessna and Travel Air were also growing. In 1929, Wichita had 117 firms connected to aviation, five million dollars invested in aviation, and the hope of building 2,000 planes that year. The governor of Kansas claimed that by 1933, Wichita would be building 30,000 planes per year. It was impossible to

⁴⁷ “Night Crew for Stearman Plant to Meet Demand,” *Wichita Eagle*, August 12, 1928, 5.

think that aviation would take a dive and that in 1938 Wichita would produce only 300 planes.⁴⁸

In the summer of 1929, however, most of the larger aviation firms merged with national corporations so they would be stronger and have a larger financial backing. Travel Air merged with Curtiss-Wright. Stearman merged with the United Aircraft and Transport Corporation, a giant conglomerate with \$80 million in capital and \$250 million in assets. Lloyd Stearman said, “The reason we did it [merged] was because everybody else was doing it and, besides, we thought it was about time to give our stockholders a break.”⁴⁹ This seems like a cavalier attitude about a major business decision, but Stearman wanted his company to continue to grow. He needed the funds and stability of a larger company to ensure his small firm’s success. Production was high for Stearman during 1929, and at the end of that fiscal year, in May, they had a large growth of the original \$60,000 investment to total assets of \$450,000. So, Stearman was in a fair position to complete the merger with the United on August 15, 1929. Once the merger was complete, United included fourteen separate companies that handled all aspects of aviation, from manufacturing airplanes and their parts to operating airlines, airports, and flying schools. Some of these companies included Boeing Airplane Company, Chance Vought Corporation, Hamilton Aero Manufacturing Company, Pacific Air Transport Company and National Air Transport Company. The idea was to increase profits by merging all methods of aircraft production and use under one corporation.⁵⁰

For the merger, all Stearman stockholders had to go through an exchange process. They received one share of United stock for every three and three-fourths shares of Stearman stock.

⁴⁸ “Joins Stearman Air Sales Force,” Boeing Collection, box 2 file 42, Special Collections, Wichita State University; “Began Career in Army Aviation,” April 26, 1959, Boeing Collection, box 2 file 42, Special Collections, Wichita State University.

⁴⁹ Bissonette, *Wichita 4*, 72.

⁵⁰ Miner, *Wichita: Magic City*, 175-176; Bissonette, *Wichita 4*, 70-72; Rowe and Miner, *Borne on the South Wind*, 96.

Any partial shares would be purchased by United because no partial United shares would be given. The deal also stated that seventy-five percent of the shareholders had to deposit their shares before United shares would be dispersed. Several letters had to be sent out to stockholders to prompt them to submit their Stearman stock. Walter Innes, the secretary of Stearman, sent one letter out on September third letting everyone know that no one would get shares until more had deposited. The merger was a longer process over those last months of 1929, but it was complete before tragedy struck the nation. Stearman joined a strong corporation just before the stock market crashed in October of 1929. Aviation did not immediately take a dive after the crash. For this industry it was more a slow trickling away of business as the Depression deepened across the country. The uncertainty about an already uncertain business did increase, yet some potentially risky business decisions were made regarding the Wichita branch that first year after the crash.⁵¹

After the merger, Lloyd Stearman remained president of Stearman Aircraft Company. As soon as Stearman was a subsidiary of United, Lloyd, Mac Short, and Earl Schaefer were asking for a new plant. The Bridgeport Machine plant, or old Cessna plant, that Stearman was in was “a ramshackle place” according to Schaefer. The Stearman company was doing well with their large investment growth, no debt, and many orders still being built. It seemed a good time to get a better more spacious plant. So, Lloyd, Mac, and Schaefer sent their general manager Walter Innes, Jr. to New York with requests for the new plant. Schaefer said the request called for, “a plant that was a credit to United and a credit to aviation. We wanted it in Wichita and I, particularly, having come with the company at that time, would like to get in the military business.” No military contract would be awarded to a company in a ramshackle place. However,

⁵¹ Bissonette, *Wichita 4*, 70-72; “letter to stockholders,” August 14, 1929, Boeing Collection, box 1 file 15, Special Collections, Wichita State University; Walter Innes to Stockholders, Sept. 3, 1929, Boeing Collection, box 1 file 15, Special Collections, Wichita State University; E.E. Bauer, *Boeing in Peace and War* (Enumclaw, WA: TABA Publishing, 1991), 56.

Schaefer believed if they had a bigger better plant that would lead to building training equipment for the Air Corps because the training centers were located in Texas. During WWI the Army acquired their equipment from Buffalo, but a closer plant with a former Air Corps officer would have no trouble getting those contracts.

Walter Innes tried to work some magic in New York, but the United board wanted some reassurances. Innes sought out one assurance himself. He telegraphed the Wichita Chamber of Commerce, “requesting some assurance that the present Stearman Aircraft Buildings in Wichita will be disposed of in the event the United Aircraft Company builds a new plant at Wichita.”⁵² United did not want to be stuck with the old factory and the new one. The Chamber of Commerce agreed to help in any way they could, because they desperately wanted the new factory to be in Wichita.

Schaefer brought in the second assurance to United. Schaefer told United that Wichita could get military contracts. However, military contracts were increasingly competitive. So, United would not just take Schaefer on his word. They had to be convinced “that there was strategic value to Wichita as a location for the production of military aircraft.”⁵³ Schaefer proved this to the United board by traveling to Wright Field to see General Benjamin J. Foulois, the Chief of the U.S. Air Corps at that time. After explaining the situation, Schaefer asked his old friend to write a letter to United. Schaefer said, “Benny was a good friend of mine and agreed with my position, so he wrote the letter, and with it we got out first \$400,000 that moved us from Bridgeport to our new plant.” With the backing of the military, United was able to confidently spend the money on a new facility even as the Depression deepened.⁵⁴

⁵² Minutes of Meeting of Directors, Wichita Chamber of commerce, May 27, 1930, Archives of the Wichita Area Chamber of Commerce, MS 2002-12, box 1 file 15, Special Collections, Wichita State University, 1058.

⁵³ J. Earl Schaefer to Marcellus Murdock, Nov 3, 1955, Boeing Collection, box 2 file 42, Wichita State University.

⁵⁴ Ibid.

The question was where the new plant should be located. All the airplane manufacturing companies wanted to be near an airport. Some companies had their own small airports, but for Stearman in 1929 building the new factory was going to be expensive enough. Their eyes turned south to a plot of prairie that had only recently been disturbed. In 1927, Wichita fought several battles to build its first major public airport south of the city. The first battle for the airport was a legal one. In 1927, Wichita already had one thousand acres of landing fields. There were four commercial airports that the airplane manufacturers built, and there was one fully public airport. Several of the commercial airports were located very close to downtown, which meant that the heart of the city saw airplanes flying over and landing frequently.

The first public airport was established by a group of, “public spirited citizens.”⁵⁵ They formed the Boosters Building Association and purchased land on east Central for a small airport. These boosters realized that the culture of Wichita was turning to aviation, and the success of the city depended on a successful airport. At that time, Kansas had legislation that would not allow the city to purchase land outside the corporate limits of the city. The Boosters Building Association put up the money for the land and airport with the understanding that when the legislation was able to be changed, they would sell the land to the city. In early 1928, the Kansas Supreme Court decided that the city had the legal right to acquire a municipal airport. In his opinion, Judge Richard J. Hopkins said, “Wichita is in the center of what is perhaps the largest natural landing field in America. It has a climate permitting year around flying with no fogs, and rare periods of unfavorable weather.”⁵⁶ This opinion of Wichita’s favorable nature was shared by many who were involved in aviation. It would be a key factor in the expansion of Wichita

⁵⁵ “Wichita Gets “Muny” Airport,” May 1928, The Wichita Collection, Special Collections, Wichita State University, 19.

⁵⁶ “Supreme Court Upholds Acquisition of Municipal Airport,” January 1928, The Wichita Collection, 18.

aviation in the future. With the legislation changed, the first battle for the airport was won.⁵⁷

On March 9, 1928, there was a joint meeting of the Booster Building Association, the City Commissioners, and the park board to decide the fate of the airport. All these groups were already active in boosterism for the city. They knew that Wichita was going to be important to aviation and wanted to be prepared. It was initially thought that the city should purchase the Boosters' current airport along with a new section of land called the California section. The *Wichita Eagle* followed the progression of the decisions on the airport. Funding the purchase of the land was an issue, as the airport and new land could not be purchased all at once due to budget restrictions. The park board wanted both sections, because the old airport would be a wonderful site for a future park. However, Wichita only leased that land for two years while a new airport was built on the California section.

The California section was untouched and unplowed prairie located about six miles south of Wichita's center. The city purchased the six-hundred-and-forty-acre plot for \$64,000 or \$100 per acre. The Wichita Board of Park Commissioners was in charge of the land and the airport. It took longer than expected to complete, but by 1929 the airport land was purchased, and construction was under way. Runways were marked off and a spectacular new hangar was built. The hangar could hold thirty ordinary-sized planes, which were much smaller than they would become in just a few years. An administration building was also planned that would "house offices required for the supervision of the airport, ticket office, passenger waiting rooms, pilots' headquarters, restaurant, roof garden, dormitory and guest rooms, and runways built directly to the doors."⁵⁸ The administration building ran into funding problems when the Great Depression took hold of Wichita. The hangar was built by June 1929, but the administration building was not

⁵⁷ Ibid.

⁵⁸ "Expansion is the Program for Wichita Air Industry," June 1929, The Wichita Collection, 6.

completed until 1935. The runways also received some improvement during the Depression. The Works Progress Administration paved the runways of the airport as a New Deal project.⁵⁹

Location was a problem for the new airport because there was no direct route to it. The long trek from the airport into town could only be done on dirt roads with many turns. To help the driving situation, a new diagonal road was suggested to run from the airport directly into Wichita. The new road was a good example of the struggle between different views on aviation within the city. It was March 1929 when the Wichita Chamber of Commerce began discussing the need for a new road to the municipal airport. The road petition was submitted to the county commissioners, by F. L. Brockway and twelve unnamed others, requesting the new road be established. Notifications went out to the land owners who would be affected, and men were assigned to go out and survey the proposed road route. By June that year, the Chamber of Commerce was pushing talks and collaboration with the county commissioners and city planning commission, so that “early action may be taken, and a road built with the least possible delay.”⁶⁰ However, the owners of the land that would be needed for the road did not want to sell their property. The movement on the road slowed, but the Chamber of Commerce was not ready to give up. They created a committee to reach out to the county commissioners and pressure them about the need to build Diagonal Road. In their minds, the good of the collective community required the sacrifice of these few land owners.⁶¹

In October 1930, the battle over the road really flared up. First, the county commissioners

⁵⁹ “Park Board Will Buy Two Tracts For Airport Use,” *Wichita Eagle*, March 10, 1928, 5; Rowe and Miner, *Borne on the South Wind*, 108-112; “Expansion is the Program for Wichita Air Industry,” June 1929, The Wichita Collection, 6; “Wichita Gets “Muny” Airport,” May 1928, The Wichita Collection, Special Collections, Wichita State University, 19; Susan Thompson, *Prairie Runways: The History of Wichita’s Original Municipal Airport* (Wichita, Ks: Air Capital Press, 2000), 15-39

⁶⁰ Minutes of Meeting of Directors, Wichita Chamber of commerce, June 11, 1929, Chamber of Commerce, Special Collections, Wichita State University, 983.

⁶¹ Julie Courtwright, “Want to Build A Miracle City?: War Housing in Wichita,” *Kansas History* (Winter, 2000): 220.

sent a letter to the state's attorney general requesting legal advice. The letter began with, "The Board of County Commissioners are being urged by an influential group of Wichita citizens, the Chamber of Commerce, as well as many civic organizations of the city, also by the *Wichita Eagle and Wichita Beacon*, to condemn and purchase the land necessary for a diagonal road to the municipal airport."⁶² It was a cyclical argument. The community was depending on aviation, aviation manufacturing required a good airport, the new airport required a new road, so the community needed a new road. Because so many organizations were calling for the road, it looked like the majority of the community wanted it. The letter went on to talk about the legality of taking one hundred feet of land for the road instead of sixty. However, they wanted to pay fifty percent less than the agreed price for the original sixty feet of land. Many citizens of the county, and especially the land owners, did not approve of this plan. The land owners refused to sell, and petitions and letters were sent into the county commissioners requesting they not build the road.

The letters against the road cited the depressed economy as the main obstacle to the road construction. One letter stated, "The tax payers of Sedgwick County, Kansas, are already overburdened with taxes and in our opinion a great many will be unable to meet their December 20, 1930, tax payments."⁶³ Another petition asked the commissioners to use their office to, "prevent its [the roads] construction at present depressive times, which if approved, would place an additional burden of taxes on the already overburdened farmers of Sedgwick County."⁶⁴

Farmers, bankers, and land owners did not want to see the road built, but important leaders in the

⁶² County Counselor to Hon. Wm. A. Smith, October 8, 1930, Wichita Township Road Records, Sedgwick County Records Management Archive, Wichita, KS.

⁶³ Leon Roembach to Board of County Commissioners, October 11, 1930, Road Records, Sedgwick County Archive, Wichita, KS.

⁶⁴ Petition to Board of County Commissioners, 1930, Road Records, Sedgwick County Archive, Wichita, KS.

community who wanted Wichita to be a hub for aviation saw it as a necessary project.

The Chamber of Commerce sent in their own petition that October. It stated that the individual citizens and tax payers of the Chamber had studied the proposal, and they “unequivocally and definitely affirm their belief and conviction in the fairness and equity of the proposition.”⁶⁵ They urged the county commissioners to accept the proposal and start construction on the road. There is no way to really know which group held the majority in this fight. The Chamber of Commerce and other city officials felt the road was imperative to the success of the airport and the airport was imperative to the success of manufacturing. Manufacturing was the backbone of the economy of Wichita, and most communities at that time. Since both Stearman and Cessna would locate plants near the airport, the leaders in the community would be proven correct in their desire for the road. The other side of the argument came from the people who would be directly affected through loss of their lands or increased taxes during a depressed time. They were still civic minded citizens, but they wanted a more cautious plan before moving forward.

The leading men in the city won this debate and on January 8, 1931, the County Commissioners adopted the resolution to purchase the land, pay damages to land owners, and establish the new diagonal road to the municipal airport, eventually renamed George Washington Boulevard. It was a highly useful road moving forward for the airport, aviation manufacturers who relocated south of Wichita, and eventually for the new people who came to Wichita and lived in new housing on the south side.⁶⁶

With the airport and new road, Stearman’s search for the perfect spot for the new plant

⁶⁵ Petition from Chamber of Commerce to Board of County Commissioners, 1930, Road Records, Sedgwick County Archive, Wichita, KS; Minutes of Meeting of Directors, Wichita Chamber of Commerce, Oct 7, 1930, Chamber of Commerce, Special Collections, Wichita State University, 1075.

⁶⁶ Adoption of Resolution, January 8, 1930, Road Records, Sedgwick County Archive, Wichita, KS.

was over. They purchased land from the Swift Aircraft Company that was adjacent to the new Municipal Airport. By July 1930, construction started on the new factory just across the field from the slowly rising airport administration building. Early estimates of the cost of the building were between \$260,000 and \$330,000. The final cost was \$400,000, so not only was this factory constructed during the Depression, but it went far over budget. This would help create a problem for the Stearman company within two years of the company occupying the new space.⁶⁷

The aviation business had one last booming year in 1930, and that same year was the last one Lloyd Stearman was president of his company. He was having a difficult transition from being the president of his own firm to part of a larger corporation. Stearman was used to making all the decisions, but now the major decisions came from New York, where the United board was located. Then on December 22, 1930, he sent a letter to the heads of the factory's departments. It stated that Mr. Rentschler, the President of United, asked Stearman to make a change. Stearman would devote his, "entire time and energy to research. Realizing this will require that much of my time will be spent away from the factory."⁶⁸ The daily business responsibilities were passed to Mr. Innes, who was already used to working underneath the board in New York. Stearman insisted in the letter that research was his highest interest. He tried to make it appear the change was mutually decided by United and himself. He said, "It will be just as necessary now to have the loyalty of everyone in the company and to bespeak for Mr. Innes in his new office the same support and loyalty you have given me."⁶⁹ This change resulted in Innes as president and treasurer, Mac Short moved to Vice President and Chief Engineer, and Earl Schaefer became

⁶⁷ Minutes of Meeting of Directors, Wichita Chamber of Commerce, 1930, Chamber of Commerce, box 1 file 15, Special Collections, Wichita State University, 1058-1059; Bissonette, *Wichita 4*, 72; Rowe and Miner, *Borne on the South Wind*, 96; Mansfield Interview with Schaefer, June 27, 1955 (Seattle: Boeing Company Archives), 32-33.

⁶⁸ Lloyd Stearman to All Heads of Departments, Dec. 23, 1930, Boeing Collection, box 1 file 15, Wichita State University.

⁶⁹ Ibid.

Vice President and Secretary. Stearman only stayed in his new position for about six months. July 1931, he resigned from the company he started and moved back to California to begin again. Stearman continued in the aviation field off and on for the rest of his life. He remained in contact with Schaefer over the years and was still designing planes at the age of sixty-six.⁷⁰

The new leadership of Stearman had a hard fight to keep the doors of the new plant open. As the Depression deepened, the aviation companies of Wichita began to close their doors. There were not enough orders for planes to keep all of the plants working. Cessna closed in 1931. Travel Air closed in 1932, although, later that year, Walter Beech did start the company again under his own name. Stearman only barely escaped oblivion due to the tenacity of Schaefer. Schaefer was continuing to pull in orders from American Airways and other buyers through 1929 and 1930, but in 1931 the orders stopped coming in.

It was 1931 when the future of the plant was first questioned. Schaefer had worked hard to get a great contract with TWA selling Northrop planes. United had recently transferred the Northrop assets to Stearman. All of Northrop's equipment, orders, and many of the employees were moved to Wichita in the summer of 1931. This move made sense because Northrop was a developmental organization, while Stearman was "one of the pioneer manufacturing companies of the country in building commercial planes."⁷¹ It was also a strategic move to help survive the Depression. Schaefer was ecstatic about the chance to sell Northrop Beta and Alpha planes. He was not alone as the *Wichita Eagle* chronicled the move of Northrop to Wichita. Everyone thought this meant great things and continued work for the Stearman plant. As soon as Schaefer

⁷⁰ Lloyd Stearman to All Heads of Departments, Dec. 23, 1930, Boeing Collection, box 1 file 15, Wichita State University; J.E. Schaefer to Ethyl Stearman, June 25, 1956, Boeing Collection, box 1 file 11, Wichita State University; "Lloyd Stearman at 66 Is Still Designing Planes," *Omaha World Herald*, Boeing Collection, box 1 file 11, Wichita State University; Bissonette, *Wichita* 4, 72-74.

⁷¹ "Stearman-Northrop firms Consolidated," *Wichita Eagle*, July 24, 1931, 2.

was able, he went to work on a contract with TWA for several Northrop planes. He had a contract all worked up, but it was stopped before the planes hit production.

William Boeing was the United executive over this portion of the company and he stopped the order. “Earl, I hate to tell you this, but we can’t take that order. Monty is very averse to the nested channel construction. He claims it’s substitutes that make failures and we couldn’t do anything that might get us into trouble.”⁷² Basically, the plane had a design flaw that the engineers at Boeing could not overlook. The order that was supposed to bring in substantial work and capital ended up costing the company \$10,000 in penalties.

The loss of the Northrop contract began a spiral down for Stearman in 1932. The actual date of the loss of that order was hard to locate, but last mention of Northrop and Stearman together in the *Wichita Eagle* was on January 26, 1932, when the Northrop Beta plane arrived in Wichita for testing. Sometime after that article, the contract was cancelled, and Northrop planes were never manufactured at Stearman. Another blow for the company came on June 18, 1932. A tornado hit the Municipal Airport and the high winds severely damaged the Stearman hanger. The hanger stood half demolished for months waiting for a decision to be made to fix it. The United board had to be questioning the prudence of keeping the Stearman plant open at this time. Stearman now had several marks against it. There were few orders at the plant that summer. The expensive move of Northrop from California to Kansas had not ended in production of planes. Then the hanger was horribly damaged. Doubt began to rise about the ability of the Stearman plant to survive all of these setbacks. The Depression was on in full force by this time and aircraft contracts were drying up.⁷³

⁷² Mansfield Interview with Schaefer, June 27, 1955 (Seattle: Boeing Company Archives), 36.

⁷³ “Northrop Beta Demonstrated,” *Wichita Eagle*, January 26, 1932, 5; “Tornado Strikes Municipal Airport,” *Wichita Eagle*, June 19, 1932, 8.

Then, in September, there was a hopeful development for Stearman. A contract was landed to build landing gear, control columns, and tail parts for sixty new Boeing planes. These were commercial planes that would be used by United Air Lines. All three of these companies were under the United umbrella, so the work likely did not bring more money into the United corporation overall. However, it did give the workers at Stearman something to do. In fact, the plant had to increase their workforce from fifty to one hundred men in order to complete the contract. The work was supposed to keep the plant busy until the spring according to Schaefer. About one month after getting the contract, Schaefer announced that the damaged hanger was going to be rebuilt and a new extended lease was going to be signed with the city for the land the hanger was on. Schaefer had full confidence in his company and he thought United shared that confidence. He told the *Wichita Eagle* on October 11, 1932, “The orders of the United Aircraft Corporation with which we are associated to rebuild the hanger shows that the big-time aircraft companies have all the faith in the world in Wichita’s aviation future.”⁷⁴

That faith was not going to last much longer. It was sometime between the fall order and December when United lost all faith in hanging onto the Stearman plant. Perhaps they felt that after the cost of moving Northrop to Wichita they did not want to spend more on fixing the hanger. It seems counterintuitive to close the plant just combined with another. However, since Bill Boeing did not allow the major sale of Northrop planes to go through to TWA there was not an influx of capital or work to the Stearman plant after that move. Then, the next contract Stearman did get would not have added funds to the overall United corporation. The contract for the Boeing planes could be completed without the Stearman plant. At some point the board decided to cut their losses and just close the Stearman plant before it cost them more money.

⁷⁴ “Contract For Landing Gear,” *Wichita Eagle*, September 6, 1932, 5; “Rebuilding of hanger,” *Wichita Eagle*, October 11, 1932, 5.

Walter Innes came back from New York one day saying, “well, you’re all through.”⁷⁵ United decided to board up the brand-new plant in Wichita and throw away the key. They literally wanted Schaefer to lock the door throw the key through a window and walk away. Schaefer would not let the company go without a fight. He called United and set up an appointment with Fred Wensler the head of the board. Just before he left for the east coast, Schaefer had an accident. He was having some trouble with his Chrysler one day and he had to get out and shove it back and forth. As he was doing this, his foot slipped and his back, which was weak from the flying accident, went all to pieces. He could barely move, but he was not going to cancel his appointment. The train was the only option. Schaefer got some hot water bottles and got on the train for Hartford, Connecticut where Wensler was located. As soon as Schaefer walked into the office stooped over with a cane Wensler said, “My gosh, Earl, what in the world’s wrong with you.”⁷⁶ After explaining his condition, Schaefer made a plea for Stearman. He proposed that United pay the fixed charges on the plant like the insurance and taxes. The day to day costs would be turned over to Stearman on a budget basis. Schaefer was saying he would run the plant and it would not cost United anything to keep the plant going. Wensler said, “Well, anybody who would come down here in the shape you’re in for that kind of a proposition deserves a break and the show’s yours.”⁷⁷ Schaefer still had to travel to down to New York to get the details worked out, but he saved the plant from being closed.

The trip was even more successful on Schaefer’s return journey. He stopped in Chicago on his way back to Wichita and was able to make a large sale. There was a young man there, named John Vette, Jr., whose family still had plenty of money despite the Depression. Vette

⁷⁵ Mansfield Interview with Schaefer, June 27, 1955 (Seattle: Boeing Company Archives), 38.

⁷⁶ Ibid., 40.

⁷⁷ Ibid., 40.

wanted a special Stearman airplane that was built for his specific fast acrobatic plans. Schaefer received a \$25,000 purchase order from Vette, and that one order kept the engineering division at Stearman going. This was almost the only order Stearman had at that time, but because it was so large Schaefer was able to work another financing miracle. He took that purchase order back to Wichita and got a \$10,000 loan from the First National Bank. At that time, engineers were paid around .75 an hour and men working in the shop would get about .50 an hour. The \$10,000 bought Stearman a long time to come up with more orders. Schaefer took on a policy of bidding on anything to get work for his employees. He also was still pursuing military contracts. Schaefer was even willing to go outside of the United States military to sell planes. The first sale of ten military trainer planes was to the Peruvian Air Force. Then in 1931, the United States Army purchased four trainers. These small contracts kept the small staff at Stearman working, and it gave the engineers time to tinker with the plane's design. They even worked on building airplanes for themselves during the times they did not have a contract for a plane. The consistent work or tinkering they did with their own planes allowed for swift design changes in planes when the contracts began rolling in again.⁷⁸

Before a major contract could be landed, Schaefer faced another moment of crisis that could have closed the plant. In 1933, Schaefer was elected president of Stearman. The success or failure of the company rested on him. In December 15, 1933, the new model 70 airplane was half way completed. This plane was developed along with the model 80 that Vette ordered. The same funds were making both models possible. However, the First National Bank was hurting; 1933 was one of the hardest years of the Depression. So, C.Q. Chandler called in the loan that

⁷⁸ Rowe and Miner, *Borne on the South Wind*, 97; "Plains Plant," Boeing Collection, box 1 file 15, Wichita State University; "Wichawk," Schaefer Family Papers; Mike Lavelle and Marge Wells, "J.E. Schaefer led Company Through Difficulties," September 1, 1991, Schaefer Family Papers.

December just before Christmas. The funds that were in the Stearman account at the bank were seized and Schaefer was not going to be able to make the payroll or pay any operating costs. His deal with United meant that the plant would have to close unless he found other funding.

Schaefer began to make the rounds that cold December to all the banks in Wichita. The Fourth National Bank made a decision that changed everything for that bank and for Stearman. Dale Critser thought that Schaefer was a good investment, so he loaned Stearman \$10,000 to pay off the other loan and move the accounts over to Fourth National Bank. The investment quickly paid off. The model 70 that Stearman engineers were working on was completed and dubbed the best all-around biplane ever built.⁷⁹

Schaefer was still seeking a large military contract. He knew how the military functioned and had contacts still in the service. He also understood that the military would have a need for more planes. The technology and the prestige of aviation was advancing, so the military would soon have to put more funds into air power. After saving the company a second time, He was able to put all his energy and influence into getting a larger military contract, which arrived in July 1934. The Navy ordered forty-one of the model 70 trainer planes the second loan made possible to complete, and the factory hummed with men building aircraft once again. Schaefer was vindicated in his promises, and United was vindicated in their decision to listen and keep the Wichita factory open. However, they would not get to enjoy the benefits for long. In September 1934, New Deal monopoly busting policies forced the breakup of the United conglomerate. Stearman ended up paired with the Boeing company in Seattle. It retained its Stearman name until 1941, when it was renamed the Wichita division of Boeing.⁸⁰

⁷⁹ "Wichawk," Schaefer Family Papers.

⁸⁰ Induction to Kansas Aviation Hall of Fame, 1991, Boeing Collection, box 2 file 42, Wichita State University; Boeing-Wichita Chronology, January 1, 1968, Boeing Collection, box 2 file 42, Wichita State University; Rowe and

After 1934, military contracts continued to flow into Stearman for the little model 70 planes that came to be known as Kaydet trainers. Argentina ordered ten planes, along with spare parts for their navy. The Philippine government ordered three planes and spare parts for their new air service. This service was being developed under General Douglas MacArthur and was a major project of Lt. Col. Dwight D. Eisenhower. It was Eisenhower who arranged for the sale of the trainers to the Philippines. Undoubtedly, his West Point connection and friendship with Schaefer helped make that sale a smooth process for Stearman. Eisenhower himself went on to learn to fly in a Kaydet trainer. Pilots all over the world learned to fly in the Kaydets. Throughout the 1930s Stearman sold the planes to Canada, China, Brazil, Cuba, Bolivia, Paraguay, Columbia, Guatemala, Argentina, Venezuela, Peru, the Dominican Republic, and the Philippines. The little Wichita plant was an international scene as representatives from many of the countries came to oversee the production of their planes. The United States Military was not left out. The Navy continued to order more trainers after their initial purchase. Then the Army submitted their first large order in 1935 for twenty-six of the trainers. Stearman became a trusted supplier for the United States military.⁸¹

J. Earl Schaefer's time away from Wichita at West Point and serving in the Army Air Corps was a period of refining where he learned how to be an officer and how to lead men. This knowledge was put to practice at his post in Oklahoma where he trained many new recruits how to fly. Aviation was his passion and he wanted Wichita to be a successful aviation city. He pushed for the new public airport along with many other men. The boosters of Wichita swung

Miner, *Borne on the South Wind*, 97; "A Short History of Boeing-Wichita," Boeing Collection, box 1 file 19, Wichita State University; ; "Plains Plant," Boeing Collection, box 1 file 15, Wichita State University.

⁸¹ "Plains Plant," Boeing Collection, box 1 file 15, Wichita State University; "The Boeing Kaydet Primary Trainer," January 1946, Boeing Collection, box 2 file 8, Wichita State University; "Boeing Contact," December 1935, Boeing Collection, box 1 file 30, Wichita State University.

into full force and ensured that the city would have a public airport and then good roads out to it. They said they were doing all of this for the city and with a majority in agreement. There was dissent in Wichita over the airport and the new roads. The Great Depression came, and many taxpayers did not want that extra burden. However, the aviation boosters were well-ensconced in powerful organizations and local government, so the airport and road were built. The Depression did hurt many of the airplane companies in Wichita. Only one company, Stearman, kept its doors open through the lean and challenging years. They had to take any job and work through management changes to stay alive. By the end of the 1930s, the plant by the airport was churning out the small training Kaydet planes by the dozens. The company was financially stable, and the new president J. Earl Schaefer had plans for the company's next chapter.

CHAPTER THREE

Mr. Schaefer Goes to Washington

In the 1930s, Boeing and Stearman were two different companies thrown together. They were formed by different men. One was located on the west coast while the other was in the middle of the country. Each company had men who had dreams and a vision for where their company should go. One man was able to unite those dreams and bring the two companies closer, and in so doing helped save both. Earl Schaefer was that man. He became the vice president and director of the Wichita Stearman plant in 1938, and for the next seven years he made distinct impacts on the future aviation power of the United States. In doing so, he also shaped the future of Wichita.

Stearman and Boeing were partnered together in a company, but they both took on very different approaches in 1934 and 1935. Stearman focused on building training planes while Boeing in Seattle took on a risky new project. On August 8, 1934, the military at Wright Field sent out a circular to various airplane manufacturing companies for the next military bomber. The specifications called for a bomb load of 2,000 pounds, 250 miles an hour top speed, range of 2,200 miles, and designed to hold a crew of four to six. The new multi-engine bomber that won the competition at Wright field would have a contract for up to 220 planes. The management at Boeing desperately wanted that order, so they set the engineers to find out how far they could push aviation design. Some thought that planes would never be able to carry thousands of pounds over thousands of miles. Boeing engineers, however worked the problem and decided it would be best to put four engines on the experimental plane. Having four engines on a plane was still a very new, and expensive technology, so the decision to risk this type of design was not easy for the company. Boeing was also hurting financially because of the Great Depression and the breakup of the United conglomeration. The company went from being just one piece of a

massive national company to the main company in partnership with smaller companies. As they designed the new plane, they were operating in the red. If this project did not have a paying contract at the end, it could mean the end for Boeing.

They decided to take the risk and the four-engine plane, called model 299, was built in time for the military trials. They almost did not have the money to complete the project, but the board was able to scramble and raise the \$150,000 needed to finish the plane. Final assembly and test flights of the airplane took place at Boeing field in mid-1935. The plane finally took to the air for the first time on July 28, 1935. It was dubbed a flying fortress by bystanders because of its size, and would eventually be called the B-17. Less than a month later it was flown from Seattle to Dayton, Ohio, where the tests would be run. No one was present to greet the Boeing plane because it arrived three hours earlier than expected. The plane flew the distance in record time. Boeing's large four-engine plane was up to the challenge against the other two-engine models. The staff at Wright field spent the next several weeks testing all the planes in the categories of speed, endurance, time of climb, service ceiling, structure and design, power plant, armament and equipment installation, maintenance, landing characteristics, and utility as a type. As the trials progressed, Boeing's plane was sweeping the field away.

Boeing was only one final test away from landing the major contract when tragedy struck. One early October morning, the big plane rolled down the runway, but when it lifted off it was clear very quickly that something was wrong. The plane climbed too steeply before falling back to the ground crashing in a cloud of smoke and flame. The five men on board were pulled or jumped from the wreckage. Two of them would die of their injuries. After an investigation it was discovered the tail control surface locks were not removed before take-off. These locks were put in place on the ground to keep the tail from whipping around in the wind. With the tail

locked during takeoff there was no way to control the plane. The crash made the plane ineligible to finish the competition. Boeing was already overdrawn on their accounts and had put everything into a plane that was now a mass of twisted metal. With no contract forthcoming, the board at Boeing Seattle feared for the company's survival.⁸²

During this dark hour, Earl Schaefer stepped in to help secure the future of the Boeing company. Schaefer had developed a working relationship with the Fourth National Bank in Wichita through his friendship with Dale Critser, board secretary and cashier. Schaefer also developed a friendship with the new Vice President Arthur Kincaid. It was Kincaid who took the leap with Schaefer and Boeing. The Fourth National Bank was already invested in Boeing before 1935. That year at the American Bankers Association annual meeting in Seattle, Kincaid got the chance to meet with all the creditors of the Boeing Aircraft Company. Many of these creditors believed Boeing would soon go into receivership. When the prototype B-17 crashed a few months later, many of the banks that normally serviced Boeing did not have confidence in the company as an investment. They were afraid to lose any more capital. In Wichita; however, Schaefer sat on the board of the Fourth National Bank, Schaefer spoke with Kincaid. While bankers in Seattle saw only impending doom for the company, Schaefer and Kincaid had faith in it. All of Boeing's loans were assumed under the Fourth National Bank which made it Boeing's bank. It was Kansas money that saved Boeing.⁸³

⁸² E.E. Bauer, *Boeing in Peace and War* (Enumclaw, WA: TABA Publishing, 1991), 89-95; Harold Mansfield, *Vision: The Story of Boeing A Saga of the Sky and the New Horizons of Space* (New York: Duell, Sloan and Pearce, 1966), 54-59.

⁸³ Lavelle and Wells, "Schaefer led Company," September 1, 1991, Schaefer Family Papers; "Wichawk," Schaefer Family Papers; James H. Thomas, *Arthur W. Kincaid: Banker, Philanthropist, and Civic Leader* (Wichita, Ks: Center for Entrepreneurship Wichita State University, 1984), 91-92; James H. Thomas, "*The Financial Center of Kansas*" *A History of the Fourth National Bank and Trust Company* (Wichita, Ks: Center for Entrepreneurship Wichita State University, 1980), 54-55; Arthur W. Kincaid, "*Ad Astra Per Aspera*" "*To the Stars Through Difficulties*" *The story of the Fourth National Bank and Trust Company, Wichita Kansas* (New York: The Newcomen Society in North America, 1969), 26-28.

The company found stable footing again, and on January 17, 1936, the government decided to order fourteen of the B-17s because they had performed so well in the tests. For the next three years the Secretary of War Harry Woodring, a former Kansas governor, would limit the number of B-17s ordered. Funds were scarce for the entire military, so the General Staff did not want to spend large amounts on bomber planes that were not battle tested. General Hap Arnold wanted more of the bombers and fought for funding throughout the end of the 1930s. Boeing did not receive the major contract they wanted, but Boeing-Seattle was back on track and Schaefer made a name for himself at the company with his financial moves. On March 8, 1938, Schaefer was elected to the Boeing board of directors to fill an open spot. When the board voted to liquidate Stearman and turn it into an operating division of Boeing, Schaefer became a Vice President of Boeing Airplane Company. He helped make the important decisions for the company and managed the finances that went along with those decisions. Boeing would continue to bank at the Fourth National Bank in Wichita along with other aircraft companies like Cessna and Beech. During World War II the bank expanded and became known as the aircraft bank because of its trust in financing the aviation manufacturers.⁸⁴

In the summer of 1939, Schaefer was a very busy and in demand man. He was the vice president of Boeing, manager of Stearman, and he was involved in many community groups. One of the most prominent groups for him in 1939 was the Chamber of Commerce. He was on the board of directors for the Chamber that year. The Chamber was involved in all aspects of business and community growth in Wichita, and during 1939, the Chamber was focused on

⁸⁴ Mike Lavelle and Marge Wells, "J.E. Schaefer led Company Through Difficulties," September 1, 1991, Schaefer Family Papers; "Wichawk," Schaefer Family Papers; "Schaefer to Retire", *Boeing Plane Talk*, June 18, 1959, Schaefer Family Papers; Thomas, *A History of the Fourth National Bank*, 53; Thomas, *Arthur W. Kincaid*, 91-99; Thomas M. Coffey, *Hap Military Aviator: The Story of the U.S. Air Force and the Man who Built it General Henry H. "Hap" Arnold* (New York: Viking Press, 1982), 173-175.

selling Wichita to itself. These business men who ran the Chamber felt that Wichita needed to have a revived purpose and interest in the community. They planned lectures for the public and started with one on aviation. There were several committees within the Chamber and each committee would bring new business to the board in meetings. While the meetings and programs committee handled the lectures, the aviation committee was focused on another major project. Schaefer sat on this committee along with several other aviation manufacturers in Wichita. Dwane Wallace and Walter Beech served in the Chamber of Commerce and on various committees alongside Schaefer, although only Schaefer was on the Board of Directors in 1939 and 1940. The Chamber wanted to establish a National Aviation Research facility in Wichita. This would be a government facility that would head aviation research for the country. Wichita wanted the facility so that the manufacturers in town would reap benefits from the research first. To secure the facility, the Chamber sent an unnamed representative to Washington in May of 1939 to speak with government officials about the facility's location. The matter remained undecided when Schaefer ventured out to Washington that June on other business. However, he spent, "all possible time advancing Wichita's interests toward acquiring this laboratory."⁸⁵

The trip that June was Schaefer's second trip to Washington in a short time. His first trip was to see "Hap" Arnold about a large order of trainer planes. The General called many manufacturers to Washington for meetings about airplane production planning. He told Schaefer he wanted 600 training airplanes. "What are you going to do?," he asked. Schaefer replied, "Well, the first thing I'm going to do is catch my breath." This was an unheard-of number of planes to be ordered. That was potentially going to be the standing order, but Arnold wanted to know what the plan would be to meet that order. He was still waiting on the funding for the

⁸⁵ Minutes of Meeting of Directors, Wichita Chamber of Commerce, June 13, 1939, Chamber of Commerce, Special Collections, Wichita State University, 1693.

orders to come through Congress, the constant battle Hap faced. So, in the interim, he called in men from all the companies who contracted with the military and he wanted to see all their plans for how they would meet the new orders. Schaefer handed Arnold a simple paper plan and as he looked it over, he loved it. Schaefer's plan was a flow chart plan that showed how the plant floor space would physically be used to build the planes. He used his old automobile experience and how they used their floor space to make the same type of plan for building the trainers quickly. This would eventually be the very successful plan implemented in Plant I in Wichita and would produce one airplane every ninety minutes during WWII. Arnold wanted all the other manufacturers to submit similar plans that showed what they could do and how it would be done. Schaefer left Washington feeling elated and immediately went back to work getting contracts for Stearman.

Schaefer was in Dayton working on a contract program for some trainers when he received the phone call requesting his presence back in Washington, D.C. General Arnold told one of his men to "get Earl Schaefer back here. Don't ask me any questions. I need him."⁸⁶ That young man called Schaefer. Without any explanation needed Schaefer boarded a plane to Washington at two in the morning so he could be there the next day. Schaefer had the whole plane ride to wonder about what Arnold was calling him back to do. When he arrived, he was whisked into a conference with the General and a few other men where he was asked to help with the Air Corps Authorization Bill. This bill was to appropriate more funds for the Air Corps, and it was being debated in a congressional committee. Arnold was used to fighting for funds, but this time he needed help from his friend, because it was the Kansas delegation was holding up the bill. Since Stearman had a training plane contract in the bill, General Arnold wanted

⁸⁶ Mansfield Interview with Schaefer, June 27, 1955 (Seattle: Boeing Company Archives), 56.

Schaefer to contact the Kansas delegation and find out what the problem was.

Schaefer was apprehensive because he had never done anything like this, but he gathered his strength and went to work right away. His first call was to Congressman John Houston. He was the only Democrat and was, “an old and good friend who represented the district in which Wichita was then located.”⁸⁷ Houston did not have any pertinent information, but he directed Schaefer to the other congressmen. Schaefer was still nervous about the whole affair. He worried about approaching men he did not know and asking them the questions he needed to ask, but Houston assured him he was not prying into others affairs and to just go talk to the other representatives. Schaefer saw Congressman Ulysses Guyer, who said he had voted for the bill and had no other information. So, Schaefer moved on to Congressmen Edward Rees, Clifford Hope, and finally to William Lambertson, who gave Schaefer some answers.

“Sure,” said Lambertson, “I’ll tell you what’s wrong with it. We’re not going to go along with the Democrats or anybody else approving a bill or putting out a bill that is to build obsolete airplanes.”⁸⁸ The problem was a lack of faith in current American aviation designs. The previous year, Colonel Charles Lindbergh made a trip to Europe to view the aircraft of those nations. Upon returning to the United States, he said that the German airplanes were far superior to anything America or Great Britain possessed. Lindbergh called the United States air planes obsolete and outdated. As a result, the congressmen did not want to authorize more funds for current aircraft. Instead, they wanted to see that money go toward new and modern aircraft. Lambertson said, “We’re perfectly agreeable to appropriate money for research and development, but let’s get that airplane, get it and then build it.”⁸⁹ Schaefer tried to explain that

⁸⁷ J.E. Schaefer to J.O. Mitchell, August 27, 1957, Boeing Collection, box 2 file 42, Wichita State University.

⁸⁸ Mansfield Interview with Schaefer, June 27, 1955 (Seattle: Boeing Company Archives), 59.

⁸⁹ *Ibid.*, 59.

the Authorization Bill was going to be used to develop the industry and improve on the current models. The production had to start so that experience in the aircraft design and construction could be developed and improvements could be made in the manufacturing process. American aviation could not make the leap from where it was to Germany's level. It had to go through the slower process of building up, but that process could be sped up with appropriate funds.⁹⁰

Schaefer continued to work in Washington to get the Authorization Bill passed. Over those next few days in June, he was slowed down because he could not get many meetings set up with the Congressmen. "Washington was all a-twitter and a-flutter over the visit of the King and Queen of England."⁹¹ Despite the scheduling difficulties, Schaefer kept pushing to get the meetings he needed. He even called back to Kansas and had William Allen White, a prominent Kansas newspaper man, join him in contacting some of the Kansas congressmen and trying to change their minds on the bill. Schaefer checked back in with General Arnold and it was decided that they needed Colonel Lindbergh himself to help convince the Congressmen of the, "need for an active, growing, virile aviation industry if modern airplanes are to develop and be produced."⁹² Schaefer first had the idea to have Lindbergh write something for the newspaper, but the General Arnold and Assistant Secretary of War Louis Johnson were worried about that plan. They knew anything Lindbergh wrote in the newspaper would be interpreted the way the newspaper wanted and then interpreted again the way the congressmen reading it wanted. They came up with a better plan.⁹³

Lindbergh happened to be working in General Arnold's office on his report from his European trip. Arnold put Lindbergh at Schaefer's disposal and a meeting was scheduled for the

⁹⁰ J.E. Schaefer to J.O. Mitchell, August 27, 1957, Boeing Collection, box 2 file 42, Wichita State University.

⁹¹ Ibid.

⁹² Ibid.

⁹³ Mansfield Interview with Schaefer, June 27, 1955 (Seattle: Boeing Company Archives), 59.

following Monday. The Congressmen from the appropriations bill committee warily came to the meeting because they were skeptical that Lindbergh would be there. However, he was present and ready to talk. Schaefer commented in his diary that Lindbergh was, “still the unassuming, delightful, pleasant person he always has been.”⁹⁴ Lindbergh and Schaefer worked the room of congressmen for over an hour before they went to vote on the bill again. Schaefer recalled how Lindbergh was so intense and conscientious. An ardent isolationist, Lindbergh worked hard to help pass the bill, likely because of two factors. First, he was ordered to help by General Arnold. Second, he loved planes and wanted the United States to have better designs. He also understood that in order to get to better designs there had to be orders for the manufacturers so that they would have funds to continue development. The committee was moved by Lindbergh and passed the bill.

Schaefer did not forget his other job while in Washington. In between meetings about appropriations with Congressmen and Generals, he was able to help further Wichita’s cause for a research facility. He enlisted the help of Congressman Houston. Together they wrote a speech about the attractive attributes of Wichita for aviation research. The flat prairies and usually clear skies of Kansas made for perfect flying, or crashing, conditions. Congressman Houston gave the speech about Wichita just after the authorization bill passed. He told the members of Congress that Wichita was the perfect location for the National Advisory Committee for Aeronautics to build a new research facility. He cited Colonel Lindbergh’s testimony about the need for better planes, which required more research. Congressman Houston did his best to sell Wichita as the perfect location. He said,

Wichita is now the center of a great civil airway network; it now possesses commercial

⁹⁴ J.E. Schaefer to J.O. Mitchell, August 27, 1957, Boeing Collection, box 2 file 42, Wichita State University, despite later rumors regarding Charles Lindbergh’s political leanings and strong isolationism, Schaefer only had good things to say about him. He viewed Lindbergh as a true American patriot.

research and production facilities and general cooperative facilities; it offers a minimum hazard of sabotage and espionage; it has the type of labor required for such facilities, and it has the transportation systems, utility resources, housing, and available sites for the laboratory, all of which make it the strategic interior point for the facilities needed for national defense.⁹⁵

Schaefer and Houston hoped these attractive traits of Wichita would convince Congress to locate the research facility there. Schaefer went back to Wichita to await further developments.

However, he and the other Chamber of Commerce members were not idle in their waiting.⁹⁶

The Chamber board continued over the next few months to develop the aviation plans of Wichita. These plans had an increasing military leaning. There were three projects regarding aviation and they all related to the military. First, they were applying to be in the civilian pilot training program. Second, was an ongoing effort to get a National Guard Air Corps unit to be stationed in Wichita. Third, they continued to make plans for the National Advisory Committee for Aviation research facility. Land was one of the requirements to be awarded the facility. They had to have at least 100 acres of land on or next to an airport. Wichita had land next to the airport, but the park board was unsure if they could legally give that land away. Schaefer was asked to sit on a committee with three other Chamber members, the park board, and the mayor to find an answer to this problem. Schaefer was also concerned about the electrical requirements of the potential new facility. If it was built, the research facility would take up 50,000 kilovolts of power. This was only 5,000 KVA away from the average consumption of two Kansas Gas & Electric plants in Wichita and Neodesha. There was a concern that the electrical system could not handle the increase, but the Kansa Gas & Electric assured they could meet that requirement.

⁹⁵ Speech of Hon. John M. Houston of Kansas in the House of Representatives, July 5, 1939, Boeing Collection, box 1 file 21, Special Collections, Wichita State University.

⁹⁶ J.E. Schaefer to J.O. Mitchell, August 27, 1957, Boeing Collection, box 2 file 42, Special Collections, Wichita State University.

The competition to win the N.A.C.A facility was stiff. Wichita was up against cities across the country as well as one close by. Kansas City planned to submit a proposal to win the facility. The Wichita Chamber of Commerce decided to act to try to take that close competition out of the running. They sent A.S. Swenson, chairman of the aviation committee, to Kansas City as a representative to speak with them about the situation. Luckily, Kansas City was persuaded to step aside. The Wichita Chamber Board minutes stated that Kansas City withdrew quietly from promoting themselves for the new facility and no promises were made by Wichita for any support in exchange for their withdrawal. Kansas City even threw their support behind Wichita's effort to get the institution. This saved good relations between the two cities and Wichita was now the only city in Kansas to submit a bid to N.A.C.A. The bid was submitted in September 1939 and all they could do was wait. They did not have to wait too long. That October the decision was made to place the new research facility in Sunnyvale, California. Wichita lost the fight for the research lab, but some of the questions asked during the preparations would be pertinent soon. Schaefer was concerned about the increased strain a large facility would place on the electrical system of the area. Now he had assurances it could be managed, and that information would be important in an upcoming decision.⁹⁷

After Schaefer's successful trip to Washington, he went back to his work of preparing for the incoming orders. For the remainder of 1939, the little plant in Wichita by the airport was always busy. The workers had a difficult time keeping up with the demands of production. Overtime was required by every department from July to December that year. Those six months had a dramatic increase over the first six months of 1939. In the first six months there were a

⁹⁷ Minutes of Meeting of Directors, Wichita Chamber of Commerce, April 11, 1939 – October 3, 1939, Chamber of Commerce, Special Collections, Wichita State University. A study of the Kansas City Chamber of Commerce minutes might shed more light on this exchange between the two cities.

total of 9,899.75 total factory overtime hours worked. This cost an extra \$9,966.09 on the Stearman payroll. However, the second six months saw total factory overtime hours of 24,891.25 which cost \$23,030.42 extra on the Stearman payroll. There were more overtime hours worked in September alone than in the first six months. On a print out of the year's overtime, Schaefer made a note about his concerns over the totals. He said,

This shows clearly how careful we must be in authorizing overtime- when one considers that this included the XA-21 I don't feel that we have any apologies to make. The money went to good hands and for a good purpose but we still have to watch it.⁹⁸

Since the entire total premium for overtime for the year was supposed to be \$10,998.83 and it ended up costing \$32,996.51, Schaefer had good reason to stress the need for caution in the future. Yet, as the war clouds in Europe brought in requests for more advanced planes, the hours spent on developing them had to be increased as well. The XA-21 that Schaefer referenced in his note was an experimental twin engine attack plane. This particular model did not make it to production, but it did bring experience and knowledge to the company that was used on future planes which were produced. This proved Schaefer's argument for passing the Air Force Authorization Bill. The bill funded new planes and, even if they were not produced, they helped grow the knowledge and experience of the American aviation industry. The orders the company received allowed them to also work on new designs for more advanced planes. Clearly that bill was helping Stearman to grow.

World War II in Europe began on September 1, 1939, when Germany invaded Poland. This act thrust the European continent into a war that eventually pulled in the United States. This war introduced a new type of warfare. The airplane was used in war before this, but only sparingly and mostly for reconnaissance. However, airplanes advanced during the peaceful years

⁹⁸ Recap-Overtime, 1939, Boeing Collection, box 1 file 15, Wichita State University.

and now they had a much deadlier use. The airplane became a major part of the strategic plans and successes of the all the armies. The German military used its advanced aircraft Lindbergh had witnessed to blitz through France and defeat it in a few weeks. The Luftwaffe, the German air force, had overtaken French air power in 1936. Once the attack on France commenced, the Stuka dive bombers pounded French lines. They caused damage to the defense as well as to morale. This made it easier for the German troops to advance and continually push the French back. After the fall of France, the largest air battle of the war was fought over Britain. This complex aerial battle for the control of British skies was almost the last battle of the war. The British stood alone against German expansion. However, they would not sue for peace. Hitler issued orders for Operation Sealion, an invasion of Britain. The orders stated, "The English air force must be eliminated to such an extent that it will be incapable of putting up any substantial opposition to the invading troops."⁹⁹ Even a handful of planes bombing incoming amphibious troops could be catastrophic to the invasion. In the battle that lasted from July 10 - October 31, 1940, the Royal Air Force (RAF) defeated the Luftwaffe and saved Britain from invasion. Over those four months, the major cities of England were repeatedly bombed, with London receiving some of the worst raids. The people of England remembered the pilots, homes, churches, and family members lost in those raids. Soon, Germany would face the same fury from the air.¹⁰⁰

Once the Germans were pushed back from invading England, it was the RAF's turn to launch bombing raids on Germany. The idea of using airplanes and bombs to win the war came from the interwar years. Different countries planned the best way to utilize the newest technology. General Hans von Seeckt, the former chief of German Army Command, was quoted

⁹⁹ Richard Townsend Bickers, *The Battle of Britain: The Greatest Battle in the History of Air Warfare* (New York: Prentice Hall Press, 1990), 162.

¹⁰⁰ Julian Jackson, *The Fall of France: The Nazi Invasion of 1940* (New York: Oxford University Press, 2003), 18, 44, 97; Bickers, *The Battle of Britain*, 162-169.

in a United States school manual, *The Air Force*, as saying, “it is important to attack civilian populations in the back areas of the hostile country.”¹⁰¹ The manual went on to describe how to bomb those areas with the greatest disruption to power, water, and food supply. These ideas became a part of the Army Air Corps doctrine. The main premise of the doctrine was that to win the next war, the civilian morale had to be broken. There were two main methods to accomplish this. Some followed the Italian General Giulio Douhet’s theory of total destruction of urban centers in order to break the enemy civilian’s will to fight. On the opposing side, Billy Mitchell of the US Air Service thought that the same objective could be reached with the use of a few gas bombs. Regardless, the main air strategists for the war were convinced that bombing cities and destroying civilian morale was necessary to win the war. This meant that once the war started, the United States military had a much looser pocket book when it came to planes, especially bombers and trainers.¹⁰²

The influx of orders from the war came at just the right time for Boeing Seattle. By 1939, they were on the brink of budgetary crisis again. In the first nine months of that year, the Seattle branch had a \$2,600,000 loss. The Kansas plant was doing well with the orders for the Kaydet’s still flowing in. Those orders only increased because the military had to train so many new pilots. Boeing Seattle needed something to change quickly. Congress was not interested in funding long range bombers in early 1939, because they were seen as an aggressive plane. It was a plane that was designed to travel far and strike hard, it was not like the defensive weapons and planes. In an isolationist United States, defensive weapons were acceptable, but offensive weapons were not. The United States did not want to become embroiled in another European war.

¹⁰¹ Ronald Schaffer, *Wings of Judgement: American Bombing in World War II* (New York, NY: Oxford University Press, 1985), 27.

¹⁰² Schaffer, *Wings of Judgement*, 20-23.

Ironically, it was the outbreak of the European war that forced a re-evaluation of United States defenses as the guns began firing in Europe. A report came in that September that stated the navy and coastal guns were not a sufficient defense against aircraft. The United States needed a longer arm to protect itself, especially given the stated civilian bombing plans of air warfare. Suddenly, Boeing's experimental long-range bomber was in high demand. The B-17 went into high production and a new multiline production system was set up in the Seattle plant. The wings and fuselage were built in sections, then the plane assembled at the end of the production line. The need for the B-17 saved the Seattle plant.

Only a few months after the war began, the call went out that the military was beginning to take proposals for a larger bomber with a range over 5,000 miles. Before the war started, General Arnold was planning for the larger bomber. He had a bombardment strategy that would require the larger plane. The B-17 was the largest bomber at that time, and its range was 3,000 miles. The longer range was needed to ensure all possible targets could be reached. Arnold gave the most descriptive specifications to that point for what he wanted in the new heavy bomber. This was going to be Arnold's plane to win the war with. Boeing entered a design for a plane with a new thinner wing that increased range and speed. When the designers in Seattle, Ed Wells and Wellwood Beall, submitted the design on May 11, 1940, Major H.Z. Bogert, acting chief of the experimental engineering section for the Army Air Force (AAF), gave them a contract to engineer, test, and build a mockup of the plane. Before even seeing a physical plane, the AAF was talking about ordering two hundred of the new large bombers. The war created an even greater urgency for the larger planes.¹⁰³

¹⁰³ Bauer, *Boeing in Peace and War*, 134-135; Anthony Paul Brusca, "A National Effort for Victory: The B-29 Development Program and the Battle of Kansas" (masters thesis, Wichita State University, 1999), 18; Flint O. Dupre, *Hap Arnold: Architect of American Air Power* (New York: The Macmillian Company, 1972), 84. For a further study on Hap Arnold and his influence in American Air Power also see Dik Alan Daso, *Hap Arnold and the*

By September 1940, Boeing had the contracts in hand from Arnold to build the XB-29, better known as the B-29 Superfortress. The need for the bombers was obvious, but Boeing now had to find a suitable location to build the massive war machines. There was one location that stood out above others. Wichita already had a plant, it had plenty of open land available, and that land was adjacent to an airport. In August 1940, before the contracts were awarded, General Arnold and some of his staff visited Wichita to see for themselves if the city was truly the best place for production. Schaefer was certainly proud showing the Stearman plant and his city to these men he knew and had worked with before. He showed them enough to convince them that Wichita was the location to put the B-29 production. Congressman Houston was right about many of Wichita's qualities. First, there were already aircraft companies in place, and they were able to expand and work together to fulfill orders. Second, the geographic location of Wichita was strategic. It was in the center of the country between mountain ranges. Enemy planes would not be able to reach that far inland to bomb the manufacturing facilities. This was a large fear among the manufacturers on the west coast who were within range of Japan's navy and air force. The Boeing plant in Seattle decided to protect themselves from potential bombardment by camouflaging the top of the plant to look like a residential neighborhood.¹⁰⁴

The final reason was the labor force that Wichita and the surrounding area could provide. The 1940 census put the Wichita population at 114,966 people. It was a large enough city to have workers available. Moreover, the alien population of Wichita was very low. Of those counted on the census, only 910 were aliens from Germany, Mexico, Canada, Russia, and Syria. This low number gave Wichita one of the lowest percentages of immigrant people in the whole

Evolution of American Airpower (Washington: Smithsonian Institution Press, 2000) and Thomas M Coffey, *Hap Military Aviator: The Story of the U.S. Air Force and the Man who Built it General Henry H. "Hap" Arnold* (New York: Viking Press, 1982)

¹⁰⁴ Rowe and Miner, *Borne on the South Wind*, 132.

country. In a potential war environment fear of immigrant groups was high. It was perceived that the fewer immigrants in a location, the less the likelihood of sabotage or spying. The War Department went so far as to send notice to industries handling war production stating that, “Federal statutes require the exclusion of aliens from certain forms of restricted defense work.”¹⁰⁵ Wichita seemed like a perfect fit for restricted defense work. Ironically enough, some of these attributes the congressman listed for the city would be found wanting within three years after the decision was made to build the B-29s in Wichita.¹⁰⁶

Schaefer wanted the B-29s to be built in Wichita. It would mean a new facility, more jobs, and the chance at a huge military contract. The process of deciding where the new plant would be located involved the board at Boeing and the military officials like Arnold. Schaefer was on the board and would have been in the meetings discussing this problem. Other locations were considered, in fact one location at Renton, near Seattle, would eventually build some of the B-29s as well. However, the board and the military went with Wichita for the new large plant. Both parties had to agree, and Schaefer had both parties’ ears. His relationship with the military was strong because of his education, time in the service, and all the contracts already fulfilled by Stearman for the military. The generals making the decision knew Schaefer and Stearman would deliver what they promised. Schaefer also helped start the narrative with Congressman Houston that Wichita was perfectly suited geographically for aviation development. This was a factor the military considered when choosing the location of the new plant. Once they saw Wichita’s resources, it was clear to the military that the location was a good fit. For Boeing, it was likely an even easier sell. Schaefer’s previous work set up Wichita to be the only logical choice for the new plant. He had saved Stearman and Boeing from being closed. If it were not for Schaefer’s

¹⁰⁵ “Uncle Sam Insists...”, *Contact*, Oct 1941, Boeing Sources, Kansas Aviation Museum, 2.

¹⁰⁶ Miner, *Wichita: Magic City*, 183-184; Brusca, “A National Effort for Victory, 18-19.

tenacity, connections, and head for finances, both companies would have been out of business. However, because Schaefer saved Stearman the company had a foundation in Wichita. Because he had a Wichita bank save Boeing, the finances of the company were being run in Wichita as well. The logical location for the new major plant was in the field right next to Plant I in Wichita.

Boeing and Stearman began this period as separate companies lumped together. They took on different projects and challenges. Stearman was finally having great luck with its trainer plane. While Boeing designed a stellar aircraft in the B-17, the crash caused a temporary snag in the company's success. With the help of Schaefer and Wichita, Boeing was able to stay open long enough for things to change. Each company was betting on the military contracts paying off. It helped when Colonel Lindbergh came back from Germany with his dire assessment of United States planes. Schaefer and Lindbergh were able to convince Congress that the answer to the problem was to fund more planes, even if they were obsolete, because it was only through those contracts that the manufacturers would have the funds needed to also develop new designs. Congress consented, and this created the perfect storm of funding and need as the war started. The military opened the call for a dramatic new plane and Boeing was able to answer with a dramatic design. Schaefer and Wichita were there waiting for the chance to build these massive new planes. They did not truly know the challenge they were taking on, the headaches it would cause, or the changes it would bring to the city, but Schaefer led them into the task with great vigor and enthusiasm that would carry through all the coming trials.

CHAPTER FOUR Building for War

The military wasted no time in beginning construction on the new plant in Wichita. One security guard at Boeing had a front row seat to the new construction and had to field the questions of many curious motorists. “Ever since the new expansion program has been mentioned in the local papers I’ve had a blitz of questions from motorists who stop to ask when the new expansion will start.”¹⁰⁷ The community was excited about the news. They were beginning to imagine what Wichita would be like with, “one of the largest airplane companies in the world being placed right here in our own Middle West!”¹⁰⁸ Even Schaefer, who worked tirelessly to bring that large plant to Wichita, could not have known the trials and changes it would bring. The fight against Germany, and eventually Japan, needed better bombers. The tenacity and spirit of the Wichita plant overcame all odds to get planes in the air and help win the war.

The change started for Wichita in 1941. Stearman was officially designated the Wichita Division of the Boeing Airplane Company. This renaming came shortly after the announcement of a plant expansion to the new Stearman Plant II. The first long warehouse and factory building of plant II was completed in early 1941. The new Plant II would quadruple the space for building aircraft with an extensive production area and another warehouse. In the *Boeing Contact*, the magazine published by employees for employees, a story on the new contract appeared in June 1941. It said, “The factory will be equal in size to the great Boeing No. 2 plant in Seattle, where the Boeing Flying Fortresses are now built.”¹⁰⁹ Production of the fortresses was no secret. The planes were so large that the parts or whole portions of them were built at sites around the

¹⁰⁷ “A Guard Talks” *Contact*, June 1941, Boeing Sources, Kansas Aviation Museum, 3.

¹⁰⁸ *Ibid.*

¹⁰⁹ “New Contract,” *Contact*, June 1941, Boeing Sources, Kansas Aviation Museum, 2.

country and shipped to the larger plant in Seattle for final assembly. Stearman happened to be working on building wings for B-17s in the current Plant II, which caused many to assume that the new larger plant would be used to build the new model B-17E planes. However, the B-29 was one of the largest secrets of the war on the home front and was only outdone by the Manhattan project when it came to secrecy. Even as the ground was broken on June 24, 1941 for the new plant, very few knew what was truly going to be built on that patch of prairie.¹¹⁰

Plant II was constructed at tremendous speed and its design was suited to the job ahead. The construction of the plant was a massive undertaking. The Austin Company contactors from Cleveland were on a tight deadline to complete the plant so that production of planes could begin. When it was complete, the plant cost \$27 million to build and it held \$20 million in tools and fixtures. It was three million square feet, which would be almost equal to fifty-two football fields. Even Schaefer had a challenging time grasping the size of the new facility. The plant was laid out in a square format. The main floor of the plant had large warehouses on each side. Parts and tools were stored in the warehouses for employees to retrieve when needed. To cut down on confusion, the large aisles between the warehouses and the work space were given street names and numbers. This address system allowed workers to quickly retrieve whatever they required without time lost searching. Also, because the location was safer from bombings, the roof was built in a sawtooth design. This design was cheaper than a flat roof blackout design and it allowed skylights to be added for increased light and ventilation. The whole facility was planned for B-29 production, and when it was completed, it was an amazingly efficient war production

¹¹⁰ E.E. Bauer, *Boeing in Peace and War* (Enumclaw, WA: TABA Publishing, 1991), 56; “Bomber Room,” *Contact*, Oct 1941, Boeing Sources, Kansas Aviation Museum, 4; “Stearman Timeline,” Boeing Collection, box 1 file 15, Wichita State University; “New Contract,” *Contact*, June 1941, Boeing Sources, Kansas Aviation Museum, 2.

machine.¹¹¹

The internal organization of the plant was of paramount concern. The design idea of the plant was to have the assembly process in six groups of assembly lines that eventually converged to three shorter lines at the end where the aircraft would be completed. This was better than the old rectangular plant with one assembly line, because it utilized the space in a more efficient manner. Workers did not have as far to walk to get to another line or area of the plant. The B-29 was the largest plane produced at that time. It was faster and more manageable to have smaller sections of the plane built, then funneled into the main assembly lines. Each section was completely built with all wiring and internal work done. When the pieces of the plane were ready to be placed together, massive steel trusses and cranes would lift the pieces and join them together in the final assembly area. The wiring was connected, and the plane moved out of the factory for flight testing.¹¹²

Construction of Plant II went along rapidly over the summer of 1941, but the work could not wait for the facility to be completed. The government placed an order and that order was rush. They wanted production to start sooner than was possible. To begin production, the workers at Boeing would move tooling into the plant as soon as a section was completed. “As fast as the contractors trussed, roofed over, and paved a few square feet, jigs and tools for the B-29 were moved in.”¹¹³ At the south end of the plant, the assembly lines were beginning to be laid out, while the north end of the plant was still being built. They just hung up a canvas and went to

¹¹¹ Rowe and Miner, *Borne on the South Wind*, 133-134; “Bomber Room,” *Contact*, Oct 1941, Boeing Sources, Kansas Aviation Museum, 4; “New Contract,” *Contact*, June 1941, Boeing Sources, Kansas Aviation Museum, 2; Brusca, “A National Effort for Victory,” 18-19, 31-32.

¹¹² Brusca, “A National Effort for Victory,” 32; Rowe and Miner, *Borne on the South Wind*, 133-134; *Kansans Build the Boeing B-29 and the Boeing Kaydet* (Wichita, Ks: Public Relations Division Boeing Wichita, 1945), 5. This pamphlet was located in Wichita State University library as a printed book. It was also available at the Kansas Aviation Museum.

¹¹³ *Kansans Build the Boeing B-29 and the Boeing Kaydet*, 5.

work. This created a harsh working environment that first winter when no heat was available. The workers compensated by lighting fires in fifty-gallon drums to keep warm. Production was able to start much sooner because the tools and jigs were in place so early. The B-29 required whole new sets of assembly equipment because of its size. The plants in Seattle and Wichita made the tools and jigs that would shape the planes. Once the machinery was in place, the workers began manufacturing parts.¹¹⁴

The early pressure to produce quickly might have seemed premature since the United States was not involved in World War II when the Plant II construction started. President Roosevelt began pushing for more airplanes and other war material in May 1940. Winston Churchill, the prime minister of England, sent a communication to the President calling for aid. He said, "As you are no doubt aware, the scene has darkened swiftly. The enemy has a marked preponderance in the air...I trust you realize, Mr. President, that the voice and force of the United States may count for nothing if they are withheld too long." Churchill called for the United States to step out of isolationism and assist with the fight against Hitler. President Roosevelt responded right away in the affirmative. He expedited aircraft and other munitions deliveries. Congress also received a visit from the President that day. Roosevelt asked for a supplemental defense appropriation of \$1.3 billion. These funds were to construct a two-ocean navy as well as 50,000 planes every year. Orders came down from the very top that airplane production was of utmost importance, so the race was on to build. Then, on December 7, 1941, over 300 Japanese planes attacked and destroyed the American fleet at Pearl Harbor. President

¹¹⁴ Brusca, "A National Effort for Victory," 25-32; Edward H. Phillips, "Boeing's B-29: Birth Of A Bomber," *Aviation History*, May 1998, Schaefer Family Papers, 38-40.

Roosevelt once again went before Congress, this time for a declaration of war.¹¹⁵

America was in the fight now and the B-29 project was pushed along even faster, but the rush led to many problems. The first problem came in June 1942. Plant II was still under construction when Schaefer received a call from Brigadier General K. B. Wolfe. The General told Schaefer, “Well hang onto your chair. I’ve got some news for you. You’re in the glider business!”¹¹⁶ The Army needed gliders that would later be used in the invasion of Normandy. The gliders were large enough to carry a unit of men, their equipment, and even larger items like jeeps. The Army called on Boeing for the seven hundred and fifty CG-4 gliders, which had to be built inside Plant II while it was still under construction. Schaefer did not back down from the request on the phone that day. He said, “OK. We’ll do anything we can, K.B. Anything to win the war.”¹¹⁷ The final gliders were pushed out of the almost completed plant by the expanding B-29 production. Boeing met the glider problem easily, but the B-29 problems would put a much greater strain on the manufacturer, the employees, and the air force.¹¹⁸

Production on B-29s began while the plane was still undergoing development and testing. Hundreds of planes were ordered before even one was built and tested. Boeing decided to continue designing the plane as plants began building them. As happens during the development stage, elements of the plane had to be changed when they were found to be faulty or inefficient. This created some headaches for the workers already building the planes. Just as the wing production moved along, the static tests on the wings, “resulted in a decision to ‘beef’ up the wing a little.”¹¹⁹ This decision came after some B-29s already had the wings on, so 1,200

¹¹⁵ David M. Kennedy, *Freedom From Fear: The American People in Depression and War, 1929-1945* (New York: Oxford University Press, 1999), 445-447.

¹¹⁶ *Kansans Build the Boeing B-29 and the Boeing Kaydet*, 6.

¹¹⁷ Phillips, “Birth of a Bomber,” *Aviation History*, Schaefer Family Papers, 40.

¹¹⁸ Phillips, “Birth of a Bomber,” *Aviation History*, Schaefer Family Papers, 40; “Schaefer to Retire”, *Boeing Plane Talk*, June 18, 1959, Schaefer Family Papers.

¹¹⁹ *Kansans Build the Boeing B-29 and the Boeing Kaydet*, 8.

mechanics were called out into the bitter winter weather to fix the wings on semi-completed B-29s outside of the plant. Then new tools had to be incorporated into the wing production and the entire process relearned by the workers. The production line was a complicated place and it was not always easy to insert changes; however, the Wichita plant always rose to the challenge when it came to completing planes.¹²⁰

The Boeing worker's patience was tested further with the "bugs in the plugs." Each B-29 had more than 10 miles of electrical wiring connected by large plugs. These plugs had performed well in the pre-assembly functional testing; however, they were deemed unfit in actual use. This meant that the Boeing-Wichita employees had to go back and fix the problem. They rounded up and borrowed soldering tools from all available sources and, "disassembled, rebuilt and re-soldered more than 586,000 connections in planes already completed, those in process on the floor, and in the thousands of wiring bundles already assembled."¹²¹ It took more than 40,000 man hours to correct the wires, which would have been equivalent of building 100 automobiles. More man hours were taken from the production line when an issue with the glass arose. It was found in taxiing tests that the glass for the forward cabin had a distortive quality. The distortion was not able to be detected in the ordinary inspection. Employees had to go back and pull the glass out of seventy-five nose sections. These sections had already been pressure tested and were ready for instillation, but they had to redo that work. Had test planes been built to completion before production, many of these issues would have been found before so many were produced with faulty parts. Clearly, designing an aircraft and producing it at the same time created problems, but they were slowly overcoming each new obstacle.¹²²

¹²⁰ Rowe and Miner, *Borne on the South Wind*, 134-135; *Kansans Build the Boeing B-29 and the Boeing Kaydet*, 8; Phillips, "Birth of a Bomber," *Aviation History*, Schaefer Family Papers, 42.

¹²¹ *Kansans Build the Boeing B-29 and the Boeing Kaydet*, 8-9.

¹²² "Article Draft;" Boeing Collection, box 2 file 44, Wichita State University.

Schaefer worked unceasingly through all the production difficulties to keep the plant and his employees running. He wrote a letter to the employees to impress upon them the importance of the tremendous task they were a part of. He noted that this was a job for which no one would have true experience. This was a whole new plane and was the largest at the time. Schaefer believed in his employees and their ability to complete the program. He did warn that “no one can afford to be ‘cocky’ in the discharge of his duties.”¹²³ This reads as an officer’s warning to his men to keep their heads down and stay focused on the job. Since Schaefer was a part of the military in his younger years, this type of comparison would have come easy to him. Often leaders in the plants would compare their workers with soldiers. “We must be humble and we must work to make good for none of us has anything to ‘crow about’ until all of us, working together—you in the plant, me at my desk, the soldier at the front and the sailor at sea—get this job done.”¹²⁴ The war was on, and the war production had to move forward quickly so that the men fighting overseas had the proper tools with which to fight.

During the war, Schaefer was also corresponding with his old classmate, General Dwight Eisenhower. In a letter to Eisenhower on May 11, 1943, Schaefer complimented the progress the Army was making, then went on to talk about the new planes. He wrote,

We are still making progress, but it is at times all too slow. Progress it is, nevertheless, and one of these days, you, Tooley, and Jimmy are really going to have something with which to go to town. You can bet your bottom dollar we are doing our best to get it to you as quickly as possible.¹²⁵

Tooley and Jimmy were references to Carl ‘Tooley’ Spaatz, who was in charge of the strategic bombing of Germany, and Lieutenant General Jimmy Doolittle, who commanded the 8th Air Force. Eisenhower was glad to hear such positive news from a former school companion. He

¹²³ “Our Responsibility,” *Contact*, January 1943, Boeing Sources, Kansas Aviation Museum, 1.

¹²⁴ “Our Responsibility,” *Contact*, January 1943, Boeing Sources, Kansas Aviation Museum, 1.

¹²⁵ J. Earl Schaefer to General Dwight Eisenhower, May 11, 1943, Dwight D. Eisenhower Library, Abilene, KS.

responded on May 28, "I have heard something of your new product and as you can well imagine, we are all awaiting its delivery for operations with the greatest of anticipation."¹²⁶ The workers were proud of building the planes, and the military was anxious to use them against the Japanese, but there was still trouble on the horizon for the B-29s.

The proper tools were still not making it to the war by early 1944. Boeing Plant II was finally completed in January 1943. The production lines were still undergoing changes due to updates in the design, but planes were rolling out of the factory. The first Wichita built B-29 was delivered on July 29, 1943. However, the B-29s that were beginning to be delivered to the military were not combat ready machines. They still had a long list of modifications that had to be done on them before they could be flown overseas. It was decided that several of the engineering changes would be left out of the early planes so that they could be delivered to the military right away. The planes could still fly, and the crews desperately needed flight training before they would be ready to go overseas. This led to a back log of planes that had been delivered by Boeing upon the military's request, but needed extensive mechanical work done. The plan was to have several modification bases and plants where the planes could be modified, and the flight crews trained at the same time. In Kansas there were five bases where B-29 planes were sent for training purposes. The bases were located near Pratt, Salina, Hays, Herington, and Great Bend. This was the stage for what became known as the Battle of Kansas.¹²⁷

The plan to have maintenance mechanics modify the B-29s fell apart quickly. Schaefer recalled these events later and said,

These boys who had been taught to fight a war were trying to field modify B-29 airplanes

¹²⁶ General Dwight Eisenhower to J. Earl Schaefer, May 28, 1943, Dwight D. Eisenhower Library, Abilene, KS.

¹²⁷ "The Battle of Kansas," *Kansas History*, 13 no 8 (November, 1945): 481-485; Brusca, "A National Effort for Victory," 50-51. There were also some plants outside of Kansas working to modify the B-29s. These plants were located in Marietta, Georgia; Denver, Colorado; San Francisco, California; and Birmingham, Alabama. These plants had a large backlog of planes due to not having enough specialized trained mechanics to work on the B-29s.

in March – March in Kansas is not only windy, but this particular March the winds were sharp and biting. It would have been just as consistent for one to expect our mechanics to fight with these airplanes as it would be for these soldiers to modify them. Both groups were trained for a particular job in their particular field and to cross them up even in an emergency was a serious mistake.¹²⁸

Leaders in the air force eventually realized their error, but it was almost too late. The alliance with China was getting somewhat tenuous. The President had promised them that 150 B-29s would be in China and ready to fight by June 1944. The Chinese leader Chaing Kai-Shek in turn promised that the airfields for the planes would be done by April 15, 1944. However, in March 1944, General Hap Arnold came to the horrible realization that he had no B-29s ready to fly to China. The General did not want to disappoint the President, who had already delayed the shipment of B-29s from January to June. The Chinese needed the planes and the crews to continue to hold off the Japanese. So, General Arnold got on a plane to Kansas. He traveled around to the bases there to see what the situation was, but it was worse than he realized. The entire modification program at each base was in disarray, with no organization, and often not enough parts to complete the job. Arnold had to do something drastic or the deadline would not be reached.¹²⁹

On March 20, 1944, Schaefer received a phone call from his old friend Brigadier General Orville Cook on behalf of General Arnold. Cook wanted Schaefer to leave with him right away on an inspection trip. Schaefer collected his works manager Fletcher Brown and within twenty minutes they were in the air headed for Pratt. They “weren’t long on the ground until the problem was quite apparent. Mechanics were needed to do a mechanics job.”¹³⁰ Schaefer jumped right into action without even needing to see the other bases. He told Cook that

¹²⁸ Schaefer to Harold Mansfield, June 29, 1955, Boeing Collection, box 2 file 42, Wichita State University.

¹²⁹ Mansfield, *Vision: The Story of Boeing*, 136-137.

¹³⁰ J.E. Schaefer to Harold Mansfield, June 19, 1955, Boeing Collection, box 2 file 42, Wichita State University

men would be headed to the bases by midnight so long as they would receive full cooperation and authority to work on the planes. Cook agreed wholeheartedly and the scramble for men back in Wichita was started. Key men were pulled from the production line in Kansas to go out to the bases and modify the planes. Some of these men were not even on shift when the call came in. They were routed from their beds and put on planes, cars, or buses without knowing exactly where they were going. Eventually, 600 men were pulled from Wichita to go into the Battle of Kansas and pull off a modification miracle.¹³¹

When the Boeing men got to the bases, they threw themselves into the hard and often perilous work of preparing the B-29s. The weather that March was very cold with high winds. The planes were being modified outside because none of the hangers were large enough to hold them. The men working got so cold they could not feel the tools in their hands. They did not have the appropriate scaffolding either, so they were perched precariously on ladders that were prone to blowing over in the high winds. The men worked for extended shifts of twenty-four hours or even longer. When one of the men was too tired to work anymore, he would go to the barracks to wake his replacement and fall into a bed. Despite the horrible conditions they faced, the Boeing men were making progress. By March 24, when Schaefer and several men from Seattle toured the bases again, they could see progress was being made at all of them.¹³²

Schaefer was highly invested in the success of the modification blitz. The future of the war against Japan was on the line, but this inspection was also a test of his and Boeing's reputation. If they succeeded, Boeing-Wichita would be confirmed in those officer's minds as the best place for future military projects. Schaefer was proud of his workers' tenacity to get the

¹³¹ Brusca, "A National Effort for Victory," 113-114.

¹³² "Memorable 'Battle of Kansas' Is Recalled by General Cook's Visit," *Boeing Plane Talk*, March 1945, Boeing Collection, box 1 file 10, Wichita State University; J.E. Schaefer to Harold Mansfield, July 1, 1955, Boeing Collection, box 2 file 42, Wichita State University; Brusca, "A National Effort for Victory," 113-117.

job done. He made sure to take care of them as best he could. Timekeepers were sent to the bases as well to ensure the men were paid accurately and promptly. Even though the military had called in a favor, Boeing was footing the bill for paying the 600 men. Boeing also threw parts into the battle. Planes on the production line in Wichita were stripped so that the bases would have the parts they needed. As a result of losing 600 of the best workers and many parts, the Boeing production for March fell quite dramatically. However, the workers who stayed behind in Wichita tried to keep the lines running by pulling double duty and working longer hours as well. The first modified ready-for-combat plane flew out from Kansas on March 26. The goal was to have all of the planes done by March 31 so that they could make it to China by April 15. Because of the Boeing men and their determination to get the planes ready, the bulk of the modifications were done by the deadline. In typical Kansas fashion, a bit of weather held up a few of the planes by a few days. The Battle of Kansas ended as a success. The men returned to their places on the production lines, and soon full combat-ready B-29s were flowing out of Plant II.¹³³

From the beginning of the production process Boeing knew it needed workers fast. Luckily, there was a semi-trained workforce all over the state. Schaefer and the other department heads at Boeing realized that the farmers of Kansas and the surrounding states already had an extensive knowledge of mechanics. George Trombold, Personnel Director at Boeing, said,

Most persons from rural areas have been industrious all their lives and are used to hard work. Nearly all Kansas farms are highly mechanized and Kansas farmers have learned the use of power machinery as well as hand tools.¹³⁴

Farmers often fixed their own tractors and combines to avoid long and costly trips to a repair shop. This meant that the farmers were already mostly trained and only had to be shown how to

¹³³ “Memorable ‘Battle of Kansas’ Is Recalled by General Cook’s Visit,” *Boeing Plane Talk*, March 1945, Boeing Collection, box 1 file 10, Wichita State University; Brusca, “A National Effort for Victory,” 118-120.

¹³⁴ Boeing- Farmer For release Sunday Papers, July 12, 1942, Boeing Collection, box 1 file 10, Wichita State University; Miner, *Kansas*, 312; Brusca, “A National Effort for Victory,” 20.

apply the skills they possessed to aircraft production. One farmer was plucked off his tractor from behind Plant I and put to work. Schaefer recounted the story of how this particular young man was hired. Unfortunately, the anodic treatment tanks were emptied into a creek behind Plant I. The chemicals ended up poisoning the cattle and horses on the farm behind the plant. The woman who owned the farm was going to sue Boeing for \$10,000. So, Schaefer sent the plant manager out to speak with her son who was plowing the field. The young man was offered a job and stayed at the factory until his retirement.¹³⁵

The program of using farmers was so successful that General Hap Arnold suggested a Russian delegation go to Wichita to see it for themselves. The delegation came to the city and toured Plant I. The bombers were not yet being built, so the Russians toured the training plane production area. Schaefer told the lead Russian, Mr. Sokolof, that most of the manpower came from farming areas. He also made clear that these farms were highly mechanized; “everyone knew how to overhaul a Model T Ford, their tractors, and other farm equipment.”¹³⁶ On a less mechanized farm, the benefits of using farm workers for industrial labor would not exist. In America, the young children grew up with this kind of technology and knowledge. They grew up playing with mechanical toys, so they were adept with mechanics from a young age. The Russians must have taken this lesson to heart. Schaefer read a few weeks later in the *New York Times* that the Russians were developing a line of mechanized toys for their children.¹³⁷

There were some worries associated with utilizing so many farmers for factory work. The largest worry was whether the crops would be harvested in time. In July 1942, Schaefer wrote a story for the Sunday paper. The wheat crop was very abundant that year. There was no drought,

¹³⁵ Miner, *Kansas*, 311-313; J.E. Schaefer to J.O. Mitchell, March 16, 1962, Boeing Collection, box 2 file 42, Wichita State University.

¹³⁶ J.E. Schaefer to J.O. Mitchell, March 16, 1962, Boeing Collection, box 2 file 42, Wichita State University.

¹³⁷ J.E. Schaefer to J.O. Mitchell, March 16, 1962, Boeing Collection, box 2 file 42, Wichita State University.

so the fields were full of crops. However, Boeing realized that, “the same hands that have harvested the wheat are now instrumental in reaping the new and heavier crop of bombers soon to roll onto Kansas plains.” Men who used to have the entire year to work on their farms were now working eight hours shifts at the plant then going home to work on the farm. The farmers who lived close enough went home every night and worked a second shift on the farm. They were pulling in hundreds of acres of wheat, tending to cattle, and trying to keep up with any repairs the farm required. Schaefer’s article for the newspaper had nothing but praise for these farming industrialists.

Schaefer knew of one man, Joe Freeman, who had an exemplary work record. His foreman called him an, “excellent workman, careful, capable, and consistent.” He even took the extra initiative to take a course in blueprint reading so that he would be more useful at the plant. The one mark on his record was when he had to call in sick when, “he injured his foot in kicking a stubborn, overfed porker in the barnyard.” Sometimes the farm life did slow down the factory work. Not every farmer working in the plant was lucky enough to live so close to Boeing. Joe Freeman only had a ten-mile drive home. Many men were too far from to go home every day. Kenneth Garten was a thirty-year-old worker who lived 191 miles away from the Boeing plant. He had 1,000 acres of wheat on his land. He planted and harvested during the weekends. Boeing also gave some farmers enough time off to get the wheat in. After all, the harvest was as important as the planes to the war effort. The families young working men left at home were imperative to keeping the farms running. Many wives took up tasks like; dairying, stock feeding, and vegetable gardening so that their husbands could be in the factory. There was also a flood of

young women who came to the factories to work alongside the men. Boeing put out the call for workers and the farmers of Kansas and Oklahoma answered in force.¹³⁸

The men answered the call first, but the women were right behind them. As the war went on, increasing numbers of men volunteered or were drafted into the service. On March 27, 1944, Schaefer sent off a letter to Major J.E. Treadway who worked for the Kansas Headquarters of selective service. He was the man in charge of drafting men for the Army in Kansas. Schaefer wanted to start a conversation about the practice of the selective service to take valuable employees from Boeing. Schaefer knew there was pressure on both parties. He wrote, "You are being pressed to obtain men and we are being pressed to build airplanes. You are told that men are all important and we are told that the B-29 is of equal importance. Someone is going to have to get us straightened out."¹³⁹ Schaefer wanted to keep the key men in his plant because it was extremely detrimental to production of the airplanes for men to be constantly taken. New employees had to be retrained, and they always stood the risk of being taken as well if they were men. One way Boeing helped to solve the labor shortage was to turn to women. All over the country, as men left for war in Europe women left the home for the factory. This was true in Wichita as well.

Women of all races and ages swarmed into the factories to pick up hammers, bolts, and rivet guns. One of the new workers was named Connie Palacios. She commuted almost an hour to and from Newton every day to work at the Boeing plant. When she got the job at Boeing in May 1943, she would ride the bus every day and be dropped off at the Orpheum theatre. From there she walked down to a building next to the Broadview hotel where a class for riveters,

¹³⁸ Boeing- Farmer For release Sunday Papers, July 12, 1942, Boeing Collection, box 1 file 10, Wichita State University.

¹³⁹ J.E. Schaefer to Major W.E. Treadway, March 27, 1944, Kansas Memory.

buckers, drillers, and other jobs was held. Classes like this were held in many areas of Wichita. Even some high schools, like East High, housed Aircraft Training Schools. After two weeks of training, Connie was sent to work out at the plant. She still rode the bus for thirty-five to forty minutes from Newton everyday with about thirty-six other employees. After her twelve-hour shift, she would ride the bus home again.¹⁴⁰

While she was at work, Connie was a riveter. She was also of Mexican descent, which made her one of the few minorities in the plant. That was the way the administrators and Department of Defense preferred it. Segregation was still active even in a war time production plant. At the beginning of the war, the plants were not hiring African Americans. As the war went on, more were hired, but workers of African American or Mexican American descent often had to work as janitors or other unskilled jobs. There were some who were trained in skilled positions, but these workers were unable to do jobs that required a partner unless there was another minority worker willing to work with them. This is what happened to Connie. On her first day at the plant, Connie was not able to rivet because she needed a bucker due to the scale of the job. The riveter is on the outside of the plane and runs the rivet gun. The bucker is on the interior and her job was to hold a bucking bar, which was just a solid cut piece of metal, up to the back of the rivet. Rivets came in different sizes depending on the hole drilled in the sheeting of the plane. Once the bucker was in place with the bucking bar firmly against the rivet, the riveter would run the gun. This forced the end of the rivet hitting the bucking bar to deform and flatten out. In this way, the sheets of the plane would be fastened together. It was much more efficient than welding when it came to assembling the plane.¹⁴¹

¹⁴⁰ Connie Palacioz, interview by author, Wichita, April 19, 2017; "Class Rooms Selected for Central Location," *Boeing Plane Talk*, September 4, 1943, Boeing Sources, Kansas Aviation Museum, 6.

¹⁴¹ Peter Fearon, "Ploughshares into Airplanes," *Kansas History* (Winter, 1999), 306

Since Connie did not have a buckler, the first day she was put to work getting assorted sizes of rivets for the other teams. On her second day, Connie found out there was a buckler available, but she was working in maintenance. Connie asked why she was in maintenance when she would be better used as a buckler. She was told no one wanted to work with that woman because she was black. Connie immediately said, "I don't care I'm a Mexican descendent."¹⁴² So the African American woman named Jeri came to be Connie's buckler. These two women worked together wonderfully. Connie would rivet the outside of the nose of the plane while Jeri held a steel bar on the opposite side to flatten the rivet. Connie said Jeri was the best buckler because she could get into any hard or tight space to hold that bucking bar. Connie and Jeri became one of the best teams and built hundreds of Superfortress nose sections. They worked together until they were laid off in in August of 1945 just after the war ended.¹⁴³

Thousands of other women worked alongside Connie and Jeri in the plant. These women gave up their time at home and with their children to work in the plants. All over the country women went to the factories as men went to war. Women even learned to fly the planes and came to Boeing-Wichita to transport them to bases. These women were called Wasps, but the men in the plants did not always know how to handle the women working around them. In one *Boeing Contact* a male employee admitted he did not know whether to salute them or flirt with them. Men were not used to seeing women hold positions of authority. Another *Contact* told of the perils of working with long hair. A woman was working on a drill press when her bandanna got caught and tore off a large chunk of her hair. "When she jerked herself away from the press a little later, her scarf was twisted and torn, her head covered with blood."¹⁴⁴ These were the types

¹⁴² Connie, interview.

¹⁴³ Connie, interview.

¹⁴⁴ "All Out Production," *Contact*, December 1942, Boeing Sources, Kansas Aviation Museum, 13.

of accidents that most men did not need to worry about, so long as their hair was short. Women stood in the gap left by the men who had to go fight, but they faced discrimination, confusion from male coworkers, and physical hazards.¹⁴⁵

All the employees in aviation production faced some discrimination and hazards. Schaefer tried to support and be transparent with his employees. During the war there began to be negative rumors, from other employers, about Boeing and other aircraft manufacturers. These rumors were not restricted to Wichita. These other employers were saying that the large plant was taking up all the workers, but some of the workers were just sitting around and not working for large portions of the day. Schaefer could not stand these half-truths. He wrote to his employees to give them the perspective of employment from the aircraft manufacturing side. The first memo went out on October 18, 1943. He wrote to all his employees, “Your company, and all of its people, right now are faced with serious problems—problems which can only be solved through a thorough understanding of all the facts involved.”¹⁴⁶ The problems were faced by other manufacturers as well, so some of the memo was identical to ones that went out to fellow airplane workers at Lockheed and Vega.¹⁴⁷

The biggest problem the memo addressed was why the manufacturers were constantly seeking additional employees. They wanted people to understand why they were needed and also to “spike the ugly rumors—and there are many—concerning both Boeing and the aircraft industry as a whole.”¹⁴⁸ There were eight aspects of the rumors that Schaefer referenced. The other employers nationally were saying that many employees at the plant had time with nothing

¹⁴⁵ “Wasps,” *Contact*, May 1943, Boeing Sources, Kansas Aviation Museum, 15; “All Out Production,” *Contact*, December 1942, Boeing Sources, Kansas Aviation Museum, 13.

¹⁴⁶ J.E. Schaefer to All employees of Boeing-Wichita, October 18, 1943, Boeing Collection, box 2 file 42, Wichita State University.

¹⁴⁷ J.E. Schaefer to President Dwight Eisenhower, various letters, Schaefer Family Papers.

¹⁴⁸ *Ibid.*

to do and were just loafing around. Some said the aircraft industry was hoarding the working force, so there was no real labor shortage. They said aircraft production was so slow because of inefficiency. They called aircraft workers draft dodgers because the aircraft companies sought to keep their workers. The profits the companies were making were called into question. Also, the companies were trying to have the government cancel contracts with competitors, so they could steal their employees. Finally, they said the companies did not care what happens to the communities after the war was over.

Schaefer methodically answered each of these assertions in the memo. The only goal of Boeing was to build the aircraft the military needed as quickly as possible. Men who were deemed to be of better service to the war effort in the plant could not be called draft dodgers. They were serving the war to the best of their abilities. Many men were still being drafted out of the plants, a problem Schaefer continued to deal with for the rest of the war. The largest reason for the constant need of employees was the call from the military for unprecedented levels of production. They wanted a 100% increase in production over 1942 alone. The fast increase in production did mean that at times some employees seemed to not have a job to do. This happened for a several reasons.

As production was ramped up, Boeing was hiring and training more employees than they needed to keep up with the current production. They were not hoarding employees, they were planning for the next level of production where those employees would be needed. Instead of waiting until production reached that level, they got these men and women on the job and trained. Also, as the planes were built there were problems with them. This meant changes in the production line, which slowed down progress. If an early section of the line is shut down to implement new tooling and changes that affects the later sections who need those parts to do

their job. This was only exacerbated when the materials needed from outside of Boeing were held up. Other plants built some of the parts and sub-assemblies for the plane, but they faced all of the same problems as Boeing, so sometimes the parts just were not there. That does not mean that those employees were not needed. As each plant got faster in its production and more efficient in meeting the demands, all the employees at Boeing found their hands busy.¹⁴⁹

By the end of the war, Boeing-Wichita produced 1,644 B-29 planes and over 10,000 Kaydet training planes. The overall production of B-29s was 3,970. There were two other plants producing them, so Wichita was the largest producer of B-29 planes. They were the only producers of the Kaydet trainers, which continued to be constructed in Plant I throughout the war. Wichita came through and proved it could handle large military plane production. The workers and leaders at the plant dealt with all the problems that came along with the massive project. They built assembly lines in a half-finished factory. Then they re-tooled and re-worked the lines and completed planes when design changes came down. No matter how many planes or parts were already completed, the workers rolled up their sleeves or put on heavy coats to brave the weather and fix the planes. Even the battle against modifications, parts shortages, terrible weather, and a short deadline could not stop the workers of Boeing. Schaefer was always right along with them. He ran the plant with military precision and attitude. The men and women on his lines were not just workers, they were soldiers. He treated them with respect and ensured they were armed with the tools not just to do their job, but to stand up to those who would disrespect the work they were doing. Much was asked of Boeing and much was delivered. The plant on the prairie helped change the way the war was fought, but it also changed Wichita to its core.

¹⁴⁹ J.E. Schaefer to All employees of Boeing-Wichita, October 18, 1943, Boeing Collection, box 2 file 42, Wichita State University.

CHAPTER FIVE Changing City

War production in Wichita dramatically changed the landscape and personality of the city. Wichita was already highly air minded and many businessmen and leaders, like Schaefer, actively sought to expand aviation in Wichita. However, the change over to such a high dependence on the war manufacturing for a large majority of the work force was not met with complete joy. Some leaders became worried with the changes the war brought to the city. Many of the problems and battles the community struggled with after the war began with the production of planes during the war. After the war ended, the city and Boeing went through a period of transition before finding a post war purpose.

Cities all over the country made changes to help with the war effort. Both before and during the war, the biggest physical changes in the area happened out on the open plains south of Wichita, such as the construction on Plant II started in 1941. When it was completed, the massive new facility was more than a place to build planes. The statistics for the new plant were staggering. The ending cost to construct the plant was twenty-seven million dollars, with another twenty million spent on tools. There was enough concrete in the plant to pave a fifty-mile-long, thirty-five-foot-wide highway. Because of its size, Plant II became almost a small city unto itself. It consumed thirty-six million gallons of water per month. The monthly electric bill was over \$35,000. Luckily, the electric company was able to keep up with the increased demand as they had promised Schaefer they could during the discussions about the potential aviation research facility. The plant also used sixty-five million cubic feet of gas every month. These were just the utilities to keep the basics of the plant running.¹⁵⁰

The numbers on the employees are equally impressive. In January of 1942, the payroll at

¹⁵⁰ Miner, *Wichita: Magic City*, 187.

Boeing was at 2,829 people. Within the next year that number swelled to 22,138 employees. To hire that many people the administrative offices, like human resources, worked around the clock. Potential employees would line up outside of the administrative building and be processed as quickly as possible every day. The Fourth National Bank had to start using an automatic check writing machine in order to meet the expanding payroll. The bank also had to do some renovations to their building because of the increased flow of people through the bank. Boeing employment peaked in December 1943 with 29,795 employees, of which 11,620 were women.¹⁵¹

The plant on the plains went from mildly busy to running full steam twenty-four hours a day trying to meet the demands of military production. There was an average of 65,645 calls every day through the switchboard at Boeing. The ladies who manned those boards must have been flying through calls from the moment they sat down until the moment they left. Hopefully, each of them got a break for lunch at the largest restaurant in Kansas, the Boeing cafeteria. Feeding thousands of employees everyday was no easy task. However, the workers in the Boeing cafeteria got so good at it that people who were not even employees would go out to eat at the plant. They served 15,000 meals everyday at twenty-eight cents each. This translated into 5,000 pounds of meat, 3,500 pounds of potatoes, 100 gallons of navy beans, 200 gallons of soup, 7,500 salads, 1,875 loaves of bread, and 1,250 homemade pies. The defense workers were fed well so they would have the energy and endurance to make it through their shifts. A shift at Boeing was not easy. In 1940, the plant moved to three shifts of seven and a half hours. As production increased the plant changed to three overlapping ten hour shifts. During crisis moments, like the battle of Kansas, employees worked closer to fifteen hours then went home to sleep and returned

¹⁵¹ Thomas, *A History of the Fourth National Bank a*, 55-75; Phillips, "Boeing's B-29: Birth of A Bomber," *Aviation History*, Schaefer Family Papers, 41-42.

to do it again the next day.¹⁵²

Schaefer made sure to nurture company pride with his consistent communication to his employees. In a salute to Schaefer, George Arnold, a former employee of Boeing, said, “Earl, as I called him, had always mixed with the working people and wouldn’t stand for mistreating people. Even as general manager he himself went to the head man of any department to make sure people were treated right. Anything that he wouldn’t do he didn’t ask any other man to do.”¹⁵³ Schaefer was more of a micromanager. He worked long hours and if there was a problem, he was either directly involved in fixing it, or he was being briefed on it. Memos constantly crossed his desk covering all aspects of the business. He did have a few upper managers he trusted, men like J.O. Mitchell, Public Relations; Rex Harlow; Fletcher Brown, works manager; and Clif Barron, Vice President. These were the men he left in charge when he traveled or delegated things to when he could not handle the issue himself. Schaefer was a very hands-on manager. He cared for his employees’ experiences inside of the plant as well as their lives outside of the plant. It was a good thing that he cared for the whole life of his employees, because life outside the plant had several major struggles as the city tried to adjust to so many new people.

Boeing was not the only plant in Wichita that grew exponentially due to war production. Many other aviation firms like Cessna and Beech gained thousands of employees. Other companies like Coleman, which produced lamps and other gear for the Army, also added many new people to their payroll. All this employment meant the city of Wichita grew in population from 114,966 in 1940, to about 200,000 in 1943. That is 85,034 new people moving into Wichita

¹⁵² Rowe and Miner, *Borne on the South Wind*, 133; Miner, *Wichita: Magic City*, 184-187; Chris Rein, “Kansas Bomber: An Environmental History of the B-29 and the Sunflower State,” *Kansas History*, 39 (Autumn, 2016): 150.

¹⁵³ George Arnold, “Salute to Earl Schaefer,” Schaefer Family Papers.

and the surrounding area within three years. The December 1942, *Boeing Contact* magazine did a two-page spread titled, “Where Are They All Coming From?” which showed twelve new employees with a brief description of what jobs they did prior to the war and what they were doing in the plant during the war. Seven of the twelve were women who came from being homemakers, schoolteachers, or working in stores to do anything the plant needed. Six of the seven women were shown working with tools, while only one woman was pictured in an office setting. The men were shown exclusively working with tools. These men came to aircraft work from orchestras, farms, and drug stores, and several of these workers moved to Wichita from Oklahoma. Workers came from many of the surrounding states, and even from states far away. However, when they got here these new workers faced some serious immediate problems that the government and Boeing had to help answer.¹⁵⁴

Wichita was still only about seventy-five years old when the war started. There was a core of buildings and homes around the downtown area and some outlying neighborhoods, but there was not a surplus of available housing within the city. Most new Wichitans looked to the blank prairie for a home. The city estimated it would need new housing for 30,000 incoming workers and their families. To help with this problem all current residents were encouraged to take in other families if they could. However, housing was such a problem that President Roosevelt declared Wichita to be one of the 146 defense areas. Therefore, homes could be financed through the Federal Housing Administration and have no down payment. Wichita also received an A1A rating, which “released construction activity immediately . . . and all available materials needed might be purchased.”¹⁵⁵ These measures increased the number of houses built by private builders, yet it was still not enough. Finally, the federal government stepped in with

¹⁵⁴ “Where Are They All Coming From,” *Contact*, Dec. 1942, Boeing Sources, Kansas Aviation Museum, 8-9.

¹⁵⁵ “Houses—Hallelujah!,” *Contact*, July 1942, Boeing Sources, Kansas Aviation Museum, 14.

some major help. In early 1941, the federal government announced they were going to build 400 homes for defense workers in a neighborhood called Hilltop Manor.

Hilltop Manor was the first defense neighborhood to begin construction. It was located within the Wichita area near Lincoln and Oliver. The houses that were built in Hilltop were very basic structures. They were demountable or prefabricated structures that were manufactured in Tulsa, Oklahoma then erected in Wichita. Each house consisted of a square frame with four rooms plus a bathroom and no basement. The houses were deemed suitable for permanent residential use in the Hilltop area by the National Housing Agency. However, they were also designed to go together easily and be removed after the housing emergency had ended. This conflict of ideas would come back after the war was over to create problems for the city. The first 400 units in Hilltop Manor were built quickly. The housing crisis did not abate, so another 600 houses were approved for the Hilltop Manor area. The goal was to get these 600 houses up in 100 days. The crews faced muddy, wet, and sludgy working conditions to get the job done, but they did complete Hilltop Manor and all the houses were filled with defense workers. Eventually, there were 1,114 houses built in Hilltop Manor.¹⁵⁶

There were two other major housing areas built for defense workers in Wichita called Planeview, and Beechwood. The government built Beechwood on forty acres southwest of the Beech Aircraft plant. The largest of the neighborhoods was Planeview. It was constructed on 592 acres just north of the Boeing factory. Workers who lived there were so close they could walk to work at the factory. The Associated Press dubbed it the miracle city because it sprang up from the empty prairie so quickly. It was planned and constructed within fifteen months. When it was

¹⁵⁶ *A Revitalization Plan for the Hilltop Neighborhood 60 Years of Community in Southeast Wichita* (Wichita, Ks: Development Concepts, 2000), 7-10; Julie Courtwright, "Want to Build A Miracle City?: War Housing in Wichita," *Kansas History* (Winter, 2000): 218-223; Rowe and Miner, *Borne on the South Wind*, 144-145.

finished, Planeview had 4,382 dwelling units. 2,200 of those units were two-story and 2,182 were prefabricated units like at Hilltop Manor. The *Wichita Eagle* ran a story about what it would take to build this small city that would house 20,000 people. It gave a long list of figures to shed light on the immensity of the project. To build Planeview it took: 1635 railroad cars of lumber, 280 cars of brick and tile, 100 cars of roofing, 60 cars of plumbing, 70 cars of furnaces and stoves, 40 cars of bathtubs, 17 cars of hot water heaters, 42 cars of water and gas mains, 800 cars of road materials, 14 cars of cement, 730 six-ton truckloads of sand, 245 cars wall board and sheathing, 15 cars shower stalls, 16 cars nails, 17 cars paint, 77 cars insulation, 50 cars refrigerators, 75 cars stoves, 4 cars electrical wiring, and 50,000 square yards of linoleum. The trains running to Wichita were long and came daily to build this new city. If all the cars of supplies were put together in one train, that train would be 100 miles long.¹⁵⁷

The work put into Planeview was quickly put to good use. Within eleven months all the homes of this small city were filled. By population, Planeview was the seventh largest city in Kansas in 1943. Those who lived in Planeview houses had a living room, kitchen, dinette, bathroom, utility room, and 1, 2, or 3 bedrooms. “They are beautifully decorated in pastel colors and all in all make a very homey, comfortable place in which to live.”¹⁵⁸ The small city was not only made up of houses. The community was rounded out with parks, churches, schools, a library, victory gardens, and many businesses. Workers did not have to go into Wichita to shop for groceries, shoes, clothes, visit the post office or go to the bank. All those amenities were part of the Planeview city. There was no shortage of activities for residents of Planeview. To ensure the community ran smoothly with so much happening they had their own leadership. Planeview

¹⁵⁷ “Immense Material Stores Required in Construction Work for Wichita Project,” *Wichita Eagle*, April 25, 1943, 6A; Courtwright, “Want to Build A Miracle City?,” 224; *Planeview Neighborhood Redevelopment Strategy* (Wichita, Ks: Gould Evans Associates, P.C., 1995), 2-3.

¹⁵⁸ *Planeview Neighborhood Redevelopment Strategy* (Gould Evans Associates, P.C., 1995), 2.

was technically not part of the city of Wichita, so the Public Housing Authority, which built the neighborhood, also set up a resident manager, maintenance groups, and an executive council to handle any problems that came up. Planeview truly was a small city unto itself.¹⁵⁹

When the construction was complete the city held a dedication ceremony at Planeview. They set up a stage and dignitaries with national reputations made appearances. Governor Andrew Schoepel and State Senator William Kahrs were only two of the five speakers for the event. Schaefer was also at this event. He sat on the stage with a group of other distinguished persons. Included in that group were both Mr. and Mrs. Beech, and Dwane Wallace. The leaders of Wichita aviation manufacturing all took a moment to mark the change the war was bringing to the city. After the bands played and the speeches were given, everyone was allowed to tour some of the empty houses. Schaefer likely walked through the future houses of some of his own workers that day.¹⁶⁰

There would not be equality for those who lived in Planeview or the other defense neighborhoods. Segregation was still strongly in place for the whole nation. In California and Detroit there were serious problems, like riots and strikes, that stemmed from racial tensions in defense housing areas. The discrimination in the Wichita defense housing did not lead to that kind of violence, but it was present. In Planeview there was a section that was reserved for African Americans. It was set aside from the white portion of the small city. When it came to activities and childcare, the pamphlets and ads were sure to say that there would be a separation of the races. The African Americans had their own recreational center and the children were in segregated nurseries. However, school age children did have to attend integrated schools. This

¹⁵⁹ Courtwright, "Want to Build A Miracle City?," 224-226; *Planeview Neighborhood Redevelopment Strategy* (Gould Evans Associates, P.C., 1995), 2-3.

¹⁶⁰ "National, State Dignitaries will participate in Ceremony Marking Large Achievement," *Wichita Eagle*, April 25, 1943, 4A.

stemmed from the lack of space or teachers to separate the children by race. The proximity of the two groups did lead to incidents of harassment within the schools. The country may have said they were pulling together for the war effort, but there was still strong racial discrimination that divided communities.¹⁶¹

Even the large new complex of houses at Planeview did not solve the housing problem. In February 1944, *Boeing Plane Talk* ran an article calling for help to find dwelling units. Boeing's new extended work schedules made the housing situation worse. The longer hours in the plant encouraged many to make the move to Wichita from surrounding cities to cut down on the commute. Many would commute over an hour one way to come work at the plants. However, if your shift is ten hours long there is barely enough time to get home and get some sleep before having to set off for work again. Boeing set up a housing section within the employee services department to help people find homes. Schaefer was concerned with all aspects of his employee's lives because that would directly influence their ability to do their job. The nearness of Planeview and even Hilltop Manor to Boeing allowed those employees to have some down time outside of the plant. However, the Boeing housing section had a waiting list of three hundred and fifty families who needed two- or three-bedroom houses or apartments in 1944. The battle for housing was a constant issue in Wichita during the war. Houses were added as quickly as supplies could be found to build them. Once the war started the order in Wichita was build both planes and houses.¹⁶²

The longer hours at Boeing created another change to the tempo of the city. The plant stayed open all day and night, which meant that workers needed to run their errands at odd times

¹⁶¹ Courtwright, "Want to Build A Miracle City?," 227.

¹⁶² "Asks Employee Help in Listing Dwelling Units," *Boeing Plane Talk*, Feb 4, 1944, Boeing Sources, Kansas Aviation Museum, 1, 8.

of the day. Before the war, Wichita ran on a nine to five schedule for normal business hours, then there were some businesses that would remain open until maybe eight. However, amenities within the housing developments and the rest of the city began to change their operations to cater to aircraft workers. Wichita now had three full shifts of workers who needed to do business at all times of the day. Local banks extended hours to go from 4:30 am to 7:00 pm on Thursdays and Fridays. This way, the defense workers had time to cash their paychecks before or after work. The banks also allowed a badge from the plant as identification and there was no service charge. There were other businesses located within Planeview that also extended their hours. The accounting office, post office, grocery, dry cleaning, shoe repair, barber shop, bakery, drug store, and bowling alley all held hours later into the evening to accommodate the various shifts of workers. Several opened earlier in the morning as well. The cafeteria in Planeview had hours from eleven in the morning until seven at night in February 1944. By July of that year, the hours were extended to 4:00 am until 8:00 pm and all three meals were available. It was strictly done “for the convenience of Boeing employees who have to ‘hit the deck’ early.”¹⁶³ The war changed physical aspects of Wichita as well as general practices of operation.

A final major area of change for Wichita during the war was in its transportation. The flood of people into Wichita meant thousands more cars on streets which were not ready to hold that much traffic. New roads built, “to relieve the traffic problem at Boeing plants.”¹⁶⁴ On the east side of town, Oliver street was widened and resurfaced from Kellogg south to the plant. On the south side, road 626 25-29 was extended west from Plant II to Seneca Street. In the paperwork for the road the reason given for the new work was to, “meet traffic requirements

¹⁶³ “They’re Stopping the Clock for Us,” *Contact*, May 1942, Boeing Sources, Kansas Aviation Museum, 10; “Hours Fixes at Planeview for Tenant Service,” *Boeing Plane Talk*, Feb 4, 1944, Boeing Sources, Kansas Aviation Museum, 2; *Boeing Plane Talk*, July 7, 1944, Boeing Sources, Kansas Aviation Museum, 2.

¹⁶⁴ “It Won’t be Long Now,” *Contact*, July 1942, Boeing Sources, Kansas Aviation Museum, 14.

imposed thereon by the expansion of the plant of the Boeing Airplane Company, a corporation, engaged in manufacturing airplanes for the National Defense of the United States.”¹⁶⁵ Great care was taken to not disturb the production at Boeing. A gas line ran along the south side of the proposed road way. In order to cut costs and not disrupt the flow of gas to the Boeing plant this gas line was not to be moved and the road would expand further north. The new extension meant the city would need more land along the road path, and they would have to build a bridge across the Arkansas River. Like the diagonal road to the airport, there was push back from land owners. The city once again had to claim its right of eminent domain and seize the land for the road. By March 1942, the new road was approved, and the County Commissioners decided to name it MacArthur Road, “in humble recognition of a successful lifetime of preparation by General Douglas MacArthur in the service and defense of his country.”¹⁶⁶ These projects were pushed through as quickly as possible to give drivers fast access to work.¹⁶⁷

Even with better roads, more was needed to ensure workers could get to work. As the war went on, rations limited the amount of gas and new tires motorists could get. Boeing employees were encouraged to carpool or take the bus. Wichita did have busses running before the war started, but they soon proved to be inadequate to the job. Many new routes and busses were added to help get the masses to work. School busses were converted to defense transportation when there were not enough city busses available. Boeing helped the transportation effort by building a new bus terminal at the plant to ensure the increased flow could load and unload quickly. The January 1943 edition of *Contact* ran a one-page story about the new bus terminals which would allow sixty busses to load and unload simultaneously. The structure was described

¹⁶⁵ Road 628 25-29 Order and Resolution, January 31, 1942, Wichita Township Road Records, Sedgwick County Records Management Archive, Wichita, KS.

¹⁶⁶ Know All Men By These Presents That, March 31, 1942, Road Records.

¹⁶⁷ Road Petition, January 29, 1942, Road Records.

with “Platforms, stairways, overpasses, even the giant suspension arches, are built of wood and are of the most modern construction.” Workers unloaded at this terminal and climb up onto overpass bridges that took them over the lanes of busses. They would then descend on the other side into a tunnel that led into the plant.¹⁶⁸

Despite all the challenges, working for Boeing was not only about long hours, production complications, and housing problems. The war brought pressure to the lives of the workers; however, Boeing employees were given many ways to negate that pressure and blow off some steam. The majority of the time, workers were facing high temperatures in the summer and working weeks that averaged fifty-five hours to get the planes built. Yet, the pages of *Contact* were full of events, parties, and other opportunities for fun when time allowed. In January of 1943, there was a special party planned at nine-o-clock in the morning at Crawford Theater. The Employees’ Association set up food and a movie for third shift workers who could not normally see movies. In February of 1944, the plant also started showing short news reels and reports in the tunnels of the plant during lunch times. Outside recreation was encouraged. The Employees’ Association set up a park between the two Boeing plants. Here Boeing workers and their families could, “relax and rest—or play tennis, badminton, volleyball, shuffleboard or miniature golf.” There was also trap shooting, archery, and baseball. The plant had their own baseball team called the Boeing Bombers. Schaefer was actually on the team as third baseman before the war. During the war he enjoyed watching the Boeing employees play from the sidelines. These groups and events fostered an atmosphere of teamwork inside and outside the plant.¹⁶⁹

¹⁶⁸ “It Won’t be Long Now,” *Contact*, July 1942, Boeing Sources, Kansas Aviation Museum, 14; “Jam Session,” *Contact*, January 1943, Boeing Sources, Kansas Aviation Museum, 5.

¹⁶⁹ “Candidly Yours,” *Contact*, January 1943, Boeing Sources, Kansas Aviation Museum, 15; “Sound Movies Now Shown in Plant Tunnels,” *Boeing Plane Talk*, Feb 4, 1944, Boeing Sources, Kansas Aviation Museum, 6; *Contact*, August 1943, Boeing Sources, Kansas Aviation Museum, 8-9, 16.

Teamwork was very important to Schaefer. He said that the success of the production lines was due to the teamwork of his employees and not “to any individual, one-man strokes of genius on his own part.” Schaefer was just one of the cogs in the mighty machine and he wanted his workers to understand that as well. He even turned down a pay raise in January of 1945.

Schaefer said that there was no iniquity between the work he was doing and his pay.

As a matter of fact, it was to me more than a responsibility- it was a privilege and a duty; a duty I owed my boy and my country and to accept additional compensation at this time when I am, in a comparative degree, reasonably compensated, is inconsistent and incompatible with a patriotic duty and plain good business practice.¹⁷⁰

Schaefer was leading by example, and this made his employees respect him and work even harder for him. The workers were connected to the company and to their community. In this they were also following Schaefer’s lead. He was highly connected to the community of Wichita even during the busy war years, and he encouraged community involvement for his employees.

Schaefer was a hands-on manager. There was not much that went on within the Boeing plant or with the workers that did not cross Schaefer’s desk. He paid high attention to detail that all his employees and peers noticed. He loved the opportunity to work with thousands of new people and build the community that he loved. This was the realization of things Schaefer had been pushing for since his first flight to Wichita in 1919. His workers overcame housing and transportation problems to be integrated into Wichita; however, not everyone in the city was happy to see all the new people and changes.

The changes in Wichita were not met with unanimous joy. These new people flooding in were given housing and help in many areas of their lives, because they all came at once and they were helping with the defense of the country. The federal government was highly active in changing Wichita, with plant II and then the war housing developments. This was not a natural

¹⁷⁰ J. E. Schaefer to Mr. C.L. Egtvedt, January 29, 1945, Schaefer Family Papers.

growth of the city, and many feared it would completely alter what it meant to be a Wichitan. There was a group of old Wichita and Kansas citizens who were critical of how the changes were unfolding. William Allen White was one of the outspoken voices against change, and he used his newspaper in Emporia to speak out. His main fear was that Kansas would cease to be homogeneous. One of the reasons Kansas was chosen for defense production was because they had so few immigrants from other countries. However, as thousands of new people came those statistics were changing. White feared, "Those men and women with strange names will go to the Legislature, will appear on Commercial street and Main Street... Kansas will no longer be unique."¹⁷¹ There was no record found that showed Schaefer speaking for or against this idea. However, in the records available Schaefer does not support this idea of his new workers. In his dealings with his workers, Schaefer was concerned most with getting the job done. He knew he needed all of the new people, and he appreciated their sacrifices to work the extra hours he needed. Any attack on his plant or his workers was met with letters, usually to his employees first, about how to deal with the attack.¹⁷²

As the war crept to a close, there was another fear that began to permeate the city. Many of the leaders in Wichita feared what their city would look like after the war was over. The boom of war contracts was amazing, but everyone knew it would come to an end. When there were no more bombers to build, would the new people stay? How would Wichita support the new population without war jobs? Many in Wichita thought there would be a mass exodus from Wichita after the war ended. The workers who came would leave and they would leave behind them defense housing slums. Planeview and Hilltop Manor were built quickly, and, in many

¹⁷¹ Courtwright, "Want to Build A Miracle City?," 228.

¹⁷² J.E. Schaefer to All employees of Boeing-Wichita, October 18, 1943, Boeing Collection, box 2 file 42, Wichita State University.

ways, they were not meant to last beyond the war need. Wichita leaders wanted the neighborhoods to go away after the war ended. Even Schaefer was unsure what the post war world would hold. The big “if” for airplane manufacturers was whether there would be enough contracts to keep plants open after the war. Some manufactures could return to building cars, appliances, or farm equipment. However, the massive airplane plants would have hard time retooling to build smaller things. Schaefer did not evade these questions or pretend to know what would come next. He did continue to make plans as if the money would come from somewhere and Boeing would be able to continue building planes. At least until the war ended the company was assured continued work.¹⁷³

Boeing was incredibly successful and efficient at building the bombers and the Kaydet trainers. At peak production, the plants were turning out a Kaydet every ninety seconds and 4.2 bombers everyday. In April 1943, *Boeing Contact* celebrated the delivery of the 7,000 Kaydet to the Army. “This number, including assembled planes and parts for the Boeing Kaydet, represents more planes than the total number of military aircraft owned by the United States Army and Navy at the start of the War in Europe.”¹⁷⁴ Less than two years later a ceremony was held to commemorate the 10,436th Kaydet as well as the 1000th B-29. The small trainer was placed beside the large bomber and all the employees attached money to the large plane as a donation to the Infantile Paralysis Foundation. Schaefer was present to celebrate with his employees the amazing achievement. Then the planes rolled away to do the jobs for which they were built.¹⁷⁵

Increasing numbers of B-29s made their way into the Pacific theater and made their presence known. The massive planes carried their deadly loads over islands and helped clear the way for

¹⁷³ Charles Driscoll, “Story Behind the Great Fighting Machine Built at Boeing Wichita,” Schaefer Family Papers.

¹⁷⁴ “Boeing Wichita Delivers 7000th Primary Trainer,” *Boeing Contact*, April 1943, 1.

¹⁷⁵ Rowe and Miner, *Borne on the South Wind*, 154; “Completes 7,000th Primary Trainer for Armed Forces; Continues Mass Production,” *Wichita Eagle*, April 25, 1943, 10.

landing troops. The Pacific theater was a terrible bloody affair with each island taking a large toll in lives. The Boeing workers knew when B-29s made successful bomb runs. *Boeing Plane Talk* kept a running tally across the top of each issue. It was called the scoreboard and started in August 1944. Each bombing was represented with a small picture of a bomb with the name of the city bombed written inside. That first scoreboard had six bombs on it. In March 1945, there were seventy-seven bombs running across the top of the first and second page and bleeding onto the third. This tally was to remind workers that they were helping to win a war. This tally would have been especially important to the Boeing workers who helped during the Battle of Kansas. That tally started only a few months after the wintery blitz to modify B-29s for combat. The tally was coming in because the workers stepped in and first won a battle on the homefront. As it grew, Boeing employees and Schaefer knew it was a direct result of their work.

As the American military neared Japan, the fighting became more extreme. The B-29s then began their deadly rain on the homeland of Japan. In one raid on March 9, 1945, the 314th Wing under Curtis LeMay dropped 1,665 tons of bombs on Tokyo. These bombs were incendiary firebombs that were designed to spread massive fires quickly. Over fifteen square miles of the city was burned down in that one raid. In other raids, sixty-six of Japans cities were bombed. The most famous of the bombings were the two atomic bombs dropped by B-29s on Hiroshima on August 6 and Nagasaki on August 9. These were the last bombs dropped in World War II. The morality of the bombings is still debated; however, those bombs did end the war and for Wichita that meant the uncertainty of the post war world was about to begin.¹⁷⁶

During the war, Wichita had eight contracts to build B-29 bombers. Four of the contracts were completed, but the other four were cancelled after V-J day. Some of the planes in the

¹⁷⁶ Schaffer, *Wings of Judgement*, 129-148. The B-29s that dropped the atomic bombs were not produced in Wichita.

cancelled contracts were built; however, the stability of Boeing-Wichita was very suddenly in question. Even before the war officially ended, the plant began letting some employees go. People who were used to working ten hours shifts for seven days a week with only every other weekend off now saw all of their work end. In one day, 16,000 people were laid off from Boeing. When the Army cancelled all B-29 production in 1945, there were 5,000 employees at Boeing Wichita which was cut to 2,500. Plant II ground to a halt. Half-finished planes were taken out and chopped up to be hauled away. Schaefer took a reporter through the plant in September of 1945. The once lively bustling plant was empty and quiet. During the war, a church bell was brought into the plant to ring out every time a plane was completed. Now that church bell stood silently in the corner. Sixteen half-finished planes were shoved up against the door. They would never be completed, and many wondered if there even was a future for heavy bombers since the world was entering the atomic age.¹⁷⁷

Plant I of Boeing continued with producing smaller planes, but, by 1946, only 1,388 people worked at Boeing-Wichita. Plant II was closed and gathering dust. General Arnold told Schaefer to keep an eye on the plant because he wanted it to be an Air Force plant again soon. The city feared the post war slump; however, it did not go as deep or last as long as some feared. The population of the city dipped to 153,411 in 1946, but by the next year it was rising again. People found work outside of the aviation plants, and it helped that Cessna and Beech were quick to transition into building civilian aircraft again. Boeing had a bit of a longer wait. Schaefer was determined to get more contracts for Boeing again.¹⁷⁸

¹⁷⁷ Rowe and Miner, *Borne on the South Wind*, 154; Miner, *Wichita: Magic City*, 192; Glenn W. Miller and Jimmy M. Skaggs, ed., *Metropolitan Wichita: Past, Present, and Future* (Lawrence, Ks: Regents Press of Kansas, 1978), 14.

¹⁷⁸ Boeing-Wichita Chronology, January 1, 1968, Boeing Collection, box 2 file 42, Wichita State University; Miner, *Wichita: Magic City*, 187-190.

Portions of Planeview and Hilltop manor stood empty after the war. The city wanted these temporary houses to be torn down, because other Wichitans were worried that the war houses would bring down their own property values. However, there was still a housing shortage in Wichita and the majority of people who lived in the war housing did not want to move. They liked their affordable houses and there was no other good option for them in the city. The battle between Wichita neighborhoods would go on for many years. The war housing areas did change and evolve, but they were never entirely torn down. As the different areas of Wichita fought about the housing, Schaefer did not want his need for workers to create the same types of problems again.¹⁷⁹

Boeing-Wichita waited almost three years for the opportunity to reopen Plant II. Finally, on March 2, 1948, Schaefer sent out a full-page ad in the *Wichita Eagle* calling for 1,000 skilled workers. The B-29 modification project was about to begin. In the time since the end of the war, new technology had developed. As tensions with the Soviet Union became more pronounced, especially in Germany, the Air Force realized they wanted some of their B-29s to be updated. The Air Force became separate from the Army in practice during WWII, but it was officially separated into its own branch with the National Security Act of 1947. The new Air Force then took control of Plant II in Wichita on April 1, 1948. Within six months the plant was to pass to Boeing for operation. The Air Force acquired Plant II because they needed modifications done to their B-29s and who would do that better than the people who originally built the plane. The bird nests were cleaned out of Plant II and the machines hummed to life once more. This program was not a production of new planes, but that was a future plan. Schaefer's announcement said, "Future production work is presently in the planning stage with excellent prospects for business

¹⁷⁹ Courtwright, "Want to Build A Miracle City?," 231-239.

after the completion of the accelerated program in 1949.”¹⁸⁰

In his call for workers in 1948 Schaefer said that he wanted people who already lived in Wichita to fill the employment need. He cautioned people not to move to Wichita unless they were already officially hired by Boeing. This would stop a massive flood of people into the city when Schaefer was not sure he could employ them all. He wanted to make sure former Boeing workers and current Wichitans were given the jobs first. He cared about his community and wanted low unemployment within Wichita. So, he was more cautious about who he called back to work and how far out that call went.¹⁸¹ Schaefer needed 1,000 skilled workers immediately to begin the modifications. He wanted former workers of Boeing who had experience with the B-29s already. The Personnel division at Boeing pulled out all of the old World War II files and did everything they could to locate former employees who were already qualified; however, they would not be enough to fill all of the open positions. During the War, ads to come work at Boeing were sent all over the country. This brought in the needed workers but created new problems as the city strained under the fast growth. In the post war world, Wichita was still adjusting to its new reality and size. They did not need another large influx of new workers.

The modification program was a great success. Some of the B-29s were taken to Germany and used in the Berlin Airlift. Over the next year, Boeing Wichita took on several other projects. Some B-50 bombers, which were basically B-29s with some changes like stronger engines, were modified. The new Stratocruiser plane was also produced in Wichita and Seattle at that time. In 1949 the true breakthrough for Boeing-Wichita came. The Air Force ordered production of the new B-47 bomber plane. They insisted the new bomber be built in Wichita. It

¹⁸⁰ “Boeing-Wichita Expands,” Wichita Eagle, March 25, 1948; J.E. Schaefer to Harold Mansfield, June 30, 1955, Boeing Collection, box 2 file 42, Wichita State University.

¹⁸¹ Ibid.

made sense since plant II was there, but there were problems that came along with that demand. Schaefer was one of the principle men involved in the negotiation with the Air Force regarding the B-47 program. The details of the contract were worked out in Seattle and approved by K.B. Wolfe over the phone.

In 1948, Schaefer boarded a plane back to Wichita to begin the task of once again filling a plant with employees to build a new bomber. At least this time he did not have to wait for his plant to be built. The flight back to Wichita was a reminder of how challenging air travel still was. A sergeant realized mid-flight that some of the fuel tanks may not have been filled in Seattle. He told the pilot who went back to check the situation. Schaefer who was just a passenger on this Air Force flight, “looked back to see the pilot checking the fuel gauges with the light from a kitchen match! That, in itself, was a hazardous beginning for the B-47 programme.” Despite the dangers, Schaefer made it to Wichita and in June he told his employees that he and the board decided the new B-47 bomber plane would be built at the Wichita plant. He called the B-47, “the most outstanding airplane ever designed, engineered and developed by the Boeing Company.”¹⁸²

Despite its amazing design, the B-47 program was riddled with complications from its inception. Boeing Wichita was only supposed to build ten planes with the temporary tooling they had from Seattle. Those first ten planes turned out very different from the design, because there were so many changes during construction and new demands by the Air Force. Schaefer equated the problems with the B-47 to the troublesome B-29 production. He wrote to his employees, “Admittedly, there are many rough spots ahead, some of which will look worse than those we

¹⁸² Open Letter to Employees, June 24, 1949, Boeing Collection, box 2 file 44, Wichita State University. This is the draft of an article that ran in Boeing Plane Talk on June 27, 1949; J.E. Schaefer to Harold Mansfield, June 30, 1955, Boeing Collection, box 2 file 42, Wichita State University.

encountered in getting the B-29 underway. We will have to meet those rough spots in the best way we can—just like we met the B-29 rough spots and many others.”¹⁸³ Just as in the war Schaefer was quick to keep his employees informed so they could do their jobs to the best of their ability. The workforce at Boeing navigated through all the troubles of the B-47 just like they had the B-29.

Boeing Plant II never had to close its doors during the Cold War. There was always a contract from the Air Force or from the commercial side. The commercial side was developed after World War II and took many ideas and designs from the B-29 to produce larger planes for commercial use. The Air Force continued to be a good customer because the Cold War took hold of the world. The arms race between the Soviet Union and the United States meant the U.S. government approved the buildup of weapons and planes. Schaefer shared the desire for a strong Air Force to withstand the Russians. After the cold war heated up in Korea in the summer of 1950, Schaefer took a strong stand for the future of the Air Force. In February 1951, Schaefer spoke to 100 Kansas legislators about the redistribution of appropriations. He wanted fifty percent of the funds to go to the Air Force. “Stalin could not dare contemplate an offensive against us with such a force facing him.” Schaefer went on to quote figures from Korea that he got from General Douglas MacArthur. “Fifty per cent of the Red casualties in the Korean war were accounted for through air power; 80 per cent of the Red vehicles destroyed were annihilated by air power; 70 percent of the Red tanks and artillery put out of commission were immobilized by air power.”¹⁸⁴ For Schaefer the only way to win against the Soviet Union was through the air. He even advocated to pull troops out of Korea and reestablish the war against the

¹⁸³ Open Letter to Employees, June 24, 1949, Boeing Collection, box 2 file 44, Wichita State University.

¹⁸⁴ “Schaefer Urges Huge Airforce,” *Wichita Eagle*, February 13, 1951, Boeing Collection, box 2 file 42, Wichita State University.

Soviet Union with air power as the major weapon.

For Schaefer, the only way to win the new war was through the bombers his company was building. “We can beat them with this equipment if we are wise.”¹⁸⁵ Boeing continued to grow through Cold War contracts. Eventually, the World War II employment was eclipsed as even larger planes like the B-52 were designed and produced. Large portions of the city were employed in airplane manufacture during World War II. The entire city changed because of that production. The Federal government had to step in to add more houses on an extremely short time table. The very tempo of the city changed as businesses kept new hours to help the defense workers. The city constructed new roads to help the flow of traffic to the plants. More busses took to the streets to get the thousands of employees to the plants every day. After that, the new enemy, communism, created the need for national defense to remain strong. That meant more air planes. Schaefer was more cautious as he geared Boeing back up to modify planes then produce the B-47. For several years, he wanted to keep the influx of new people to Wichita low. He wanted his community to be stable and employed. When the country was once again at war in Korea, the push to build was back on. Employment at Boeing Wichita went beyond what anyone thought it could. The changes of World War II made Wichita the best choice for Air Force production, and Schaefer ensured those contracts kept coming.

During the post war years, Schaefer still kept in contact with his old military friends. Throughout Eisenhower’s presidency and later life, the two men exchanged many letters and visits. Schaefer even attended one of the stag dinners on July 20, 1953 the President put on at the White House. Eisenhower used these stag dinners as a way to network with various businessmen, labor leaders, publishers, and politicians. Schaefer’s correspondence with the President went

¹⁸⁵ Ibid.

beyond social engagements. Schaefer consistently sent Eisenhower notes and articles that pointed to issues of the day Schaefer deemed important. In December 1952, Schaefer sent Eisenhower a letter about the, “responsibility of private citizens to support worthy community activities such as youth organizations, hospitals and social services.”¹⁸⁶ Schaefer and the president were concerned about the rise of a social state and wanted to work to stop that from happening in America. Later in 1964, the two were corresponded about the division within the Republican party and how it should be fixed so the party could move forward. Along with these more political letters were kind notes to each other to check in when one was ill or wish a happy birthday. The two men remained friends earnestly seeking to better the world until their deaths.¹⁸⁷

It was through the small interactions that his true personality came through, however. Through the war and the hard times, Schaefer cared for his employees. He learned their names and became invested in their lives outside of the plant. He was a man who appreciated the truth and integrity. In his communications, he tried to always tell what was true and stuck to the facts as he saw them. He ensured his employees had that same knowledge when the attacks came against Boeing. Once production started again after the war, building planes was intricately tied to the heartbeat of Wichita for decades. Schaefer was sensitive to that tie. Sometimes there would be a period of less work at the plant as one contract ended and another one was yet to start. In this period Schaefer would often have to lay off portions of the plant. Many of these workers were often hired back on when the work was back, but it did affect employment and unemployment for those workers and their families, which affected the whole community.

Schaefer tried to minimize the negative effects by warning certain people in the

¹⁸⁶ Dwight Eisenhower to Earl Schaefer, January 2, 1953, Schaefer Family Papers.

¹⁸⁷ Dwight Eisenhower to Earl Schaefer, June 11, 1964, Schaefer Family Papers.

community when layoffs were coming. On March 15, 1955, Schaefer sent a letter to Wade Fowler the Superintendent of Wichita Schools. He told Fowler that Boeing was going to be doing sizable layoffs that would last about eighteen months. After that time, the plan was to build up employment again for B-52 production. He wanted Fowler to have the facts, so he could better plan his schools' programs. Fowler responded to Schaefer a few days later thanking him. "I appreciate this very much because it helps us in our planning... This kind of cooperation is very greatly appreciated."¹⁸⁸ Schaefer cared about how his plant affected the community it was a part of. He even took noise complaints seriously. In the summer of 1955 he sent out a memo about noise complaints from the nearby neighborhoods. He said, "During the summer months the number of complaints by residents near the plants about jet engine noise generally had increased. This has been true in past years, and already some complaints have been registered this summer."¹⁸⁹ He put in place a plan to have all these complaints go to the public relations manager, Jack Mitchell so they could be handled quickly. Whatever issues the community faced or brought up about Boeing, Schaefer was willing to listen and help if he could. He wanted Boeing to be good for the community in every way possible. He helped start aviation in Wichita, and he wanted to continue to see it succeed.

In 1957, Schaefer finally let go of the general manager position at Boeing-Wichita. He stepped down from his involvement in the company over the next several years. He was still a vice chairman of the Boeing company until 1959, when he retired completely from company management. Then in 1961 he retired from the board of directors but was elected as a director emeritus. Boeing *Plane Talk* sat down with Schaefer just before he retired to speak with him

¹⁸⁸ Wade C. Fowler to J.E. Schaefer, March 16, 1955, Boeing Collection, box 2 file 4, Wichita State University.

¹⁸⁹ Interoffice Memo from J.E. Schaefer to C.U. Bedell and W.F. Peppard, July 1, 1955, Boeing Collection, box 2 file 4, Wichita State University

about his experiences at Boeing and his future planes. In the short interview, Schaefer thanked his loyal friends at Boeing who helped him complete the hard tasks. He worked so hard during his time with Boeing and now he planned to spend time with family and friends and continue in the community affairs, so long as health and his wife would allow him. When asked his thoughts on the future of Boeing, He was optimistic.

Years ago, a few of us were profoundly impressed with the future possibilities in aviation. It all came true, and more. Today, the complexities of modern flight call for more and more knowledge, for effort and technical skills once thought impossible. This is today's challenge, and the road ahead isn't going to be easy. But, after all, history has shown us that easy roads don't usually lead to anything worth while.¹⁹⁰

¹⁹⁰ "Key To Future: Faith, Ability, Courage," Boeing Plane Talk, 1939, Schaefer Family Papers.

CONCLUSION

Julius Earl Schaefer had a long successful career at Boeing. He began leading the company as president in 1933. He guided the company through many trials and into a whole new age of aviation. Schaefer was a larger than life man, who never quit working for his company and his community. Throughout his life he was involved on many committees and boards across Wichita and Kansas. He lived in Eastborough near the Beeches which allowed the families to meet socially. He was a devoted family man. He and his wife, Catherine, had two children; a son, Robert J. and a daughter, Betta Bartlett. Catherine passed before Earl Schaefer in January 1978. Schaefer did not live long without her. He passed on Thanksgiving Day that same year. He was eighty-five years old and left behind an incredible legacy. In a newspaper article about his life, Jim Greenwood, vice president at Gates Learjet, said, “He was certainly a true pioneer airman. He helped build American aviation. In fact, I’d say he was one of the founding fathers of the giant industry we know today.”¹⁹¹

After Schaefer passed many people took the time to remember this man who made such a difference to the city. Major newspapers in Wichita, Seattle, and Kansas City carried stories about his life. These stories often focused on the major details of his Boeing career and on the long list of different honors he received over the years. Schaefer served on the boards of the Fourth National Bank of Wichita and the Midwest Medical Research Foundation. He was vice president of the Eisenhower Foundation. His close relationship with Ike helped him in this role. Whenever the Foundation had a question or problem Schaefer would write to the president about it. Eisenhower was careful, however, not to be involved much with the foundation because it was a money raising venture. He had “always been somewhat embarrassed about the so called

¹⁹¹ “Pioneer of Wichita Aviation J. Earl Schaefer Dies at 85,” November 1978, Schaefer Family Papers

‘Eisenhower Foundation.’ I rather cringe when I think of anyone starting on a money-raising campaign when my family name is connected with the project.”¹⁹² Eisenhower did send a collection of wartime mementoes that grew over the years, and Schaefer worked hard to make sure the foundation was run correctly for his friend.

The honors listed for Schaefer after his death continued. He was a director of the Associated Industries of Kansas, Sedgwick County Heart Association, Kansas State Chamber of Commerce, Wichita Chamber of Commerce, Wichita Crime Commission and the Defense Orientation Conference Association. He was also awarded potentate of the Midian shrine as well as serving on the board of his church the First Presbyterian. These positions Schaefer held kept him busy even beyond his duties at Boeing. It was all these activities that led to many awards over his life. During the war, Boeing was awarded five “E” for excellence awards from the U.S. military. After the war, Schaefer received the Presidential Certificate of Merit for World War II production record. In 1956, he was also received the Citation of Honor by the Air Force Association. The final honor came in 1976 when Schaefer was inducted into the OX-5 Hall of Fame as an early day aviation pioneer.

Schaefer was a pioneer airman and a founding father of the giant aviation industry that exists today. His contributions go beyond Wichita, but Wichita always had his heart and most of his focus. Before he even returned to Wichita, he was promoting aviation here. He flew the first military plane into Wichita, and against regulations gave prominent men in the community their first flights. When he did return and joined Stearman as a salesman, his devotion to that company and aviation never ceased. Schaefer’s background in the military and sales made him the perfect man to redirect the focus of the company from commercial to military contracts, in contrast, for

¹⁹² Dwight Eisenhower to Earl Schaefer June 7, 1950

example, to Beech's focus on marketing to the consumer market. When the Depression came, it was Schaefer's tenacity and his ability to get military contracts that saved Stearman from closing. Schaefer's heroic saves continued. When Boeing-Seattle ran into financial difficulties after the crash of the B-17 prototype it was Schaefer who helped them get loans from the Fourth National Bank in Wichita. Other banks would no longer loan to Boeing, but because Schaefer was on the board and had a friendship with Arthur Kincaid, he secured the funds that saved Boeing-Seattle and allowed them to get military contracts for the B-17.

When the B-29 came into existence and the growing world tensions called for the big plane to be produced, Wichita was the only logical choice for production. Schaefer set Wichita up to be that logical choice. He helped get Plant I built by the airport during the Depression. Not only was Plant I by the airport, but there was plenty of open prairie around it for expansion. Schaefer also used the Depression to boost the sales of the training plane, the Kaydet, to the military of this country and others. When the military needed a new location to build a large plant for the production of Boeing B-29 planes they turned to Wichita. Schaefer knew the military leaders, like General Arnold, and had been working with them on other contracts already. When funding was stuck in Congress, Arnold called on Schaefer to come and help push it through. Schaefer was trusted by the military and always delivered on his promises. It only helped the case that Wichita had the space and nearness to the airport. For Boeing, the choice was easier still because the bank that was handling the company's funds was also located in Wichita. Add to all this that Wichita was in a good strategic position in the center of the country, which Schaefer helped point out to Congress long before the war came, and there was no other choice that fit as well as Wichita for B-29 production.

Schaefer's decisions were not calculated moves to eventually get the B-29 production in Wichita. When most of these things were done the B-29 was not even a concept. However, without Schaefer, there would not have been a company in Wichita or perhaps in Seattle for the B-29s to be produced. He was imperative to Wichita getting the B-29, the new plant, and all of the changes that came with that. Because of Schaefer, Wichita underwent an extreme change during the war. Other companies were also producing planes during the war and would have been even if Boeing-Wichita did not exist, but the largest plant and the largest contract and the largest plane was at the Boeing plant. Without Boeing, the number of people moving to Wichita for work would have been greatly reduced. This would have meant that many of the houses that were built would not have been needed. The roads that were widened or built to handle the traffic would not have been needed. Perhaps the city would have remained the quieter small town it was before the war. Without Schaefer, the B-29s may have still been built somewhere else, but Wichita would not have gone through the changes it did. Those changes led Wichita into the new world after the Cold War. Employment in Wichita from the 1950s through 1990s was highly dependent on aircraft manufacturing. Schaefer ensured Plant II was reopened and it grew beyond World War II production numbers during the jet age. Thousands of people made their living building Boeing airplanes.

Schaefer's life weaved through so many aspects of Wichita aviation. He was like some of his competitors, Beech, Cessna, and Wallace, because they were all passionate about producing the best planes possible. However, Schaefer stands out from the others because he was the instigator to the military arm of aviation in Wichita. He ran the largest plant in the city during World War II, and because of his work Boeing was the military's first choice. Beech, Cessna, and Wallace also won military contracts for smaller planes or plane parts, and after the war they

returned to civilian plane production more quickly. This put them on a different path after the war. Schaefer kept Boeing-Wichita on the military path. Eventually, the big bombers turned into large civilian planes like the 737. The other companies continued to build smaller civilian planes and jets. The different paths somehow made Schaefer's work fade from importance in recent memory. However, Schaefer's life fills in the holes in the story of how Wichita aviation survived through the Depression, the war, and changed in the jet age.

Dwane Wallace and Beech are remembered by history more than Schaefer. Beech was part of the 1920s founding of aviation in the city. He and Olive Ann went on to help build the city and lead it for the rest of their lives. Dwane Wallace came into Wichita aviation later, but he purchased an already established company, and worked with his wife, Velma, as a presence in the community. From the sources, there seem to be two major differences between Schaefer and men like Beech and Wallace. First, Schaefer was not the owner of the company. He was a president and board member who managed the company. While he was a great pilot, he did not design the planes that his company built, but he designed how they were produced through his management of the facility. Second, Schaefer's wife Catherine was not as involved in the community as Velma Wallace and Olive Ann Beech. The information that remains shows her to be more of a homemaker and not a civic leader. These differences contributed to why the city remembers Wallace and Beech more so than Schaefer. This disparity may change as time goes on and Wichita reevaluates the memory of the war years.

As World War II fades further away, efforts are being made to preserve the memory of the war, and this interest attests to the role of Schaefer, even if he is not mentioned by name. In Wichita, this effort has led to the refurbishing of a B-29 named Doc. This particular plane was found rotting in the Mojave Desert by Tony Mazzolini in 1987. It was brought to Wichita and

rebuilt over 15 years. Now this plane is one of only two functional B-29s in the United States. A new hanger and learning center is under construction to keep the plane running and to help the future generations remember what was done in their city during the war. Schaefer and the men and women who worked at Boeing-Wichita deserve to be remembered. They helped win the war and changed Wichita forever.¹⁹³

¹⁹³ “What is Doc B-29 Superfortress?” *Doc’s Friends* <https://www.b29doc.com/docs-story/>; “The Wichita Eagle’s complete coverage of the B-29 bomber known as ‘Doc’” *Wichita Eagle*, March 11, 2013 – December 21, 2017, <https://www.kansas.com/news/business/aviation/article196510849.html>.

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