

RETROFITTING FOR MOBILITY
IN NASHVILLE, TENNESSEE

by
MIA OWEN

A THESIS

Presented to the Department of Landscape Architecture
and the Robert D. Clark Honors College
in partial fulfillment of the requirements for the degree of
Bachelor of Landscape Architecture

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Title: Retrofitting for Mobility in Nashville, Tennessee

Approved: Liska Chan, Associate Professor
Primary Thesis Advisor

Nashville, Tennessee is one of the United States' fastest growing cities, and its infrastructure cannot handle the influx. As more people move to Nashville, the current car-centric street design becomes less sustainable long term. This project aims to examine and remedy the lack of walkability in Nashville, Tennessee. Through both analysis and design, this project explores the benefits of walkability and themes of connection, safety, and sustainability. The case study site is a section of Granny White Pike, a collector street that is considered suburban, yet rapidly expanding to include commercial areas, and has significant historical and cultural impacts. By connecting the various landmarks along a one-mile stretch, this study aims to show tangible ways to make a suburban street more walkable, safer, and connected.

Acknowledgements

I would like to take this space to thank my many helpers, advisors, and supporters. To Liska Chan, who got me interested in Landscape Architecture three years ago and has supported me throughout my time at University of Oregon in both the Honors College and the College of Design. You served in this project as my professor, go-to advisor, and style icon. To Carol Stabile, whose encouragement for non-traditional thesis projects has inspired me to stick with my project and cemented in me the importance of interdisciplinary work. To Nathan King, who has endless patience and always-open ears and eyes – thank you for cooking, cleaning, and all of the other amazing things that you do out of love. To my family, this project is for you, and all people who live in this neighborhood and experience the isolation of immobility. To my landscape cohort, who have tolerated my horrible work posture and computer rage – thank you for your desk crits, food runs and reminding me to take breaks.

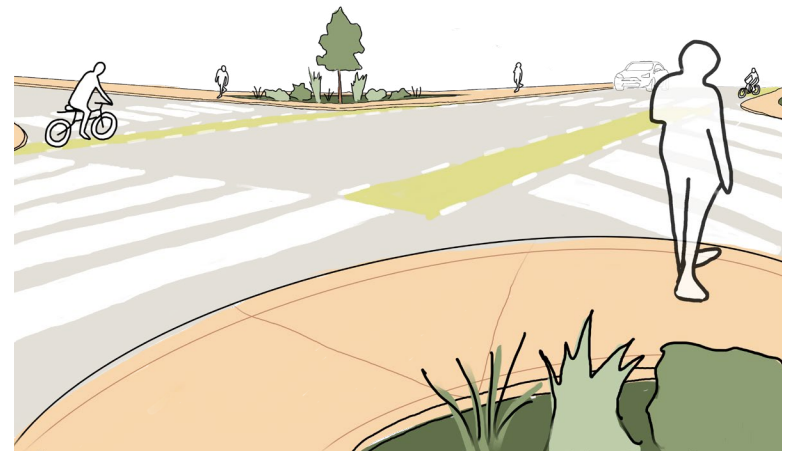
Finally, I would like to thank the various people who live and work in Nashville that have their “finger on the pulse” and have offered me their invaluable input and connections. To Claire Miley, Jennifer Carlat, Marty Sewell, Justin Cole, Anna Dearman, Madeline Robertson, Valeria Montez and Veronica Carter; let’s continue to work together towards a better, more walkable Nashville.

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Retrofitting for Mobility in Nashville, Tennessee

Mia Owen
Landscape Architecture Comprehensive Project
Honors College Thesis
March 2025



Abstract

Nashville, Tennessee is one of the United States' fastest growing cities, and its infrastructure cannot handle the influx. As more people move to Nashville, the current car-centric street design becomes less sustainable long term. This project aims to examine and remedy the lack of pedestrian and bike mobility in Nashville, Tennessee. Through both analysis and design, this project explores the benefits of walkability and themes of connection, safety, and sustainability. The case study site is a section of Granny White Pike, a collector street that is considered suburban, yet rapidly expanding to include commercial areas, and has significant historical and cultural impacts. By connecting the various landmarks along a one-mile stretch, this study aims to show tangible ways to make a suburban street more walkable, safer, and connected.

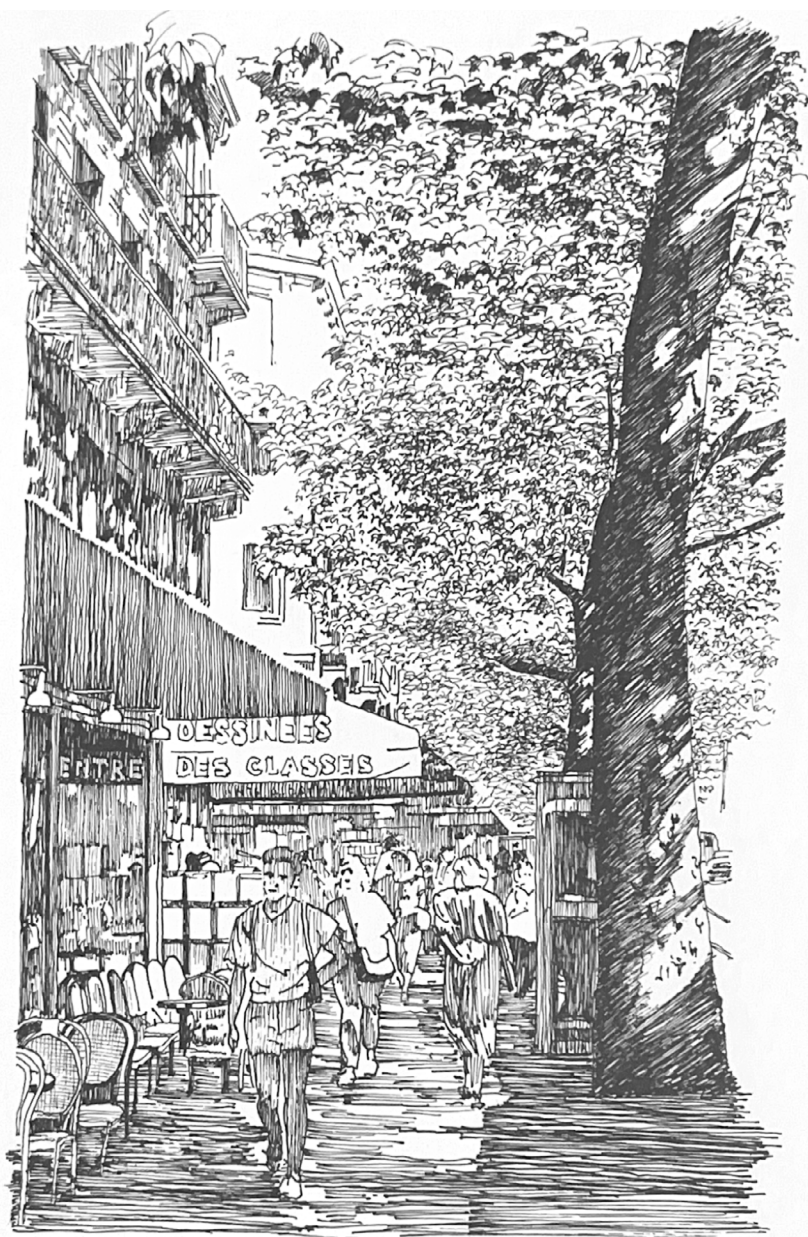


Along Avenue Montaigne

Great Streets - Allan Jacobs

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Boulevard Saint-Michel

Great Streets - Allan Jacobs

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Introduction

I spent the first 18 years of my life in Nashville, also known as Music City USA: home to country music, bachelorette parties, and pedal taverns. Prevalent as they were, those things did not define the city for me; quite frankly, it was the lack of accessibility. I grew up a 15-minute drive away from downtown, in a quieter area called Green Hills. In high school I was absorbed by running – often running six days a week. When I wasn't running near my school, centered in downtown with adequate sidewalks, I was running in my suburban neighborhood. This presented an issue because there was only one major sidewalk in my area, forcing me to either run back and forth along the same route, or risk getting hit by a car. This is not unique to my neighborhood, but common throughout the entirety of Nashville. Traveling by car is essentially the only way to safely get around the city, which favors the wealthy and increases carbon emissions. How can Nashville change into a safer, more walkable city? But first, what even makes a city walkable?

Note: I refer to a city being “walkable” or its “walkability” commonly throughout this book. This is not intended to be exclusionary to those who are physically able to walk, but more of a metaphorical term for personal mobility. Though I started this project with walking and running in mind, I have quickly broadened to design including all multi-modal forms of transportation.



Benefits of Walkable Cities

Humans were physiologically made for walking, according to the anatomy of our feet (Soderstrom 22). Thus, it makes sense that we would design cities to be walkable. It is only recently that we stopped walking and started driving everywhere. Before cars were invented, cities were tightly packed quarters where everyone could walk to their destinations. This, however, resulted in poor sanitation systems and higher rates of disease (Soderstrom 14). Think London in the time of *A Christmas Carol*. Thus, Georges-Eugène Haussmann's idea of the "Garden City," or suburb, seemed inviting (Soderstrom 14). People had more space to live, they could dispose of their waste properly, and they even had their own mini garden space, or lawn. However, once cities' infrastructure improved and the quality of life increased dramatically, we didn't go back to the walkable cities that people once lived in. We instead continued to develop more suburbs and lengthened commute times. You may ask, what is the problem with that? Well, besides the increased carbon emissions from cars, in the "drivable city" there is also a decrease in social interaction and physical health (Soderstrom 14). Living in a walkable area can increase a person's quality of life drastically. However, "walkable area" does not mean just having sidewalks in a neighborhood. In her book *The Death and Life of Great American Cities*, Jane Jacobs describes an ideal for walkability: mixed-use areas with sidewalks, shops, and green spaces nearby. This style of city planning is complex and often requires a clean slate, lest resulting in less desirable practices such as displacement and gentrification. In existing cities such as Nashville, there are zoning codes which prohibit mixed-use planning in most areas,

especially the semi-suburban ones. So, we must work with what we have and apply what strategies we can depending on the area.



Boulevard Saint-Michel

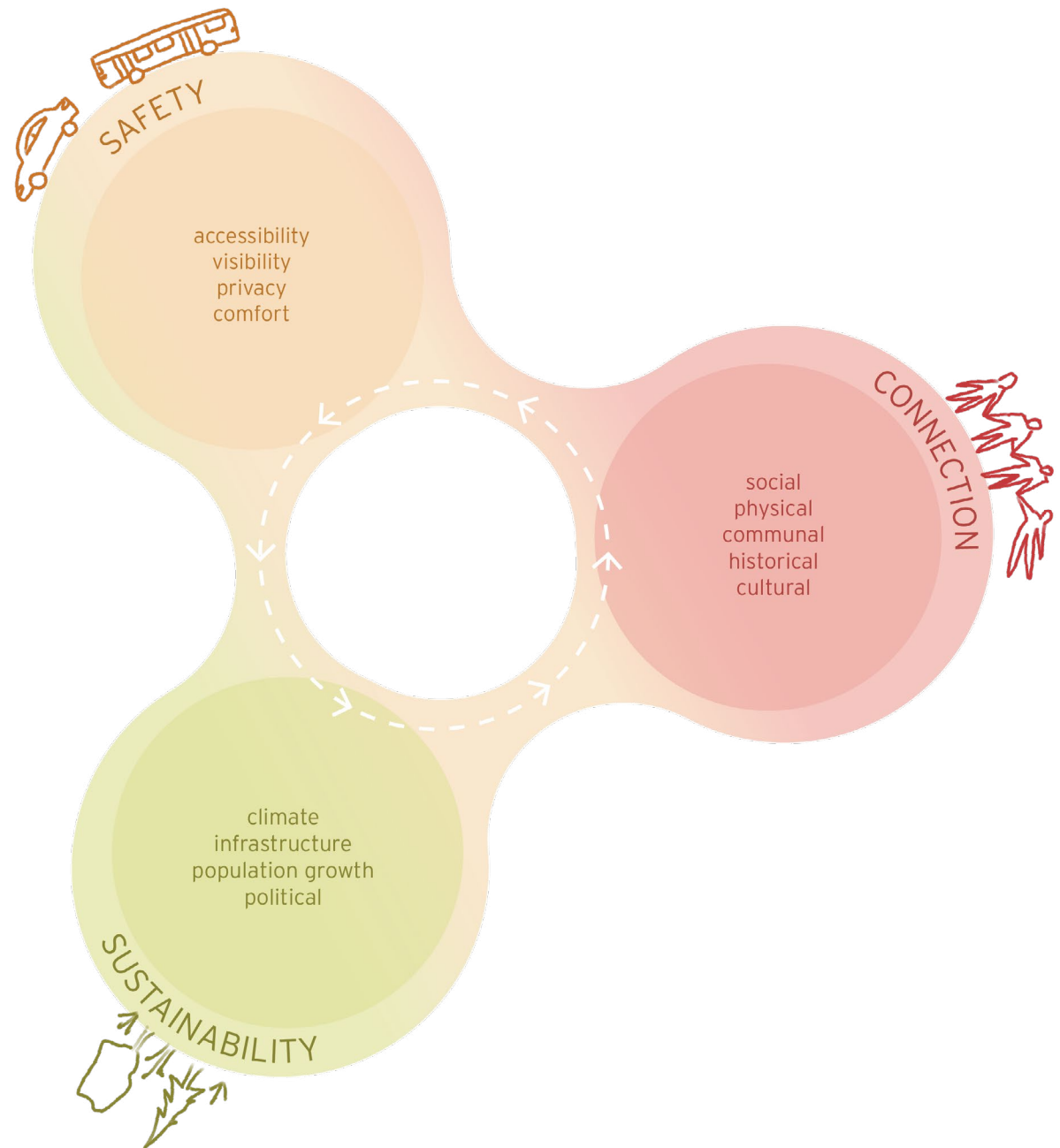
Great Streets - Allan Jacobs

What "No Sidewalks" Looks Like



Project Goals

With this project I hope to increase visibility of mobility issues throughout the city of Nashville and other similar cities. By providing a case study, I hope that the same strategies can be applied to other similar sites, with the idea of keeping the sense of place intact. I in no way want to erase the culture or sense of community by proposing a new design onto historic land. Even though Nashville has a culture around driving and independence, it is important to recognize that transportation independence is a luxury that not everyone has access to. Implementing safe, accessible multi-modal solutions raises equity within communities and increases economic value of the properties. Throughout this project I will be framing my argument through the lens of three themes: connection, safety, and sustainability. These are all essential for both making and keeping an area walkable.



Methods

This project consists of two research phases: analysis and design. The analysis phase contains physical and socio-cultural contextualization. This contextualization is then used to develop a research-based design proposal. Though analysis is considered a more traditional research method, I argue that design is also a method of research. Elen Deming in her book *Landscape Architecture Research: Inquiry, Strategy, Design* states, "design only becomes an autonomous research strategy when it produces new generalizable knowledge about the world through its purposes, protocols, and outcomes" (Deming 2006). I am choosing to design for the purpose of creating a precedent for a retrofitted walkable site that can be applied to other unwalkable streets and cities for pedestrian safety and well-being.

Analysis

My analysis section consists of research of all types, from literature reviews to ArcGIS data and mapping. Altogether this provides a holistic view of Nashville geographically, politically, and socially. An important part of this process is looking for precedents and other case studies similar to my project. These will serve as inspiration for design strategies, elements, and materials.

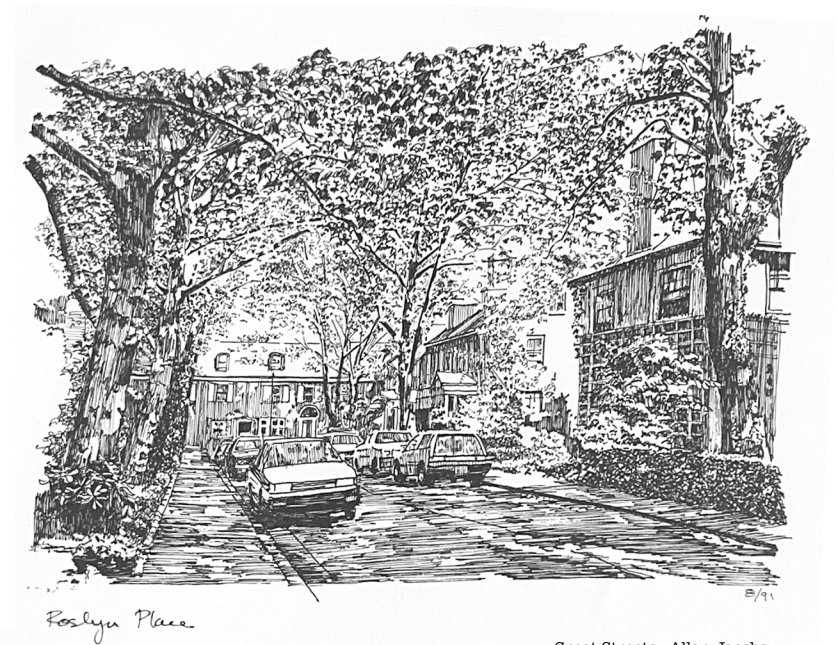
Note: In an ideal world, I would be conducting community engagement to interact with a diverse range of citizens in Nashville to determine what the people value most in the design of the city. However, the scope of this project does not allow for the resources nor time for developing proper community engagement methods. Instead, I will be offering a speculative design from my personal perspective, mixed with the information that I gather from a variety of sources.

After extensive background research, I

selected a site and formed design goals for the scope of the site. I used these goals as a guide for which strategies I wanted to implement into the site, and I continually come back to them to see if my strategies meet the goals.

Design

To start the design process, I did lots of sketching using trace paper and a base map. I listed all of the elements I wanted to include in my design which matched my goals, and from there it fit like a puzzle. How can we make the most beneficial design within the boundaries given? I created final visuals using hand drawings, Rhino3D, ArcGIS, and the Adobe Suite.

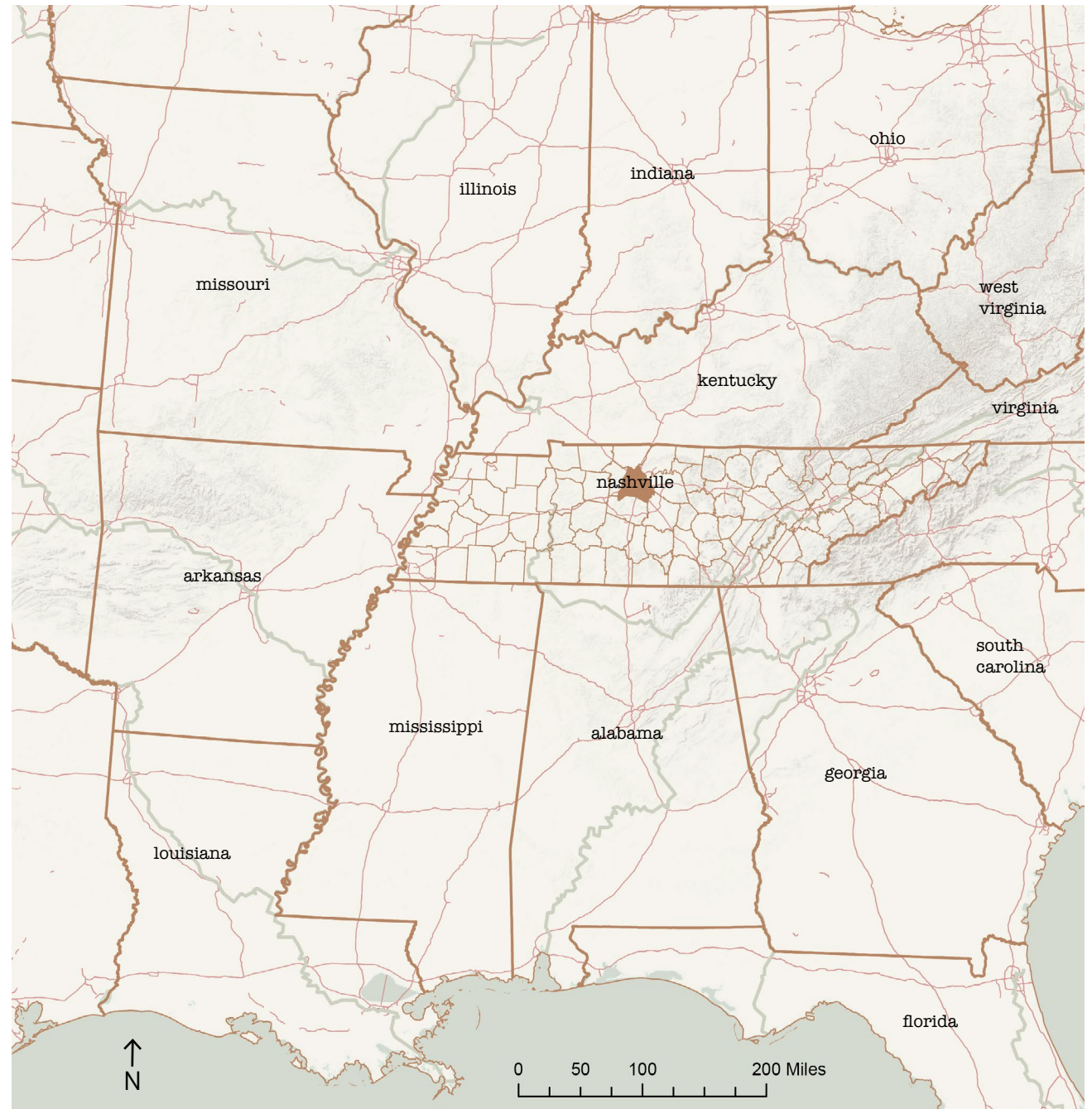


Great Streets - Allan Jacobs



Regional Context

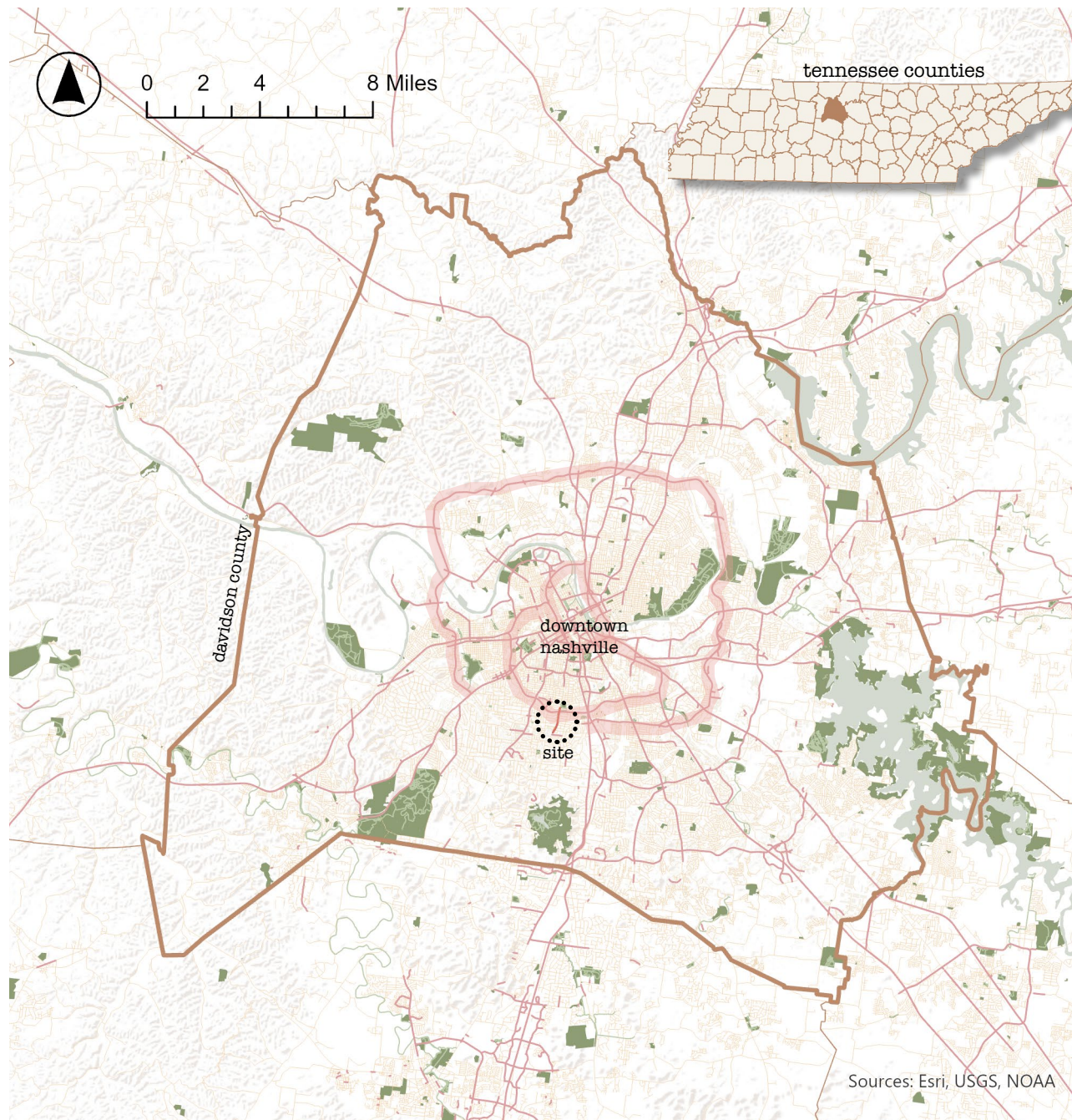
Nashville, Tennessee was founded in 1779. It was an ideal spot for settlement geographically, as it had the Cumberland River running directly through it. This major trading port and eventual railroad system drew people in. During the Civil War, it was a hotspot as Tennessee was one of the battlefield states. After the Civil War, the growth of the city slowed down until the late 1800s. Since then, Nashville has steadily grown into one of most well-known cities in the United States. In 1925, Nashville was deemed "Music City USA," a title that it is well-known for today. This increased its popularity as a city for both tourism and as a place to move to. Between 1940 and 1970, the population of Nashville "grew by 75 percent, jumping from 257,000 in 1940 to 448,000 in 1970," (Blumstein 143). This huge rise in population resulted in fast and reckless residential growth, with not a lot of forward-thinking for infrastructure. In general, there was a segregation of neighborhoods via socio-economic status, with homogenous wealthy, middle-class, and poor neighborhoods (Blumstein 36). In Nashville, the wealthier people tended to want more land and space for their families, so they formed neighborhoods farther from the city center. Because they had the money to build neighborhoods quickly, this was the main driving factor in residential development, resulting in lots of suburban areas. However, with automobiles commonly used at this point and a large amount of land, there was plenty of space and ability to expand. In 1963 Nashville became the first metropolitan government in the US that was consolidated with its county, Davidson County.

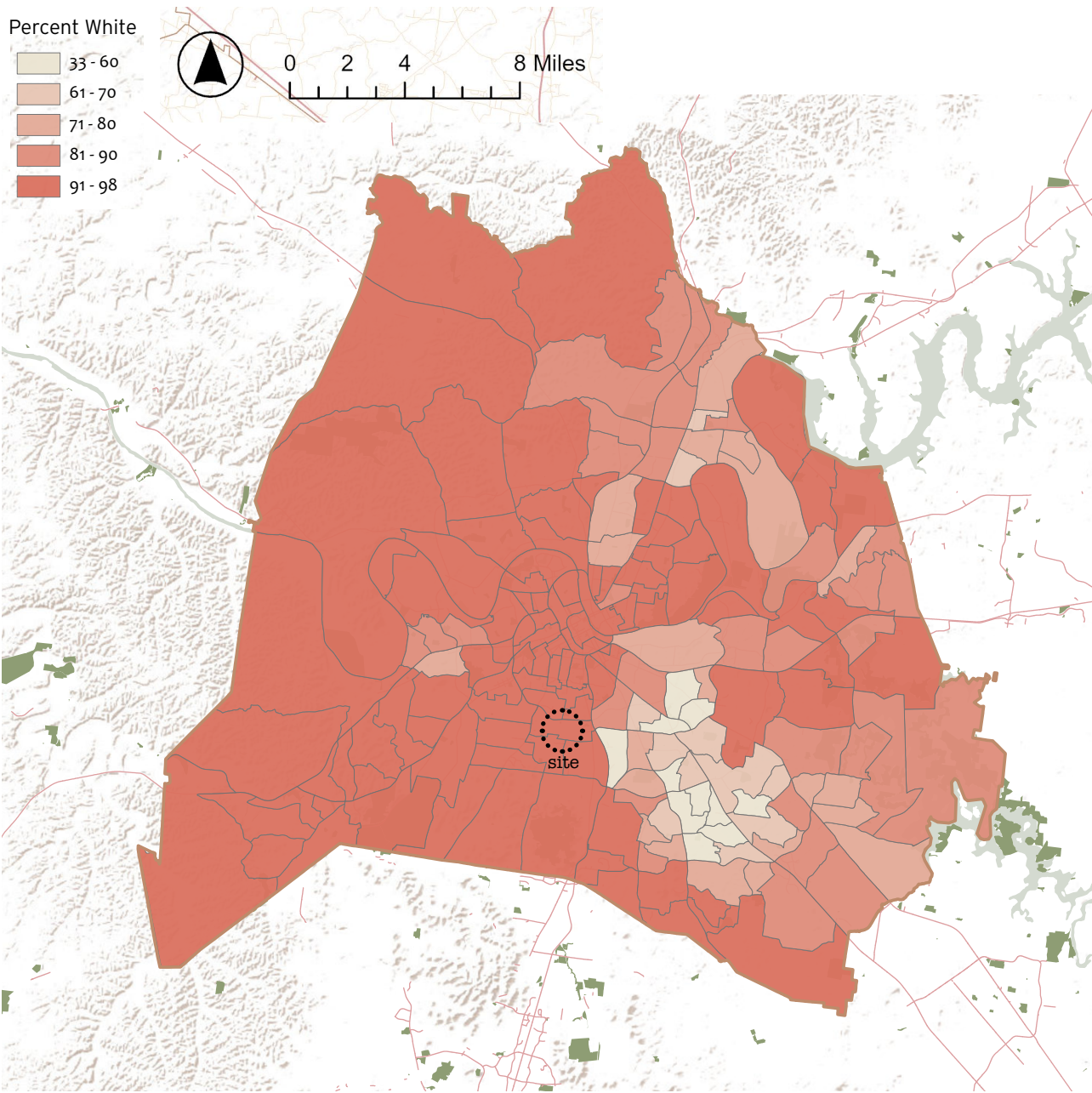


City Context - Size

Davidson County is a whopping 500 square miles, which makes Nashville the 13th largest city by area in the United States. To put that into context, you could fit seven major US cities inside of the Davidson County border: Miami, Philadelphia, San Francisco, Manhattan, Santa Barbara, Washington DC, and Pittsburgh: all at one time (Wikipedia). This is to say, it is impractical to fill the whole space with sidewalks, as they are expensive and possibly won't be used. However, there are many streets that exist on the edges of the downtown area that could use walkable connections, and this is what I'll be showing you. The site, Granny White Pike, is located close to my parents' house and exists in a transition zone between midtown and lower density neighborhoods.

Today, Nashville is an odd place with a strong identity. Culturally, it is the hub of country music and bachelorette parties. Historically, it was a Civil War battlefield turned trading port. The people are a mix of long-time locals, Californians-turned-Tennesseans, and tourists. This oddness is reflected in the infrastructure of the city itself. The roadways are laid out like spokes on a wheel, with a major highway running around the densest part of the city and concentric circles around it. There aren't city blocks except in downtown, the oldest part of the city. This is all the combined result of the haphazard city planning and the topography of the area. Nashville is geographically located in a bowl, and the oldest streets, the "spokes," intersect the center of this bowl. The highways were then built along the edges in a concentric fashion. I would like to celebrate this in my design.



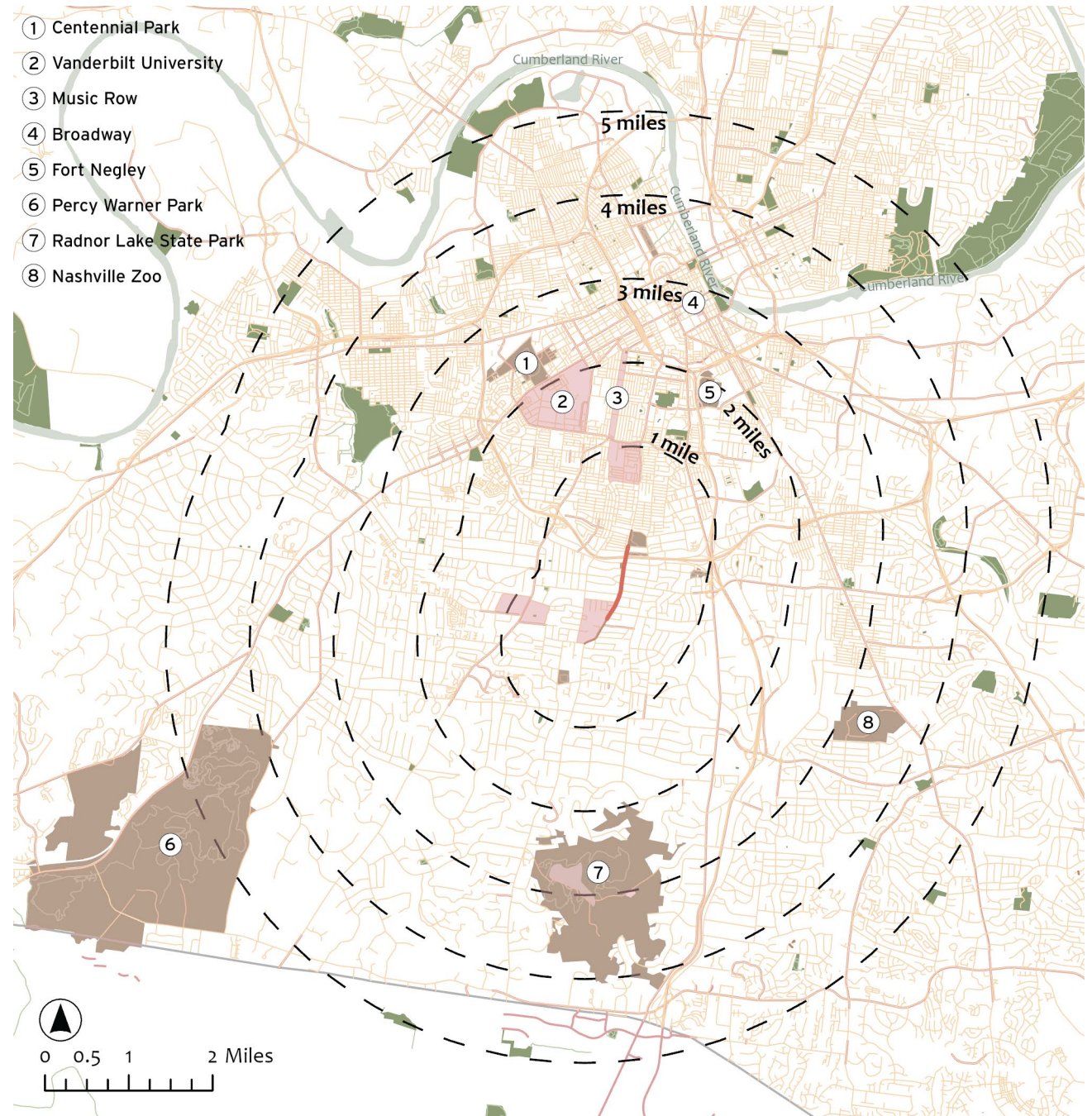


City Context - Demographics

To give you a sense of what Nashville's demographics are like, here is a map of the density of white people throughout the city. As you can see, Granny White Pike is located in an area of the city that is 90-100 percent white (US Census Data). It is important to understand that this design would be serving an already privileged community, who may or may not "need" this design for their day-to-day life. This is one of the reasons that the city of Nashville has not prioritized it for sidewalk implementation. Other areas of the city could potentially benefit more from a design like this. However, growing up here, I have a personal connection to this area, and I know there is a strong desire from the neighborhood for more walkability.

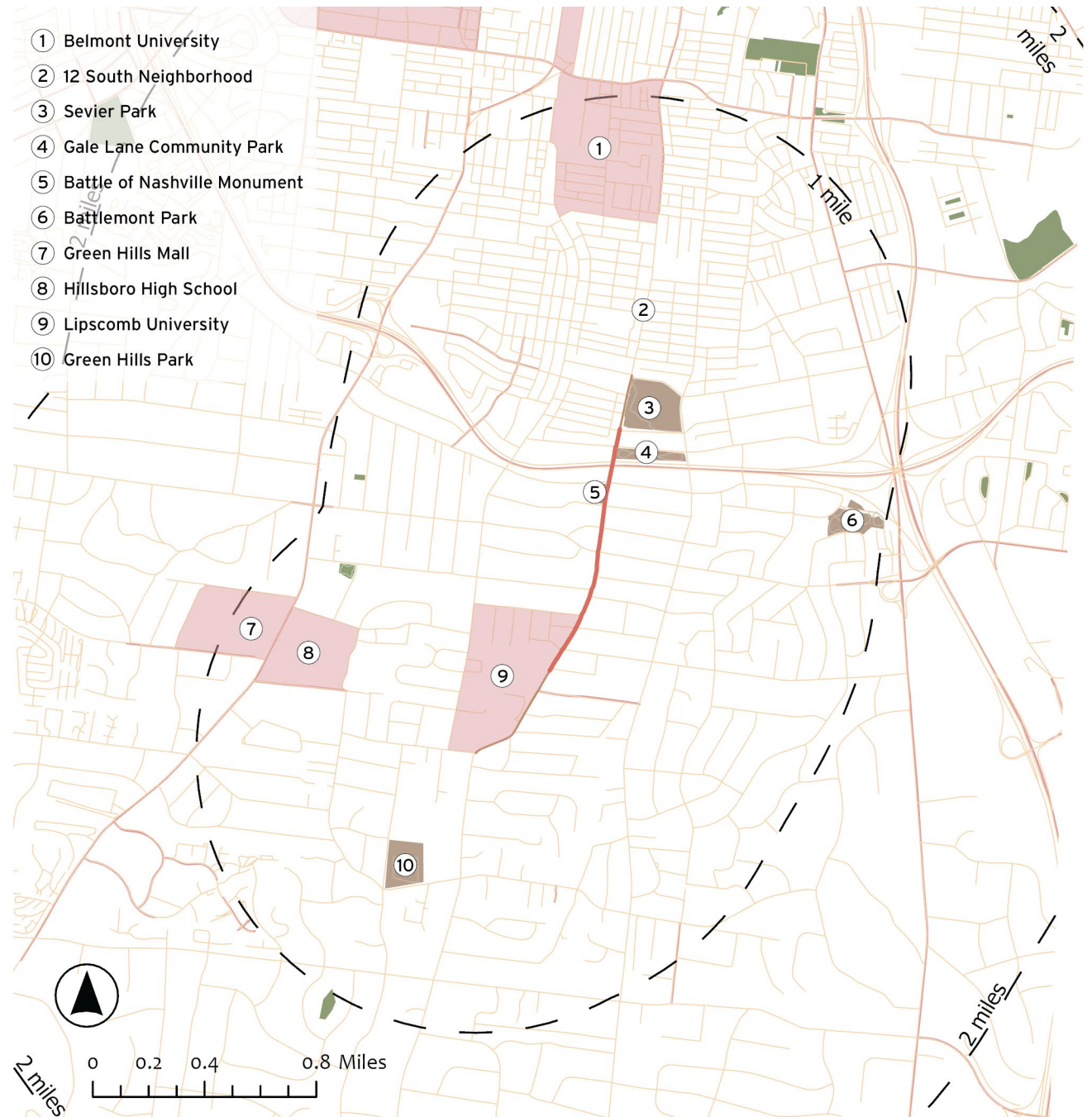
Landmarks

Even though this site is considered suburban, it is located fairly close to many major landmarks in Nashville. Within three miles of the site, there is Centennial Park and Broadway, Nashville's biggest tourist destinations. Centennial Park has the life-size re-creation of the Parthenon from 1897, and Broadway is a strip with bars, honky tonks, pedal taverns, and many other bars-on-wheels. Moving closer to the site, there is Vanderbilt University, Music Row, and Fort Negley all within two miles of the site. Vanderbilt is a prestigious private university known for its research programs. Music Row is a strip that houses many of the world's leading music recording studios, with a focus on country music. Fort Negley was a fort used in the Civil War and now serves as a historically preserved park. A little farther away from the site within four miles, there are many good outdoor spaces to visit: Nashville Zoo, Radnor Lake State Park, and Percy Warner Park. All of these landmarks are within five miles of this suburban site, yet none of them are accessible via sidewalk or bike lane. It is incredibly hard to visit any of these attractions without a car, which makes it virtually impossible to live in this area without owning a car.



Landmarks

Within one mile of the site there are ten significant landmarks. To the north we have Belmont University, which is a private liberal arts college known for its music programs. Moving south from there is the 12 South neighborhood, which is mixed-use neighborhood with very popular restaurants, shops, and photo-ops. It is another tourist destination in Nashville, marketed as a walkable area where you can leisurely move across at your own pace. Within the 12 South neighborhood there are two parks close to the site, Sevier Park and Gale Lane Community Park. Sevier Park hosts many community events, such as weekly farmers markets and summer movie screenings. Moving south down the site there is Battle of Nashville Monument Park, which memorializes the Civil War battle fought on this land in 1864. To the west is a large community hub, which includes the Green Hills Mall and Hillsboro High School. Between these two landmarks is a brand-new bus station as well, allowing easier access to this area. Along the southern portion of the site is Lipscomb University, a small private Christian University that also has a K-12 school. Further south is JT Moore Middle school and Green Hills Park. Again, these landmarks are all within one mile of the site yet are incredibly disconnected from one another. Most people who live in this area use cars just to travel from one of these landmarks to another.

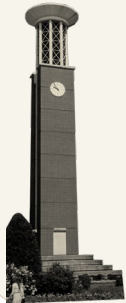


Landmarks



Lipscomb University

Lipscomb University is a private Christian University in the Green Hills neighborhood of Nashville. Its campus is also home to Lipscomb Academy, a K-12 private school.



Battle of Nashville Monument

The Battle of Nashville was held on December 15-16, 1864 and was one of the toughest battles of the Civil War. This monument was originally at another location and destroyed during a tornado. It was reconstructed and moved here in 1999. The park also is known for its very large swamp chestnut oak tree.



12 South

A shopping district named for the street it's located on, 12 South is home to many popular restaurants and shops. It is also a main tourist attraction with murals and a walkable boulevard.

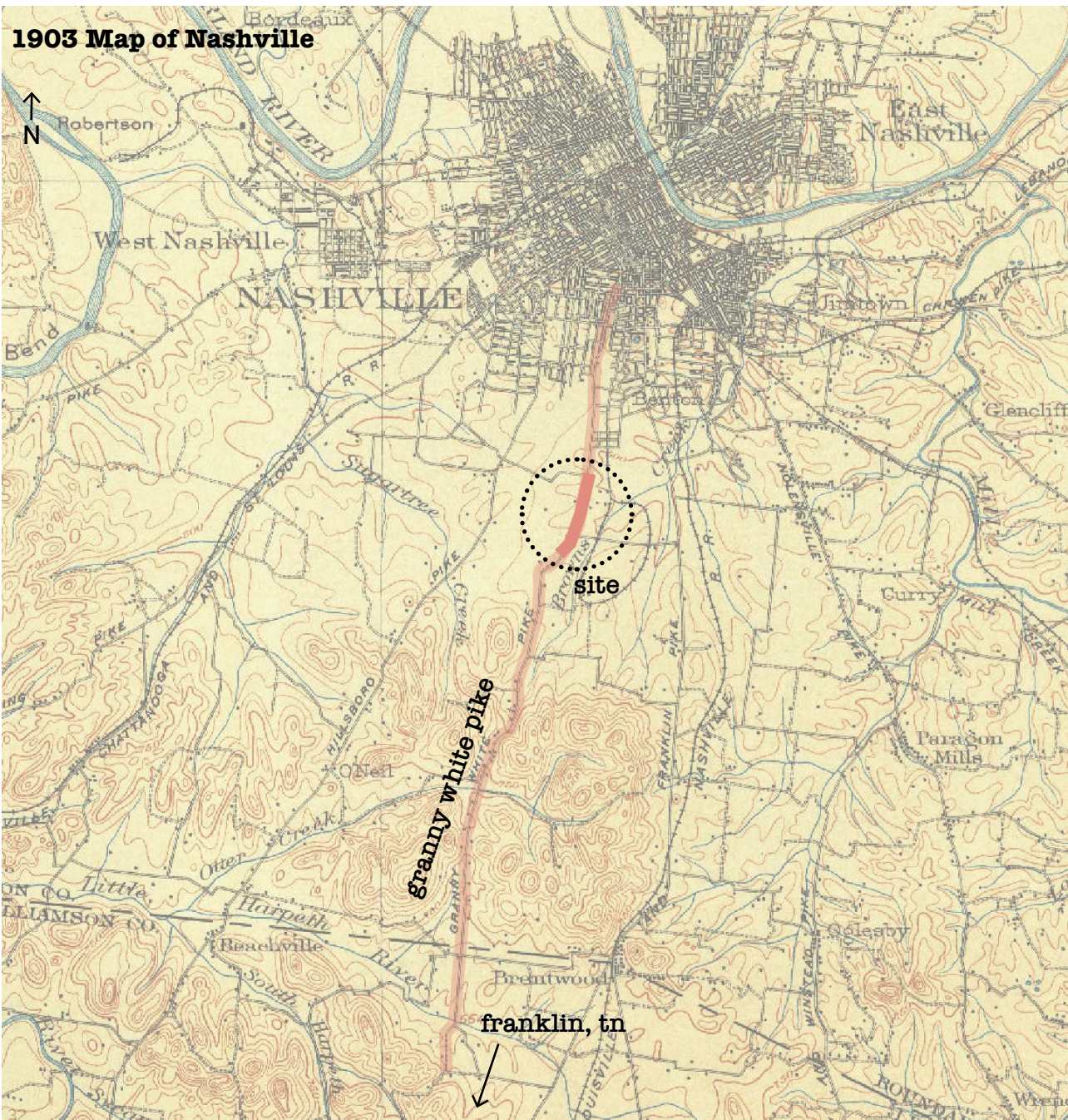


Sevier Park



Sevier Park is popular for its farmers markets, events, and proximity to the 12 South neighborhood. It is also home to the historic Sunnyside residence, built in 1852.





Site History

This map depicts the city of Nashville in 1903. The main density of streets existed near downtown, but there were arteries entering and exiting the city radially. Granny White Pike, or the street the site is located on, was one of those arteries. It existed as a dirt road at this time and was used as the main transportation route between Franklin, TN and Nashville, TN (Loyd). Running almost parallel to this road on the east side is the Nashville Railroad, which transported goods to and from the city. Why is it called Granny White you may ask? We will get into that next.

Site History

Here are two photos of the site at different points in time. As you can tell, in 1939 it was a dirt road, and the main mode of transportation was horseback. It is fascinating to compare it to the lower photo just 23 years later, which depicts the small commercial area next to Lipscomb University. In those 23 years there was a boom in development associated with the widespread use of cars. These areas that used to be too far from the city center for settlement now became a 15-minute commute time and started to develop characters of their own.



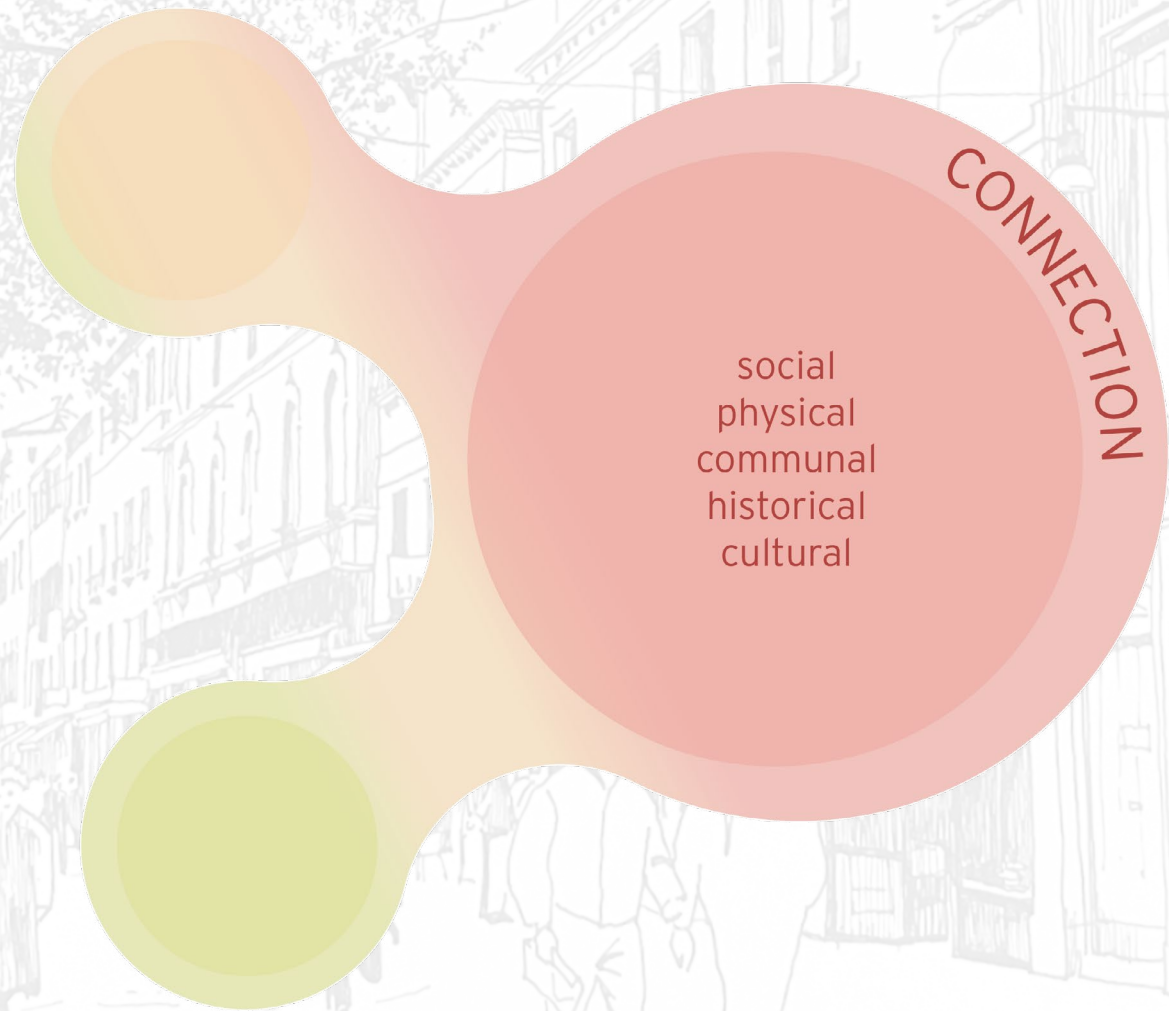
Granny White Pike 1939



Granny White Pike 1962

"While the complexity of the modern city calls for continuity, it also furnishes a great delight: the contrast and specialization of individual character."

- Kevin Lynch
The Image of the City
pg. 109



Site Conditions - Connection

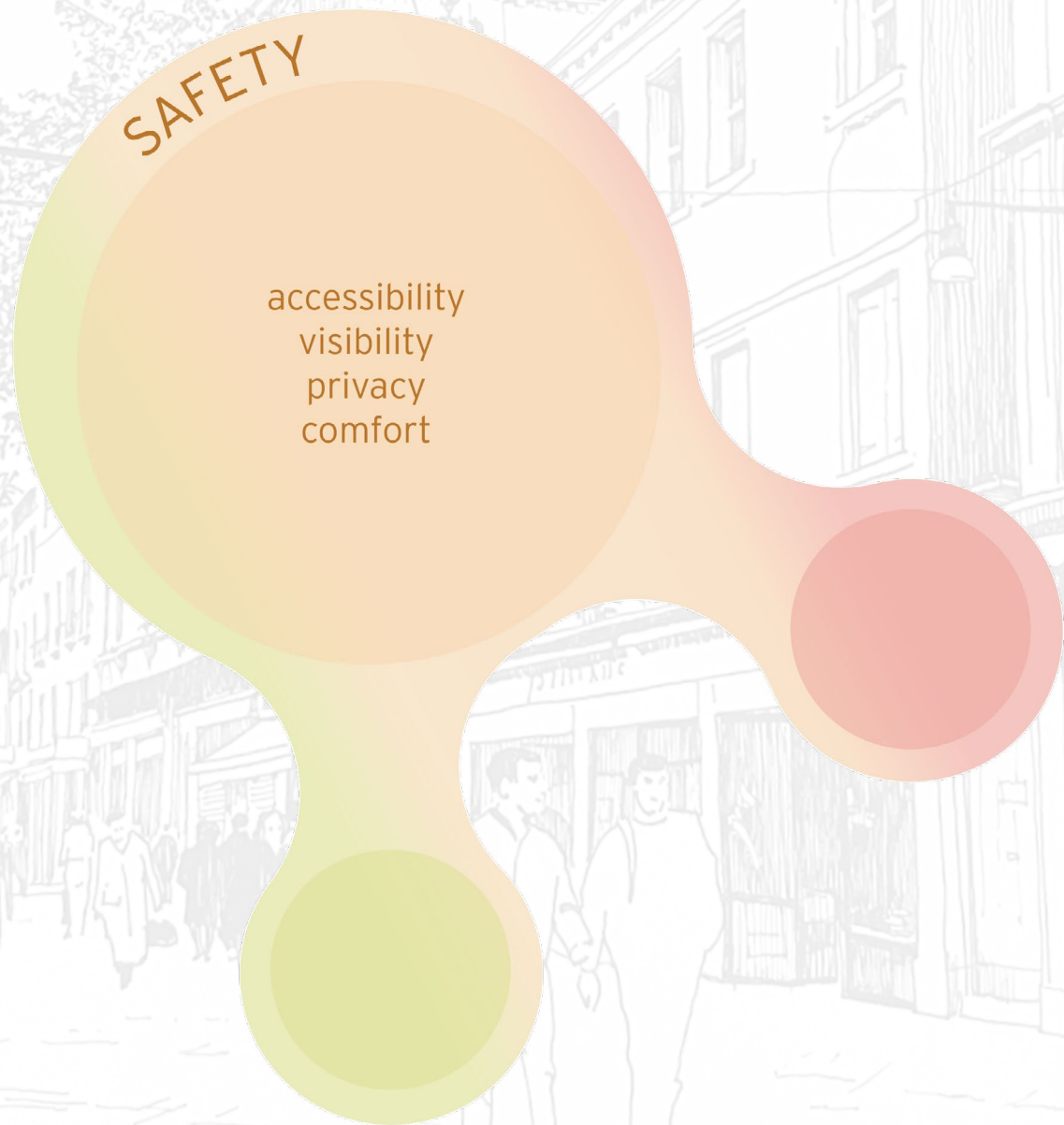
Connection can mean a lot of things, whether it be physical, social, visual, or cultural. Kevin Lynch makes a good point in his book about designing cities. He says, "While the complexity of the modern city calls for continuity, it also furnishes a great delight: the contrast and specialization of individual character" (Lynch 109). There is a way to create connection and continuity throughout a city without getting rid of its personality or character. Currently the landmarks along the site are disconnected from one another, despite being less than a mile apart. This is one type of missing connection, but there exists many along this site, including a lack a cohesiveness of design elements. Across a one mile stretch the street changes at least 4 times, from sidewalk on one side to no sidewalk to sidewalk and bike lanes on both sides. Imagine walking along a road and having to cross the street or change the way you move every quarter mile. Besides the obvious need for adding sidewalk in the middle, brown-colored segment, I also really want the site to have a shared identity, and to feel connected from start to finish.

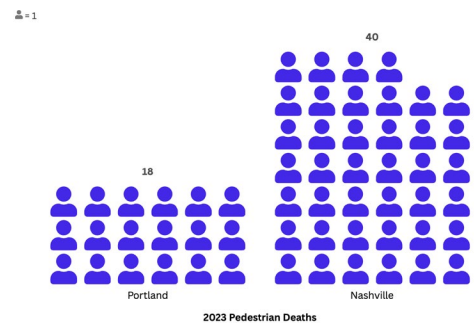
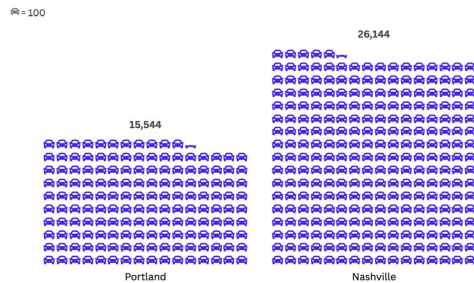




"But sidewalks and those who use them are not passive beneficiaries of safety or helpless victims of danger. Sidewalks, their bordering uses, and their users, are active participants in the drama of civilization versus barbarism in cities. To keep the city safe is a fundamental task of a city's streets and its sidewalks."

- Jane Jacobs
Death and Life of Great American Cities
pg. 32





Site Conditions - Safety

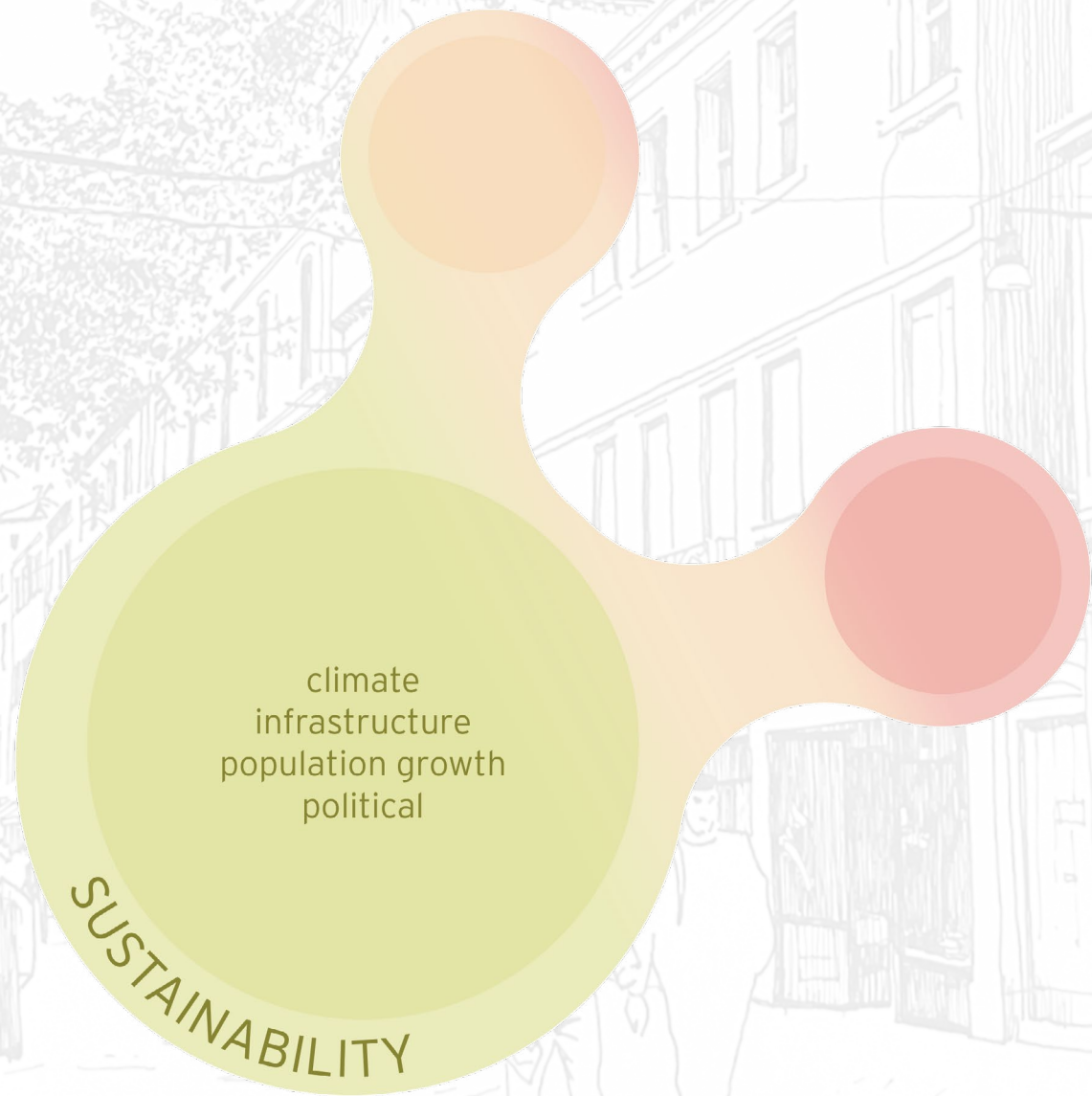
Moving on to safety, which some might argue is the most important aspect to a multi-modal area. Safety can take many forms such as accessibility, visibility, privacy, and comfort. Jane Jacobs in her book *Death and Life of Great American Cities* argues that safety is a shared responsibility of streets and sidewalks: "But sidewalks and those who use them are not passive beneficiaries of safety or helpless victims of danger. Sidewalks, their bordering uses, and their users, are active participants in the drama of civilization versus barbarism in cities. To keep the city safe is a fundamental task of a city's streets and its sidewalks," (Jacobs 32). It won't work to just add sidewalks to a site to make it safe, we also have to change the street and the way people interact with it.

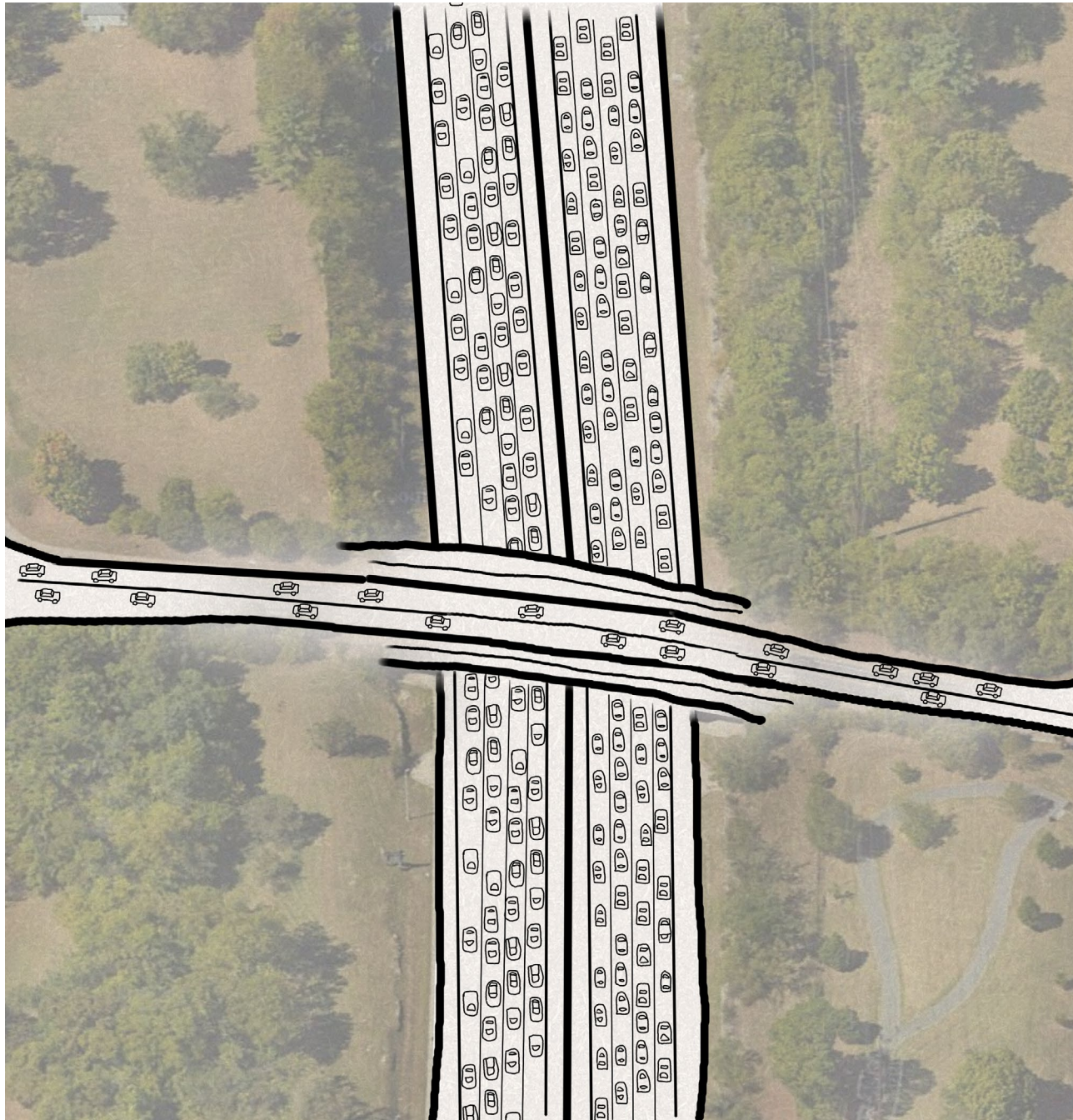
Currently on the site, there is a large segment in the middle portion that has no sidewalk infrastructure whatsoever. This stretch is just over half a mile and is extremely unsafe, as shown in this photo. This poor street design is emblematic of Nashville as a whole, and it shows in crash data.

Compared to Portland, Oregon, which has a similar population size, Nashville has about 10,000 more vehicle crashes in a year (Police Data Dashboard: Vehicle Crashes Map). I suspect this is because Nashville's roads were designed with only cars in mind, optimizing the space for high speeds and low wait times. This is in complete contrast with Portland, which uses a grid block system and has pedestrian and bike infrastructure built into its streets. Additionally, Nashville is not only known for its vehicle crashes, but also its pedestrian crash fatalities. In 2023, Nashville had 40 pedestrian fatalities due to crashes, compared to Portland's 18 (Metro Nashville Police Department, Oregon Department of Transportation).

"Transportation is now the largest source of all types of greenhouse gases in this country, and passenger cars are the single largest source within the transportation sector."

- Susan Handy
Shifting Gears: Toward a New Way of Thinking about Transportation
pg. 14





Site Conditions - Sustainability

Moving onto sustainability, another important component of walkability. You may think that this is less integral to making or keeping an area walkable, but if a site isn't sustainable, then no one will be there to see it in the future. As Susan Handy, a transportation official, states, "Transportation is now the largest source of all types of greenhouse gases in this country, and passenger cars are the single largest source within the transportation sector;" (Handy 14). Besides climate change there's also the concerns of population growth and infrastructure capacities, which is exactly what's happening in Nashville.

Nashville is considered one of the fastest growing cities in the US, and its infrastructure can't handle the rate of growth. If we continue with the car-centric approach to street design as it is today, the future might look something like this: completely congested with high commute times. Nashville is working on preventing this as best they can, but the government moves slow, and this is a fast-moving issue.

In 2023, Nashville was ranked 12th in highest total migration in the US (Leyva). This means around 86 people moved to Nashville per day for an entire year. Of those 86 people, 66 of them were from out of state (Leyva). This would be okay if we had the infrastructure or culture to support those people. Of the roughly 2 million people that live in Nashville currently, only 2% of that population actually uses public transit ("Highest Public Transit Usage Cities"). Though it's hard to change people's minds, we can at least provide options to them in the hope they would try something new.

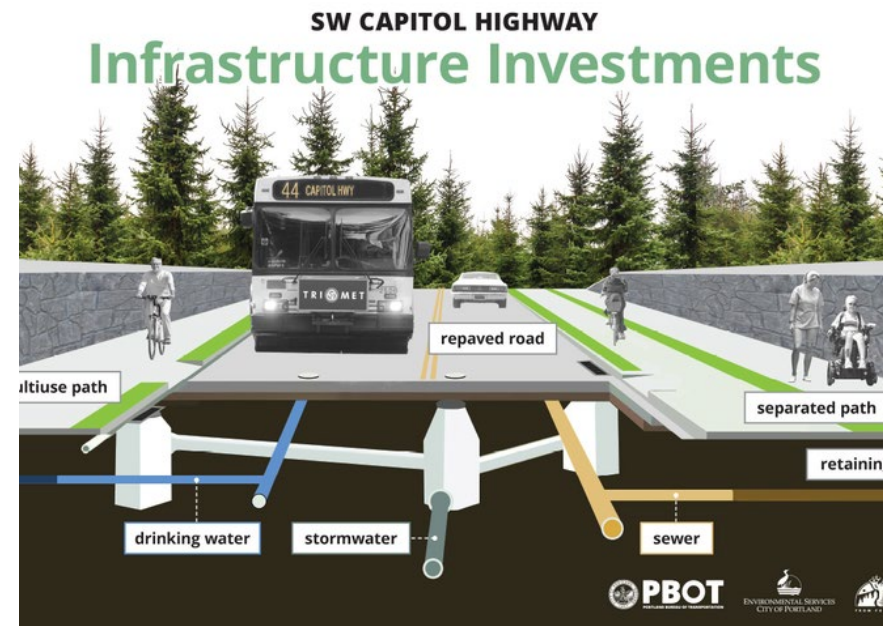
Site Conditions - Sustainability

Another issue with sustainability in this site is the stormwater drainage solutions. A lot of areas of Nashville were developed quickly and have drainage ditches to the side of the road as a solution to catch and drain stormwater. While this works sometimes, in the event of a heavy rain, yards often flood as a result of poor management. This calls for a more comprehensive solution as heavy rain events become more frequent with climate change.



Precedent - SW Capitol Highway

This project located in Portland, Oregon is a successful example of a suburban street redesign. They implemented buffered sidewalks, bike lanes, and stormwater solutions into this collector street. This is a similar size road to the site I have chosen to design and serves as a good precedent.



Precedent - City of Kalamazoo

In 2017 the city of Kalamazoo, Michigan approved a comprehensive master plan for the city titled "Imagine Kalamazoo 2025." This addressed issues such as sustainability, poverty, lack of support for marginalized communities, and street congestion. Though I wish I could do a project as comprehensive as this one, I am only one person with limited time, so I narrowed my focus more on street redesign. I took from this project inspiration on how to classify streets, good community goals, and street sections.

Strategic Goals

Shared Prosperity

Connected City

Inviting Public Places

Environmental Responsibility

Safe Community

Youth Development

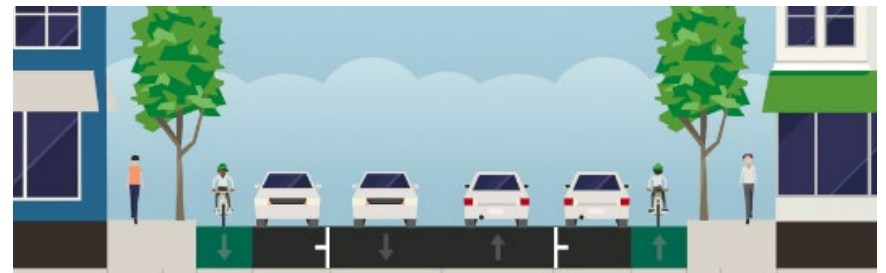
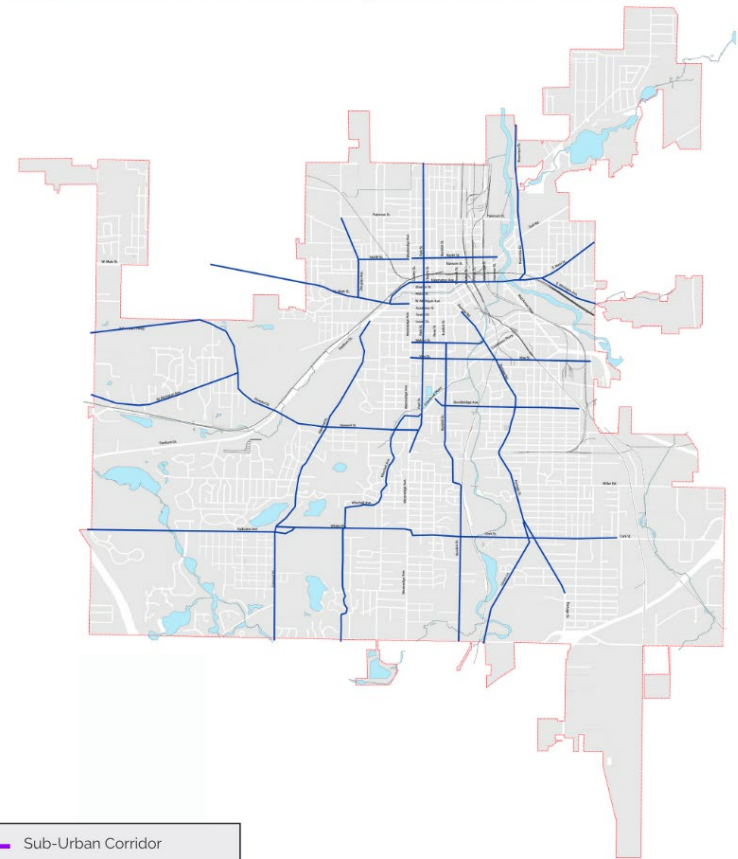
Complete Neighborhoods

Strength Through Diversity

Economic Vitality

Good Governance

Framework of Streets: Neighborhood Connector



How is Nashville Addressing These Issues?

The greater Nashville area, including cities such as Brentwood, Franklin, Hendersonville, Murfreesboro and more consists of more than 5,000 square miles. So, it is not feasible nor helpful for Nashville to put sidewalks on all of the roads. However, they are making strides to add sidewalks to the places that need them. Just last November a 3.1-billion-dollar transit referendum passed, where the city has plans to expand the sidewalk, bike lane, and bus networks. This is funded by a 0.5% sales tax surcharge as the city is one of four out of 50 major metro areas that lack dedicated transportation funding. The sidewalk plans have a select number of priority streets, and Granny White Pike is not currently considered one, so it would be a long time before anything gets implemented there (WalkNBike Plan). The prioritization system is determined through a ranking of attributes: safety, neighborhood access, pedestrian generator, transit access, equity, level of service analysis, NN centers, and previous planning (WalkNBike Plan). Though Granny White Pike is a pedestrian generator with 12 South and Lipscomb University nearby, it falls low on most of the other categories, especially involving equity as I mentioned earlier. I find NDOT's system for prioritizing streets comprehensive, and I find it appropriate that Granny White Pike is low on their list. However, that doesn't mean that Granny White Pike couldn't use a redesign.



On November 5, 2024, voters in Nashville approved a half-penny (0.5%) sales tax surcharge and created a dedicated funding source for transportation and mobility projects included in the transportation improvement program **Choose How You Move: An All-Access Pass to Sidewalks, Signals, Service, and Safety.**

Choose How You Move completes the entire priority **Sidewalk** network from WalkNBike Nashville when combined with annual capital spending, upgrades traffic **Signals** at 592 intersections, provides 24/7/365 Transit **Service**, improves **Safety** for all users, and so much more!

Explore our stories and maps on how we improve getting around Nashville and Middle Tennessee.



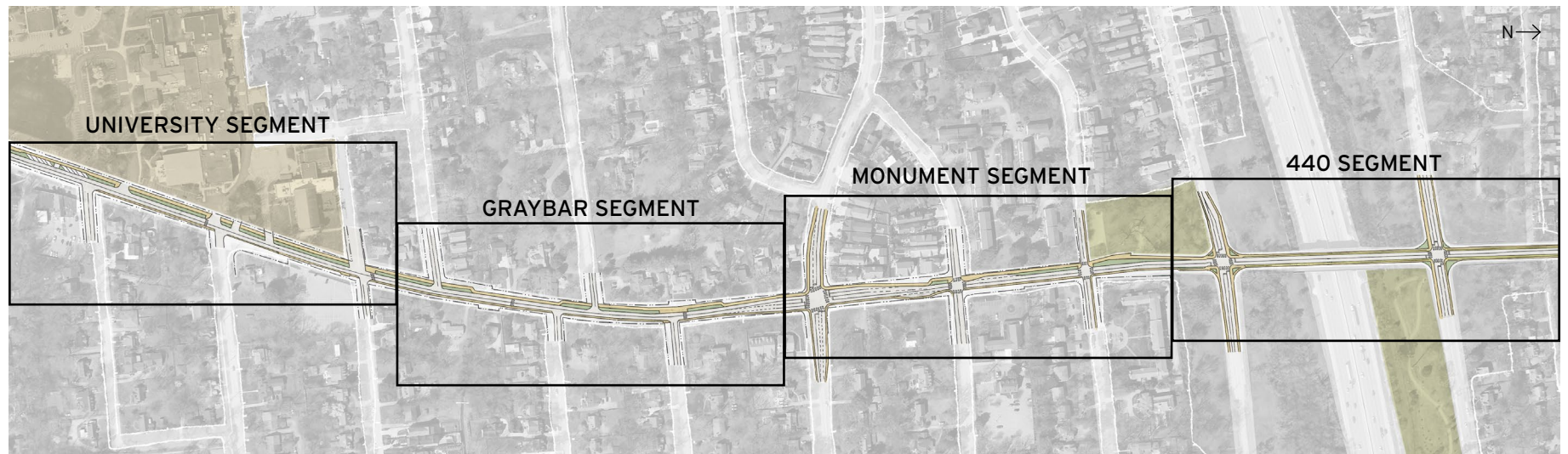
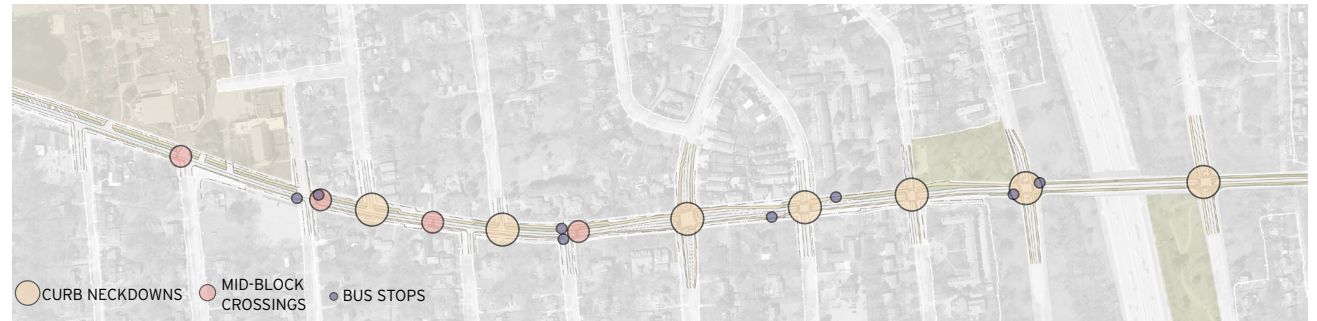
Site Segments

(existing conditions)



Masterplan

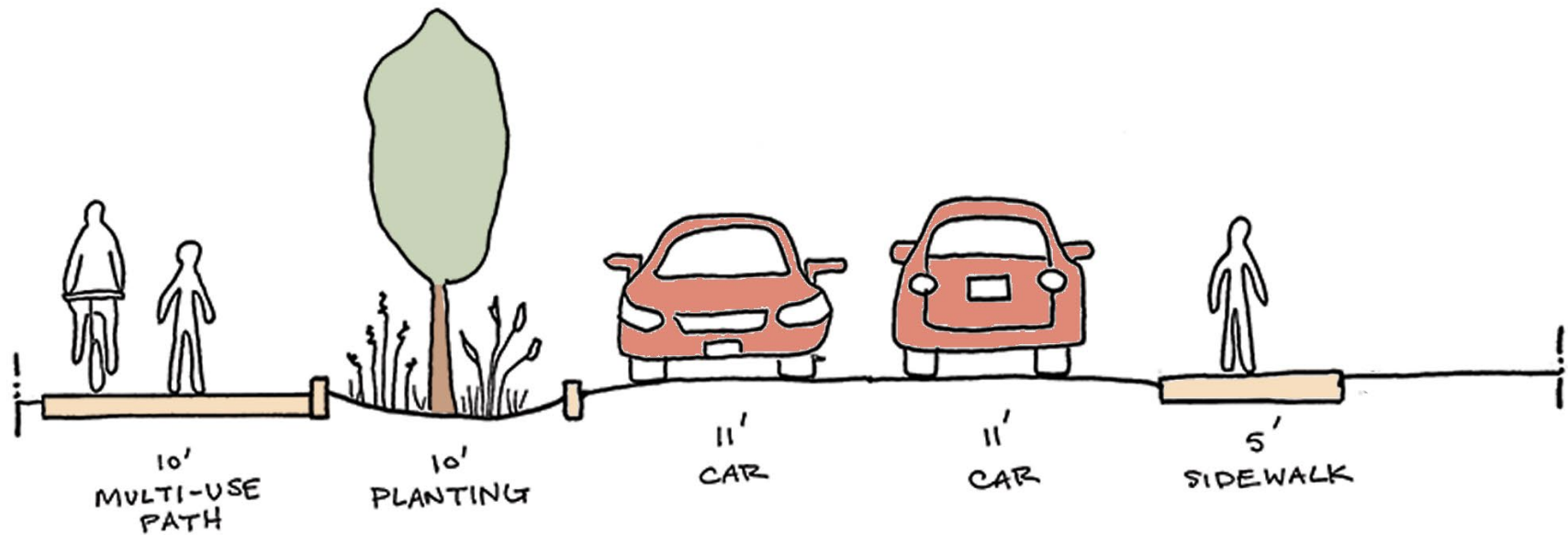
Moving on to the design portion of my project, I have decided to split up this site into four equal segments from north to south to better display this design. From now on, north will be rotated to the right. Beyond individual design interventions, for the sake of continuity there are a number of design elements that I am applying across the entire site to make it more walkable. These includes curb neckdowns, or reduction of curb radii, mid-block crossings, and ADA- accessible bus stops.



Typical Section

Beyond those design elements I will also be applying a street section to the entire 1-mile site. The car lanes remain the same as they are now with 11 feet per lane, and the rest is added or adapted around the existing road. The design exists completely within the right-of-way, or public land. I wanted to challenge myself to design this way because this is realistic to how the city would actually design. The main pedestrian and bikeway are on the left or west side of the street, which is a 10-foot multi-use pathway with 10 feet of stormwater planting buffering the path from cars. There is a secondary sidewalk on the other side of the street for bus stops and easy crossings. I have chosen an asymmetrical design for this section because of the way the tax lots are laid out. There is actually more space in the right of way on average on

the west side rather than the east. This way, combined with lots of mid-block crossings, pedestrians can be a safe distance buffered from the cars, and there will be more room for planting.



University Segment

The University Segment is the southernmost segment on this one-mile site, and it is named after Lipscomb University, which this segment borders. Throughout this segment there are some sidewalks, but they end abruptly and before the bus stops, which are essentially poles stuck in the ground. Also in this area is a small but popular commercial area where students like to grab lunch or a coffee. Across from this commercial area is angled parking and a stoplight. For the redesign of this area, I tried to keep main passageways and parking the same, as I felt it important to keep the integrity of the area. The typical street section that I showed earlier is applied in this segment, with the main path being on the west or top side. This path is buffered by stormwater planting. Additionally, after the redesign, the bus stops are ADA-accessible,

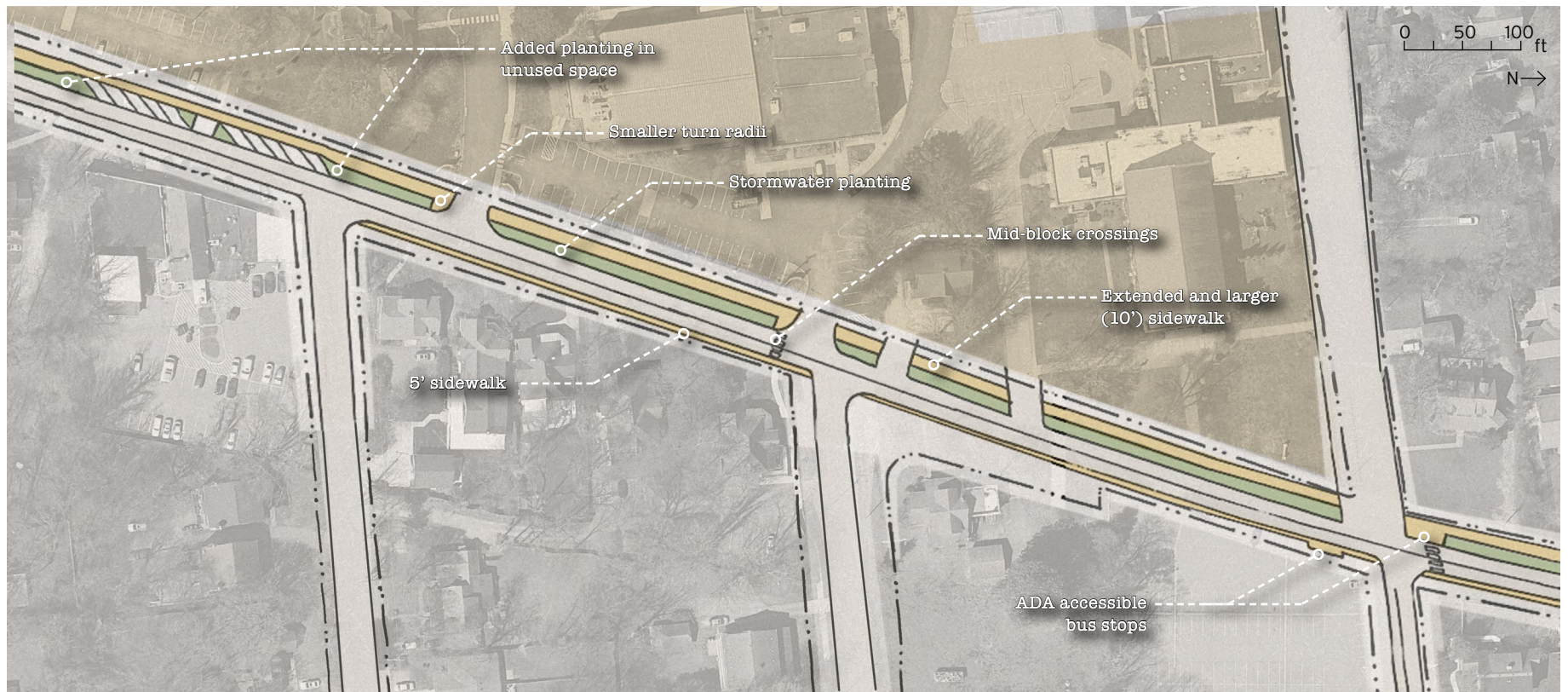
have sidewalks connecting them, and a mid-block crossing to move easily between them.



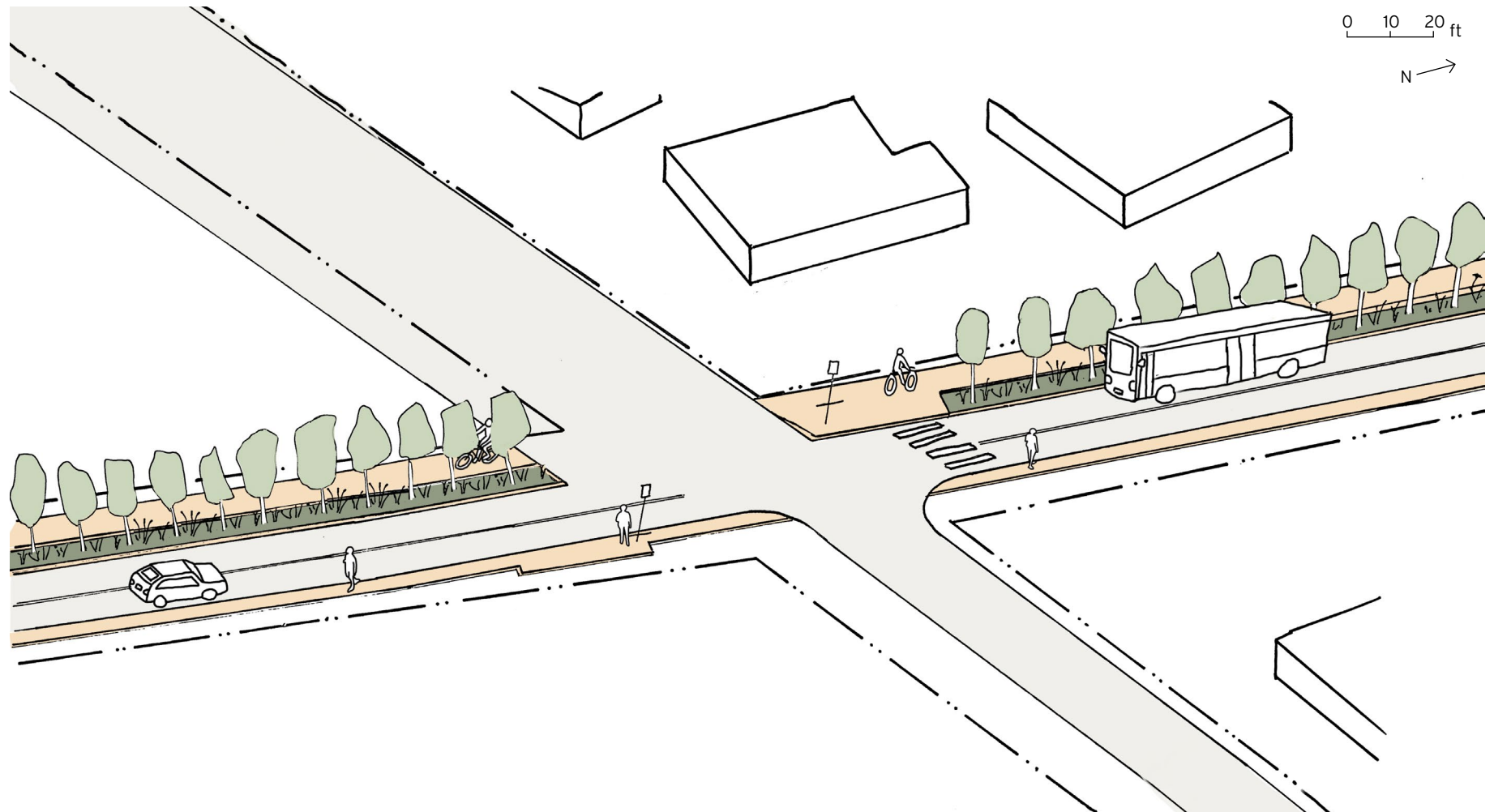
University Segment - Before



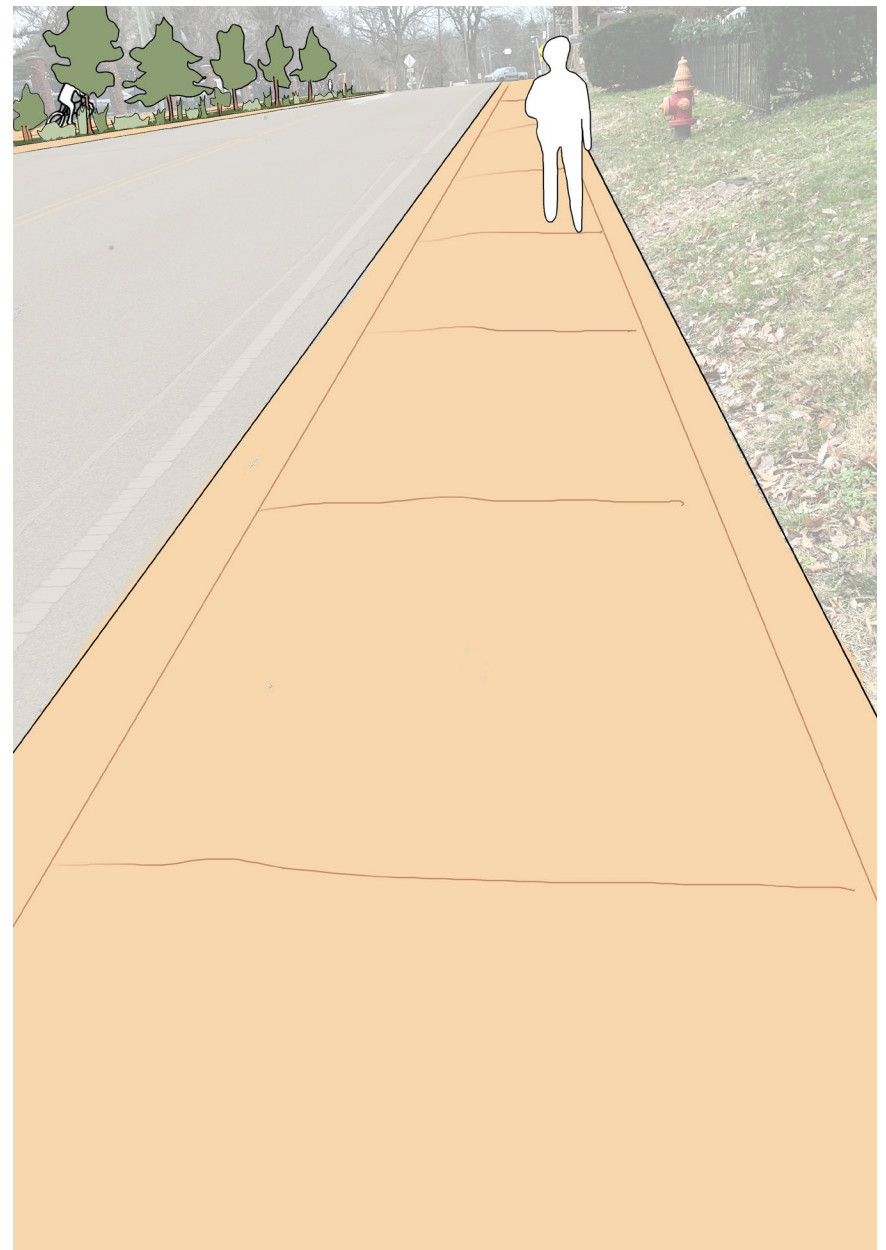
University Segment - After



University Segment Bus Stop

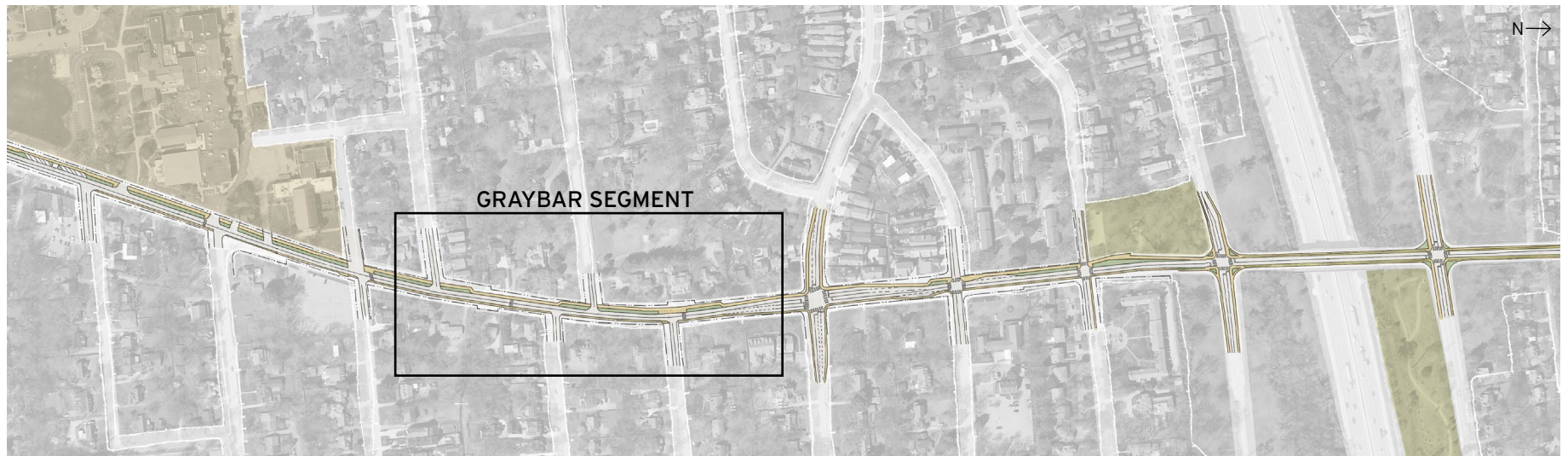


University Segment Before & After

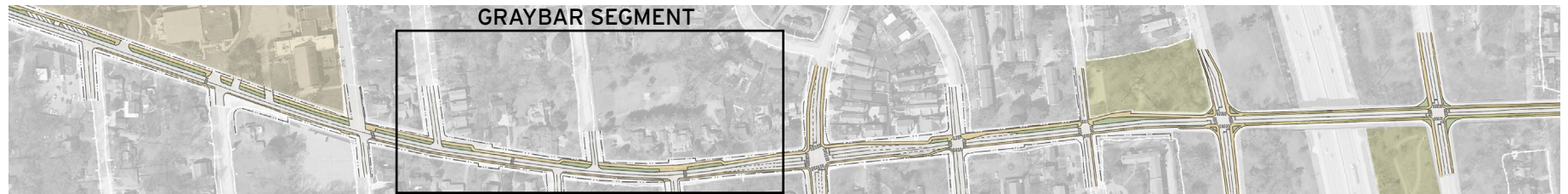


Graybar Segment

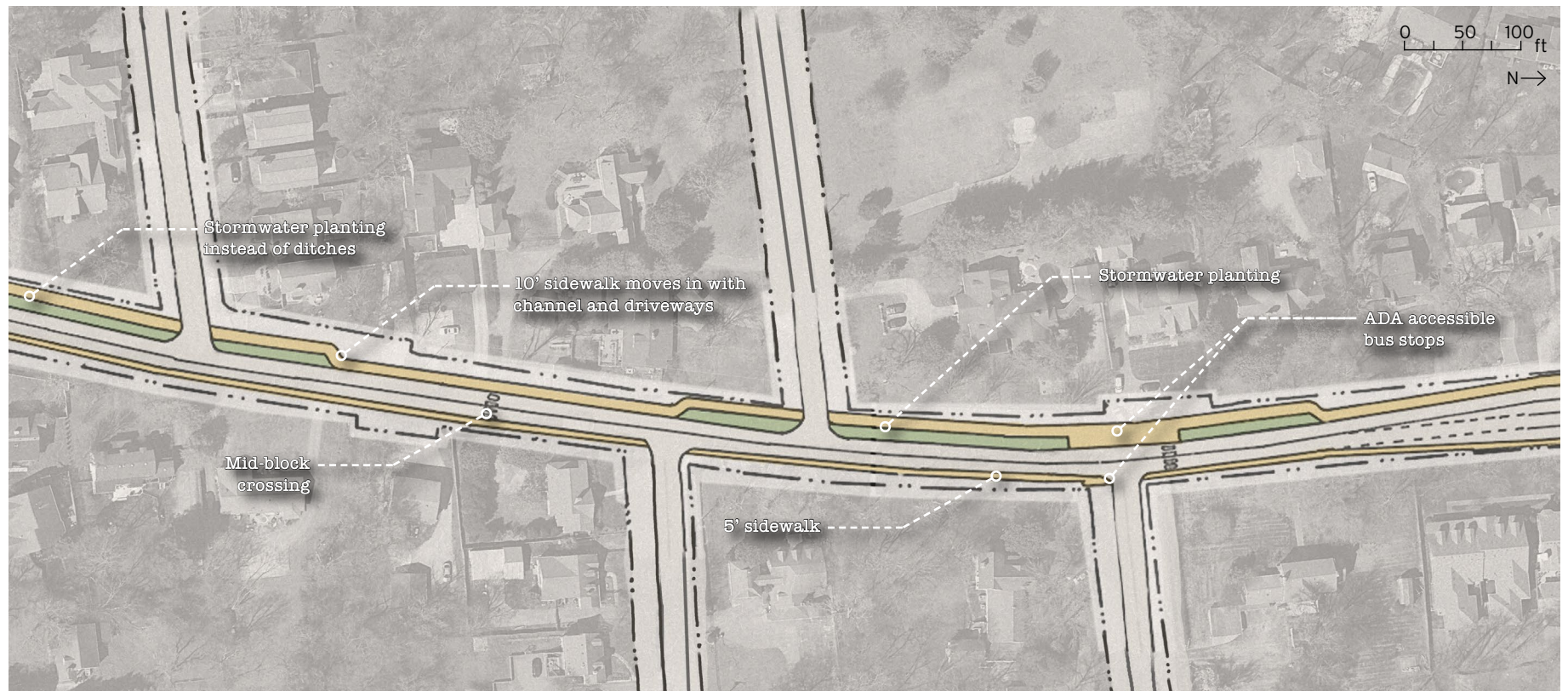
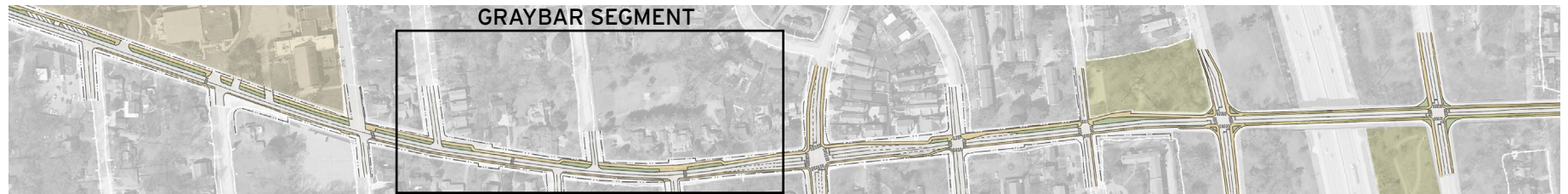
The Graybar Segment is named after Graybar Lane, which is one of the main residential streets in this segment. This area is completely unwalkable; there are no sidewalks or other infrastructure at any point. There are drainage ditches to each side of the road, even with an impassable guardrail at one point. The houses and lot sizes are also larger in this area, so this is peak suburbia for this portion of Granny White Pike. For the design, I again have applied that typical street section with a few exceptions where the right of way narrows or the road widens, as with the intersection toward the north side of the site. The bus stop design is very similar to the University segment, with ADA-accessible platforms and a crossing to easily move across the street.



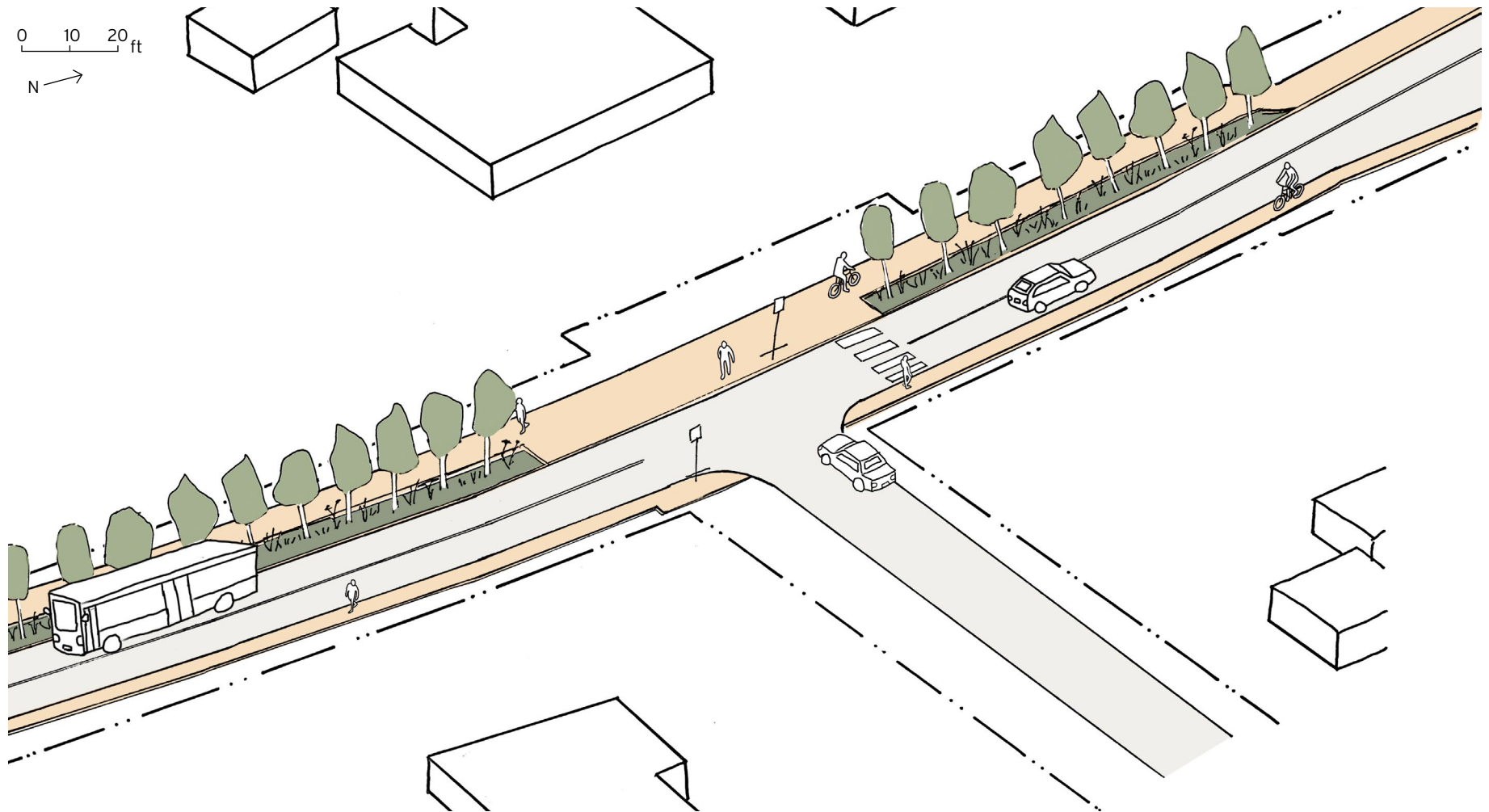
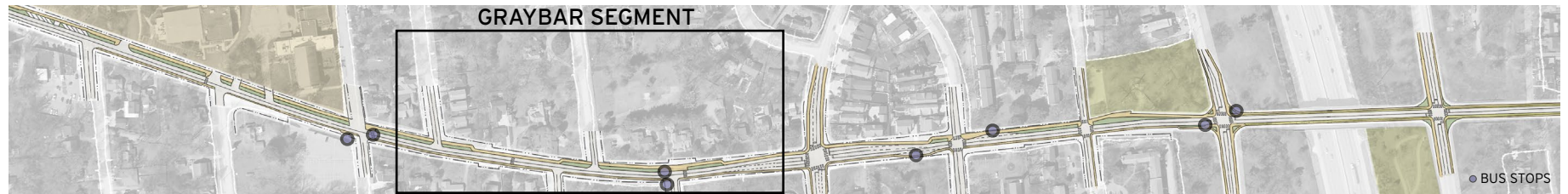
Graybar Segment - Before



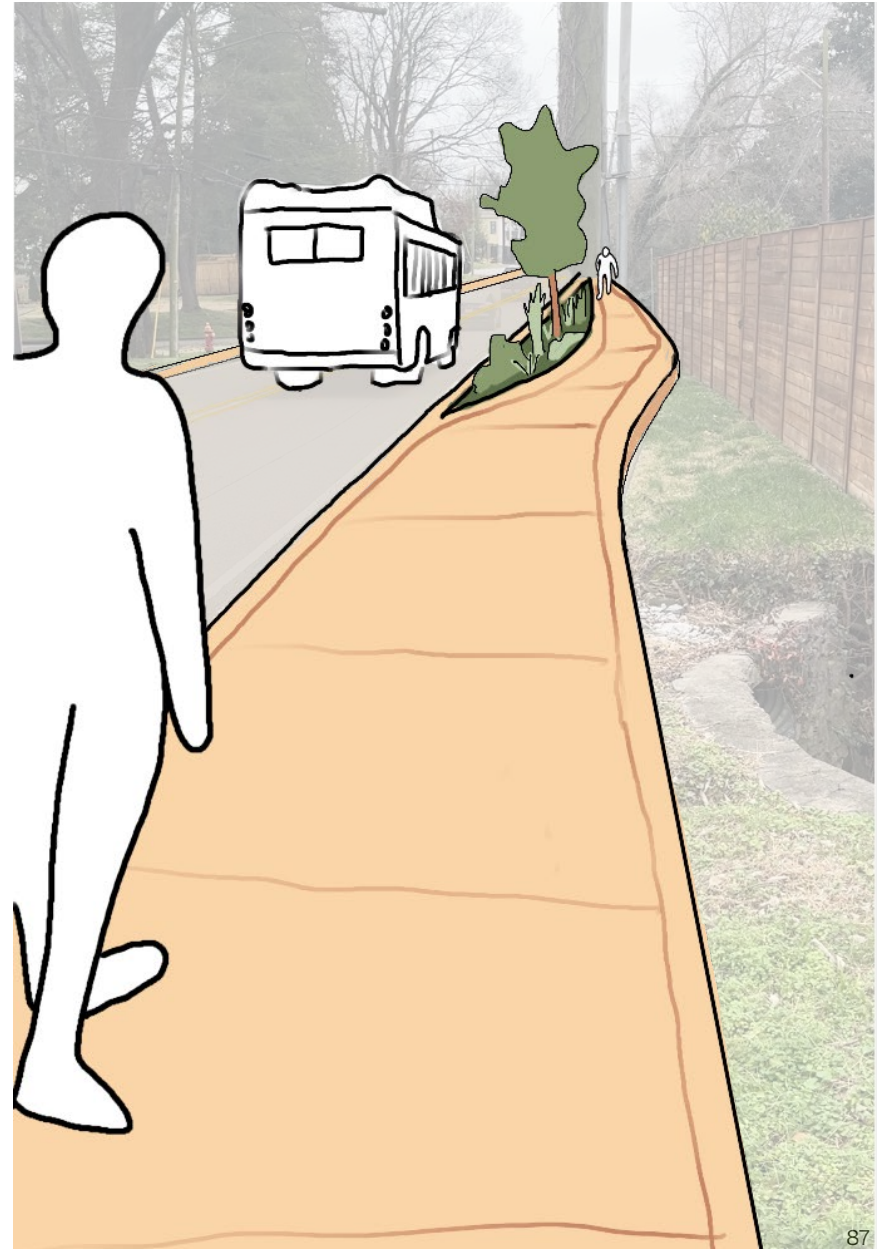
Graybar Segment - After



Graybar Segment Bus Stop



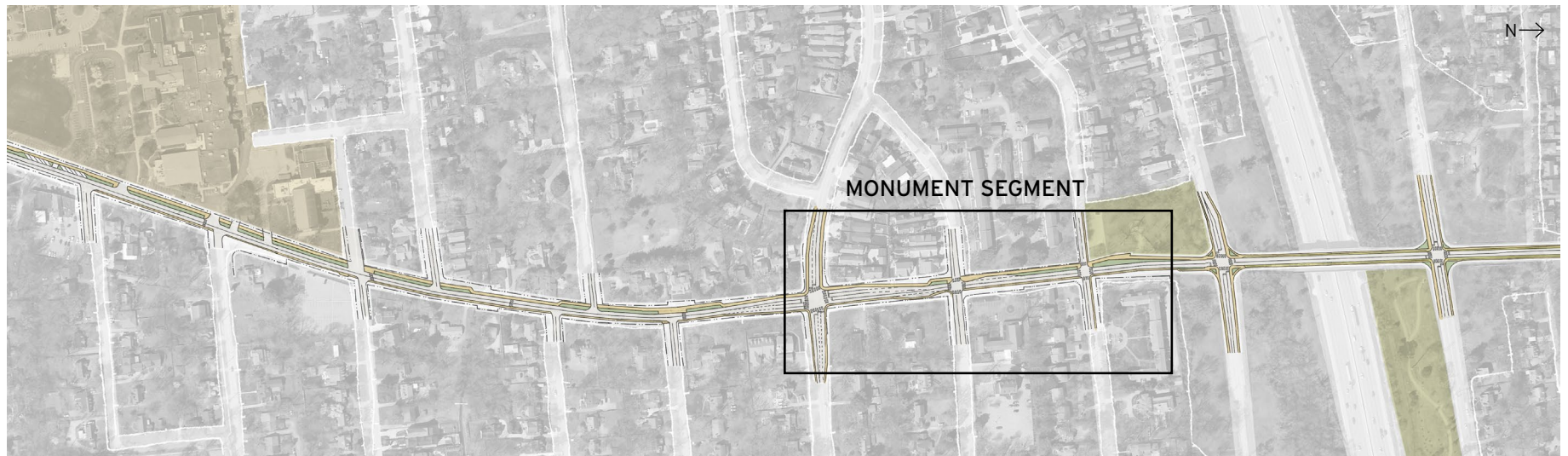
Graybar Segment Before & After



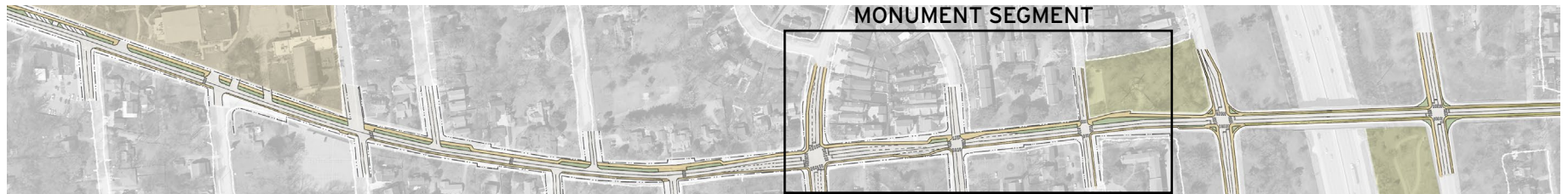
Monument Segment

In this third segment of the Granny White Site, there is the Battle of Nashville Monument, hence the name of Monument Segment. As one travels farther north, this area gets a little more urban, so compared to the Graybar Segment there are smaller lot sizes and some multi-unit housing. In this segment there is one privately-owned sidewalk that exists outside of the right-of-way, so there's nothing we can change about it. There is also a heavily trafficked intersection that is extremely dangerous to cross as a pedestrian. To solve this intersection design I narrowed the curb radii, forcing cars to travel slower through the intersection, as well as adding sidewalks and crossings on all sides. For the bus stops I have changed the design a bit for this segment because this stop is considered a "timed stop," according to Nashville Metro Transit Authority.

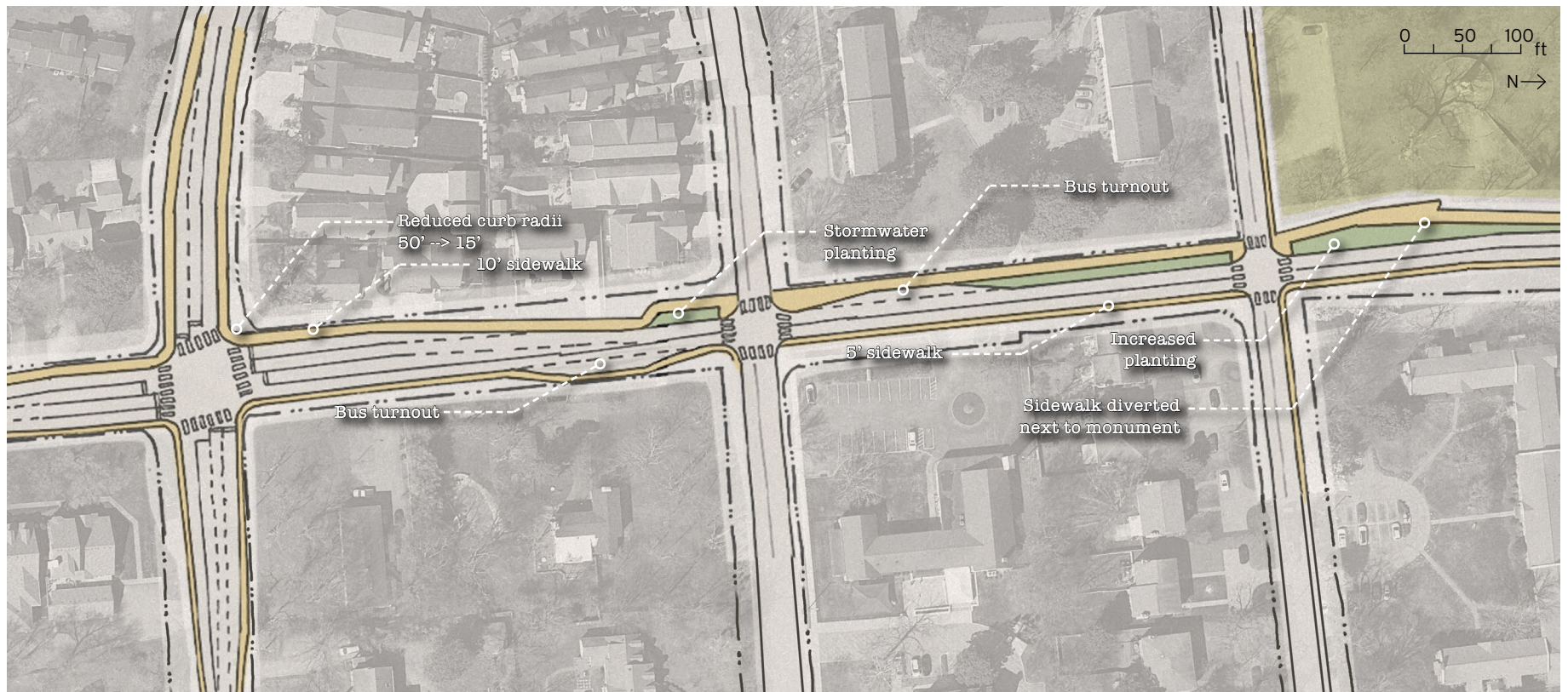
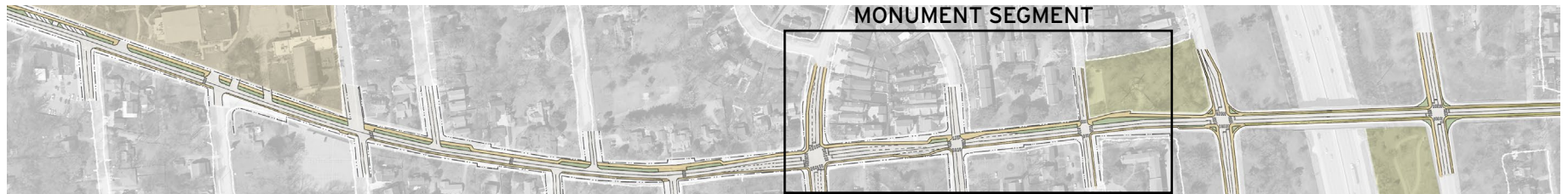
This means that the bus is required to stop here for a certain amount of time, regardless of passengers. This could cause back-up as it is only a two-lane road, so I have opted to add in two turn-out lanes. So, for the allotted stop time the buses would pull into this lane to allow cars behind to pass. Then, farther north, as you travel by the Battle of Nashville Monument, the sidewalk is diverted next to the entrance to the monument, so one has lots of opportunities to go visit.



Monument Segment - Before



Monument Segment - After

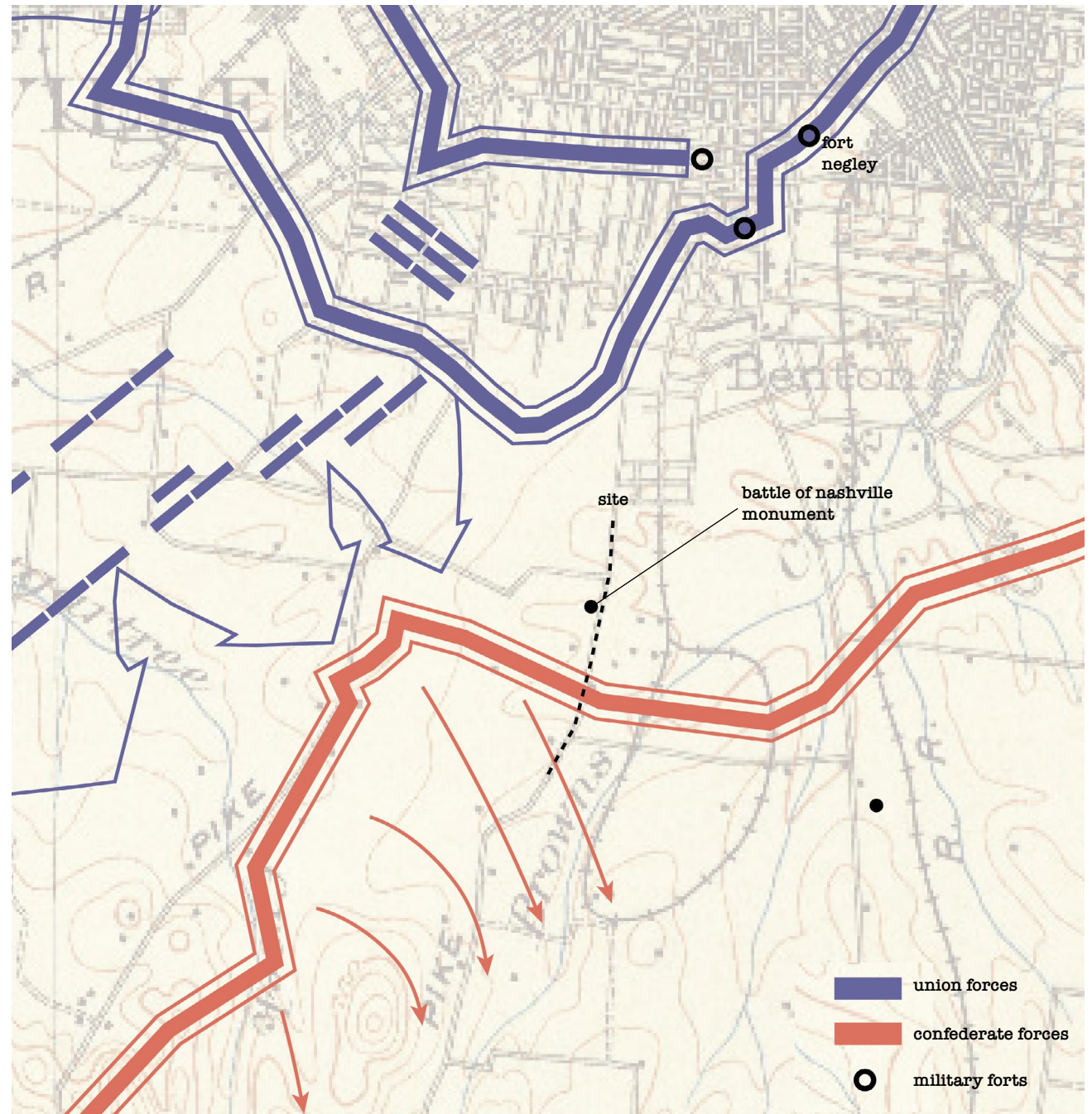


Battle of Nashville

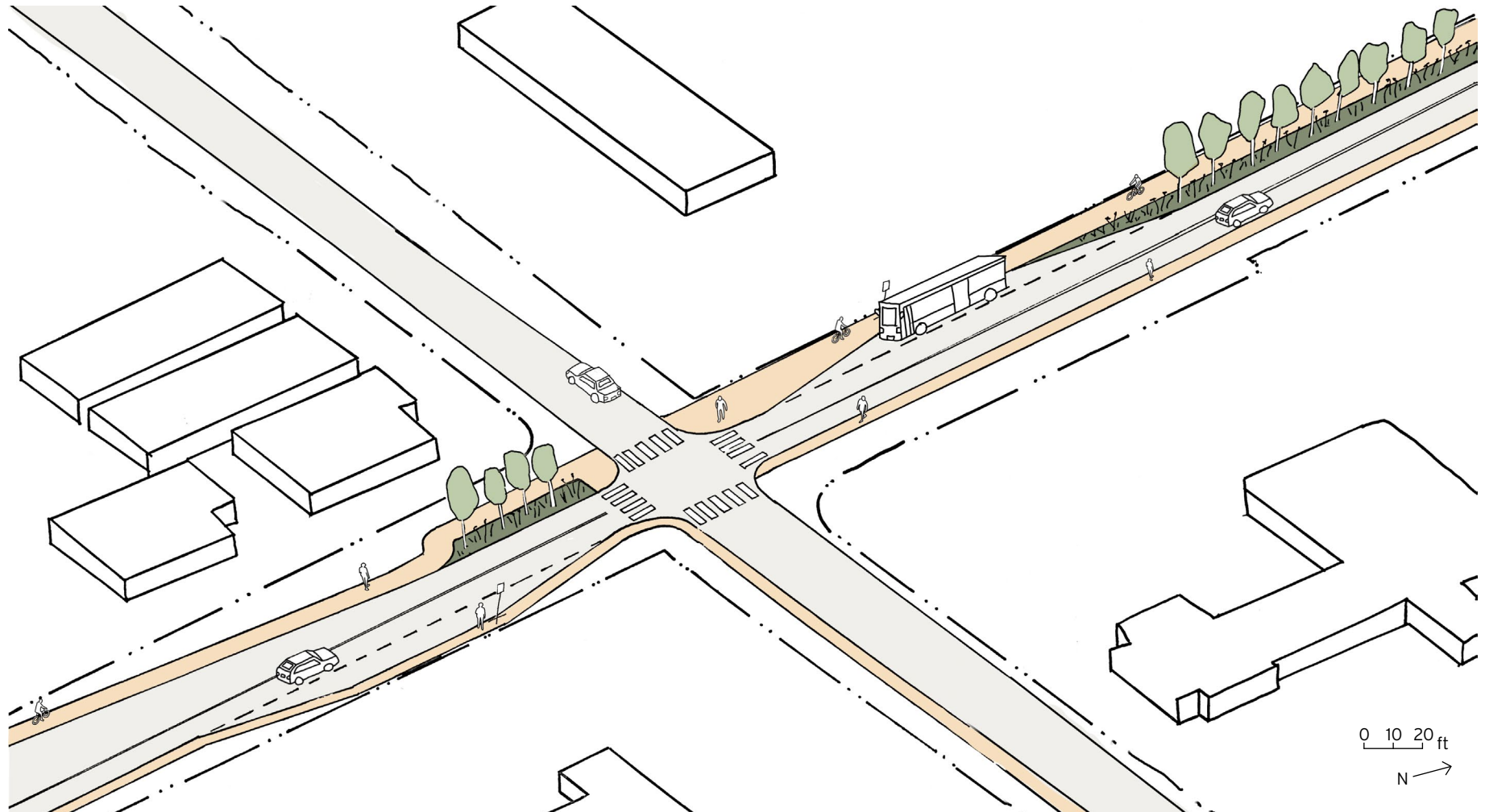
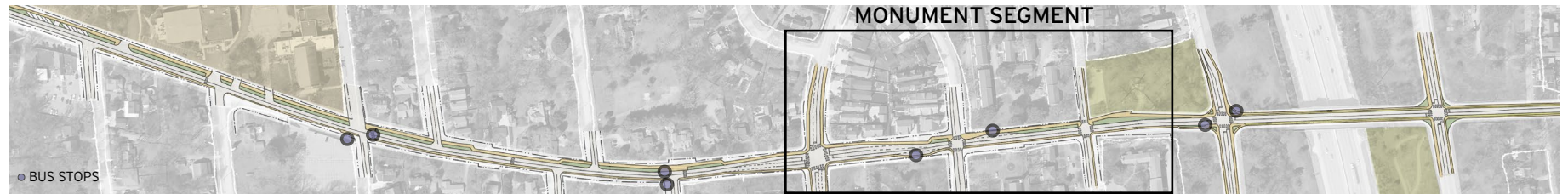
The monument is dedicated to the Battle of Nashville, which was a Civil War battle fought on December 15-16, 1864. This is a map of the confederate and union forces during the battle, and as you can see Granny White Pike is in the middle of the two forces. This is one of the reasons why they chose this spot for the monument. I think this history is incredibly cool, and it's important to try to encourage people to visit the monument, as it is very disconnected right now. This is why I have chosen to divert the multi-use path next to the entrance to the monument.



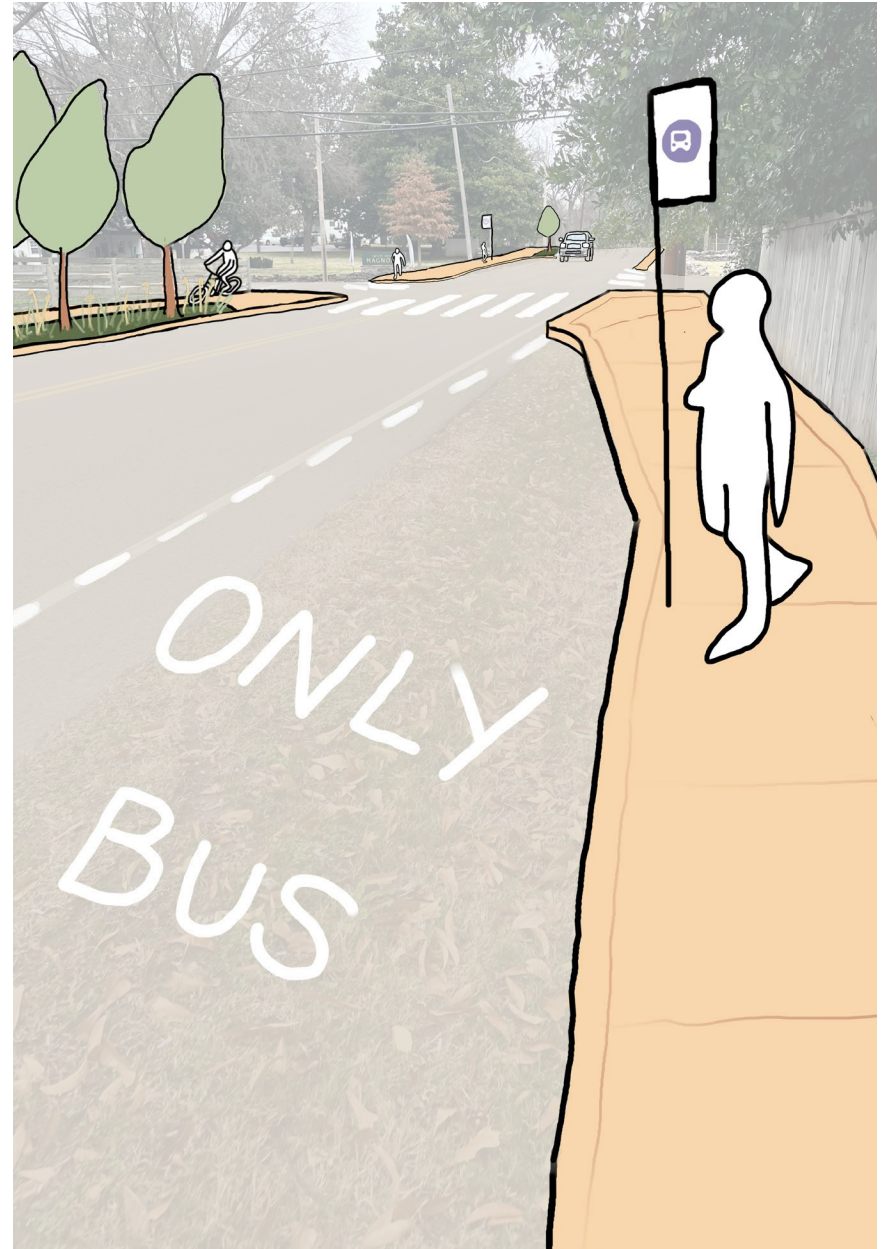
Battle of Nashville Monument



Monument Segment Bus Stop



Monument Segment Before & After



Monument Segment Before & After



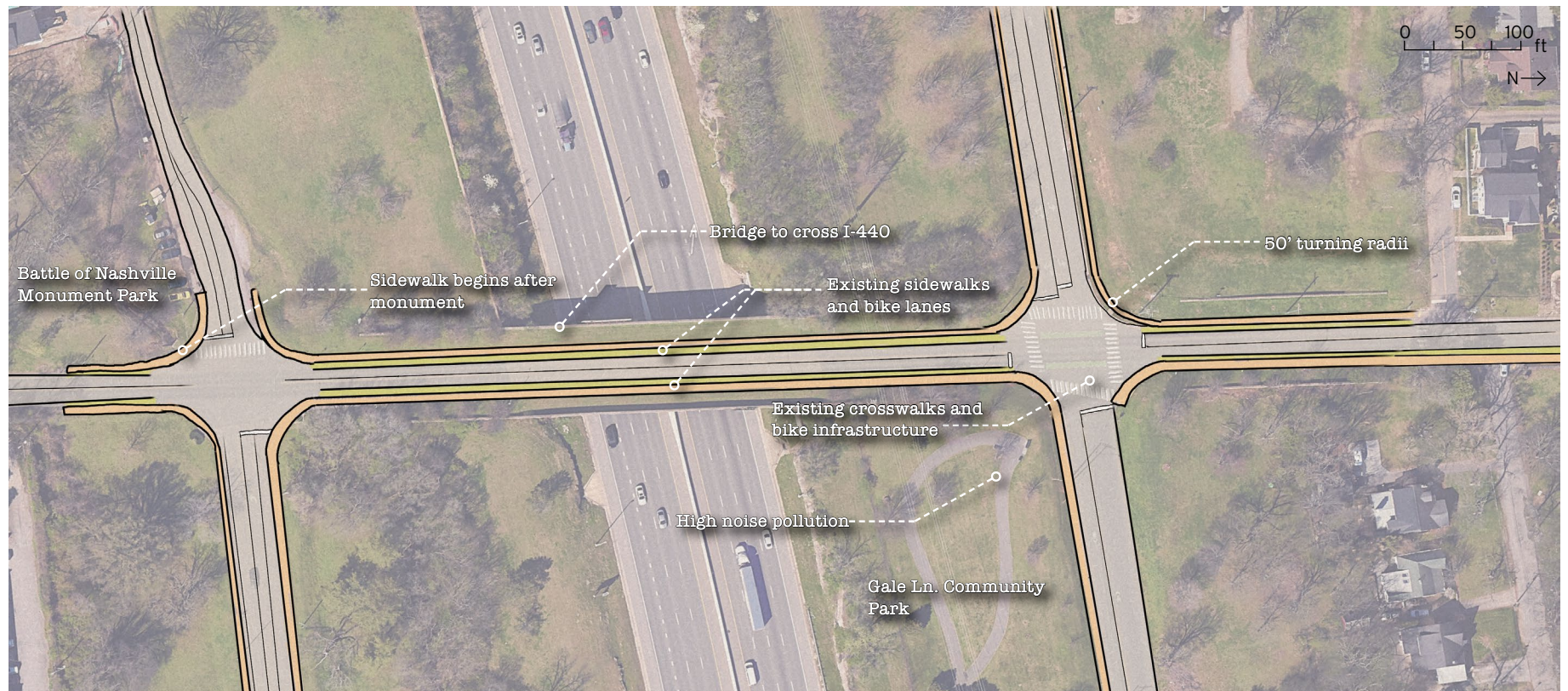
440 Segment

Moving onto the final segment of this design, the 440 Segment, named after the major highway that this segment crosses via bridge. This area might look a little better designed compared to the last segments, and it is, as we are approaching the more urban areas of Nashville. However, it still has its issues. The intersections are huge, with 50 foot turning radii. This means cars will go through the intersections faster, and it takes pedestrians longer to cross the street. Additionally, there are sidewalks and bike lanes that start and end abruptly at certain points. For the redesign, I narrowed the curb radii in the intersections from 50 feet to 15 feet. This allows for safer pedestrian and bike experience and also opens up space for more planting and sidewalk. The bridge area is essentially the same as before, as it works, and it would be incredibly hard to

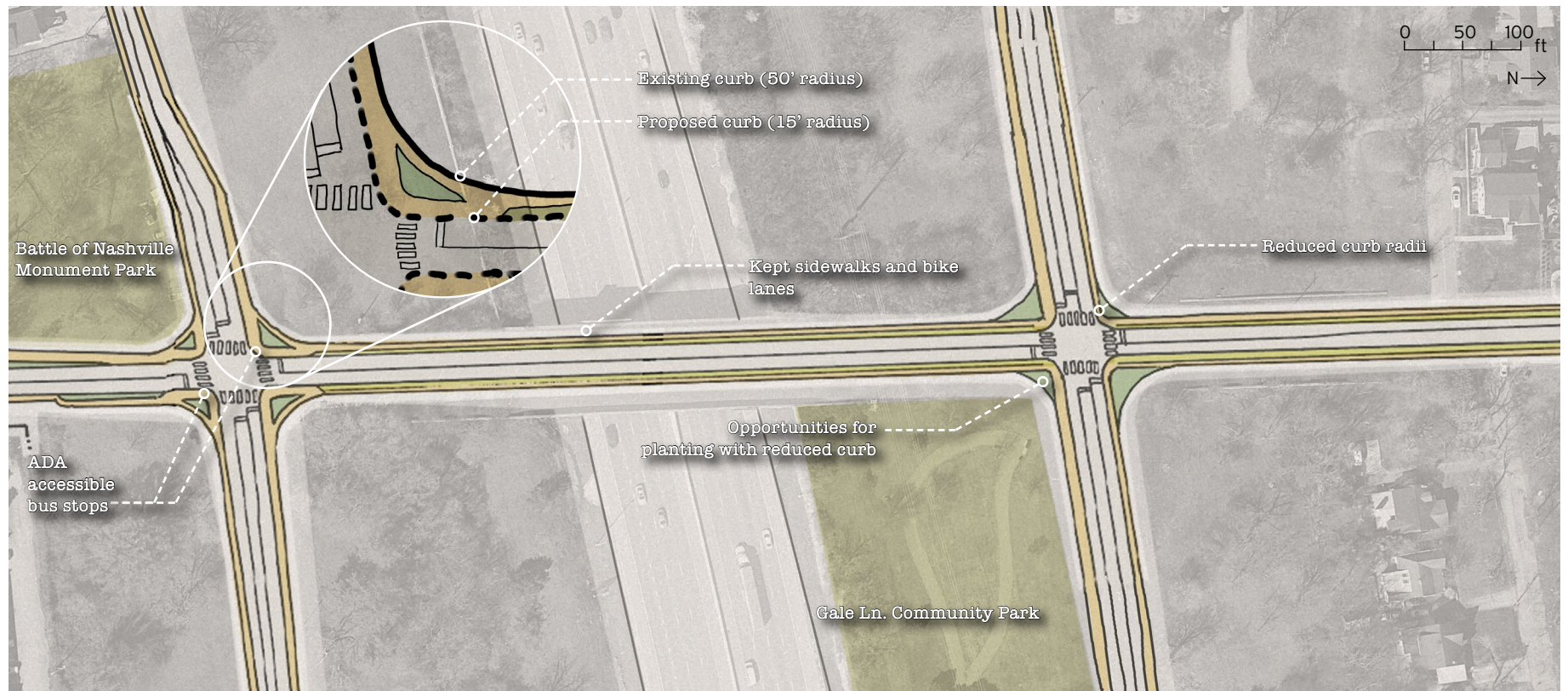
get any redesign of that area approved. The bus stops are located at the corners of the southern intersection.



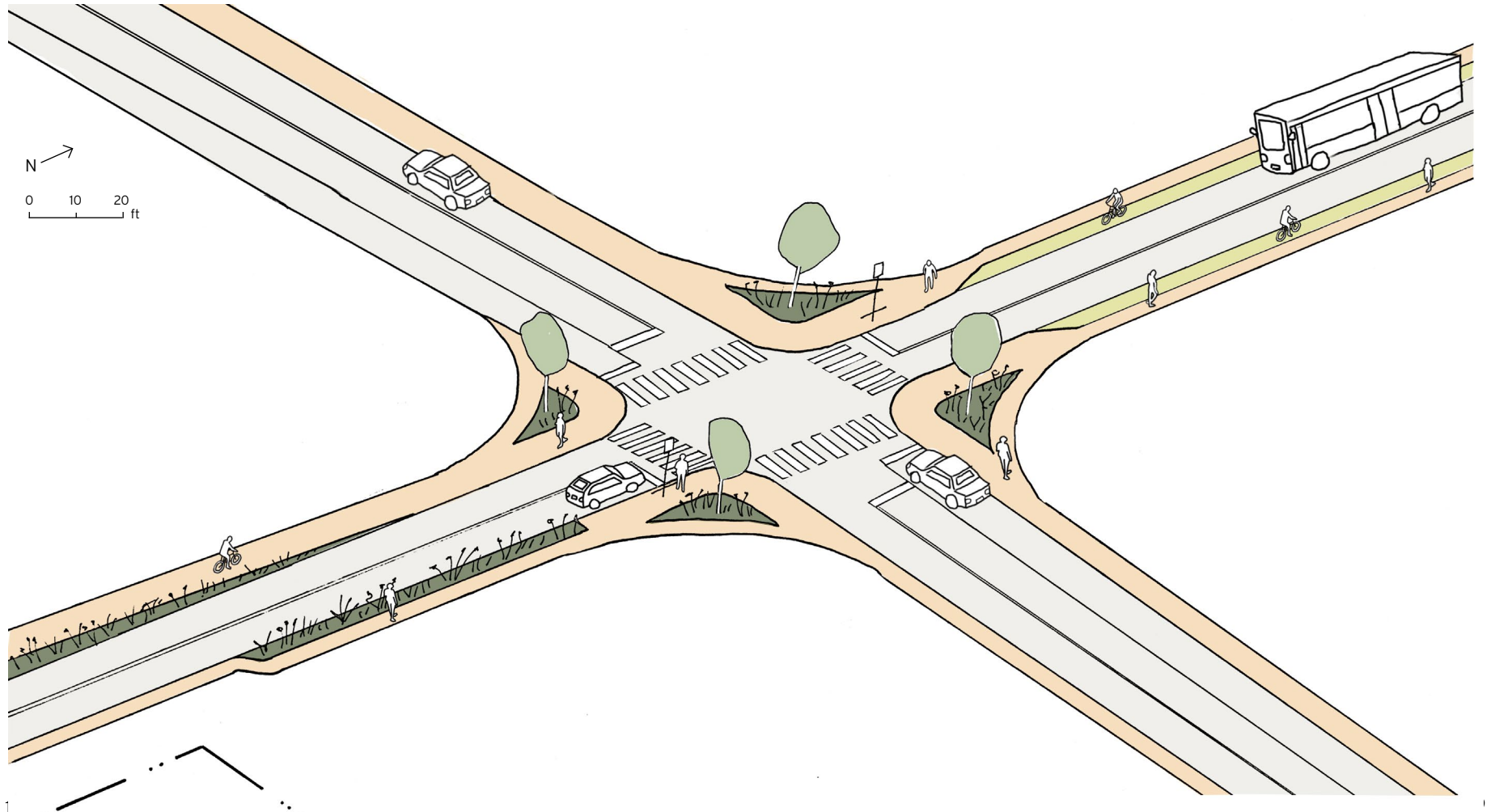
440 Segment - Before



440 Segment - After



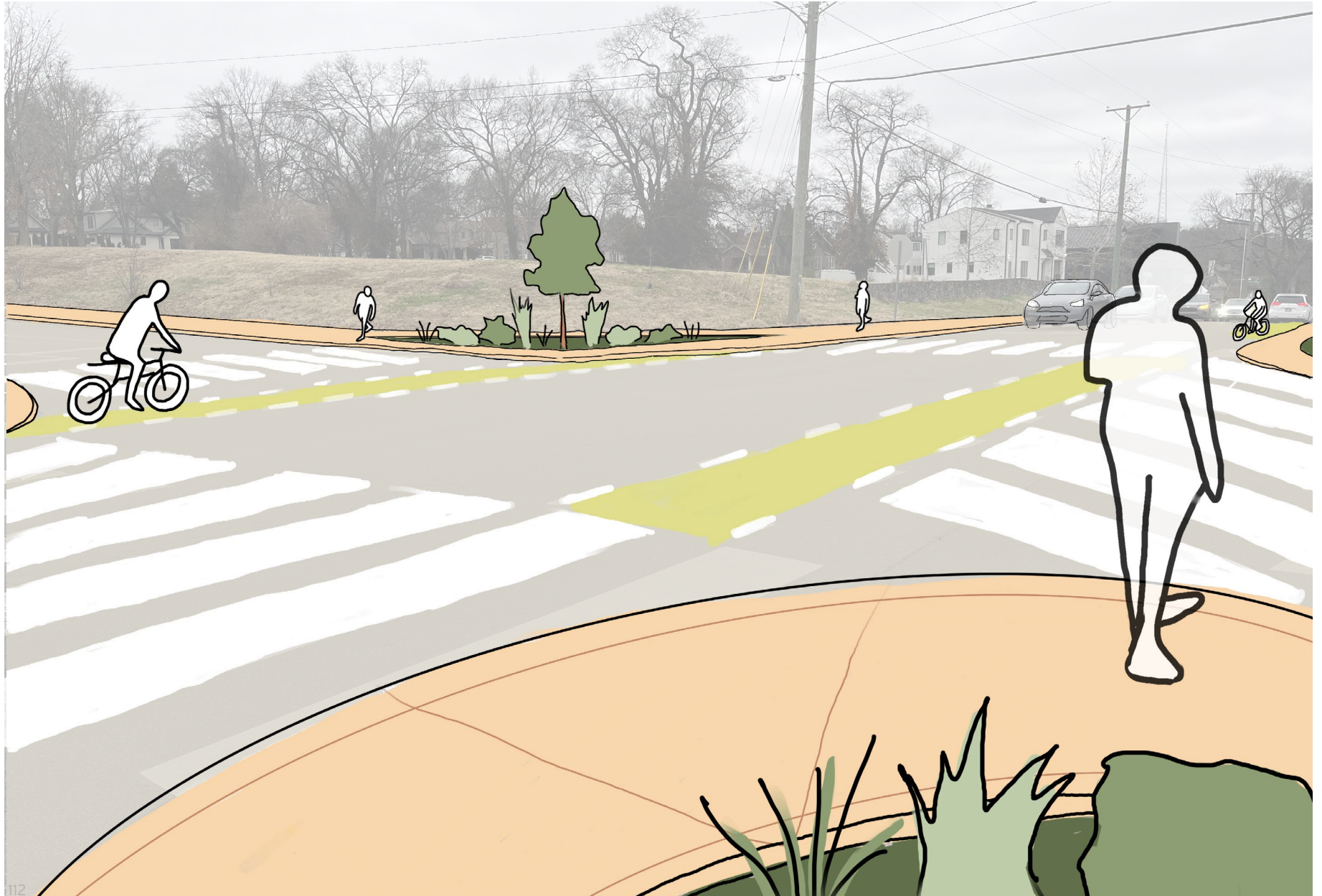
440 Segment Bus Stop



440 Segment Before

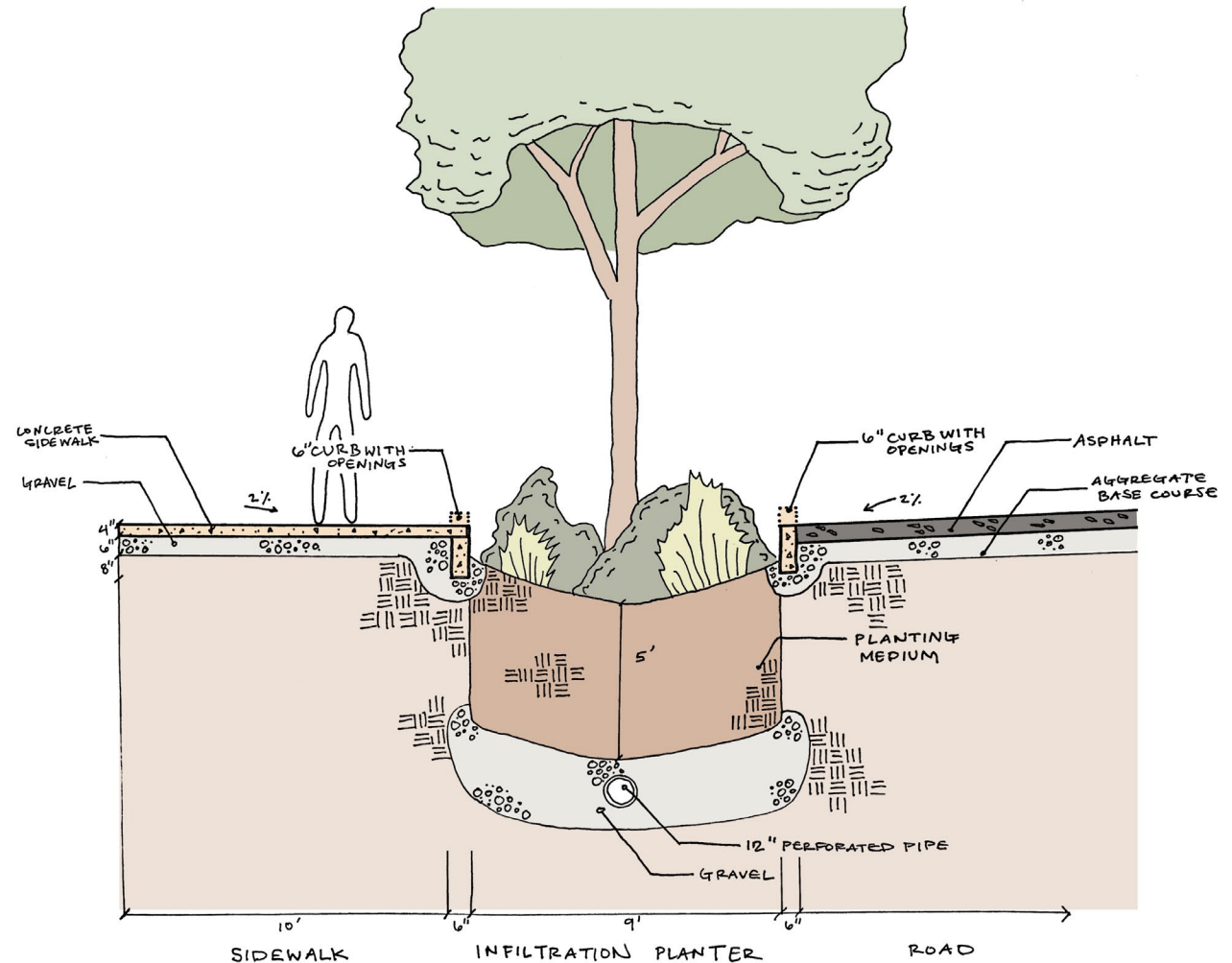


440 Segment After



Typical Stormwater Planter

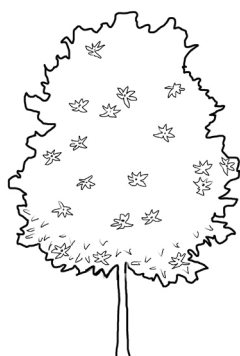
As I have mentioned throughout this booklet, my design includes a lot of stormwater planting throughout the site. It is pertinent to manage stormwater correctly, especially when the existing solutions are failing. This design allows water in from both the 10-foot multi-use pathways and the road through curb cuts and gets filtered down through the plants and soil and eventually drains into a stormwater pipe. The plants, listed on the next page, are all native to Tennessee, resilient, and water tolerant. I chose a range of heights and colors to have a more natural look and create a dense barrier between cars and pedestrians. This will help all of my goals of connection, sustainability, and safety.



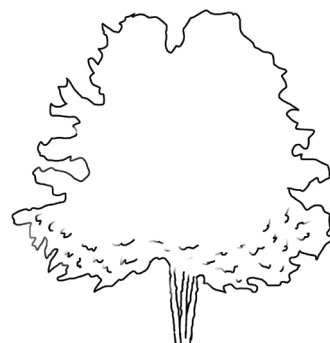
Stormwater Plants



Bald Cypress
Taxodium distichum



Sweetbay Magnolia
Magnolia virginiana



River Birch
Betula nigra



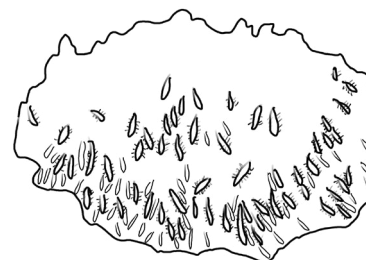
Swamp White Oak
Quercus bicolor



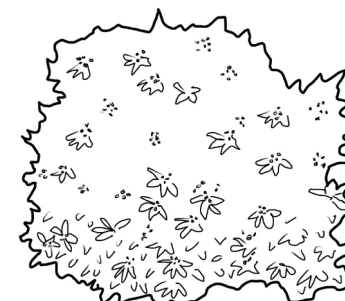
Red Chokeberry
Aronia arbutifolia



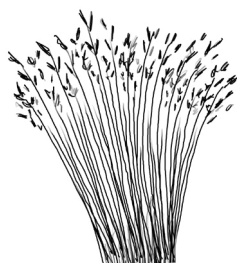
Beautyberry
Callicarpa americana



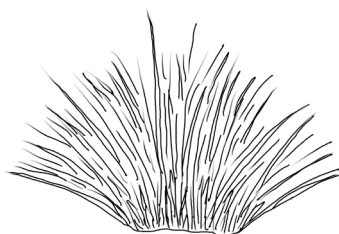
Virginia Sweetspire
Itea virginica



Winterberry
Ilex verticillata



Big Bluestem
Andropogon gerardii

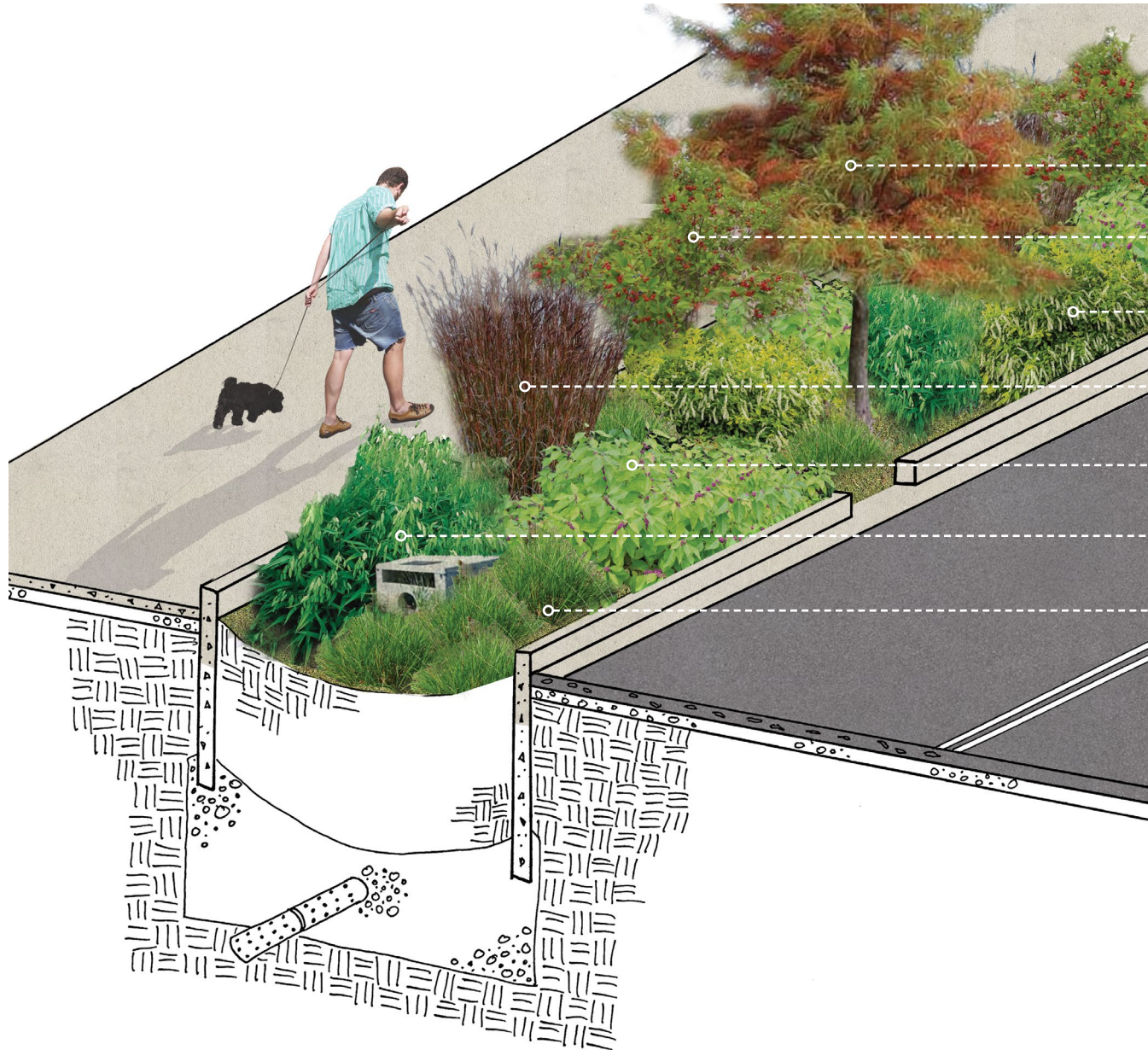


Eastern Woodland Sedge
Carex blanda



River Oats
Chasmanthium latifolium

Stormwater Plants



Bald Cypress - *Taxodium distichum*

Red Chokeberry - *Aronia arbutifolia*

Virginia Sweetspire - *Itea virginica*

Big Bluestem - *Andropogon gerardii*

Beautyberry - *Callicarpa americana*

River Oats - *Chasmanthium latifolium*

Eastern Woodland Sedge - *Carex blanda*

Conclusion

In conclusion, if this design were to be implemented, this area would greatly improve. People would know their neighbors, have more opportunities to physically move, and be able to easily and safely access the amenities close to them. Additionally, this couldn't come at a better time as Nashville grows into one of the largest cities in the nation. Designs like this one are pertinent to the longevity of cities like Nashville. While I acknowledge that one simple street redesign does not make much of a difference in the grand scheme of the city, these strategies can be applied to streets like this one all over the city, and even in different cities. As we continue to develop as a society, our needs change. While we once were happy with car-centric suburbs, that will no longer cut it anymore. Walkability is now both desired and essential for the health of a neighborhood.

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