A Deal with the Devil: Arizona State University and the Built Environment in the 20th Century

by

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THESIS ABSTRACT

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This thesis examines the changing role of Arizona State University (ASU) in Phoenix and the United States from 1950 to 1994. The regional alliance of boosters in Phoenix made ASU a key part of the Valley's economy as the university advanced research and development (R&D) capabilities to attract knowledge industries. Parallel to the distribution of knowledge production to Phoenix was the Cold War which granted American firms and universities R&D funding increases. The growth of Arizona State changed the built environment in Tempe and across the Valley as the university transitioned space to fit their needs. ASU expanded their facilities in Tempe, built a branch campus in Glendale in 1986, and opened a research park in 1984, all highlighting the university's commitment to knowledge production. The process of development was unevenly distributed in Tempe as original residents were replaced by students and knowledge workers.

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feel that I have completed both of those tasks. I was presented with ideas that challenged me, assignments that made me pace around the house, and, most importantly, peers to share the journey with and I could not be more thankful. Specifically, I want to thank my thesis committee as they have all played a key role in my academic development as they offered me feedback, introduced me to new texts, and treated me with a great deal of respect, for that I am thankful.

TABLE OF CONTENTS

Chapter Page

INTRODUCTION

"Empire building and sound education rarely go hand in hand."[1] I first encountered these words in December of 2023, and have since questioned the role of the university in contemporary society. How has that role changed over time? Prior to this project, I believed that universities were centers of epistemic advancement and personal growth, yet I had not considered the process of advancing and growing a university itself. The process often consisted of displacement, exclusion, countless administrative meetings, newspaper publications, and funding issues. When on the Arizona State University (ASU) campus, it is hard to believe that the university was not always present in its current form or that the space was previously uninhabited. But there is no such thing as *terra nullius*, as each parcel of land, building, and road told a story. From the nature sacrificed for the needs of man to changes in ownership, the built environment showcases the priorities of ASU as time and money are the great measures of priorities. Arizona State in Tempe highlights a priority of Valley boosters and industrialists as the campus covers more than 660 acres of land, bustling with student life and research activity.[2] For Phoenician boosters and university administrators, empire building began in the early 1950s, in wake of the Cold War, when boosters in the Chamber of Commerce realized the school's promise as an investment vehicle.[3] The relationship between ASU and Phoenician boosters continued until the mid-1970s when the Charter Government Committee (CGC), lost power in Phoenix.[4] Despite the eventual fracture in the relationship, Arizona State in the twentieth century

[1] "The Empire Builders," *Scottsdale Progress*, October 28, 1969.
[2] While the ASU main campus in Tempe is about 660 acres in size, multiple branch campuses and other landholdings put ASU at over 2,000 acres of owned land.
[3] The Chamber consisted of prominent businessmen in Phoenix, including Barry Goldwater, Walter Bimson of Valley National Bank, and attorney Frank Snell.
[4] Established in 1949, the Charter Government Committee served as the political arm of the Chamber of Commerce. The CGC sought to pass business friendly policies that attracted and maintained high-tech industrialization in the Valley. Elizabeth Shermer, *Sunbelt Capitalism: Phoenix and the Transformation of American Politics*, Philadelphia, PA: University of Pennsylvania Press (2013), 6.

advanced from a teacher's college to a research institution, reaching prominence not only in the Valley, but in the United States.

Phoenix continues to experience growth and stakeholders solidly view the knowledge economy as a strength of the Valley. In a speech presented to Phoenix multifamily real estate investors in 2023, the director of market analytics at CoStar, Connor Devereux, discussed the state and future of multifamily investment properties in the Phoenix metro area, ultimately arguing that Phoenix's economic diversification was a bright spot in the city's future. Devereux presented the five "S's" that would protect investment, these included: semiconductors, supply chain, sustainability, space, and sciences, with sports being an honorable mention.[5] This was a distinct change from the historical five C's of copper, cattle, cotton, citrus, and climate that drove early growth in Arizona. Phoenix's political economy needed a large transition to realize the five, yet the traditional five C's offer little explanation to the rise of Devereux's five S's.

This work shows that the historical five C's should be expanded to seven as boosters across the state viewed colleges and universities, along with Cold War defense spending, as a key aspect of the state's future.[6] By including higher education and Cold War spending as integral aspect of Arizona's, more specifically Phoenix's, history, a throughline emerges. The throughline is that colleges and universities, spurred by Cold War investment, created the knowledge economy that now exists in Phoenix. Phoenician boosters in the mid-twentieth century and beyond desired a transition to a knowledge economy centered around technological production, clean industry, and, in turn, whiteness. It is difficult to overestimate the importance

[5] Connor Devereux, "Spotlight on Phoenix: State of the Multifamily Market in 2023," Conference presentation, December 18, 2023.

[6] My use of the word college here is rather liberal as Arizona State College transitioned to Arizona State University in the mid 1950s. My intention is to use college to signify the socioeconomic impact of higher education on both the built and economic environments.

of Cold War funding on Arizona as it touched nearly every part of the state and pushed the economy of Phoenix toward a knowledge economy. Kickstarted by the passing of the Defense Production Act of 1950, Phoenix boosters sought out relationships with the Department of Defense (DOD) and defense corporations as the city shifted its focus toward knowledge production.[7] Investment into ASU made these dreams possible as the university formed relationships with corporations like General Electric, Motorola, and AiResearch as ASU produced skilled labor, offered laboratory space, and created a built environment in which other knowledge workers wanted to be in.

The emergence of Arizona State impacted the built environment in Tempe and across the Valley as Tempe shifted from being a town centered around industry, to a college town. Currently, ASU is the largest employer in Tempe and the gravity of the university is represented in the city's built environment as investment into the campus area is suited toward students, faculty, and other knowledge workers, a result of decisions made by the regional alliance in the mid-century.[8] Boosters highlighted the low density building, sunny weather, gated communities, and racial homogeneity of Tempe as a selling point for knowledge workers and their families as these individuals left the urbanized areas of the American northeast. To achieve this aim, space was restructured near the campus and across the Valley as the university expanded into spaces it had not previously been. With the reorganization of space came the displacement of individuals and acquisition of properties that were seen as a threat to the regional alliance's goal of attracting capital and knowledge workers. Most prominent of the university-driven displacement

[7] In summarizing the Defense Production Act, Gart writes, "The law utilized business-friendly measures, such as government owned plants, substantial tax incentives, direct and guaranteed loans, and specialized research grants, to permanently mobilize the American economy." Jason H. Gart, "The Defense Establishment of Arizona, 1945-1968," *The Journal of Arizona History* 60, no.3 (Autumn 2019), 317.

[8] The regional alliance refers to Phoenician boosters, primarily from the Chamber of Commerce, ASU administrators, and other stakeholders in the Valley who were invested in the growth of Phoenix.

campaigns was the removal of the San Pablo barrio in Tempe in 1954.[9] Parallel to transitions in the built environment was the transition of Arizona State's role in the Valley's economy, moving from a professional school to a tool for Phoenix industrialists. To achieve the aims of building strong relationships with the knowledge industry, Arizona State advanced their academic prowess in the hard sciences.

Phoenician boosters in the mid-century desired a shift in the Valley's economy toward clean industry and knowledge production.[10] Arizona State University reached R1 status in 1994, but it prioritized research as a tool of investment and prestige since the 1950s. The formation of the College of Engineering in 1958 was a key advancement for the university as the program regularly attracted the most grant money and outside investment. The College of Engineering's status as being central to the university's aims were advanced in the 1980s with the introduction of the Engineering Excellence Program by Dean Roland Haden, one of the key contributors in the development of ASU's Research Park. Haden would take the program to new heights, enabling the school to engage with private industry in a way it previously did not.

The decisions of investment shed light on the priorities of a city as it speaks to what is seen as valuable and what is not. From 1950-1994, Phoenician boosters wrestled with the value of Arizona State University as part of their project in attracting the knowledge economy to the Valley. Its value went through numerous changes from being seen as a professional school, to then a key part of the booster project, then putting a limit on how much it was willing to invest, to, finally, returning as an important player in Phoenix's economy. Additionally, the power of Phoenician boosters, namely the Chamber of Commerce, changed over time as boosters

[9] Hugo Villagrana, "San Pablo: A Local Community Erased," *Salt River Stories*, December 7, 2018, https://saltriverstories.org/items/show/362
[10] Frank Snell, interview by G. Wesley Johnson, Historical League, December 7, 1978.

experienced unprecedented influence from the early 1950s to the 1970s, but that power was gone by the 1980s as ASU, simultaneously, grew into its own entrepreneurial unit.

In recent years, scholars have considered the roles of universities in urban centers, questioning their ability to attract industry and shape the built environment. Central to the field of university-driven development is Margaret O'Mara's *Cities of Knowledge*, utilizing the development of Stanford University, the University of Pennsylvania, and the Georgia Institute of Technology, to examine the state of Cold War universities. She defines a "city of knowledge," as "engines of scientific production, filled with high-tech industries, homes for scientific workers, and their families, with research universities at their heart."[11] Key to O'Mara's definition is the presence of a research institution as universities attracted capital via basic research partnerships with the federal government and corporations. She contends that knowledge-based cities are the products of: 1) "Cold War spending patterns," 2) "university-centered economic development policies," and 3) "local action."[12] The federal government held the position that Cold War research should be dispersed across the United States, and that the suburbs were ideal location for defense-related research as they remained tied to a larger metropolitan economy.[13] O'Mara centers the relationships between private industry and universities as key to understanding "cities of knowledge," as their symbiotic relationship impacted the built environment in a way to serve capital attraction. As private enterprise gained access to basic research, access to a talent pool, and university developed land while the school gained access to increase funds, institutional

[11] Margaret O'Mara, *Cities of Knowledge: Cold War Science and the Search for the Next Silicon Valley*, (Princeton, NJ: Princeton University Press), 1.
[12] O'Mara, 5-7.
[13] O'Mara argues that the Truman administration's decision to disperse research was based on two factors: 1) the United States' desire to distinguish itself from the Soviets; having national laboratories might have been seen as Communist, and 2) In the event of attack, laboratories were spread across the United States in areas outside of major cities.

prestige, and a built environment that was safe for capital investment. In the eyes of O'Mara, Stanford offered the archetype for a "city of knowledge," as the university's landholdings primed the school to have a hand in development while also maintaining a large endowment and a robust engineering school. While scholars have positioned economic policies, such as tax breaks, as central to local booster's strategy in attracting industries, O'Mara contends that universities did not have to follow the same patterns as they attracted capital due to their talent pool and built environments. By constructing an environment of low-density suburban housing for the professional class in tandem with investment into graduate education, Stanford and Palo Alto attracted capital that traditional urban areas struggled to maintain. Finally, O'Mara argues that "You need to make high-tech development the end, not the means" is a lesson that can be taken from "cities of knowledge." [14] She claims that cities that utilized knowledge industries as a tool to revitalize or reimagine a city often fell short in comparison to locales that viewed the knowledge economy as the end point.

While O'Mara grants increased agency to universities themselves in shaping urban environments, Elliot Tretter, author of *Shadows of a Sunbelt City*, centers the relationship between city boosters and universities in creating an investable and desirable space for the creative class. Tretter, using Austin and the University of Texas as a case study, interjects that Austin is a city of knowledge as it meets the criteria introduced by O'Mara. Where the two authors split is that Austin boosters used the knowledge economy as a tool to revitalize and promote the city to industries and their employees with Tretter arguing that it worked. Another difference is O'Mara views universities as having increased agency in shaping the built

[14] O'Mara, 230.

environment, as local officials offer financial support or incentives. In Tretter's view of UT Austin, the university operated in accordance with the desires of Austin boosters.

Tretter turns to the concept of the tertiary circuit of capital, which is the capital investment in science and technology, which broadly includes improvements in education, healthcare, engineering, and other forms of research activities.[15] The term was popularized by David Harvey in *Limits to Capital,* in which he claimed that the tertiary circuit primarily concerned the state and was designed to influence "the processes of the reproduction of labour power."[16] While Harvey views the state as the primary investor and beneficiary of the tertiary circuit, Tretter contends that it is private industry that has, and continues to, gain from investment into the sciences. Tretter's work also acknowledges the impact of the federal government in university expansion as he points to Section 112 of the 1959 Housing Act as case in point.[17] Ultimately, he argues that local growth coalitions and venture capitalist firms were the true drivers of development. In acknowledging the work of O'Mara, Tretter contends that cities of knowledge were successful due to the process of "switching capital into the tertiary circuit and an expanded infrastructure that supports knowledge-rent taking."[18] In other words, Tretter agrees with O'Mara that research-centric universities in the twentieth century leveraged the neo liberalization of markets to act as an entrepreneur.

LaDale Winling in *Building the Ivory Tower* examines various universities across the United States during the twentieth century, arguing that centers of higher education were

[15] Tretter, 24-25.
[16] Harvey, 66.
[17] Section 112 of the 1959 Housing Act allowed for universities to use existing urban renewal funds to reconfigure space in their immediate areas.
[18] Tretter, 19.

inextricably tied to the development of a metropolitan area.[19] Winling offers an argument that is two-fold as universities in the early twentieth century were built up by local boosters, but the neoliberal economic shift in the postwar years caused universities to act as corporations, focusing on profitability and engaging with private donors at an increasing rate. Winling offers an adjacent argument to Tretter in describing the gravity of capital. The idea that suggests that initial investment into a specific spatial location attracts further investment from third parties.[20] Winling first examines the case study of Ball State University in Munice, Indiana to support his argument as the Ball family investing into the university shaped the dynamics of Munice as middle- and upper-class families shifted their spatial location from the East End neighborhood to the Northwest End of the city near the university.[21] Like the story told by Tretter, what made the Northwest quadrant attractive was the investment into the tertiary circuit of capital, namely better schools and a new hospital, both funded by the university. By creating a space geared toward knowledge work, white, educated, professionals were attracted to the area, creating a rise in property values.

Specific to Phoenix, Elizabeth Shermer's *Sunbelt Capitalism* offers a comprehensive view of postwar urban politics in the city as she follows the work of local boosters in the Chamber of Commerce. Shermer claims that prior to the outbreak of the second World War, Phoenix served as a "colonial economy" to the larger metropolitan economies in the United States, namely the Northeast, but that changed in the mid-twentieth century as the Sunbelt attracted capital from the same cities they once served.[22] While some federal money did come

[19] LaDale Winling, *Building the Ivory Tower: Universities and Metropolitan Development in the Twentieth Century*, Philadelphia, PA: University of Pennsylvania Press (2018), 6.
[20] Winling, 8.
[21] Winling, 16.
[22] Shermer, 18.

into Phoenix during the second World War, it was the Cold War, mixed with the conditions created by the Phoenician "grasstops" that created the arrival of the knowledge economy to Phoenix.[23] Speaking about Arizona State University, she argues that the school was "born out of an alliance between investors, boosters, and liberal educators," and that this alliance resulted in the research institution that it is recognized as today.[24] Key to this argument is Cold War defense funding as the university provided resources and talent to companies in the Valley that benefited from federal money.[25] Ultimately, Shermer contends that the neoliberal economy created in Phoenix permeated to the rest of the United States as other regional alliances, and the U.S. government, followed the model of business-friendly policies.

In theorizing cities as growth machines, John Logan and Harvey Molotch offer that universities, along with other public facing institutions, have been used by city boosters as a means of attracting capital.[26] The work of Logan and Molotch focuses on regional alliances, treating universities as a tool rather than a corporation. Like Logan and Molotch, Patrick Vitale centers regional alliances in Pittsburgh's attempt to lure scientists.[27] In discussing the conditions in attracting scientists, Vitale writes:

> In these years, [post-World War II] regional alliances tried to lure scientists as part of their scramble for government contracts, population, and investments. Rather than entice scientists with hip urban street life, diversity, and tolerance, they offered them racially segregated suburbs, modern laboratories, and amenities built on recently cleared slums and factories.[28]

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[23] For further reading about the history of the defense industry in Arizona, see Jason H. Gart's "The Defense Establishment in Cold War Arizona, 1945-1968."
[24] Shermer, 204.
[25] Shermer additionally argues that ASU was, in some ways, behind other research institutions in the postwar years as state and local leadership were hesitant to accept federal funds, a belief that had been held in the state since the New Deal.
[26] John Logan and Harvey Molotch, *Urban Fortunes: The Political Economy of Place*, Berkley, CA: University of California Press (1987), 53.
[27] Patrick Vitale, "Cradle of the Creative Class: Reinventing the Figure of the Scientist in Cold War Pittsburg," *Annals of the American Association of Geographers* 106, no.6 (November 2016), 1379.
[28] Vitale, 1379.

With this, Vitale shows how the allurement of the creative class has changed over time, offering vital context to the work of Richard Florida. Moreover, Vitale argues that the enticement of knowledge workers came at the expense of people of color and working-class communities as they were often removed or priced out of areas that transitioned to serve the white, upper-middle class.

A central difference between the story O'Mara tells of Stanford and the work of this project is that Stanford acted like a corporation while ASU operated according to the desires of Phoenician boosters in the postwar years. This speaks more to Arizona State, in many ways, being a difficult comparison to Stanford, rather than an ideological difference. While Stanford came into the Cold War with large landholdings and institutional prestige, Arizona State was a local college, lacking programs and funding to support research and development services, and, certainly, did not have alumni in the White House. For this reason, a comparison to the University of Texas at Austin is more suitable as both universities went through massive changes in the postwar years while engaging with regional alliances that often viewed the desires of the city as more important than those of the respective universities.

This project primarily on newspapers, meeting minutes and publications from the Arizona Board of Regents, internal documents from Arizona State University, state legislature minutes, and maps produced by various agencies from the state of Arizona. I primarily draw on Eugene Pulliman's *Arizona Republic* as his close relationship with Phoenix Republicans and the Chamber of Commerce was evident in the views of the paper. Often, the *Arizona Republic* amplified booster policies as they related to the university, being a key driver in the Proposition

200 vote in 1958.[29] Furthermore, the *Arizona Republic*, and other local papers, often featured op-eds from ASU presidents and administrators as the school aimed to win hearts and minds in the Valley, solidifying itself as an institution that was key to the economic development of Phoenix. Following the loss of power of the Chamber of Commerce's political arm, the Charter Government Committee, and the death of Pulliman in 1975, the *Arizona Republic* took on a more neutral tone, no longer being a voice for the city's political elites. Additionally, sources from the Arizona Board of Regents showcase budget approvals, approval for construction projects, and highlight the state of the universities at a given time. Documents from the Regents have proven to be valuable sources as they shed light on the priorities and goals of ASU. Finally, internal documents directly from Arizona State University highlight the planning processes of university administrators as they aimed to shape the built environment. Documents like the Master Plan of 1960, show how stakeholders viewed the built environment as a way of attracting and maintaining investment to the university as the creation of a hyper-planned campus was geared toward knowledge workers.

The project is split into three chapters, ordered chronologically, that track the development of Arizona State University, Tempe, and the Phoenician economy from the postwar years to 1994 when the school reached R1 status. Chapter one begins with an analysis of Sanborn Maps from early settlement in Tempe, highlighting the city's reliance on traditional industry like the railroad and the mill as key economic drivers. The chapter then picks up in the postwar years as Arizona State College, led by Dr. Grady Gammage, sought to find its place in the Valley's economy. I argue that as the college transitioned toward a research institution, administrators and boosters shaped the built environment to solidify the school's prestige. The

[29] Proposition 200 was the vote responsible for the name change from Arizona State College to Arizona State University in 1958.

changing of the built environment in Tempe included the removal of the San Pablo barrio in the mid-1950s, one of the oldest barrios in Tempe. I additionally argue that the replacement of the San Pablo barrio with the new technology building represented the goals of Phoenician boosters in creating an economy centered around knowledge production. The chapter examines the desire for whiteness in Tempe, a condition that was seen as a prerequisite to attracting outside investment. Chapter one ends with the Proposition 200 vote, officially changing the name to Arizona State University. I argue that the name change was rooted in the desires of boosters to use the university as a vehicle of investment for the Valley, creating an avenue for corporations to form partnerships with the university.

Chapter two picks up in 1960 and continues through 1970 as ASU, now under the leadership of Homer Durham, wanted to expand the campus, but is running out of room in Tempe. The chapter begins with the ASU Master Plan of 1960 in which university administrators sought to reorganize the built environment of ASU. I argue that the new layout of the campus, mimics suburban planning designs based on whiteness and exclusion. Additionally, the chapter examines ASU attempting to establish a branch campus in the Valley and the effort of Litchfield Park to attract a branch campus. Litchfield Park's lobby for a campus showcased the economic vitality that universities added to communities as Litchfield attempted to transition from industrial to knowledge production. In the end, the plans fall short as the state legislature, the Arizona Board of Regents, and ASU administrators cannot come to an agreement about the role of ASU in the Valley.

The final chapter, chapter three, looks at ASU from 1978 to 1994. In 1978, C. Roland Haden was brought in as the Dean of the College of Engineering, marking a significant shift in the school's willingness to collaborate with private enterprise. Haden established the Engineering

Excellence Program with the goal of attracting donations and partnerships with knowledge industries in the Valley. Furthermore, ASU opened up a research park and a branch campus in the mid-1980s, completing goals that were first brought forth in the 1960s. Simultaneous to a new zealousness from the ASU administration, federal research and development funding reached a near all-time high from 1981-1985. I argue that the ambitions of C. Roland Haden, the Board of Regents, and other stakeholders continued to shape the built environment in Tempe and around the Valley. As the university continued to purchase land on the periphery of the campus, the boundaries of exclusion expanded as non-university affiliated individuals and businesses were pushed away. Finally, I argue that the construction of the research park solidified the role of ASU as a key driver in the economic shift toward knowledge production. By the mid-1980's Arizona State was no longer a tool for the Chamber of Commerce, but an entity that could control and move capital.

While the story I tell primarily concerns the built environment connected with Arizona State University and its periphery, very little time is spent discussing the political interplay of Tempe, the city that houses ASU. This decision was made to showcase the fact that the university was seen as a tool for Phoenician boosters, namely those connected to the Chamber of Commerce, in attracting capital to the Valley. Phoenician boosters often made deals with the university, bypassing the Tempe City Council, in order to secure contracts with private industry. Because of these reasons, I argue that it is challenging to separate ASU from the broader neoliberal project spearheaded by the Phoenician elite. This is not to say the local government in Tempe is outside of the story being told as the council played a role in development through the approval of projects and issuance of municipal bonds.[30]

[30] For further reading about the role of municipal governments on the development of cities in the Southwest during the postwar era see Amy Bridgers, *Morning Glories: Municipal Reform in the Southwest*.

Finally, a note on terminology. Throughout the paper I use a variety of terms to refer to the Phoenix Metropolitan area primarily labeling it as "the Valley." I have selected this term as it consistent with how Phoenicians refer to the place they call home. I primarily use it interchangeably with the city of Phoenix rather than having the term include the various suburbs surrounding Phoenix. When referencing smaller cities in the Phoenix area, I use their proper name.

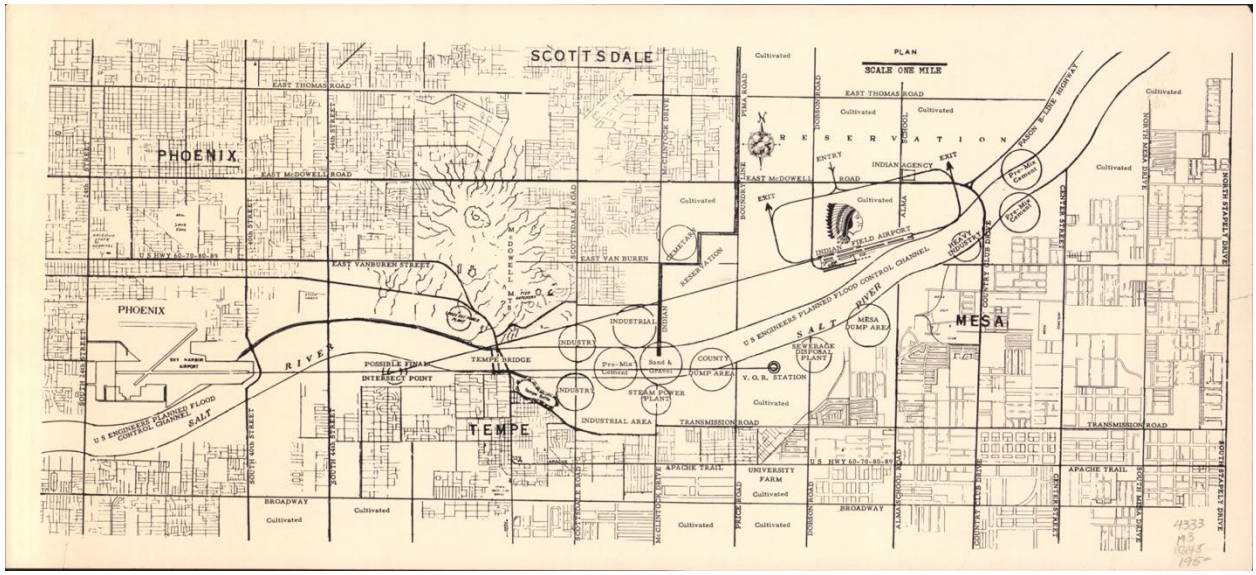

Figure 1. This 1950 map of the Phoenix metropolitan area highlights the areas that will be discussed in the thesis project. Not pictured on the map is Litchfield Park, which is to the west of Phoenix. Courtesy of the Arizona Memory Project, Historic Maps of Arizona Collection, c. 1950.

CHAPTER I

A New University

Introduction

To the east of Phoenix, Arizona stands Tempe, a professional yet lively suburb due in part to the presence of Arizona State University (ASU). While Tempe is a young city, it is hard to not recognize the great ecological landmarks within eyesight, such as Hole in the Rock at Papago Park. A walk down Mill Avenue makes it clear that this is where students should be.[31] While the school may dominate the landscape, its presence is hardly natural as it is the product of a series of choices made by the regional alliance of school officials, local boosters, government officials, and other stakeholders.

Representing Arizona State in the regional alliance was Dr. Grady Gammage. He first took over the presidency in 1933, when ASU was still the small Arizona State Teacher's College at Tempe. The Teacher's College featured low student enrollment and minimal space to operate. Under Gammage's vision, and postwar policies such as the G.I. Bill, student enrollment grew from 875 students in 1933 to 11,128 students in 1959 when he died.[32] Furthermore, the transition from a teacher's college to a university occurred while Gammage was president, marking a shift in ASU history as the school sought national recognition and began building relationships in the research and development sector. Additionally, there was tension between Gammage and the Phoenician boosters as they shared a similar vision, but with different goals. Gammage believed

[31] The work of George Lipsitz argues that space is racially shaped and there are distinct differences between the white and Black spatial imaginary. Lipsitz describes the white spatial imaginary as "based on exclusivity and augmented exchange value, functions as a central mechanism for skewing opportunities and life chances in the United States along racial lines." Many contemporary universities fit the mold described by Lipsitz as histories of racial and class inequities in education have created spaces based on exclusion. George Lipsitz, "The Racialization of Space and the Spatialization of Race: Theorizing the Hidden Architecture of Landscape," *Landscape Journal* 26, no.1 (2007), 13.

[32] Dean Smith, "Tempe Normal Now Thriving University," *Tempe Daily News*, April 13, 1971.

in making education more accessible in the Valley, so expanding the campus and the role of the university got him closer to that goal. Phoenician boosters, on the other hand, also wanted the campus to grow and for the school to become nationally relevant, but for different reasons. For Phoenician boosters, the expansion of the college and its transition to a university was simply a means to an end, being to attract the knowledge economy to Phoenix. Despite these conflicting goals, ASU continued to grow, shaping into a research institution that served the Valley. This chapter primarily asks how a small teacher's college go from a few hundred students to eventually having the space to education, house, and entertain tens of thousands of students?

To answer this question, this chapter draws on early Sanborn maps, newspaper articles, and internal documents from Arizona State College. Sanborn fire insurance maps show how the economy of early Tempe was centered around traditional industry like Hayden's Mill and the railroad. Arizona State Teacher's College took up minimal room in the city. Additionally, newspaper articles, primarily from the *Arizona Republic*, are employed as a way of reading into the goals of Phoenician boosters in the postwar years. Eugene Pulliman, owner and chief editor of the *Arizona Republic* maintained a strong relationship with Barry Goldwater and other men in the Chamber of Commerce, so articles in the paper often represented the views of the local business alliance. Finally, internal documents from Arizona State College show a desire for growth by administrators, but they often held different goals compared to Phoenician boosters.

Chapter one examines the role of Arizona State within the economy in the Valley, transitioning from a small college to a university with research ambitions. I argue that the desire to become a prominent research institution had a profound impact on the built environment as the removal of the San Pablo barrio and the acquisition and development of other properties served the needs of the Arizona State, students, and knowledge workers. Additionally, chapter

one argues that Phoenician boosters, like the Chamber of Commerce and the Charter Government Committee, shifted their views of Arizona State in the 1950s, seeing the school as a way of attracting investment into the knowledge economy. This new vision for universities was supported by the federal government and research and development firms (R&D) as the dispersal of research funding created a power vacuum as schools competed for funding in a way that was novel.

Previous scholars have researched the development of the Valley from the perspective of political economy, with some arguing that the capital friendly practices of the state played a key role in Phoenix's industrial development. The work of Elizabeth Tandy Shermer centers what she describes as local "rainmakers" as being the primary driver of attracting industry to Phoenix. In discussing ASU specifically, Shermer argues that ASU "would thus be born out of a postwar alliance between investors, boosters, and liberal educators, who united behind a plan to expand Tempe's small teacher's college into a research-intensive university with a formidable engineering school."[33] Central to Shermer's thesis of the book, she highlights the tension between Arizona power players, like Governor Fannin and Barry Goldwater, who publicly rejected federal funds in the Arizona education system, yet went out of their way to attract industry to the Valley that was, often times, reliant on federal contracts.

What scholars have labeled as "town and gown" relationships highlights the often conflicting, interests of universities and residents in surrounding areas. Margaret O'Mara argues that postwar suburbanization impacted urban universities as they constructed their built environments to be orderly.[34] The desire for order often required the displacement of people of

[33] Shermer, 204.
[34] Margaret O'Mara, "Beyond Town and Gown: University Economic Engagement and the Legacy of the Urban Crisis," *The Journal of Technology Transfer* 37, no.2 (July 2010), 239.

color and working-class communities as universities, like suburban America, viewed homogeneity as a necessary step in protecting a neighborhood. O'Mara argues that mid-century universities carried out urban renewal policies as they drove the transition of neighborhoods.

Sanborn Maps

Looking through Sanborn Maps dating back to early Tempe offers valuable insight into a changing built environment. The maps show that the massive growth of the teacher's college was not inevitable, but rather that a series of deliberate decisions mixed with the emergence of Cold War neoliberalism guided the school and city to its current position. The economy of early Tempe was dominated by a few different industries with the flour mill, railroad, and canal work driving the economy. The railroad was significant for the economy of the Valley as it connected the markets of Phoenix with the larger industrial markets of the east coast.[35] In considering the relationship between Phoenix and markets of larger U.S. cities, Shermer, in alignment with Gerald Nash, argues that Phoenix operated under a certain "colonial economy" as early Phoenix was subject to the needs of transnational markets, rather than their own.[36] While the colonial description of Phoenix was not applicable following New Deal investment and the outbreak of World War II, the early economy of Phoenix showcases a city that lacked a strong and unified elite set on attracting and manufacturing capital to be exported. Nonetheless, an analysis of the early Sanborn Maps show how Tempe transitioned from traditional industry to the knowledge economy.

[35] For a more detailed history of the importance of the railroad on local economies and the built environment see William Cronon's *Nature's Metropolis* or Richard White's *Railroaded: The Transcontinentals and the Making of Modern America*.
[36] Shermer, 18.

The 1890 Sanborn map of Tempe shows a population of 700 with Hayden's Flour Mill being the most prominent feature.[37] Along Mill Avenue there were a few drug stores, a barber, and an office, but what stands out is the amount of open land. The small town is spread out along Mill, but even then, there remains open lots and a few vacant buildings.[38] Furthermore, the Arizona State Teacher's College isn't yet marked on the map, highlighting the humble origins of the school. By 1893, the Territorial School began to appear on the Sanborn Maps, prominently appearing on the first page.[39] Additionally, an increase in population to 1100 residents enabled the young city to start filling in Mill Ave. with more businesses set to serve the residents such as an ice cream parlor and more general merchandise stores. As Phoenix and Tempe start to grow, it becomes clear that the school grew with the cities as the Territorial School was expanded by the publication of the 1898 Sanborn Map.[40] The school expanded from two buildings to now encompassing almost two blocks by May of 1915. This surge in growth highlighted the relationship between early Maricopa boosters and the college, as the expanding industrial capacity of Tempe coincided with college expansion. It is this relationship between boosters, the college, and local government that came to define Tempe in the mid-twentieth century as the outbreak of World War II and the Cold War expanded the state's industrial capacity. As money poured into research and development, the built environment changed as Mill Avenue and the campus periphery served the needs of the university through housing, bars, restaurants, book stores, and other student-oriented businesses.

[37] The map cartographers mistakenly spelled the mill as "Hoyden's Flour Mill" instead of "Hayden."
[38] Sanborn Map Company. Tempe, Maricopa County, Arizona, November 1890. Retrieved from the Library of Congress.
[39] Sanborn Map Company. Tempe, Maricopa County, Arizona, May 1893. Retrieved from the Library of Congress.
[40] Sanborn Map Company. Tempe, Maricopa County, Arizona, May 1898. Retrieved from the Library of Congress.

Navigating Space

The restructuring of space within the ASU campus and across Phoenix was dependent upon conscious choices made by local officials in the deciding who specific spatial locations were designed for. Residential segregation existed since the late nineteenth century in Phoenix as the Black and Latino populations were largely limited to the areas south of the Salt River. Residents in these neighborhoods in the early twentieth century lived in precarity as the land was deemed undesirable for white residents due to its location on the floodplain. In solidifying the separation of white and non-white residents, the Southern Pacific railroad line was introduced to Phoenix in 1887 creating a north-south boundary line.[41] There is a symbolic element of the railroad lines being used as a racial boundary as the introduction of the railroad allowed Phoenicians access to new capitalist ventures outside of the state while also limiting the spatial mobility of minority residents. As time passed, the racial boundary lines continued to be enforced, particularly for Black residents, as Phoenix adopted racially restrictive covenants, Euclidean zoning policies, and, later, homeowners' associations as means of protecting property values and the racialized order of the city.[42]

Tempe, with its growth being connected to that of Phoenix, also sought to protect the racial caste system as it was widely understood to be a sundown town.[43] In negotiating the contested landscape, Latino residents formed barrio communities in Tempe as restrictive covenants and racialized violence, both physical and threatened, limited available housing stock.

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[41] Bob Bolin, Sara Grineski, and Timothy Collins, "The Geography of Despair: Environmental Racism and the Making of South Phoenix, Arizona, USA," *Human Ecology Review* 12, no.2 (2005): 158.

[42] While racially restrictive covenants were eventually ruled unconstitutional in *Shelley v. Kraemer* (1948), residential segregation continued and remains to have an impact on contemporary society.

[43] I have been unable to find sourcing that solidifies Tempe as a sundown town, but popular memory remembers the city as one. Jarred Smith, a local historian and author of *The African American Experience in Tempe*, has been one of the few historians to share the claim. Despite not finding sources that support Smith's claim, I have found multiple sources that showcase the neighboring city of Scottsdale being a sundown town.

Barrios in Tempe included San Pablo, La Victoria, Barrio del Mickey Mouse, Barrio del May's, Barrio del Hoyo, Abajo, and Wilson.[44] Barrios built before 1910, such as San Pablo, were considered to be on the periphery of the city, but remained close to jobs at the mill, canal, or railroad. As the Latino population grew in the twentieth century, more barrios were constructed within the city limits of Tempe as the city limits physically expanded to include areas that were once considered the periphery.

While the barrios offered Latino residents access to homeownership that they did not otherwise have in Tempe, they were also sites of social relations. Interviews with former residents from the various barrios tell of a close-knit community in which everyone knew each other. As ASC and Tempe continued to expand and attract new industry, the barrios were no longer seen as necessary to the city's development. The transition to the knowledge economy left the barrios in a spot of precarity as the mill and canal no longer drove the city's economy, but ASC did. Moreover, the barrios were often seen as blighted and as a nuisance to property values as the two largest barrios, San Pablo and La Victoria, did not have paved roads and featured houses made from adobe.[45] Many of the barrios in Tempe were eventually removed, severing the existing social ties of these communities as new development was prioritized.

Removing San Pablo

The San Pablo barrio, positioned north of 8th and Normal Avenues, was the oldest and largest Hispanic community in Tempe. First settled in 1872, the barrio was primarily composed of adobe houses and, unlike Tempe, did not follow a traditional grid pattern.[46] The community

[44] Chris Lukenbeal, Daniel D. Arreola, and Drew Lucio, "Mexican Urban Colonias in the Salt River Valley of Arizona," *Geographical Review* 100, no.1 (January 2010): 22.
[45] *Ibid.*
[46] Hugo Villagrana, "San Pablo: A Local Community Erased," *Salt River Stories*, December 7, 2018, https://saltriverstories.org/items/show/362

was a haven for the Mexican population as they often faced discrimination and segregation in the city as "Juan Crow" prohibited racial integration at the local school, pools, and other public amenities.[47] Interviews with former residents of the San Pablo barrio describe a vibrant and tight-knit community, despite the substandard living conditions. Many residents of San Pablo worked at Hayden's Mill or for the Southern Pacific Railroad, representing the old order of Tempe built on traditional industrialization, but the United States' involvement in the Cold War created new areas of investment and industrialization for the Valley, leaving working class residents of color in a state of precarity.[48]

Tied to an increase in Cold War spending and a reconfiguration of the Valley's economy by the regional alliance were questions about space. By 1954, the Arizona Board of Regents recognized the issue and went to the state legislature to seek additional funding for land acquisition as the Regents predicted the school would more than double in size in the next fifteen years. Acquisition records from 1954 show the first property sales between San Pablo residents and ASC as Francisco and Elodia Daniel sold their home for $4,914.45, equivalent to $57,060.97 in 2024.[49] The first sale by the Daniels began the removal of San Pablo as other residents followed suit and began selling their homes to the college. Despite some success in acquiring lots, ASC used the *Arizona Republic* and *Tempe Daily News* to hasten the process of removal by applying soft pressure on the residents.

ASC administrators and the Board of Regents shared the following goals in the *Arizona Republic*:

> 1. Purchasing approximately 30 acres of what is known as Old Town for $300,000. 2. Buying 10 city lots on Orange at Normal between Van Ness avenues for classroom

[47] "Juan Crow" refers to the existence and patterns of anti-Hispanic discrimination in the Southwest that, often, mirrored Jim Crow laws in the American South.
[48] *Ibid.*
[49] Villagrana, "San Pablo: A Local Community Erased," https://saltriverstories.org/items/show/362

> building site. 3. College authorities believe ultimately all residential property facing the campus along Normal and adjoining it to Van Ness will be required for campus expansion. 4. Possible acquiring of 80 acres of land east of the Washington Van Buren 'Y' for location of future stadium. 5. Possible purchase of 80 acres of land lying at the north end of College Avenue including the small hill east of Tempe Butte and extending east to Rural Road.[50]

In sum, school administrators envisioned a 200-acre expansion of the campus, shaping not only the built environment but the social relations of the neighborhoods existing within the desired areas. By October of 1954, the school already had 21 residential lots in escrow in the surrounding campus area with the homes being described as "modest adobe homes built 75 years ago."[51] The author does not specify the location of the adobe homes, but it can be assumed that they were referring to the San Pablo barrio. While the administration made it clear what buildings they did want, the inverse is also noteworthy as the article makes it clear that the school would not purchase the Campus Drug store, the city pumping plant, a local school, the National Guard armory, or the Latter-Day Saints Church.[52]

In the process of land acquisition, property relations were centralized as ASC and the Board of Regents deemed what property was worth acquiring and what property was better served under college control. The cost of land acquisition seemed to be the first deciding factor as the Regents worked with a limited budget from the legislature and hoped to purchase 30 acres for $300,000 in Old Town, signifying a price threshold that they did not want to cross. The National Guard armory was, most likely, not a realistic option for the Regents either due to the National Guard having no desire to sell or the cost of acquisition. The same might be said for the LDS church or school. Yet, the decision to not acquire the drug store was, initially, unclear. Not

[50] Henry Fuller, "Arizona State Campus Space Given Study," *Arizona Republic*, October 17, 1954.
[51] *Ibid.*
[52] *Ibid.*

listed in the newspaper article was that Campus Drug was also home to Varsity Book Exchange where students could buy or sell their textbooks, serving a key need of students.[53] In sum, each of the locations specified as not in danger of displacement were all selected for specific reasons, whether that be cost, the site not being for sale, or its removal having an adverse impact on student life.

Figure 2. The photo shows the San Pablo Barrio in 1907. The community was first created in the 1870s and featured an estimated 75 homes. Courtesy of the Tempe History Museum, 1987.36.1, c.1907.

The passing of Arizona Senate Bills 90 and 91 in February of 1955 made the expansion possible as S.B. 90 granted ASC $2 million for new buildings and $350,000 for land acquisition costs.[54] By Christmas of 1955, the removal of residents from Normal Avenue was still underway and the college would soon begin accepting construction bids on what would be the new

[53] Hal Ehlers, Campus Drug- 712 S. College Avenue- Tempe, Arizona, August 14, 1972, 3 ½ x 5 in., Tempe History Museum, https://emuseum.tempe.gov/objects/2893/campus-drug--712-s-college-avenue--tempe-arizona
[54] Ben Avery, "Senate Okays Public Works, 16 Other Bills," *Arizona Republic*, March 1, 1955.

technology and industry building.[55] With the *Arizona Republic* reporting that the entire block of Normal Avenue was purchased by the college, it marked an important transition for the school as this was the first time the college significantly expanded its boundaries. Moreover, the expansion of the campus communicated that the Board of Regents viewed the expanded enrollment of ASC as sustainable. Yet, what stands out is the decision made by college administrators that the first building to push the campus boundaries would be the technology building. Technology and industry led the way for ASC and reshaped the built environment, moving the needle toward creating a knowledge center.

As ASC continued to seek purchasable land in the surrounding areas, president Gammage put out an op-ed in the *Tempe Daily News* in 1958 encouraging property owners to sell their land to the college.[56] The article was published in the of the nearby parochial school refusing to sell its land to the college despite the administration previously admitting that they would not attempt to purchase it. Gammage and the administration set their sights on Old Town Tempe, north of 8th Avenue, home of the San Pablo barrio.[57] By 1958, Gammage and the Board of Regents had grown frustrated with the slow-moving process of removal of San Pablo as the funding had long been secured for expansion and enrollment continued to grow at the college. In a last-ditch effort, Gammage, without naming the community, wrote a letter to the neighboring communities asking that they sell before the invocation of eminent domain.

In this open letter to the residents of the area, Gammage stated, "I desire to empathize that our guiding principle is to work with owners and make the adjustment as satisfactory to all concerned as is humanly possible."[58] Gammage goes on to write that the Board of Regents has

[55] "Bids on New ASC Building to Be Opened Next Month," *Arizona Republic*, December 25, 1955.
[56] Grady Gammage, "Arizona State College at Tempe: Announcement," *Tempe Daily News*, 1958.
[57] *Ibid.*
[58] Gammage, 1958.

hired an appraiser recommended by the Phoenix Realty Board that will determine the market value of the homes in question. At this point in time, the Regents had not utilized eminent domain in severing residents from their properties, but there was certainly pressure being applied. Invoking the prisoner's dilemma, Gammage reports that the college has begun purchasing property and negotiating with many others as the school plans to acquire the entire area. Additionally, residents of the community watched the destruction of their neighbors' homes as photos from 1957 depicted streets being bulldozed.[59]

In the end, the San Pablo barrio was removed and taken over by the university, forcing residents to find new housing with many moving to the Victory Acres barrio in Tempe. Publicly, Gammage and the ASC administration wanted the displacement of San Pablo residents to be humane and even offered that they were working in the best interest of the residents, but displacement and humanity are incompatible. Physical structures were removed along with the social ties of the barrio were severed as residents were forced to start over elsewhere. While the historical record does not show any organized resistance by residents of San Pablo, the refusal of some residents to sell their properties should be considered a formal of implicit resistance.

Figure 3. By 1960, the San Pablo Barrio had been removed and replaced with student dormitories. Courtesy of Tempe History Museum, 1999.14.836, c.1960.

[59] Villagrana, "San Pablo: A Local Community Erased," https://saltriverstories.org/items/show/362

Boosting the Valley

As early as 1934, the Arizona State Teacher's College had their sights set on expansion and growing student enrollment. Spearheading this endeavor was new university president, Dr. Grady Gammage. Facing a decline in student enrollment, fiscal constraints resulting from the Great Depression, and a burnt-out faculty, the college sought to promote the school to prospective students. An article from August 1934 in the *Arizona Republic* highlights the top ten reasons why students should enroll at the Arizona State Teacher's College at Tempe.[60] The list featured accreditation, a well-trained faculty, and an enrollment of one thousand students. However, what stood out was the near alignment of the talking points and patterns of boosterism exhibited by the business community in Phoenix. The qualitative reasons to attend ASTC included its locations near a growing metropolis in Phoenix: it was "located in the cultural center of inland Southwest," and the winter climate is superb.[61] In listing reasons to attend the school, university boosters aligned with the Phoenix business elite, selling a vision of a growing metropolis within the bounds of an opportune west, and perfected by the desirable winter climate.[62]

While the school attempted to attract students and employees, the business elite worked tirelessly in selling the vision of a state that supported business via tax breaks and lax labor laws. Most prominent of these actions was the 1955 nullification of a state tax on products sold to the federal government.[63] The move solidified boosters' commitment to public-private partnerships as Cold War defense funding became increasingly profitable. Moreover, it signaled a move

[60] "College Names Ten Attractions," *Arizona Republic* (Phoenix), August 27, 1934, Arizona State University Archives.
[61] *Ibid.*
[62] Shermer, 241.
[63] Bradford Luckingham, "Urban Development in Arizona: The Rise of Phoenix," *The Journal of Arizona History* 22, no.2 (Summer 1981), 220.

toward neoliberalism as the state enabled the privatization and profitability of the military industrial complex, leading Phoenician rainmakers to adjust the means in attracting industry.[64] In thinking of the trend, Shermer offers that local elites prioritized corporate interests over the social needs of Arizona citizens, a trend that continued through the twentieth century and permeated throughout the United States.[65]

Yet, boosters were particular about both the industry and employees they wished to attract. City boosters attempted to create a climate in Phoenix that was sustained by the knowledge economy, fighting tooth and nail to reject traditional industry that created pollution, and, instead, attract a green economy that featured companies like AiResearch, Motorolla, and General Electric, etc. This desire for 'clean' industry was not fully rooted in environmental concerns--though boosters did wish to separate the city from the industrial air pollution of the Northeast--but, rather, rooted in a desire to attract a certain type of individual to Phoenix. Namely white-college educated, upper-middle class individuals and families as this group was seen as protective of investment. A prominent attorney, and Phoenix booster named Frank Snell said that clean industry brought "people with somewhat higher income, engineers and people who had somewhat higher income than you might otherwise have."[66] The desires of Snell, and others from the Chamber of Commerce, were reflected in the racial makeup of the Phoenician knowledge economy as Shermer found that near 80 percent of factories in the state employed a "mostly or completely Anglo staff in the early 1960s."[67] With certain industries and individuals

[64] David Harvey, "Neoliberalism as Creative Destruction," *The Annals of the American Academy of Political and Social Science* 610 (March 2007), 22.
[65] Shermer, 148.
[66] Frank Snell, interview by G. Wesley Johnson, Historical League, December 7, 1978.
[67] Shermer, 229.

in mind, Phoenician boosterism marketed the open space and suburban development as key selling points.

With the Chamber of Commerce working overtime in attracting industry, local newspapers aimed to sell the "grasstops" vision of Phoenix to the general public. Leading the charge was Eugene Pulliam, a well-known political conservative and founder of Central Newspapers which owned papers across the United States, including the *Arizona Republic* and *Phoenix Gazette*.[68] The importance of Pulliman in postwar Arizona cannot be understated as his publications worked as a mouthpiece for the CGC and Phoenician boosters. As the Phoenix Chamber of Commerce began to view Arizona State as a tool of attracting industry, the *Arizona Republic* sold the idea to the public, offering readers a vision in which investment into the college led to economic prosperity for the Valley. Though the boosters did not distribute their backing equitably across programs as the College of Engineering was viewed as a priority.

The endorsement of an expanded engineering program at ASC represented a major win for Dr. Gammage and his administration as the business elite recognized the relationship between a thriving university and the knowledge economy. While Gammage and the rainmakers united in the expansion and increased funding for the college, it was for different reasons. Gammage, on one hand, was a liberal who had fought hard for New Deal projects at the school and believed in the democratization of education and granting access to more students while the old guard, composed of members from the Chamber of Commerce and Thunderbirds, acknowledged the economic benefit of an engineering school with research capacity.[69]

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[68] *Ibid.*, 136.

[69] The Royal Order of the Thunderbirds was a "special honor fraternity within the Phoenix Chamber," that sought to attract industry to Phoenix. Members included individuals like Barry Goldwater and Frank Snell, among other prominent Phoenician businessmen. Shermer, 66.

Funding

Shortly after accepting the role as president in 1933, Dr. Gammage put out an op-ed in the *Arizona Republic* in which he highlighted the state of ASTC. To put things simply, the college was in dire straits as Gammage noted the budget was cut by 42 percent in recent years.[70] Yet despite the massive cuts in funding, Gammage stated that the op-ed was not intended to be a platform in which he asked for more money, but, rather, to reaffirm the school's commitment to serving the youth of Arizona. Dr. Gammage's, romantic view of higher education illuminated his approach regarding the role of the university as a place of democratization and access. But romanticism doesn't keep the lights on.

In 1952, the college assigned the Committee on Reorganization and Development to assess the growth ASTC as it had grown since the end of World War II.[71] Student enrollment increased from 1,400 before the War to 4,045 at the beginning of the 1950-51 school year with course offerings expanding to 966, an increase from the 398 courses offered in 1946. To support the massive growth in enrollment, the Arizona legislature increasing funding from $290,237 in 1940-41 to $1,178,241 in 1950-51. As funding increased fourfold, the administration prioritized expanding the physical campus as more than eight new buildings had been constructed in recent years, including a new science building. Yet, the Committee was not satisfied with this growth, highlighting that massive expansion stretched the administration thin, explaining the lack of prior systematic approaches to development.

As enrollment growth continued through the 1950s, so did the pressure of funding as ASC administrators continued to push for a funding increase. The desire for more financial

[70] Grady Gammage, "Dr. Grady Gammage Outlines Physical Needs of Institution," *Arizona Republic* (Phoenix), August 27, 1934, Arizona State University Archives.
[71] "Report of the Committee on Reorganization and Development," 1952, Arizona State College at Tempe, Arizona State University Archives, 10.13 R299

backing was rooted in enrollment projections in which ASC would surpass the University of Arizona (U of A) by 1965. Despite a growing enrollment, the Board of Regents in 1957 expected to allocate $20 million to ASC between 1957 and 1965, a mere half of the expected funding to UA. The disparity in funding highlights the perceived role of the two institutions as U of A was seen as a legitimate research university while ASC remained a professional college meant to serve the citizens of Phoenix. By the late 1950s, ASC administrators and alumni, in partnership with the Phoenix growth coalition, sought to change both the name and role of ASC and transition the college toward a research institution with hopes of bringing a funding increase to the Valley.

As stakeholders geared up for the Prop 200 vote, the ASC administration was working overtime in an attempt to transition the school from a local professional college to a research-centered institution. Long-time president Grady Gammage led the charge. A memo to all faculty on September 15, 1958 highlighted the significance of research production to the transitioning institution.[72] Gammage conveys to faculty that simply reading from a textbook was no longer acceptable at ASC and the new norm would be faculty fostering "scholarly endeavor" in their own research arenas.[73] Additionally, Gammage recognizes that he finds himself in a similar position to that of 1933 as he was confronted with a burnt out faculty as ASC enrollment had expanded threefold following the end of World War II. In response to this, Gammage states, "Excuse of overload is no longer an excuse for non-productivity."[74] As in 1933, the president aimed to keep momentum and showed no signs of slowing down as ASC rolled toward university status.

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[72] Arizona State College, *Memo from Grady Gammage to ASC faculty regarding expansion of research*. Arizona Memory Project, accessed 11/02/2024, https://azmemory.azlibrary.gov/nodes/view/21842
[73] *Ibid.*
[74] *Ibid.*

Shortly thereafter, H.D. Richardson, the Academic Vice President at ASC, also sent a memo to all faculty highlighting the expansion of the research capacity at ASC.[75] He begins the memo by writing, "Arizona State is a University. Research is a major function of a complete educational program of a University."[76] While the message is seemingly typical for a college administrator, it signifies a key shift from the previously established norm of ASC. Gone were the days of the college being seen as a professional school as it aimed for national recognition as a legitimate research institution. Moreover, Richardson, like Gammage, acknowledging the school as a university is noteworthy as it was not yet approved to be labeled as such. As the memo continues on, Richardson informs the faculty that since 1957, the school has received $350,000 for basic research projects serving a long list of government sponsored offices as well as private corporations and industrial firms.

Moreover, industry leaders recognized the blind spot of a highly functioning engineering school and exerted social pressure in trying to build one up. A 1957 article from the *Arizona Republic* titled "How to Make Jobs" pushes for the expansion of the knowledge economy in Phoenix metro.[77] The article begins by recognizing the success of San Diego, a competitor in attracting aerospace and defense adjacent industry, and offers that Phoenix is not yet able to rival the success of San Diego. To compete, the author contends that Arizona State College must offer an accredited engineering degree. The introduction of such a program, in the eyes of the author, would expand the economy of both the metro area and the state as a whole as industry would have access to a highly skilled workforce.

[75] Arizona State College, *Memo from Assoc Dean Richardson to ASC faculty regarding expansion of sponsored research*. Arizona Memory Project, accessed 11/02/2024, https://azmemory.azlibrary.gov/nodes/view/21843
[76] *Ibid*.
[77] "How to Make Jobs," *Arizona Republic* (Phoenix), September 22, 1957.

With the demands of the ASC administration and Phoenix rainmakers in alignment, all that was left was approval from Arizona voters to change the name from ASC to ASU. With the name change came an increase in funding and graduate programs in the hard sciences, fulfilling the needs of college administrators and local boosters as they sought to restructure the Valley's economy toward knowledge production.

ASC to ASU

In 1958, Arizona State College at Tempe became Arizona State University with the passage of Proposition 200. While changing a university's name may seem mundane the event created turmoil among students and alumni from ASC and the University of Arizona in Tucson. The new field at Sun Devil stadium was defaced by UA students, signatures were collected, and editorials printed, with a new rivalry between the universities centered around the legitimacy of Arizona State as an institution. Furthermore, the Arizona Board of Regents was primarily against the transition to a university as the Board was primarily composed of stakeholders at the University of Arizona. Yet, the citizens of Arizona voted overwhelmingly for the name change.

Central to the campaign was the endorsement of the *Arizona Republic* which was owned and edited by Eugene Pulliman.[78] Phoenician boosters held a stake in the transition of Arizona State as the name change to a university granted the school legitimacy that it did not have before. While enrollment had grown, it was still seen as a local professional school and not quite academic enough to build economic growth within the Valley's economy. However, the Cold War defense policy of decentralization prompted a shift in perspective as universities across the country invested in the hard sciences in hopes of securing a share of defense-related funding. In

[78] In addition to owning the *Arizona Republic*, Pulliman owned the *Phoenix Gazette* and the KTAR radio station in Phoenix.

the eyes of a few members on the Board of Regents, research should be limited to the university in Tucson and the boosters in Tucson agreed as they sought to attract defense funding.

The 1958 "Initiative and Referendum Publicity Packet," spells out the argument of both sides regarding the question of Proposition 200. The argument in favor of the name change suggests that ASC already functions as a university, but the name change solidified that role. In supporting that argument, the advocates immediately turned to the growing research capacity at the school and how that research shapes the urban and economic environments.

> It will assist the professional careers of its graduates, make the recruitment of distinguished faculty easier, secure research grants and scholarship gifts more readily, give national recognition to the educational and cultural growth of Arizona, and attract to the state new industries, which associate the advanced and specialized training they need with the name 'university'.[79]

The rhetoric employed by advocates of Prop 200 largely mirrors that of local boosters as both groups recognized the relationship between the university and local economy. This was primarily due to the fact that there was a lot of overlap between the two groups. President of Citizens for Arizona State University was Charles Stauffer, an alumnus of the Tempe Normal School.[80] Stauffer was the former president and part owner of the *Arizona Republic*, a key player in local booster organizations such as the Phoenix branch of the Loyal Order of the Moose and the Arizona Club and retired to focus on his real estate investments in Phoenix metro.

In opposition to the name change were the Citizens for College and University Education, based out of Tucson.[81] In attempting to persuade voters, the group focused on the financial aspects of a name change. Namely that the transition from college to university would increase

[79] Wesley Bolin. *State of Arizona Initiative and Referendum Publicity Packet: 1958*. Arizona Secretary of State's Office, 3.
[80] Charles A. Stauffer Papers, 1871-1970, MS 1, Library and Archives, Central Arizona Division, Arizona Historical Society.
[81] Wesley Bolin, 2.

the Arizona State Tax rate by more than 50%.[82] Here, the talking points of boosters collided as the dreams of lower taxes, cultural growth, and investment started to become contradictory to one another. In addition to the increased tax rate, the opposition drew on the fact that the population of Phoenix and Arizona was not large enough to support two institutions of research, so having two universities would ultimately hurt both schools as they applied for federal funding.

In the end, the work of the opposition fell short as Arizona citizens voted 151,135 to 78,693 in support of the name change. Phoenician boosters had won again as their soft power spread throughout the media, local organizations, and city government was enough to convince citizens that their vision of the city was worth voting for. The work of the "rainmakers" highlighted a commitment to transitioning the school into a tool of investment as ASU's new research capabilities were a selling point in bringing the knowledge economy to Phoenix.

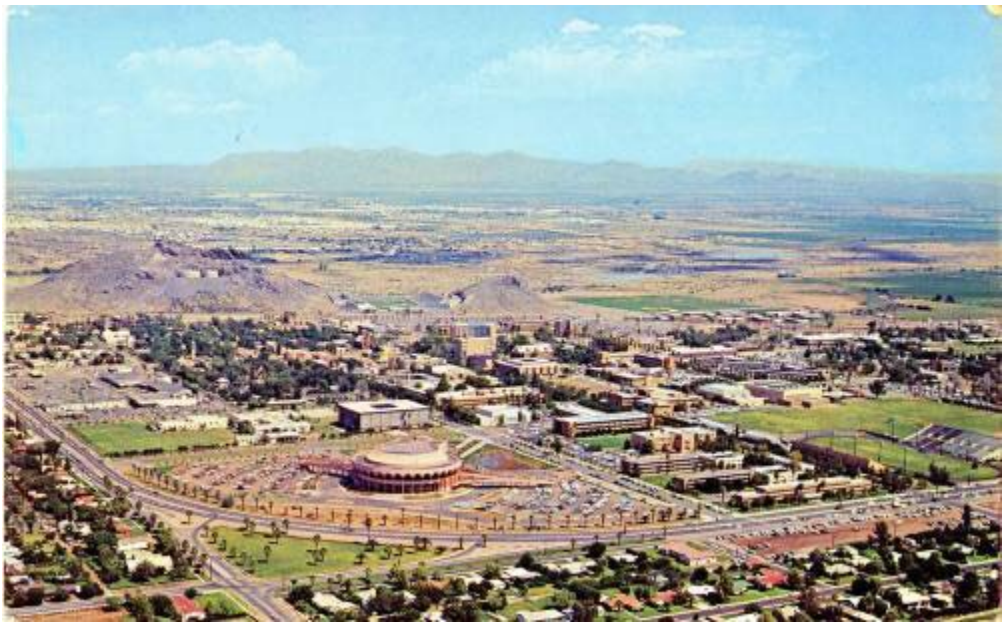

Figure 4. Pictured is the ASU campus in 1958 with the Gammage Auditorium in the foreground. Courtesy of the Tempe History Museum, 2019.2.45, c.1958.

[82] *Ibid.*

Conclusion

The 1950s marked a transitional period for Arizona State University as it shifted from a local professional school to a national research institution. With the changing of values came a change in the built environment, most notably the removal of the San Pablo barrio. The displacement of the Hispanic community aligned with the goals of Frank Snell and other prominent boosters; the creation of white, upper-middle class city sustained by knowledge production. The residents of San Pablo barrio did not have the income levels desired of boosters, causing the barrio's existence posed an active threat to property values amid the new industrial order defined by the knowledge economy.

Additionally, I have argued that the industrial shift in Phoenix opened a new path for Arizona State as the school became an important aspect of the Valley's economy. As California schools secured research grants from the federal government and defense contractors, Phoenician boosters viewed ASC as integral to bringing 'clean' industry to the city. When citizens of Arizona voted to approve the transition from ASC to ASU, they ushered in the College of Engineering at ASU. The creation of the engineering school stood to benefit three major groups in the city: ASU as it granted the school legitimacy and offered a new avenue of funding for the completion of basic research, local industry as it gained a stream of local talent to pull from, and city boosters as they could promote the engineering school to future business. As the 1950s ended, university administrators and Phoenician boosters solidified their mutually beneficial relationship and sought to expand the role of ASU in the Valley's economy.

CHAPTER II

The University Blob

Introduction

As Arizona State University pushed its way to national relevance, the demand for space became overwhelming in Tempe and across the Valley. Following large swaths of land acquisition and the use of eminent domain in the 1950s, ASU administrators sought a restructuring of space as they used the built environment to serve the needs of students, faculty, and corporate partners. The Arizona Board of Regents realized that land was not going to come cheap as investors continued to pour money into the campus periphery, so conversations were raised about external expansion. As ASU President Homer Durham and the Arizona Board of Regents dealt with rising land costs, two solutions were proposed: a master plan for ASU that restructured the existing campus in Tempe, and the introduction of branch campuses in the Phoenix metropolitan area that accommodated the ever-rising enrollment numbers.

The 1960s marked a period in which the federal government continued and increased funding toward research and development programs. From 1963 to 1967, R&D accounted for over 10% of the United States total budget, peaking at 12.6% in 1965.[83] Furthermore, the passage of the Higher Education Facilities Act of 1963 allowed for increased funding to universities in expanding their physical campuses.[84] With these provisions in place, the continued expansion of ASU was solidified as student enrollment continued to rise each year. Yet, the lack of cheap land near the Tempe campus was a problem, and, in the eyes of Durham, could only be mitigated by the construction of a branch campus in the Valley. Arizona State's

[83] National Science Foundation, Federal Funds for Research, Development, and other Scientific Activities (Washington: US Government Printing Office, 1972), 3 in Margaret O'Mara, *Cities of Knowledge: Cold War Science and the Search for the Next Silicon Valley*, Princeton University Press (2005),44.
[84] O'Mara, 49.

decision to expand outward highlighted the school's commitment to growth as well as its connection to the Valley's growth. With large swaths of land readily available to the west, both developers and university administrators viewed these urban hinterlands as spaces worth investing in. The city of Litchfield Park, noted for its connection to Goodyear Tire and Rubber, sought a branch campus as they attempted to reshape their constructed environment by introducing a university and research park. The plan did not come to fruition as Goodyear was willing to donate the land to the state with the stipulation that construction would begin quickly, requiring funding that the state legislature did not have readily available.[85]

Ultimately, this chapter argues that Arizona State University attempted to construct its built environment based on exclusion with the goal of attracting capital and promoting racial homogeneity. This is best shown in the case of Dr. Jesse Jones, a Black man that was the first individual to receive their PhD in chemistry from ASU who was steered away from living in Tempe.[86] The anecdote showcases the desire for exclusion by Phoenician boosters as a higher priority than the construction of the knowledge economy. Additionally, I argue that Arizona State, nor Litchfield Park, had enough political clout to attract and construct a branch campus. Without the endorsement of the Chamber of Commerce or the Charter Government Committee, erecting a new campus location proved to be a fool's errand as the state legislature and public were unsure of its necessity. This failure to build a branch campus highlighted a fracture in the relationship between ASU and Phoenician boosters as it was made clear that their overlapping interests were limited to advancements that supported knowledge production. Arizona State administrators in the 1960s aimed to make higher education more accessible to students across

[85] "Williams Points out College Crisis: Will Ask Action by Legislature for Overcrowding," *Arizona Republic*, August 8, 1969.
[86] James Klemaszewski, "ASU's First Chemistry PhD Receives Milton K. Curry Education Award," *ASU News*, February 27, 2023. https://news.asu.edu/20230227-black-history-month-jesse-w-jones-asus-first-chemistry-phd

the Valley, a goal that originated with Grady Gammage, while boosters were concerned with attracting industry to Phoenix. In short, the Chamber of Commerce held the position that a branch campus was not profitable, both socially and fiscally, and, therefore, unworthy of investment.

The racial element of university expansion is hard to ignore as it calls into question who expansion was for. Who was set to gain from a new engineering building, a new branch campus? Yet, the inverse of the same question sheds light on the human cost of university driven development. Nationally, university settings were primarily white in 1960 as white students were twice as likely to receive a bachelor's degree than their Black counterparts.[87] According to the 1960 Arizona census, the white population of Phoenix totaled 627,080 compared to 36,430 nonwhite residents.[88] More specifically, Tempe was nearly all white as the nonwhite population made up a mere 0.77% percent of the total population, much lower than the nonwhite population of 5.8% in Phoenix as a whole. With the institution and the city both being predominantly white, it is evident that ASU aimed to serve a homogenous population. The implicit goal of racial homogeneity was reflected in the design of the Master Plan and the choices made by Arizona State administrators and the Board of Regents when choosing how and where to invest capital.

Elizabeth Tandy Shermer's, *Sunbelt Capitalism: Phoenix and the Transformation of American Politics*, tracks the political and economic trends of Phoenix in the postwar era as the city transitioned from a "colonial outpost" to national prominence. This chapter primarily draws

[87] National Center for Education Studies, "Percentage of Persons 25 to 29 Years Old with Selected Levels of Educational Attainment, by Race/Ethnicity and Sex: Selected Years, 1920 through 2013," https://nces.ed.gov/programs/digest/d13/tables/dt13_104.20.asp

[88] I have chosen to use the categories of "white and nonwhite" for my analysis as it captures more racial and ethnic groups. In the 1960 census, "nonwhite" consists of folks of Black, Indigenous, and Asian descent. It is also worth noting that in the 1960 census, citizens of Mexican birth or ancestry were counted as white. Despite being recognized as white, Mexican Americans still faced racial discrimination and limited spatial mobility in Phoenix during the 20th century.

on the second part of her work, titled "Sprawl" in which she argues that the work of the Charter Government Committee, the political arm of the Phoenix Chamber of Commerce was the primary driver for the city's transition from something that resembled a colonial outpost to a "industrial and service metropole."[89] Shermer follows the attraction of the knowledge economy to Phoenix, with Arizona State being a tool, as she found that Arizona, along with other western states, spent above the national average on higher education.[90]

Additionally, Patrick Vitale, examines the role of the Allegheny Conference on Community Development (ACCD) in attracting the "creative class" to Pittsburgh in the early years of the Cold War as a tool to transform the city.[91] Vitale argues that local attempts to lure the "creative class" began in the postwar era in the form of scientists and engineers, differing from other literature which highlights the 1990s as the beginning of cities creating spaces and policies for knowledge workers.[92] Moreover, Vitale offers that "the invention of the highly mobile creative worker originated in regional alliances' long-standing efforts to transform cities in the interests of large corporations, the wealthy, and the white middle class."[93] Similarly, Margaret O'Mara, in comparing the interests of universities and locales, inserts that some local governments view universities as an urban amenity, while universities are concerned view "community" as an attraction for students and faculty.[94] In other words, regional alliances may use universities as a bargaining chip to attract investment while schools remain committed to shaping the immediate built environment as a way of attracting knowledge workers. The

[89] Shermer, 268.
[90] Shermer, 203.
[91] Patrick Vitale, "Cradle of the Creative Class: Reinventing the Figure of the Scientist in Cold War Pittsburgh," *Annals of the American Association of Geographers* 106, no.6 (November 2016), 1378.
[92] Scholarship around the "creative class" has grown in recent years, but it was first brought to center stage by Richard Florida's *The Rise of the Creative Class*.
[93] Vitale, 1380.
[94] Margaret O'Mara, "Beyond Town and Gown: University Economic Engagement and the Legacy of the Urban Crisis," *The Journal of Technology Transfer* 37, no.2 (July 2010), 238.

relationship was symbiotic as the attraction of knowledge industries by regional alliances allows for strategic partnerships between the university and corporations, as the university, simultaneously, creates a space that favors the white, educated, knowledge-worker.[95]

This chapter primarily draws on newspaper articles and internal documents from Arizona State University, along with other publications highlighting the university's movements. The Master Plan of 1960 is a source central to the argument of the chapter as it highlights the space that ASU wanted to create and how space relates to race and investment. While the Master Plan does not state desires for racial homogeneity, the design imitates suburban planning practices that were designed to be white spaces. Coupled with disproportionate access to higher education across racial lines and a predominantly white population in Tempe, the Master Plan did uphold racial inequalities at ASU. Additionally, newspaper articles from the period featured reporting on the struggle for a branch campus and its potential location. The *Arizona Republic* and other newspapers did not utilize the same booster tactics that were previously employed in the 1950s, emphasizing the assumed indifference of the Phoenix Chamber of Commerce. In the eyes of Phoenician boosters, it was investment in the hard sciences that would bring the knowledge economy to the Valley, not a branch campus, leaving ASU to convince the public of its necessity.

ASU Master Plan

With the Phoenician elite and public now recognizing ASU as a legitimate power player in the economy, the university was interested in restructuring and expanding the Tempe campus. Beginning in 1959, university administration commissioned a firm called Planning Associates to examine land-use and offer recommendations for the physical expansion of the campus.[96] The

[95] Vitale, 1379.
[96] Planning Associates, "A Master Plan Study of the Campus of Arizona State University Tempe," 1960, 2.

plan started by recognizing the growth of ASU from 20 acres in 1885 to now a campus spread across 337 acres, noting that expansion has been through "one block after another in the city of Tempe."[97] Through the suggestions of the Master Plan, the same philosophy of growth was applied as the university sought expansion primarily to the east.[98] Eastward expansion was seen as the path of least resistance for ASU administrators as the area was primarily residential, contrasting the makeup of west campus that featured bars, restaurants, and other service amenities for students. Furthermore, the Master Plan recognized that areas outlined in the plan were privately owned and needed to be purchased by the university, a process that had begun during the Gammage presidency. While the campus had gone through major expansion processes prior to 1960, the Master Plan highlighted that it was not enough as the report found that the "Gross sq. ft. of non-housing space per FTE student" was at 110, significantly less than the 160 suggested by the Department of Education.[99] For administrators, having enough space per FTE student was a step toward being academically competitive with other public universities in the United States. The necessity of space per FTE student, particularly for a university that was anticipating 25,000 on-ground students, highlighted the necessity of expansion, contrasting prior policy in which the university expanded as it could.

The Planning Associates proposed two phases for the restructuring of the campus. Phase I began with buildings described as either vacant or obsolete while Phase II pushed the campus to the east. The Planning Associates made it clear that campus infill was their first priority in an attempt to maximize space and mitigate acquisition costs.[100] Moreover, the university found itself encircled by existing urban structures as areas to the south, west, and north had already

[97] *Ibid*., 1.
[98] Planning Associates, 2.
[99] *Ibid*., 3.
[100] *Ibid*., 12.

been developed—highlighting not only expansionary challenges faced by the university, but, also, the growth of Tempe. ASU expected to expand from 337 acres to 354 acres after completion of Phases I and II.[101] Despite a relatively small rate of expansion, university administrators were fond of the plan submitted by the Planning Associates as total sq. ft. increased from 912,270 in 1959 to 3,039,400 by the completion of Phase II. Such an increase in total sq. ft. allowed the university to continue increasing enrollment while also competing with California schools for sq. ft. per FTE student. The desire to compete with California universities was not new for Arizona State administrators and Phoenician boosters as Southern California locales like San Diego, Los Angeles, and Orange County attracted defense funding throughout the mid-twentieth century.[102] Keeping pace with California universities impacted every aspect of Arizona State from how professor salaries, research funding, and how the campus was designed.

Moreover, ASU struggling to find developable land by 1960 signified the attraction of capital to university spaces as the assumed high morality of students, along with the expected permanence of the university offer protection to capital investment. It was for these reason that the university had begun its eastward expansion in the 1950s and contemplated that continuation into the 1960s as the service economy on the periphery of the campus was unwilling to cut ties with their investments. There was also a clear racial element of campus expansion as previous university development had removed the San Pablo barrio that was seen as a threat to property values. The existing structures and industries of other areas surrounding the campus did not pose the same threat which led to ASU administrators focusing on vacant buildings but not removal.

[101] *Ibid.*, 9.
[102] Spencer C. Olin, "Globalization and the Politics of Locality: Orange County, California, in the Cold War Era," *Western Historical Quarterly* 22, no.2 (May 1991), 148.

With external expansion largely off the table, the Planning Associates recommended maximizing internal space through an academic campus in the center of university owned land with housing in the periphery. The urban core with a suburban periphery was in alignment with contemporary planning trends as the suburbs continued to grow in the post WWII era. The Master Plan shared similar rhetoric of contemporary planners as it calls for the academic campus to be "quiet, dignified, functional, and stimulating environment for study."[103] To achieve the suburban dreams of serenity the plan suggested well-kept lawns, sculptures, fountains, and other forms of greenery to invoke a desert oasis of knowledge.[104] While cars were barred from driving through the oasis, drivers would be able to view the blissful space from their vehicle and would be granted opportunities to park nearby and walk into the center of campus. The Planning Associates estimated that a student would be able to park their car on the campus periphery and walk, briskly, for five minutes before reaching the academic core.

Parking and on-campus housing was a crucial aspect of the Master Plan. With the sprawl of Phoenix Metro and the school having a large commuter population, administrators recognized that additional parking would need to be created. To combat the issue of parking, the Master Plan calls for total parking spaces to increase from 7,485 in 1959 to 13,695 by the end of Phase II.[105] Even with the massive increase in available spots, the number would not be enough for the expected 25,000 or more students that would be enrolled at ASU by the completion of Phase II. In an attempt to limit the dependency on parking spots, the Master Plan increased available housing for both students and faculty. Available student housing would increase from 2,568 to 6,502 by the end of Phase II with the bulk of housing built during Phase I.[106] By the measure of

[103] Planning Associates, 9.
[104] *Ibid.*
[105] Planning Associates, 13.
[106] Planning Associates, 13.

ASU's 1959-1960 standards, 6,502 units would house 20% of FTE students highlighting the commuter nature of the school.

There was a racial element in the decisions of Arizona State administrators' decisions to restructure the campus as the layout of the Master Plan created a space built on exclusivity along racial and class lines. In what George Lipsitz describes as the "racialization of space and the spatialization of race," he argues that white spaces are centered around exclusivity and exchange value.[107] Utilizing Lipsitz's definition of a white space sheds light on the "hidden architecture" of the Master Plan as the Planning Associates repurposed suburban planning, the archetype of homogenous white spaces, to create a space that attracted students, academics, and capital investment. Best shown through the academic core of the Master Plan, intended to invoke feelings of peace and solitude, benefits from exclusionary practices, both real and imagined. Exclusion rules the university as students must meet certain criteria to attend the school, whether that be grade point average, standardized test scores, and, maybe most important, access to capital to pay tuition. With these practices, Arizona State set who has access to university resources and who should be on campus.[108] Regarding exchange value, ASU curated a physical space and assembled the necessary human capital for public and private investors to trust the integrity of the university.

In sum, the 1960 Master Plan highlights the dynamic nature of Arizona State. Growing from a one-building college to, then, a campus that demanded space and changed the urban landscape with it. While university administrators agreed that it was best to limit the amount of

[107] George Lipsitz, "The Racialization of Space and the Spatialization of Race: Theorizing the Hidden Architecture of Landscape," *Landscape Journal* 26, no.1 (2007) 13.
[108] Arizona State University did not start tracking the racial demographics of its student body until 1970. But there are other data points that offer some light of the racial makeup of the university. I have primarily used census data from Tempe and Phoenix Metro while also utilizing national trends of university attendance.

expansion on private property, it occurred, nonetheless. As the role of ASU transitioned from a small state college to a research institution vying for private sector relationships, the urban design of the campus attempted to reflect the prestige. The planning of the campus differed from the original sporadic design as the Planning Associates proposed the campus to reflect suburban planned communities, invoking a sense of bliss in the academic core and, also, signifying who should be on the campus.

ASU & the Metropolis

After reorganizing the campus in Tempe, Durham continued to think about ASU's relationship with the Phoenix metropolitan area and the role of the university in the city's growth. In the mind of Durham, the growth of the city was inextricably tied to that of the university so as the population of Phoenix continued to rise, so did Durham's desire for space and funding.[109] The Southwest had seen a major population boom in the postwar period with Phoenix leading the charge as the combination of Cold War defense funding, a business-friendly climate, and an earnest publicity campaign by Phoenician boosters caused a 311 percent population increase over the course of the 1950s.[110] Durham and the Charter Government Committee expected continued growth as the economy transitioned toward the knowledge economy as 30,000 manufacturing jobs, 10,000 white collar jobs, and 22,500 government jobs were added to the Phoenix economy between 1950 and 1962.[111] 1963 marked a big year for Phoenician boosters as 23 new industrial plants were opened in the county, leading to a ten

[109] Homer G. Durham, "ASU Must Begin Planning for Needs of Metropolis," *Phoenix Gazette*, February 18, 1961.
[110] Bradford Luckingham, *Phoenix: The History of a Southwest Metropolis* (Tucson, AZ: University of Arizona Press, 1989), 153.
[111] U.S. Department of Labor Statistics, 1950-1979, quoted in Bradford Luckingham, *Phoenix: The History of a Southwest Metropolis* (Tucson, AZ: University of Arizona Press, 1989), 189.

percent increase in manufacturing jobs.[112] With the success of the 1950s in the rear view mirror, ASU administrators and Phoenician boosters wished to continue their symbiotic relationship in attracting industry to the Valley. Furthermore, the college of engineering at Arizona State was seen as a key draw for Unidynamics, a knowledge-based company that produced weapons and parts for the United States military. Boyd Gibbons Jr., the Governor's Special Assistant for Industrial Development under Governor Paul Fannin, the representatives from Unidynamics were impressed by the research capabilities of ASU.[113] In other words, the university filled a need for the industrial boosters of Phoenix as the school offered a promise of sustainment for the knowledge economy.

Industry leaders in Phoenix kept their momentum vis a vis the academic development of Arizona State. In 1960, ASU administrators, with the endorsement of the Phoenician knowledge economy, proposed for the school to begin offering doctorates in chemistry. Investing in the sciences was profitable for ASU as it attracted investment from private industry while the school also bolstered their reputation, regionally and nationally, as a legitimate research institution. Representatives from companies like Motorola, General Electric, Sperry, Goodyear, and AiResearch all housed plants in Phoenix and were slated to benefit from the new chemistry PhD's.[114] The words of Karl Fickes, the plant manager at Goodyear recognized the necessity of a highly educated workforce to maintain the health of both the company and the Valley's economy.

> The greatest obstacle to the mushrooming growth of electronics and related industry in Phoenix and throughout the state is the shortage of technically controlled personnel. The broad vision and aggressive approach toward the addition of advanced degree programs

[112] Ralph C. Hook, Jr. and Jack Kekar, "Manufacturing Establishments in Arizona, 1963," Bureau of Business Services, Arizona State University, October 1963.
[113] Shermer, 264.
[114] "Proposal for PhD in Chemistry," Arizona State University, 1960.

> in science and engineering at ASU reflects an understanding of the interdependence of education and industry…[115]

Arizona State awarded its first PhD in chemistry to Dr. Jesse Jones in 1963, a Black student from Texas who enrolled at ASU in 1958 under the expectation that the university would grant him doctoral status.[116] The experience of Dr. Jones shed light on the experiences of Black students at ASU as Jones first lived in on-campus housing, but then the housing was removed for the Gammage auditorium.[117] After that, Jones and his family attempted to live off campus in Tempe, but were unable to find housing due to his racial status as a Black man.[118] Eventually, Jones moved to Phoenix where he stayed until returning to Texas in 1963. There was a great paradox in the experiences of Dr. Jesse Jones as he represented of the racial progress of the knowledge economy while simultaneously facing racial discrimination in Tempe. Phoenician rainmakers desired some racial progress as it was a necessary means to an end in attracting and sustaining the knowledge economy.[119] Qualified labor was the biggest issue for Phoenix based corporations, so the presentation of racial progress, at least from the top, was designed to allure some members of a highly educated workforce.[120] Though racial progress at this time did not mean sharing a neighborhood, but rather something that was distinct from the Jim Crow policies of the South. In other words, despite Dr. Jones achievement of reaching PhD status in the hard sciences, a desire of Phoenician industrialists, the desire for racial homogeneity in Tempe proved stronger.

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[115] *Ibid.*
[116] When Jesse Jones attended ASU, there were no Black professors as the university did not hire a Black professor until 1966. This professor was Dr. John Edwards, a professor of elementary education.
[117] Klemaszewski, "ASU's First Chemistry PhD Receives Milton K. Curry Education Award."
[118] *Ibid.*
[119] Shermer, 156.
[120] *Ibid.*

As Phoenix committed to suburbanization in the postwar years, downtown took a considerable hit as profits dwindled for retailers and offices moved to Uptown.[121] This shift was in alignment with a national trend toward suburbanization in the 1950s, but Phoenician boosters still viewed downtown as a place for potential profit.[122] While private industry fled the downtown area, public entities moved in as municipal offices and sports facilities took over. The alteration of downtown opened the door for ASU to offer classes in the Central Business District (CBD), enabling working professionals to take courses after work.[123] But ASU administrators did not want to return to the days of being seen as a professional school, so Durham, in alignment with the Arizona Board of Regents, sought a branch campus centered around a liberal arts education.

On April 5, 1966, the *Phoenix Gazette* reported that ASU and the city of Phoenix had engaged in preliminary conversations about the opening of a downtown campus.[124] According to the article, ASU planned to offer a small range of classes for the 1966 fall semester as a test run to prove to the Board of Regents that the plan was viable. Additionally, ASU sent representatives to study branch campuses in Los Angeles and San Francisco as ASU administrators continued to try and replicate the success of the UC system.[125] While the school did believe in the success of a downtown campus, the high cost of land in downtown Phoenix stood as a significant barrier. It took another 30 years before ASU opened a downtown campus, leading the charge in neighborhood transition, but, until then, the ASU administration looked elsewhere in the Valley.

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[121] Philip VanderMeer, *Desert Visions and the Making of Phoenix, 1860-2009* (Albuquerque, NM: University of New Mexico Press, 2010), 272.
[122] "ASU Campus Could 'Revive' Downtown," *Arizona Republic*, May 29, 1966.
[123] *Ibid.*
[124] "City, ASU Discuss Downtown Campus." *Phoenix Gazette*, April 5, 1966.
[125] *Ibid.*

Proposal for Branch Campuses

President Durham outlined his desire for the introduction of ASU branch campuses in 1966 at the University Planning Conference in Casa Grande, Arizona.[126] In his report, Durham was guided by two principles, 1) "The organizational capacity of a modern university…is probably more flexible, capable of expansion and unique variation, than many known organization" and 2) the size of ASU should be tied to the growth of Phoenix.[127] The latter point mirrors Durham's comments from years prior as the city continued to expand in the 1960s, growing from 106,818 in 1950 to 439,170 in 1960 and then 584,303 in 1970.[128] While there was certainly an influx of migration to the Southwest in the postwar period, the city's aggressive annexation policy played a role in the population growth as the city expanded from 17.1 square miles in 1950 to 248 square miles in 1970.[129] While Durham recognized that ASU should grow in alignment with the Phoenix population, he also communicated that the role of the university should shift with the needs of the city. Phoenix was booming and making an honest attempt to situate itself within the knowledge economy, a shift from the "five C's" that Arizona originally depended on.[130] As the economy shifted, ASU moved with it, prioritizing research, engineering, architecture, and the hard sciences.

Durham envisioned the introduction of "cluster colleges" to Phoenix which would be a series of small liberal arts colleges of 600-800 students in an attempt to replicate the small school feel.[131] While Durham wanted the small school feeling, his plan demanded space as he wanted

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[126] Homer Durham, "The Future of Arizona State University: A Recommendation for the Establishment of Branch Campuses," (paper presentation, University Planning Conference, Casa Grande, Arizona, July 22-23, 1966).
[127] Durham, 2.
[128] City of Phoenix, "Phoenix Growth,."
https://www.phoenix.gov/budgetsite/Documents/2013Sum%20Community%20Profile%20and%20Trends.pdf
[129] *Ibid.*
[130] The "five C's" of Arizona refer to the industries of copper, cattle, cotton, citrus, and climate that aided in bringing early investment to the state.
[131] Durham, 4.

no less than 600 acres per cluster college campus. Yet, in the mind of Durham, this was justifiable as the university would economically benefit the surrounding area.[132] He continued by suggesting that, should the cluster college plan come to fruition, the university was open to negotiating with investors for donated or available land for sale. The university was willing to work with private industry in hopes of campus expansion as Durham had his mind set on opening the first branch campus before 1975. In addition to the idea of cluster colleges, Durham also proposed a campus in downtown Phoenix but devoted less time to the idea. This was, in part, due to the fact that Durham's proposition for a downtown campus had already been publicized in newspapers across Phoenix, with the expectation that a few classrooms were to be available in the fall of 1966 to test run the viability of a downtown location.

In September of 1966, the Arizona Board of Regents publicly offered their support for Durham's vision of branch campuses in their ten-year plan for higher education in Arizona.[133] Furthermore, the Regents contended that the university should continue its engagement with private industry in obtaining land as acquisition costs remained an issue. Like the push for expansion in the 1950s, space per student continued to be a problem as ASU was well below the national average in classroom and laboratory space. The Regents concurred with Durham that the establishment of branch campuses could off-load some of the pressure on the Tempe campus as enrollment grew.

Additionally, the Regents ten-year plan compared the mid-century university to a corporation, sharing that there was overlap in their growth model.[134] The document recognized that the analogy was not perfect as corporate expansion was based on different factors, but the

[132] *Ibid.*
[133] Arizona Board of Regents, *Higher Education in Arizona: The Next Decade* (September 1966,) 4.
[134] Arizona Board of Regents, *Higher Education in Arizona: The Next Decade* (September 1966), 1-2.

Regents argued that universities should consider the state of their "instruction, research, finances, physical plant, and libraries."[135] Between 1955 and 1965, ASU made considerable leaps in the aforementioned areas, including the newly constructed Hayden Library that opened in August of 1966. ASU presidents Gammage and Durham prioritized instruction and research as Gammage urged professors to deliver top of the line instruction while Durham pushed for faculty to be paid more in order to get the brightest minds to the institution. As ASU met the Board of Regents criteria for expansion, the conversation shifted to finding a suitable location for the branch campus.

In 1968, the Arizona Highway Department published the proposals for numerous sites for the branch campus in as the department wanted to ensure highway access, highlighting seven possible sites across the Valley.[136] The expansiveness of the proposal sticks out as sites were proposed in the North, South, and West Valley, spilling into the suburbs of Scottsdale, Goodyear, Glendale, and Peoria. While the Highway Department offered several locations that spilled across racial and class physical divides in the Valley, only a few were truly considered. Stakeholders were primarily concerned with cost and viability. It became apparent that if a new campus of ASU were to open, the land would have to come cheap or donated from the state or private enterprise.

Litchfield Park & Tierra Verde

While ASU began offering classes in Downtown Phoenix in the fall of 1966, but it was hardly to be considered a branch campus. With the Board of Regents on board with Durham's proposal of expansion, various cities and neighborhoods in the Phoenix metro area wanted to house the new campus. The primary concern from the Regents and legislature was cost, leading

[135] *Ibid*., 2.
[136] Arizona Highway Department, "Possible Locations for College Sites," Urban Freeway Division, March 8, 1968.

many to believe that the branch campus would only exist if the land was donated.[137] Spearheading the campaign to secure a branch campus was Litchfield Park.

Born out of World War I efforts, the city was established by Goodyear Tire and Rubber executive Paul W. Litchfield as the company needed to expand their cotton production for tires.[138] As the years passed, Goodyear's role in boosting the local economy grew as the company played a prominent role in bringing in the Luke Airfield base during World War II. Nevertheless, Goodyear and Litchfield Park were not done in bringing business to the west valley as they attempted to secure a branch campus in the community as city officials wanted to redefine the identity of the city from a company town to an urban village. The idea was solidified by the hiring of renowned architect, Victor Gruen, who had primarily worked on modern retail space across the United States. Gruen's vision for Litchfield Park, Tierra Verde, was a city made up of six communities organized across two villages, bound together by pathways and speed monitored roads.[139] In Gruen's proposal, the central city, surrounded by the six neighborhoods, would feature clean industry as he suggested inserting a civic center, golf course, university, and research center.

Litchfield Park boosters, in tandem with Goodyear Tire, supported the insertion of a university and research park in an attempt to reinvent the city. To help bring Arizona State to Litchfield, Goodyear Tire offered the university 525 acres in 1967, just shy of the 600 acres desired by President Durham.[140] Furthermore, new law allowed for the campus to be built without legislative approval in an attempt to expedite the building of a branch campus.[141]

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[137] Bernie Wynn, "Regents to Study ASU Branch Sites," *Arizona Republic*, September 27, 1969.
[138] "History," The City of Litchfield Park, Arizona, https://www.litchfieldpark.gov/101/History
[139] E.M. Cartsonis, "Ten Minute Town' Designed Around Pathway System," *Landscape Architecture Magazine* 57, no.1 (October 1966), 40.
[140] "State Law Gives ASU Right to Build a Branch," *Arizona Weekly Gazette*, May 23, 1967.
[141] *Ibid.*

Litchfield Park boosters viewed speed as a top priority, as part of the deal proposed by Goodyear required construction to begin within a year of ASU accepting the land donation.

At this point, concerns were raised about the power of the Arizona Board of Regents as they possessed the power to purchase land and build without going through the Arizona House and Senate, deeply contrasting the legislative hoops and bounds the Regents had to jump through 15 years prior. The quick timeline proposed by Goodyear was controversial with both the Legislature and Board of Regents as some stakeholders did not believe construction funds could be raised that quickly as Durham and the Board of Regents concluded that a branch campus would not be in operation until 1975.[142] The site of Litchfield Park itself also created strife as supporters of the new site pointed out Litchfield's access to ancillary services amid the planned community.[143] For those in opposition to the Litchfield Park proposal, a state-owned site seemed feasible as there would be no strings attached and the state would reap the rewards of new investment.

Moreover, Gruen's proposal of a research park within close proximity to the hypothetical university reflected the success of Palo Alto and Stanford in which the university fostered a close relationship with private industry. While Litchfield Park wanted to lure in private industry via the construction of a university and research park, the ultimate goal was to attract the employees of such industries. These employees were desired by Phoenician boosters as they were often synonymous with whiteness and high levels of education.[144] When selecting locations, R&D firms often considered the desires of their employees as attracting and maintain talent was a key

[142] "Williams Points Out College Crisis: Will Ask Action by Legislature for Overcrowding," *Arizona Republic*, August 8, 1969.
[143] Wynn, "Regents to Study ASU Branch Sites."
[144] Frank Snell, interview by G. Wesley Johnson, Historical League, December 7, 1978.

component of the knowledge economy.[145] Employees of R&D firms were often attracted to the suburban landscape which offered high-quality housing with larger lots, strong schools for their children, proximity to other well-educated individuals and families, and, in turn, racial homogeneity.[146] The proposed design of Litchfield Park met the desire of R&D employees as the garden city suburb featured a university and low-density housing while being removed from the inner-city of downtown Phoenix.

In the end, the plan to bring a branch campus and research center to Litchfield Park never came to fruition as the strings attached to the Goodyear land donation could not be met by the Board of Regents and Goodyear grew tired of waiting on something that never came.[147] Arizona State found itself in a precarious position as developable space was limited in Tempe, but establishing a new branch campus required funds that were not quickly accessible. Despite the failure of Litchfield to secure a branch campus, the process shed light on the economic impact of universities in the mid-twentieth century. The role of universities continued to transition toward being an economic vehicle for a given locale, contrasting the ideas of previous ASU administrations in which universities solely existed to serve the needs of Arizona's youth.

A Fourth University?

Following the failure to construct a branch campus in Litchfield Park, the Board of Regents considered a fourth university in Arizona. The Arizona Board of Regents wanted to maintain momentum in 1970 by expanding university access while also competing for private R&D investment.[148] The biggest issue with the proposed fourth university was the fear of taxes

[145] Vitale, 1379.
[146] O'Mara, 70.
[147] "Williams Points Out College Crisis: Will Ask Action by Legislature for Overcrowding," *Arizona Republic*, August 8, 1969.
[148] "A Fourth Campus?" *Arizona Republic*, December 15, 1970.

being raised, making the proposal unpopular from the start. An article in Eugene Pulliman's *Arizona Republic* highlights concerns about the money necessary for a fourth university as Arthur Grant, spokesman for the AZ Board of Regents, estimated that it would take $104 million to get a new university up and running.[149] The article states that building a new university would cost $25 million more than if the Regents decided to expand the facilities at the three existing universities. In the eyes of the *Arizona Republic*, building a fourth university was a waste of money as Arizona already had three universities that could handle enrollment increases.

The rhetoric of keeping taxes low reflects the belief of Arizona Senator, and former presidential candidate, Barry Goldwater who favored tax cuts and a laissez faire approach to state intervention. The *Arizona Republic* noted that the state legislature lowered property taxes in 1970 and that the building of a new university could undo some of that progress, threatening a "tax payers' revolt."[150] It comes as little surprise that the *Republic* shared a similar viewpoint as Goldwater as Pulliman had been a vocal supporter of the Phoenix businessman.[151] With this, the neoliberal logic of Phoenician boosters is shown as stakeholders rejected the idea of raising taxes on property owners for a fourth university, while the state, simultaneously, benefited from Cold War federal spending.

The failed proposal of a fourth university highlights a key time for Arizona and Phoenician boosters as they were forced to make a choice between expanding the capacity of the state's higher education or keeping taxes low as a means of attracting industry. Phoenix had long benefitted from business-friendly labor laws and tax policy, but the allurement of knowledge-based industry marked a potential shift away from pure fiscal incentives. In other words,

[149] "4th University Cost Estimated at $104 million," *Arizona Republic*, November 7, 1970.
[150] "Hold the Line!," *Arizona Republic*, November 1970.
[151] Shermer, 335.

Phoenician boosters showcased their limits to investment in higher education, viewing universities as a way of attracting corporate partnerships, contrasting the democratized educational goals of the ASU administration.

Conclusion

In the 1960s, Arizona State went through a considerable shift, primarily via a redesign of campus, but also in a restructuring of its goals. The Master Plan of 1960 attempted to create an exclusionary space to attract knowledge workers.[152] Showcasing the desire for racial homogeneity in Tempe was the experience of Dr. Jesse Jones, the first student to receive a PhD in chemistry from ASU and a Black man who was unable to find housing near the university due to his racial status.[153] The paradoxical experience of Dr. Jones, being desired by the university to showcase racial progress while simultaneously being excluded from Tempe, highlights how far boosters were willing to go to sell the idea of racial progress. Moreover, the suburban planning principles employed by the university were geared toward knowledge workers, that often sought low-density, educated, safe, and invested spaces, strengthening the relationship between ASU and private industry.[154]

ASU in the 1960s was defined by the push for industrial relations in the hard sciences as the university looked to secure its place as a key aspect of the Valley's economy moving forward. This viewpoint was not limited to university stakeholders as Phoenician boosters and industry leaders recognized the need for high-level talent as Phoenix attempted to compete with Southern California for defense contracts and knowledge workers.[155] Moreover, President Durham and the Arizona Board of Regents saw value in opening a branch campus in the Valley,

[152] Vitale, 1379.
[153] Klemaszewski, "ASU's First Chemistry PhD Receives Milton K. Curry Education Award."
[154] O'Mara, 7.
[155] "A Fourth Campus?" *Arizona Republic*, December 15, 1970.

but the lack of funding from the state legislature ultimately stood in their way as the necessity of university expansion was called into question. The augmented exchange value of a branch campus was a key draw for boosters within the Valley as Litchfield Park sought a branch campus and research center in hopes of building a planned suburban city centered around the knowledge economy. In conclusion, this chapter has argued that ASU shaped the built environment to foster R&D relationships with private industry. Through looking at the hidden architecture of space, it becomes clear that development was uneven as ASU aimed to serve knowledge workers and their families, aligning with university planning trends across the United States.[156]

[156] Winling, 2.

Chapter III

No Such Thing as Too Much

Introduction

Four years after Arizona State University obtained Research 1 status in 1994, Hayden's Flour Mill in Tempe closed its doors for good, representing Tempe's full embrace of the knowledge economy.[157] While the transition had begun under the Gammage administration in the postwar era, it took fifty years for the project to be completed. Through the mid to late 20th century, Phoenician boosters, ASU administrators, and the Board of Regents recognized the university's place in the Valley's economy, yet solidifying it was a long, arduous process. This chapter describes the culmination of forty years of work by the regional alliance, mixed with some luck and a favorable hand, as the university reached the place of a prominent research institution.

This chapter will show the strengthening ties between Arizona State University and the knowledge industries of Phoenix from 1978-1994, beginning with the hiring of C. Roland Haden as the Dean of the College of Engineering and Applied Sciences and will end with ASU reaching R1 status in 1994, a form of national recognition that the school had been searching for since the mid-1950s. To many, the process of research feels tucked away and outside of the traditional economy, yet this chapter will argue that investment in science and technology shaped the built environment in the Valley as the school opened the long-awaited branch campus in West Phoenix, expanded the College of Engineering building, and built a research park in Tempe to

[157] "R1" or "Research 1" status is granted by the Carnegie Classification of Institution of Higher Education to universities that engage in "Doctoral/Very High Research Activity." The University of Washington outlines the qualifications as "Offer a full range of baccalaureate programs. Are committed to graduate education through the doctorate. Give high priority to research. Award 50 or more doctoral degrees a year. Receive annually $40 million or more in federal support." The University of Washington, "Carnegie Research 1 Universities," Reference Tools, n.d. https://www.washington.edu/tools/universities94.html

house its industrial partners. I argue that the investment in the sciences was tied to Cold War defense spending. The projects highlighted in this chapter primarily occur between 1980 and 1985, aligning with a growth in defense spending, ultimately asking what role, if any, increases in defense spending had on the built environment. The development of these projects all pushed Phoenix toward what Margaret O'Mara's describes as a "city of knowledge."[158] As the university demanded more space around the Tempe campus, the school was quick to purchase properties for future use, sometimes displacing residents, to continue to create a space that was safe for students and capital investment. Furthermore, the university was busy with projects off the main campus as they developed a research park and a branch campus, fundamentally shaping the neighborhoods that housed these ventures.

For this chapter, I primarily draw on sources from the Arizona Board of Regents, newspaper articles, and ASU publications. By this point, Eugene Pulliman, owner of the *Arizona Republic*, had passed away so the paper was less involved in the boosting of the university. Despite this, local publications in Tempe offer utility as reporters diligently noted the exchanging of property from private hands to the university. Additionally, publications from the Board of Regents showcase the processes of development as the Regents approved funding and capital improvement projects for Arizona State. By tracking the requests and approval of funding, we start to get a clearer picture of the priorities of the university and the Regents. Furthermore, as many of the Regents were appointed by Governor Bruce Babbit, their decisions reflect the pro-growth attitude of the governor and his administration.

There is a contradiction that initially presents itself when thinking about displacement and humanity. It is often our first reaction to assume that the expulsion of residents and

[158] O'Mara, 1.

businesses leads to a drawn-out legal battle that spills into the streets and newspapers, but that is not always true. In the case of Arizona State in the 1980s, I have not found any evidence of reluctance to growth. This is not to say that there was not a fight or that residents and business owners were content with their displacement, but it means that the sources I had access to, did not speak on it. Many of the sources used in this chapter come from newspapers such as the *Arizona Republic*, *Tempe Daily News*, and *Phoenix Gazette* as well as from official documents from ASU and the Arizona Board of Regents. Reading the silences of the archive tells an interesting story as local newspapers did report on the displacement, or possible resistance, of residents. Instead, the newspapers focused on the expansion and development of Arizona State University.

Scholars have previously noted the impact of regional alliances on the economy of cities and their built environment. John Logan and Harvey Molotch contend that centers of innovation, namely cities that benefit and rely on the knowledge economy, should be considered "war preparation centers."[159] While the authors view high-technology industry as integral to the history and future of American cities, they note the role of the United States' defense budget which, at the time of the book's publication in 1987, accounted for a third of all R&D spending in the United States. Though separating cities that depend on knowledge work from university development has proved to be an arduous process as LaDale Winling claims that universities allowed for cities to utilize the "creative class" as a key aspect of a locale's economy.[160] Winling argues that "production of knowledge required the production of space," as universities shaped cities environment to meet their economic needs.[161] Furthermore, Winling claims that cities

[159] Logan and Molotch, 268.
[160] Winling, 2.
[161] *Ibid.*

transformed universities as the landscapes of a metropolitan area encouraged many urban universities to expand their campus in an attempt to safeguard capital investment and racial homogeneity. Finally, Winling contends that the neoliberal shift in the American economy caused universities to seek private capital relationships and pressured research universities to "serve job markets more directly, and to emphasize discoveries with commercial potential and industry support."[162]

March 1984 marked the 100th birthday of Arizona State University and while some university administrators were planning the centennial celebration, others were busy at work as the school sought to establish an ASU Westside in Phoenix and construct a research park in the same time period. The theme of the celebration was, "ASU 1885-1985: Excellence for a New Century," and the rainmakers of Phoenix worked overtime to ensure it became true as the university reached new heights in the 1980s, transitioning to a research institution that impacted the built environment of the Valley. In the background of ASU's physical expansion was an increase in Cold War spending from 1980-1985 as defense spending increased 5.5 percent annually between 1980 and 1985, reaching levels that rivaled Vietnam War expenditures.[163] During the same time period, the funds devoted to research and development increased by 53.4 percent, rising from $18.7 billion in 1980 to $28.7 billion in 1985.[164] The aerospace industry received a bulk of the increased funding, but industries in communication, electric components, and shipbuilding all reaped the rewards, creating an urgent need for basic research. As the knowledge industries of Phoenix competed for government contracts, the necessity of qualified labor as well as ample laboratory space came to the forefront.

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[162] Winling, 6.
[163] David K. Henry and Richard Oliver, "The Defense Buildup, 1977-1985: Effects on Production and Employment," *Monthly Labor Review*, August 1987, 3.
[164] *Ibid.*, 4.

Figure 5. By 1980, ASU had expanded and filled space within the academic core. Courtesy of the Tempe History Museum, 2017.14.208, c.1980.

C. Roland Haden & Private Industry

Beginning in the late 1970s, Arizona State's College of Engineering and Applied Sciences (CEAS) reached new heights as it solidified its relationship with the Valley's knowledge industry. While the university had maintained ties with private industry dating back to the mid-1950s, there was a shift in the relationship as ASU brought in talented faculty and expanded its research capacity through the opening of new wings in the College of Engineering building. While history is hardly mono-causal, it is hard to overlook the work and influence of C. Roland Haden, the dean of CEAS from 1978-1987 and 1989-1991.

Haden's background in electrical engineering made him a desirable candidate for ASU as all three of his degrees were in the field, including a B.S. from the University of Texas at Arlington, M.S. from the California Institute of Technology, and Ph.D. from the University of Texas at Austin, then going on to become a professor at the University of Oklahoma and Texas

A&M University prior to reaching ASU.[165] Hired in 1978, Haden, was the youngest dean of engineering in the country at the age of 38, signifying a new look for the university as it continued on its path toward national prominence. Dean Haden's tenure at the university was defined on a few different fronts, but his commitment to working with private industry to bring, and sustain, a high-tech economy to the Valley is what stands out. Furthermore, Haden worked overtime to bring others in academia to support his goal as he made it a priority to attract top talent to the College of Engineering, a long-time struggle for the university. In describing Dean Haden's vision for Arizona State and the Valley, Constantine Balanis, one of the academically attractive professorship hires of Haden, wrote:

> I came here because of what he started in the late 1970s. I heard about the Engineering Excellence program, heard about the vision for high tech in Arizona. And it wasn't just me… Haden knew how to develop a high tech industry in Arizona, we needed an engineering school. He really pushed for research and attracted the people to make it happen.[166]

The Engineering Excellence Program was founded in the 1979-80 academic year by Dean Haden with the intention of bringing investment to the CEAS to meet the research and development needs of the Valley's economy.[167] The program was endorsed by both public and private industry in the Phoenix metropolitan area as Haden assembled 47-person Industrial Advisory Committee to help oversee the program, featuring members from McDonnell Douglas, Honeywell, Intel, and Motorola as well as individuals from the banking sector.[168] Moreover, Haden was no stranger to serving on corporate boards as throughout his career he worked with,

[165] "Obituary," Dr. C. Roland Haden, died August 24, 2013, *Corsicana Daily Sun*, August 28, 2013.
[166] Fulton Schools, "In Memoriam: C. Roland Hayden," *Full Circle*, September 11, 2013, https://fullcircle.asu.edu/fulton-schools/in-memoriam-c-roland-haden/
[167] Arizona Board of Regents, "Annual Report: 1980-1981," 15.
[168] Fulton Schools, "In Memoriam: C. Roland Hayden."

"E-Systems, Square D Company, Inter-Tel, and Crosstex Energy," showcasing his commitment to working with the private sector to bring an increase in funding to the university setting.[169] While Phoenix's knowledge industries showed great interest in the program, it also earned the endorsement of Arizona governor Bruce Babbit and the Arizona state legislature as funds poured into the program.[170] This marked the beginning of the relationship between Babbit and Haden as the Governor appointed Dean Haden to Governor's Economic Development and Advisory Board in 1984, highlighting a shared vision of a high-tech Arizona.[171]

The fruits of Dean Haden's labor appeared in 1983 as the Engineering Excellence Program (EEP) made a $32 million donation, with $9 million of the $32 coming from private industry to the College of Engineering and Applied Sciences to fund a new wing of CEAS building.[172] The building cost $10.5 million in total and expanded the college's research capacity, benefitting the school and the private industries that assisted in the wing's funding. Through funding the EEP, the knowledge industry in Phoenix recognized the importance of a strong research program at ASU as the same companies sought federal contracts, necessitating the production of basic research.

While the Engineering Excellence Program helped modernize the College of Engineering, it was hardly the only way private money flowed into the university. Internal publications from the Office of Research and Sponsored Programs Administration showcases the grants and contracts received by the university in 1985. For the 1985 fiscal year, the College of Engineering received 84 grants and contracts, totaling over $5 million, the highest earning

[169] *Ibid.*
[170] Fulton Schools, "In Memoriam: C. Roland Hayden."
[171] Arizona Board of Regents, "Annual Report of the Arizona Board of Regents, 1983-4," 27.
[172] Valley on the Go," *Tempe Daily News*, September 14, 1983.

college in the university.[173] The publication is littered with call for papers, as well as accepted grants, with both public and private industry. Most prominent in the 1985 issues are the advertisements for Department of Defense grants for the college of engineering, a program that brought $20,000 of new research equipment.[174]

Research Park

Arizona State opened its research park in Tempe in 1985, housed eight miles from the university on the cross streets of Prince and Elliot. The story of Arizona State's Research Park begins much earlier though as the land was first acquired in 1956 as a 320-acre farm for the school's agriculture program.[175] The purpose of the park was two-fold and represented the symbiotic relationship between the university and private industry as the research park expanded research capacities in the Valley.

In December of 1983, ASU was advertising the proposed research park in *Electronics West,* a specialty magazine for tech employees, to both companies seeking space at the facility as well as to prospective graduate students seeking research experience.[176] The research park stakeholders aimed for the site to focus on "solid state electronics, computers, computer-aided processes, thermosciences, transportation, and energy," and they had good reason to bring these industries to the forefront as high technology manufacturing continued to makeup a sizeable share of the Arizona economy.[177] The article serves as a booster piece as the author, who was not listed but it can be reasonably inferred that they had a connection either with the university or

[173] Arizona State University, "Research Reporter: Announcements, Notes, and Deadlines on ASU Research and Special Programs," Office of Research and Sponsored Programs Administration 6, no.2 February 1986.
[174] From the limited editions of the "Research Reporter" that I was able to locate, I remain unsure if ASU was ever able to secure DoD funding directly.
[175] Arizona State University Research Park, "Our History," n.d. https://asuresearchpark.com/about/#:~:text=In%20July%20of%201983%2C%20the,became%20the%20ASU%20Research%20Park.
[176] "Arizona State University," *Electronics West*, December 1983, 5-12.
[177] *Ibid.,* 13.

research park, draws on three major pull factors to Arizona, including 1) the existing labor force, 2) government, and 3) resources. The final two points reflect and build on earlier city booster trends, highlighting Arizona's business friendly climate and the abundance of natural resources, challenging outsider claims that Arizona does not have enough water to sustain the needs of major industries and cities. The first point, highlighting the labor force of Arizona, was new to the Arizona booster vocabulary yet reflects the success of both Arizona State University and the University of Arizona in meeting the labor needs of high-tech manufacturing. The major manufacturing firms had recognized the lack of qualified labor in Phoenix, often leading companies to work with ASU in investing in facilities and programs to meet their own demands. But, by the early 1980s, those investments were starting to pay off. The article, comparing Arizona to the rest of the United States based on data from the 1980 Census, highlights the median age of an Arizona resident was 29.2, compared to 30.0 of the U.S. and average educational attainment was 12.7 in Arizona, slightly higher than the national median of 12.5.[178]

By addressing the median age and education of Arizona resident, boosters aimed to attract fellow knowledge workers to the research park. As O'Mara highlights in *Cities of Knowledge*, employees participating in the knowledge economy often wanted to be around other young families and professionals with similar educational and income levels.[179] Moreover, the physical design of the campus was a draw for employees as it featured low-density buildings spread across 320 acres, complete with three lakes that covered 18 acres and jogging trails throughout the campus.[180] Like the Stanford Industrial Park highlighted by O'Mara, the buildings at the ASU Research Park were modern and, largely, replicated the design of the

[178] "Arizona State University," *Electronics West*, December 1983, 6.
[179] O'Mara, 124.
[180] Arizona State University Research Park, "Our History."

parent's university campus. The process of selecting the design of the Research Park sheds light on the contemporary planning strategies for research institutions as Reginald Owens, the first director of the park, was presented with four different designs from firms across the country. An article from the *Arizona Republic* in August of 1984 showcased the various design proposals, some being more intricate than others.[181] The more lavish ideas did not make the final cut, some of the more practical ideas did, such as the jogging trail and housing a high-profile tenant near the entrance to showcase the prestige of the research park.[182] While the university and private industry recognized the importance of a research park to ASU's reputation and the needs of the knowledge industries, it was still a process to convince the Arizona Board of Regents, state legislature, and city of Tempe that the project was worth backing.

In its 1983-84 Annual Report, the Arizona Board of Regents voiced their support for the construction of the Prince-Elliot Research Park. Through research and development projects, the research park was viewed as a key part in strengthening industrial relations between ASU and private industry. Highlighting the research park's purpose, the Regents wrote, "The principal purpose of the Research Park is to encourage commercial research and development in areas that match the research interests of Arizona State University."[183] Representing Phoenix on the Board of Regents was Herman Chanen, AJ Pfister, and William P. Reilly, allies to ASU's growth. Chanen, the founder of Chanen Construction Company, sat on the board of Valley National Bank, and served as president for the Board of Regents.[184] Pfister was a lifelong lawyer, notably working for the Salt River Project.[185] He later went on to serve as president of the ASU Research

[181] Sam Stanton, "Research-Park Design Takes Shape in Contest," *Arizona Republic*, August 24, 1984.
[182] Arizona State University Research Park, "Our History."
[183] Arizona Board of Regents, "Annual Report of the Arizona Board of Regents, 1983-4," 7.
[184] "Herman Chanen," *Arizona Republic*, November 17, 2022, https://www.azcentral.com/obituaries/par065274
[185] "A.J. 'Jack' Pfister Obituary," *Arizona Republic*, July 22, 2009.

Park after serving for the Board of Regents, hired by ASU president Lattie Coor. Meanwhile, Reilly was the former president of the Arizona Public Service Company, the leading energy provider to the Phoenix metropolitan area. These three men shared a stake in Phoenix's growth. While investors in the Valley recognized the importance of the Research Park, Reg Owens, spent November of 1985 in Japan, Hong Kong, and Taiwan to attract foreign investment to the Research Park.[186] With the ultimate goal of building formal relationships with foreign research parks and industries, Owens saw that the park added a $35 to $40 million, 300,000 sq. foot conference center in the middle of the park, presumably to house meetings with companies from Japan, Hong Kong, and Taiwan. In sum, the construction of the ASU Research Park showcases the universities willingness to engage in basic research for knowledge producing industries.

ASU Tempe Expansion

Beginning in 1980, ASU's President, Russell Nelson, began expanding the ASU Main Campus in Tempe. It started with a request for a "Policy Plan for Facilities Development," under the guidance of Jack Shafer, the director of ASU's Design Review Board and Facilities Management and Planning Department, to offer a plan for the layout of the university in a way that made more sense.[187] The author of the article, Glen Creno, claimed that ASU has never had a comprehensive plan for the design of the campus, a point that is contradicted by the Master Plan of 1960 under the presidency of Homer Durham. Moreover, the shared rhetoric of ASU administrators in 1960 and 1984 stand out as they reflect on the shortage of available space, the desire for the campus core to be academic and free of cars, and that "development be done in a human manner."[188] As with the development of ASC in the mid-1950s, the redesign and

[186] Simon Fisher, "ASU Role Expected to Expand in the Valley," *Tempe Daily News*, January 12, 1986.
[187] Glen Creno, "ASU Plans to Handle Growth," *Phoenix Gazette*, March 5, 1984.
[188] This quote comes from Jack Shafer in an interview with Glen Creno in 1984. Glen Creno, "ASU Plans to Handle Growth," *Phoenix Gazette*, March 5, 1984.

expansion of the campus led to the transition of space, continuing on a path that used space as a way to serve students and assist in building ASU's reputation.

In November of 1984, Arizona State was looking to expand its campus core, defined as the areas bounded by Apache, Mill Avenue, University Drive, and Rural Road, through the acquisition of commercial properties.[189] An article from *the Tempe Daily News* highlights the progress of the university on the southeast corner of the core as it purchased the Campus Inn Apartments and the Apache Boulevard Trailer Park. The article featured an interview with Victor Zafra, the ASU Vice President for Business Affairs, who stated that the apartments will stand for another two years, and the trailer park will be untouched for another eight as the university waited for leases to expire in the neighborhood.[190] Moreover, by November of 1984, ASU still needed to purchase a branch of the Valley National Bank, a Burger King, and the Dash Inn to complete its acquisition of the southeast corner. Zafra then goes on to say that while the south side of campus was not of immediate priority to the university, he expects student housing or a parking lot to replace the Campus Inn apartments.

It is unfair to indict the work of ASU as purely displacing residents. While residents at the Apache Boulevard Trailer Park may have had little say in their future, there were also cases when the university brought properties back to life. In 1977 the Cinnamon Tree Apartments suffered fire damage, forcing some of the units to be vacant, but by the 1981-82 academic year, the university had purchased the complex.[191] The school purchased the building for $3.5 million, but spent another $2 million on fire and safety modification. Many of the residents were students so the transition of ownership did not require the displacement of long-time residents.

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[189] Jim Showalter, "ASU Core to Grow with Purchase of Park, Complex," *Tempe Daily News*, November 18, 1984.
[190] *Ibid.*
[191] Arizona Board of Regents, "Annual Report: 1981-1982," 13.

Considerable tension existed between the Board of Regents, the legislature, and the public amid the acquisition of properties and the construction of new buildings, as questions were raised about the Regent's request for capital improvement funding.[192] Furthermore, Arizona Governor Bruce Babbit requested that state agencies reduce their 1982-83 budgets by ten percent, causing a hiring freeze for ASU and slowing the progress of the new Science and Engineering Library.[193] An editorial from the Tempe Daily News on January 1, 1985, highlighted the tension as the author acknowledged that ASU did not have enough space to sustain a high research capacity. The author also pointed out the funds being requested by the Board of Regents which included $49.3 million to improve the Tempe campus, a budget of $180.7 million, a proposal for an 11.9 percent pay increase for university employees, and another $60 million for an ASU branch campus in West Phoenix.[194] In summarizing these tensions, the author writes, "it becomes clear that ASU's shot at national prominence—amidst its near-desperate attempts to play catchup – is in the Legislature's lap as never before."[195] Despite budget cuts, pressure was being on the state legislature to meet the needs of the university as ASU continued to strive toward being recognized as a national research institution.

For the past thirty years, Arizona State had been playing catch-up, trying to get enough funding from the Board of Regents and the state legislature to expand the size of the campus and to pay employees higher in a way of matching the progress of other institutions. Dating back to the original Master Plan of 1960 when the student enrollment was at 11,128 in 1959, ASU administrators argued that there was not enough available space and that the campus had to be

[192] Jim Showalter, "Board States Goal for Plan on Education," *Tempe Daily News*, February 10, 1985.
[193] Arizona Board of Regents, "Annual Report: 1981-1982," 16.
[194] "Lawmakers Hold Key to Future," *Tempe Daily News*, January 1, 1985.
[195] *Ibid.*

redesigned, mimicking the arguments of stakeholders in the mid-1980s as enrollment reached 40,500, making ASU the sixth largest university in the United States.

As tensions continued between the Board of Regents and the State Legislature, funds continued to pour into the built environment through various avenues including student registration fees, private donations, bonds, and a 14 percent increase in tuition for the 1987-88 academic year.[196] Moreover, the 1980s was a period in which private and corporate donations increased. In the 1983-84 academic year, the university saw a 60 percent increase in private donations and a 167 percent increase in corporate gifts, making up for any tension between the Board of Regents and the State Legislature.[197] The money coming in was dispersed to a few different projects that included the expansion of buildings, such as the library and physical sciences complex, the construction of a recreation complex and a new fine arts complex, as well as engineering research.[198] As fundraising took precedence for ASU administrators, their goal being $75 million across a three year period, and where that funding went, sheds light on the priorities of the university. The exponential growth of Arizona State impacted the periphery of the campus as when new development plans were drafted and published by the university, the periphery of the campus was subject to change as the school acquired property and changed the built environment to serve the needs of students the economy.

ASU West

Arizona State opened its first branch campus in 1986, located on 43rd Avenue and Thunderbird Road, in Glendale, the campus sought to serve the needs of West Phoenix. The site that housed the branch campus was state-owned and totaled 300 acres of empty desert,

[196] Simon Fisher, "ASU Role Expected to Expand in the Valley," *Tempe Daily News*, January 12, 1986.
[197] Arizona Board of Regents, "Annual Report: 1983-1984," 29.
[198] Fisher, "ASU Role Expected to Expand in the Valley."

eliminating the barrier of purchasing land that had stifled earlier attempts to establish a second ASU campus. Officially, the goals of the branch campus were to "Develop as a high-quality, modified upper-level institution on a primary non-residential campus situated in western Maricopa County."[199] The word "modified" is of particular importance as it was clear that ASU West would simply supplement the main campus in Tempe. In praxis this looked like not offering an extensive list of available degrees, not having the same support staff on campus, and not growing to the same size as the main campus. In reporting the new campus, Simon Fisher, a journalist for the *Tempe Daily News*, said ASU west was the only campus in which enrollment could grow as the student body continued to increase in Tempe.[200] The primary aim for ASU West was to offer educational opportunities for upper-level and non-traditional students in the West Valley, saving them the commute between West Phoenix and Tempe. Arizona State had been previously offering courses in spaces beyond the main campus in Tempe, such as ASU Alhambra, ASU Metrocenter, and KAET-TV Channel 8, a university owned program of continued education that began in the early 1960s.[201] These campuses served as spaces for continued education but were hardly held in spaces of formal education— ASU Metrocenter was housed in the Metrocenter Mall in Northwest Phoenix.[202] While the main campus in Tempe served as a research hub, the branch campus catered to the working and professional classes, offering some master's programs but housing no doctoral students. Shown in 1984 enrollment projections by the Board of Regents they anticipated that just over a quarter of students would be enrolled full-time, significantly lower than 78 percent FTE at the Tempe campus.[203]

[199] Arizona Board of Regents, "Arizona University System Mission and Scope Statements," July 1981, 10.
[200] Simon Fisher, "ASU Role Expected to Expand in the Valley," *Tempe Daily News*, January 12, 1986.
[201] "Valley on the Go," *Tempe Daily News*, September 14, 1983.
[202] In total, there were about 4,500 students enrolled in classes between ASU Metrocenter and ASU Alhambra.
[203] Arizona Board of Regents, "Newsletter," Vol. 6, no. 8, October 1984, 1.

Regardless of anticipated enrollment, the money had to be found for the project. The projected cost for the first buildings came out to $11.6 million.[204] What stands out from the 1985 capital improvements requests was that ASU, main and west campuses combined, requested far more funding than UA in Tucson. While the University of Arizona had a larger budget overall, ASU remained set on growth, a trend that first began under the Gammage administration. In the 1983-84 the Arizona Board of Regents approved the funding for a study of what programs should be housed at the branch campus.[205]

Glendale was the fifth largest city in Arizona in 1980 and was rapidly growing, reaching a total population of 97,172, a huge gain from the population of 36,228 in 1970. The city was primarily white but also had a large Mexican American population, relative to other cities in Maricopa County.[206] The racial diversity of Glendale could have been seen as an advantage for ASU administrators and other stakeholders as the Valley continued to try and offer glimpses of racial progress.[207] Though it was not only Arizona State that struggled to attract a diverse student body as the University of Arizona and Northern Arizona University also made it a priority, with the three universities forming a "Study Group on Minority Student Recruitment and Retention" in 1983.[208]

Anne Lindeman and Patricia Wright, two members of the Arizona State Legislature, were central to the construction of ASU West as they proposed the idea of a branch campus in the

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[204] Arizona Board of Regents, "Newsletter," Vol. 6, no.8, October 1984, 1.
[205] Arizona Board of Regents, "Annual Report of the Arizona Board of Regents, 1983-4," 7.
[206] U.S. Department of Commerce, "1980 Census of Population: Characteristics of the Population, Number of Inhabitants, Arizona," Bureau of the Census, January 1982. The 1980 Census features over 12,000 Mexican Americans in Glendale, much larger than other cities, like Scottsdale, that were initially being considered for a branch campus.
[207] I was not able to locate a source that speaks on the racial diversity of Glendale being a key driver the site selection of ASU West, but I have made these inference based on prior internal documents that highlight the university's desire to attract more diverse student body.
[208] Arizona Board of Regents, "Annual Report: 1983-1984," 34.

mid-1970s.[209] Though the idea was not novel as the desire began under the Durham administration in the early 1960s. Like the struggle to build in the 1960s, ASU West faced considerable opposition in the Legislature as the necessity of another campus was called into question along with its location.[210] Speaking in an interview, Patricia Wright shared that her vision for ASU West was to serve the needs of students in other parts of the Valley, particularly working professionals like teachers. Moreover, residents of the West Valley wanted a campus as the Westside Citizens Committee for Higher Education worked throughout the 1970s to bring a branch campus, citing the long commute as a barrier to attend Arizona State.[211]

In 1984, construction began on ASU West, signaling a victory for proponents of higher education in the West Valley. While the school remained relatively small in comparison to the Tempe campus, enrollment numbers show that the campus filled a need for students. By spring of 1992, there were 4,682 students enrolled with over half of them reaching full-time status.[212] In sum, ASU West ended a decades long battle to establish a branch campus for the university, ending questions of necessity, location, and cost. The conflict in building a second ASU also highlights a lack of priority for Phoenician boosters who, for the last twenty years, prioritized hard sciences and research production.

Conclusion

This chapter has shown that it is arduous to sever the impact of research funding from changes in the built environment. The hiring of Dean Haden and the founding of the Engineering Excellence Program brought considerable funding and strengthened the relationship between the

[209] Arizona Women's Hall of Fame, "Anne E. Lindeman (1932-2001," https://www.azwhf.org/copy-of-jessie-harper-linde-2
[210] Patricia "Pat" Wright, Interview by Patricia Roeser, March 4, 2008, Legislative Oral History Project, Arizona State Archives, Phoenix, AZ.
[211] Emma Greguska, "How the West Campus was Won," *ASU News*, February 18, 2016.
[212] Arizona Board of Regents, "A Report from the March, 1992 Meeting," 4.

university and private industry, leading to the construction of the ASU Research Park. While Dean Haden, along with university administration, deserved much of the credit for the construction of the park, the impact of federal R&D funding cannot be ignored. As corporations in the Valley received an increase in federal defense funding from 1981-1985, the demand for basic research at ASU also increased.

With new research demands came new spatial demands as ASU carried on with external expansion. Throughout the 1980s, Arizona State continued to buy properties on the periphery of the Tempe campus, further transitioning the space to serve the needs of students. While the university did not always have immediate need for the properties they purchased, the process shed light on the school's keenness to grow, taking space as it became available. In alignment with university planning principles, the campus periphery would be housing and parking lots, the fate of many of the lots purchased in the 1980s. The center of campus continued to serve as the academic core, undergoing considerable shifts in the period, as the school expanded and updated the College of Engineering facilities and built the Daniel E. Noble Science and Engineering Library. Despite the changes and updates to the main campus in Tempe, there were still concerns about the growing enrollment, a concern that was a key driver in the establishment of ASU West in Glendale. The construction of a branch campus was a long-term goal of the Arizona State administration, but the growth of the West Valley mixed with the availability of state-owned land enabled the fruition of the campus in the mid-1980s.

In sum, the 1980s were a period of change for Arizona State as the school relied on partnerships and funding increases to launch new ventures and update the main campus. The changing of the role and status of the institution shifted the built environment across the Valley

with the establishment of a branch campus, a new research park, and an expansion of the landholdings in Tempe.

CONCLUSION

This work has focused on ASU's main campus in Tempe, ASU West, and the Research Park, but Arizona State now operates sites throughout the state and has even opened a location in Los Angeles. ASU Polytechnic, also referred to as ASU East, opened in 1996 in Mesa on the land that was once the Williams Air Force base, signaling that, despite Cold War defense installments leaving the Valley, knowledge production continued forward. A turning point for Arizona State was the appointment of President Michael M. Crow in 2002 who brought with him the idea of a "New American University." Crow describes the new model as

> An academic platform committed to discovery and knowledge production, as within the standard model, linking pedagogy with research. Broad accessibility to students from highly diverse demographic and socioeconomic backgrounds. Through its breadth of activities and functions, an institutional commitment to maximizing societal impact commensurate with the scale of enrollment demand and the needs of our nation.[213]

No longer was ASU a limited to the Phoenix metropolitan area; its horizon was now the nation. With this goal in mind, the university continued to open branch campuses under the leadership of President Crow, including in Los Angeles, signaling a move toward neoliberalism as the university moves without borders. Moreover, ASU began offering fully online bachelor's degrees in 2006, representing Crow's goal of meeting the enrollment demands of the United States and receiving tuition from places the university did not previously have access to. Moving forward, scholars should consider the impact of Crow's "New American University," and its impact on education and built environments. This work has given a piece of ASU's expansion, but it is hardly a complete history as the university has expanded far beyond the dreams of early

[213] Michael M. Crow & William D. Dabars, "A New Model for the American Research Institution," *Issues in Science and Technology* 31, no.3 (Spring 2015), https://issues.org/a-new-model-for-the-american-research-university/

Arizona State administrators. Researchers may find particular interest in the Downtown Phoenix location of ASU as the area has transformed from a place that was not held in high regard by residents to a downtown that is full of life, sustained by local breweries, art installments, sporting venues, local restaurants, and students. How much of this transition is due to ASU Downtown is a question that researchers may consider moving forward.

Future scholars may also want to explore the interaction between residential property values and university development as an area of study. This work has primarily focused on commercial development and residential displacement, but there is a story about how the introduction or expansion of a university may cause residential property values to rise. Based on the research of this paper, I would expect that the augmentation of knowledge workers may lead to working class residents being priced out of neighborhoods they could once afford. Specific areas of study for this research may include the main campus in Tempe, ASU West, the research park, and ASU Downtown. These locations often serve different needs as ASU West remains to be seen as a site for working class and non-traditional students, while the main campus in Tempe attracts a lot of students from out of state, particularly from California, and, finally, the research park is geared toward knowledge workers. How might impacts on property values differ across these campuses as they serve different communities?

In sum, I have argued that the expansion of Arizona State University transitioned spaces across the Valley as the role of the university expanded. Redeveloping the built environment included the removal of the San Pablo Barrio in Tempe and acquisitions of apartments and businesses that did not serve the university's goal of creating a space intended to attract and protect investment. Arizona State poured fiscal resources into the built environment to attract knowledge workers, a key desire of industry leaders in the Valley. Sbpaces that attracted the

knowledge workers were often close to a university in a suburban landscape with a, primarily, white, upper-middle class population, contrasting with the perceived chaos of urban metropoles.[214] This argument is additionally supported by the attempts of Litchfield Park boosters to bring a branch campus to the city with the idea that a university would attract investment and knowledge workers. While this plan ultimately failed due to issues of funding and questions of necessity, the process sheds light on the perceived capital attraction of a university and the knowledge economy.

Within my broader argument, I have contended that the role of Arizona State changed throughout the second half of the twentieth century, evolving from a small teacher's college to R1 status in 1994. With these changes, the purpose of the university shifted from serving specific needs in the Valley, to then acting as a tool for boosters, and, finally, continuing as an entity capable of creating and maintaining R&D relationships. I have shown that this metamorphosis was originally driven by Phoenician boosters but changed in the later 1970s and early 1980s as the university earned enough power to act as an entrepreneur. In other words, Arizona State grew enough financially, in prestige, and land holdings to create their own relationships with private industry. The entrepreneurship of ASU was best displayed by the formation of the Engineering Excellence Program and the construction of the research park, both under the guidance of Roland Haden, as these endeavors solidified connections with the knowledge economy as talent, information, and space was shared between ASU and corporations. This contrasted with the role of Arizona State in the 1950s and 1960s as the school was primarily viewed as a bargaining chip for Phoenician boosters as they sought to attract industry to the Valley. If Arizona State was going to attract the knowledge economy to Phoenix, boosters understood that it needed to

[214] In Chapter Two, I argued that race is central to creating a "city of knowledge," as Dr. Jesse Jones was unable to secure housing in Tempe and was forced to move to Phoenix.

undergo change, this included the transition to a university in 1958, the addition of an engineering college and other science-based disciplines, and the restructuring of the campus in the early 1960s. These acts legitimized the institution as worthy of further investment by knowledge producing corporations. While boosters and government officials enticed companies to move to Phoenix through tax breaks, right to work, and other business-friendly policies, it was the alluring of a labor base consisting of knowledge workers that impacted the built environment the most.

As Phoenix continues to grow in population and national prominence, one can expect the knowledge economy to be a key aspect of the market. Recently, Taiwan Semiconductor Manufacturing Company (TSMC), a semi-conductor producer based out of Taiwan, delayed the opening of a plant in Phoenix, pushing the operation date to 2027 or 2028.[215] While TSMC will have $40 billion invested into the project, stakeholders in Phoenix are concerned about how a delay will impact the Phoenician economy. The trepidation felt by Phoenicians, particularly those in real estate, highlights the centrality of the knowledge work in Phoenix. The project has highlighted the long process of Arizona State University and Phoenician boosters as they transformed the built environment and economy to construct a city central to the American knowledge production process.

[215] CNN, "TSMC Says its $40 Billion Chip Project in Phoenix Faces a Further Delay," *Arizona Family*, January 19, 2024.

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