Speculating a Post-Border Wall Landscape: Re-Imagining the U.S.-Mexico Borderlands as a Space for Children

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Abstract

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Landscape Architecture

The landscape of the United States and Mexico borderlands is a particularly hostile one for the children who inhabit it. This thesis explores children's experiences in the borderlands of El Paso and Ciudad Juárez, and proposes three design interventions that imagine a post-border wall landscape there. Utilizing research themes of juxtaposition, perforation, and entanglement; I propose three conceptual designs that consider the political, ecological, and community-based areas of influence on the communities residing near the border wall. In an effort to acknowledge and dismantle the violent history of the U.S.-Mexico border, this thesis provides a critical review of literature in regards to the border wall and its history in El Paso and Ciudad Juárez. Through the development of three design ideas, this thesis also explores how landscape architecture can play a role in questioning the border wall as it exists today. As landscape architects, our role is to help others view space in a different way than it currently exists. This thesis contributes to a body of design work making an argument to change how the borderlands look, feel, and function for those who call it home.

SPECULATING A POST-BORDER WALL LANDSCAPE:
RE-IMAGINING THE U.S.-MEXICO BORDERLANDS AS A SPACE FOR CHILDREN

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I want to first acknowledge the Ysleta del Sur Pueblo people, who first inhabited modern-day El Paso and Ciudad Juarez and never ceded the land there.

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Figure 0.1: Chihuahuan Desert, Chihuahuan Desert Center. Source: http://www.cdri.org/

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Introduction

The conflict between the United States and Mexico has a long history that has resulted in a 2,000 mile long political border, much of which is closed off by a physical border wall. The contentious landscape of the United States-Mexico border has gained global attention in recent years as United States Government officials continue to detain Mexican and Central American immigrants, perpetuating exclusion and violence. Design projects that have focused on a speculative future for the area of the borderlands drew me in. Because of the ongoing detention of children at the border, children's rights are a crucial issue in the borderlands. Children are so frequently discussed in that space, yet designs with them in mind are rare. My intention in this project is to bring light to how children might experience a post-border wall landscape. I come to this project from the angle of caring about children, and this thesis is a culmination of the work I've done as a masters student. In my application to this program and throughout my time at the University of Washington, I've focused on how design and children can serve each other, and are, at times, at odds with one another. Going forward professionally, I hope to design with children, and with them in mind.

Rael Architects' 2020 installation of pink seesaws at the border wall between Tijuana, Mexico and San Diego, United States (Figure 1.1), prompted me to think about children in the borderlands. As a result, I embarked on a research and design project that explores spaces for play and education in the U.S.-Mexico borderlands. While researching the project, I discovered discrepancies between the socioeconomic status of foreign-born residents in the

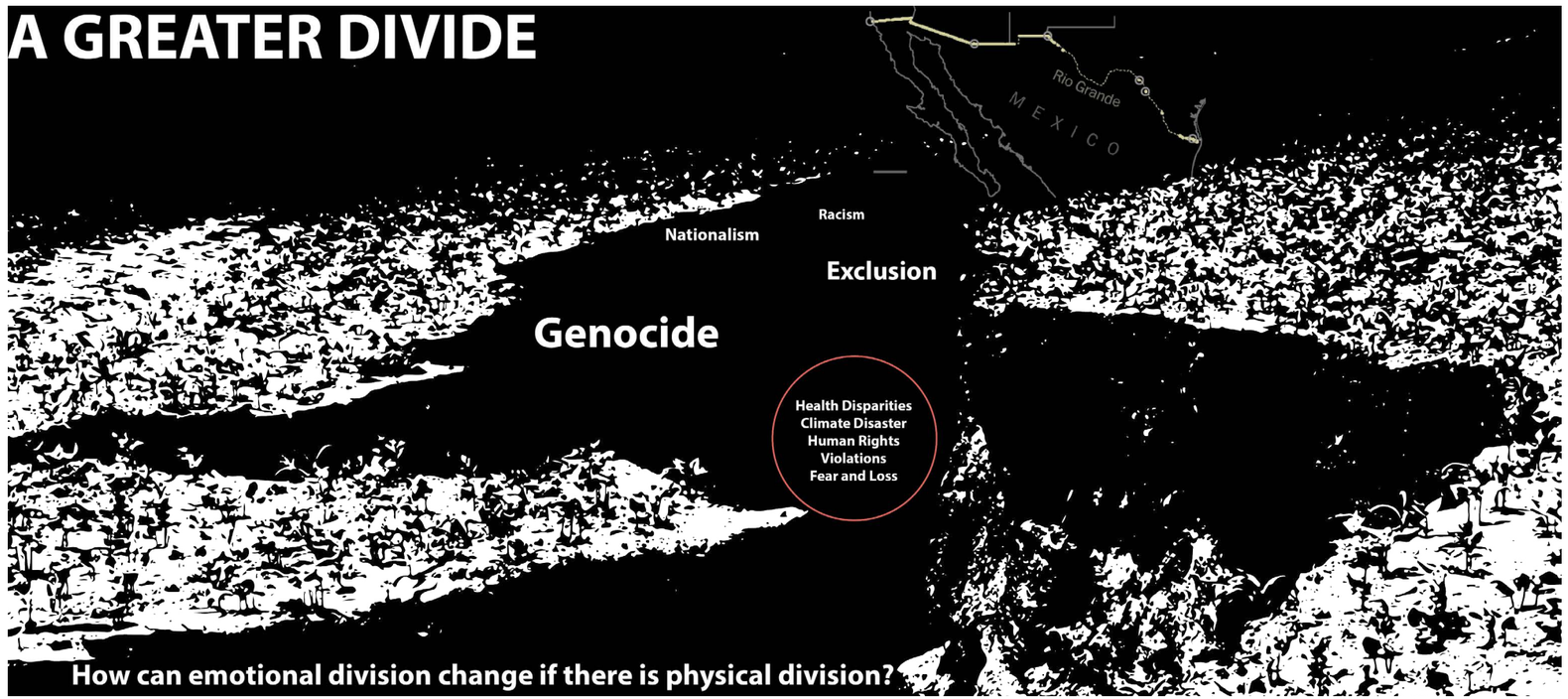

Figure 1.2: Initial conceptual framework for the project.

U.S.-Mexico border. There are other issues of inequities; from food security to environmental justice, particularly in areas with informal settlements, known as "colonias," which are prevalent along the El Paso (Texas, United States)-Ciudad Juárez (Chihuahua, Mexico) border. This location is a crucial urban juncture in which to design play spaces for kids who would benefit greatly from such spaces. It is also a way to understand the political, ecological, and social impacts of people's experience at the border of the U.S. and Mexico.

Children are at the frontlines of the issues at the border, and they deserve to have their agency recognized and understand what is happening in their home. They also have the right to be happy. My proposed design project lies at the intersection of education and play experience at the border and seeks to recognize the rights, value and agency of the children who live there. I believe that we need creative ways of confronting racism and xenophobia, and should not leave children out of this dialogue. Such an approach, in my view, is one of the best ways to dismantle systems that are built to exclude. Through a literature review and collecting stories from people, as well as case studies of borders, I engage in an exploratory, research-based design. My intention is to address issues at the border wall head on through research, and then explore these issues through the design of engaging and provocative spaces for children in the borderlands of El Paso and Ciudad Juárez. These barriers, depicted in Figure 1.2, are rooted in racism, nationalism, exclusion, and genocide. These barriers, including health disparities, climate disaster, human rights violations, and fear and loss between the two nations, have driven a greater divide between the two nations and cities. This divide can not be addressed until the physical border space becomes more malleable.

Framing Research

1. What kinds of design interventions in the U.S.-Mexico borderlands could benefit children and their communities?
2. How can landscape architect's design interventions contribute to initiating political change and creating healthier spaces for children in the U.S.-Mexico borderlands?

This thesis project began with a deep interest in the health of children around the world, and the health of children threatened in the U.S.-Mexico borderlands. In May 2021, the Associated Press reported that children's health is often threatened at the detention centers at the U.S.-Mexico border (Burke, 2021). Not only are children separated from their families, but many facilities also lack education, legal counsel, and recreational opportunities for children (Burke, 2021). The same article states, "'The children are coming out sick, with COVID, infested with lice, and it will not surprise me to see children dying as a consequence, as we saw during the Trump years,' Cohen said. 'The Biden administration is feverishly putting up these pop-up detention facilities, many of which have no experience working with children.'" (Burke, 2021) Children's health in the detention centers at the U.S.-Mexico border is an issue that requires change in order to ensure standards of safety for children in this space.

Many immigrants coming through the U.S.-Mexico border are children. As of early May 2021, United States officials were detaining more than 22,500 unaccompanied children who had recently crossed the border from Mexico to the United States (BBC, 2021). The border continues to separate children from their families, through detention centers and border walls. And the United States continues to build these barriers. Walls and walls and walls. I began to pose the question, how could we build a relationship between peoples, between nations, between cultures, without first questioning the border wall itself, and addressing the physical barrier that exists between groups? We need to sort this out in an effort to find a better world for children in these spaces. My interest in this project places an emphasis on the necessity of a space for children who reside in borderland communities, and for their families. The research and designs that follow also prompt a discussion of the possibility of a post-wall world and what it could look like. The creation of a body of design concepts and ideas that oppose a border wall and physical separation opens up space for a shift in ideology about borderlands as a physical and socio-political construction. I therefore address two research questions:

1. What kinds of design interventions in the U.S.-Mexico borderlands could benefit children and their communities?
2. How can landscape architect's design interventions contribute to initiating political change and creating healthier spaces for children in the U.S.-Mexico borderlands?

Methodology

To answer these two research questions, I had a two-part process, with multiple focus areas in each. The first was research, and the second was exploring possibilities for design. In the graphic below, I explain the methodological processes I use to address my research questions.

The research and design processes overlapped in a manner that became integrative and allowed for speculative design for children in the U.S.-Mexico borderlands, specifically focusing on sites around El-Paso. In order to discuss these spaces, I must first define them. In the next chapter I describe the history and background of the borderlands that I studied.

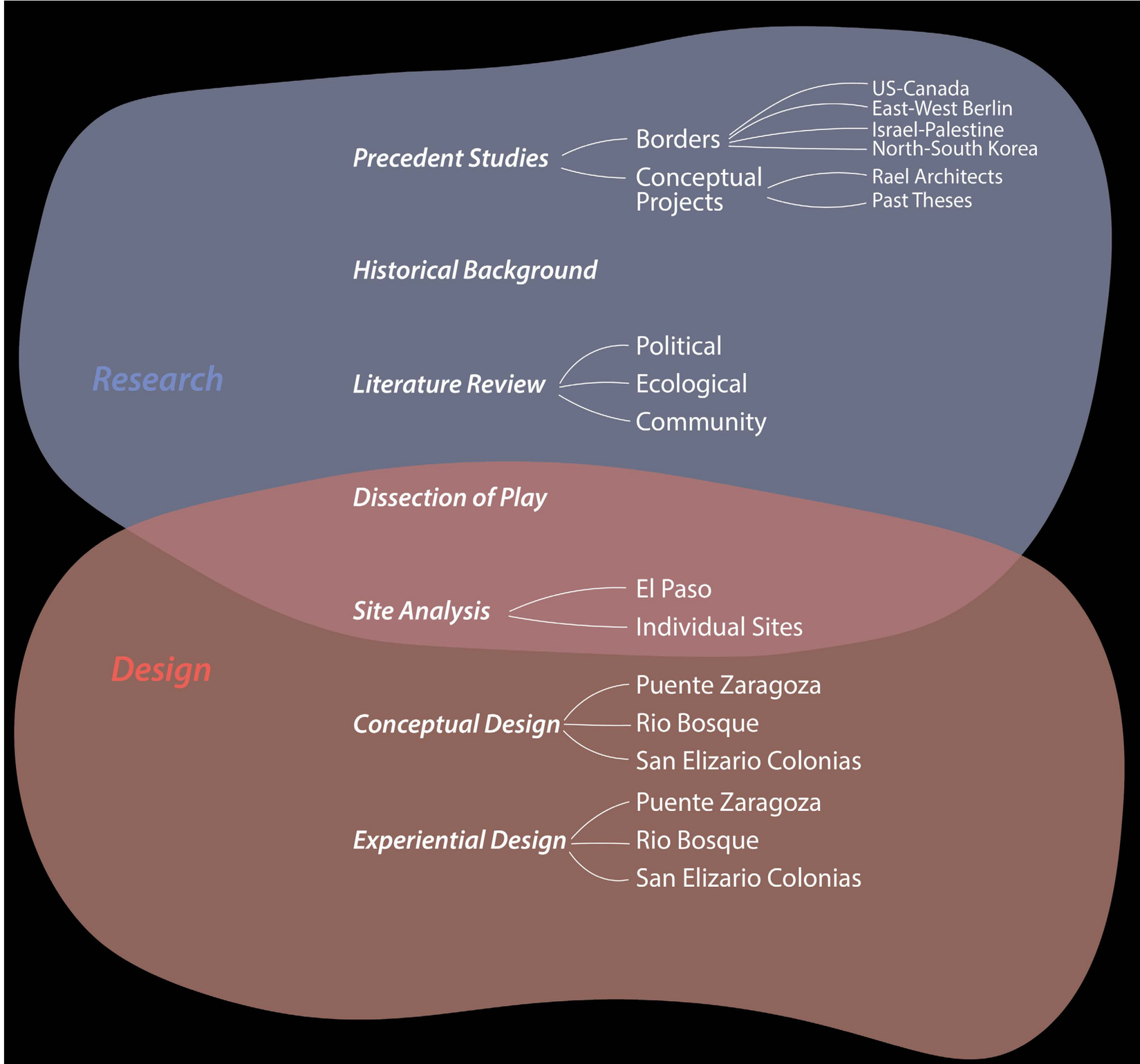

Figure 1.3: Methodology of project through research and design.

CHAPTER 2: BACKGROUND AND HISTORY

Figure 2.1: U.S.-Mexico Border Wall.

Defining Borders and Borderlands

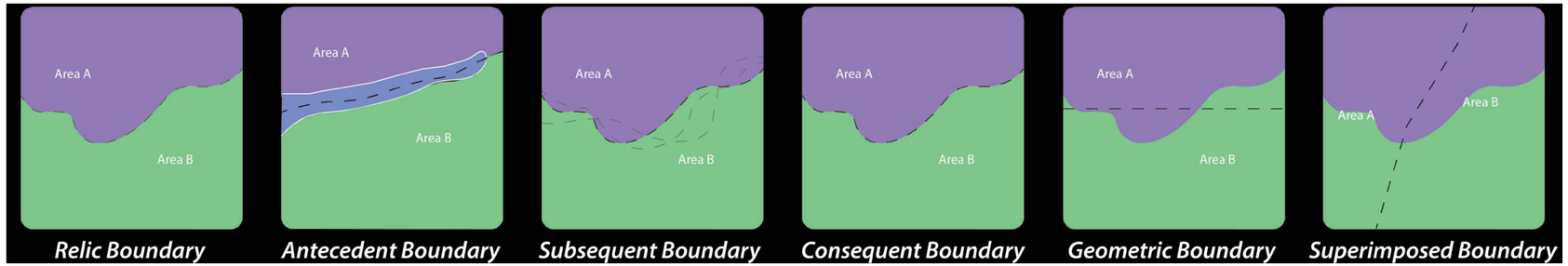

Figure 2.2: Types of Borders, adapted from Geography of Transport Systems, Jean-Paul Rodrigue, 2006.

The very act of defining a border is a messy endeavor, because land is not meant to be bound into commodified territories. Humans and our cultural and political practices are what define borders, more than anything else. For the purpose of this research, I consider borders to be any perceived physical, emotional, or cultural boundary between groups of peoples and lands. Borderlands will be used to describe lands and communities that live within 100 miles of the U.S.-Mexico border, and are greatly affected by the political and physical boundary. Borders and boundaries are imposed mostly for political reasons, and I define them as in the *Geography of Transport Systems* (Rodrigue, 2020), a textbook defining six different types of borders and how they are politically and geographically imposed on land;

1. **Relic Boundary:** A boundary that no longer functions but still has left a mark on the landscape and continues to be remembered and to delineate different groups or land. An example of a relic boundary is the Berlin Wall, which separated East and West Berlin from 1961-1989, though fragments of it still exist throughout Berlin and affect the cityscape today (Kranz, 2019).
2. **Antecedent Boundary:** A boundary created by geographic factors that existed prior to human settlement such as the Parana River, separating Argentina, Brazil, and Paraguay. Such boundaries can be formed by rivers, seas, mountains, or any geographical form.
3. **Subsequent Boundary:** These boundaries change as humans move and settle. Subsequent boundaries are formed in response to certain events, such as war, and they often change over time. An example is Yugoslavia, which was formed after World War I as a merger of several territories, and then was broken up in the 1980s due to the fall of the Soviet Union and economic and political unrest (BBC, 2006).
4. **Consequent Boundary:** Consequent boundaries are drawn after humans are settled, but they are used intentionally to separate groups of people based on ethnic, linguistic, religious, or economic differences. An example is the Pakistan-India boundary in the territory of Lahore, which was divided according to groups of different religions (Sikhs, Hindus, and Muslims) after the British Empire withdrew from India (Asrar and Abazid, 2017).
5. **Geometric Boundary:** These are boundaries that are simply drawn with straight lines when dividing territories, such as the line drawn between Canada and the United States.
6. **Superimposed Boundary:** Similar to geometric boundaries, superimposed boundaries are drawn without regard for cultural patterns, and are drawn by a conquering or colonizing power. The boundaries arbitrarily dividing much of the continent of Africa into colonized states, formed through the Berlin Conference in 1885, is an example. These superimposed boundaries ruptured existing tribes and societies with boundary lines of imperialism (Rodrigue, 2020).

By these definitions, the U.S.-Mexico border falls into a few boundary categories. Much of the border line is geometric and straightened, between Mexico and New Mexico, Arizona, and California. The boundary between Mexico and Texas is also defined by the Rio Grande, making it partly an antecedent boundary. As a United States government endeavor, the border is superimposed by the colonial power of the United States. Surveyors were paid to stake out a line between Mexico and the U.S. The imposition of these various boundary forms is exemplified in the disconnection of ecologies, peoples, and nations. For example, the Tohono O'odham Nation was physically separated by the boundary line at the national border. The tribe holds the second largest amount of land of indigenous tribes in the United States, as well as land in Mexico in the heart of the Sonoran Desert. Ancestral lands stretch across the border into the Mexican state of Sonora. "About 2,000 of the tribe's 34,000 members live in Sonora, according to tribal officials. They were cut off from the rest of the nation by the 62-mile international boundary and have found themselves increasingly isolated from their people in Arizona." (Náñez, 2021) A gate currently connects these tribal lands and people on either side of the border, though while Donald Trump was president, there was discussion of building up the wall here. This was met by strong opposition from the tribe, who already felt severed by the presence of a border line. This serves as a reminder that the superimposed nature of the border affects people in the borderlands severing physical and ecological ties, as well as emotional ones.

Psycho-Emotional Effects of Borders

Boundaries act for many different reasons, and are perceived physically as well as emotionally. While boundaries exist, they affect people psychologically, similar to the effects when the boundary walls come down. Jessica Wapner's book, *Wall Disease: The Psychological Toll of Living Up Against a Border*, discusses "mental walls" (2020). Wapner looks at the inverse relationship between emotional involvement with a city and estimates of how far away it is. "Researchers at Texas State University asked students about their attitudes toward Canada, the United States, and Mexico. Participants who had positive feelings about people of other races, nationalities, and ethnicities estimated cities in Mexico and Canada as being closer than those who held negative or neutral feelings." (Wapner, 2020, p. 21) A similar study in Germany found that residents in West Germany, who opposed reunification and the fall of the Berlin Wall, also perceived cities as a farther distance apart (Wapner, 2020).

As we cognitively map our own spatial worlds, physical walls create emotional walls as well. As Wapner states, "The border wall is tied to an emotion stemming from our experience of that place, and we reconnect to that emotion every time we see it by virtue of the connection between the cognitive map and our emotions." (Wapner, 2020, p. 23)

While any wall exists, there will be an emotional reaction to it, though this reaction is personal. Wapner also discusses different individuals' stories and their reactions to the border wall along the U.S.-Mexico boundary. The different experiences come with different emotional reactions. Notably, Border walls and boundary lines effectively separate groups of people in our minds, serving as a way to say one side is "us" and the other side is "them". This othering of people on either side of a wall comes from physical separation, but can lead to xenophobia and racism. What is key to realize is that boundaries go past physical and geographical divides; they can be traumatic and create emotional divides as well.

This emotional toll and reaction carries into what the landscape looks like after the walls come down, creating a type of relic boundary as discussed before. "Until very recently there was a significant intellectual and political hurdle blocking willingness to confront the demons of the history of the Berlin Wall." (Harrison, 2011, p. 6) Part of imagining a post-border wall landscape is conceiving of the U.S.-Mexico border as a relic border, like the Berlin Wall. In imagining such a space, it is critical to first dismantle the physical wall between the U.S. and Mexico.

Border Precedents

In beginning to research boundaries and borders, I chose specific examples to explore in contrast to the U.S.-Mexico border. Looking at how other boundaries have functioned provided me with design insight as well as a historical background that supports taking down border walls themselves.

In this section, I first discuss the boundary between East and West Berlin, as there are historical ties between Nazi-era Germany and the U.S.-Mexico border. As I moved through the research, the El Paso-Ciudad Juárez borderlands became a constant point of interest, and one of the first arguments that caught my attention was its connection to Germany. In El Paso and Ciudad Juárez, there was an event called the Bath Riots in 1917. Border movement and crossing for work was a lot more readily accepted and happened more easily until the 1990s when stricter border enforcement and policies were put in place, which I will discuss in the next section. The Bath Riots focused on Mexican women who were crossing the border near El Paso in order to clean American homes. Tom Lea, then mayor of El Paso, Texas, used violently racist language against Mexican residents and workers, calling adobe homes in the Mexican enclave of Chihuahita "germ-infested". Lea frequently contacted Washington DC in hopes of enforcing a 10-14 day "quarantine camp" at the border when Mexicans crossed, citing a worry of typhus (Romo, 2005). These racist policies based on perceptions of Mexican residents as dirty and disease-ridden, allowed for delousing of Mexican residents as they crossed the border into El Paso. When Dr.

Figure 2.3: Berlin Wall being graffitied. FORTEPAN/Tamás Urbán, 1988.

J. B. Lloyd, the U.S. Public Health Official serving in El Paso at the time approved this policy:

> "Lloyd told his superiors he was 'cheerfully' willing to 'bathe and disinfect all the dirty, lousy people who are coming into this country from Mexico.' Lloyd added prophetically that 'we shall probably continue the work of killing lice in the effects of immigration the Mexican border for many years to come, certainly not less than ten years, and probably twenty-five years or more.'" (Romo, 2005, p. 233)

The Bath Riots were initiated in January 1917 by Mexican women entering the United States daily for work who refused to strip off their clothes and undergo this chemical sanitization process. They resisted this incredibly violent, traumatic and demeaning act. The riot lasted for three days, but was eventually quelled by border patrol agents. The sanitization practice continued for forty more years (Beller, 2008). The U.S.-Mexico border has a long and protracted history of practices like these, which conjure a particularly harrowing connection to Nazi Germany.

One of the chemical agents used to delouse and spray clothes at the Mexican border was Zyklon B, the same agent used on Jews in Nazi Germany. David Dorado Romo discusses this connection in his book, Ringside Seat to a Revolution: an underground cultural history of El Paso and Juárez, 1893-1923:

> "The fumigation was carried out in an area of the building that American officials called, ominously enough, "the gas chambers." I discovered an article in a German scientific journal written in 1938, which specifically praised the El Paso method of fumigating Mexican immigrants with Zyklon B. At the start of WWII, the Nazis adopted Zyklon B as a fumigation agent at German border crossings and concentration camps. Later, when the Final Solution was put into effect, the Germans found more sinister uses for this extremely lethal pesticide. They used Zyklon B pellets in their own gas chambers not just to kill lice but to exterminate millions of human beings." (Romo, 2005, p. 223)

The common use of Zyklon B is perturbing to say the least, and points to the connection between these borders and histories: that in both places and times, the goal was to otherize, even dehumanize, an entire group and keep them out by creating fear in a population. Walls and boundaries are used as a form of showing and keeping power, and often perpetrating violence onto another group. These tactics were used by Hitler to relocate Jews as a means of genocide, and such reloaction tatics were also used on Native peoples and residents along the U.S.-Mexico border in order to build it and provide facilities for the United States Customs and Border agency (Kinberg, 2008). Many of the traumas, from relocation and sanitization as discussed, show connections between the historical othering of groups of people with these walls.

The discussion of the Berlin Wall becomes crucial in imagining a post-border wall landscape along the U.S.-Mexico border, because that is what Berlin is on a smaller scale. The boundary in Berlin acts as a relic boundary, and the trauma associated with these controversial and liminal spaces became particularly important in imagining a different future. In memorializing parts of the Berlin Wall, the process of transitioning the border into public space was not an easy one.

> "For those people, however, who felt it was important to deal with the East German Past, including the Berlin Wall and its victims and perpetrators, their goal was certainly not to downplay the Nazi Past. In fact, their goal had nothing to do with the Nazi past, it was rather to expose the dark sides of the East German regime and give voice, support, and recognition to those who had suffered from it." (Harrison, 2011, p. 6)

In considering how to deal with a relic border, historical and generational traumas should be considered, but ultimately we know the importance of memorialization. It is crucial to recognize and dissect our collective historical mistakes and failures and the trauma that people have encountered in order to heal.

Another wall to consider is the Israeli West Bank barrier, which still exists today. It could be considered a superimposed boundary because the Israeli government has supported its construction, as well as a consequent boundary, acting as a separation between two different cultural groups.

> "Since 2003, Israel has been building a wall around the West Bank in the name of security from terrorism. While Israel calls this the "Security Fence," most Palestinians think of as a degrading and illegal land grab. Israelis would say that it's been effective -- noting that in the three years before it was built, suicide bombers killed 293 of their citizens; in the three years after it went up, that number dropped to 64. Since its construction, terrorist attacks have dwindled. Palestinians would counter by saying that this decline is not because of the wall, but because Palestine, its president, its security forces, and its people have all realized that violence is a losing strategy." (Steves, 2013, p. 1)

While issues between Israel and Palestine go beyond the scope of this thesis, I draw upon it to point to the contentious nature of borders and the manner in which they are built by one power to keep an othered population out.

Since the construction of the U.S.-Mexico border wall primarily began with the U.S. via the Secure Fence Act of 2006 enacted during George Bush's administration (American Immigration Lawyers Association, 2006), scholars have made comparisons between the Israeli-Palestinian border and the U.S.-Mexico border.

> "Wendy quotes a Newsday article of August 14, 2006 that reported on Israel/Palestine Wall builder Uzi Dayan differentiating between the two situations. 'The United States is trying to solve the problem of illegal workers. We are trying to avoid bloodshed. There is a big difference. There have been some serious inquiries from Washington about how to build a fence along Israeli lines. They want to emulate us' Dayan said. 'But I've always said that it's not in America's best interest. It won't solve their problem. It's not cost-effective and it won't work.'" (Kinberg, 2008, p. 38)

One big difference between the two walls is the sheer length of the border between the U.S. and Mexico compared to the one at the Israieli-Paestinian border. While the reason for the Israeli West Bank barrier is not agreed upon, both walls are meant to keep people separated, and both intentionally instill fear and hatred of people on the other side of the wall. Boundaries succeed at creating this tension between two groups, because they are mean t to regulate and keep people estranged from one another.

Another situation in which we see a contentious boundary is between North and South Korea in the demilitarized zone (DMZ) that exists between the two countries. Because the DMZ is frequently compared to the U.S. government'sbuilding of the border wall between the U.S. and Mexico, it is important to explore. Both boundaries exist to keep people out and continue to raise tensions between the two nation states that they separate. But rhetoric like Donald Trump's, aspiring to build the United States' southern border similar to the DMZ is incredibly dangerous. It heightens the possibility for violence, and the hostility at the border. In March 2018, Donald Trump related the U.S.-Mexico border to the Korean DMZ, saying "Look at Korea. We have a border in Korea. We have a wall of soldiers. Nobody comes through. But our own border — we don't take care of it." In fact, 1,127 North Koreans defected and crossed the border in 2017 (Yoon, 2019). The DMZ is also, quite incomparable to the U.S.-Mexico border in the manner of why they were erected and built.

> "At the most basic level, the difference between the two situations is enormous. The 'border' between North Korea and South Korea isn't really a border at all: It is the 1953 armistice line between the two Koreas. Since no peace treaty was ever signed after the Korean War, both sides are technically still at war and only observing a cease-fire. The DMZ is designed as a buffer zone between the two opposing sides; its name is a misnomer, as the area is heavily militarized. In technical terms, neither side views it as a border; each views itself as the future government of the entire Korean Peninsula." (Taylor, 2018, p. 2)

The U.S. and Mexico signed a peace treaty in 1849, and while atrocities, including detaining immigrants and separating them from their families, do occur at the U.S.-Mexico border, it's a very different situation from what happens in the DMZ, which attempts to keep the peace. We cannot model the U.S.-Mexico borderlands after the DMZ, and our political and economic situations demand that we don't. We must consider a more friendly and peaceful border.

The last border I researched was the one between the United States and its northern neighbor, Canada. Because of the United States' two shared borders with both Canada and Mexico, comparing and contrasting how the space is treated in either showcases the violence based in racism and exclusion at the U.S.-Mexico border. One still must gain legal access between the United States and Canada, and be checked by border security on either side. But, it is a much more friendly border than a hostile fence that exists to keep people out. In fact, much of the Canadian border with the U.S. attempts to invite people to interact with one another in a peaceful manner. This is evident in the Haskell Free Library and Opera House, which sits at the U.S.-Canadian border. People from either side can enter with a valid passport and experience the library and music performances there. The Haskell Free Library and Opera House was deliberately built and designed by Nate Beach and James Ball in 1904-1905. This site is a reminder that borders do not have to come from a place of control and

U.S.-Mexico Border History

power and fear of the other. In contrast to the U.S.-Mexico border, though, the controlled nature of both of the U.S. borders actually perpetuates xenophobia.

The intentional demonization of Mexican immigrants and peoples through media and racist rhetoric continues to build up the physical and emotional barrier between the two nations. The United States treats its border with Canada in a very different manner, and the stark lack of fear in comparison to the Mexican border tells a narrative of racism and white supremacy. It also offers hope about what a more peaceful border could look like between the U.S. and Mexico. The Peace Arch between Washington State in the United States and British Columbia, Canada provides visitors and residents of both countries with lush gardens, a playground, and spaces of respite, as well as dramatic messages of peace. There is a possible and more peaceful future at the United States' southern border, and precedents of peaceful public space on borders, such as the Peace Arch, aid in giving some hope for such a future.

Due to the more contentious history between the United States and Mexico as opposed to the United States and Canada, these border spaces may not be able to look exactly the same. But, the possibility for a safer and healthier environment exists for the borderlands between the U.S. and Mexico. Often because of conflict, borders can be associated with hostility and violence. Even as we've seen with the relic border of the Berlin Wall though, borders and how their situations interact can change over time. Boundaries do not have to be border walls, and there is a plausible future of a post-wall landscape for the United States and Mexico, because in reality the border is just an imagined line, but one with deadly consequences.

In pursuing this thesis of chilren's spaces at the borderlands, it has been necessary for me to confront the historical genocide perpetuated by the United States against Mexico and the imagination of a border line that's created very real borderlands. Through this fabricated division, peoples on either side have felt the borders impacts; from health disparities to environmental injustices. The wall that now exists has created a socioemotional and economic divide that far surpasses the physical boundary that exists. If the border wall were to come down, these divisions could begin to be confronted. People who live just feet away from each other but can not see one another should not be subject to human rights violations. The wall has contributed to a nationalism and othering of a race that's led to fear and genocide. This can not simply be repaired by the removal of the wall, and we must address the injustices and horrors that have occurred here. This is possible through using design as a tool of activism. Listening to the community's needs to inform design ideas that speculate a different future can be a tool to change the public mind about how a space could look. I have tried to do this by listening to people's stories in literature, and hope to elevate the story of children specifically in these borderlands, thinking about how they are discussed with no agency in the border conversation and international media. A historical analysis of the border and the space and time that it occupies is crucial for an understanding why the United States has work to do here, and why there is a need for reconnection.

In 1849, after the Mexican-American War, United States surveyors began to draw the border line (Dungan, 2020). This was taxing work, as many white men struggled through the desert to find a strict border. The eastern lengths were easier to define, with the Rio Grande carving a deep cut through the landscape, physically severing ties between wildlife and peoples who inhabited either side. Such a clear demarcation of landscape should seem simple enough, but Rio Grande is vast and quick, and it changes rapidly. Rivers, like a wild child just before bed, can not be contained. Initially perceived as an easy border to define on the eastern reaches, it is vital to understand that it was not. Yes, geography has played a part in the division between two nations. But as the Rio Grande has moved and shifted, there can be no definitive border drawn from east or west. The Imaginary Line: A History of the United States and Mexican Boundary Survey, 1848-1857 states, "The Imaginary Line," could never "be considered finished, as the Rio Grande irritatingly shifted its channel from time to time transferring land from one nation to another." (Dungan, 2020, para. 31) Through harsh desert conditions and the meandering force of the Rio Grande, the border is not a geographical division. While there may be vast areas of the border that can not be crossed, there is no singular defined line. The history of the Rio Grande, and its moveability overtime, contribute to a narrative of a moving and imaginary line between the United States and Mexico. "History merges with the now in ways that are hard to follow and vanish into the din of everyday life. Lines blur, between nations, between past and present, even in the shadow of a steel fence. Somewhere downstream, the Rio Grande slips out of its banks, and the line shifts again." (Dungan, 2020, para. 44) The border was never able to be defined, because it was never meant to be. An understanding of the arbitrary nature that defies cultural, linguistic, and ecological bounds is vital to understand the power that the United States had in their relationship with Mexico.

The historical ability and willingness of the United States

El Paso and Ciudad Juárez

Government and residents to unify nationally has led to the horrors at the border as they are today. Migrant farm workers have long crossed the border, and the legality of this act changed in the 1990s with Bill Clinton as the U.S. President. Clinton cracked down on immigration at the border, considering it illegal and labelling people who had worked across and at the border for years as aliens (Schlyer, 2012). Operation Gatekeeper, an initiative of the Clinton administration, allowed for the U.S. to further distance themselves from Mexico and its inhabitants, creating a social and emotional divide. The physical divide was deepened by the Secure Fence Act of 2006, allowing the U.S. government to construct 700 miles of fencing along the U.S.-Mexican border (Vaquera, 2019). Vaquera further defines borders as natural (a physical, geographical separation) and political (a drawn line on a political basis). I believe that these are the same thing, ecologically and geographically there is nothing that strictly separates the made-up nation-states of the United States and Mexico. Humans build bridges, engineer dams and construct intricate networks of pathways.

After September 11, 2001, the U.S. continued to other, and even demonize, races other than white. And this was not new; the United States has a deep and violent history of utilizing this argument for their own political and economic gain. The racism and nationalism that was enforced by the power the United States needed over Mexican migrant workers, the Mexican government as a crucial trade partner, and its own people, through their fear and hoarding of resources, led to the **realization of a made-up line**. People, wildlife, lands; they were never meant to be separated by a by a physical barrier. And there is no basis that they should have been, except for the fear of the other that the United States government has perpetuated.

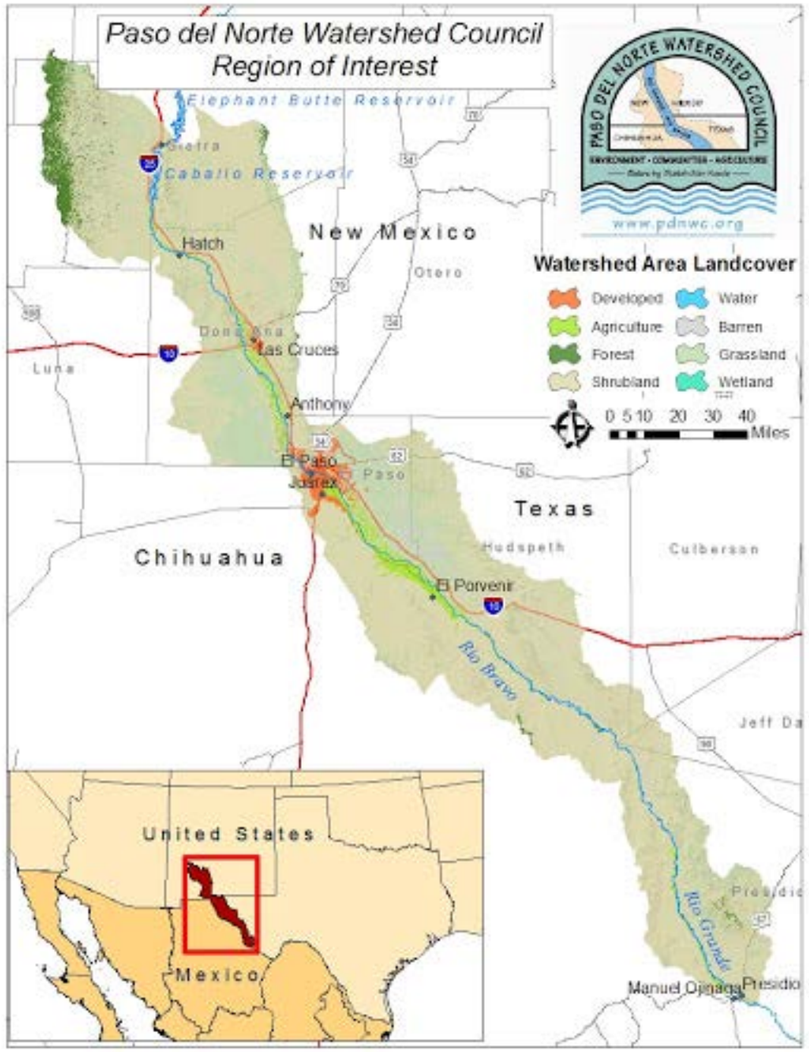

Figure 2.4: Paso del Norte region, encompassing El Paso and Ciudad Juárez and the Rio Grande region. Paso del Norte Watershed Council, 2017.

For this project, I have chosen to zoom in specifically on the border juncture between El Paso, Texas, in the United States and Ciudad Juárez, Mexico. This historically has been a violent border crossing, and El Paso is the location of one of the biggest centers for holding unaccompanied minors and children. While I do propose a design intervention in this area, I do not plan for it to be connected with the U.S. Border Control because the violence and human rights violations that have continued to permeate border conditions have primarily been perpetrated by the United States Border Control. I instead propose community based design interventions that focus on children's development theories. The design ideas and proposals that follow in chapters 6, 7, and 8, are based on addressing childrens' needs and health in southeastern El Paso. Children have made headlines for enduring these conditions, surviving through inadequate diet and shelter, a global pandemic, no access to education, separation from their parents, and violence from border agents. Children are already at the center of this conversation, and they are being greatly affected by what's happening at the border.

Key to understanding the Juárez and El Paso area is that they were, and in some ways still are, one metropolitan area separated by a border wall. Figure 2.4 shows that the Paso del Norte area between Juárez and El Paso is right along the Rio Grande, or the Rio Bravo as it is known on the Mexican side. This helps explain why these cities developed here. "Paso del Norte was originally one city, started as a Spanish outpost in the late 1500s. Prior to that, there is evidence of tribal populations in the area dating back thousands of years. Today, these two cities remain very linked. There are over 22,000 individual border crossings daily and their economies are tied through both trade and manufacturing, with many U.S. and Mexican companies having operations

on both sides" (Nuno-Whalen, 2020). This connection is relevant to imagining a post-border wall landscape, in which both cities are able to seamlessly access one another. The connection that historically exists between the two cities, and still exists today, further makes it an important place to focus my design explorations on.

In this chapter, I have provided some background around borderlands and specifically the artificial line that exists between the United States and Mexico. The fabrication of this line is further evidenced at a juncture like El Paso and Ciudad Juárez, where Paso del Norte makes up a contiguous community separated by the border. The situation for children in the borderlands of this area is vital to the understanding of why design explorations might be important here. Physical activity and quality parks are necessary to the health of children here. The history of the U.S.-Mexican border, as well as the context of El Paso and Ciudad Juárez, provides an opportunity to consider the political, ecological, and community connections.

Figure 2.5: Largest U.S.-Mexico border crossings in 2019. Data from US Bureau of Transportation Statistics.

CHAPTER 3: SPHERES OF INFLUENCE IN THE BORDER LANDSCAPE

Figure 3.1: United States Border Patrol agent reaches for child and guardian at the border. Reuters.

Political Sphere of Influence

In the following sections, I will explore how three different spheres of influence - the political, ecological, and community-based - affect the borderlands. I am calling these spheres of influence because of the overlapping effects that each area has on the borderlands themselves. The political, ecological, and community-based spheres of influence are all a part of the story of the borderlands and play a role in shaping them spatially and functionally. These three spheres can also be addressed through design, and though there have been political, ecological and community-based barriers in the past, these spheres are also opportunities for potential design interventions.

An explanation of the growing tensions between the U.S. and Mexico that are rooted in racism and xenophobia, and how these tensions have led to a built wall between the two nations is necessary to understand the political nature of the border and borderlands. In this section, I will explain the history of the political relationship between the two nations, and how the wall interacts with this history. This wall can be seen in Figure 3.1 in the different sections that it takes on, being a vehicle or pedestrian barrier in some areas. The use of natural areas, such as the Rio Grande and Big Bend in Texas, also begin to show how an antecedent boundary is formed between the two nations. Despite physical barriers (geographical or human-made), the United States and Mexico do have a wide range of political ties to one another.

A large part of the relationship between the U.S. and Mexico has been built on a role of power from the United States, which has often been exploited. One of the first instances

Figure 3.2: Types of Borderwalls in the Paso del Norte Region.

of this was after the Chinese Exclusion Act of 1882, requiring United States railway companies to recruit Mexican workers and immigrants, who, by the early 1900s, represented as much as 60% of the railway workers in the U.S. (Council on Foreign Relations, 2010). The Mexican Revolution (1910-1920) further led to unrest and tension as the United States took in Mexican immigrants. While the relationship remains contentious, the United States government focused on excluding other immigrants through the early-mid 1900s, from Europe and Asia in particular. In 1924, the United States Government formed the Border Patrol Agency, though efforts were more focused on immigrants entering through the Canadian border. The Great Depression created a shift, marked by many United States residents fearing for their jobs and livelihoods, and blaming Mexicans for stealing them. In 1942, the U.S. again called on Mexico for labor through the Bracero Program. Through this program many employers paid Mexican laborers a low wage and provided horrible living and working conditions (Council on Foreign Relations, 2010). Just 12 years later in 1954, Dwight Eisenhower enforced Operation Wetback, gathering many Mexican residents in the United States and deporting them to Mexico. This narrative of flip-flopping between exploitative labor and aggressive deportation contributes to the intergenerational trauma between the two nations, as well as an uneven power dynamic.

Through the 1970s and 80s, two key changes impacted the relationship between the United States and Mexico. The first was the War on Drugs, and the second was the discovery of oil reserves in the Gulf of Mexico (Council on Foreign Relations, 2010). The counter-narcotic campaign was made

unilaterally from the United States, again reinforcing their power at the border where two nations ought to have been considered. Oil reserves and corruption within the Mexican government led to national debt, putting Mexico in a particularly vulnerable position in its relationship with the United States.

As mentioned before, NAFTA (the North American Free Trade Agreement) creates a tariff-free trade environment for the United States, Canada, and Mexico, meant to benefit all three economies. NAFTA created an economic crash in Mexico and the agricultural industry and employment rates fell drastically because of the ability to more quickly produce and import products (Floyd, 2020). Through the Clinton and Bush administrations, the border between the U.S. and Mexico was increasingly criminalized, as deportations rose and workers who moved between the two countries decided to stay in the United States permanently yet feared deportation. More recently, September 11, 2001 also created hostility towards people perceived as the other; racism and xenophobia in the United States ran rampant. While this hostility focused on people who are Muslim and/or from the Middle East, there were direct repurcussions for US-Mexican relations. "Before the tragic events of that day, Mexico and the United States were intensely negotiating comprehensive immigration reform. After the attacks, the George W. Bush administration changed its priorities; Mexico and immigration were less of a focus than the struggle against international terrorism." (Velasco, 2018) Mexican immigration to the United States increases, and U.S. public opinion of Mexican immigration remains contentious through the Obama and Trump administration. Detentions and deportations at the border pervade the narrative between the two nations.

Children have become a key part of this narrative around Mexico-US relations. As the number of unaccompanied (and accompanied) children at the border to enter the United States rises, Donald Trump and the current United States president, Joe Biden, have found ways to deal with the increase, including detention camps at the border for minors. Though the controversial family separation policy was ceased after public outroar, many children are still detained, or immediately deported (BBC, 2021). There have been varying reports about the conditions of these detention centers, but it is clear that what is currently happening to children at the U.S.-Mexico border raises questions about how children fit into the narrative of the borderlands, and what sort of voice or stance they may have.

The political relationship between the U.S. and Mexico remains contentious because of exploitative U.S. policies, as well as internal and external political turmoil in Mexico that has fueled a desire to immigrate away from the country. Thus, tensions remain high between the two nations. In order to change this relationship, Mexico does have economic and social situations that need to be addressed. These include a quality education system, expansion of the energy sector and growing the economy of rural areas (Aguila, 2012). U.S. Immigration Policy needs to be reworked to allow for non-exploitative practices and more free movement of labor. There are also opportunities to better the relationship between the two countries through fairer trade agreements (Aguila, 2012). Such changes are not to erase the historical issues between the two nations, and to repair an international relationship is not so easy. The historical distribution of power favors the United States, a world-dominating economic and trade force, and though the two have an interdependent relationship, the United States retains global economic power much greater than Mexico's. "As the builder and sustainer of the post-war liberal order and the current hegemon of the world, the U.S. is involved across the continents, dealing with—or ignoring—security, economic, political, social, and cultural issues." (Velasco, 2018) The relationship remains uneven in terms of power.

The exploitative and differential power dynamics at work in the historical relationship between the United States and Mexico could be changed with policy, but there is also a potential for design to address this political history and present conditions. In looking at a post-border wall landscape, speculative design and futures can explore tensions between the two nations and allow residents of both to build a better understanding of their shared histories. Economic interdependence could lead to social interdependence as well; there is potential for a different political future.

Ecological Sphere of Influence

The building of a border wall, while being a politically driven decision, has changed the ecological present as well. The border wall has led to disruption and dismay for many along the border. In addition, the border wall has had huge impacts on ecology and wildlife, human health, and life for residents in these borderlands that expand much further than the border itself.

Furthermore, the border wall effectively separates an ecological zone that runs throughout the border zone, namely the Sonoran Desert and areas of Big Bend National Park, shown in Figure 3.3. Climate Disaster, while not necessarily exacerbated by the border conflict, is a symptom of the border wall erection and United States Government exploitation. Resource depletion of the Rio Grande and Colorado River by the United States and its desert inhabitants have left little for Mexicans, who rely on these rivers as water sources as well. This area is internationally protected and now only separated by the Rio Grande rather than by a wall, but many other areas are separated by the wall and this threatens the ecology, contributing to weaker ecosystems that are left vulnerable to climate change.

Another area influenced by the border wall and the Department of Homeland Security is Cabeza Prieta, a wildlife refuge on the southern border of Arizona, and the northern border of Sonora, Mexico. Because of the desolate reaches of the Sonoran Desert here, it became a popular area for people to cross or smuggle goods from Mexico to the United States. "In response, there has been a monumental influx of Border Patrol agents and state-of-the-art security technology, including numerous cameras and watchtowers and literal assault upon the landscape

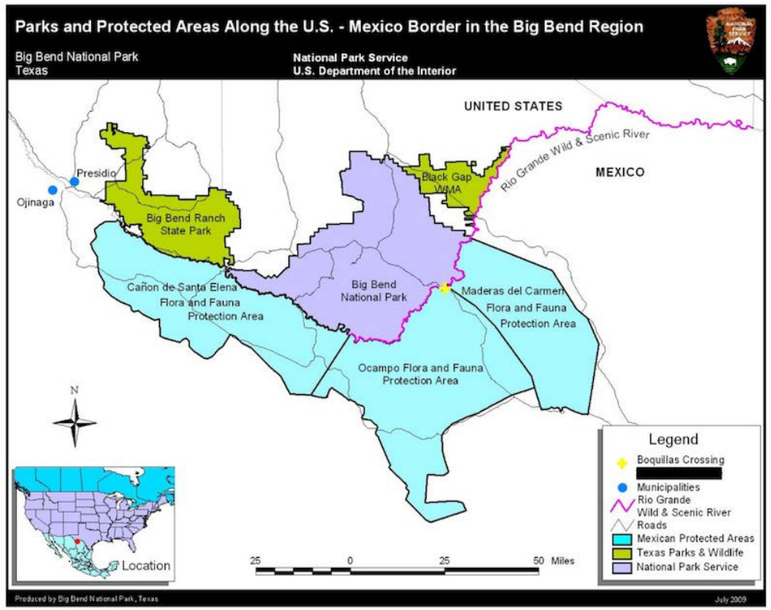

Figure 3.3: Big Bend Region Natural Areas severed by the border wall. United States National Park Service, 2009.

Figure 3.4: Plants of the Chihuahuan Desert clockwise from left: Sabal Palm, Bitterweed, Arroweed, Curltop Smartweed, and Wolfberry.

from the sheer amount of vehicular traffic" (Meierotto, 2012). The description of the militarization of the border, and effectively, the militarization of the Cabeza Prieta Wildlife Refuge, exemplifies the intensity with which the construction of the border wall threatens wildlife and ecology.

In the Chihuahuan desert that surrounds El Paso, specific plants are particularly relevant to the biome and culture of the land. While it is a desert, the Rio Grande creates some wetter landscapes near its banks as well. Plants like Arrowweed work well with the pollinating butterfly and are culturally significant to Native Americans who strip its green-gray foliage to make arrow shafts and baskets (UTEP, 2020). Another plant, Curltop Smartweed, helps the river wildlife survive. Ducks feast on its brown seeds and muskrats dine on its leaves, stems, and roots (UTEP, 2020). Mesquite trees, both the Tornillo and Honey Mesquites, are native to the area (UTEP, 2020). They provide food and shelter to wildlife in the desert landscape. Below I show sketches of some of these vital plants, used as ecological inspiration in the design process.

The ecological context of the border wall narrative also strongly ties to indigenous peoples in the region, and the historic and rooted connection between tribes and the land and ecology. Not too far from the Sonoran Desert, the Tohono O'odham peoples feel the threat of the continuously expanding border wall deeply. Ofelia Rivas and her mother, Thomasa Rivas, both tribal members who live in the borderlands, describe this threat:

> "'It will be in my backyard — the wall, and all its political policies along with it,' she says. She says this battle is about more than politics. 'It violates all life,'

Community Based Sphere of Influence

she says. 'How's it going to affect our plants … our animals that migrate through the region.' Ofelia tilts her head to the left, and her long hair moves with the wind. 'Will the wind have to get permission?' she asks. 'And the water?' Thomasa is soft-spoken, even when she is angry. 'These are our traditions,' she says. 'We have to keep them alive, and pass them on to our children.'" (Náñez, 2021, para. 28-34)

People and ecology are, and have always been, tied to one another. Our health is tied to the health of the land and ecological systems. The ecological connection people have with the land, as well as the destruction of this connection with the building of the wall offer an intriguing prospect for a post-border wall future; one that reconnects the ecological systems that are disconnected by the wall, as well as the peoples. My three designs attempt to confront these ecological and community disconnections.

When exploring the community level of influence at the border wall, there is a dearth of information. Yet, there are many stories that deserve to be told. This section focuses particularly on how children in the El Paso area are affected by the border wall. Focusing particularly on Mexican residents and their wants and needs, this section seeks to explain the issues facing children and why the community-based needs call for a public space at the border, and a wall-less landscape. Much of this story is about colonias, which are informal communities and settlements in the borderlands of the United States and Mexico that primarily house Mexican immigrants. They are most abundant in Texas, especially near El Paso and Ciudad Juárez, the site of my design explorations. Children are particularly affected by the conditions of these communities.

Food insecurity is tied to physical activity and the developmental and emotional health of children. Giselle Flores discusses the food insecurity that Mexian-American immigrants at the border colonias face daily, which can affect children's development and feelings of emotional and physical security (Flores, 2019) One study of these colonias found that physical activity "among children was influenced by neighborhood characteristics, including litter, speeding cars, unleashed dogs, and dark streets." (Meir, 2013, p.1) This study shows the tie between lower physical activity and obesity in colonias, in conjunction with other issues children at the border are facing. Colonias are shown throughout the El Paso-Juárez border in Figure 3.5.

The study continues to look at the low physical activity levels in southern Texas colonias, and how environmental factors, such as smaller outdoor areas and less public investment in amenities such as cycling trails, continue to negatively affect children's physical activity (Meir, 2013). Another study conducted in El Paso showed that while foreign-born and low income populations along the border do still have access to parks, their perception of safety in parks is much lower than that of high income neighborhoods in the same area (Kamel, 2014). Better park facilities and safety could contribute to greater physical activity, further demonstrating a need for a place for children in El Paso, along the border to Ciudad Juárez. It was vital to include research representing children living along the border of El Paso and Ciudad Juárez to inform my design work. The conditions and struggles that children face are important in border communities. These range from those in colonias to those facing detainment at the border. Children and what happens to them here have been much discussed, but there is no dedicated space for them at the border, no space where there could be an opportunity for them to learn and understand conflicts and issues at the border in a way that centers their stories in the borderlands narrative.

In a conversation with Pema Garcia, the Associate Director of the Western Rio Grande Region for the Colonias Program at Texas A&M University, I learned a bit about the needs of people in colonias in El Paso County. The Colonias Program, operated out of Texas A&M's architecture department, connects residents of colonias with community resources, and builds community resource centers throughout the region. While children do face issues while living in colonias, it's important to also note the vibrancy and importance of these communities to their own residents. Pema and I discussed the necessity of a place for children in the borderlands and how important public space is for them. The Texas Department of Health cites that over 36% of

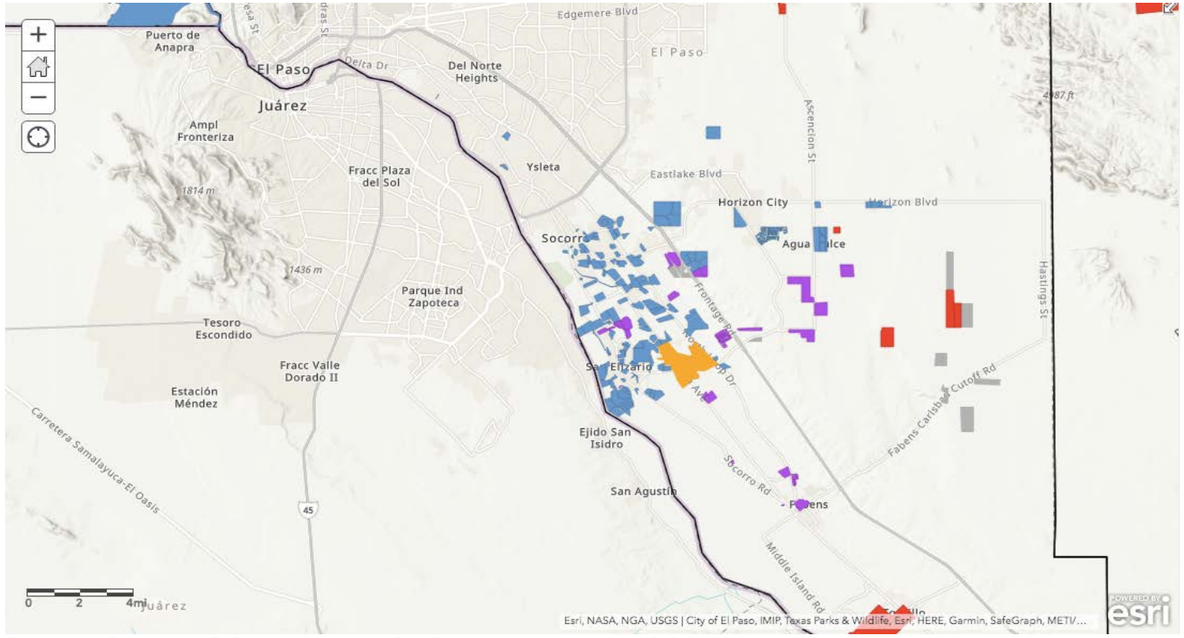

Figure 3.5: Colonias in El Paso, centered in San Elizario in southeastern El Paso County. Adrián Botello Mares, 2020.

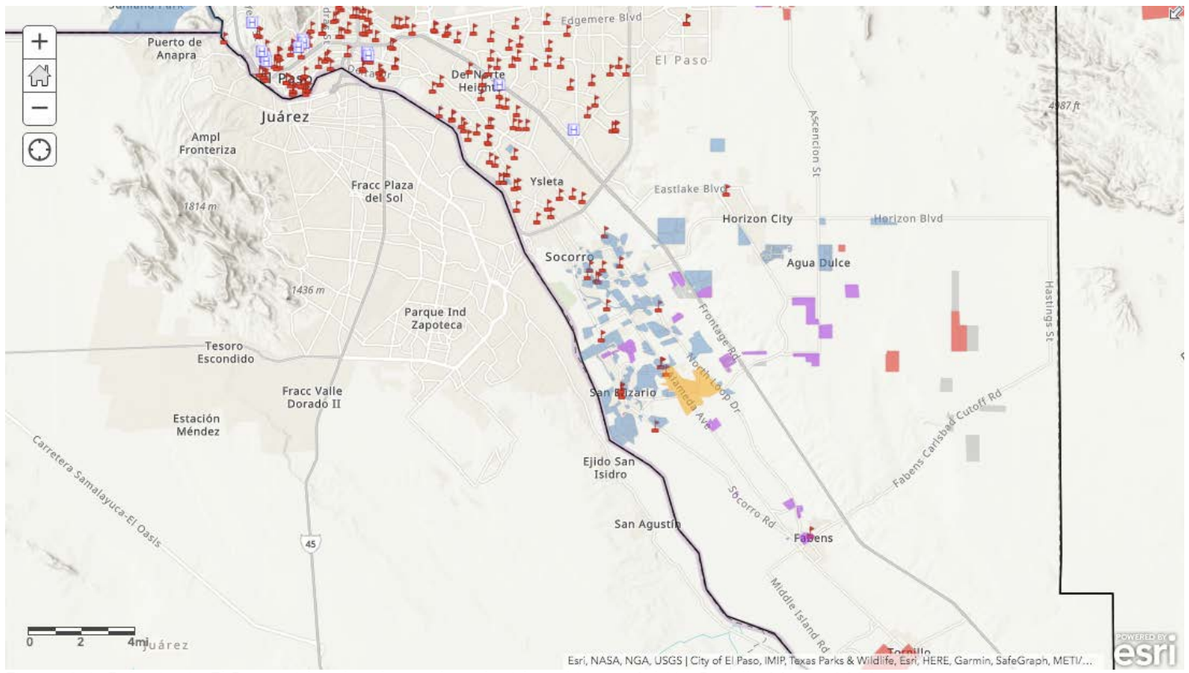

Figure 3.6: Colonias in El Paso with schools overlayed with red icons. Adrián Botello Mares, 2020.

colonias residents in Texas are under the age of 18, and 85% of those children are United States citizens (Chahin, 2005). While they have faced issues with sewage connections and water access in Texas, the Texas Department of Health says that now, 10-15% of colonias residents are without water and/or sewage. There is still a large lack of access to healthcare. Pema also discussed these issues, talking about access to rural colonias being a large issue. A map of schools in El Paso is shown below, again signifying the amount of children in the colonias.

While Pema informed me of specific areas of need in the community, we agreed that design ideas for children's spaces anywhere in colonias communities could be useful for the large population of children in these communities. Areas in Southeast El Paso County as well as Northeast El Paso County are where the highest concentration of colonias are located.

Colonias are also affected by relocation and displacement because of the border wall, despite the first colonias being present in the early 1920s. A Los Angeles Times article refers to Maria Albesa de la Cruz and her niece, Maria Guadalupe "Lupita" Rios, whose story of displacement is a constant one. Their home is a small colonia along the Rio Grande in Texas, called De La Cruz after Maria, who originally bought the plot of land. It is now home to 70 families (Hennessy-Fiske, 2018). Residents are left without answers about how the border wall would affect them, where exactly it would be, and if they would be compensated for their land. "Up to a dozen miles of new fencing is slated to be built in Roma's Starr County, about half near De La Cruz. Barriers will rise 30 feet, with steel posts mounted with lights and cameras. There will also be a 150-foot 'enforcement zone' cleared of

she says. 'How's it going to affect our plants … our animals that migrate through the region.' Ofelia tilts her head to the left, and her long hair moves with the wind. 'Will the wind have to get permission?' she asks. 'And the water?' Thomasa is soft-spoken, even when she is angry. 'These are our traditions,' she says. 'We have to keep them alive, and pass them on to our children.'" (Náñez, 2021, para. 28-34)

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CHAPTER 4: AN ARGUMENT FOR SPACES OF PLAY

FIgure 4.1: A Child plays at the U.S.-Mexico border wall.

Play as Resistance

Enrique Penalosa, the former mayor of Bogota, Columbia once said, "Children are a kind of indicator species. If we can build a successful city for children, we will have a successful city for all people." (ARUP, 2017, p. 4) The idea that children can indicate the health and success of our communities is key to understanding the idea of play as resistance. The act of imagining a future without a border wall between the United States and Mexico in itself is resistance to the wall and the current landscape in which we live. Going further to imagine a space on the border that puts children first in the narrative, and offers a playful design that allows for laughter and joy is also resistance against the landscape of violence that consumes much of the U.S.-Mexico borderlands now.

Alberto Rios' essay about children and the border in Nogales, Arizona describes a moment of guerilla urbanism when kids installed a basketball hoop on the Mexico side of the border wall. They then waited for it to get dark so that they could play by the lights t of the Border Patrol. These industrial lights, intending to be imposing and unpleasant, were used in this case to facilitate play, thus subverting their role and intention. "The boys we had seen milling around suddenly whooped loudly and threw their hands up in the air… The boys' exuberance was a small moment of adolescence — theirs and mine both." (Rios, 2021, para. 11) The moments of joy and playfulness that exist in the borderlands along the wall make this a crucial place to act as a designer. Play has the ability to create joy, as well as other benefits for communities.

Not only do children in the U.S.-Mexico borderlands need opportunities for joy, but play is also beneficial because it can help children deal with traumatic experiences.

The Importance of Developmental Play

Children's experiences are vital to their development when they are young, and this is particularly true in traumatic experiences. A study of Guyanese children "revealed that play provided a context for re-enactments of children's lived experiences and mirrored societal trends—violence, spousal abuse and drug trafficking. It was evidenced that there is disparity between children's play encounters and adult-centric constructions of play as a fun, unimportant and non-serious activity. It is recommended that children's play be taken seriously, as it reflects both negative and positive aspects of the social fabric of the society to which children belong." (Wintz, 2015, p. 37). Similarly, play experiences are crucial to children working through traumatic experiences in the U.S.-Mexico borderlands.

Play also provides opportunities for physical activity. As discussed, physical activity is limited in many colonias, and this creates environmental health problems for people who live there. One study found that in El Paso, there was a disparity in the number of parks in higher versus lower income neighborhoods. Specifically, there were more parks in the higher income neighborhoods compared to those in lower income neighborhoods (Kamel, 2014) which are primarily where colonias in El Paso are located. Fewer parks can lead to less physical activity, especially when the quality or safety of the parks that do exist is compromised. In a study regarding the health of elementary school students in El Paso County, correlations were found between childhood obesity and lack of physical activity. From providing physical activity to the potential of play for key developmental experiences, a place for play is a necessity for children, families, and communities on the El Paso-Ciudad Juárez borderlands.

Children's development plays a crucial role in how children see and act in the world around them, especially in the first five years of life. Healthy child development enhances the capability of humans as they move into adulthood (Zubrick, 2009). Adapting a graphic from a study on children's play and how it contributes to development, I point out the different developmental stages of children in Figure 4.2. "Playing games can influence social, emotional and cognitive development." (Nijhof, 2018. para. 23) Children's experiences with their built environment also affect their early childhood development (Christian, 2015). Many studies note the importance of play in neurological development, which, in turn, can help children cope with traumatic experiences. To best address children's needs in the U.S.-Mexico borderlands, addressing different developmental needs is vital to provide spaces for children of all ages.

PHYSICAL

- Lift head, roll, sit
- Crawl, stand, walk
- Climb, carry objects, run
- Jump, bike
- Catch, throw, increase speed, strength, and precision
- Athlete level of gross motor skills
- Hands to face and sight
- Manipulate and throw objects
- Turn knobs, browse books, build and kick
- Construct, draw, open containers
- Increase precision
- Fine motor for arts and crafts

COGNITIVE

- Sensorimotor period
- Preoperational period - symbolism, intuition
- Concrete operational thought
- Objects and relations
- Creativity and problem solving
- Abstract thinking
- Development of object permanance
- Logical connections

SOCIOEMOTIONAL

- Interaction with environment
- Experimentation
- Autonomy development, emotional ideas
- World orientation, exploration, friendships
- Identity development, self reflection
- Initiative, emotional expression, cooperation
- Intimacy

LANGUAGE

- Babbling and recognizing sounds
- Single word communication
- Rapid vocabulary growth
- Language as social event
- Emergence of personal life story
- First words
- Sentences of 3+ words

0-12 months | *12-18 months* | *1.5-3 years* | *3-5 years* | *5-7 years* | *7-9 years* | *9-12 years* | *12-15 years* | *15-23 years*

PLAY

- Attunement play
- Social play
- Games with rules, competition, risk-taking, gaming
- Presymbolic play
- Symbolic play
- Imaginative play
- Pretend, representational play
- Body play and movement
- Highly active games (chase, rough and tumble)
- Manipulative play
- Object play
- Construction play
- Creative play
- Language play

FIgure 4.2: Developmental ages and stages of play. Adapted Nijhof et al, 2018.

Urie Bronfenbrenner's theory of ecological human development posits that children's experiences shape them just as children shape their experiences. These experiences are nested, scaled, environmental experiences that develop a child's social, physical, emotional, and cognitive skills (Bronfenbrenner, 1979). As shown in Figure 4.2 (adapted from Siddiqi et al, 2007), children develop different scalar experiences and understand larger environments over time. The innermost circles in Figure 4.2 depict what children work on developing first, and radiate out as they grow. We as humans constantly develop and change each of our experiences and understandings of all of these environments through our lifetimes.

This model is important in my own research because it defines the developmental worldview that children have, while also pointing out that these worldviews are scalar. I base my three site designs on these scales of play. The three sites, Puente Zaragoza, Rio Bosque, and the San Elizario Colonias, all address different developmental stages for children. At the Puente Zaragoza site, I focus on teens and how they might address the global and national environment that the border wall fits into. At Rio Bosque, I focus on ways to connect elementary and middle school aged children to their regional environment by demonstrating the ecological impacts of the area. At the San Elizario colonias, I utilize smaller scale design interventions to connect younger children to their residential and neighborhood environments. Developmental play can be addressed through multiple scales, and I address this directly in my three-site design, discussed in the next chapter.

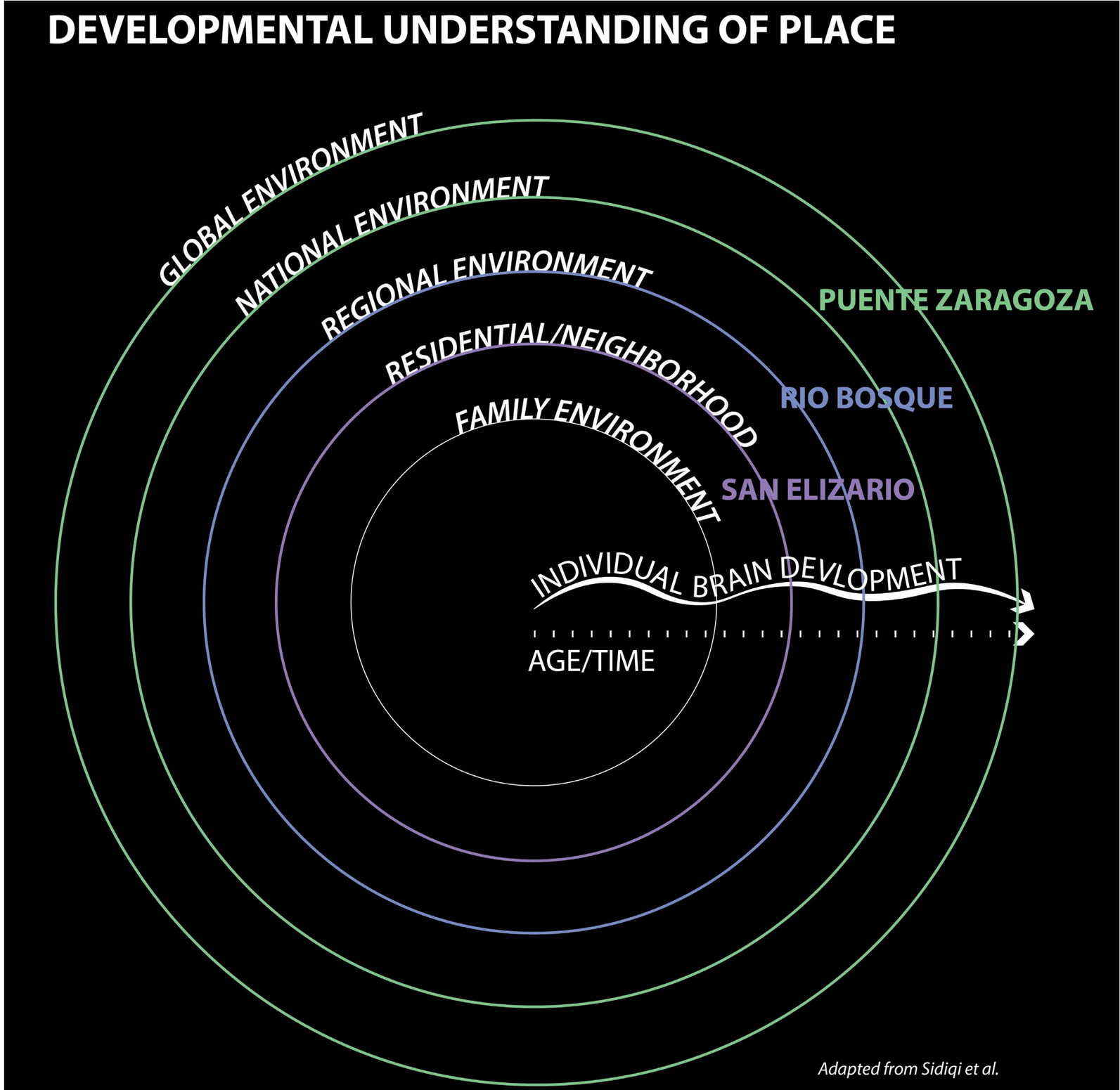


Figure 4.3: Developmental understanding of place. Adapted from Siddiqi et al, 2007.

CHAPTER 5: SPECULATIVE AND EXPERIENTIAL DESIGN CONSIDERATIONS

FIgure 5.1: Rio Grande walk in El Paso.

A Three Site Approach

For my design work, I have selected three sites in the border communities of San Elizario in El Paso. In each site, I focus on engaging children of different age levels based on developmental scales of engagement as noted earlier. The three sites - Puente Zaragoza, Rio Bosque, and the San Elizario Colonias - engage with different developmental scales that children can conceptualize, in a manner to engage children in these colonias and give them opportunities for play. While each site focuses on a scale of development for different ages of children based on developmental theories (shown in Figure 5.2), each design proposal is by no means exclusive to just that age group, and offers amenities and designs to serve children and families alike.

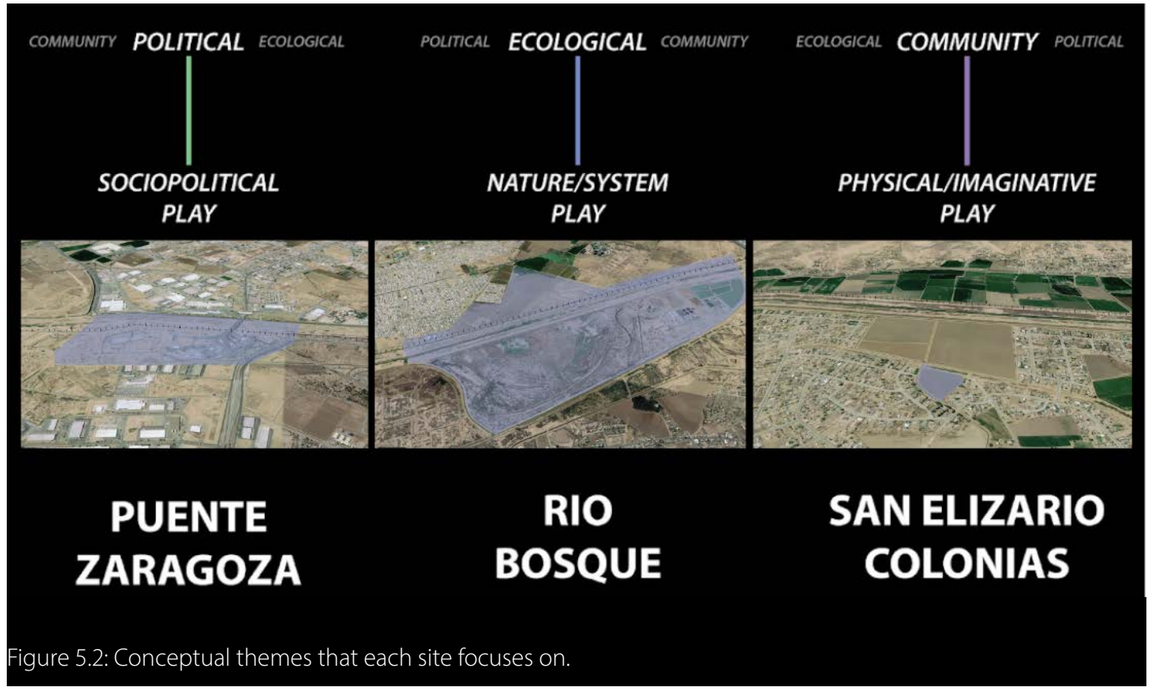


Figure 5.2: Conceptual themes that each site focuses on.

Paso Del Norte Trail Network and Site Justification

All three sites I selected were identified as areas of interest and importance in the Paso del Norte Health Foundation (PDNHF) Trail Report Master Plan, published in October 2018. The Paso del Norte Health Foundation is a foundation that uses philanthropy and grants to fund initiatives to improve the health and quality of life for residents in El Paso County and neighboring counties. The Trail Report Master Plan is incredibly thorough in its dissection of the history and context of El Paso and its details about the proposed trail network through El Paso County. The report discusses the history of the area; including the Spanish and Pueblo Tribes who established historic missions in the area.

There were six mission settlements in the current El Paso area; El Paso del Norte, San Lorenzo, Senecú, Ysleta, Socorro and San Elizario. El Paso was well known because of its proximity to El Camino Real, a 1,600 mile trade route that ran between New Mexico and Mexico City. San Elizario is also very important due to its history as a rest stop during the 1840s gold rush and its location along the trade route (Paso Del Norte Health Foundation, 2018). The history of these missions in San Elizario helped PDNHF to identify key areas that could connect to the trail. Using these key sites and already existing trails, PDNHF connected a trail system throughout the region. Figure 5.3 is a map of this planned trail network specific to the Mission Valley region, where my three sites are located. Connecting to this planned trail system will give prominence to the sites that I've chosen along the route, and draw in more public foot and bike travel.

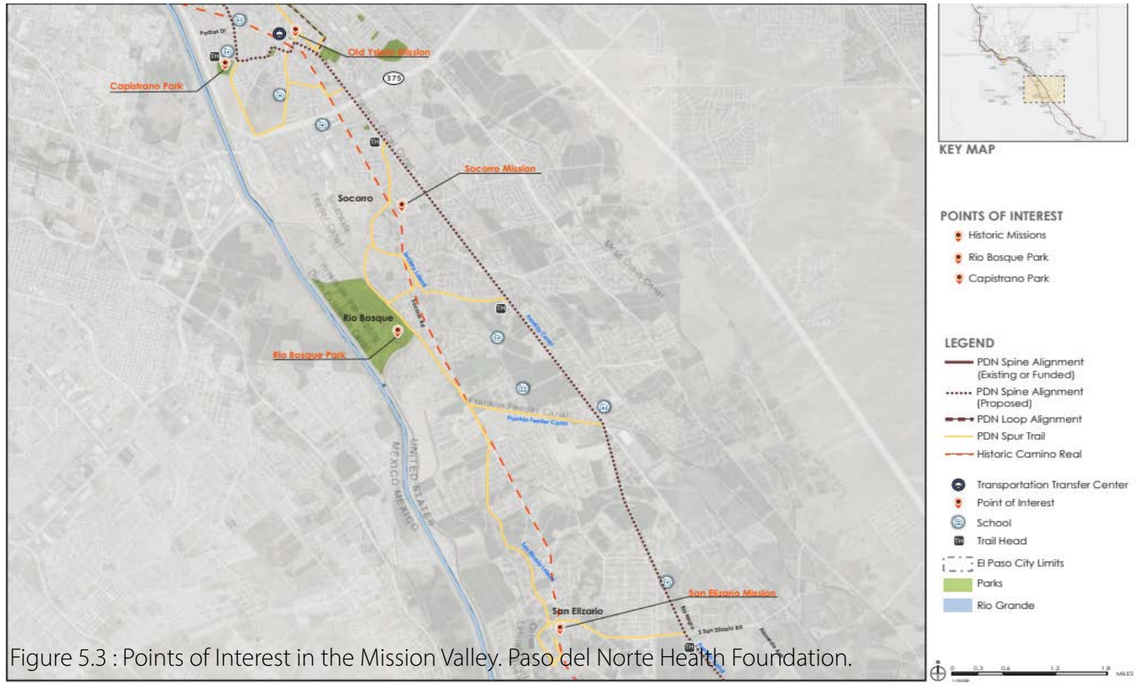


Figure 5.3 : Points of Interest in the Mission Valley. Paso del Norte Health Foundation.

El Paso County's demographics also contribute to choosing the three sites of Puente Zaragoza, Rio Bosque, and San Elizario Colonias. The Mission Valley area that encompasses San Elizario and the three sites has a large Mexican American population as well as a large population below the poverty line (see Figure 5.4) and a large population of children (see Figure 5.5).

The population of San Elizario in 2019 identified as 98.6% Hispanic/Latino (United States Census Bureau, 2019).

The population of San Elizario in 2019 identified as 98.6% Hispanic/Latino (United States Census Bureau, 2019).
These demographics, the future trail network, and the prominence of these locations in El Paso's history have led me to the three sites I chose for this project. I chose them in an effort to serve communities with a high Mexican and Mexican American population in the border communities and to better address children's rights and issues in the borderlands, where these are not always a priority. These three sites are also important to the political, ecological, and community-based needs of Socorro and San Elizario, which were continuous themes in my research. Though I could not engage with children in these border communities directly for this project, I was able to analyze community participatory data from PDNHF about important elements of public space, shown in Figure 5.6.

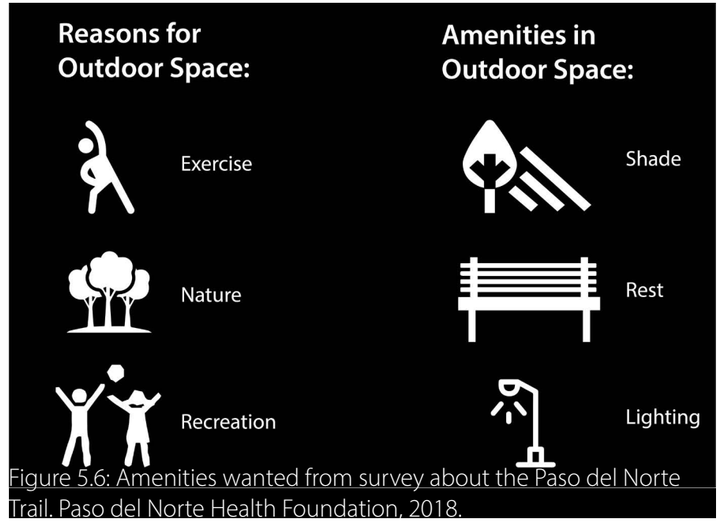
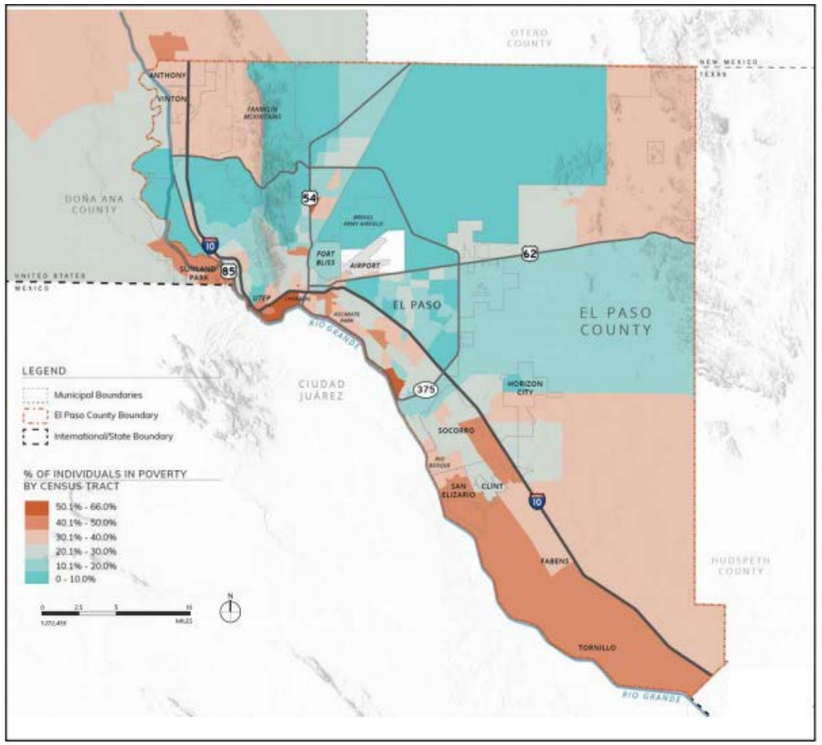


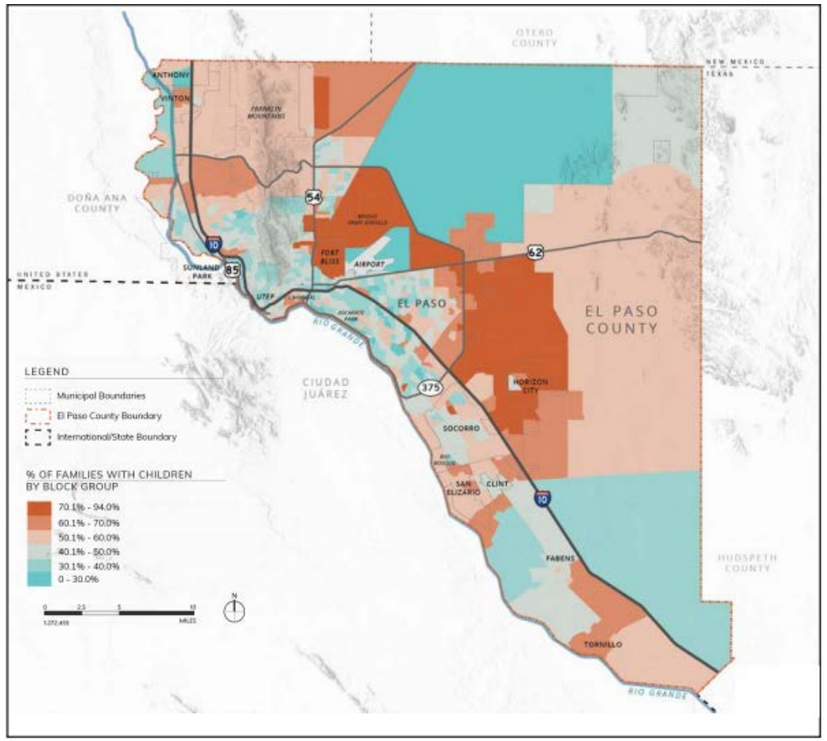
Figure 5.6: Amenities wanted from survey about the Paso del Norte Trail. Paso del Norte Health Foundation, 2018.

Another key part of my research was mapping the parks along the U.S.-Mexico border in El Paso and Ciudad Juárez (Figure 5.7), showing where in the cities there is a lack of green space. This was an important part of the process of site selection as I was trying to locate areas of greatest need and potential for positive impact. The GIS dataset also included planted medians, which does make some "parkland" look more dense than it should. The importance of greenspace in this area becomes apparent from this map, as well. The lack of park space along Rio Bosque and San Elizario is evident, and points to areas where more space for parks could be vital.



MAP 8. EL PASO PERCENTAGE OF INDIVIDUALS IN POVERTY BY CENSUS TRACT

Figure 5.4: Map of El Paso County with percentage of individuals in poverty. Paso del Norte Health Foundation, 2018.



MAP 7. PERCENTAGE OF FAMILIES WITH CHILDREN BY CENSUS BLOCK GROUP

Figure 5.5: Map of El Paso County with percentage of families with children. Paso del Norte Health Foundation, 2018.

Figure 5.7: Map of parks on either side of El Paso and Ciudad Juárez.

PUENTE ZARAGOZA SITE

RIO BOSQUE SITE

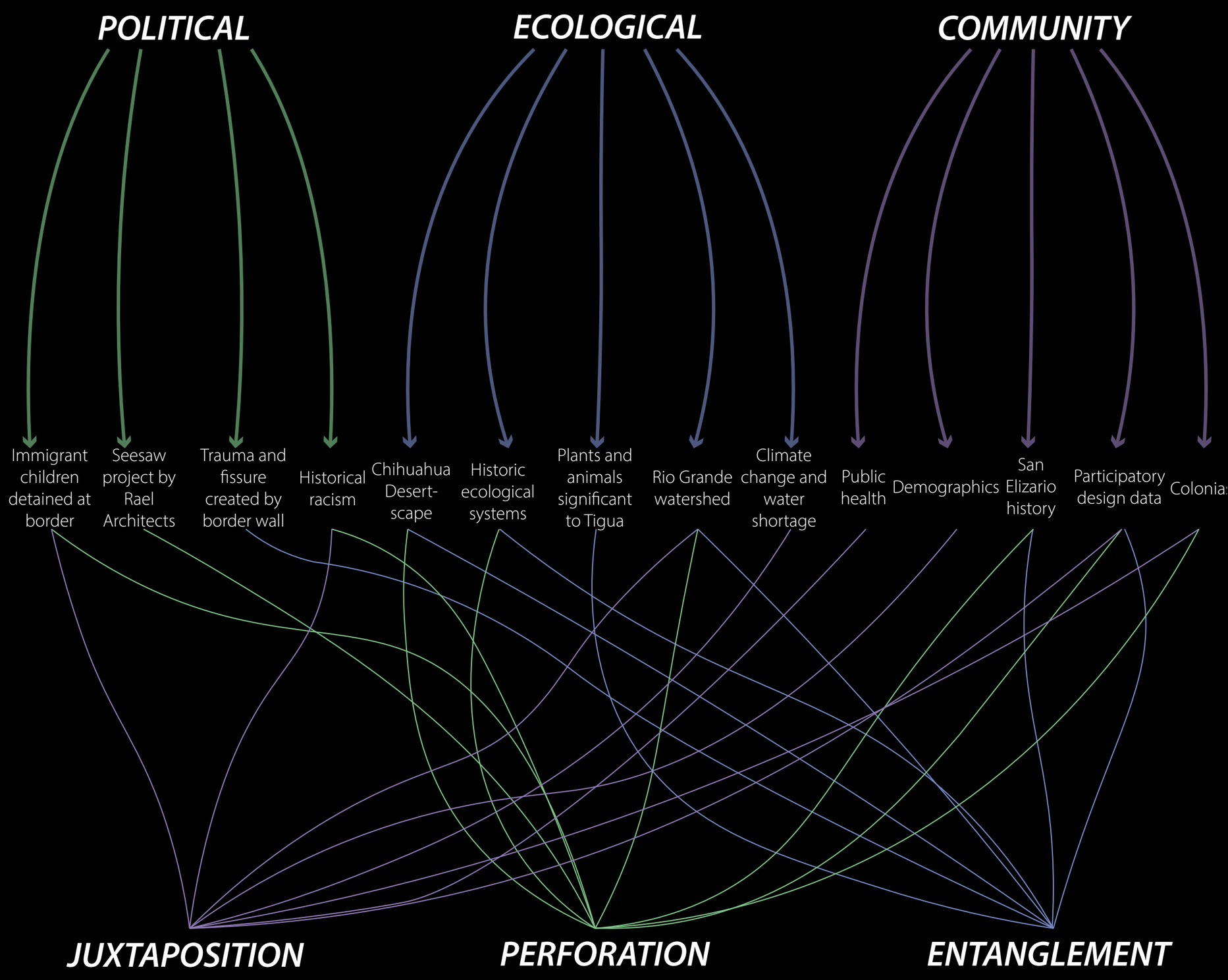
SAN ELIZARIO

SAN ELIZARIO COLONIAS SITE

3 MI

SITE CONSIDERATIONS

Figure 5.8: Design themes from areas of research.

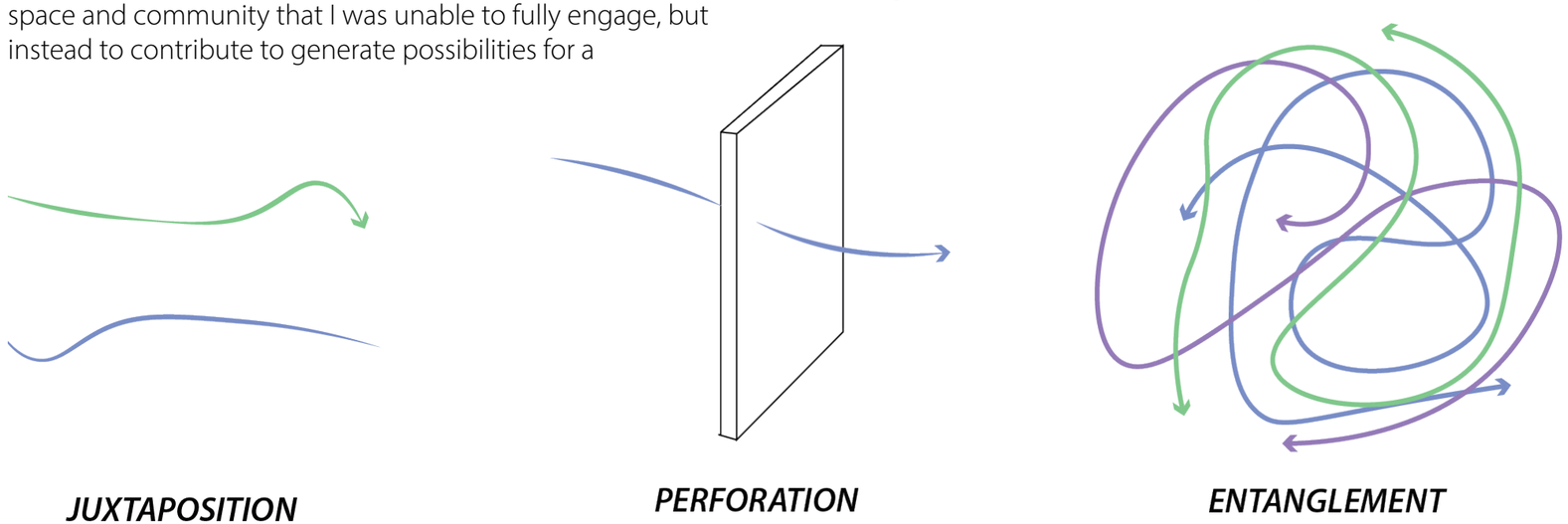


Design Framework for Places for Play in El Paso and Ciudad Juárez: A Speculative Future

Using the framework of themes along the border, I focused my speculative design project on prominent political, ecological, and community based needs. The designs are meant to function within a post-border wall future and cross the current boundary between the United States and Mexico. Through the diagram shown in Figure 5.8, I've broken down my research themes of political, ecological, and community-based interests, and developed a list of research topics that I focused on in the middle of Figure 5.7, through these different lenses. Through the research process, themes of juxtaposition, perforation, and entanglement became salient and have inspired me going into the conceptual design process of the three sites. For example, these themes come through in the juxtaposition of access to public health in colonias vs. areas where more white residents live in El Paso, or the entanglements between plant and animal species of the Chihuahuan desert scape, or the perforation of the Rio Grande's path, forging its own path despite efforts of humans to define it, and use it to define the boundaries of the U.S. and Mexico.

Through these design themes of juxtaposition, perforation and entanglement (Figure 5.9), I worked to design spaces that would engage children from the U.S.-Mexico borderlands. These are places where there could be more green space that would benefit the population living in the San Elizario neighborhood, where all three sites are located. These three site designs function on a spectrum of idealistic to realistic (Figure 5.10). While all three proposed designs contribute to a wide range of opportunities for play for many ages and communities on either side of the the border, the San Elizario Colonias site is the most conceivable, and is more readily buildable, than the more speculative design at Puente Zaragoza, which would require a complete dismantling of the way we view the border. While it's unlikely that such an ideological shift may happen quickly, it's vital that it does happen. Spaces that consider political, ecological, and community connections between the U.S. and Mexico are where all three of my designs lie, whether more towards the idealistic or realistic side. My intention is not to prescriptively give schematic designs to a space and community that I was unable to fully engage, but instead to contribute to generate possibilities for a different future for space in the borderlands. As this body of work grows, and centers different communities and groups, design can play a role in how we view the border and the wall, and maybe even how policymakers view it, too.

Figure 5.9: Conceptual themes and inspiration from research themes.



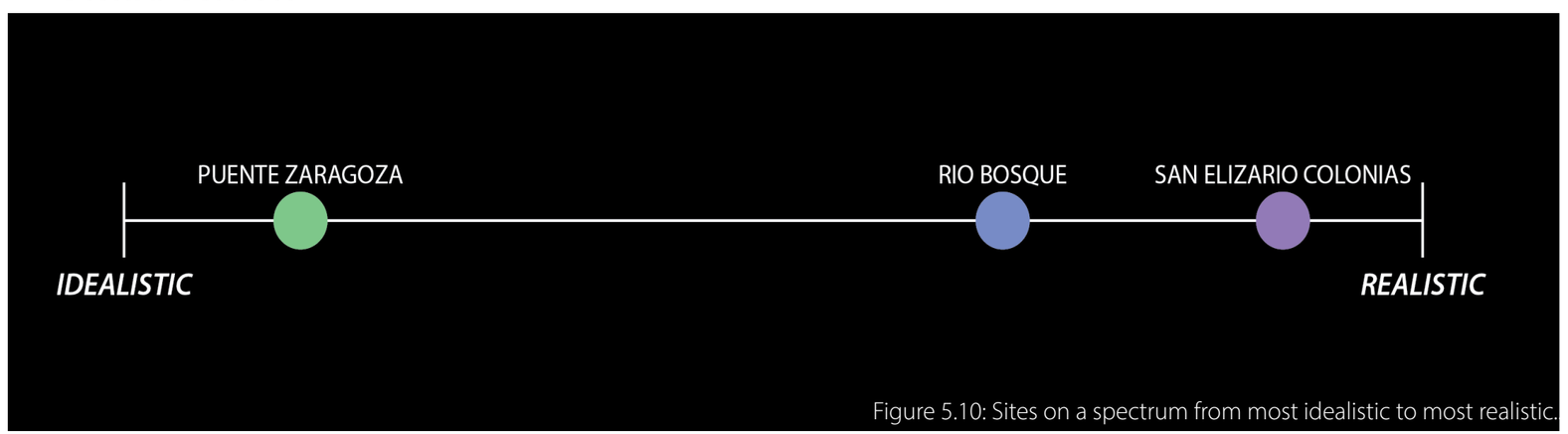


Figure 5.10: Sites on a spectrum from most idealistic to most realistic.

CHAPTER 6: CONCEPTUAL & EXPERIENTIAL DESIGN - PUENTE ZARAGOZA

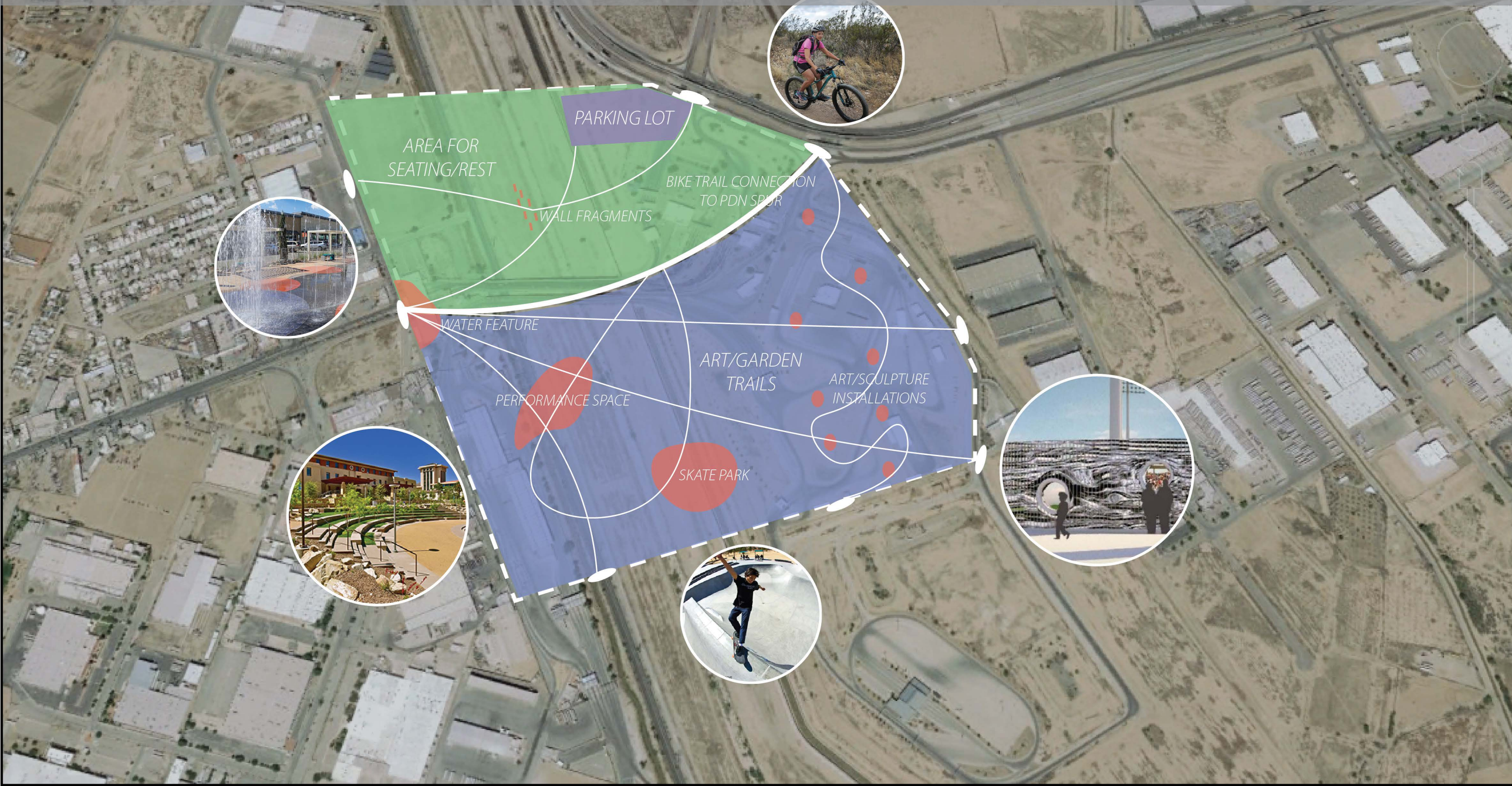


Figure 6.1: Plan of Puente Zaragoza site design.

Puente Zaragoza, translating into "Zaragoza Bridge" is literally a bridge between the nations of the United States and Mexico. The idea of bridging here addresses my design concept of perforation, as with these concepts I am seeking to draw a better connection between the two nations, and transnational peoples. Puente Zaragoza is currently a site of Customs and Border Patrol and a border crossing between the two nations. In a post-border wall landscape, I imagine what this site could look like if it engaged the community with the political narrative of the border wall. Connecting this political narrative addresses a transnational and even global scale of borders, nations and peoples, that will be the scale that teenagers are beginning to think at.

In this design, I sought to attract teens to the site and consider the sort of programmatic activities they may want to engage with. As shown in Figure 6.1, the site crosses over the existing border wall in the imagined post-border wall landscape and the white ovals are potential entrances and exits. The thick white line shows the route between the two nations, existing now for cars. It is replaced by a walking and biking route, pulling users into the site from both the United States and Mexico. The car connection would be re-routed outside of the site, but no longer as militarized and policed. The pink colored areas represent specific programmatic locations or areas of interest throughout the park, such as the water feature that pulls viewers in. This could possibly be a fountain or splash park feature that could be used recreationally, as shown in the precedent images here. With water and the Rio Grande being so vital to this region, the water is also a vital entrance point and representation of the ecology of the region. The purple areas point out a parking lot for people to access the site from, as well as areas for walking and exploration through art installations and plantings. The green area represents places for a more reflective experience, where fragments of wall and spots to rest would be. Tangled paths lead to different areas for seating and rest, fragments of wall for memorialization and reflection, sculptures and interactive art exhibits and installations through native plantings as well as a skate park and performance space.

The complex history and development of El Paso and Ciudad Juárez as a contiguous city, as well as the Rio Grande as a vital resource between the two, shows their entangled development. Something like the mapping and collaging work I created and depict in Figure 6.2, could be a useful art or installation technique to engage with the political aspects and understanding at this site. Visual representation and storytelling in the borderlands can become a collaborative and interactive process at the site through art as well.

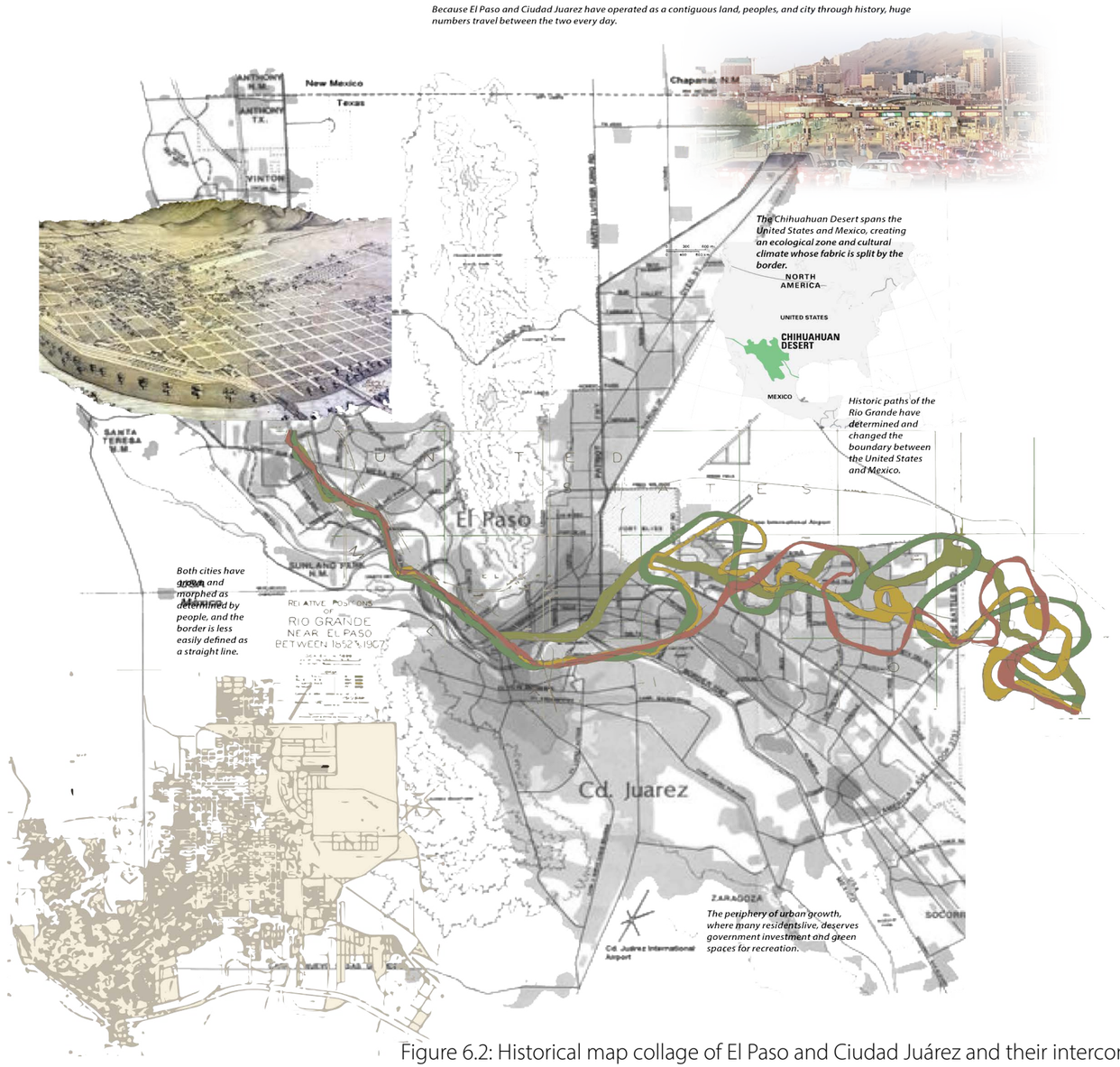
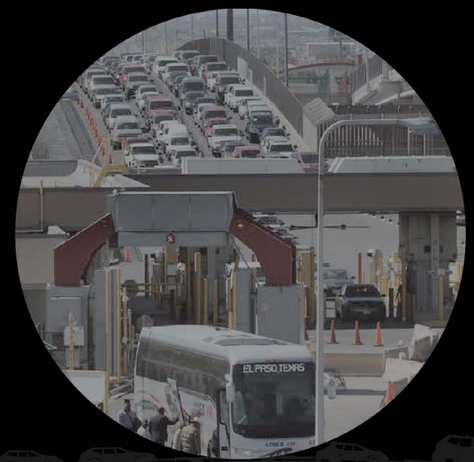


Figure 6.2: Historical map collage of El Paso and Ciudad Juárez and their interconnectedness.

Figure 6.3 shows a site section conditions as they exist now, versus the potentially designed space at Puente Zaragoza. Here it cuts through the performance area, which could host school groups or local theater productions, or be a good gathering place for groups. Potential political demonstrations or performances for children's theater could also represent the political themes at this site so the design is intended to accommodate such events.



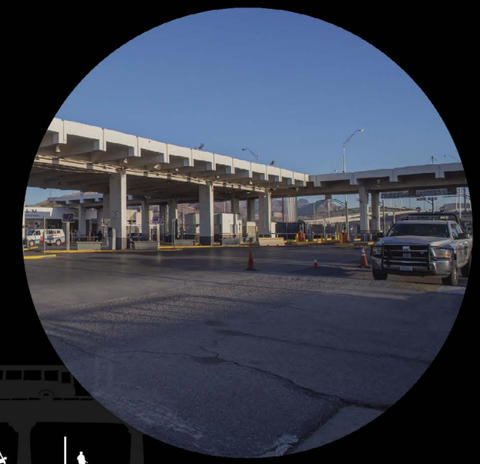


Figure 6.3: Current and designed site sections of Puente Zaragoza site design.

In Figure 6.4, a perspective shows someone creating graffiti through the interactive art on potential border wall fragments used for community art projects or reflection space. Utilizing children's ability for expression and giving them a canvas to do so gives them the ability to tell their own narrative of how they experience the border wall. Art can be playful and joyful as well as a form of resistance, but most importantly it would allow visitors to express themselves and reflect on their own feelings.

Figure 6.4: Perspective of graffiti art installation at Puente Zaragoza site design.

CHAPTER 7: CONCEPTUAL & EXPERIENTIAL DESIGN - RIO BOSQUE

VIEWING PLATFORM
RESTORED RIPARIAN
WETLAND
VIEWING PLATFORM
ACTIVITY FIELD
RESTORED RIPARIAN
VIEWING PLATFORM
RESTORED GRASSLAND
RESTORED GRASSLAND
VISITORS CENTER
PARKING LOT
SALTCEDAR REMOVAL
VIEWING PLATFORM
RESTORED RIPARIAN
VISITORS CENTER
BRIDGE
WETLAND
PARKING LOT
SALTCEDAR REMOVAL
SPECIES NATURE PLAY
RESTORED RIPARIAN
0′ 750′ 1500′

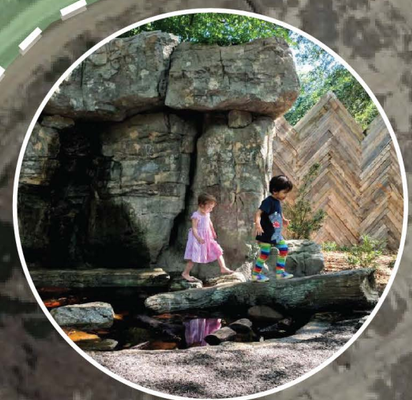


Figure 7.1: Plan of Rio Bosque site design.

Location of El Paso Border Wall Project

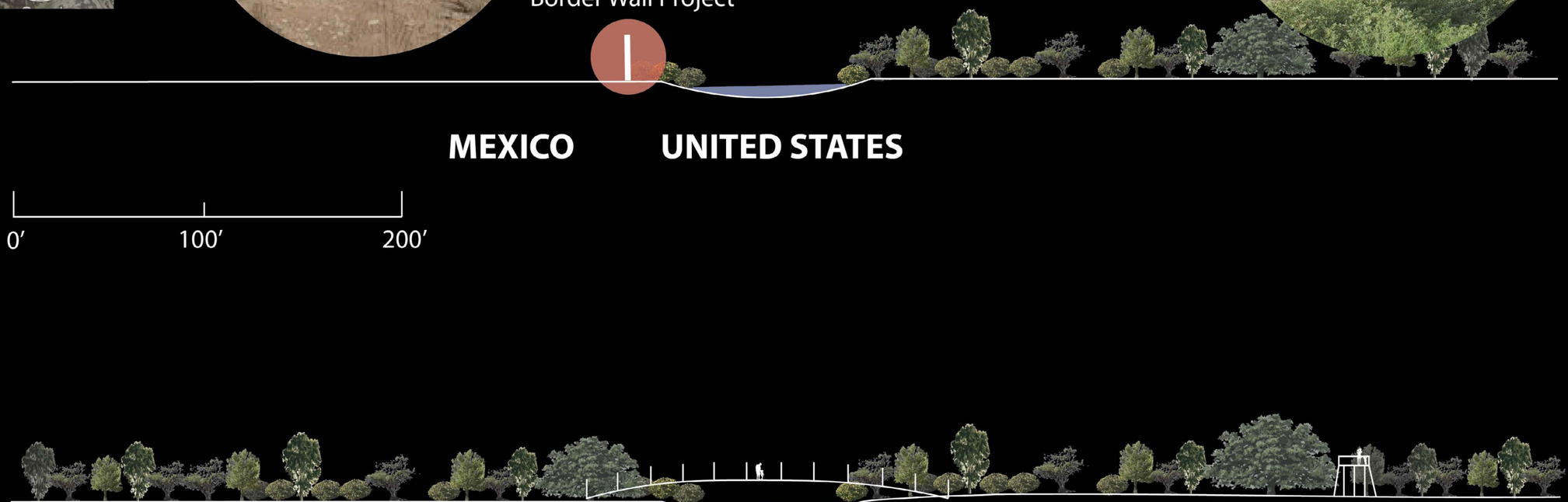


Figure 7.2: Current and designed sections of Rio Bosque site design.

Rio Bosque, which translates into "river forest" is an already designed park, managed by the University of Texas at El Paso. It currently only serves the United States side of the border. However, a design that connects the park on either side in a post-border wall landscape could address the needs of the communities on the Mexican side of the border as well as support the Chihuahuan Desert ecosystems. My design approach for Rio Bosque engages a scale of the region, with a focus on middle school aged children or late elementary school aged kids who are beginning to be more aware of the world around them and understand the scale of their space at a regional level. Bosques are ecosystems that are seasonally wet, and therefore have lush vegetation within the desert landscape. The park utilizes an oxbow that the Rio Grande historically had, and an adjacent wastewater treatment facility, to supply the park with seasonal water (Nuno-Whalen, 2020). The water could also be accessed in Mexico, and serve as a transnational park that engages children of both communities to think about ecological systems.

The proposed design, shown in Figure 7.1, at the Rio Bosque site confronts the border wall as a disconnection between ecological systems that have existed for far longer than humans, and connects Rio Bosque in a post-border wall future. This site design engages the community in a manner that prompts them to think about the regional ecology, and see how it has supported humans. Using Rio Bosque's redevelopment plan, existing topography, as well as Mario Nuño-Whelan masters thesis from the University of Arizona, I imagine what the space might look like if it crossed over the existing border and took over 88 acres in Mexico that are currently owned by a developer. In doing so, I seek to engage both nations in a conversation about regional ecology that can't be contained on either side. Based on Rio Bosque's redevelopment plan, green areas in Figure 7.1 show restored riparian areas. Purple areas show restored grassland and blue areas show potential wetland spaces. Pink areas show ones of specific activity areas or saltcedar brush removal that needs to happen. Mostly using ecological zones, the trail system through the park would

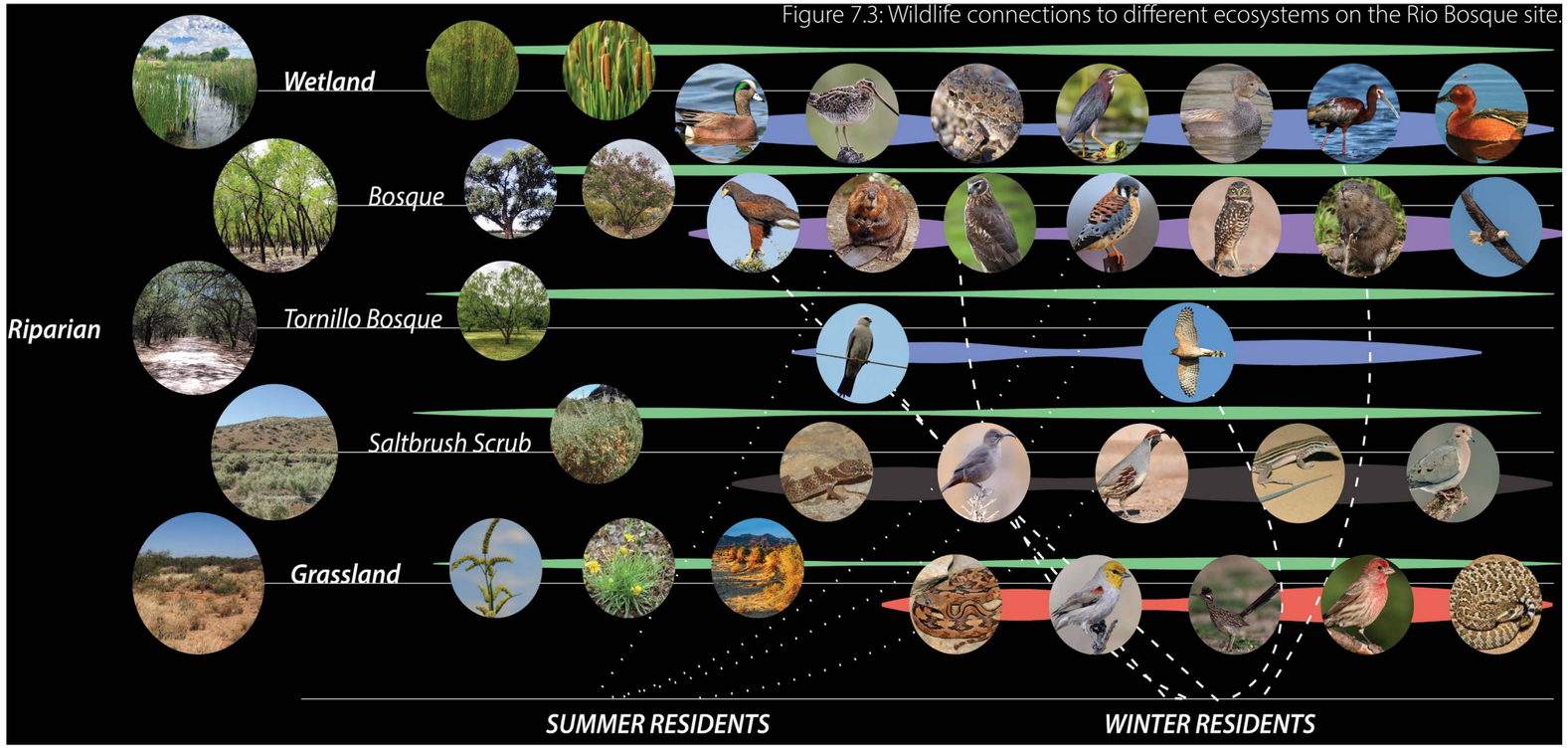


Figure 7.3: Wildlife connections to different ecosystems on the Rio Bosque site.

also have lookout towers, bridges, and an activity field that might attract school groups or families who visit the site.

Figure 7.2 shows sections that juxtapose existing and proposed conditions at Rio Bosque. The future is depicted by a section cut without the disconnection of the border wall. During Donald Trump's presidency, he ordered the construction and maintenance of much of the wall in El Paso, through the El Paso Border Wall Project. In 2020, much of the border wall was maintained in Rio Bosque which is causing ecological damage as well (UTEP, 2020). Instead of an impenetrable wall, perforating this space with a bridge over the Rio Grande would engage users directly with the ecology without harming the environment beneath them.

Figure 7.3 shows the different species that reside in the different ecological zones of Rio Bosque: wetland, riparian, and grassland. The importance of each species is shown seasonally as well, the white dotted lines leading to the park's summer residents that migrate through Rio Bosque, while the winter residents that come through are connected by dashed lines. The native plants and animals are vital to migratory species in the park. Green color bars are under plant species, while the other color bars represent different animal species that live in each different zone. Connecting the site in a post border wall landscape would help forge a more robust future for these animals, as well connect communities to the nature of the Chihuahuan desert.

The perspective, shown in Figure 7.4, illustrates a potential nature play opportunity for children to engage ecological systems. Through interpretive signage about Chihuahuan Desert landscape and species that call it home, children can make connections to their regional environment and the importance of the ecosystem.

Figure 7.4: Perspective of a nature play area at the Rio Bosque site.

CHAPTER 8: CONCEPTUAL & EXPERIENTIAL DESIGN - SAN ELIZARIO COLONIAS

Figure 8.1: Plan of San Elizario Colonias site design.

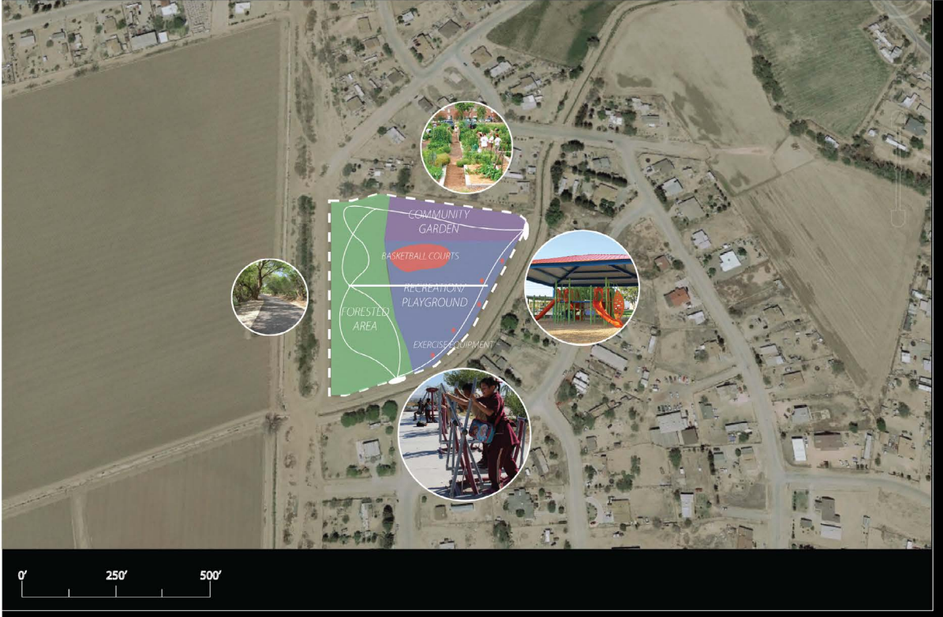


Figure 8.2: Current and designed sections of the San Elizario Colonias site design.

In researching the colonias, I looked at the potential for a small-scale place for play that directly engages children and families from the San Elizario colonias at the neighborhood level. Colonias directly translates to "neighborhood," exemplifying the focus on the residential/neighborhood scale of children's development at this site. Younger elementary school-aged kids would enjoy engaging with this smaller park at a comfortable neighborhood scale. It abuts the community directly, making it walkable and close to home. Places for parents to sit and exercise also allow parents to linger and watch their children here. Using the community participatory data from Paso del Norte Trail Master Plan report (Paso Del Norte Health Foundation, 2018), El Paso County residents' most cited reasons for using the outdoors were as exercise, getting into nature, and recreation. The top amenities that residents wanted to see were shade, benches/rest areas, and lighting for nighttime use. I incorporate these community needs into all three designs, but explicitly here for the youngest children and closest to the community.

Thinking about these data, I made this plan (Figure 8.1) for an currently undeveloped area right up against the residences in San Elizario that include a community garden in purple, basketball courts in pink, a shaded play area in blue, and a small trail through the park that has exercise equipment for adults, shown in pink ovals. On the eastern side, a forested area, shown in green, provides people an opportunity to explore and wander through the site. Lighting through the forested area and along paths could be incorporated, as well. Paths weave between one another but also are easy to navigate and see between.

My proposed design for this site does not go through the border wall, or reference a relic border wall of a post-border wall landscape because it's meant to serve the colonias at the smallest and most accessible scale. In a conversation with Pema Garcia, the regional director of the Colonias program at Texas A&M, we discussed the community need for outdoor space. That's what this site is really meant for, to engage children and their families at a scale closest to home. Figure 8.2 shows a section through the San Elizario colonias proposed design. It depicts children playing under a shaded structure and places for people to sit and rest.

The diagram in Figure 8.3 shows how different ages might engage with different elements of this site, or how parents who come with smaller children might engage with it.

Figure 8.4 is a perspective of the site in the community garden, which could give specific plots to children or a family in the community to grow their own crops in a collaborative environment. In the proposed design, community members could have access to their own plots of land, and children could take ownership in learning how to garden in this space. While providing community needs and benefits and addressing issues in colonias like food insecurity, the site also helps children to understand a bit of the area's ecology. The entirety of the site envelops children in their urban ecology while giving them opportunities for play and joy.

Figure 8.3: Examples of how different children may play on the site.

Figure 8.4: Perspective of community garden at the San Elizario Colonias site.

CHAPTER 9: CONCLUSIONS

Figure 9.1: Sketch of the Rio Grande from *Borderwall As Architecture: A Manifesto for the U.S.-Mexico Boundary*, Ronald Rael.

Play as Resistance in the Borderlands of El Paso

The three design interventions I have proposed in this thesis for the San Elizario area of El Paso showcase the importance of play for communities that have a large population of children. Children rarely have a voice in the design process, and deserve to be considered, listened to, and designed for. Especially in the borderlands of the U.S. and Mexico, that have a traumatic history, play can become an act of resistance for children and families who live there. Joy and recreation is a children's right that not all have access to. The United Nations, in Article 31 of the Convention of the Rights for the Child, recognizes the rights children have to play and recreation, and their right to access opportunities in cultural and artistic life (UNICEF, 1989). Part of my mission as a landscape architect is to create greater access to this, in areas that need it the most, for people that need it the most.

Using themes in my designs of perforation, entanglement, and juxtaposition -- themes that we see through political, ecological, and community narratives of the borderlands -- aids in the creation of a cohesive network of public space. These themes speak to the struggle at the border wall, and the imagining of a post-border wall space; one that looks past physical separation. Creating a network of places of play through these three sites gives the people in these borderland communities the multiple opportunities for play as resistance. The more spaces like this that we build and invest in as designers and architects of the public realm, the healthier our cities will become, and the greater the potential for change. As designers, we must continue to build design ideas in this space and contribute to a body of work, knowledge, and imagery that dismantles the physical barrier between the United States and Mexico. We also must continue to push to initiate and build these design ideas, creating spaces that could benefit children and use their invaluable knowledge as we do.

Limitations and Future Studies

As a student writing a Master thesis in the midst of a global pandemic, I encountered challenges throughout this project. In an ideal world, I would be able to talk to children about design ideas and what they would like to see in the spaces where they live. However, I would never want to get a child's hope up about such speculative projects, which is why I focused on the Paso del Norte Foundation's data about public space interests instead. An important next step would be to discuss design ideas with children who live in San Elizario, especially with a more conceivable project like the site adjacent to the colonias.

I also would have loved to travel to the Chihuahuan Desert, and visit the lands of the Rio Grande and the borderlands in El Paso and Ciudad Juárez. Engaging with the political, ecological, and social aspects of a space, through in-person interviews and plant walks, as well as park visits and even community meetings, would've greatly substantiated this project. While it's entirely possible to design space there without this, I would want to work with community stakeholders and experts to understand the space as best as I can, and do community based research and design. I think moving forward with discussion with the community would also be a place to move forward.

Most importantly, the projects that inspire change at the border, such as student thesis work and Ronald Rael's project at the border must endure. To address the issues at the border, the United States has a long way to go; things will not change in an instant. The relationship between the two nations will change slowly and will always be intertwined. I hope that this thesis can continue to question the relationship between the United States and Mexico, and can prompt discussion about how design might play a role in disputing the physical border wall between them.

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