

Land Has Memory:
How we use history to reveal memory

by

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A REPORT

submitted in partial fulfillment of the requirements for the degree

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Abstract

We seem to lack a deep understanding of our cultural and natural history. Without a knowledge of our history, and if we do not know our history, we cannot fully understand ourselves or our common humanity. We must gain a deeper understanding of our cultural and natural history. With more in-depth knowledge, we can become better stewards of the land and better face climate change impacts to prepare for a better tomorrow.

This project report is compiled from an initial background research of sense of place, place attachment, benefits of trail design, and cultural and ecological memory, leading into an analysis of five different case studies. From the case studies “Best Design Practices” were developed and then applied into the final product of this report: a design application of a “Trail of Stories.” Stories are a direct product of an individual’s memory or a collective memory. This “Trail of Stories” is presented through the histories of four different places (Lenexa, De Soto, Eudora, and Lawrence, KS) along a 36- mile trail corridor along the K-10 highway of Eastern Kansas and showcases the historical aspects of these four cities. From the historical aspects, cultural and ecological memories emerged to create stories along the trail corridor. The master plan for the contiguous trail, the four designed nodes in each city along the trail, and the overall design application were informed from a literature study, case studies, and qualitative assessments.

By knowing our combined cultural and natural history, the land may reveal wisdom and memory for a healthier future landscape. By becoming better stewards, advocates, nurturers, and protectors, the land gains significant support and hope for a better future. Our past teaches us, informs us, and compels us to try harder, do better, and strive for a more resilient future. Through memory, we can deepen our connection with the land and our understanding of the land for a better tomorrow for us all.

The background of the entire page is a light purple topographic map with various contour lines. Overlaid on this map is a large, dark purple fingerprint, which is the central visual element. The fingerprint's ridges follow the general flow of the topographic lines, creating a sense of connection between the land and the human element.

LAND HAS MEMORY

HOW WE USE HISTORY TO REVEAL MEMORY

Madelyn Cole
Master's Report
Spring 2021

The background of the entire page is a topographic map. It features a series of white contour lines on a solid purple background. The lines are irregular and wavy, representing the elevation of a landscape. There are several distinct peaks and valleys, with some areas having more closely spaced lines indicating steeper slopes. The overall pattern is complex and organic.

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College of Architecture, Planning & Design

Land Has Memory
Master's Report
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To my parents, thank you for supporting me, believing in me, and loving me all the way.

To my fiancé, I promise I am not always this stressed. It's just a phase.


ABSTRACT

We seem to lack a deep understanding of our cultural and natural history. Without a knowledge of our history, and if we do not know our history, we cannot fully understand ourselves or our common humanity. We must gain a deeper understanding of our cultural and natural history. With more in-depth knowledge, we can become better stewards of the land and better face climate change impacts to prepare for a better tomorrow.

This project report is compiled from an initial background research of sense of place, place attachment, benefits of trail design, and cultural and ecological memory, leading into an analysis of five different case studies. From the case studies “Best Design Practices” were developed and then applied into the final product of this report: a design application of a “Trail of Stories.” Stories are a direct product of an individual’s memory or a collective memory. This “Trail of Stories” is presented through the histories of four different places (Lenexa, De Soto, Eudora, and Lawrence, KS) along a 36- mile

trail corridor along the K-10 highway of Eastern Kansas and showcases the historical aspects of these four cities. From the historical aspects, cultural and ecological memories emerged to create stories along the trail corridor. The master plan for the contiguous trail, the four designed nodes in each city along the trail, and the overall design application were informed from a literature study, case studies, and qualitative assessments.

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INTRODUCTION

CHAPTER ONE

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- c. Research Design Process

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INSPIRATION

When I was younger, I didn't know what I wanted to do or who I wanted to be. I knew that I had interests in many different things and that I couldn't do all of them. I loved books, I loved history, I loved the outdoors, and I loved poetry. The older I got, the more I realized that what I truly loved was stories. I loved reading them, writing them, being told them, living them, and experiencing them. I am a librarian's daughter, an avid reader, and raised by teachers on all sides of my family, my grandpa being a huge history buff who tried always to keep me fascinated with the subject.

When I found the profession of landscape architecture, it combined all the things I seemed fascinated with, history, memory, and landscape. And when it came down to a subject for my Masters' Report Project, I knew I wanted to do something with history, memory, and landscape. The project discussed here will highlight the importance of history and memory within the landscape through storytelling, how they will reveal best practices for the land, and the importance of land stewardship.

IMPORTANCE

We seem to lack a deep understanding of our cultural and natural history. Without a knowledge of our history, we may be doomed to repeat past mistakes. We are who we are because of our history, and if we do not know our history, we cannot fully understand ourselves and our shared humanity. By knowing our combined cultural and natural history, the land may reveal wisdom and memory for a healthier future landscape. We must gain a deeper understanding of our cultural and natural history. With more in-depth knowledge, we can become better stewards of the land and better face climate change impacts to prepare for a better tomorrow. By becoming better stewards, advocates, nurturers, and protectors, the land gains significant support and hope for a better future. When we protect the land more than we ask what the land can provide for us, the more likely we will be able to peacefully coexist without the constant fear of exhausting all of our natural resources that the land provides. With rising greenhouse gas emissions like methane and carbon dioxide, a rise in Earth's average surface temperature, and changes in weather patterns, we must pay closer attention to our home, our planet, now more than ever. The Earth requires us to be better stewards, for her sake, and for ours.

In the project reported here, memory is significant and relevant because of its power in a design setting. Memories are distinctly different than fictional or non-fictional history. We all have distinct memories of place, and memories come from our past. History is already there and entirely achieved, while memory is personal because we have a stake in how it is told (Hampl 1999). By tapping into memories, we can begin to design a place with deeply embedded

meaning, multiple memories and purposes, a place that people and visitors can relate to and feel at home in. Memories can be extremely powerful in our connection to one another and place. Memories are what motivate us to tell stories, visit a place from our past, reminisce, catch up with old friends, or even go back to a place where we had a "big moment." All of these memories, big or small, become embedded into the place we had them, giving them newfound purpose or meaning to our lives. If memories bring newfound purpose or become embedded into place, then how can we couple memory with history to better understand our collective landscape? My research presented in this report, delves into this concept with the following question.

RESEARCH QUESTION

How can histories of culture and ecology reveal stories and place-based memories that allow a better understanding of our future landscapes?

JUSTIFICATION FOR TRAIL DESIGN

Trail design, specifically, this project's "Trail of Stories" comes with numerous environmental, economic, social, and aesthetic benefits. Benefits of trail design include, but are not limited to, the connection, preservation, and restoration of habitats; reduction in fossil-fuel consumption and decreases in health-care costs; increases in health and wellbeing through social interaction and exercise; preserving scenic views and the offers of a relaxing escape from city life. The "Trail of Stories" not only implements trail benefits, but encourages more community

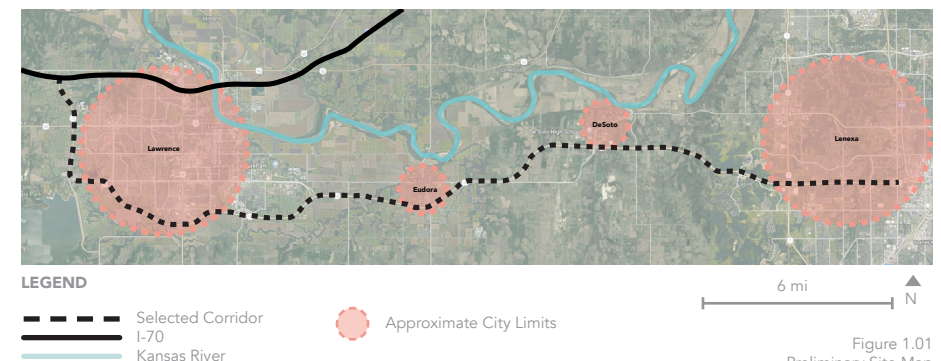
engagement and education of our past cultural and ecological memories and histories. By learning these histories, we can promote better understanding and care for our shared humanity, our shared environments and landscapes, and become better stewards of our precious future landscapes.

PROJECT REPORT'S DESIGN PROCESS

The first thing they teach you in design school is that you need to understand the history of a place. The first step to understanding that history is an inventory and analysis of any given site as that is the only way to turn a "space" into a "place." This project report is compiled from an initial background research of memory, history, place attachment and sense of place, leading into an analysis of five different case studies selected for their scale(s) and regional context. From the case studies "Best Design Practices" were developed and then applied into the final product of this report: a design application of a "Trail of Stories." "Best Design Practices" addresses different aspects of trail design like trail layout, standard construction practices, site amenities, and maintenance practices. Best trail design practices typically include specific trail widths, clearing heights, surface coverings, support facilities like restrooms and trash cans, points of interest, safety considerations, and debris removal.

Stories are a direct product of an individual's memory or our shared history. This "Trail of Stories" is presented through the histories of four different places (Lenexa, De Soto, Eudora, and Lawrence, KS) along a 36-mile trail corridor along the K-10 highway of Eastern Kansas as shown in Figure 1.01. Figure 1.02 shows a larger context of the selected corridor.

From the histories attached to these four cities, I show memories and accounts in personal journal entries from a range of different people and different perspectives. In the context of this report, "histories" and "stories" have distinct differences in how they are used and defined. History is *already there*, completely written in the most unbiased way possible. Stories, however, are much more individual and personal as they are told from a single, unique perspective and not from a collective, there is a bias. Stories give a richer history experience as they share more personal memories that can become more relatable.



The design for this “Trail of Stories” started with a literature review and background investigation of history concerning the selected corridor and the collective memory of the landscape. From a literature review, where initial research was conducted on history, memory, place attachment, and sense of place, I moved into case studies and case study analysis. Case study inventory and analysis came from five different trail corridors, two on a national scale, one on a regional scale, and the last two on a city scale. Case studies include: The Great American Rail-Trail, The American Discovery Trail, The Flint Hills Nature Trail, Linear Trail in Manhattan, KS the Neosho Riverwalk in Council Grove, KS. From case study inventory and analysis coupled with the National Park Service’s handbook Trail Design, Construction, and Maintenance (NPS 1996) came the “Best Design Practices” that led to the trail corridor’s actual design for the “Trail of Stories.” The case study inventory helped dictate what construction practices, trail layout, maintenance, and amenities were most common and appropriate for trail design. The design guidelines developed here can be used to generate or suggest best practices for other trail designs within the Central Great Plains. Figure 1.03 shows a diagram of my design process for this project report.

This project hopes to contribute a contiguous trail design, featuring memories of the past and of the landscape, through a “Trail of Stories.” The research presented here will contribute to the overall discipline of landscape through its background investigation of place attachment, sense of place, memory, and history within the Central Great Plains. This “Trail of Stories” not only promotes individual wellbeing, but environmental wellbeing, and community wellbeing as well. This project hopes to encourage

stewardship and advocacy for our current landscapes and our future landscapes for the betterment of the landscapes and our own quality of life.

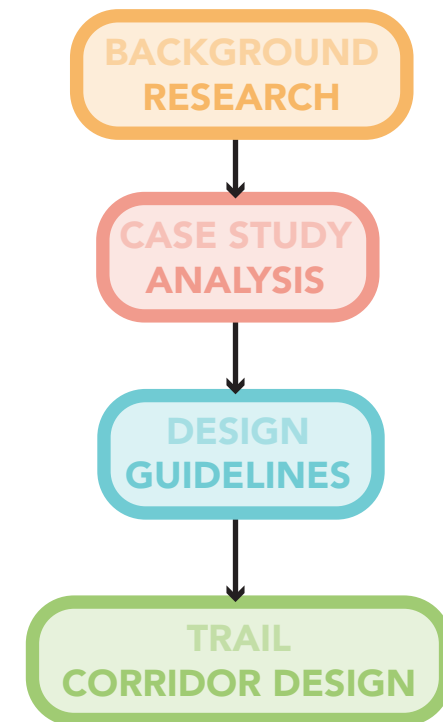


Figure 1.03
Design Process Diagram

The background features a dense, intricate pattern of light purple topographic contour lines on a darker purple field. These lines form various organic, swirling shapes. On the right side, a large, bold white number '2' is partially visible, extending from the edge of the frame. In the center-right area, the words 'BACKGROUND' and 'CHAPTER TWO' are printed in white, sans-serif, all-caps font. 'BACKGROUND' is smaller and positioned above 'CHAPTER TWO'.

BACKGROUND

CHAPTER TWO

01

INTRODUCTION

- a. Inspiration + Importance
- b. Research Question
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BACKGROUND

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- a. Regional Overview + Inventory & Analysis
- b. Selected Site(s) Assessment + Inventory & Analysis
- c. Overall Master Plan

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CONCLUSIONS

- a. Overall Conclusions
- b. Limitations of Study
- c. Broader Impacts

INTRODUCTION

This chapter will explore sense of place, place attachment, and the benefits of trail design, as well as introduce the significant historical aspects of four cities (Lenexa, DeSoto, Eudora, and Lawrence, KS) along my selected corridor and the stories I derived from each city's historical aspects. Historically, my research spans from the 1820s to the Kansas River flood in 1951. Geographically, this research only covers a small portion of the Central Great Plains, most specifically Eastern Kansas from the Kansas-Missouri border to Lawrence, KS as this is the area that is most applicable to this research and final design application of a "Trail of Stories."

Background research in this chapter includes historical aspects of four cities (Lenexa, DeSoto, Eudora, and Lawrence, KS) before discussing definitions and differences between cultural memory and ecological memory. As previously discussed, there is a distinction between history and memory. The difference between history and memory in this chapter is in their application. History is there and fully achieved and for this research, used as a factual base for historical events. Memories are personal as they are told from an individual's perspective. From the historical aspects of each city, the final products were a collection of short journal entries that depict historical memories from different people or perspectives from historic events of each city.

This chapter introduces the historical aspects of Lenexa, DeSoto, Eudora, and Lawrence, KS and corresponding stories. I then explore the significance and difference between cultural memories and ecological memories as they are most applicable in this project.

PLACE ATTACHMENT

Everyone human on the planet calls somewhere home. Everyone has some place that they call their own. Humans, usually unconsciously, create strong emotional ties to the land. As Jeffrey Smith states in the introduction of *Explorations in Place Attachments*, “Humans are curious creatures; sometimes the emotional ties they make to a place defy logic” (2018). Smith goes on to ask several questions about the strange behaviors that humans exhibit in order to stay in the place they have an emotional tie to, like “Why do people remain in small towns with little resources?” “Why do people rebuild their homes after being destroyed in a devastating natural disaster?” and “Why do some people keep returning to the same exact vacation spot year after year despite endless other options?” These questions are incredibly relevant in how and why we create or form these emotional ties to the landscapes. “For most people life takes on more meaning and individuals feel more content when they develop connections to a place; place matters” (Smith 2018).

Place is incredibly important as places can act as places of rest, places of activation, places of comfort, places of belonging, and places of home and are important to humans to maintain their social, mental, and emotional stability. Tim Cresswell, a human geographer defines place as “a meaningful location, spaces that people are attached to in one way or another” (2004, 7). This quote from Cresswell has been a fundamental starting place for the entire practice of geographers around the world, including several cultural and political geographers cited in this project’s background research, and their own definition of place. Place can further be broken

down into smaller categories and the aspects that make place so important. Political geographer John Agnew defined ‘sense of place’ as the subjective and emotional attachment that people have to place and outlines three fundamental aspects of place and what makes a place a “meaningful location:” 1. Location, 2. Locale, 3. Sense of place (1987). Location refers to the physical place, located in terms of longitude and latitude, locale refers to the place’s unique set of characteristics, while sense of place refers to the interaction with a place and the emotional connection that we develop with the place (Smith 2018). There is also a great difference between “place” and “space” as place is specific, and space is general (Agnew & Livingstone 2011). Despite that separation of place and space, place is not just a thing or space in the world, but another way to understand the world, place is a way of seeing, knowing, and understanding the world (Cresswell 2004). By understanding place, we can better understand ourselves, our world, and our place in the world.

Another well-known author and geographer, Yi-Fu Tuan coined the term “topophilia” and presents his perspective of sense of place as “the affective bond between people and place or setting” (1990, 4). Tuan uses four key terms to delineate meaning, topophilia, and sense of place: perception, attitude, value, and world view (1990). Perception is the response to external stimuli, attitude used as a cultural stance, attitudes imply experience and value, while world view only symbolizes a conceptualized experience (Tuan 1990). All four of these key terms shape our understanding of the world, our sense of place, and attachment to place. Tuan also defines the difference between space and place in an interesting way, saying that space allows movement while place is for

pause and stops along the way, that “place is security, space is freedom: we are attached to the one and long for the other” (Tuan 1977, 3).

The term “place” can be used in a multitude of ways, it can mean ownership (e.g. “my place”), place can refer to a position in a social hierarchy (e.g. “she put me in my place”), place can mean special orderings of things (e.g. “everything is in its place”), or a geographical place like “territory” (Cresswell 2004). Place, with its multiple uses, is simple and complex and is defined differently by almost everyone. Every place has a history, while it may not always be a personal history to you, you can still see past “hauntings” or remnants of former inhabitants. In order to put your own mark on a place, you arrange yourself, your furniture, your possessions, and through this process of adding your own personal belongings of things that are meaningful to you, you turn a space in a place, your place (Cresswell 2004). This arrangement of possessions is just one way to develop a connection to place. By developing connections, people feel more content, and more likely to stay a permanent fixture in a place, “place is permanent and hence reassuring to man” (Tuan 1976).

SENSE OF PLACE

We must all know our place in the world, it makes us feel important and like we belong and not simply passing through or going through the motions. We need to be defined by certain words or character. The same goes for place. “Sense of place” refers to an emotive bond or attachment that people develop or experience in particular locations and environments (Foote & Azaryahu 2009), another definition is that “sense of place” refers to distinct or unique character of certain localities and/or regions (Foote & Azaryahu 2009). As a society and collective community, we need our individual characteristics, but we also need to relate to other communities or other characteristics; the same goes for place. Places should have their own identity and unique characteristics but should also somehow relate to their surroundings and connection to region and the larger context. Two psychologists, Leila Scannell and Robert Gifford have researched a key underlying concept of how people bond with a particular place – sense of community and define it as “groups of people [who] develop an attachment to place through shared symbolic meaning among members of a group” (Scannell & Gifford 2010). Scannell and Gifford organized their research into three distinct aspects: Person, Place, and Process. Person is the main research component of which social psychologists, sociologists, and anthropologists focus on, while Place is what the domain of geographers has focused on and researched as to what people become attached to in a place (Smith 2018). Process has become the focus of environmental psychologists and research how a place becomes meaningful, how it impacts the individuals of a place (Smith 2018).

Well-known and respected cultural geographer J.B. Jackson defines sense of place with “a lively awareness of the familiar environment, a ritual repetition, a sense of fellowship based on a shared experience” (1994). J.B. Jackson thinks that over the course of time, we all create our own individual ideas about sense of place, that a sense of place results from habit or custom, however, not all geographers agree with this claim. Some geographers believe that a sense of place comes from a response to the features that already exist, that are already there, that sense of place comes from unusual compositions of spaces – natural or man-made (Jackson 1994). I agree with J.B. Jackson, that everyone is responsible for making these connections and experiences; that a sense of place is uniquely individualistic. Sense of place is larger than individual spaces and should connect to larger context. Sense of place is individually found and defined, yet it can resonate to an entire community and how the community collectively creates its sense of place.

In some instances, the sense of place is so strong, people have trouble leaving the home they love so much, despite serious climate dangers. Last year, 2020, showed great difficulty either from the world-wide pandemic or from scorching temperatures and wildfires, places have become battlegrounds. In a magazine article titled *When States Are No Longer Habitable* (Lustgarten 2020), fire, heat, flooding, and destruction fill the page depicting chaos from the 2020 California fires, the rising temperatures, and coastlines that are being slowly submerged under water (Lustgarten 2020). Yet, the people who live in these places, despite knowing the dangers, continue to live in the places they love because of their deep, emotional ties to the place. Climate

change is happening, whether we accept it or not, and if we hope to live in the places we love, we must protect them. Despite clear signs, we refuse to believe the unfortunate inevitabilities we are sometimes faced with, Abrahm Lustgarten talks of his inevitable conversation with his wife about the fires in California so close to their home. “The facts were clear and increasingly foreboding. Yet there were so many intangibles - a love of nature, the busy pace of life, the high cost of moving – that conspired to keep us from leaving. Nobody wants to migrate away from home, even when an inexorable danger is inching ever closer. They do it when there is no longer any other choice” (Lustgarten 2020). While this is a dramatic example, it is a real one, and becoming ever more real with each passing season, these environmental disasters like the California wildfires, serve as a warning to better take care of our landscape and its sense of place. Sense of place is so important to our environment and even to who we are as they are part of what may define us. While a lack of sense of place may not hinder or contribute to our desire for land stewardship, a lack of sense of place leads to deep feelings of “placelessness” and “senses of fear and dysphoria induced by some places and situations” (Foote & Azaryahu 2009). Agnew believes that the “world itself is becoming ‘placeless’ as space-spanning connections and flows of information, things and people undermine the rootedness” of a place (2011). Sense of place ties us to the landscape, enhances our emotive bond to the landscape, and hopefully, encourages us to better care for the landscape.

Jeffrey Smith, a cultural geographer, identified and created a typology of six distinct types of places to which people become attached: secure places,

socializing places, transformative places, restorative places, validating places, and vanishing places (2018). Secure places are locations where people attach deep emotional meaning because of the safety they feel within that setting. Socializing places are places with strong sense of community or where people feel welcome within a social environment. Transformative places are where significant events took place within a person's lifetime or were places of personal growth and achievement. Restorative places are locations that cater to a healthy spirit or to quiet the mind. Validating places are locations where group and personal identity are reinforced, some of these places are home to memorials to great tragedies like 9/11 or the Oklahoma City bombing. Vanishing places are locations which are vanishing, have vanished, or at risk of vanishing, these are typically places affected by natural disasters, resource depletion, encroachment, or restriction (Smith 2018). My project's research and design application implements all six types of places found in Smith's typology.

HOW TO BRAND A PLACE

Brands and brand meanings are typically socially and culturally dependent and constructed from four major determinants: time, ancestry, landscape, and community as identified in an article titled Sense of Place: The Importance of Destination Branding (Campelo *et al.* 2014). A brand is "an identifying symbol, mark, logo, name, word, and/or sentence that companies use to distinguish their product from others. A combination of one or more of those elements can be utilized to create a brand identity" (Kenton 2020). In this article, inhabitants of the Catham Islands of New Zealand were studied to determine the constructs that comprise the meaning

and branding of a place. In "destination branding" as the article calls it, branding is significantly influenced by a thorough appreciation of the sense of place and of the people whose place it is (Campelo *et al.* 2014). A "destination" is both geographically placed and inhabits a metaphysical space which is determined by a network of meanings and values that have been attached to it. The identity or "brand" of a place determine the future of a destination and require a sensitive understanding and guidance in how the brand identity is developed and managed (Campelo *et al.* 2014). Appeal for "branded" destinations are often embodied in the place's environmental and natural features, the values and attributes represented, and even their social and cultural capital. "Consequently, destination branding should be guided by the theory of place and sense of place so as to benefit from and contribute to the place's natural, cultural, social, and economic wealth" (Campelo *et al.* 2014). Effective branding is founded in the core identity and culture of a place and should first be built around the people and local residents that live in the "branded" area as to make the branding more authentic and genuine and not just a kitschy tourist destination. By accurately and strategically branding a place as a destination, the destination can foster a deeper spirit of cultural renaissance, invigorate a strengthened sense of pride and identity among residents, and even enhance its social and economic development (Campelo *et al.* 2014).

BENEFITS OF TRAIL DESIGN

In 1983, Wallace Stegner said that the national park system is “the best idea we ever had.” Peter Harnik, author of the book *From Rails to Trails: The Making of America’s Active Transportation Network*, believes that notion to not only be true, but that if national parks were a good idea, rail-trails were “certainly a close runner-up” (2021). Rail-trails are described as part transportation, part park and have essentially revolutionized the way America creates “high-quality, car-free pathways for bicyclists, runners, walkers, equestrians and more (Harnik 2021). If this is true for rail-trails, it must be true of other types of trails. Rail-trails, trails, and natural green corridors are a national movement to design and promote nonmotorized transportation networks, connect communities, and provide countless social, economic, environmental, and aesthetic benefits for all (RTC 2021).

Benefits of trail design are somewhat difficult to quantify as everyone uses trails differently. However, the studies presented here have attempted to calculate and quantify those seemingly unquantifiable characteristics and benefits of trail design. Trails inherently make connections, with these linear connections we could possibly reshape the landscape of cities by “reducing pollution, supporting urban local food systems, spurring change to local biodiversity and improving opportunities for multimodal transportation” (Fogel & Alvis 2020) The Rails to Trails Conservancy, arguably the biggest believer and supporter of trails and trail benefits, highlights five major categories of trail benefits: Health, Transportation/Livability, Conservation/Environment, Economy/Revitalization, and Historic Preservation/Community Identity. The following

text will further describe specific examples of how each aforementioned category facilitates these trail benefits. My project’s design application focuses on and addresses all of the trail benefit categories derived from the Rail-Trails Conservancy.

Trails and greenways present healthy opportunities for recreation and transportation by providing attractive, safe, accessible, free place for all ages to hike, bike, jog, walk, cycle or skate. Trails are an excellent way to promote community exercise and even incorporate physical activity into people’s daily lives by connecting places users want or need to go (RTC 2021). Trails can be crucial to the seamless urban or regional multi-modal transportation systems and present a “green” transportation alternative. This green transportation system can effectively “feed” people into and out of cities and transit stations in a safe and efficient manner, avoid congested streets and highways, while also avoiding contributing to the overwhelming amounts of greenhouse gases from motorized transportation (RTC 2021).

More and more people are looking for green alternatives for transportation and walking/biking on greenways increases a city’s livability. These linear greenways inherently preserve and conserve natural greenspaces as they provide links between habitats, protect plant and animal species, useful in the improvement of air and water quality, while also allowing humans access to nature with minimal environmental impact (RTC 2021). Economic effects of trails and greenways are sometimes less apparent, but still viable and subtle. Some cities have even started incorporating trailside businesses to their economic model for increased revenue, but trails are also effective in their ability to connect people

to more urban places where shops, restaurants, and other businesses may reside and promote or incentivize users to buy while they are out along the trail. Trails have the power to create economic revitalization for countless communities across America (RTC 2021). Trails have become sources of great community identity and pride. Trails can effectively highlight and showcase historic and cultural places through trail access and greenways while preserving historically significant transportation corridors (RTC 2021)

An article published in 2019, "Investigating the Health Benefits of Trail Use; a Perspective from Park Practitioners" in the Recreation Parks, and Tourism in Public Health journal briefly discusses trail design benefits for trail users in Indiana and even displays survey data of typical trail users. In 2016, Indiana's top two leading causes of death were found to be heart disease and cancer and that per 100,000 people, 180.6 deaths were due to heart disease while another 170 deaths were due to cancer (Wolter et al. 2019, 98). These statistics led the state of Indiana to look for innovative solutions to better the health of its citizens and reduce obesity as one out of three individuals were classified as such (Wolter et al. 2019, 98). Across the state of Indiana, Indiana parks and recreation practitioners set a goal to ensure that all residents have access to a trail within 15 minutes walking distance or 7.5 miles driving distance and by doing this, the state of Indiana has more than doubled their documented trail mileage from 1,542 miles in 2006 to 3,585 miles in 2015 (Wolter et al. 2019, 98). The result of this increase in trail accessibility has shown to decrease healthcare costs and concluded that "for every dollar of trail investment, there was a return of \$2.94 in medical costs" (Wolter et al. 2019, 98).

This experiment proved that trail design not only increased individual health benefits but had economic and monetary benefits as well.

An article written by Samuel J. Keith, Lincoln R. Larson, C. Scott Shafer, Jeffrey C. Hallo, and Mariela Fernandez in 2018 titled "Greenway Use and Preferences in Diverse Urban Communities: Implications for Trail Design and Management" in *Landscape and Urban Planning* discusses benefits of two greenway trails in the cities of Atlanta, GA and San Antonio, TX; the Eastside Trail and the Leon Creek Greenway respectively. Keith et al. outline opportunities that urban green spaces and greenway trails provide like physical, mental, and socio-economic wellbeing as well as other environmental benefits like increased vegetation, wildlife habitat, storm water management, climate regulation, and air and water purification (Keith et al. 2018, 47). Unlike isolated green space parks, greenways and trails are unique in that they connect urban inhabitats and associated biodiversity as well as create opportunities for positive human interactions with nature and their neighbors by enhancing their quality of life by contributing spaces for physical health and exercise (Keith et al. 2018, 47).

Greenways can effectively and uniquely integrate natural resource conservation while also promoting physical and public health. The Eastside trail was surveyed by Keith et al. and his team and found it was mostly used for recreational purposes, the most popular activity was biking followed by walking, with 64% of users living less than 3 miles from the Eastside trail and traveled to the trail by walking or biking. After the survey, 56% of users lived more than 3 miles from the Leon Creek Greenway and mostly

traveled to the trail by car (Keith et al. 2018, 51). The surveys depicted demographic characteristics of the two trail users, the use patterns of the two trails, the motivations, site preferences, constraints, and perceived benefits of the two trails. Upon reviewing Keith et al. survey results, I found the major motivations of trail use to be the most applicable to my report. From these surveys, five major motivations were documented from the survey responses for trail use of the two trails of Eastside Trail in GA, and the Leon Creek Greenway in TX, and are shown in table 2.01 below. The five major motivations documented were: 1. Exercising and being physically active, 2. Resting, relaxing, and escaping city life, 3. Discovering and experiencing nature, 4. Spending time with family and friends, 5. Getting to and from places I want to be. From those five trail-use motivations, users surveyed which motivations were “extremely important” or “important.”

| CATEGORY | RESPONSE DISTRIBUTION | |
|--|-----------------------|-------------|
| Motivation | % Extremely Important | % Important |
| 1. Exercising and being physically active | 75.1 | 18.1 |
| 2. Resting, relaxing, and escaping city life | 44.7 | 31.9 |
| 3. Discovering and experiencing nature | 36.6 | 26.2 |
| 4. Spending time with family and friends | 38.6 | 25.6 |
| 5. Getting to and from places I want to be | 23.7 | 13.4 |

Table 2.01.
Motivations for trail use for Eastside Trail
in GA and the Leon Creek Greenway in TX
(Keith et al. 2018, 52)

Most users from the above survey, 75.1% found exercising and being physically active and resting, relaxing, and escaping city life as 44.7% as extremely important. The least important motivation was transportation and getting from one place to another at only 13.4% of users finding that important. Other benefits found from Keith’s et al. research included increased connectivity to “places of interest” like parks, restaurants, and shops. The Eastside trail and the Leon Creek Greenway were also found to facilitate an increase of social interactions which provided a number of cultural benefits to the surrounding communities of the Eastside trail and the Leon Creek Greenway and even improved the overall walkability and bikeability of the community (Keith et al. 2018, 55). An increase of bikeability and walkability “yields an array of potential health benefits for residents such as increased physical activity levels, decreased body mass index, reduced vehicle miles traveled and fewer toxic emissions, that ultimately create a healthier overall living environment” (Keith et al. 2018, 55).

Benefits of trails are numerous as they can benefit users in different ways, from social wellbeing, to health and wellbeing, to economic benefits, and can be used in many different ways, from exercising, to social interaction, to resting. Trail design is beneficial as it can help to implement green infrastructure and to physically connect habitats, enhance community vitality and ecological sustainability, and to create opportunities for social and recreational interaction and activity (Lee et al. 2019). A greenway is usually a shared-use path along a strip of undeveloped land, in an urban or rural area, set aside for recreational use or environmental protection. Greenways are frequently created out of disused railways, canal

towpaths, utility or similar rights of way, or derelict industrial land. Greenways and trail corridors, provide benefits to individuals as they facilitate a natural space to engage in physical activity for health and wellbeing purposes, allow for an alternate transportation mode, can increase economic revenue in an urban setting, while also maintaining and showcasing scenic landscapes (Lee et al. 2019). Trail design can benefit, social, economic, environmental, and aesthetic aspects that can lead to an increased quality of life for the individual and an entire community. Table 2.02 shows a summary of four major categories of trail design benefits. The four categories or benefits are characterized as: environmental, economic, social, and aesthetic and are further categorized in Table 2.02 below. From the literature review and background research into trail design, I looked into the historical aspects of four cities along my selected corridor, Lenexa, DeSoto, Eudora, and Lawrence, Kansas.

| Environmental | Economic | Social | Aesthetic |
|---|---|--|---|
| Connects, preserves, and restores habitats | Reduced gas consumption – fewer toxic emissions | Increased walkability and bikeability | Resting, relaxing, and escaping city life |
| Increases vegetation, land preservation, and carbon sequestration | Connects to “places of interest” like parks, restaurants, and shops | Increase in health and wellbeing with exercise and interaction with friends and family | Increases a community’s quality of life – being close to nature |
| Storm water management | Decrease in health-care costs | Increase in recreational activities | Preserves scenic views |

Table 2.02.
Benefits of Trail
Design (Adapted
from Keith *et al.*,
RTC, Wolter *et al.*,
and Lee *et al.*)

HISTORY

Historical Aspects of Lenexa, KS

Manifest Destiny was the widely held American imperialist cultural belief in the 19th century that American settlers were destined to expand across North America. However, in contemporary culture, many have condemned manifest destiny as an ideology used to justify genocide against Native Americans. In 1820, the Missouri Compromise was ratified by the U.S. Congress. The law states that Missouri will be admitted to the Union as a slave state if, and only if, Maine is admitted as a free state and banned slavery in new states north of the 36 degrees 30' parallel. The admission of Missouri further motivated pro-slavery settlers to expand west. However, this compromise only lasted 30 years before being repealed by the Kansas-Nebraska Act of 1854. Soon after, Kansas Territory was admitted to the Union and motivated anti-slavery settlers to move west to help decide the free state or slave state debate. With Manifest Destiny, and new Territories like Kansas, Missouri, and Nebraska came westward expansion and settler trails. The most significant trail to my selected site and region was the Santa Fe Trail. The Santa Fe Trail started in Independence, Missouri and passed through Lenexa, DeSoto, and Eudora, KS en route to the New Mexico territory. The Santa Fe Trail was one of the three major routes that settlers used for westward travel.

After the passing of the Kansas-Nebraska Act in 1854, which created the Kansas Territory and opened the land to settlers, however, what is now known as Lenexa, KS, was not available for settlement due to an agreement with the U.S. government and

the Shawnee tribe in that the land belonged to the tribe and could not be sold without the President's permission. The treaty of 1854 changed this ownership treaty as it ceded 1,600,000 acres of the Shawnee Indian reservation to the U.S. government. The treaty of 1854 was signed by the widow of Chief Thomas Blackhoof, listed as Na-Nex-Se Blackhoof. In 1857, Lenexa, KS, officially filed a claim for the township. The name Lenexa was a derivation of the Chief's widow's name.

From the above two histories of Manifest Destiny on the Santa Fe Trail and of the Shawnee Indians ceding their land, came the following two stories Figures 2.01-2.02. One story from a traveler on the Santa Fe trail and his newfound love for Kansas's territory. Another about the lost love of a Shawnee Indian Chief and how she named the home he loved.

It was hard not to be swept up in it all. "Manifest Destiny" just sounded like an adventure in itself. The American Dream - always so elusive - yet attainable. I started on this journey looking to move West, taking the Santa Fe Trail all the way to the coast. But I got stuck. Wowed by the traded goods and finer things, I was not. It was the view. The rolling hills with their waves of grasses. Billowing and swaying with ease. The cottonwood trees, tall and proud as they guarded the prairies. The leaves rustling together, whispering words of wisdom. Creeks rushed with water. Unsure of the final destination. Only knowing they have places it needed to be. Pheasants, wrens, red-tailed hawks all owned the sky. Soaring and watching from the clouds. Bison, however infrequent now, the majestic keeper of the land. Like a lion in the savanna, King of the Prairie. You see? It wasn't gold or the wild, wild west that drew me in. It was the view.

- A wonder-struck traveler



We have slowly been losing our land for some time now. The white men kept encroaching. Our agreement with the white man's government that had kept us here, is soon coming to an end. Money seems to be the only thing of value to some of these foreigners. I am far too old to keep fighting this fight. I signed this treaty, relinquishing all claims me and my people have to this land. The land I loved for so long. The land where I lost my wife, Na-Nex-Se. The land I called home. As payment for my surrender, I dedicated this land after my wife: Lenexa. Land of Na-Nex-Se.

- Chief Thomas Blackhoof



Historical Aspects of DeSoto, KS

In 1897, DeSoto KS was incorporated as a city. The Osage people occupied the land of DeSoto calling it home after having moved west from east of the Mississippi River. After the treaty of St. Louis in 1825, the Shawnee were forcibly removed and relocated from Cape Girardeau, MO to southeastern Kansas near the Neosho River. Initially, the Shawnee resisted removal, but by 1828, they migrated west and settled in northeastern Kansas in and around the area now known as DeSoto along the Kansas River. The westward migration of the Shawnee forced out the Osage tribe and what was once Osage land was now Shawnee land. Later, the American government was forcing both the Osage and the Shawnee to move farther west due to American expansion. Both tribes initially resisted removal but were eventually forced to comply with the American government's request. Between 1829-1854, almost thirty tribes were assigned reservations in what would become the Kansas Territory.

In 1861, James B. Abbott was appointed as an agent for the Shawnee Indians and moved to DeSoto. James B. Abbott was a pioneer and settler of Kansas and served as a Major in the Kansas Free State Militia. Born in Connecticut, he emigrated to Kansas and became an advocate for the Free-State cause. When pro-slavery men grew progressively more aggressive, Abbott was one of the first to go east and procure guns and means of protection. He commanded battalions in the Battle of Franklin, the Sacking of Lawrence, and rescued numerous men. Among his many battles, he led a party of Shawnee Indians against Confederates while he was the elected representative for the Shawnee Indians.

In his later years, Abbott became very influential in the development of DeSoto. In DeSoto, Abbott established a school for Kansas youth and was a director for the Kansas Historical Society for 12 years before his death.

From the above two histories of Shawnee removal, Osage relocation, and James B. Abbott came the following two stories, Figures 2.03-2.04. One report comes from an Osage tribe person speaking to the loss of her homeland. Another tale from James B. Abbott, who was a significant influence in DeSoto and Kansas's initial government's development.

We were pushed and prodded all the way here from east of the Mississippi. Me and my people have been forcefully removed by the white man's government. The river, the water is everything to us. We lost our beloved Mississippi and in turn gained the another.. We are the Osage, the Ni-u-kon-skai, the "People of the Middle Waters." We were pushed here because the white men needed more land. Gold found west sent the white men into a frenzy. They gave us land, but as what only seems as a loan for as long as it suits them. Other tribes may soon join us on this forced journey west. "Civilized" men have fought us, bribed us, pushed us, over and over and over again. We have never budged, but we do what we can to protect our people. But we are the Osage, we survive.

- Chief Peter Bighart of the Osage



Born on the East Coast, my heart never longed for it, like it does for Kansas. Worn-torn and weary, these vast plains and my heart needed rest. I found solace in the quiet of the winds, the rolling plains of DeSoto. Years passed, slowly, the plains grew stronger, and I with it. My heart found its home, found its peace. I have been blessed to protect the ones I love, fight for the greater good, advocate for those without a voice, and teach those with great, young minds. I have lived a life worth living. God Bless Kansas.

- James B. Abbott



Historical Aspects of Eudora, KS

The region and area surrounding Eudora, KS was once home to various Indian tribes, most notably the Kansa or Kaw, for hundreds of years. The Kaw lived along the region's rivers before being forcibly removed in the 1820s to make room for the Shawnee Indians removed from Cape Girardeau, MO in 1854. In 1854, the Kansas-Nebraska act was passed and opened the new Kansas Territory for settlement. Two years later, in 1856, three members of a German Immigrant Settlement Company, called Deutsche-Neusidelungsverein set out to establish and choose a new site to build a town in the Kansas Territory. Eudora is known for its large number of German immigrants who were fleeing war in Europe. The German Immigrants favored the Eudora area and drew up land ownership contracts with the Shawnee Chief Paschal Fish, who originally owned the land.

Paschal Fish was born of white parents before being adopted by Blackfish, a Shawnee Chief, and his Shawnee wife. Fish grew up with 35 other siblings and half-siblings before Chief Blackfish moved the tribe to the area of Eudora. At the age of 33, Paschal Fish assumed leadership of the Shawnee tribe and owned the land of Eudora before selling to the German immigrants.

From the above histories of Shawnee Indian removal from Eudora, the Eudora German Immigrants, and Paschal Fish came the following three stories, Figures 2.05-2.07. One report depicts a short peek at the life of a wandering, homeless Shawnee Indian. Another tale commemorates the late Shawnee Indian tribe Chief Paschal Fish. The third story tells a personal account from one of the German founders of Eudora and their struggle to flee European conflict.

They act as if they are doing us a favor. Giving us land, like land is all the same, land that we do not know.

This land is not our land. There is no substitute for the land we had called our own for thousands of years. We cannot get back the work we put into that land, we cannot un-learn the ways of that landscape, we cannot earn back the trust we had gained from that land. Whatever the white man's government gives us, will not be able to replace the land we loved for so long. There is no compassion for the thirty tribes that are now homeless, wanderers, nomads, and filled with a dreaded sense of placelessness. We will continue searching for our home, because now we have no choice.

—Shawnee Indian



I came from a white father, taken and adopted by Blackfish, a Shawnee Tribe Chief and his Shawnee wife. My father taught me everything I know, me and thirty-five other white and mixed-blood Shawnee brothers. When my father died, his duties were laid upon my shoulders. I needed to protect my people, we needed to find a new home, one that we can prosper and call our own. The river became our salvation, our reason for success and progress. We have done well here, made money here, made family here, established roots here. Slowly we all died here and sold our land to those who will tend it well. In thanks, they named the town in honor of my beloved daughter, Eudora

- Chief Paschal Fish



In the process of fleeing other's wars, wars we have no part in, we land ourselves back into a war that is not ours. These wars belong to power-hungry men and dangerous groups bound to watch the world burn if it does not go their way. But I guess this all comes as no surprise, as conflict follows the human condition. Unfortunately, none of us are immune. After running for years and years, we found home, wrapped in swaying embrace of the prairie grasses. Eudora, Kansas was a place made for security, for safety. Despite the human condition, our home will stand the test of time and show us all in her history.

- German Founder



Historical Aspects of Lawrence, KS

The area that first delineated the location for Lawrence's future city was "discovered" and chosen as a preliminary city location by Dr. Charles Robinson. Dr. Charles Robinson was being funded by Amos A. Lawrence, who was facilitating the most systematic and extensive emigration into Kansas. After Robinson reported back to Amos, he convinced Amos of the beauty and magnificence of the view all around the hilltop and its proximity to major transportation routes like the Oregon and Santa Fe Trail and the Kansas River. Amos was a Republican abolitionist and a businessman. Many people highly regarded him and his vast personal influence and voted to name the city after him and his great accomplishments.

With the Kansas-Nebraska Act came a great conflict between pro-slavery and anti-slavery settlers that led to great violence known as Bleeding Kansas. Bleeding Kansas paved the way for the American Civil War and the smaller, bloody, violent Border Wars in the Kansas Territory between 1854 and 1861. The significant conflicts came because of the political and ideological debate over the legality of slavery in the proposed state of Kansas. Kansas was later decided to be a Free State and rejected the proslavery Lecompton Constitution of 1857. The Lecompton Constitution in 1857 was framed by Southern pro-slavery advocates and contained clauses that protected the legality of slaveholding and included a bill of rights that excluded free blacks. However, the only success the Lecompton Constitution achieved were increased frictions leading up to the U.S. Civil War before it was rejected by Congress. Peace, or a version of it, reigned once again in the state of Kansas.

In 1951, disaster once again struck the state of Kansas as the Kansas River flooded. The Kansas, Neosho, Marais de Cygnes, and the Verdigris river basins all flooded Eastern Kansas and parts of Missouri. The flood damage exceeded \$935 million and killed 17 people while displacing more than 518,000 others. This flood directly impacted Lawrence and DeSoto, two cities along my selected corridor. The 1951 flood caused the greatest destruction in the Midwest as of that date.

From the above histories of the discovery of Lawrence, Bleeding Kansas, and the 1951 Kansas River flood came the following three stories, Figures 2.08-2.10. The first story depicts the story of Lawrence and how it came to be and get its name. The second tale comes from the perspective of the native grasses and how they were impacted by the conflicts from Bleeding Kansas. The third is an account of the devastation from the flooding of the Kansas River and its impacts.

As I stood on Hogback Ridge, I couldn't help but wonder at God's glorious creation. With its rolling green hills that seem endless and their magnificent views. I see a place of hope and prosperity. After hearing of this place from my dear friend, I didn't quite believe him. I just knew I had to see it for myself. He described it like it was heaven. Now, standing here and seeing it for myself in all of its magnificent beauty, I don't think he quite did it justice. Heaven is a place for the dead, this was a place for the living, this was a place for hope. A place to raise a family, a place for peace, a place where all will fall in love with this view, just as I am now.

- Amos A. Lawrence



The tempers of men rise higher and higher with every disagreement. Free state or slave state matters didn't matter to the Cottonwood giants. The big bluestem didn't have any skin in the game. The birds flew higher and higher minding their own business. There is no need for a "Bleeding Kansas." I've seen the chaos, the destruction of such beautiful landscapes, and the complete disregard for human life with my own blood and tear-stricken eyes. The soil has no use with the life-blood of fallen men. Leaves fall and soon after snow falls; all to stop men from falling. The great winters of the plain's stopped many an argument. For winter knows her power is too much for thin-skinned men. She can force peace if she wishes. She has the power to bring men to their knees all without the help of a rifle. While men forget, the grasses do not. They burn and renew, yet never forget the ground they came from.

- Battle-weary soldier



SOMETIMES I THINK MOTHER NATURE JUST LIKES
TO REMIND US OF HER POWER. IN MAY OF 1957, SHE
LET FORTH ELEVEN INCHES OF RAIN IN JUST TWO
HOURS. RAIN OVERFLOWED CREEKS AND TRIBUTARIES,
FLOODING TOWNS AND CITIES ALL THE WAY. FROM
THERE, IT WAS A CHAIN REACTION. CITY AFTER CITY
DROWNED, UNABLE TO BREATHE OR RID ITSELF OF THE
WATER FAST ENOUGH. I DON'T THINK SHE MEANT TO
KILL ANYONE. MAYBE SHE THOUGHT ALL THE FLOWERS
AND TREES NEEDED A BIG DRINK OF WATER. MAYBE
SHE JUST WANTED TO HIT A RESTART BUTTON AND
HAVE SOME OF US, PEOPLE AND PLANTS ALIKE, TO
START OVER. MAYBE THIS WAS HER PLAN ALL ALONG

— EYEWITNESS TO FLOOD



CULTURAL MEMORY

There is a cultural aspect to memory and the land. These memories can be expressed in a multitude of ways. "Cultural landscapes are at the interface of culture and nature...they represent a closely woven net of relationships" (Taylor 2008). This notion is also reflected in J.B. Jackson's work. Jackson was a writer, philosopher, and publisher, known as the father of cultural landscape analysis in the academic realm of human geography. In *Everyday America: Cultural Landscape Studies after J.B. Jackson*, editors Chris Wilson and Paul Groth explain that cultural landscapes rest on two fundamental premises. The first premise is "the complex set of environments that support all human lives and all social groups," and the second being that cultural landscapes "interpretations are essential tools for better design and management of the built environment" (Wilson & Groth 2003). With this complex duality between cultural memory and landscapes comes a balance of personal interpretation and what really occurred. Memory is all about personal interpretation and experience.

Indigenous People's Connection to Memory

Memories associated with land are significant in understanding the land, how we tend the land, and nurture the land in the time of climate change. "If a society forgets or no longer cares where it lives [the land] finds itself finally with no defenders" (Sauer 1992, 124). Without a deeper understanding of our land and where we come from, the land will become more vulnerable to exploitation or manipulation for short-term gain (Sauer 1992). The Native American people knew this. They were deeply and emotionally

to the land and “listened” to it for what it needed and what they needed from the land. In *The Land Has Memory* edited by Duane Spruce and Tanya Thrasher, Kevin Grover is quoted saying that “When we learn that one of our brothers or sisters, Native or not is from Texas or Alaska or rural Brazil, we then know something about who that person is and how he or she sees the world. So, just as each generation makes its mark on the land, the land inevitably makes its mark on us” (Spruce & Thrasher 2008, xi). We must listen, continue to listen, and never stop listening to our Earth and one another because if we do, we may face a situation we cannot fix. The Native people also believe an “ancient and deeply held Indian concept that the Earth herself is a living being, sentient and self-aware” (Spruce & Thrasher 2008, xii). That same book, *The Land Has Memory*, says that all Native and non-Native peoples have come to share the concern that our “Mother” is growing ill, and we must return to the same attention and love we used to give her and that she gives to us.

Cultural Stories along the “Trail of Stories”

The preceding stories to be told along the “Trail of Stories” were told from different perspectives, Native Americans, city founders, Europeans, and Westward travelers. These stories reveal personal cultural memories of specific places and events that occurred along my selected K-10 trail corridor. Cultural memories were revealed in how Lenexa got its name, the pioneer James B. Abbott, the Shawnee Indian Chief Paschal Fish, the German founders of Eudora, and Lawrence’s founder. Two of the journal entries depict ecological and cultural memories from the Osage Tribe and the Shawnee Tribe.

ECOLOGICAL MEMORY

Ecological memory is based on a landscape’s biota, its flora, and its fauna. Migration and environmental cycles deeply affect the biology of a place. There is a “memory” component to how biological systems work with all types of processes and migrations. Dirmeyer (2009) makes the argument that water and soil systems have “memory” and can hold certain nutrients and water through recycling systems (Dirmeyer 2009). Migration can be seasonal movement from one place to another or permanent migration for more favorable climates or habitat. There is an ecological aspect to memory and the land. These memories can be expressed in many ways, through migratory patterns of birds, migration of native plants and invasive species, and how abiotic and biotic components intermingle.

Importance of Understanding Ecosystem Cycles

Within biological systems, compositions change, soils, material make-up like invasive species, and quantities of gases like nitrogen can affect the “memories” of that cycle. “There is much evidence that invasive plant species can modify physical or chemical attributes of soil, including inputs and cycling of nitrogen and other elements, pH, and soil organic matter, and aggregation” (Jordan 2008, 178). The migration of invasive species can disturb and degrade existing communities. The migration of one invasive plant species can lead to ex-migration of native plants or even the decline of these native species. Implementation of vegetation communities with the right mix of diversity, like a natural, native plant mix, can have incredible benefits for the

soil, the animals feeding on the vegetation, and the vegetation itself. Water cycles, soil cycles, and vegetation communities are part of an extensive system with unending processes of change. In William B. Willers's book, *Learning to Listen to the Land*, Willers quotes Aldo Leopold, "Land, then, is not merely soil; it is a fountain of energy flowing through a circuit of soils, plants, and animals. Food chains are the living channels which conduct energy upward; death and decay return it to the soil" (Willers & Brower 1991, 158). The land has ecological memory, and we must understand its system and the functions to better its future. The landscape is a constant cycle of flowing circuits, and we need to design and care for these systems as nature is the only regulator of death and decay.

Ecological Stories along the "Trail of Stories"

The preceding stories along the "Trail of Stories" were told from different perspectives, Native Americans, Westward travelers, native grass, and those who witnessed the extreme flooding from the Kansas River. These stories reveal personal cultural memories of specific places and events that occurred along my selected K-10 trail corridor. Ecological memories were revealed in a Westward traveler's journal entry, the perspective of the Native grasses during Bleeding Kansas, and from an onlooker of the Kansas River flood. Two of the journal entries depict ecological and cultural memories from the Osage Tribe and the Shawnee Tribe.



METHODOLOGY

CHAPTER THREE

01

INTRODUCTION

- a. Inspiration + Importance
- b. Research Question
- c. Research Design Process

02

BACKGROUND

- a. Introduction
- b. Sense of Place + History
- c. Cultural Memory
- d. Ecological Memory

03

METHODOLOGY

- a. Overview
- b. Case Studies

04

CASE STUDIES

- a. Chosen Case Studies
- b. Case Study Analysis

05

DESIGN APPLICATION

- a. Regional Overview + Inventory & Analysis
- b. Selected Site(s) Assessment + Inventory & Analysis
- c. Overall Master Plan

06

CONCLUSIONS

- a. Overall Conclusions
- b. Limitations of Study
- c. Broader Impacts

METHODOLOGY

The methodology used in this project are a mix of qualitative analyses of five case studies, three which were observed on-site. The case studies involve research into design projects that acted as precedent or inspiration for my trail corridor design. Three case studies allowed additional observational study, in-person inventory, visual inventory of biota, inventory of chosen trail materiality, and other navigable walking conditions that helped establish trail design precedent or inspiration. With this case study method in conjunction with the National Park Service's handbook Trail Design, Construction, and Maintenance (NPS 1996), I gathered a detailed collection and knowledge of previous works and guidelines to create a framework of "Best Design Practices" of trail design to implement within a contiguous corridor design. From the NPS guide and the case studies, best design practices were determined by four categories: trail layout, standard construction practices, site amenities, and general maintenance practices. Each case study was analyzed and inventoried for the four categories (layout, standard construction, amenities, and maintenance) to identify trail design level of success. Figure 3.01 below shows my project's research process and final product.

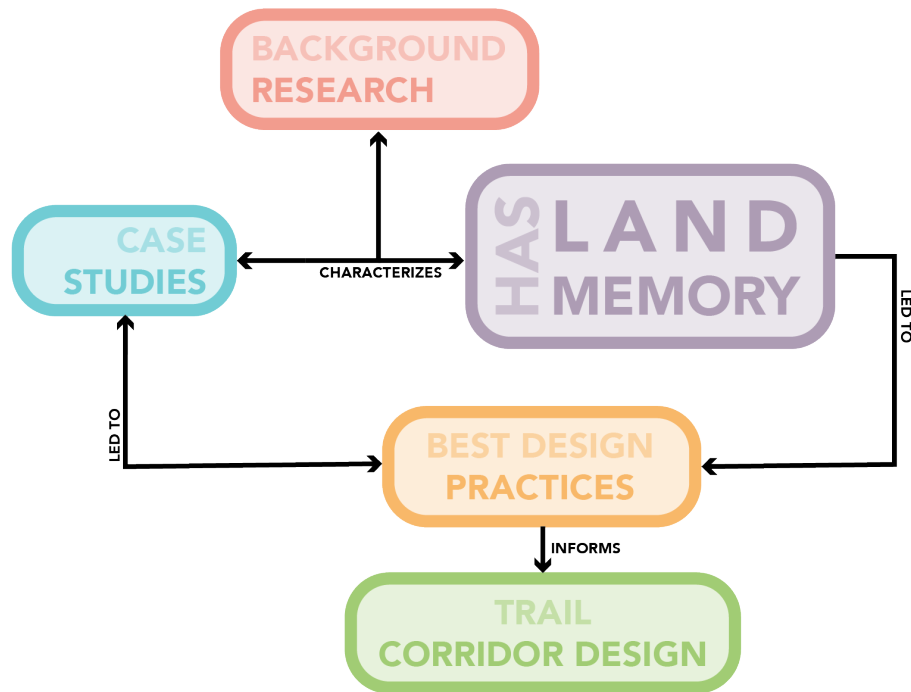


Figure 3.01
Methodology Diagram

CASE STUDIES

In this evidence-based design, case studies are integral in developing and designing the trail corridor for the “Trail of Stories.” The case studies act as inspiration, precedent, and guide to reveal a trail corridor’s best design practices. Best design practices of trail design tend to include standard construction practices, installation of amenities, trail layout that follows geographically and topographically feasible routes, and general aesthetic and safety maintenance of the trail. The following case studies were chosen to showcase three different scales: national, regional, and city. The Great American Rail-Trail and the American Discovery Trail represent the national scale as they span nearly coast to coast. The Flint Hills

Trail represents a regional scale on the eastern side of Kansas. Linear Trail in Manhattan, KS, and the Neosho Trail in Council Grove, KS, represent the city scale. Figure 3.02 shows the location of the chosen case studies.

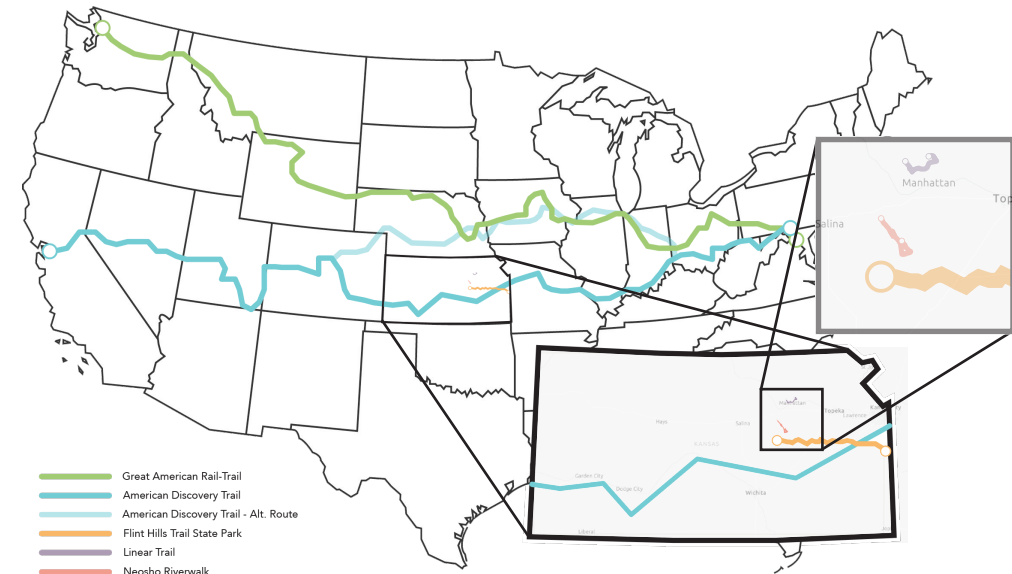


Figure 3.02
Map of Case Study Locations

CRITERIA FOR STUDY

The criteria for the selected case studies are:

1. The trail utilizes abandoned railways or existing, constructed trails.
2. The trail crosses over water or through heavily vegetated areas for exciting views and experience.
3. The trail has varying path surface material or constructed elements like bridges.
4. The trail corridor utilizes signage and other trail amenities like benches, trash cans, and water fountains.
5. The trail passes through cities or historical sites or follows historical trails.

ANALYSIS AND BEST DESIGN PRACTICES

Several trail design guidelines developed by the National Park Service (NPS) and the American Trail Organization were used to quantify the successes of the selected case studies. The NPS guidelines and general knowledge information were used to evaluate and answer critical questions regarding best trail design practices. The two different trail guides that helped delineate the best design practices include: the National Park Service's handbook Trail Design, Construction, and Maintenance (NPS 1996) and the American Trail Organization's Trail Design Guide (American Trail Organization 2006). From these two guides, four prominent categories were chosen to establish what design program elements facilitate "best trail design practices": trail layout, standard construction, amenities, and maintenance. Each of these four major categories is further divided into smaller categories for a more specific assessment. These four categories helped to develop my analysis table "Best Design Practices." The "Best Design Practices" table lists "Ideal" practices and how the case study compares in "Actual" practice. Once each case study is individually inventoried and analyzed, a side-by-side case study comparison was used to assess which of the case studies are most successful in trail design. From this side-by-side comparison, I was able to determine the best practices for my trail corridor's "Trail of Stories." Figure 3.03 below shows an example of how the analysis "Best Design Practices" guide was employed.

BEST DESIGN PRACTICES

IDEAL

ACTUAL

| | | | |
|-----------------------|--|---|---|
| LAYOUT | Trail is in a visually pleasing corridor and incorporates as many scenic and other points of interest as possible. | Passes through 12 states and as many different landscapes as possible in northern America. | ✓ |
| | Trail provides diversity of views and experiences by passing through a variety of geographic, vegetative, and cultural features. | Passes through mountains, prairies, plains, rural, and urban places. Traverses coast to coast with vegetation hardness Zones 3b-8b. | ✓ |
| | Trail incorporates existing trails when possible. | Trail incorporates existing trails when possible. | ✓ |
| | Trail provides connections to other trails, recreation facilities, parks, resource and cultural areas, communities, etc. | Trail provides connections to other trails, recreation facilities, parks, resource and cultural areas, communities, etc. | ✓ |
| | Trail avoids the more developed portions of rural areas. | Some trail sections are very urban. | X |
| STANDARD CONSTRUCTION | Tread width. Urban 48"-60" Rural 24"-36" | Mostly follows typical width measurements. | ✓ |
| | Clearing height & width. Typ. 10'x 24' | Mostly follows typical clearing measurements. | ✓ |
| | Surfaces: Asphalt, concrete, stabilized-aggregate, native, wood chip, gravel, etc. | Utilizes concrete, gravel, and dirt paths. | ✓ |
| AMENITIES | Trail has necessary support facilities. (e.g. bathrooms, trash cans, water fountains, benches, picnic tables, etc. | Trail has necessary support facilities. | ✓ |
| | Signage (e.g. wayfinding, education, information, warning, entrance,) | Does not seem to have much in terms of signage. | X |
| MAINTENANCE | Trail requires minimum maintenance. Most trail segments need maintenance about 3 times a year | Trail looks well-maintained and has cues of care. | ✓ |
| | Occasional removal of debris, vegetative clearing, and re-covering of path material, cleaning of signage | Trail is well-loved, clear, and maintained. | ✓ |
| | General safety checks for bridges and fallen trees. | Some trail sections have lighting for safety. | ✓ |

Table 3.01
Best Design Practice
Practices Example

Legend

- X Shows poor example
✓ Shows good example



CASE STUDIES

CHAPTER FOUR

4

01

INTRODUCTION

- a. Inspiration + Importance
- b. Research Question
- c. Design Process

02

BACKGROUND

- a. Introduction
- b. Sense of Place + History
- c. Cultural Memory
- d. Ecological Memory

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METHODOLOGY

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- b. Case Studies

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DESIGN APPLICATION

- a. Regional Overview + Inventory & Analysis
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- c. Overall Master Plan

06

CONCLUSIONS

- a. Overall Conclusions
- b. Limitations of Study
- c. Broader Impacts

CASE STUDIES

The following case studies were chosen based on scale: national, regional, and city. The chosen case studies highlight trails that incorporate abandoned rail ways, existing trails, and strive to allow access to as many community members as possible. The Great American-Rail Trail and the American Discovery Trail represent the national scale, The Flint Hills Trail represents the regional scale and Linear Trail in Manhattan, KS, and the Neosho Riverwalk in Council Grove, KS represent the city scale.

Each case study will be evaluated using the “Best Design Practices” table developed from the National Park Services handbook ([nps.gov](https://www.nps.gov)) for “Trail Design.” Analysis Topics include:

- Trail Layout
- Standard Construction
- Amenities
- Maintenance

THE GREAT AMERICAN RAIL-TRAIL

| | |
|-------------------|---|
| Location | Washington D.C to Washington State (12 States) |
| Size | +3,700 miles |
| Date | 1986-Present |
| Client | Everyone |
| Designer | RTC (Rail-Trails Conservancy) |
| Principles | "The Great American Rail-Trail promises an all-new American experience. Through 12 states and the District of Columbia, the trail will directly serve nearly 50 million people within 50 miles of the route. Across the nation – and the world – only the limits of imagination will limit its use" (RTC 2020). |

History For more than 30 years, RTC has recognized the potential for a multiuse trail that connects the nation. In the turn of the mid-20th century thousands of miles of rails lines were abandoned and were disused. It began as a dream by RTC Co-Founder David Burwell in 1986 that we needed to preserve these priceless corridors and he "dreamed of a trail that would connect the vast North American continent just as the railroads did – envisioning that rail-trails would one day be 'America's Main Street'" (RTC 2020). Slowly, the RTC team used pins on a map to mark newly completed rail-trail projects and watched as more and more pins were added



Figure 4.01
The Great American
Rail-Trail Map



Figure 4.02
Trail section in Washington D.C.
(Google Earth)

until the skeleton of a cross-country rail-trail slowly began to take shape. Realizing what a big project this would be, RTC began developing their organization and coordinating resources and advocacy support. Year by year, the trail has become more and more of a reality. There are more than 1,700 miles of trail gaps that have yet to be analyzed and completed along this Great American Rail-Trail (RTC 2020). These trail gaps already have future options identified and publicly adopted at the state and local levels but have yet to be physically realized.

BEST DESIGN PRACTICES

IDEAL

ACTUAL

| | | | |
|-----------------------|--|--|---|
| LAYOUT | Trail is in a visually pleasing corridor and incorporates as many scenic and other points of interest as possible. | Passes through 12 states and as many different landscapes as possible in northern America. | ✓ |
| | Trail provides diversity of views and experiences by passing through a variety of geographic, vegetative, and cultural features. | Passes through mountains, prairies, plains, rural, and urban places. Traverses coast to coast with vegetation hardiness Zones 3b-8b. | ✓ |
| | Trail incorporates existing trails when possible. | Trail incorporates existing trails when possible. | ✓ |
| | Trail provides connections to other trails, recreation facilities, parks, resource and cultural areas, communities, etc. | Trail provides connections to other trails, recreation facilities, parks, resource and cultural areas, communities, etc. | ✓ |
| | Trail avoids the more developed portions of rural areas. | Some trail sections are very urban. | X |
| STANDARD CONSTRUCTION | Tread width. Urban 48"-60" Rural 24"-36" | Mostly follows typical width measurements. | ✓ |
| | Clearing height & width. Typ. 10'x 24' | Mostly follows typical clearing measurements. | ✓ |
| | Surfaces: Asphalt, concrete, stabilized-aggregate, native, wood chip, gravel, etc. | Utilizes concrete, gravel, and dirt paths. | ✓ |
| AMENITIES | Trail has necessary support facilities. (e.g. bathrooms, trash cans, water fountains, benches, picnic tables, etc. | Trail has necessary support facilities. | ✓ |
| | Signage (e.g. wayfinding, education, information, warning, entrance,) | Does not seem to have much in terms of signage. | X |
| MAINTENANCE | Trail requires minimum maintenance. Most trail segments need maintenance about 3 times a year | Trail looks well-maintained and has cues of care. | ✓ |
| | Occasional removal of debris, vegetative clearing, and re-covering of path material, cleaning of signage | Trail is well-loved, clear, and maintained. | ✓ |
| | General safety checks for bridges and fallen trees. | Some trail sections have lighting for safety. | ✓ |

Table 4.01
Great American Rail-Trail Best
Design Practices Assessment

Legend

X

Shows poor example

✓

Shows good example

SUMMARY + REFLECTION

The Great American Rail-Trail is known for its great diversity. The diversity of views, vegetation, rural and urban sections, and landscapes makes this trail unique. The Great American Rail-Trail, while still incomplete, will be the first trail to span coast-to-coast and truly utilize as many already constructed trails as possible. It took a national effort to connect existing trails with brand new trail sections and make a unique experience of traveling coast-to-coast only by foot or bike.

Overall, this trail highlights the beauty of different vegetative communities, promotes exercise and economic opportunities, and showcases multiple landscapes. This trail lacks signage and historical and cultural significance that my trail design will implement. While still unfinished, this trail shows great promise.



Figure 4.03
Trail section in Washington state
(Google Earth)

THE AMERICAN DISCOVERY TRAIL

| | |
|-------------------|---|
| Location | Cape Henlopen State Park Delaware – Pt. Reyes National Seashore, California |
| Size | 6,800+ miles |
| Date | 2003-Present |
| Client | Everyone |
| Designer | ADTS (American Discovery Trail Society) |
| Principles | "It reaches across America, linking community to community in the first coast to coast, non-motorized trail. The ADT provides trail users the opportunity to journey into the heart of all that is uniquely American – its culture, heritage, landscape, and spirit" (ADT 2020). |
| History | "The American Discovery Trail (ADT) is a cross country trail composed of many other existing trails and some unique connector routes between them. The trail is already contiguous across the continent, but the goal is to create a completely off-road trail, that is still a work in progress. The ADT is different from trails like the Appalachian or Pacific Crest in that it is not a wilderness trail, it passes through cities, towns, farmland, and wild areas" (ADT 2020). |



Figure 4.04
American Discovery
Trail Map

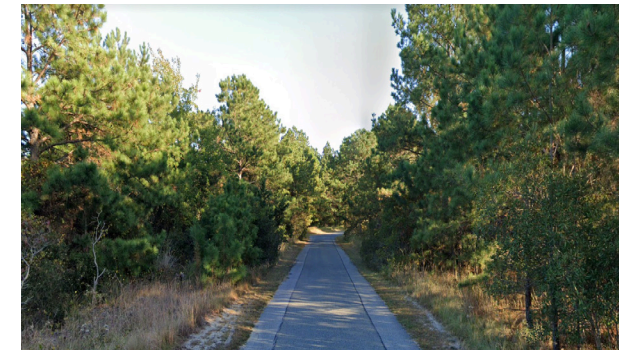


Figure 4.05
Trail section in Cape Henlopen State
Park, Delaware (Google Earth)

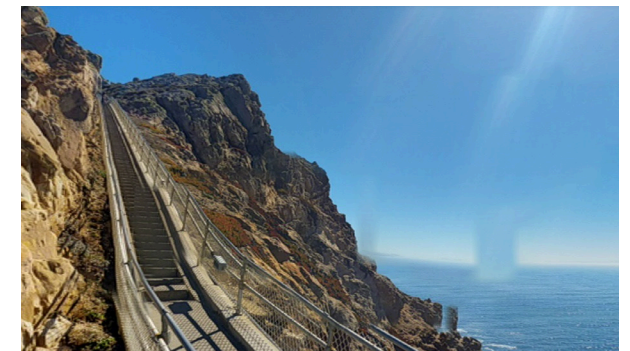


Figure 4.06
Trail section in Pt. Reyes National
Seashore, California (Google Earth)

BEST DESIGN PRACTICES

IDEAL

| | | | |
|-----------------------|--|--|---|
| LAYOUT | Trail is in a visually pleasing corridor and incorporates as many scenic and other points of interest as possible. | Passes through 14 states and as many different landscapes as possible in mid-America. | ✓ |
| | Trail provides diversity of views and experiences by passing through a variety of geographic, vegetative, and cultural features. | Passes through mountains, prairies, plains, rural, and urban places. Traverses coast to coast with vegetation hardiness Zones 4b-9b. | ✓ |
| | Trail incorporates existing trails when possible. | Trail incorporates existing trails when possible. | ✓ |
| | Trail provides connections to other trails, recreation facilities, parks, resource and cultural areas, communities, etc. | Trail provides unique, completely off-road connections to other trails, towns, farmlands, and wild areas. | ✓ |
| | Trail avoids the more developed portions of rural areas. | Some trail sections are purposefully very urban. | X |
| STANDARD CONSTRUCTION | Tread width. Urban 48"-60" Rural 24"-36" | Mostly follows typical width measurements. | ✓ |
| | Clearing height & width. Typ. 10'x 24' | Mostly follows typical clearing measurements. | ✓ |
| | Surfaces: Asphalt, concrete, stabilized-aggregate, native, wood chip, gravel, etc. | Utilizes concrete, gravel, pine, and dirt paths. | ✓ |
| AMENITIES | Trail has necessary support facilities. (e.g. bathrooms, trash cans, water fountains, benches, picnic tables, etc. | Trail has necessary support facilities. | ✓ |
| | Signage (e.g. wayfinding, education, information, warning, entrance,) | Does not seem to have much in terms of signage. | X |
| MAINTENANCE | Trail requires minimum maintenance. Most trail segments need maintenance about 3 times a year | Trail looks well-maintained and has cues of care. | ✓ |
| | Occasional removal of debris, vegetative clearing, and re-covering of path material, cleaning of signage | Trail is well-loved, clear, and maintained. | ✓ |
| | General safety checks for bridges and fallen trees. | General safety practices are followed. | ✓ |

Table 4.02
American Discovery Trail Best
Design Practices Assessment

Legend

X

Shows poor example

✓

Shows good example

SUMMARY + REFLECTION

The American Discovery Trail is the only contiguous trail in mid-America, spanning from Delaware to California and passing through fourteen different states. The American Discovery Trail’s goal is to utilize as many previously constructed paths as possible, following an entirely off-road route. While the trail has breathtaking views, which most people notice first, it also has a great deal of historical and cultural significance in its origins and existing trails. This trail passes through fourteen national parks, sixteen national forests, five national scenic trails, and ten national historic trails.

Overall, this trail offers a truly unique experience with a great variance of views, path covering material, and elevation. However, the paths lack signage and an overall identity as a united, contiguous trail system. While the constructed trails are beautiful and function as a single unit, it struggles to come together as a cohesive trail corridor because of its lack of signage and unique identity.



Figure 4.07
Trail lookout in Pt. Reyes National
Seashore, California (Google Earth)

FLINT HILLS NATURE TRAIL

| | |
|-------------------|---|
| Location | East-Central Kansas (Osawatomie to Herington: 5 counties) |
| Size | 92.9 miles |
| Date | 1880s |
| Client | Everyone |
| Designer | KRTC (Kanza Rail-Trails Conservancy) |
| Principles | Crossing the beautiful Flint Hills, the Flint Hills represent one of the last remaining tallgrass prairie ecosystems in the world. Abundant in prairie plant and wildlife species, spectacular views, national historic sites, and a diverse set of recreational areas, the Flint Hills Trail State Park navigates beautiful landscapes, helping in the conservation of an endangered and precious ecosystem (KRTC 2020). |
| History | "The Flint Hills Trail is built on an old railroad corridor. The route was originally developed in the late 1880s, as the Council Grove, Osage City & Ottawa Railway. It later became the Missouri Pacific Railroad. MoPac discontinued railway service on the line in the 1980s, and subsequently abandoned their railway. The Rails-to-Trails Conservancy acquired the corridor in 1995 and later transferred ownership to the Kanza Rail-Trails Conservancy. The KRTC has been developing the Flint Hills Nature Trail in sections, where volunteers have been available, and where grant funding and donations have permitted |

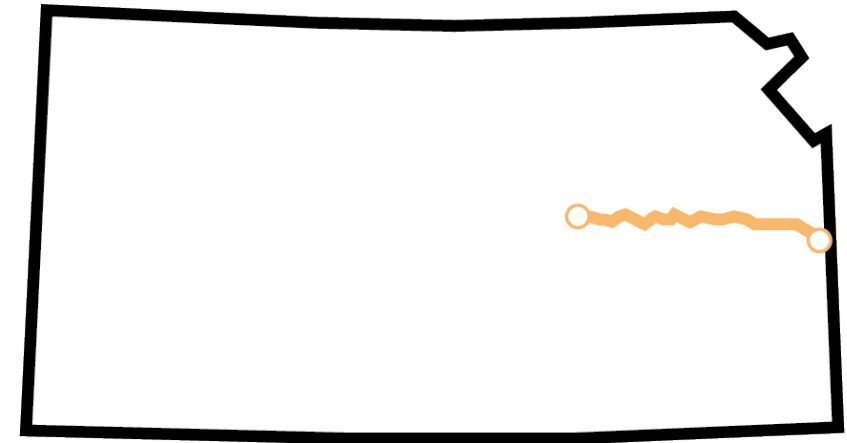


Figure 4.08
Flint Hills Nature
Trail Map

the old railway to be redeveloped (KRTC 2020). This is the 7th longest rail-trail in America and the longest trail in Kansas. The Flint Hills Nature Trail follows the general route of the Santa Fe Trail and forms a component of the American Discovery Trail that connects coast-to-coast.



Figure 4.09
Bridge over small creek on Flint
Hills Nature Trail
(Cole 2021)

FLINT HILLS NATURE TRAIL - OBSERVATION

I walked two small sections of the Flint Hills Nature Trail. One section in Adair, Kansas, and another section outside Council Grove, Kansas. The path was typically 20 feet across and mostly shaded by dense forest and surrounded by agricultural land. The trail covering material was clay with gravel and is relatively maintained with very little litter and sufficient gravel covering over the clay soil. There was no elevation change, very flat and very natural. Tracks found on-site on the path included bike wheels, footprints, and horse prints.



Figure 4.10
Trail entrance + signage in
Adair, KS
(Cole 2021)



Figure 4.11
View from bridge to small stream
(Cole 2021)



Figure 4.12
Newly constructed bridge on Adair,
KS section
(Cole 2021)

BEST DESIGN PRACTICES

IDEAL

ACTUAL

| | | | |
|-----------------------|--|---|---|
| LAYOUT | Trail is in a visually pleasing corridor and incorporates as many scenic and other points of interest as possible. | Passes through a very rural corridor with native vegetation. | ✓ |
| | Trail provides diversity of views and experiences by passing through a variety of geographic, vegetative, and cultural features. | Passes through prairie, crops, and small streams. | X |
| | Trail incorporates existing trails when possible. | Trail is constructed on an old rail corridor. | ✓ |
| | Trail provides connections to other trails, recreation facilities, parks, resource and cultural areas, communities, etc. | Trail makes up a section of the American Discovery Trail and follows general route of Santa Fe Trail. | ✓ |
| | Trail avoids the more developed portions of rural areas. | Very rural. | ✓ |
| STANDARD CONSTRUCTION | Tread width. Urban 48"-60" Rural 24"-36" | Follows typical width measurements. | ✓ |
| | Clearing height & width. Typ. 10'x 24' | Follows typical clearing measurements. | ✓ |
| | Surfaces: Asphalt, concrete, stabilized-aggregate, native, wood chip, gravel, etc. | Utilizes gravel/clay paths. | ✓ |
| AMENITIES | Trail has necessary support facilities. (e.g. bathrooms, trash cans, water fountains, benches, picnic tables, etc. | Trail does NOT have necessary support facilities. | X |
| | Signage (e.g. wayfinding, education, information, warning, entrance,) | Very little signage. | X |
| MAINTENANCE | Trail requires minimum maintenance. Most trail segments need maintenance about 3 times a year | Trail looks well-maintained and has cues of care. | ✓ |
| | Occasional removal of debris, vegetative clearing, and re-covering of path material, cleaning of signage | Trail is well-loved, clear, and maintained. | ✓ |
| | General safety checks for bridges and fallen trees. | General safety practices are followed. | ✓ |

Table 4.03
Flint Hills Nature Trail Best
Design Practices Assessment

Legend

X

Shows poor example

✓

Shows good example

SUMMARY + REFLECTION

The Flint Hills Nature Trail is the 7th longest rail-trail in the United States. Rail-trails are an ingenious way of “recycling” an already cleared and continuous corridor. Well-loved by wildlife, vegetation, and humans alike, this trail is no stranger to visitors, despite its sometimes remote location.

Overall, the Flint Hills Nature Trail is lacking signage, and most of the trail section entrances are in the middle very rural areas and roads with no places to park. Views are not very diverse; vegetation is not very diverse, the trail has no significant change in elevation. The only historical or cultural significance is that it loosely follows the Santa Fe Trail’s original route. Well-maintained, this trail currently shows obvious cues to care and caters nicely to the surrounding communities.



Figure 4.13
Typical trail section for Flint Hills
Nature Trail
(Cole 2021)

LINEAR TRAIL

| | |
|-------------------|---|
| Location | Manhattan, KS |
| Size | +9 miles |
| Date | Late 1980s – Early 1990s |
| Client | City of Manhattan |
| Designer | LDC (Landscape Design Collaborative) |
| Principles | The Linear Trail in Manhattan is a city bike path consisting of series of paved and crushed limestone segments that is popular with walkers, joggers, and cyclists. The trail is over 9 miles in length and circles the majority of the community. It follows the riparian corridors of the Kansas and Big Blue rivers, as well as Wildcat Creek. As you travel the trail, you will enjoy the natural sights and the diverse wildlife of these scenic areas |
| History | The project was one of several that were component parts of a major city-wide bond initiative called the “Quality of Life Bond” in 1986, passed by the citizens of Manhattan to support several major recreation facilities projects, including repairs and upgrades to several of the city’s swim pools, the building of the Anneberg Sports Complex and the Master Planning of the Linear Trail and construction of Phase One of the Trail (mhkprd.com). The bond initiative passed and the City, through its Park & Recreation Department, commissioned the design and construction work for the various projects that were a part of the package. |

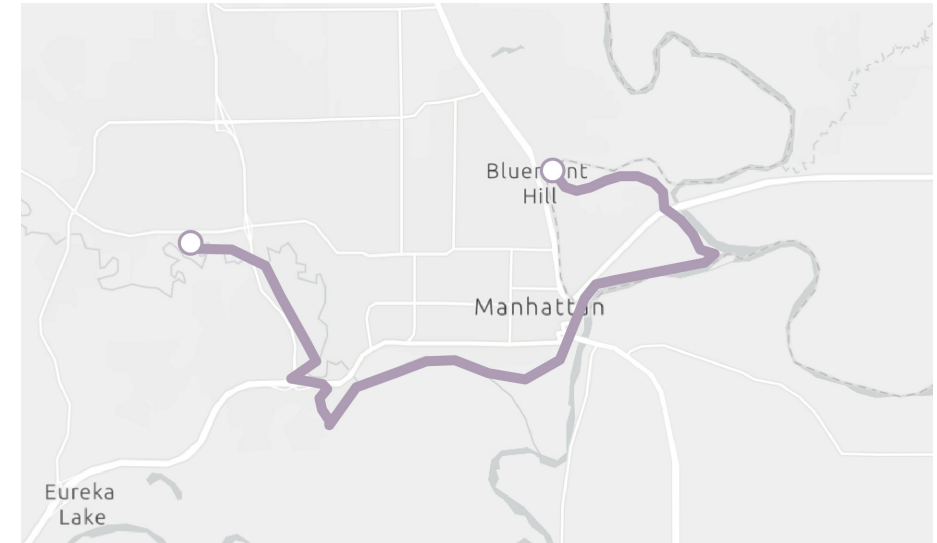


Figure 4.14
Linear Trail Map

Phase 1: Trailhead point near the intersection of Hayes and Casement at the east side of town, clockwise around the city, along the levee.

Phase 2: Continue along S. Manhattan Ave. west and Wildcat Creek and north parallel to Seth Child Road. (Brooks 2020)

LINEAR TRAIL - OBSERVATION

Linear Trail in Manhattan, KS is a relatively removed trail that surrounds the city proper of Manhattan. Most of the western portion of the trail is shaded and overgrown and follows along Wildcat Creek which has a tendency of flooding. The eastern portion of the trail also acts as the levee for the Kansas River and is in complete sun. Trail entrances are hard to find and not clearly marked. The trail is entirely gravel and is used mostly by walkers, dog walkers, and cyclists. There are little to no trail amenities like benches, trash cans, dog waste stations, and no drinking fountains, Figures 4.10-4.14 below show visual documentation of the trail.



Figure 4.15
Bridge over Wildcat Creek
(Cole 2019)



Figure 4.16
Overgrown vegetation
(Cole 2019)



Figure 4.17
Trail bridge over Wildcat Creek
(Cole 2019)



Figure 4.18
Trail under highway overpass (Cole 2019)



Figure 4.19
Trail signage at West entrance
(Cole 2019)

BEST DESIGN PRACTICES

IDEAL

ACTUAL

| | | | |
|-----------------------|--|---|---|
| LAYOUT | Trail is in a visually pleasing corridor and incorporates as many scenic and other points of interest as possible. | Passes through a very rural corridor with native vegetation, a small creek, and the Kansas River | ✓ |
| | Trail provides diversity of views and experiences by passing through a variety of geographic, vegetative, and cultural features. | Passes through shaded wooded areas and more open areas on a levee. There is also a bridge that crosses Wildcat Creek. | X |
| | Trail incorporates existing trails when possible. | Trail was constructed on a new path/levee. | X |
| | Trail provides connections to other trails, recreation facilities, parks, resource and cultural areas, communities, etc. | Trail connects Fairmont Dog Park and the West Loop shopping area while passing Sunset Zoo. | ✓ |
| | Trail avoids the more developed portions of rural areas. | More urban. | X |
| STANDARD CONSTRUCTION | Tread width. Urban 48"-60" Rural 24"-36" | Mostly follows typical width measurements. | ✓ |
| | Clearing height & width. Typ. 10'x 24' | Mostly follows typical clearing measurements. | ✓ |
| | Surfaces: Asphalt, concrete, stabilized-aggregate, native, wood chip, gravel, etc. | Utilizes gravel and dirt paths. | ✓ |
| AMENITIES | Trail has necessary support facilities. (e.g. bathrooms, trash cans, water fountains, benches, picnic tables, etc. | Trail does NOT have necessary support facilities. | X |
| | Signage (e.g. wayfinding, education, information, warning, entrance,) | Very little signage. Signage that is installed is not visible to the road or passing pedestrians. | X |
| MAINTENANCE | Trail requires minimum maintenance. Most trail segments need maintenance about 3 times a year | Trail has cues of care. May need slight trimming on west section. | ✓ |
| | Occasional removal of debris, vegetative clearing, and re-covering of path material, cleaning of signage | Trail is well-used, and slightly maintained. | ✓ |
| | General safety checks for bridges and fallen trees. | General safety practices are followed. | ✓ |

Table 4.04
Linear Trail Best Design Practices
Assessment

Legend

X Shows poor example

✓ Shows good example

SUMMARY + REFLECTION

Linear Trail in Manhattan, KS, is well-used by cyclists, runners, and dog-walkers alike. Partly built on the Kansas River levee, this trail offers an elevated view of the city built in a floodplain. Paths that follow water are typically successful because of our inherent pull to water; this trail follows Wildcat Creek and the Kansas River.

Overall, the trail is well-used. half of the trail to the east sits in the open sun along the levee but much more shaded on the west half near Wildcat Creek. Linear Trail is primarily used so often, not because of its view or clean maintenance, but because of its proximity and length. The Linear Trail is the only trail of significant length in the city of Manhattan. There is little to no signage for wayfinding, entrance locations, and warning. There is historical signage and cultural significance from the 1951 flood water level meters along the levee.

NEOSHO RIVERWALK

Location Council Grove, KS

Size 1.1 Mile

Date August 1997

Client City of Council Grove

Designer Schwab-Eaton PA

Principles The Neosho Riverwalk connects the Flint Hills Trail with the Madonna of the Trail statue, Guardian of the Grove statue, the Neosho River Crossing and the Kaw Mission State Historic Site. Crossing the Santa Fe Trail and the bridge that spans the Neosho River, the walkway continues on up among thousands of wildflowers, plants, and native grasses to the Kaw Mission Historic Site. At night, lights from the Riverwalk reflect in the water, causing us to reflect on nature and history along the river. The Neosho Riverwalk is also ADA accessible.

History At the crossroads of the historic Santa Fe Trail and the Flint Hill Scenic Byway is Council Grove. Council Grove is home to 24 historic sites and historically significant "Voices of the Wind People." The Kanza Native American tribe first called Council Grove home before and with the early settlers.



Figure 4.20
Neosho Riverwalk
Trail Map



Figure 4.21
Mural for the entrance of the
Neosho Riverwalk
(Cole 2021)

NEOSHO RIVERWALK - OBSERVATION

The Neosho Riverwalk is designed with adequate signage and large path width. Light posts are installed every 80-100 feet for safety and aesthetics. Benches, trash cans, dog waste stations, and water fountains have been placed in abundance. The trail slightly rises in elevation but has an ADA ramp to the higher section of the path. All trees on site are either dedicated to the memory of a loved one or a benefactor. The route is very natural and well-kept for people of all ages and abilities to enjoy.



Figure 4.22
Bridge over Neosho River
(Cole 2021)



Figure 4.23
"Guardian of the Grove"
(Cole 2021)



Figure 4.24
Wayfinding signage (Cole 2021)



Figure 4.25
Kaw House - pioneer house
(Cole 2021)



Figure 4.27
Dog waste station
(Cole 2021)



Figure 4.26
Entrance amenities
(Cole 2021)

BEST DESIGN PRACTICES

IDEAL

| | |
|-----------------------|--|
| LAYOUT | Trail is in a visually pleasing corridor and incorporates as many scenic and other points of interest as possible. |
| | Trail provides diversity of views and experiences by passing through a variety of geographic, vegetative, and cultural features. |
| | Trail incorporates existing trails when possible. |
| | Trail provides connections to other trails, recreation facilities, parks, resource and cultural areas, communities, etc. |
| | Trail avoids the more developed portions of rural areas. |
| STANDARD CONSTRUCTION | Tread width. Urban 48"-60" Rural 24"-36" |
| | Clearing height & width. Typ. 10'x 24' |
| | Surfaces: Asphalt, concrete, stabilized-aggregate, native, wood chip, gravel, etc. |
| AMENITIES | Trail has necessary support facilities. (e.g. bathrooms, trash cans, water fountains, benches, picnic tables, etc. |
| | Signage (e.g. wayfinding, education, information, warning, entrance,) |
| MAINTENANCE | Trail requires minimum maintenance. Most trail segments need maintenance about 3 times a year |
| | Occasional removal of debris, vegetative clearing, and re-covering of path material, cleaning of signage |
| | General safety checks for bridges and fallen trees. |

ACTUAL

| | |
|--|---|
| Follows very clean section of the Neosho River. | X |
| Follows Santa Fe Trail trail and ends near a cultural and historical site of the Kaw House. | ✓ |
| Trail was constructed on a new path/levee. | X |
| Trail connects Fairmont Dog Park and the West Loop shopping area while passing Sunset Zoo. | ✓ |
| Very urban. | X |
| Follows typical width measurements. | ✓ |
| Follows typical clearing measurements. | ✓ |
| Utilizes concrete path. | ✓ |
| Trail has exemplary support facilities. Bathroom, multiple benches, trash cans, lights, water fountains. | ✓ |
| Exemplary signage: wayfinding, cultural, warning. | ✓ |
| Trail looks well-maintained and has cues of care. | ✓ |
| Trail is well-loved, clear, and maintained. | ✓ |
| General safety practices are followed. | ✓ |

Table 4.05
Neosho Riverwalk Best Design
Practices Assessment

Legend

X

Shows poor example

✓

Shows good example

SUMMARY + REFLECTION

The city clearly loves the Neosho Riverwalk in Council Grove because of the obvious cues to care and a significant amount of amenities. Council Grove is home to 24 historical sites and was once the land of the Osage Tribe.

Overall, the Neosho Riverwalk is exceptionally well-used and well-loved. The city obviously loves this trail as it is a relatively small city with few lengthy trail systems. The path is maintained well with great care and allows many places to sit, rest, and reflect along the river. The river gives a calming environment of sound as the water rushes under the bridge. The Neosho Riverwalk is embedded with a rich history as it connects downtown Council Grove to the historic site of the Kaw House.



Figure 4.28
Entrance signage
(Cole 2021)

BEST DESIGN PRACTICES: ANALYSIS

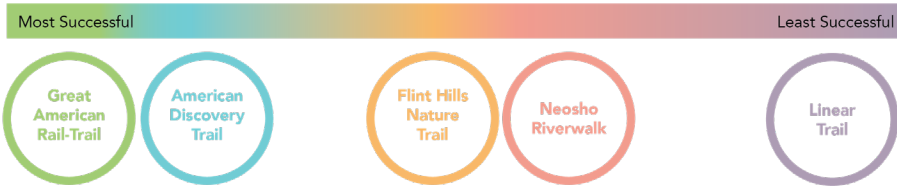
| | | | | | | |
|-----------------------|--|---|---|---|---|---|
| LAYOUT | Trail is in a visually pleasing corridor and incorporates as many scenic and other points of interest as possible. | ✓ | ✓ | ✓ | ✓ | ✗ |
| | Trail provides diversity of views and experiences by passing through a variety of geographic, vegetative, and cultural features. | ✓ | ✓ | ✗ | ✗ | ✓ |
| | Trail incorporates existing trails when possible. | ✓ | ✓ | ✓ | ✗ | ✗ |
| | Trail provides connections to other trails, recreation facilities, parks, resource and cultural areas, communities, etc. | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Trail avoids the more developed portions of rural areas. | ✗ | ✗ | ✓ | ✗ | ✗ |
| | | | | | | |
| STANDARD CONSTRUCTION | Tread width. Urban 48"-60" Rural 24"-36" | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Clearing height & width. Typ. 10'x 24' | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Surfaces: Asphalt, concrete, stabilized-aggregate, native, wood chip, gravel, etc. | ✓ | ✓ | ✓ | ✓ | ✓ |
| AMENITIES | Trail has necessary support facilities. (e.g. bathrooms, trash cans, water fountains, benches, picnic tables, etc. | ✓ | ✓ | ✗ | ✗ | ✓ |
| | Signage (e.g. wayfinding, education, information, warning, entrance,) | ✗ | ✗ | ✗ | ✗ | ✓ |
| MAINTENANCE | Trail requires minimum maintenance. Most trail segments need maintenance about 3 times a year | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Occasional removal of debris, vegetative clearing, and re-covering of path material, cleaning of signage | ✓ | ✓ | ✓ | ✓ | ✓ |
| | General safety checks for bridges and fallen trees. | ✓ | ✓ | ✓ | ✓ | ✓ |

Table 4.06
Comparison of Case Studies

Great American Rail-Trail
American Discovery Trail
Flint Hills Nature Trail
Linear Trail
Neosho Riverwalk

The above table (Table 4.06) helps me visualize similarities and differences between my case studies. The table reveals which of the four "Best Design Practices" topics are highly regarded or entirely ignored. Connections between the four topics and the five case studies' analysis help determine what may be more important or less important in my final trail corridor design with the "Trail of Stories."

MOST SUCCESSFUL



MOST APPLICABLE



TOPIC MOST CONSIDERED

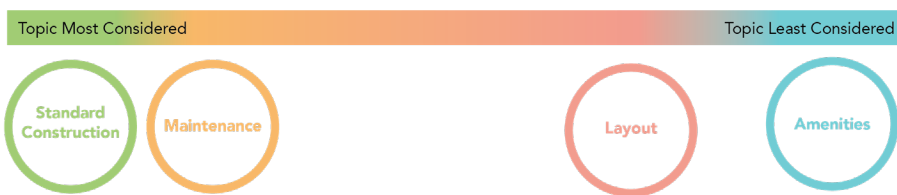


Figure 4.29
Most Successful Trail Analysis

Figure 4.30
Most Applicable Trail Analysis

Figure 4.31
Topic Most Considered Analysis

The above "slider scales" show a quick internal analysis. This analysis shows different and interesting connections between the "most successful" trail corridors, the "most applicable" trail corridors to my trail design, and even what topics had been most considered in designing the selected case studies.

SUMMARY + ANALYSIS

Located across the country and Central Great Plains Region, the selected case studies present successful implementation and design practices. All the case studies presented here offered examples of different uses and degrees of site amenities, signage, construction standards and preferences, and trail layouts. The final analysis of the case studies is shown below in Table 4.07 with their key takeaways.

KEY TAKEAWAYS

| | Great American Rail-Trail | American Discovery Trail | Flint Hills Nature Trail | Neosho Riverwalk | Linear Trail |
|---------------|---|---|---|--|--|
| Location | Washington D.C. to Washington | Delaware to California | Osawatomie, KS to Herrington, KS | Council Grove, KS | Manhattan, KS |
| Size | +3,700 miles | +6,800 miles | 92.9 miles | 1.1 mile | 9.0+ miles |
| Key Takeaways | Designed with use of existing trails in mind Use of historically significant trails Known for magnificent views | Designed with use of existing trails in mind Use of historically significant trails Utilizes part of Flint Hills Nature Trail | Built on old rail-way track Incredibly rural Hard to get to - middle of nowhere Not much signage | Plenty of amenities All types of signage (i.e. wayfinding, warning, historical) Culturally and historically significant area | Used by mostly runners Known to be unsafe No amenities Lacks good signage |

Table 4.07
Comparison of Key Takaways
from Case Studies

DESIGN PROGRAM

From the case study analysis and “Best Design Practices” developed from the National Park Service’s trail guidelines (nps.gov), I created my design program with my trail design goals and objectives in mind. Design goals and objectives were decided by the research and in the solution of the thesis in this report by designing a “Trail of Stories.” Below, Figure 4.34 shows a visual diagram of my design program process and how it was derived.

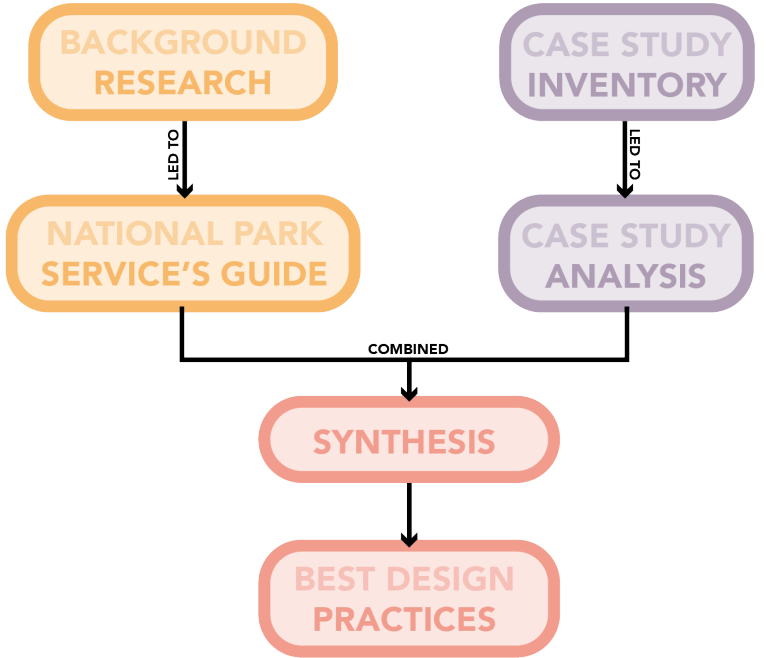


Table 4.32
Design Program Diagram

GOALS

Goals were identified through research of history and memory and case study analysis. Below are the four main design goals.

- 1. Connect communities through cohesive trail corridor**
- 2. Highlight history and ecology found along trail corridor**
- 3. Establish kiosks and signage for community engagement**
- 4. Install site amenities for visitor comfort**

OBJECTIVES

1. Connect communities through cohesive trail corridor

a. Design a “Trail of Stories” that passes through multiple cities

i. 36-mile trail that follows the K-10 highway in Eastern Kansas beginning in Lenexa, KS, and ending in Lawrence, KS

ii. Trail will pass through Lenexa, DeSoto, Eudora, and Lawrence with secondary entrances in Eudora and DeSoto

2. Highlight history and ecology found along trail corridor

a. Signage will be posted along the trail to showcase history or fun ecological facts

i. Historical/cultural signage will be mostly concentrated in/near the nodes and the city in which they may be most relevant while ecological signage will be along the more natural sections of the trail corridor for fun engagement with nature and personal trail experiences

3. Establish kiosks for community engagement through social media

a. All signage will have scannable QR codes that will take users to historical stories or ecological histories

b. Some QR codes will lead to chat logs for visitors to share what they may have seen on their hike/walk

4. Install site amenities for visitor comfort

a. Picnic tables will be installed at every node (4) along the trail corridor

b. Benches will be installed every 1,320 ft (.25 of a mile) within city limits and every 2,640 ft (.5 of a mile) outside of city limits for a total of 128 benches. 15 benches outside of city limits and 113 benches inside city limits

c. One drinking fountain for people and pets alike will be placed at every node (4). Trash cans and dog waste stations will be placed at every node (4) and at every mile

d. Picnic tables and benches will be made out of recycled wood taken from trees removed during construction of the trail

The background of the entire page is a solid purple color with a complex pattern of white, irregular, concentric lines that resemble topographic map contour lines. These lines vary in thickness and density, creating a sense of depth and movement. On the right side of the page, a large, white, stylized number '5' is partially visible, with its right edge cut off by the page boundary. The number has a clean, modern font style.

DESIGN APPLICATION

CHAPTER FIVE

01

INTRODUCTION

- a. Inspiration + Importance
- b. Research Question
- c. Design Process

02

BACKGROUND

- a. Introduction
- b. Sense of Place + History
- c. Cultural Memory
- d. Ecological Memory

03

METHODOLOGY

- a. Overview
- b. Case Studies

04

CASE STUDIES

- a. Chosen Case Studies
- b. Case Study Analysis

05

DESIGN APPLICATION

- a. Regional Overview + Inventory & Analysis
- b. Selected Site(s) Assessment + Inventory & Analysis
- c. Overall Master Plan

06

CONCLUSIONS

- a. Overall Conclusions
- b. Limitations of Study
- c. Broader Impacts

REGIONAL OVERVIEW

This chapter focuses on the design application within the selected regional context and selected 36-miles long trail corridor which stretches west from Lenexa, KS, to Lawrence, KS, along the K-10 highway. In the Fall semester of 2020, our studio decided upon a regional site context based on the Kansas River corridor shown in Figure 5.02. The chosen site boundary for the studio closely followed Interstate 70 to the north, Highway 10 to the south and spans from Eudora, KS in the west to Kansas City, MO in the east. Loosely following the Kansas River east to Kansas City, MO, several cities and areas were chosen by my 2020 Fall studio cohort, in this region to be inventoried, especially the major cities sited alongside the K-10 highway, Eudora, KS, DeSoto, KS, and Kansas City, KS.



Figure 5.01
Trail of Stories Logo

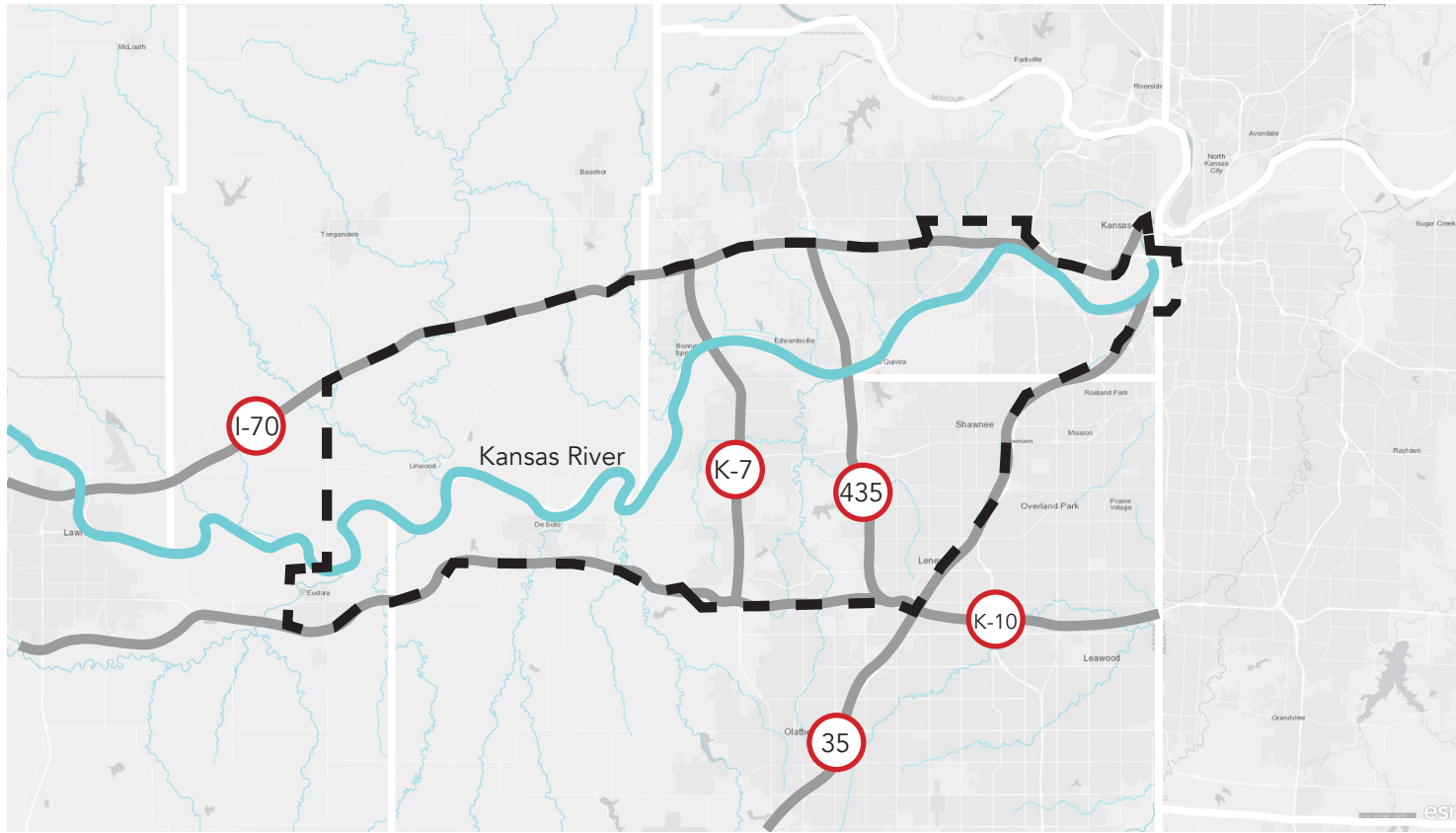


Figure 5.02
Inventory of
Regional Boundary
(Adapted from
ArcGIS Online)

Regional Inventory

The selected corridor for this project's design application trail is placed alongside other major transportation corridors: the K-10 highway, a railway, and the Kansas River. The selected corridor passes through Lenexa, DeSoto, Eudora, and Lawrence, KS. This chapter explores the region's inventory and analysis from two semesters, the corridor's inventory and analysis, the selected corridor, the overall master plan, and the nodes designed along the trail corridor. Figure 5.04 shows an inventory of the regional context for my selected corridor. Figure 5.05 shows a more detailed corridor inventory for Eastern Kansas, and Eastern Kansas's transportation corridors like railways, highways, rivers, and trails.

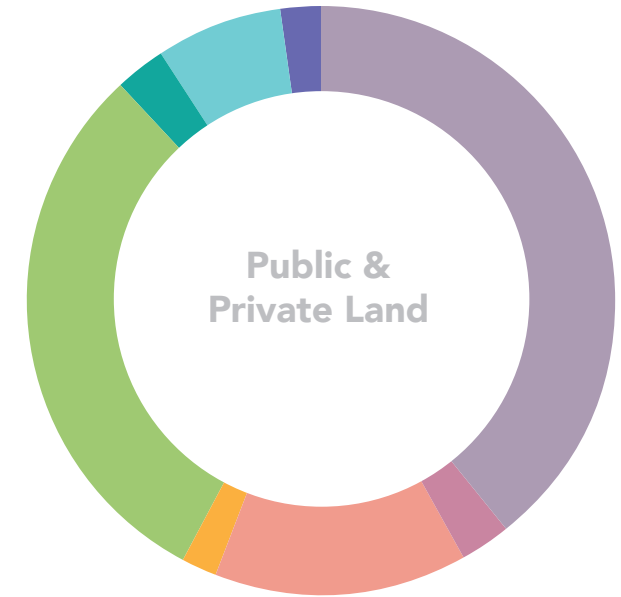


Figure 5.03
Inventory of
surrounding land
parcel ownership

Legend

Private 91%

- 40% Company or Farm
- 14% Trust or Trustee
- 30% Individual
- 3% School
- 3% Hospital
- 2% Church

Public 9%

- 7% City/State Government
- 2% Federal Government

The entirety of the selected site falls within public state properties for ease of possible future construction.

All calculations presented are approximations based on a visual inventory from the Douglas and Johnson county online GIS parcel information and only includes large surrounding parcels and not individual parcels within planned neighborhoods.

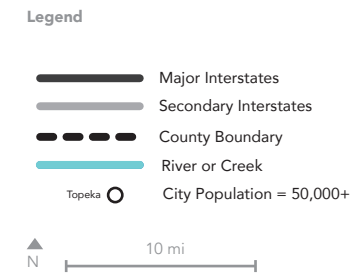
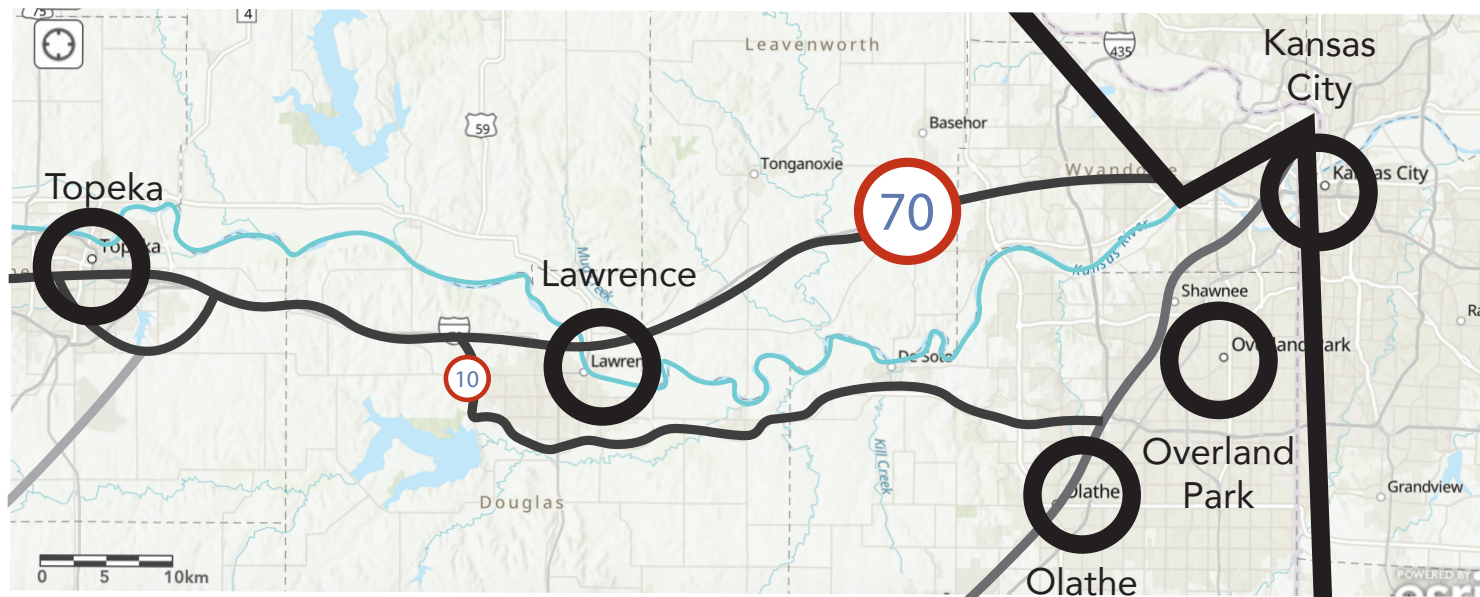


Figure 5.04
Inventory of
Regional Context
(Adapted from
ArcGIS Online)

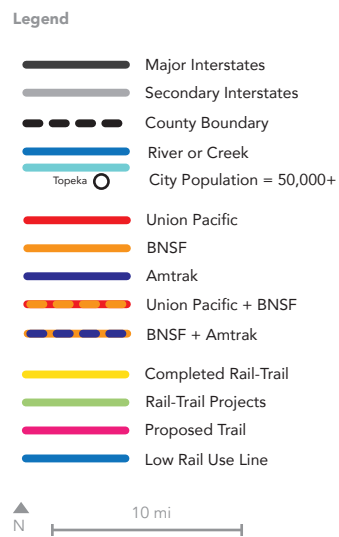
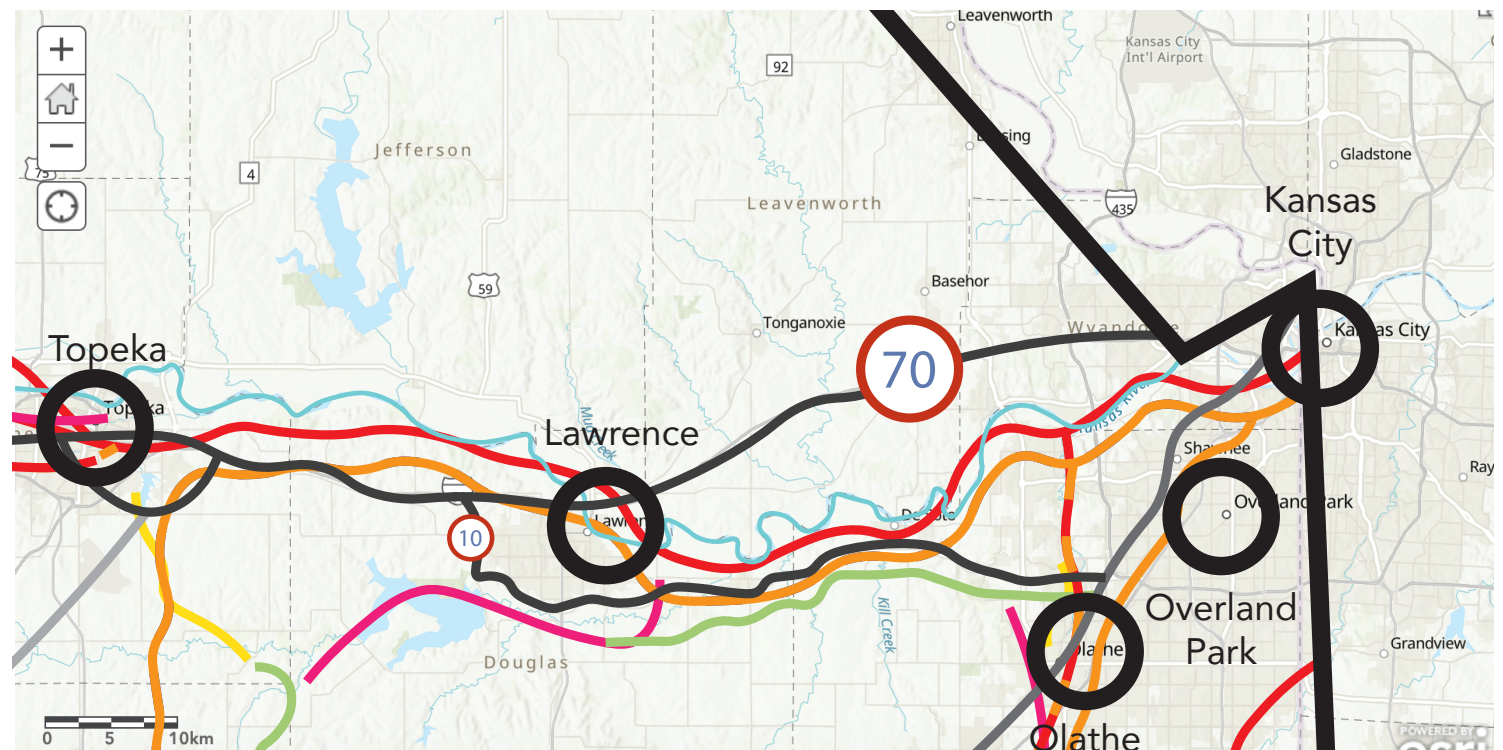


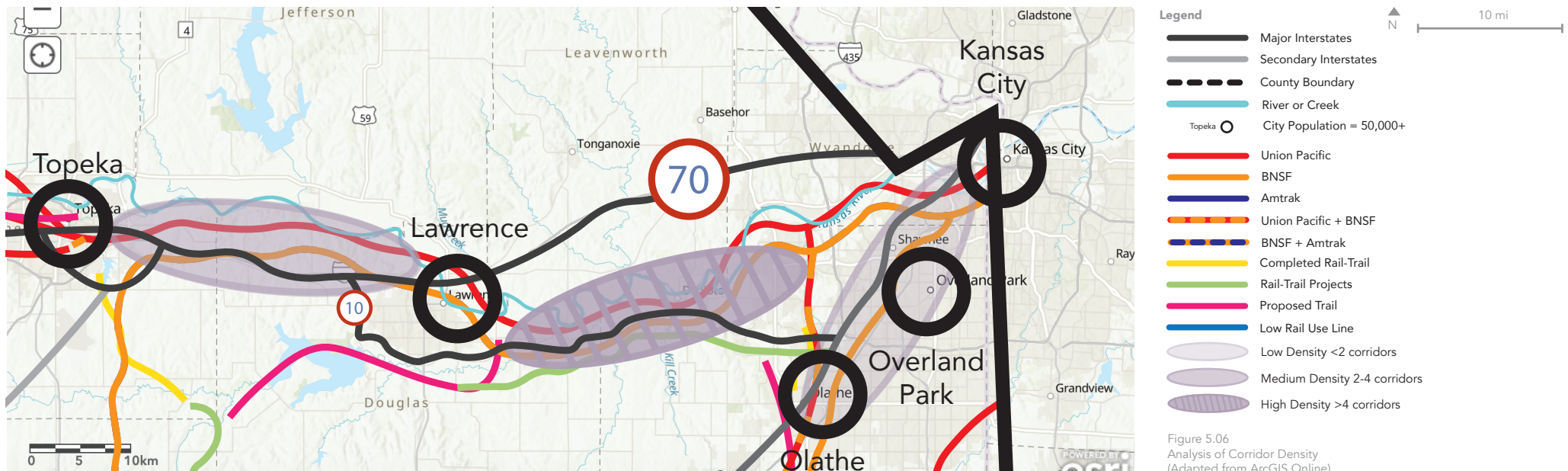
Figure 5.05
Inventory of
Regional Corridors
(Adapted from
ArcGIS Online)

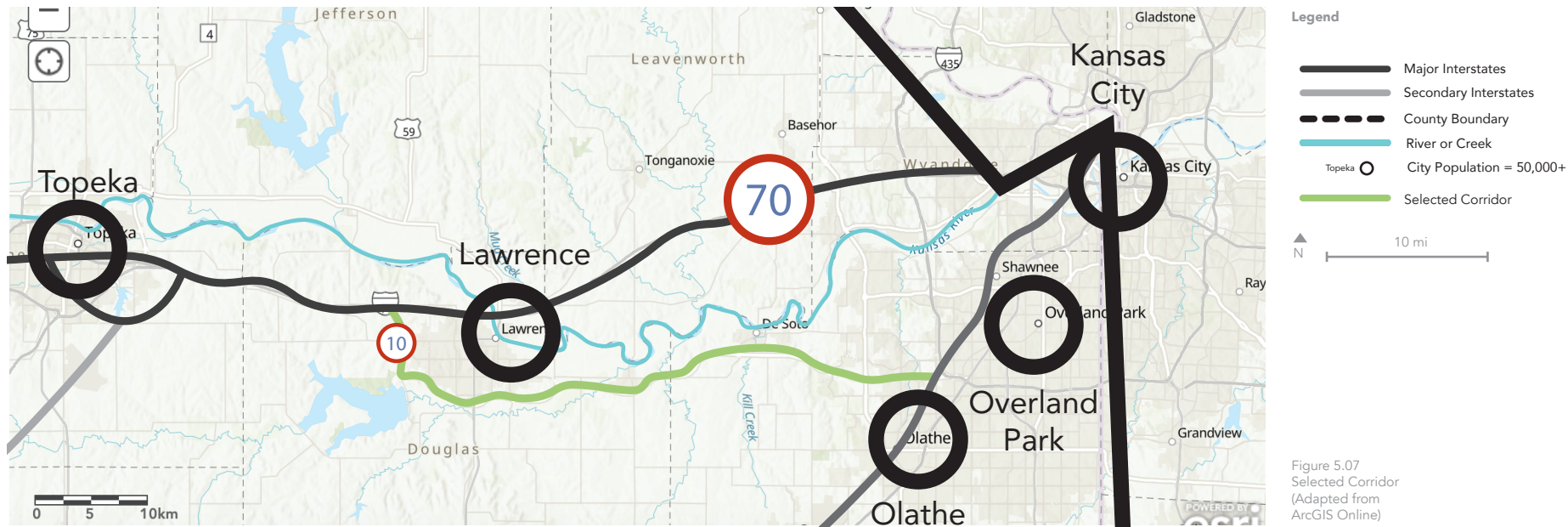


Regional Analysis

I conducted several corridor analyses from the inventory. The first of my inventories documented the existing highway and river corridors, the second inventory documented other corridors that currently exist or will soon be constructed, these corridors include rail lines, rail-trail corridors, and trail systems. From those two visual inventories, corridor analyses were used to determine the corridors with the most significant amount of transportation density. Density showed the highest congestion and diversity of corridors from rails, highways, trails, and rivers, as shown in Figure 5.04. I wanted to implement a contiguous trail corridor in an area with high transportation density as higher density areas would benefit more from this trail implementation as it would serve larger populations of people. From the corridor analysis, Figure 5.05 shows the

selected corridor for my project's design application based on all previous inventory and corridor analysis. The selected corridor was chosen for its proximity to major transportation corridors like the Kansas River and Interstate 70 and has a higher density of transportation corridors as that relates to higher possible user density and will serve more communities that are alongside the major existing corridors. While still alongside these major corridors, my design application of a contiguous trail corridor will provide another mode of transportation (e.g. walking, biking, hiking) away from vehicular, rail, or water transportation.





SELECTED SITE ASSESSMENT

The chosen corridor was selected because of its proximity to the Kansas River, its transportation corridor density, and to provide a new mode of transportation that would potentially act as a support system for the greater Kansas City metro. The selected corridor for design application follows the K-10 highway, the Kansas River and a railway corridor. Passing through four cities, Lenexa, DeSoto, Eudora, and Lawrence, KS, the selected corridor was designed to be a 'Trail of Stories' spanning from outside Lenexa, KS, along the K-10 highway, to where the K-10 highway meets with Interstate 70 in Lawrence, KS.

Corridor Inventory

Along the chosen K-10 corridor, chosen for design application, there will be a total of four designed "nodes," one in each of the four major cities the corridor passes through (Lenexa, DeSoto, Eudora, and Lawrence, KS). The number of nodes was determined by the number of cities the trail corridor passes through in order to showcase more city-specific stories along the "Trail of Stories." Figure 5.06 shows an inventory of the trail with proximity to I-70, the Kansas River, and Figure 5.07 shows where all highway exits are located. Highway exits were inventoried to determine where node locations should be placed along the overall trail corridor for easy vehicular access.

Site Analysis

Analysis of circulation for suitable and unsuitable highway exits for node placement was conducted on the selected corridor and shown in Figure 5.08. “Suitable” and “unsuitable” highway exits were determined by three factors: proximity to urban development, proximity to idle agriculture land, and proximity to one of the four cities along the trail corridor. Suitable and unsuitable highway exit analysis is shown in Table 5.01.

Table 5.01
Suitable and
Unsuitable
Highway Exit
Analysis

| Suitable | Unsuitable |
|--|--|
| Some (about 5-10 miles) separation from dense urban development | No separation (less than 5 miles) from dense urban development |
| Has idle agriculture land (not currently raising crops or cattle) for development. | Has no idle agriculture land (all surrounding land is raising crops or cattle) for development |
| In proximity (less than 1-5 miles) to one of the four cities | Not in proximity (more than 1-5 miles) to one of the four cities |

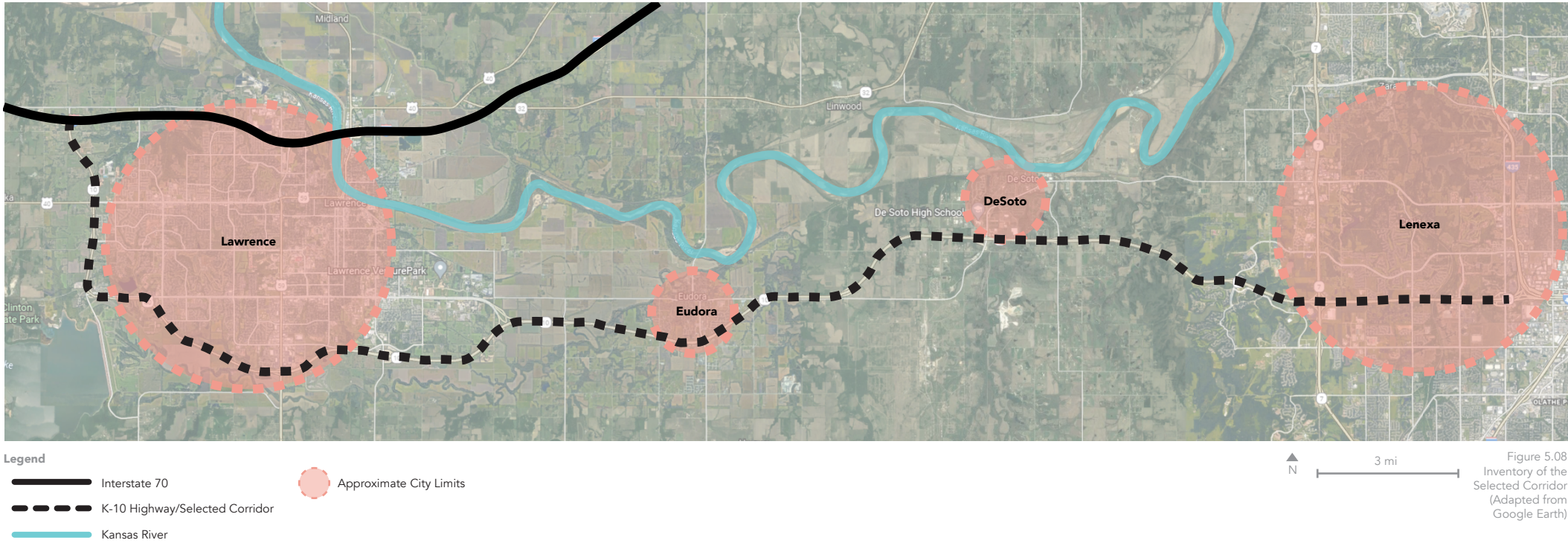


Figure 5.08
Inventory of the
Selected Corridor
(Adapted from
Google Earth)



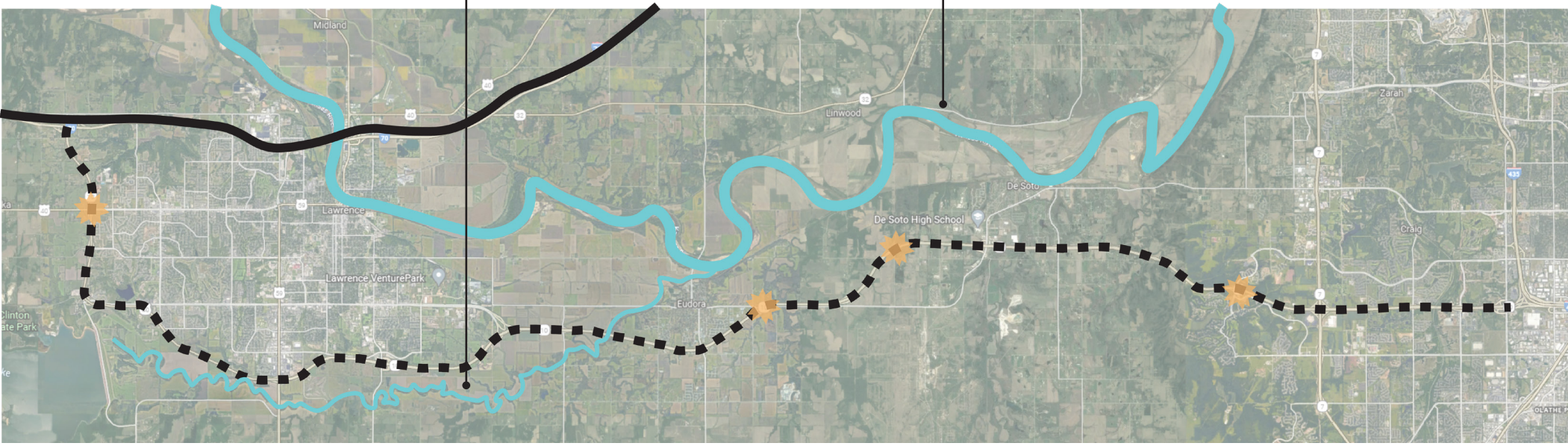
- Legend**
- Interstate 70
 - K-10 Highway/Selected Corridor
 - River
 - Highway Exits

Wakarusa River

Kansas River

N 3 mi

Figure 5.09
Inventory of
Highway Exits
(Adapted from
Google Earth)



N 3 mi

Figure 5.10
Highway Exit
Corridor Analysis
(Adapted from
Google Earth)

MASTER PLAN

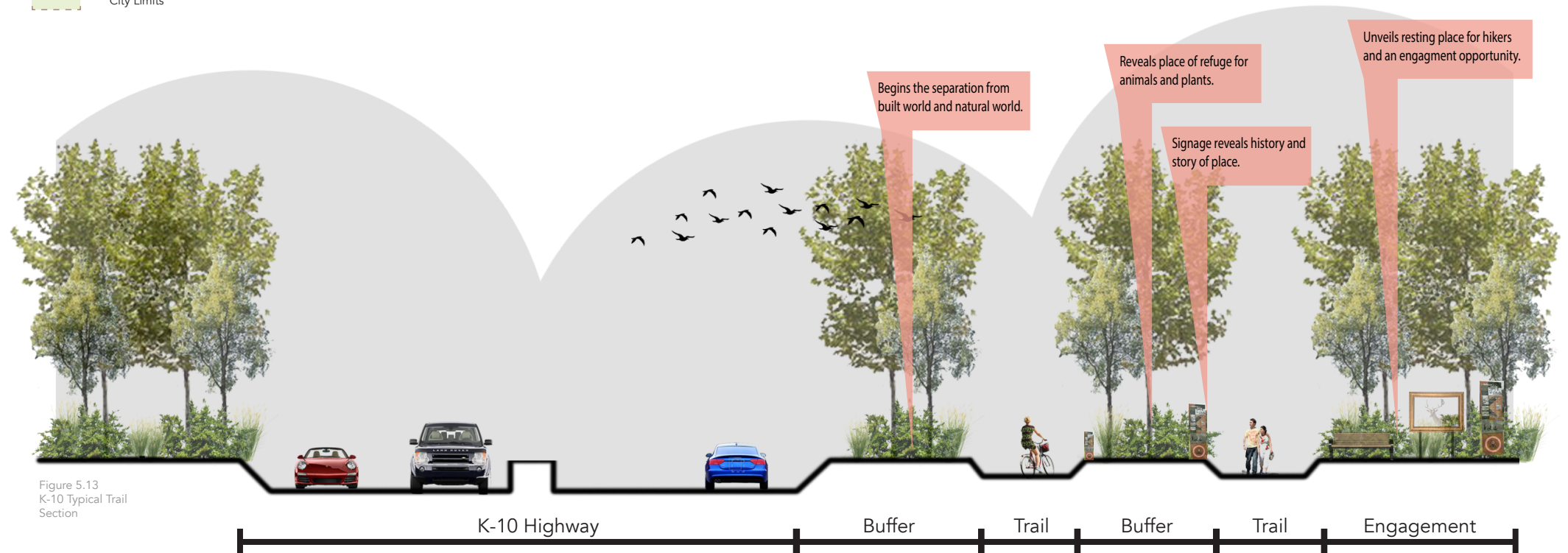
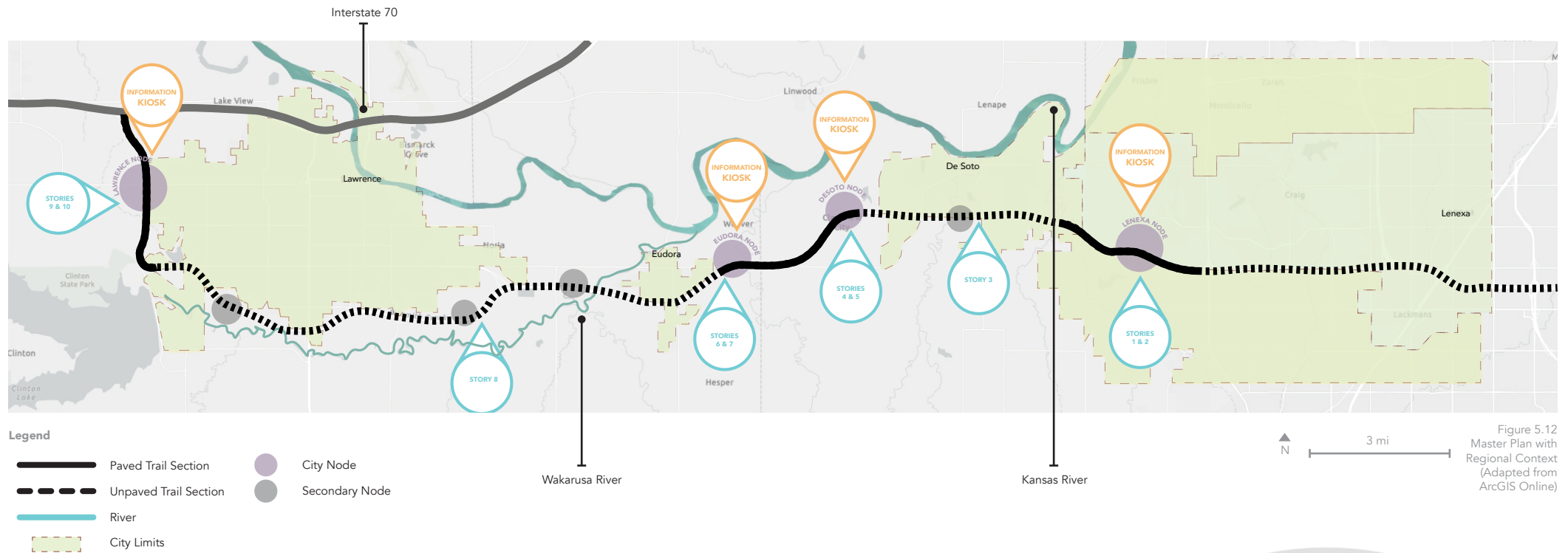
The overall master plan includes a typical trail design which usually entails either gravel paving or concrete/asphalt paving, benches and places of rest, informational and wayfinding signage. Along the trail, will be four “nodes,” one each in Lenexa, DeSoto, Eudora, and Lawrence, KS. The trail nodes will feature off-trail places for rest, signage, and restrooms, with vehicular parking lots, and act as places of entrance or exit onto or off of the trail. The gravel sections of the trail will span most of the path, especially in the more rural sections, while concrete/asphalt will be laid in the more urban sections of the trail and in between DeSoto and Eudora for different modes of transportation like small motorized vehicles (bikes and scooters) and ease of access and movement for younger and older trail users. Transportation modes on the gravel sections of the trail will be conducive for walking, hiking, and biking. The concrete/asphalt sections of the trail will allow for motorized bikes and scooters in a more urban setting. The four nodes will allow rest and are designed with their city’s respective historical aspects in mind. Each of the four nodes will showcase two stories that are place-specific to each city along the “Trail of Stories.” There will be a total of ten stories along the 36-mile trail, two for each of the four nodes as they specifically relate to each city’s node, and two other stories along the trail between the city-specific nodes for continued engagement along the trail for stories that are not city-specific. The placement for the stories was determined by the amount of stories I wanted to tell (10) and their relation or non-relation to the node site or to city-specific places along the trail. The amount of stories is not unique, only that from the historical aspects, did I find ten unique stories to tell.

Master planning + Regional Design

The general trail design is shown below in Figure 5.10. The master plan also shows informational signage locations, educational signage, and signage locations of the 10 stories that will be told along the “Trail of Stories.” Each story will be accessed through scannable QR codes that users will be able to read, listen to, access, and engage with the stories for greater immersion into the history and memory of the landscape as told through the eyes of those who once lived or passed through the area. Below are several sections and perspectives displaying the general feel of the trail.



Figure 5.11
Typical Trail Perspective



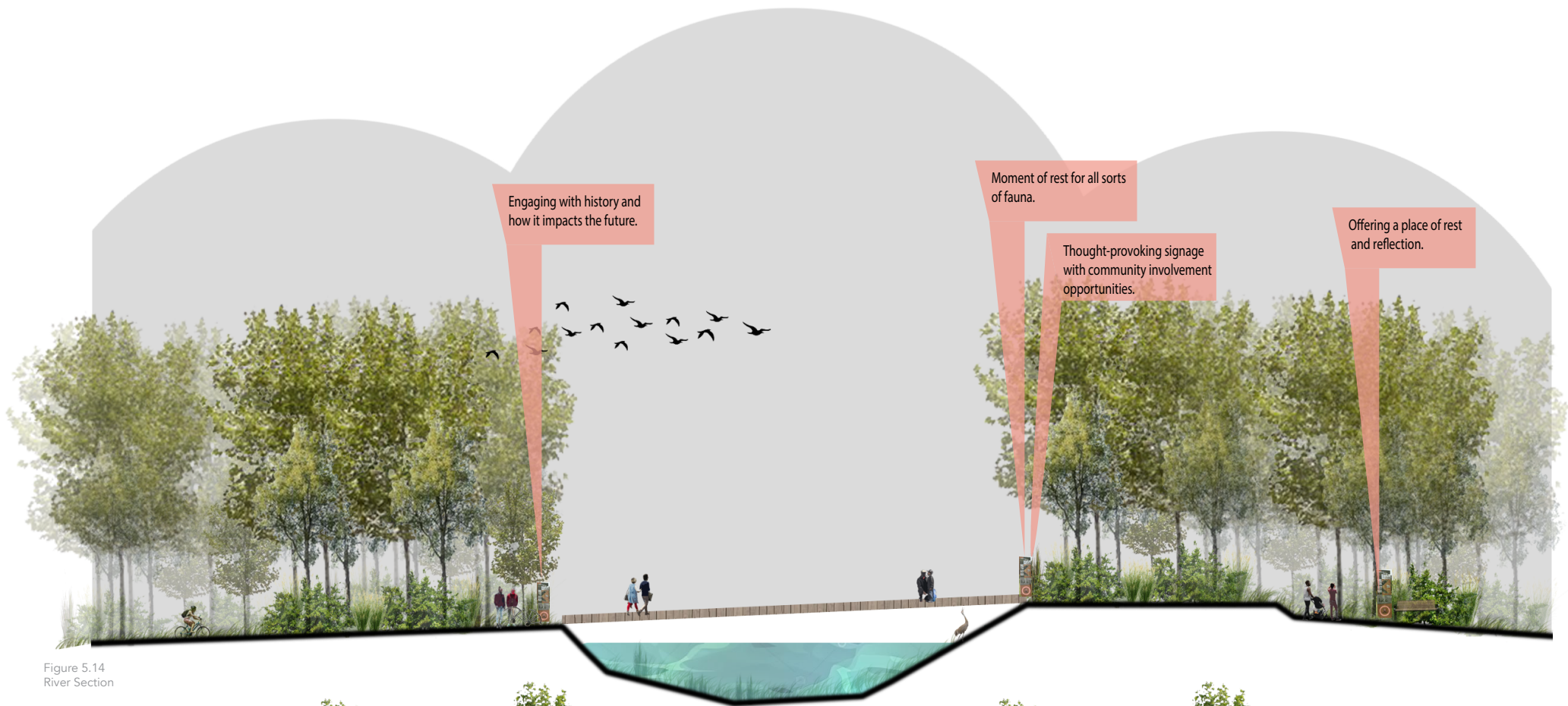


Figure 5.14
River Section

Good for:

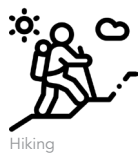


Figure 5.15
Unpaved Trail
Perspective



Figure 5.16
Paved Trail
Perspective

Good for:



Nodes Along Trail

Along the trail, there will be four nodes. With each city, there is a corresponding node along the trail passing through Lenexa, Lawrence, Eudora, and Lawrence, KS. There will also be four secondary nodes that will act as rest stops for long-distance travelers and will be complete with amenities like restrooms, water fountains, benches, and picnic tables.

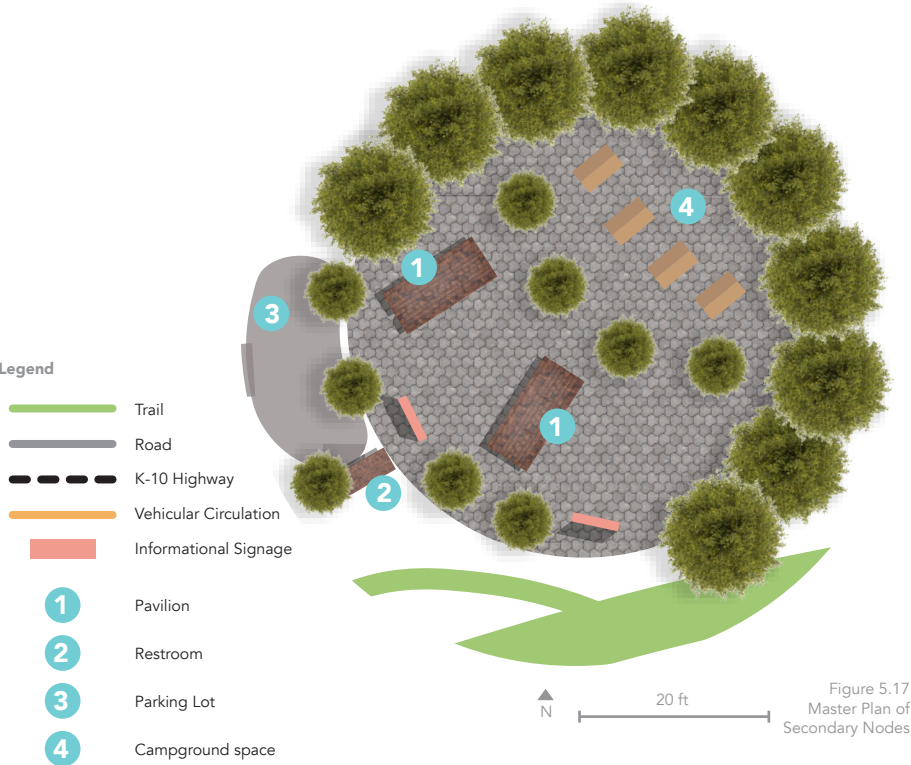


Figure 5.18
View towards the
campground space



Figure 5.19
View towards the
secondary node from the
parking lot

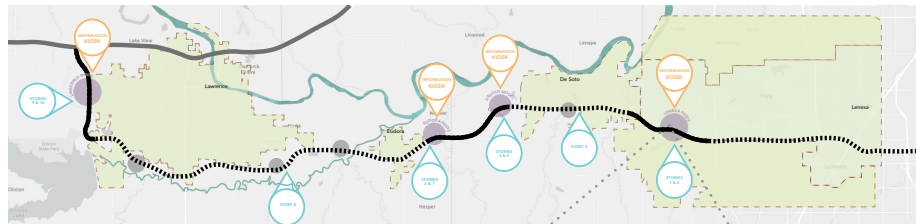


Figure 5.20
View towards the secondary
node from the trail

Lenexa, KS Node

Description

The Lenexa, KS, node will be the eastern-most node along the trail and showcase the first two stories. The stories on the trail depict tales from the Shawnee Indians and the origin of the city's name and a wonderstruck traveler on the Santa Fe Trail.



Site Plan

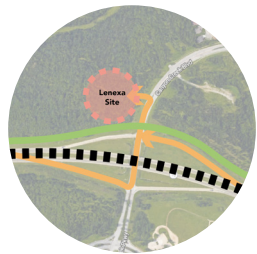
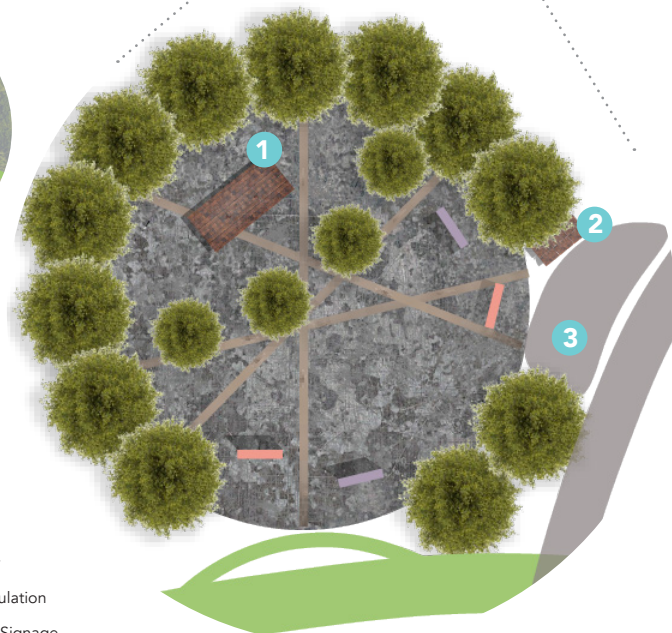
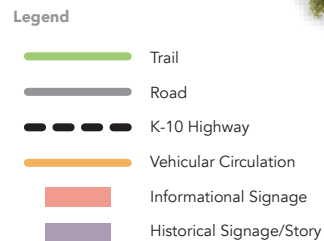


Figure 5.21
Circulation to
Lenexa Node



- 1** Pavilion
- 2** Restroom
- 3** Parking Lot



Figure 5.22
Master Plan of
Lenexa Node

The node's design highlights several different trails that once carved the land and are shown within the ground plane with differences of material. The design of the Lenexa node was based in the historical research findings of Lenexa's history and its geographical proximity to the trailheads of several historic westward trails. Two westward expansion trails started near East Kansas or West Missouri, and this Lenexa node will act as a symbolic starting point of the historic Santa Fe and Oregon trails. There will also be places to rest within the Lenexa node, complete with picnic benches, pavilions, and tables. The Lenexa node will also feature more functional spaces to read signage and interact with the stories. Parking will be available for every node. Figure 5.11 below shows the design for the Lenexa, KS, Node.



Figure 5.23
View towards the Lenexa
node from the parking lot

Reasons Behind Design Decisions

The Lenexa Node's design moves were decided upon and executed with the design goals and objectives in mind. The Lenexa node implemented all four of the goals:

1. Connected communities through a cohesive trail corridor
2. Highlights history and ecology found along the trail corridor
3. Established kiosks and signage for community engagement, and delivery of stories
4. Installed site amenities for visitor comfort, as well as vehicular parking, and restroom facilities

The decision to create "paths" and differences in paving patterns was founded in the Westward trails' background research and symbolically showed the trails that once carved the land. This design decision physically showcases one of the stories along the "Trail of Stories" of the "wonderstruck traveler" and how he fell in love with the landscape on one of these westward trails, as seen paved into the ground plane. These design moves mentioned above also help facilitate the unique sense of place as Lenexa, KS, was once a starting point for travelers going west and symbolically a starting place again for the "Trail of Stories." The design moves were based on the functional and aesthetic aspects of trail design while also highlighting the stories along the "Trail of Stories" to promote education, environmental awareness, and community engagement.



Figure 5.24
View towards the path
connection to the
Lenexa node



Figure 5.25
View looking south of
Lenexa node

Importance of Connected Stories for Lenexa, KS

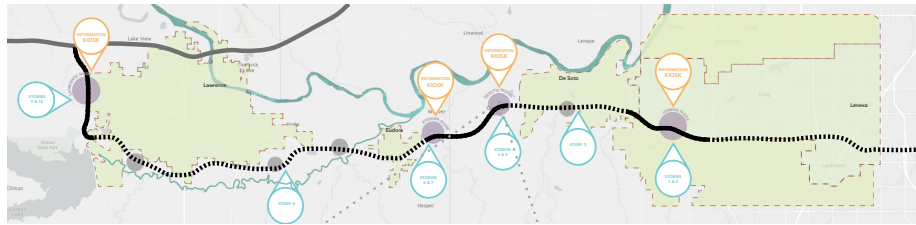
From the two Lenexa node-associated stories, of the wonderstruck traveler and Chief Blackhoof, we learn many things. From the story of the wonderstruck traveler, we see the beauty of the landscape from his eyes. Eyes that saw waves of grass, rolling hills, giant cottonwoods, untouched by civilization and development. Before we polluted the air and soil with greenhouse gases, litter, and other man-made pollutants. We must learn to see our land this way again, as a living, breathing, organism and how we must strive to protect it if we wish to share it with the generations to come. We are the only protectors and stewards of the land and must do our part to preserve what we can so others can experience a landscape we so dearly care for.

From the story of Chief Thomas Blackhoof, we see the loss of a loved one and the loss of one's homeland. It is sad to leave the home you have known so well for so long, yet sometimes you find yourself with too few options and must make hard decisions. The Shawnee tribe finally gave in to the government's demands but were still allowed say in what the land could be called. The previously Shawnee-occupied land was named after Chief Blackhoof's wife: Na-Nex-Se. Names are influential, and this is a perfect example of what legacies names can leave behind.

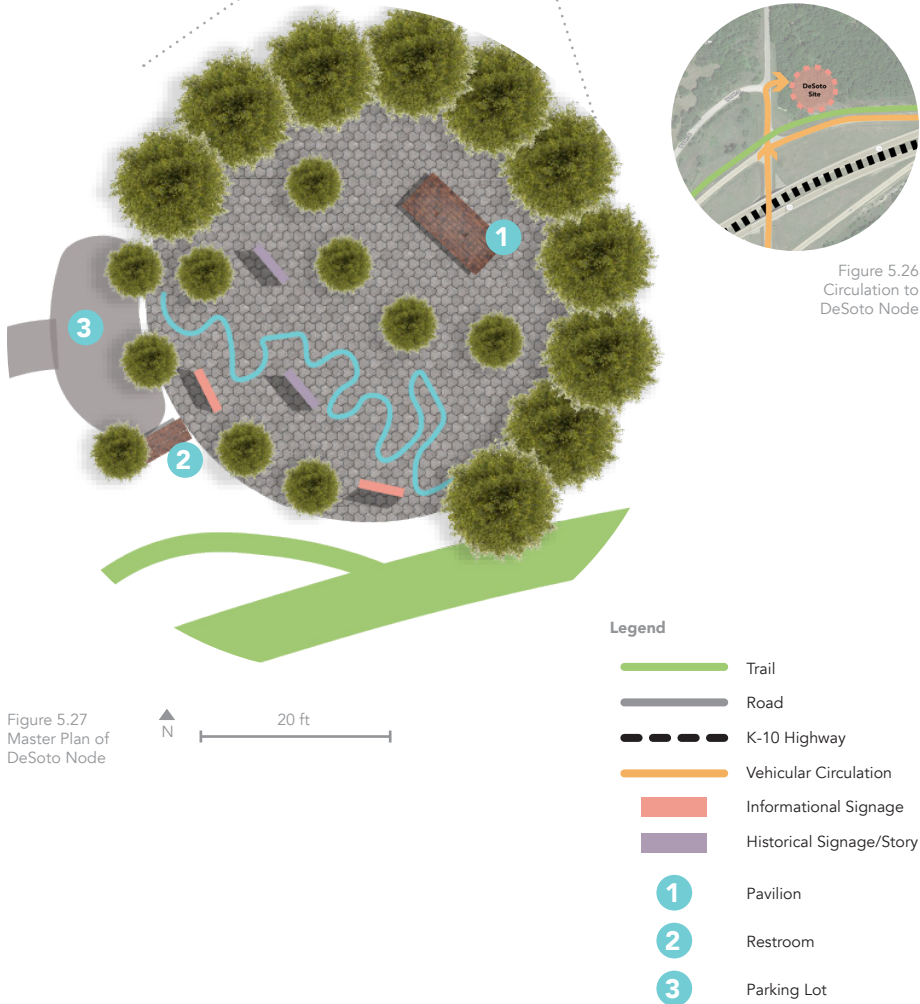
DeSoto, KS Node

Description

The DeSoto, KS, node is the second most-eastern node along the trail and will showcase two different stories. The two stories depict tales from an Osage Indian chief and the loss of their land and movement west, while the second story tells the story of James B. Abbott. He was a very influential person in the founding of DeSoto as well as its protection and development. The node's design highlights a thin stream of water that cuts the plaza node almost in half, symbolizing the Osage's connection to water and how it defined them as people and as a tribe. This node's design was determined from the research findings within the history and symbolism of the native people's name and homeland. There will be two placements of informational signage detailing the design of the DeSoto node and its importance, placed at the trail entrance and the parking entrance with wayfinding elements. There will also be two signage posts that encourage community engagement and QR codes for users to scan to access the stories told within this node. Benches, picnic tables, restrooms, and water fountains will also be placed for visitor comfort and relaxation.



Site Plan



Reasons Behind Design Decisions

The DeSoto Node's design moves were decided upon and executed with the design goals and objectives in mind. The DeSoto node implemented all four of the goals:

1. Connected communities through a cohesive trail corridor
2. Highlights history and ecology found along the trail corridor
3. Established kiosks and signage for community engagement, and delivery of stories
4. Installed site amenities for visitor comfort, as well as vehicular parking, and restroom facilities

The primary design decision, the small river running through the node's plaza, was based on the area's background research and the Native tribes that lived there. DeSoto, KS, was once home to the Osage Indians who lived near the great Mississippi



Figure 5.28
View looking towards DeSoto node
from the parking lot

River as they were called the “People of the Middle Waters.” The river running through the site is a call-back to those people and the land they loved so much. All design decisions were made to facilitate a more profound, unique sense of place for the node in DeSoto, KS. The design moves were based on the functional and aesthetic aspects of trail design while also highlighting the stories along the “Trail of Stories” to promote education, environmental awareness, and community engagement.



Figure 5.29
View from west-bound
trail, approaching the
DeSoto Node



Figure 5.30
Aerial view of path
connection to the
DeSoto node

Importance of Connected Stories for DeSoto, KS

In this node, there are two stories told, and they highlight different views of the surrounding area, rich with their personal experiences. The first story is told by Chief Peter Bighart from the Osage tribe and details their forceful removal from their home east of the Mississippi. "Osage" literally means the "People of the Middle Waters." From this story, we learn about the importance of home and what this land conveyed to the Osage people. We all need a place in the world as it is what describes us, what defines us, and what protects us. Place gives us identity, and we give place an identity. There is a silent resilience within Native American tribes and the general human race. The landscape can be the ultimate unifier of all peoples.

The second story depicts a singular man and his efforts to establish himself and a new city all at once. James B. Abbott highlights the importance of place-based identity and our basic instinct to protect our home against all invaders and the significance of being fully immersed in a place as its history is being written. This story teaches us to be brave, to boldly go where no one has ever gone, to create something good for all as it creates a home for many to come. We must protect our home, our landscape, our people, our legacy and leave a place better than we found it. Our landscape is not as resilient as we would sometimes like it to be, we must be better stewards and protectors if we wish to see our beautiful landscape survive all the complications, we may throw at it. We are part of the landscape's history; we should strive to make it a positive one. Our future landscape depends on us.

Eudora, KS Node

Description

The Eudora, KS, node is the third node from the east along the 36-mile trail and showcases two stories. One story depicts the life of Chief Paschal Fish of the Shawnee Indians and his deal made to a German Immigrant group. The second story tells of the trials of that German Immigrant group and their journey from Europe to Eudora, KS. This node's significant design move is the placement of decorative stone monoliths that divide the node and symbolize some of the great divisions that define Eudora's troubled history. This node's design was determined by the research findings in the cities divisive past between disputes and disagreements over the ownership of the land and those who eventually developed the area. Despite these various divisions between Indians and immigrants, natives and foreigners, pro-slavery and antislavery supporters, Eudora prevailed. A few of the stone monoliths will include information, and others will be dedicated to founders, some will be decorative. There will be two placements of informational signage detailing the design and its importance, placed at the trail entrance and the parking entrance with wayfinding elements. There will also be two signage posts that will encourage community engagement and QR codes for users to scan to access the stories told within this node. Benches, picnic tables, restrooms, and water fountains will also be placed for visitor comfort and relaxation.

Shawnee Indians and the German Immigrant group. Each half of the node showcases either the Chief Pascal Fish of the Shawnee or a German founder of Eudora and their unique stories. All design decisions were made to facilitate a more profound, unique sense of place for the node in Eudora, KS. The design moves were based on the functional and aesthetic aspects of trail design while also highlighting the stories along the “Trail of Stories” to promote education, environmental awareness, and community engagement.



Figure 5.34
View from Eudora
node parking lot



Figure 5.35
Aerial view of
Eudora node in
site context

Importance of Connected Stories for Eudora, KS

The Eudora node showcases two stories about the Shawnee tribe who previously occupied the land, the deal the Shawnee chief made with a German Immigrant group, and the story of the German immigrant group fleeing Europe, traveling to Kansas, and their founding of the city of Eudora. The first story of Chief Paschal Fish tells us his colorful life and the emotional, spiritual journey he had with his family, his people, and his many successes. Here is another example of the power of the land and the power of a name. Landscapes become our homes, our family, and a great part of who we are or may become. Everyone becomes emotionally attached to our land, so much so that we want to name places after our living family and loved ones. Paschal Fish lovingly named this home, this land, after his daughter Eudora. As this land was once so loved and cared for, we must preserve it for its legacy and namesake. Everyone must take the same level of care and attention that Paschal Fish and his tribe once did.

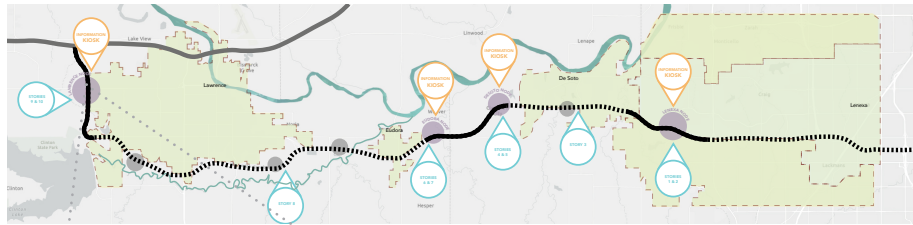
The second story depicts the horrors, wars, and chaos that reigned in Europe and North America and how a German immigrant group sought peace and land that they could call their own (cityofeudora.kansas.gov 2021). They finally found respite in the rolling hills of Eastern Kansas. Kansas is the landscape they traveled long and far to and found it comforting and soothing to their weary souls. Kansas was once, and still is, an extraordinary landscape, full of opportunity and possibilities. We must understand the inherent value that our landscapes have for our souls in that they provide respite, refuge, and countless resources for our emotional and physical needs. Preserving,

conserving, and possibly revitalizing our land and landscapes should be our first priority as it constantly provides, cares, and protects us.

Lawrence, KS Node

Description

This node's primary design elements are four green mounds that emulate the rolling hills of Lawrence and the surrounding region. The design of the Lawrence node was determined in the physiological makeup of the area and in the historical discovery of the city of Lawrence as depicted in one of this node's associated stories. These mounds will serve as grassy relaxation knolls or even fun, natural playgrounds for children to run on. These grass berms call back directly to one of the stories told in the node of the discovery and development of Lawrence's city on the hills found here. There will be two placements of informational signage detailing the design and its importance, placed at the trail entrance and the parking entrance with wayfinding elements. There will also be two signage posts that will encourage community engagement and QR codes for users to scan to access the stories told within this node. Benches, picnic tables, restrooms, and water fountains will also be placed for visitor comfort and relaxation.



Site Plan

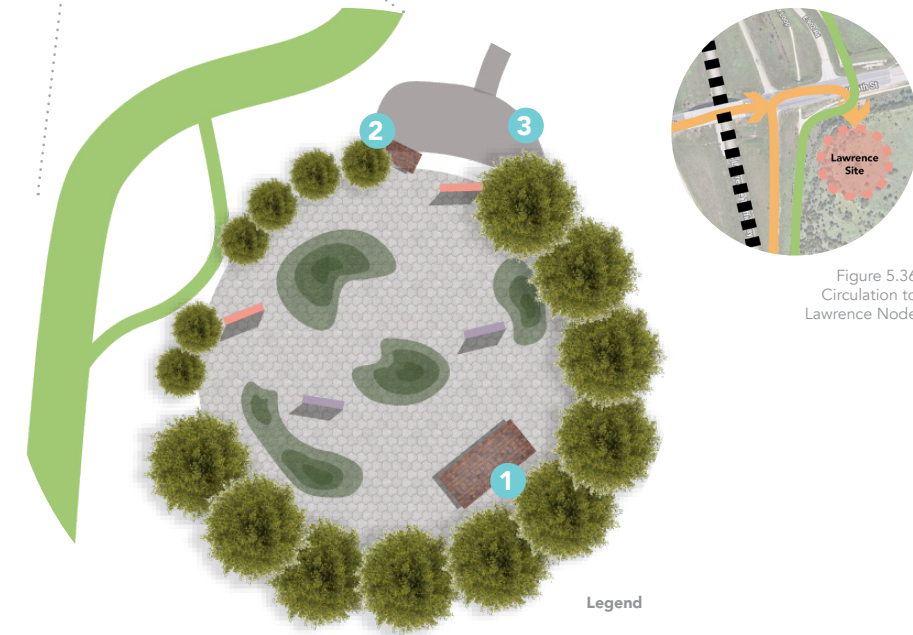


Figure 5.37
Master Plan of
Lawrence Node

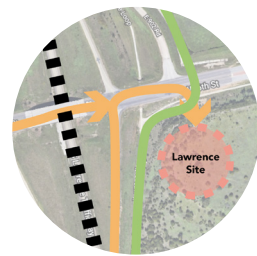


Figure 5.36
Circulation to
Lawrence Node

- Legend
- Trail
 - Road
 - - - K-10 Highway
 - Vehicular Circulation
 - Informational Signage
 - Historical Signage/Story
 - 1 Pavilion
 - 2 Restroom
 - 3 Parking Lot

The Lawrence Node's design moves were decided upon and executed with the design goals and objectives in mind. The Lawrence node implemented all four of the goals:

- 1.** Connected communities through a cohesive trail corridor
- 2.** Highlights history and ecology found along the trail corridor
- 3.** Established kiosks and signage for community engagement, and delivery of stories
- 4.** Installed site amenities for visitor comfort, as well as vehicular parking, and restroom facilities

The primary design decision for this node was the implementation of four grass-covered berms. The berms symbolize a smaller version of the hills that make up Lawrence, KS, and inspired Amos A. Lawrence to build the city that rests upon them now. This node showcases the story of Amos A. Lawrence,



Figure 5.38
View of Lawrence node
from parking lot

and the design decisions physically capture some of that beauty on a much smaller scale. The berms can also be used as a fun interactive play space for all ages to run on, relax on, or even reflect upon. All design decisions were made to facilitate a more profound, unique sense of place for the node in Lawrence, KS. The design moves were based on the functional and aesthetic aspects of trail design while also highlighting the stories along the “Trail of Stories” to promote education, environmental awareness, and community engagement.



Figure 5.39
Aerial view of
Lawrence node



Figure 5.40
View of Lawrence
node from the
south approach

Importance of Connected Stories for Lawrence, KS

One of the two stories told within this node depicts the discovery of the land where Lawrence was to be built, said from the perspective of Amos A. Lawrence. The other story tells the horrible chaos that came from the great Kansas River flood in 1951. Amos speaks of his friend's discovery of the perfect location for a new settlement on rolling hills, near traveler trails and the Kansas River. Struck by the beauty of the landscapes, Dr. Charles Robinson had to reach out to his friend and urge him to see the same beauty he did and to encourage him to make this beautiful landscape his new home. Landscapes make impressions on us. It is our duty, our honor, and our privilege to view such scenic and natural landscapes. It is also our duty, our honor, and our privilege to care for such landscapes.

The second story within this node is that of the 1951 Kansas River flood. This story teaches us that yes, we make our mark on the land, but the land can also make significant marks on us, our loved ones, and our homes. Nature and natural disasters like floods, fires, extreme winds shape our world slowly, but somehow all at once. These disasters are natural and not the fault of anyone, yet they leave consequences for us all. However, disasters can also teach us invaluable lessons and warn us to be mindful of nature and its power.

General Rest-Stop Nodes

Two stories will be told along the trail and are not attached or showcased in any of the four city-specific nodes along the route, to encourage more engagement along the trail. The first of these two stories will be conveyed between the Lenexa Node and the DeSoto node and depicts the story of a young Shawnee woman being forced west and the sadness and injustice she felt because of it. The second story is told between the Eudora node before the Lawrence node, outside Lawrence proper. It showcases Bleeding Kansas's story and how mother nature seemed to step in and stop some of the bloodsheds under the heavy cover of winter. There will be four general rest-stop nodes along the trail, one between the Lenexa, KS, node and the DeSoto, KS, node, and three others along the lengthy stretch of trail between the Eudora, KS, node and the Lawrence, KS, node.

Importance of Connected Stories for General Nodes

There are two stories showcased in the Lawrence, KS, node, one of the Shawnee Indians, and another from a battle-weary soldier involved in the conflict of Bleeding Kansas. The first of these two stories teach us the great sadness and injustice of being forcibly removed from our home. Over and over again, the Shawnee were pushed West, farther and farther from their homeland. While heartbreaking, this story depicts history as it was from the story of the great "loser," the ones who lost everything, over and over again as the Shawnee did. However horrible and disturbing the history and story of the Shawnee Indians, this story teaches us a hard truth from one who experienced it firsthand. We must not take for granted what we may deem as a given or God-given

right as it may be taken from us in a blink of an eye.

The second of these stories comes from a soldier, weary from battle, and his interpretation of what happened in the winter of a Bleeding Kansas and how it affected the environment around him. This story teaches us that our human-driven actions are usually not in the same line as mother nature's actions. Our decisions affect more than ourselves, and more often than not, the primary victim of these decisions is our Earth.

DESIGN APPLICATION SUMMARY

From the overall master plan and the master plan of the four nodes, this design acts as a contiguous corridor with educational opportunities, historical stories and memoirs, and close-up contact with nature. The node designs physically showcase the stories that accompany them. The master plan and general design of the trail are simple and have paved concrete and unpaved gravel sections. There are four significant nodes in the cities of Lenexa, DeSoto, Eudora, and Lawrence, KS, four general rest-stop nodes, and ten unique stories of four cities' historical and ecological aspects (Lenexa, DeSoto, Eudora, and Lawrence, KS) and the people who occupied them. Kiosks will be placed at each node, displaying information, wayfinding, and community engagement opportunities through social media. This master plan will encourage users of all backgrounds, ages, and communities to journey this "Trail of Stories." This design will not only encourage greater stewardship of our landscapes, but act as an instrument to teach trail users about natural and cultural history along the trail and its surrounding context. This trail will provide

benefits in four different categories: environmental, economic, social, and aesthetic. This trail corridor will connect, preserve, and restore habitats, increase user's health and wellbeing, connect users to places of interest to increase revenue of restaurants and shops, and provide a relaxing and scenic escape from city life. By becoming better stewards, advocates, and protectors of our landscapes, we will ultimately better the lives of the surrounding communities and environments.

Economic Impact of Trail

The trail's economic impact is comparable to the effects discussed in the background research of trail benefits. Trail benefits can include decreases in fossil fuel consumption, reductions in healthcare costs, and connect users to "places of interest" like parks, restaurants, and shops, increasing economic revenue in the cities and places along the trail corridor. Other benefits include the support and creation of jobs, increases in property values of surrounding communities, and even reduced commuter costs while providing low-cost health benefits. In addition, the "Trail of Stories" will increase visitor flow through the cities of Lenexa, DeSoto, Eudora, and Lawrence, Kansas and will pass through some more urban areas for users to stop and buy lunch or other beverages while on their walk. All four nodes and their secondary nodes could also become significant sources of revenue through campground rental fees, event rental, or even places where food trucks could park and increase economic revenue and visitor interest. Event rental could include wedding receptions, art fairs, poetry readings, live concerts, or

other events where tickets could be sold to increase the economic impact of the overall trail. With increased financial revenue, the cities could better afford to maintain this trail and use the trail to further facilitate development and interest for business owners to cater towards trail users.

Multi-Use Functions of Nodes

All four city-associated nodes (Lenexa, DeSoto, Eudora, and Lawrence) and the trail itself can be used as multi-functional event spaces. Events can include but are not limited to concerts, poetry readings, wedding receptions, art fairs, festivals, food trucks, story-telling tours, charity 5-10K's, marathons, and bike races. In addition, all events will have the ability to sell tickets that would generate income for each respective city and their maintenance of the trail and further fund development for such activities to occur. Perhaps, in a second phase of the project, stages, amphitheaters, rental kiosks, and other site amenities and can be constructed to support any and all functions of the trail and its four nodes. With greater funds, there will be greater city-wide activities that will lead to greater trail and node maintenance and greater attendance, leading to greater funds in an increasing feedback loop.

Trail Users with Disabilities



Blind



Deaf



Handicapped

The trail should allow all people to enjoy and experience. This meaning that there will be several different assistive technologies or site amenities. For users who are blind, there will be ropes, handrails, or other tactical items to hold onto and guide users through the trail and audio clips with the QR codes to recite the stories audibly and braille on the informational signage placards. For users who are deaf, the trail stories will be shown visually through the QR code and on the signage. For users that are handicapped, the paved sections of the trail will allow for greater mobility for wheelchairs, motorized scooters, and those on crutches.

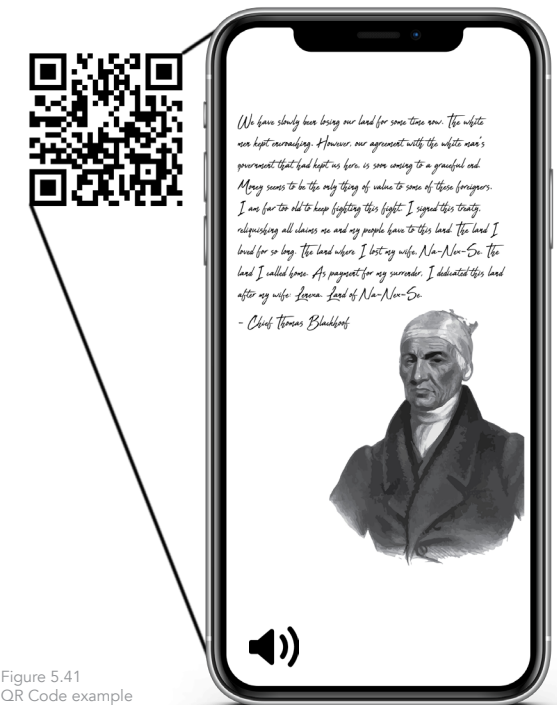


Figure 5.41
QR Code example



CONCLUSIONS + DISCUSSION

CHAPTER SIX



01

INTRODUCTION

- a. Inspiration + Importance
- b. Research Question
- c. Design Process

02

BACKGROUND

- a. Introduction
- b. Sense of Place + History
- c. Cultural Memory
- d. Ecological Memory

03

METHODOLOGY

- a. Overview
- b. Case Studies

04

CASE STUDIES

- a. Chosen Case Studies
- b. Case Study Analysis

05

DESIGN APPLICATION

- a. Regional Overview + Inventory & Analysis
- b. Selected Site(s) Assessment + Inventory & Analysis
- c. Overall Master Plan

06

CONCLUSIONS

- a. Overall Conclusions
- b. Limitations of Study
- c. Broader Impacts

OVERALL CONCLUSION

We are not hopeless in our journey of understanding our cultural and natural history. By looking into land memory and past cultural and ecological histories, we can discern and reveal wisdom that can help preserve and restore our landscape for a healthier future. In the alarming wake of climate change, we must address the issues at hand with increasing temperatures, weather events, and pollution of waters and air with greenhouse gases. Through my literature review and case studies, I designed a contiguous trail corridor called the “Trail of Stories” that will highlight and promote cultural and ecological stories to embed the landscape with greater meaning for all users. This trail will provide benefits in four different categories: environmental, economic, social, and aesthetic. This trail corridor will connect, preserve, and restore habitats, increase user’s health and wellbeing, reduce carbon emissions through different modes of transportation (e.g. walking and biking), increase vegetation and carbon sequestration, and increase a community’s quality of life by preserving scenic views, proximity to nature, and creating a relaxing escape from city life. These trail benefits, along with an increase in overall land stewardship will allow us to become better advocates and protectors of our landscapes, and ultimately better the lives of the surrounding communities and the surrounding environment.

The design scheme for this “Trail of Stories” started with a literature review and background investigation of history concerning the selected corridor and a small sample of the some specific memories of the landscape from some of its past inhabitants. From literature review, my initial research was conducted

on history, memory, place attachment, and sense of place, then I moved into case studies and case study analysis. Case study inventory and analysis came from five different trail corridors, two on a national scale, one on a regional scale, and the last two on a city scale. From case study inventory and analysis coupled with the National Park Service's handbook Trail Design, Construction, and Maintenance (NPS 1996) came the "Best Design Practices" that led to the trail corridor's actual design for the "Trail of Stories." The case study inventory helped dictate what construction practices, trail layout, maintenance, and amenities were most common and appropriate for trail design. The design guidelines developed here can be used to generate or suggest best practices for other trail designs within the Central Great Plains.

The trail corridor design is shown through maps, diagrams, photographs, analysis diagrams, master plans, and 3-D model perspectives. The design is a contiguous route within the Great Plains region along the K-10 highway corridor that will help promote opportunities to increase economic revenue, increase physical activity for human health and well-being, allow access to all community members, and create biodiversity with vegetative plantings. With informational signage and educational signage complete with digital opportunities, the trail will provide moments of informative and personal narratives of the land, the people who passed through or settled on the land, and those who have yet to experience the land. The trail length measured 36-miles from Lenexa, Kansas to Lawrence, Kansas and will have four designed nodes, complete with signage and places to rest along the trail in the four cities the trail passes through, Lenexa, DeSoto, Eudora, and Lawrence, Kansas. Each of the four

nodes showcased two stories each on the "Trail of Stories" while two other stories were told elsewhere on the trail and were not attached to any of the four nodes, with a total count of ten stories. Stories were told from a diverse range of people and perspectives and showcased memories and personal accounts in the form of personal journal entries. Through different signages, designed nodes along the trail, and personal narratives, the trail reveals the land in new and exciting ways and attempts to show users how to better care for the land on which we live.

The "Trail of Stories" is just one example that showcases the importance of our shared history and humanity and how we can use those shared memories to become better stewards, protectors, and advocates of the landscapes we love so dearly. We can no longer afford to ignore the climate change issues at hand. This contiguous "Trail of Stories" promotes exercise, health and wellbeing, social interaction with family and friends, decreases in health-care costs and gas consumption, increases a community's quality of life, and preserves scenic views. This "Trail of Stories" encourages stewardship and advocacy for our current landscapes and our future landscapes for the betterment of the landscapes and our own quality of life. With a deeper understanding of our common humanity and common environment, we can leave this earth better than we may have found it.

LIMITATIONS OF STUDY

Limitations with this research are that the research done is very site-specific and specifically tied to the historical, cultural, and natural aspects of four cities found in Eastern Kansas (Lenexa, DeSoto, Eudora and Lawrence, KS) and their place-based memories of cultural and ecological significance. Limitations are also apparent in the case studies selected as they mostly cater to American Midwest users, specifically in Kansas, and no on-site observation of the two national scale trails (The Great American Rail-Trail & The American Discovery Trail) took place. Since the chosen site was a 36-mile long corridor, on-site observation would have been very difficult as most of the trail would land on or near privately-owned land and would be subject for trespassing as well as difficulty in accessing land so close to the highway with no clear vehicular entry. All of the case studies lacked detailed quantitative information about their design or metrics, to counter this, this report used qualitative research, terms, and categories to understand, classify, and analyze each case study. I also found great difficulty in finding specific histories from the four cities (Lenexa, DeSoto, Eudora, and Lawrence) to draw personal stories from as the histories told were very broad and generic leaving the stories to feel somewhat broad and generic.

BROADER IMPACTS

This research-based design will contribute to the discipline of landscape architecture through the notion that research of a site or place must be thorough, accurate, and fully encompassing of all that may settle or pass through a place. This research highlights the complexities that a landscape architect must acknowledge or understand before beginning the process of design and site planning. This project formed through research in the forms of a literature review, case studies, analysis, on-site observations, and site assessment and design and contributed to the discipline of landscape architecture through this research. This project report also contributed a possible design solution for a contiguous trail corridor along the K-10 highway for connections and a different mode of transportation for Eastern Kansas.

FUTURE STUDIES

Future research could include how we may be able to extrapolate some of this report's background research for the Greater Central Plain's region. Sense of place and place attachment is something that will always have several different definitions, so we must keep refining and fine-tuning how we implement or facilitate design decisions to promote and instill a unique sense of place.

Trail of Stories in Urban Environment

The "Trail of Stories" presented in this report is primarily implemented in rural areas and designed differently if in an urban area. For example, if this trail were to be implemented in another city within the Central Great Plains, like Kansas City, Missouri, or Denver, Colorado, the path would be almost entirely paved. In addition, an urban trail would require more amenities that are typically expected in urban or suburban trails and parks, like benches, picnic tables, dog waste stations, and trash cans. An urban trail would require more safety measures like lighting and fencing to make sure users feel safe and do not impede anyone's property lines. However, an urban trail would allow for greater commuter transportation opportunities, more significant economic revenue, and more opportunities for social interaction between neighbors and community members as a nearby and viable source of engagement and exercise.

Future Stories

There are ten stories along the "Trail of Stories" as presented in this report. However, there is the possibility to slowly incorporate more stories into this trail design. For example, signage or the stories could rotate on a seasonal basis for constantly new and engaging stories to keep users engaged and returning. Seasonal signage could be geared more towards the changing environmental factors along the trail for further educational opportunities. Other "new" or future stories could detail more modern histories or stories that pertain to certain essential community members, their ancestors, or

the community's general development or progress. These future stories could even be submitted to a committee or non-profit group like a "Friends of the "Trail of Stories'" group to help discern between and choose stories that could be implemented along the trail.

Climate Change Stories

Perhaps the most critical future stories that need to be told are those that include the impacts of climate change. Our landscapes have changed dramatically for centuries and even throughout our lifetimes, and the past consequences will only affect the future effects of climate change. We must acknowledge and recognize these changes, address them, and find ways to improve our way of life and our human impacts on our landscapes. These future stories of past and future climate change impacts will not only educate users but encourage users to be more mindful of their influences. If our past is any indication of success or ruin, we must follow its example and be better predictors of our effects on climate change and migratory patterns.



REFERENCES

REFERENCES

- ADT. "American Discovery Trail TM," 2020. <https://discoverytrail.org/>.
- Agnew, J. A. *Place and Politics: The Geographical Mediation of State and Society*. Boston, MA: Allen and Unwin, 1987.
- Agnew, John A., and David N. Livingstone. *SAGE Handbook of Geographical Knowledge*. London: Sage, 2011.
- American Trail Organization. "American Trail Organization's Trail Design Guide." American Trail Organization, September 2006.
- Brooks, Kenneth, email message to Madelyn Cole, October 22, 2020.
- Campelo, Adriana, Aitken, Robert, Thyne, Maree, and Gnoth, Juergen. "Sense of Place." *Journal of Travel Research* 53, no. 2 (2014): 154-66.
- Conservancy, Kanza Rail-Trails. "Flint Hills Trail." Kanza Rail-Trails Conservancy, July 8, 2020. <https://kanzatrails.org/flint-hills-nature-trail/>.
- Conservancy, Rails-to-Trails. (RTC) "Benefits of Trails: Rails-to-Trails Conservancy." *Benefits of Trails*, 2021. <https://www.railstotrails.org/experience-trails/benefits-of-trails/>.
- Cresswell, Tim. *Place: a Short Introduction*. Oxford, MA: Blackwell, 2004.
- Dirmeyer, Paul A, Schlosser, C. Adam, and Brubaker, Kaye L. "Precipitation, Recycling, and Land Memory: An Integrated Analysis." *Journal of Hydrometeorology* 10, no. 1 (2009): 278-88.
- Fogel, Jonah, and Thor Alvis. "Access to Nature as a Pandemic Response - Environmental Resilience Institute." *Access to Nature as a Pandemic Response*. UVA Environmental Resilience Institute, June 9, 2020. <https://eri.virginia.edu/project/biophilic-cities-rapid/>.
- Foote, K.E., and M. Azaryahu. *Sense of Place*. *International Encyclopedia of Human Geography*, 2009, 96–100. <https://doi.org/10.1016/b978-008044910-4.00998-6>.
- Hampl, Patricia. *I Could Tell You Stories: Sojourns in the Land of Memory*. New York: W.W. Norton, 1999.
- Harnik, Peter. *From Rails to Trails: the Making of America's Active Transportation Network*. Lincoln, NE: University of Nebraska Press, 2021.
- Jackson, John Brinckerhoff. *A Sense of Place, a Sense of Time*. New Haven, CT: Yale University Press, 1996.
- Jordan, Nicholas R, Larson, Diane L, and Huerd, Sheri C. "Soil Modification by Invasive Plants: Effects on Native and Invasive Species of Mixed-grass Prairies." *Biological Invasions* 10, no. 2 (2008): 177-90.
- Keith, Samuel J., Lincoln R. Larson, C. Scott Shafer, Jeffrey C. Hallo, and Mariela Fernandez. "Greenway Use and Preferences in Diverse Urban Communities: Implications for Trail Design and Management." *Landscape and Urban Planning* 172 (2018): 47–59. <https://doi.org/10.1016/j.landurbplan.2017.12.007>.
- Kenton, Will. "Brand." *Investopedia*. Investopedia, September 16, 2020. <https://www.investopedia.com/terms/b/brand.asp>.

Lee, Junga, Hyung-Sook Lee, Daeyoung Jeong, C. Scott Shafer, and Jinhyung Chon. "The Relationship between User Perception and Preference of Greenway Trail Characteristics in Urban Areas." *Sustainability* 11, no. 16 (2019): 4438. <https://doi.org/10.3390/su11164438>.

Lustgarten, Abrahm. "When States Are No Longer Habitable." *The Week* 20, no. 995 (October 2, 2020): 36–37.

MHKPRD. "Linear Trail: Manhattan Parks and Rec, KS." *Linear Trail | Manhattan Parks and Rec, KS*, 2020. <https://www.mhkprd.com/394/Linear-Trail>.

National Park Service. "A Handbook for Trail Design, Construction, and Maintenance." National Park Service, August 1996.

Sauer, Peter H. *Finding Home: Writing on Nature and Culture from Orion Magazine*. Boston, MA: Beacon Press, 1992.

Scannell, L. and R. Gifford. "Defining place attachment: A tripartite organizing framework." *Journal of Environmental Psychology* 30 (2010): 1-10.

Taylor, Ken. "Landscape and Memory: Cultural Landscapes, Intangible Values and Some Thoughts on Asia." Canberra: Research School of Humanities The Australian National University, 2008.

Thrasher, Tanya., Duane. *Blue Spruce, and National Museum of the American Indian. Land Has Memory Indigenous Knowledge, Native Landscapes, and the National Museum of the American Indian*. 1st ed. 2008.

Tuan, Yi-Fu. *Space and Place*. Minneapolis, MN: University of Minnesota Press, 1977.

Tuan, Yi-Fu. *Topophilia: a Study of Environmental Perception, Attitudes, and Values*. New York, NY: Columbia University Press, 1990.

Smith, Jeffrey, ed. *Explorations in Place Attachments*. New York, NY: Routledge, 2018.

Willers, W. B. *Learning to Listen to the Land*. Washington, D.C.: Island Press, 1991.

Wilson, Chris, and Paul Groth. *Everyday America: Cultural Landscape Studies after J.B. Jackson*. Berkeley, CA: University of California Press, 2003.

Wolter, Stephen A., William D. Ramos, Layne Elliott, and Abbas Smiley. "Investigating the Health Benefits of Trail Use; a Perspective from Park Practitioners." *Recreation, Parks, and Tourism in Public Health* 3 (2019): 97–109. <https://doi.org/10.2979/rptph.3.1.07>.