

THROWING SHADE: HEATWAVES, EMERGENCY PREPAREDNESS, AND PRODUCED RISK

**A Thesis Submitted to the Department of Landscape Architecture,
Harvard University Graduate School of Design**

by

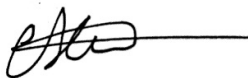
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In Partial Fulfillment of the Requirements for the Degree of

MASTER IN LANDSCAPE ARCHITECTURE

MAY 2021

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Thesis Advisor

Throwing Shade

Heatwaves, Emergency Preparedness, and Produced Risk



MLA DESIGN THESIS

Ciara Stein
Master in Landscape Architecture I & Master in Urban Planning 2021
Harvard Graduate School of Design

Throwing Shade

Heatwaves, Emergency Preparedness, and Produced Risk

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Throwing Shade introduces a series of public cooling landscapes designed to offer relief both daily and in emergencies. Through considering networks of infrastructure and public acupuncture, the design proposes heat escapes situated within, and with the capacity to be leveraged by, the social infrastructure of New Orleans' Seventh Ward neighborhood. Inspired by the routes of Second Line parades, held by Social, Aid, and Pleasure Club mutual aid organizations, the project focuses on movements and moments within the neighborhood—specifically, the library, park, highway underpass, and street medians. Each site has both distinct and connected histories, encompassing legacies of racism, resistance, and celebration, that are reflected in the design. Elements include infrastructure un-building, shade structures, tree plantings, de-paving, grading, water features, and solar energy capture. Through the throwing of shade, the project provides a framework for spatial memory and climatic justice.

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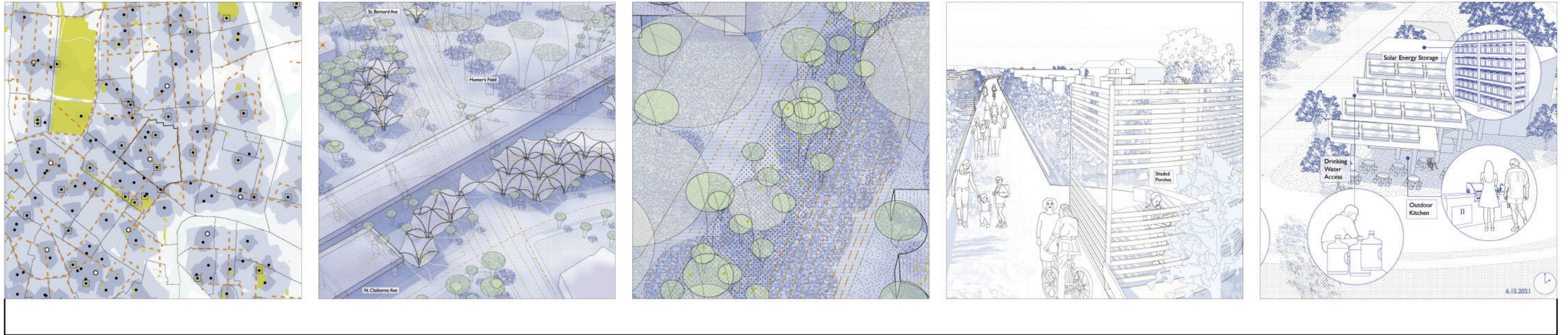
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Framing Shade



Approach: Emergency Preparedness

There is a spectrum of emergency preparedness projects within landscape architecture and urban planning—ranging from utopia building to collective private action. *Throwing Shade* is situated within networks of infrastructure and public acupuncture.



as utopias

as capital protection

as singular site

as networks of infrastructure *as public acupuncture*

as collective (private) action



Masdar City



Hyperion



KAFD Environs Study



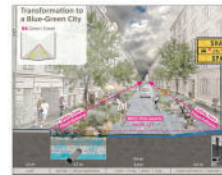
The BIG U



Crescent Park



Buffalo Bayou



Copenhagen Cloudburst



Greater New Orleans Urban Water Plan



Prep Hub



Care for Hudson Square



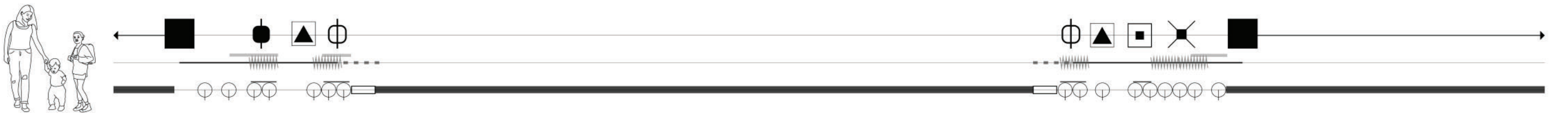
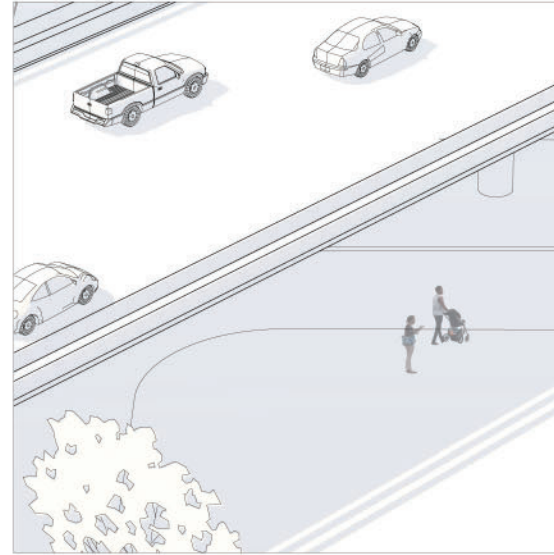
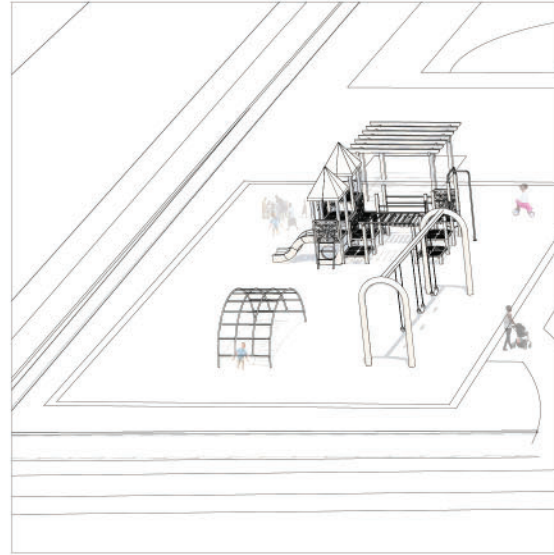
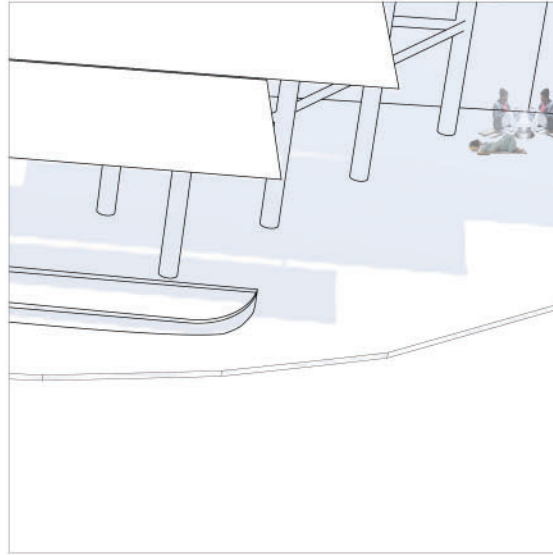
Melbourne Growing Green Guide



LA Turf Conversion Program

Approach: Scripting Heat & Shade

Through a notational score, the project explores lines of heat and shade experienced routinely. The score follows daily movements, moments, and shade.

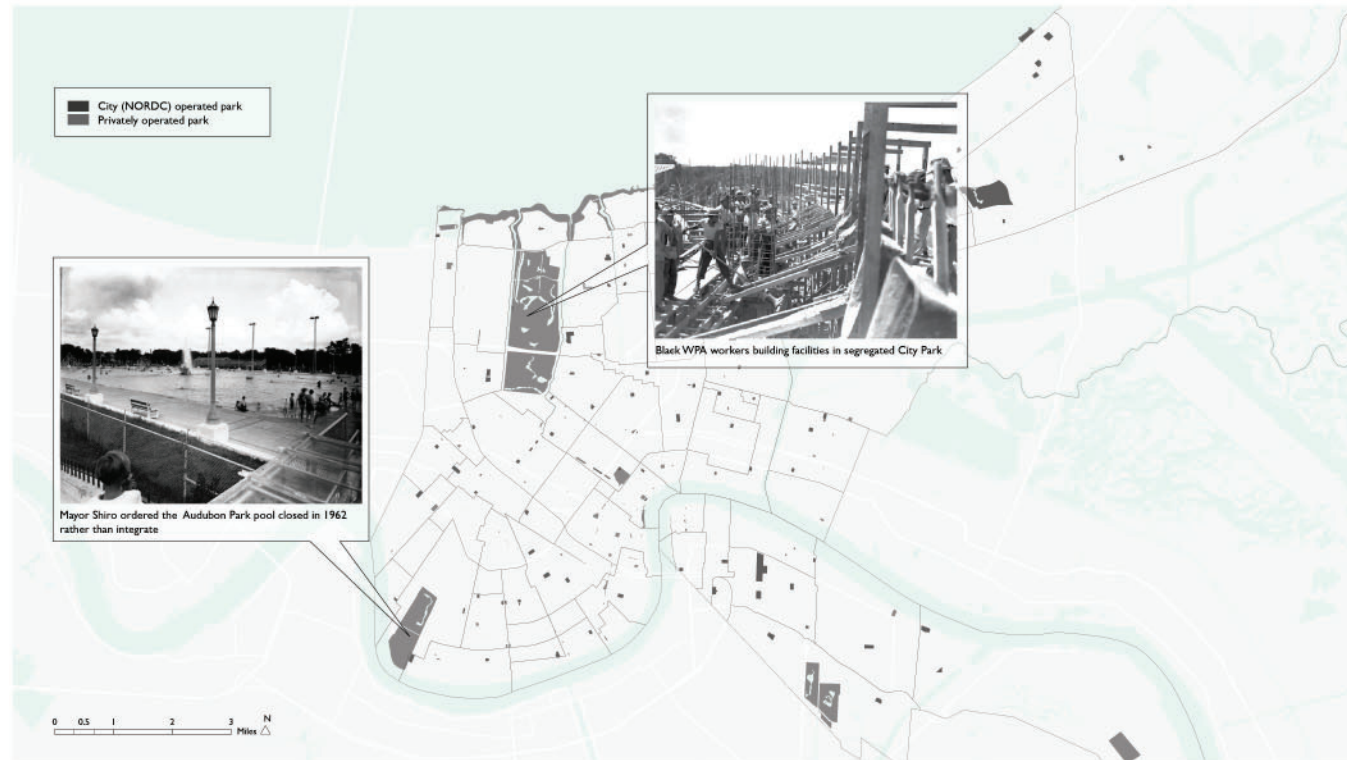


Tracing Shade



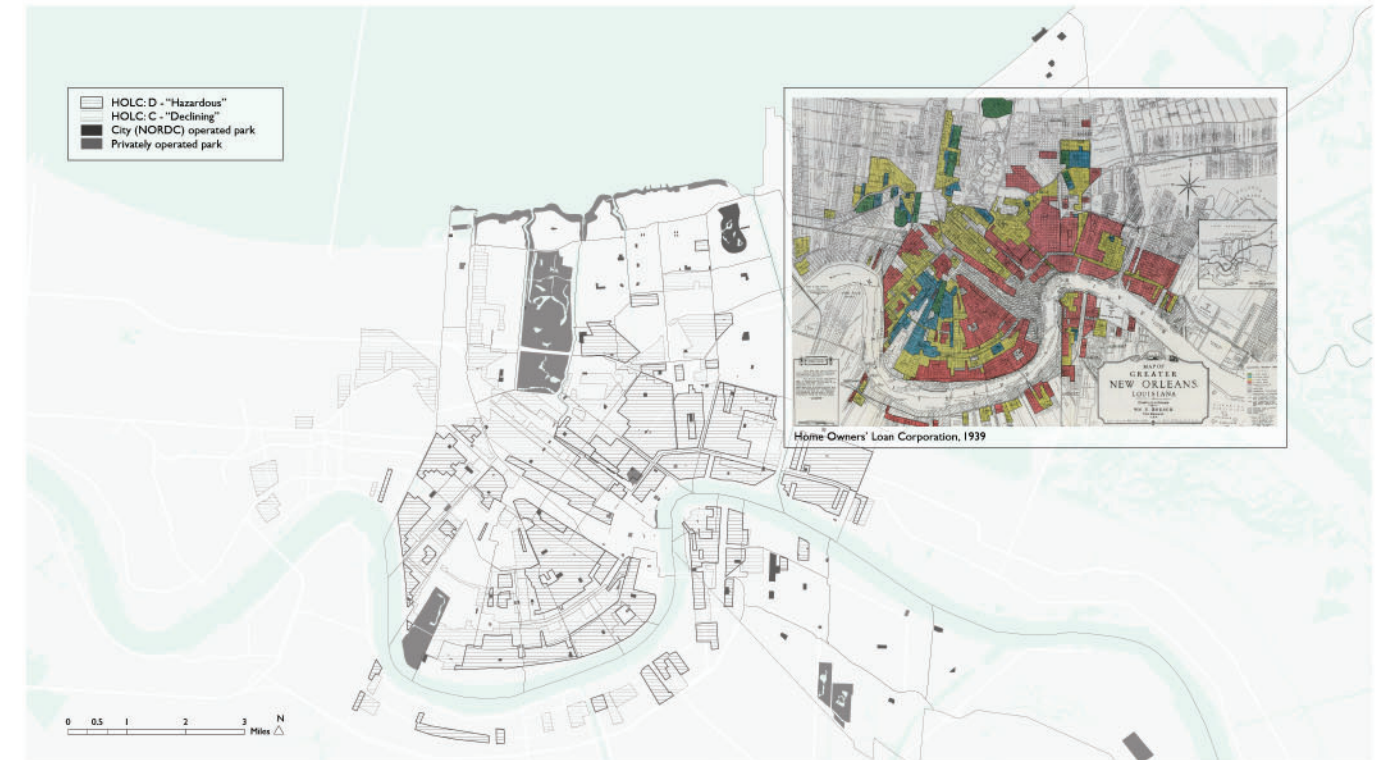
Color-Lines: Jim Crow

The lines between heat and shade, which frame life both daily and in heatwaves, are largely produced, built by legacies of infrastructure and policy. The distinction serves as a color line. Following the progressive period of Reconstruction, white supremacists imposed formal and informal systems of segregation and subjugation of black Americans. The infamous 1896 Supreme Court decision, *Plessy v. Ferguson*, upheld a racist Louisiana law on the principle of “separate but equal.” The racist and restrictive policies of Jim Crow reverberate today in both the prevailing inequitable spatialization of open space and services, and in memories. Segregation was upheld for more than 65 years, and became baked into public landscapes and their designs.



Color-Lines: Redlining

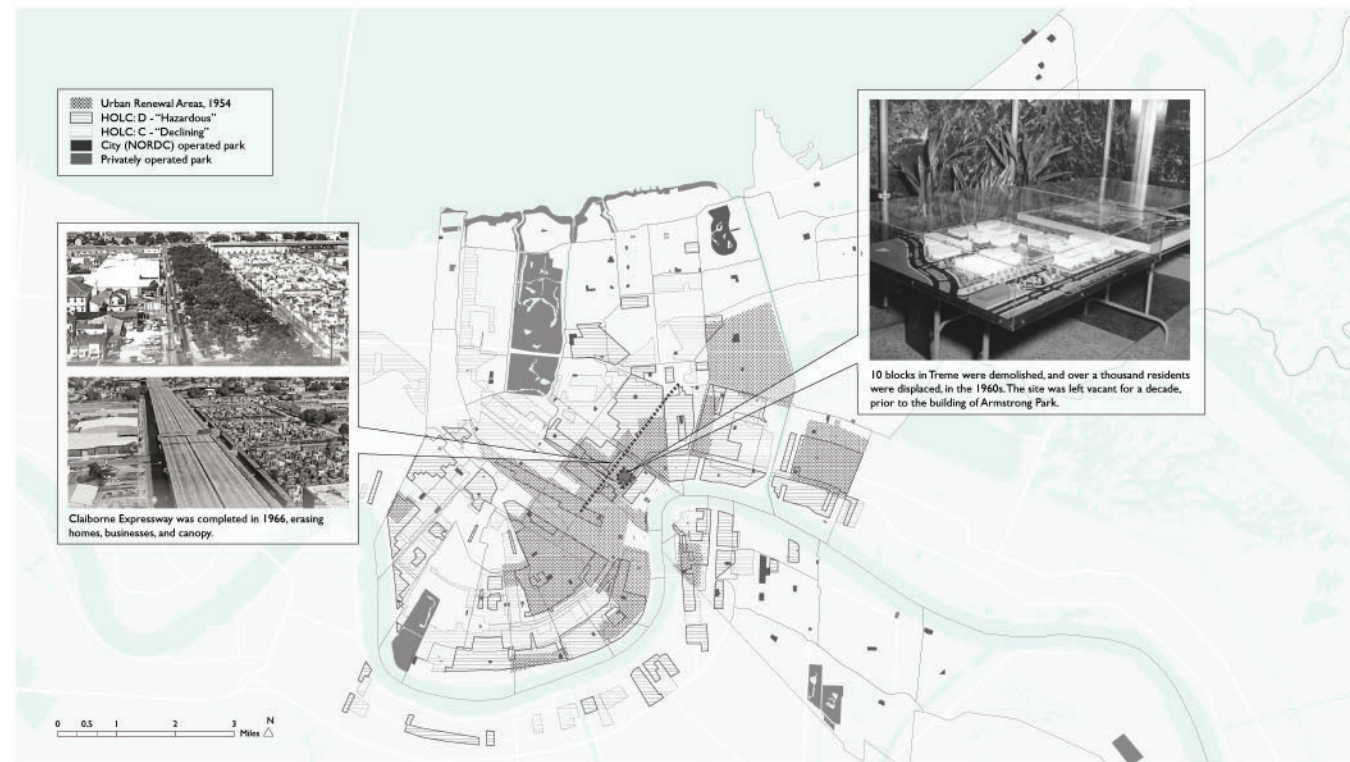
In 1939, in a practice known as redlining, government officials drew discriminatory maps, meant to deny government investment such as housing loans, in neighborhoods of color. These maps continue to poison financial sector and government investments in these neighborhoods. A recent study found that formerly redlined neighborhoods are today five degrees hotter in summer, on average, than areas once favored for housing loans, with some cities seeing differences as large as 12 degrees.¹



¹ Hoffman, Jeremy S.; Shandas, Vivek; Pendleton, Nicholas. 2020. "The Effects of Historical Housing Policies on Resident Exposure to Intra-Urban Heat: A Study of 108 US Urban Areas" *Climate* 8, no. 1: 12. <https://doi.org/10.3390/cli8010012>.

Color-Lines: Urban Renewal

In the 1950s and 60s, to provide the infrastructure for white flight, urban renewal projects tore through built and social fabrics. One such project was Interstate-10, a highway that runs through the heart of New Orleans. I-10 has resulted in poor air quality and an associated disease burden, with residents experiencing high rates of conditions like asthma and lung cancer. These conditions exacerbate the effects of extreme heat experienced by New Orleanians living near I-10.

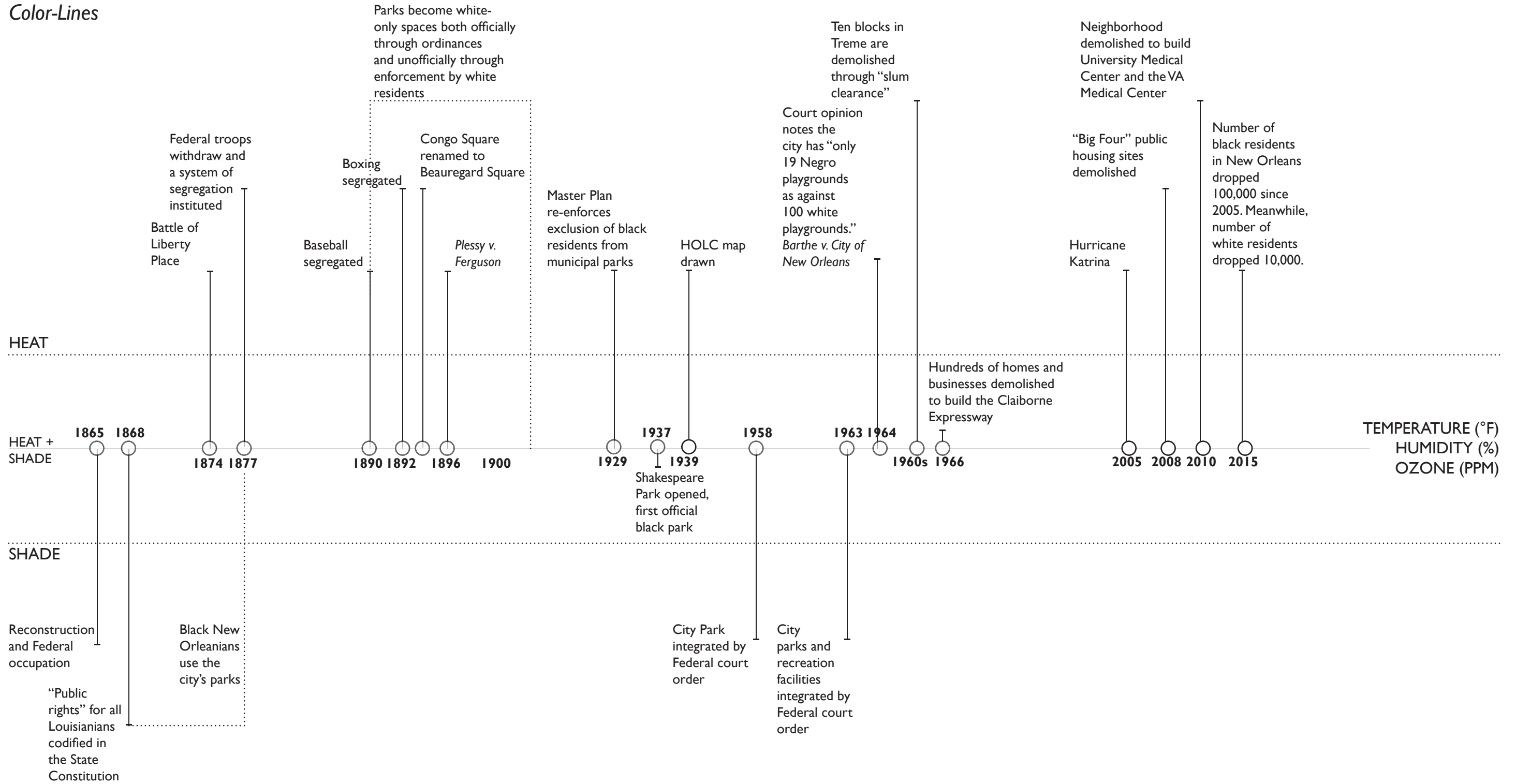


Color-Lines: Hurricane Katrina Response

Across the decades, responses to past emergencies, such as Hurricane Katrina, shape and frame the experiences of future emergencies.

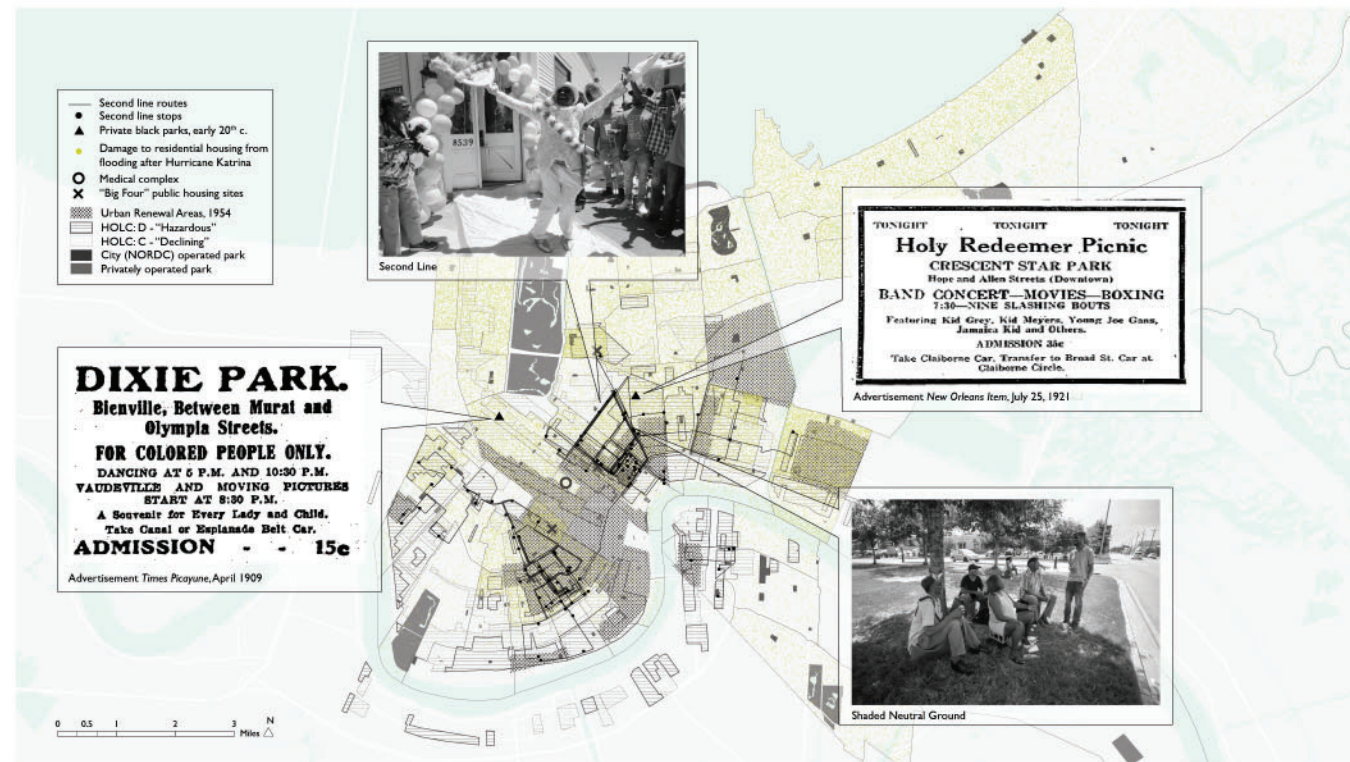


Color-Lines

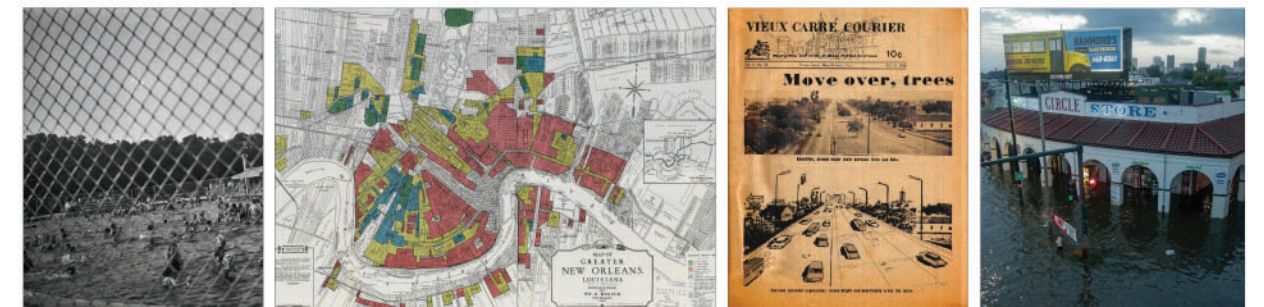


Color-Lines: Social Infrastructure

While the damage inflicted upon space has produced heat, community desire and resistance, fixed in social infrastructure, have produced shade networks. Desire includes privately owned black parks in the early twentieth century, mutual aid organizations known as Social, Aid and Pleasure Clubs, the inhabitation of the neutral ground (the New Orleanian name for the street median), and parading. The framing of damage and desire questions how we can both acknowledge the past and celebrate the power of people and place when imagining a more just future.

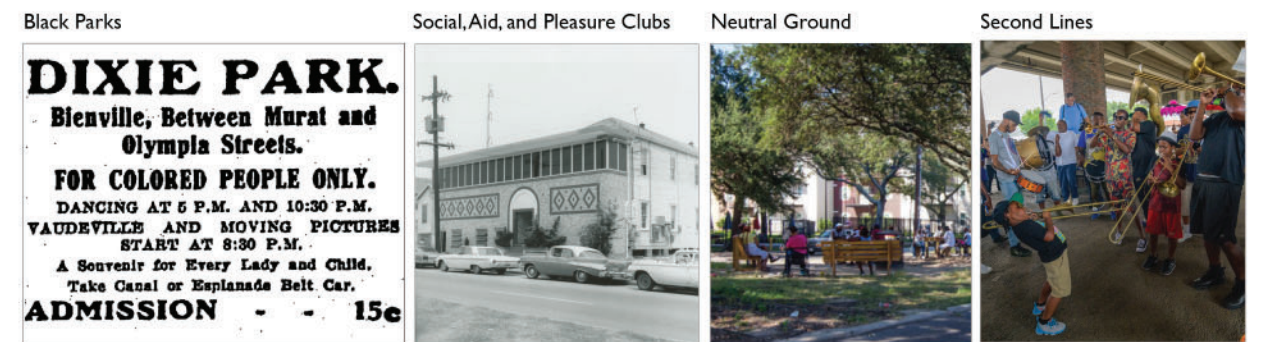


Color-Lines: Heat & Shade



HEAT

SHADE

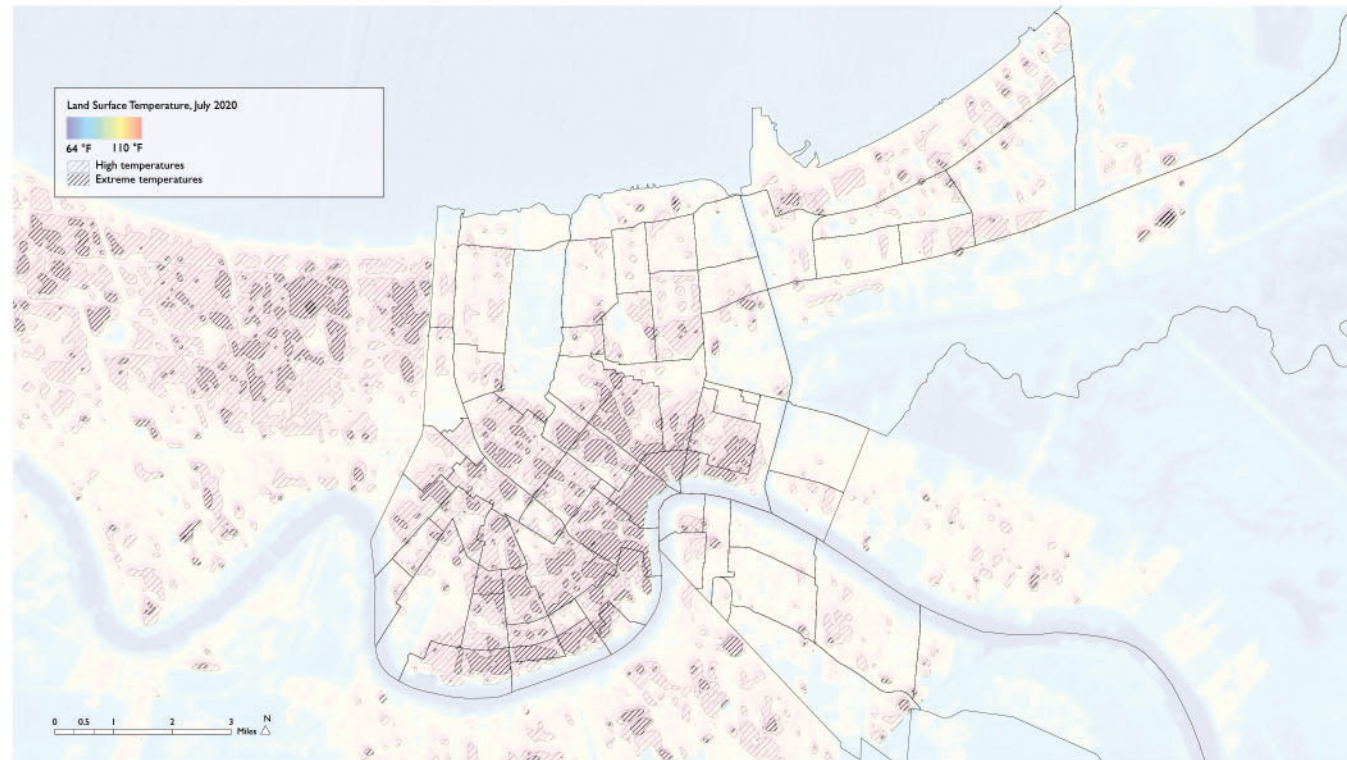


Feeling Shade



Heat in the City

In New Orleans, there are typically around 112 days annually, about a third of the year, when the heat index exceeds 90 degrees Fahrenheit. During summer heat, the city can experience temperatures up to 16 degrees higher than nearby rural areas. This problem is only set to worsen. Louisiana is projected to have the nation's second largest increase in heat wave days, just behind Florida.²



Heat & Heat Intolerance

Heat is not felt uniformly but acts within an economic and health context which can be glimpsed through the layering of demographic data. To spatialize heat intolerance, this index considers 11 data points, including race, household composition, age, and housing cost burden.



² Dahl, Kristina, Erika Spanger-Siegrfried, Rachel Licker, Astrid Caldas, John Abatzoglou, Nicholas Mailloux, Rachel Cleetus, Shana Udvardy, Juan Declet-Barreto, and Pamela Worth. 2019. Killer Heat in the United States: Climate Choices and the Future of Dangerously Hot Days. Cambridge, MA: Union of Concerned Scientists. <https://www.ucsusa.org/resources/killer-heat-united-states-0>.

Heat Intolerance in the Seventh Ward

This project is sited in the Seventh Ward, a neighborhood that suffers from a confluence of heat and heat intolerance as demonstrated by the heat intolerance index. The Seventh Ward is a formerly redlined neighborhood that experienced eminent domain during urban renewal and was hit hard during Hurricane Katrina when the levees burst. Along with its adjacent neighborhoods, it experiences high

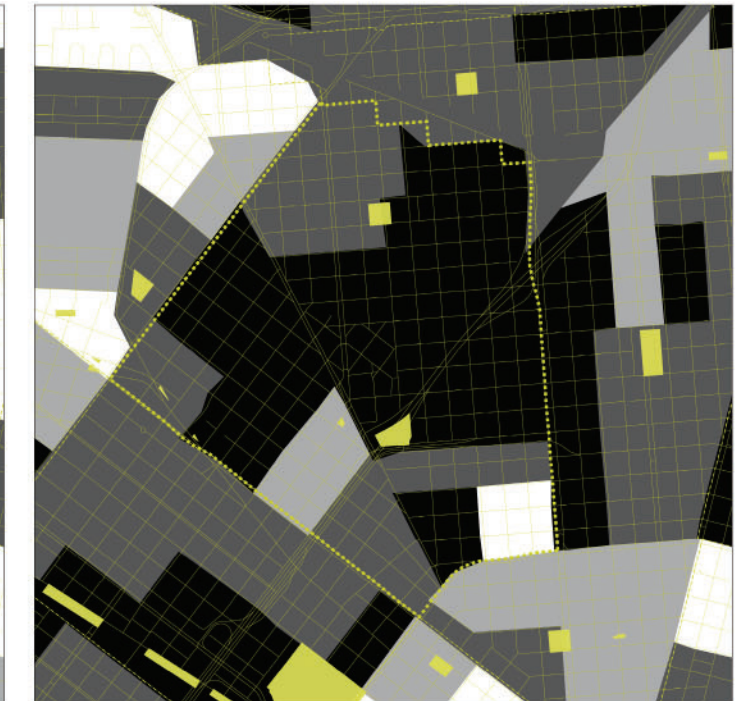
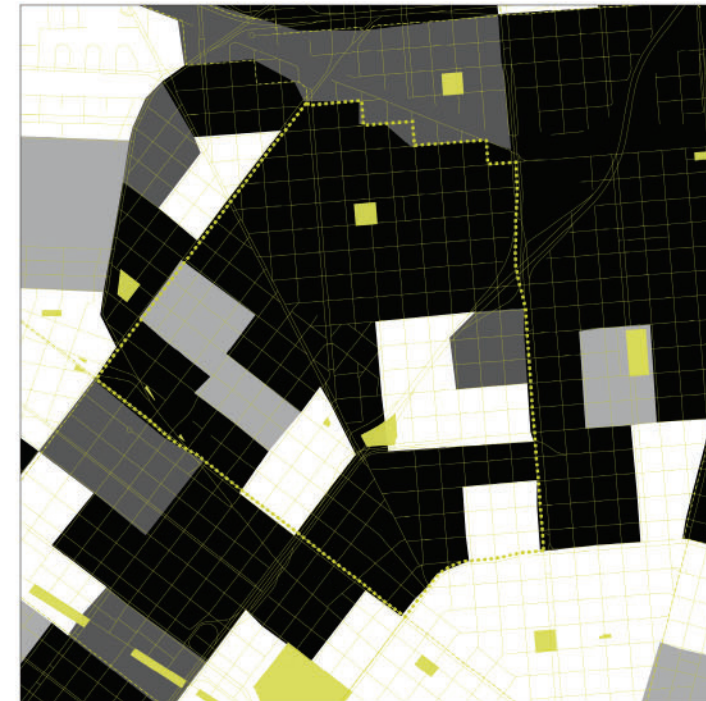
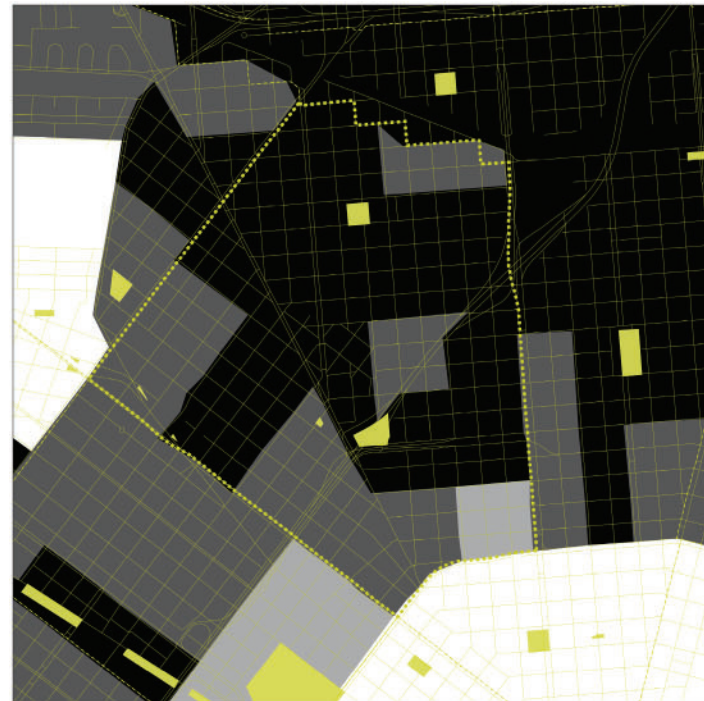
heat risk levels, that are only set to increase. The temperature of the neighborhood is felt alongside the effects of pollution from I-10, flooding, and insufficient canopy and open space. Cool spaces are both limited and disconnected.

% BIPOC

% Children in Single Parent Households

% Senior

% Cost Burden



- Moderate (34 - 55)
- Moderate - High (55 - 80)
- High (80 - 100)
- Parks

- Moderate (34.5 - 56.5)
- Moderate - High (56.5 - 81.5)
- High (81.5 - 100)
- Parks

- Moderate (15.5 - 23)
- Moderate - High (23 - 33)
- High (33 - 60)
- Parks

- Moderate (23.5 - 35)
- Moderate - High (35 - 50)
- High (50 - 100)
- Parks

Data includes residents who are self-identified as Black or African American, American Indian or Alaska Native, Asian, Native Hawaiian, and/or Non-White Hispanic.

Seniors are defined as 65 years and older.

Cost burden is defined as households spending 30% or higher of their income on housing.

Heat & Heat Intolerance in the Seventh Ward

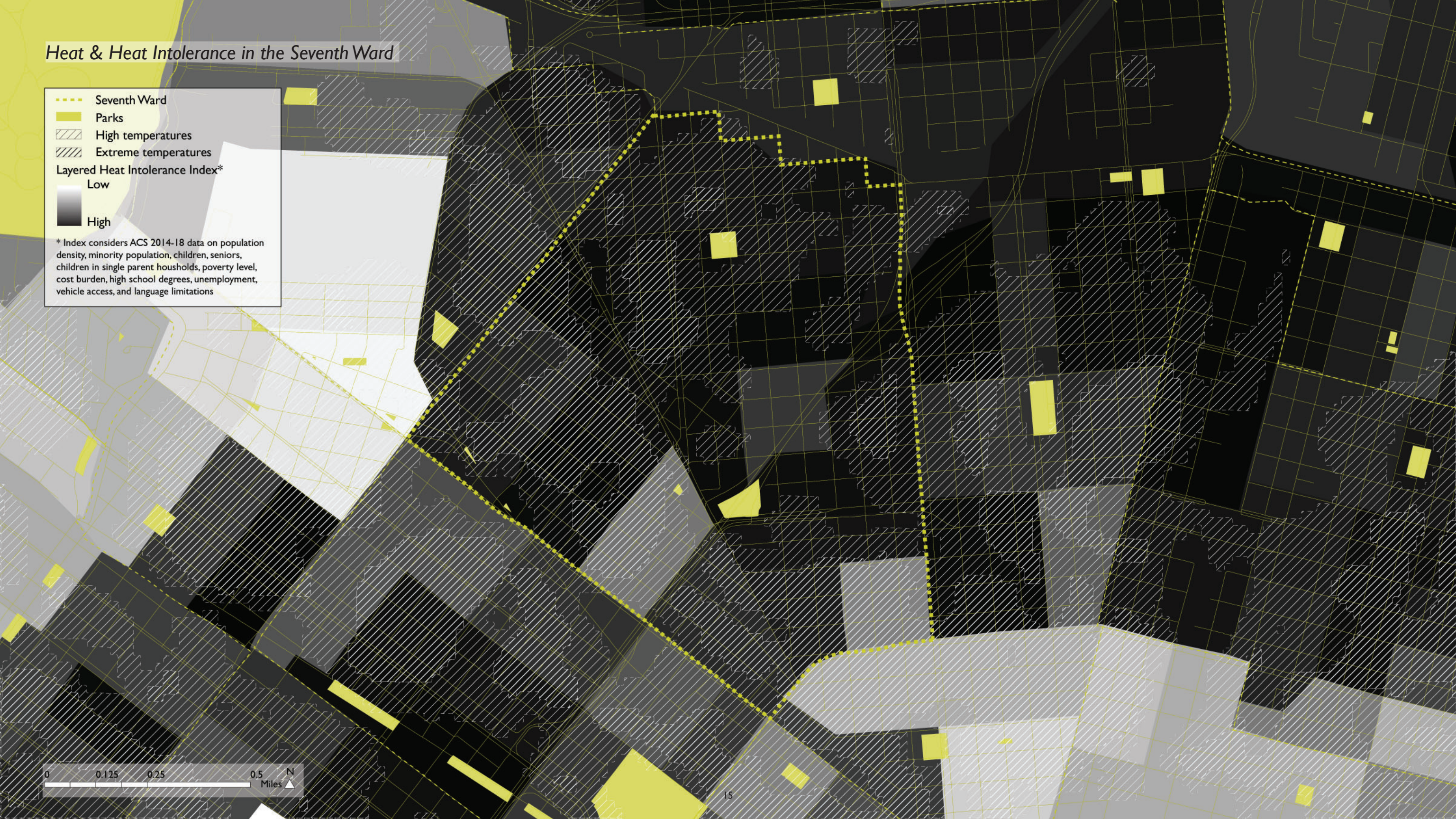
- Seventh Ward
- Parks
- ▨ High temperatures
- ▩ Extreme temperatures

Layered Heat Intolerance Index*

Low

High

* Index considers ACS 2014-18 data on population density, minority population, children, seniors, children in single parent households, poverty level, cost burden, high school degrees, unemployment, vehicle access, and language limitations



Seventh Ward, New Orleans

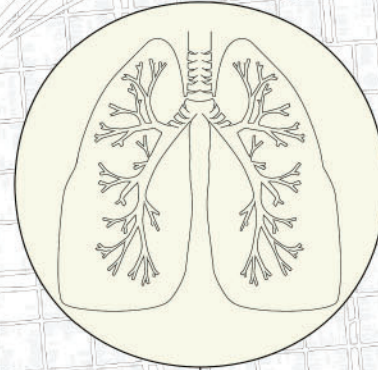
- Seventh Ward
- Cool Spots
- 1% Annual Flood
- 0.2% Annual Flood
- 0.2% Annual Flood with Levee Protection
- Vacant Lots
- Streets
- 5 Ft Contours
- Water
- Parks
- Canopy
- 600 ft Interstate Buffer



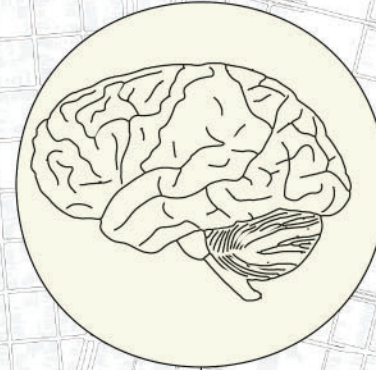
Heat Intolerance

It is critical to continually center the individual's experiences of comfort with radiation, evaporation, and air movement. Heat disproportionately affects the elderly, the poor, and the isolated—from whom policies and infrastructure customarily ignore, and for whom private air conditioning can come at a prohibitive cost. Reducing these risks through passive cooling is a main driver of *Throwing Shade*.

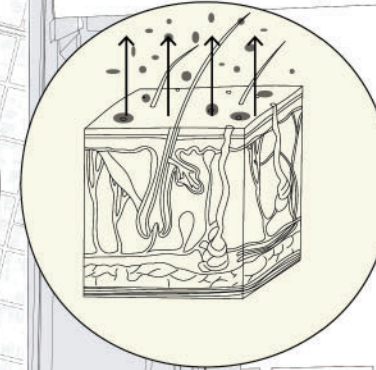
Trouble Breathing



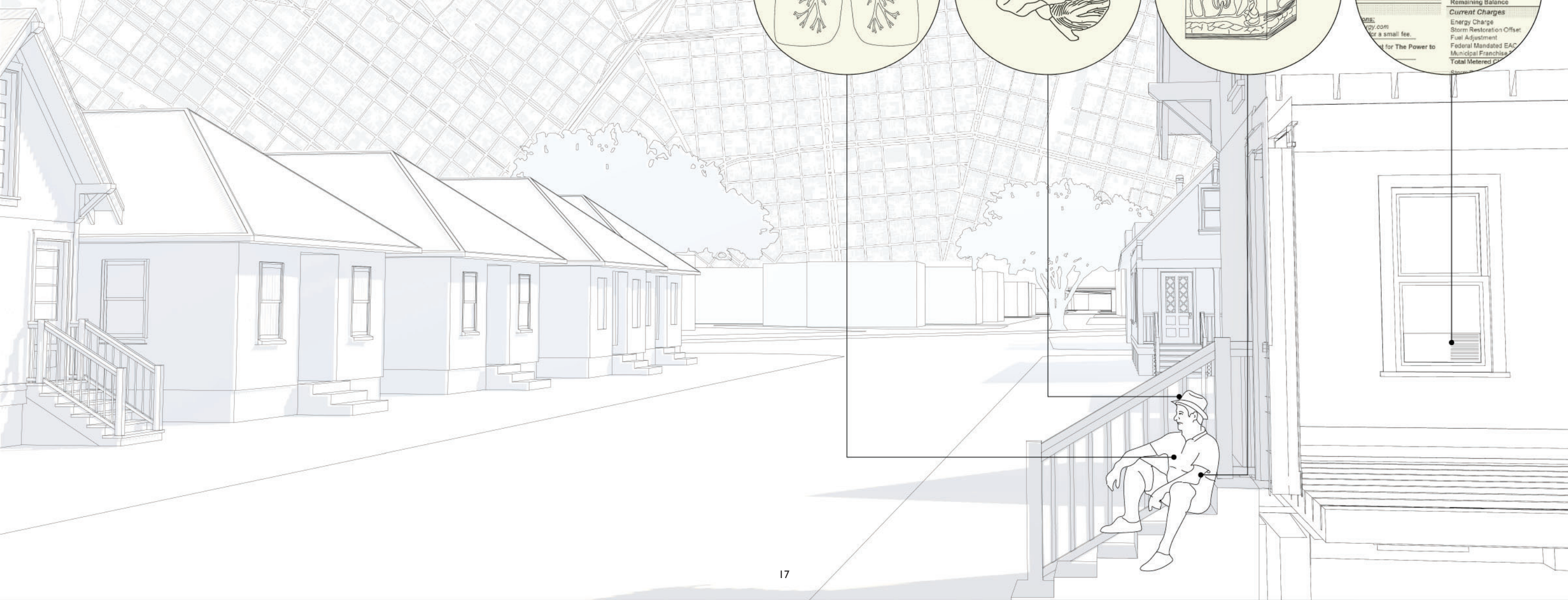
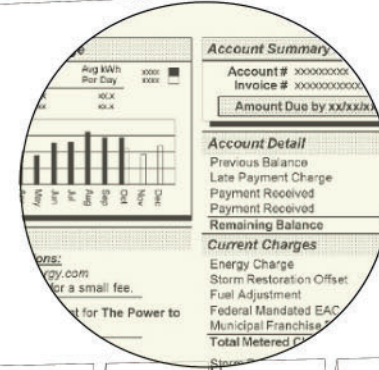
Social Isolation



Excessive Sweating

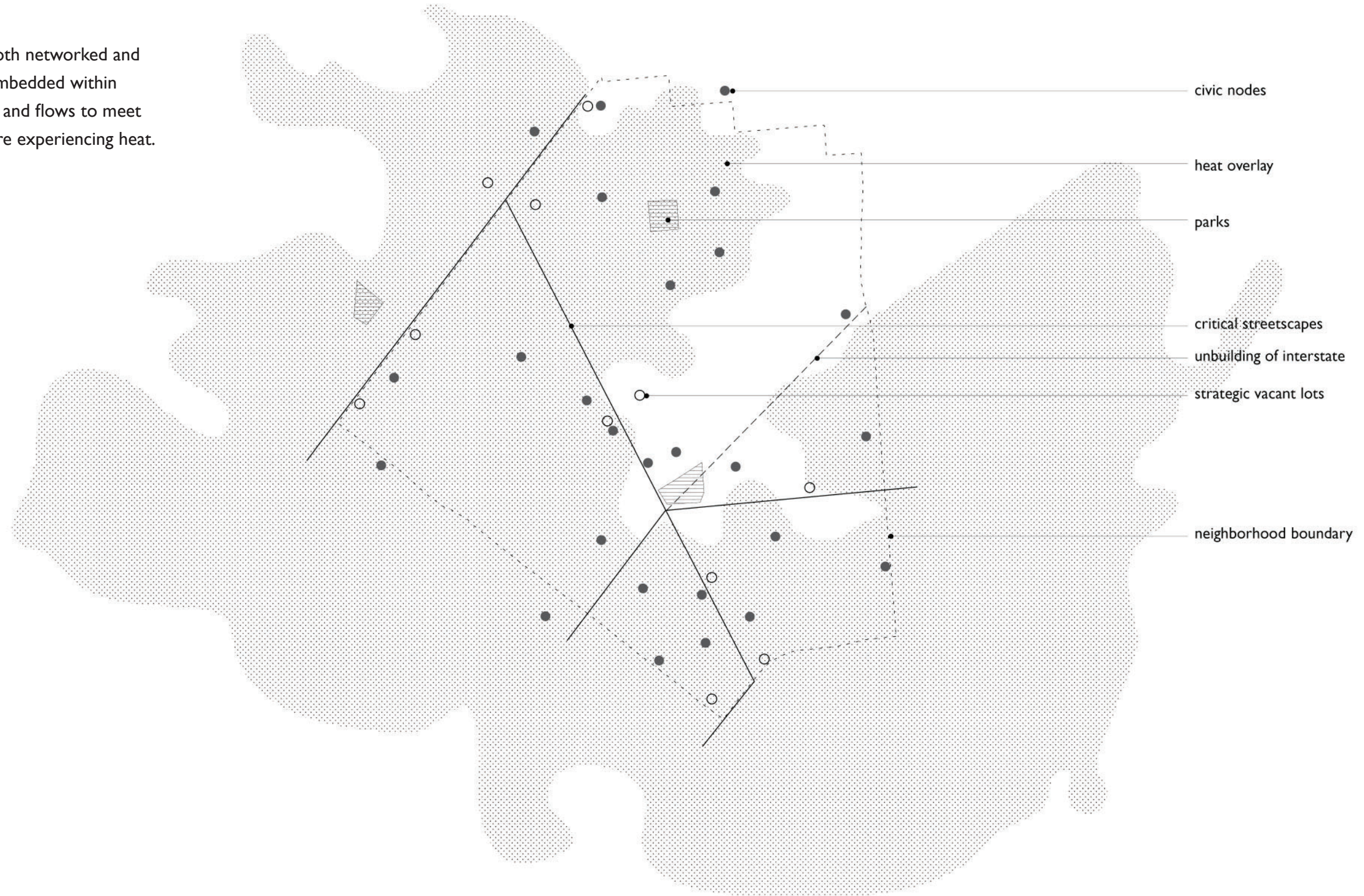


Energy Cost Burden



Strategy

Design elements—both networked and acupunctural—are embedded within neighborhood nodes and flows to meet people where they are experiencing heat.



Strategy: Second Lines

The design strategy is influenced by the flows and stops of the approximately 40 yearly second line parades. The upper right cluster flows through the Seventh Ward. Second lines are held by Social, Aid and Pleasure Clubs. The routes and stops, the movements and moments, reflect spaces of memory in the neighborhoods—including sites of damage and desire.



MARCH MADNESS
 "THE MOST ANTICIPATED PARADE OF THE YEAR"
The Revolution Social & Pleasure Club
 "Unleash the Dragon"
 Sunday, March 24, 2019 @ 1:00 PM
 In Memory of Mrs. Ora "Madea" Lee Baker-Brown
2019 Queen Teneka Hollingsworth
 1st Maid Tameshea Hawkins 2nd Maid Shawn Causey 3rd Maid KYada Jones
 Mr. Revolution Joseph "Joe Black" Baker

START: Armstrong Park proceed out N. Rampart St to St. Peters continue down St. Peters right turn on Basin St. down Basin St. to Claiborne Ave right on Claiborne to St. Bernard Avenue Left on St. Bernard Ave continue on St. Bernard.

STOP: Autocraft Social Pleasure Club 1725 Saint Bernard Ave (30 Minute pause) continue down to A. P. Tureaud continue out A.P. Tureaud to N. Broad St turn Left on N. Broad continue up N. Broad

STOP: Joe BLAKK Income Tax 945 N. Broad St. continue out Board to Orleans Ave left on Orleans to N. Glavez St. turn left on N. Glavez continue down N. Glavez to Ursulines Ave Right Ursulines Ave

STOP: Ole & Nu Style Fellas Ursulines Ave continue to N. Claiborne Ave left on N. Claiborne Ave to Tremé Hideaway 1234 N. Claiborne Ave **Disband.**

SPECIAL THANKS TO: NORMAN DIXON SR. FOUNDATION, JOE BLAKK INCOME TAX SERVICE.

**PLEASE LEAVE YOUR TROUBLES AT HOME
 SALUTES SUGAR SLIM & THE GOLD NUGGETS JUMPERS**

Source:WWNO
19

Family Ties S&P Club
 17th Annual Parade
 Featuring "Footwerk Family S&P Club"
 And "All for One S&P club"
 October 7, 2018
 1:00pm Sharp
 Queen: Raquis Evans
Walk It Like We Talk It!

Start (Prime Example Jazz Club – 1909 N. Broad St.) Turn left onto Hope St. Continue on Hope St. to St. Bernard Av. Turn right onto St. Bernard Av. Continue up St. Bernard to Paul Morphy St. Make a U-Turn. Brief Stop to Pick up The Queen! Proceed up St. Bernard Ave. to N Miro St. A New Day Salon 2200 St. Bernard Ave.

Stop (Dumaine Gang S&P Club) Proceed on St. Bernard Ave. to N. Robertson St. Turn right onto N. Robertson St. Continue up N. Robertson St. to Kerlerec St. Hanks Bar 1443 N. Robertson St.

Stop (Versatile Ladies S&P Club) Proceed on N. Robertson to St. Philip St. The Candlelight Bar and Lounge 925 N. Robertson St.

Stop (Footwerk Family S&P Club) Proceed on N. Robertson St. to Basin St. Turn right onto Basin St. Continue on Basin St. to N. Claiborne Ave. Turn right onto N. Claiborne Ave. Continue up N. Claiborne Av. To Ursulines Av. Turn Left onto Ursulines Ave.

Stop (Sudan S&P) Proceed on Ursulines Ave. to N. Broad St.

Stop (All for One S&P Club) Proceed Right on N. Broad St. to Prime Example Jazz Club 1909 N. Broad St. **DISBAND.**

Special Thanks to the Norman Dixon Foundation, The Jazz Heritage Festival, A New Day Salon, Chef Germaine with Prime Example Jazz Club Dumaine Gang, Sudan, Versatile Ladies, Adrian Gaddies The Candlelight Bar, Hanks Bar, Tina Brown All Family Ties Wives, and THE FAMILY TIES NATION!

Source:WWNO

Movements and Moments



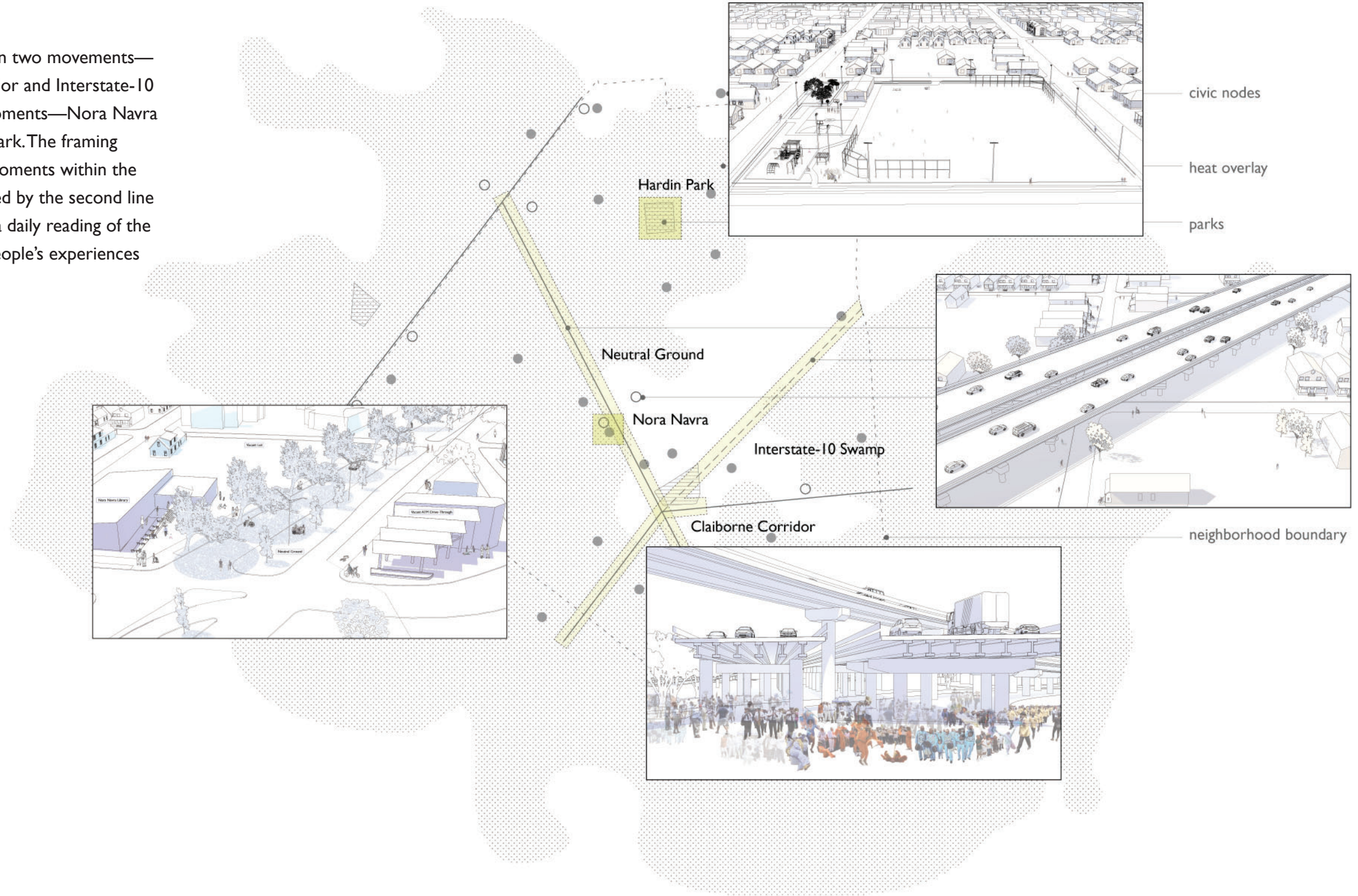
Source: RL Reeves Jr.



Source: RL Reeves Jr.

Sites

The design focuses on two movements—the Claiborne Corridor and Interstate-10 swamp—and two moments—Nora Navra Library and Hardin Park. The framing of movements and moments within the Seventh Ward, inspired by the second line parade routes, form a daily reading of the neighborhood and people's experiences with heat.



Programmatic Script

The sites exist within the larger system of movements and moments of the neighborhood and city—including walks to school, parades, flooding, places of worship, and home.

Movements:

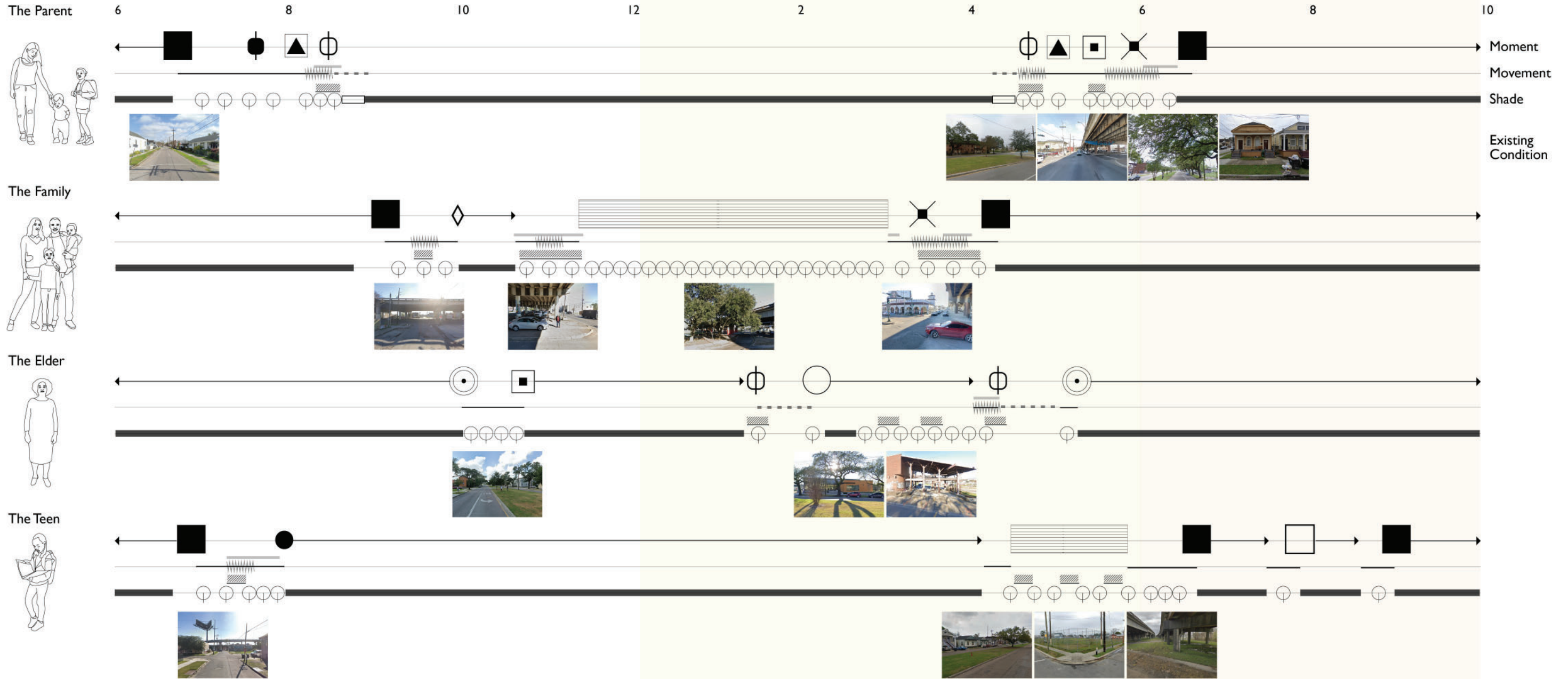
- Interstate-10 Overpass, Tulane Ave to Elysian Fields Ave
- St Bernard Ave + A P Tureaud Ave Neutral Grounds
- Streets
- 5 Minute Walks to/from Schools
- Bike Lanes
- Public Transit
- Neutral Grounds
- Second Line Parades
- Mardi Gras Parades
- 1% Annual Flood
- 0.2% Annual Flood

Moments:

- Nora Navra Library + Hardin Park
- Parks
- Schools
- Daycares
- Libraries
- Places of Worship
- Social, Aid, and Pleasure Clubs
- NORDC Facilities
- Grocery Stores
- Gas Stations
- Pharmacies
- Health Clinics + Hospitals
- Funeral Homes
- Senior Care Homes
- Group Homes
- Shelters
- Independent Living Homes



Daily Scores



- Moments:**
- Homes
 - Friend's/Family's Homes
 - ⊙ Senior Care Homes
 - School Bus Drops
 - ⊕ Bus Stops
 - Schools
 - ▲ Daycares
 - NORDC Facilities
 - ✕ Grocery Stores
 - ◇ Places of Worship
 - Libraries
 - ≡ Parks

- Movements:**
- Walking
 - - - Public Transit
 - Neutral Grounds
 - ||||| Emissions Exposure

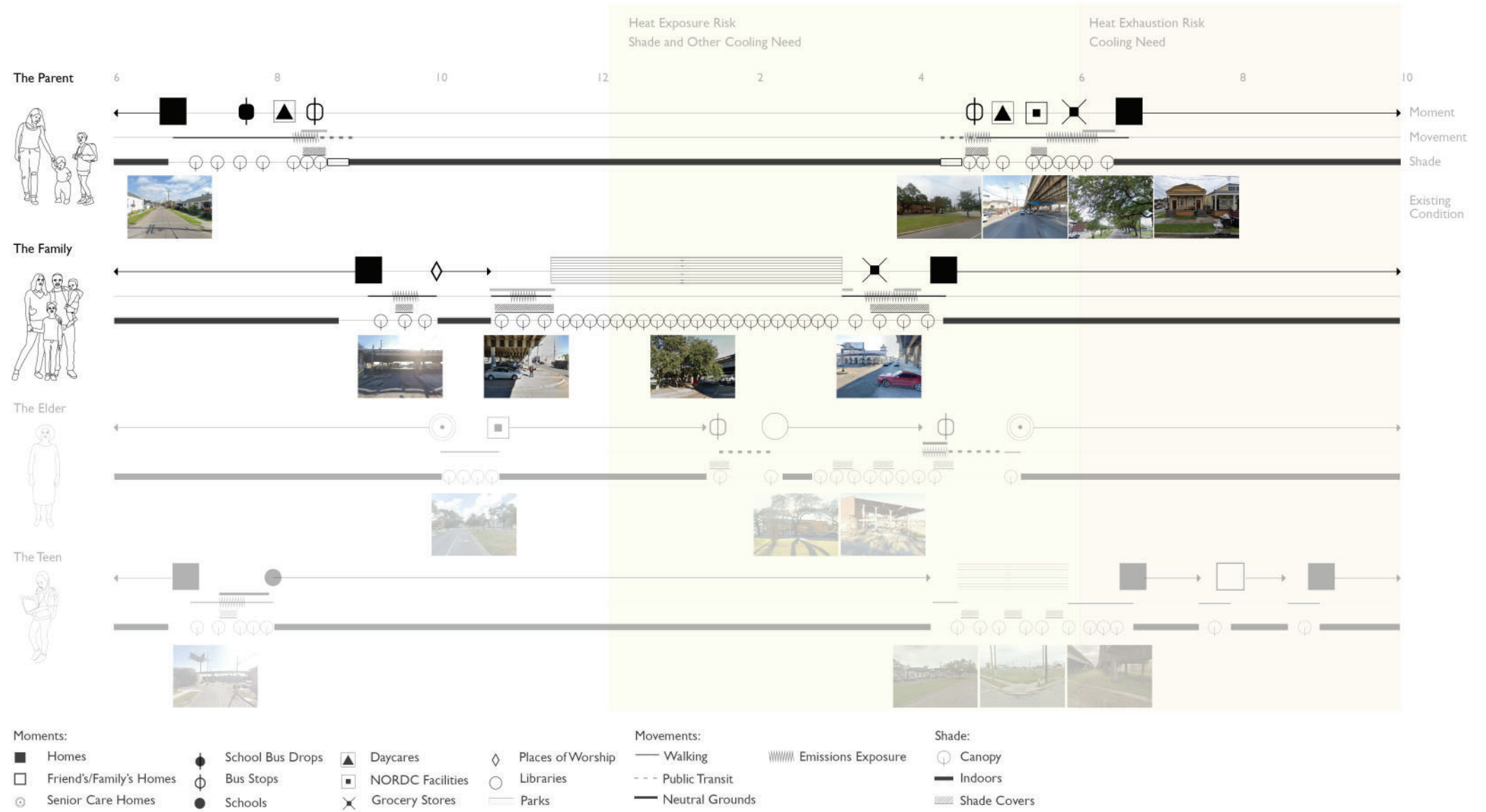
- Shade:**
- Canopy
 - Indoors
 - ▨ Shade Covers

Throwing Shade



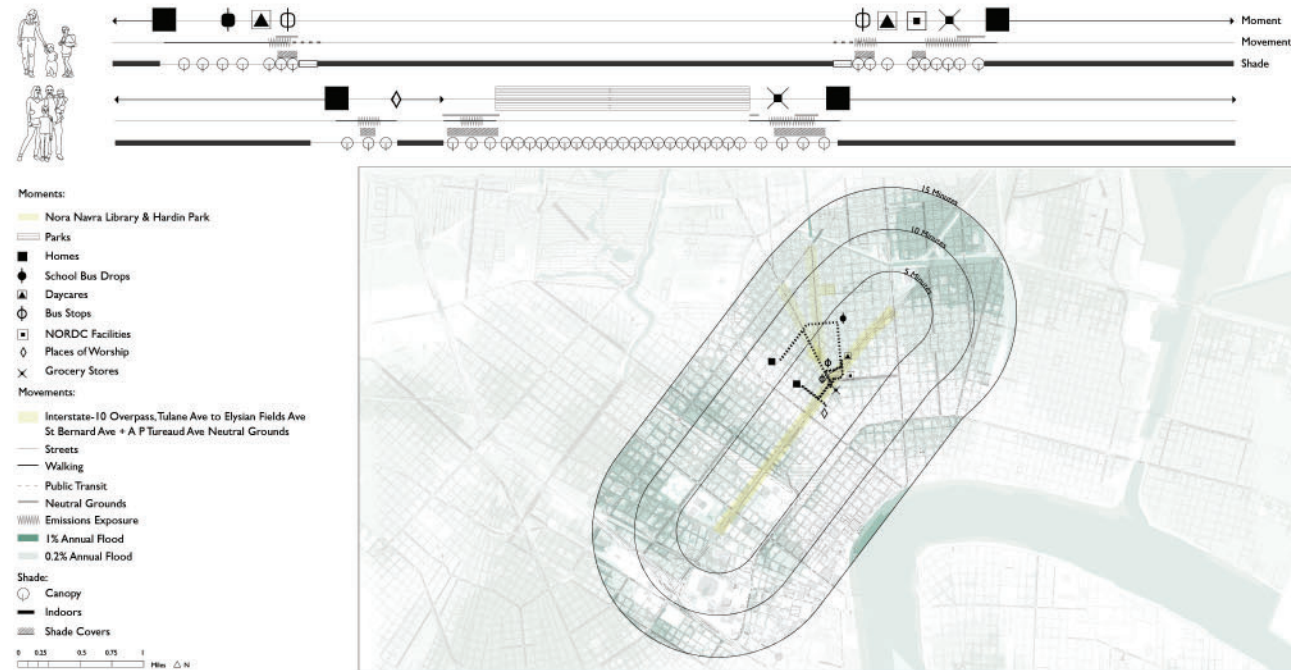
Daily Scores: The Parent & The Family

The first score follows a parent's pattern of walking children to the school bus stop and daycare, taking public transit to work, returning, and picking up children from afterschool programs and daycare, grocery shopping, and walking home. The second score follows a family who attend church, spend time in a park, grocery shop and relax on their street. In both cases, the routine intersects with movements and moments of thermal comfort and discomfort.

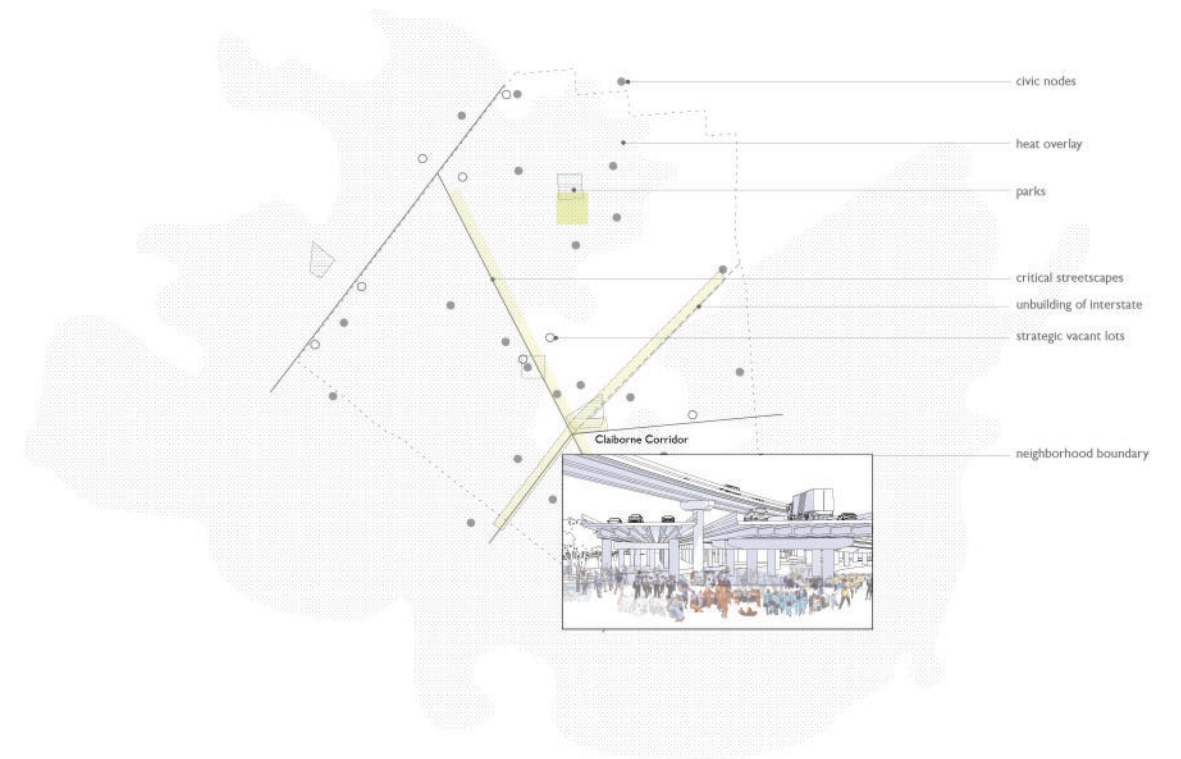


Daily Scores: The Parent & The Family

Layering the scores in space, they converge and focus on the crossing of St. Bernard Avenue and the Claiborne Corridor, in the heart of the Seventh Ward.



Sites: Claiborne Corridor



Legacies: Claiborne Corridor

Claiborne Avenue was previously a thriving black business corridor with a vast and heavily planted neutral ground. An iconic circle marked the crossing of Claiborne and St. Bernard Avenues, but it was removed during Urban Renewal to make way for highway on and off ramps.

1947



Source: New Orleans Public Library Archive

1960s



Source: New Orleans Public Library Archive

1960s



Source: Richard Campanella

Legacies: Claiborne Corridor

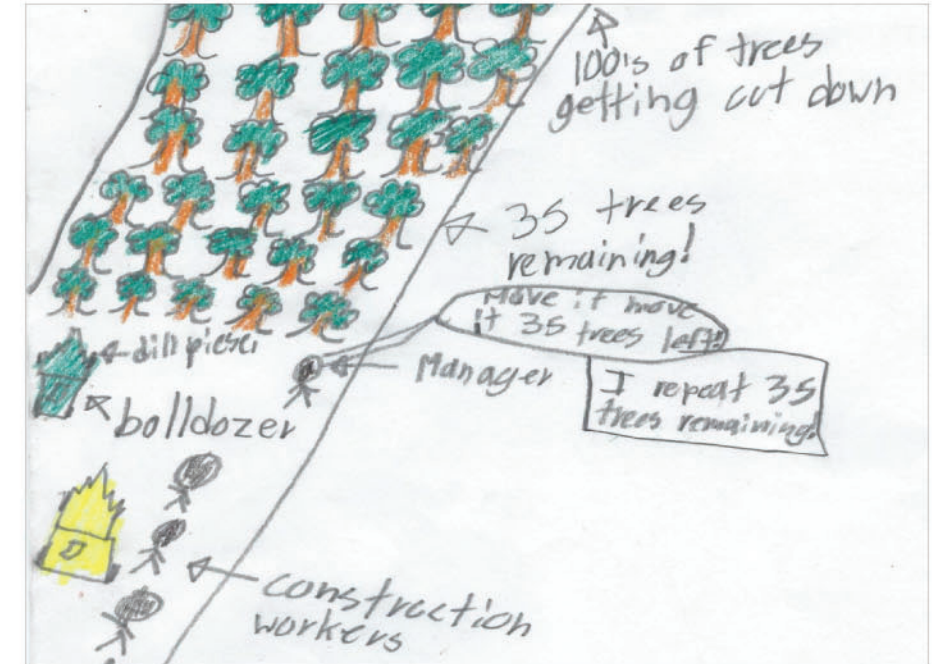
The I-10 Expressway, built above Claiborne Avenue and completed in 1966, ripped directly through the Seventh Ward. The dashed red line represents the Riverfront Expressway, another planned highway project which was never constructed due to the opposition of white preservationists and environmentalists. As a result of construction, hundreds of living oak trees in the neutral ground were bulldozed and nearby homes were demolished.



Source: Sara Zewde, *Theory, Place, and Opportunity: Black Urbanism as a Design Strategy for the Potential Removal of the Claiborne Expressway in New Orleans*, MIT, 2010



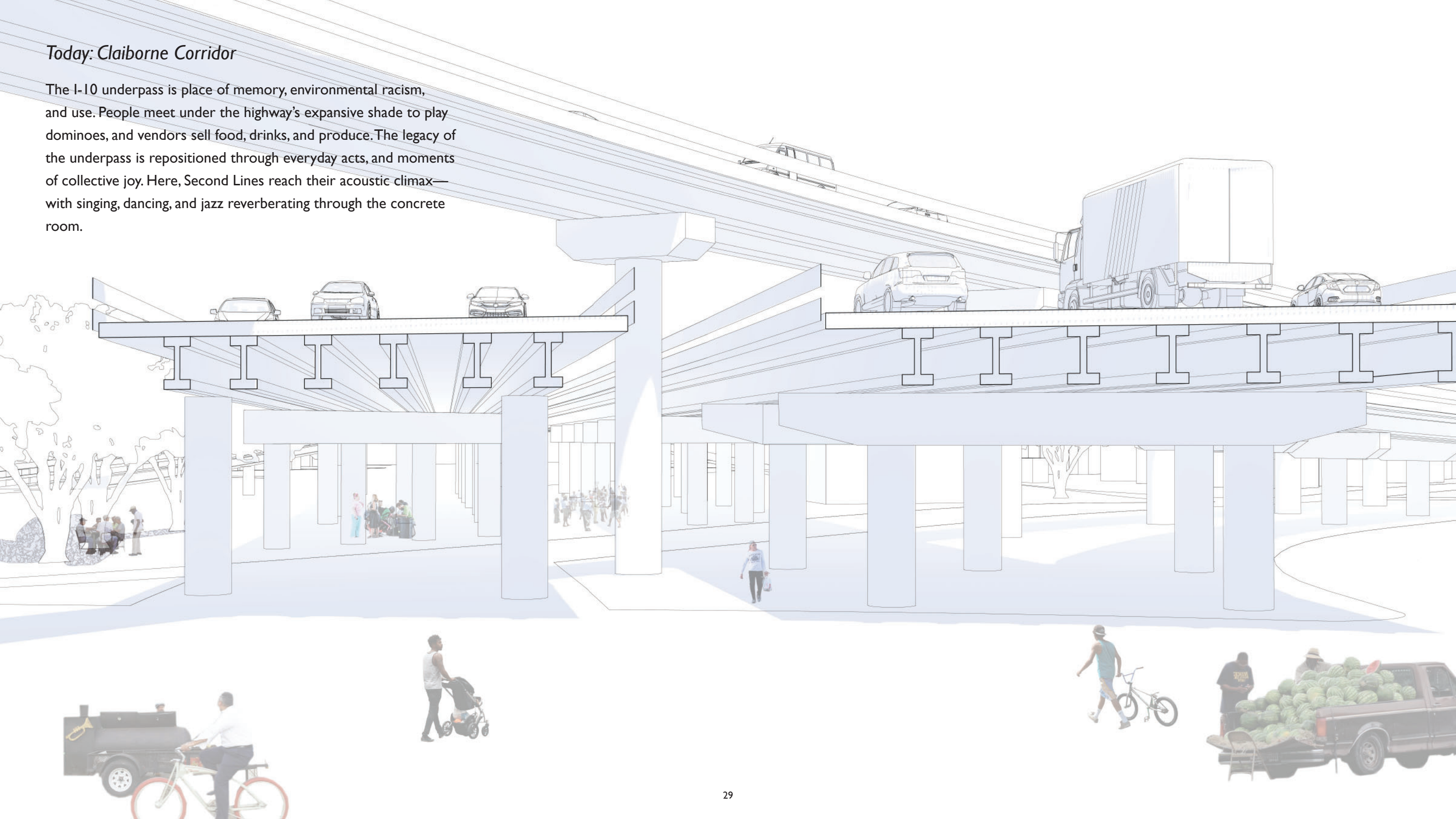
Source: Sara Zewde, *Theory, Place, and Opportunity: Black Urbanism as a Design Strategy for the Potential Removal of the Claiborne Expressway in New Orleans*, MIT, 2010

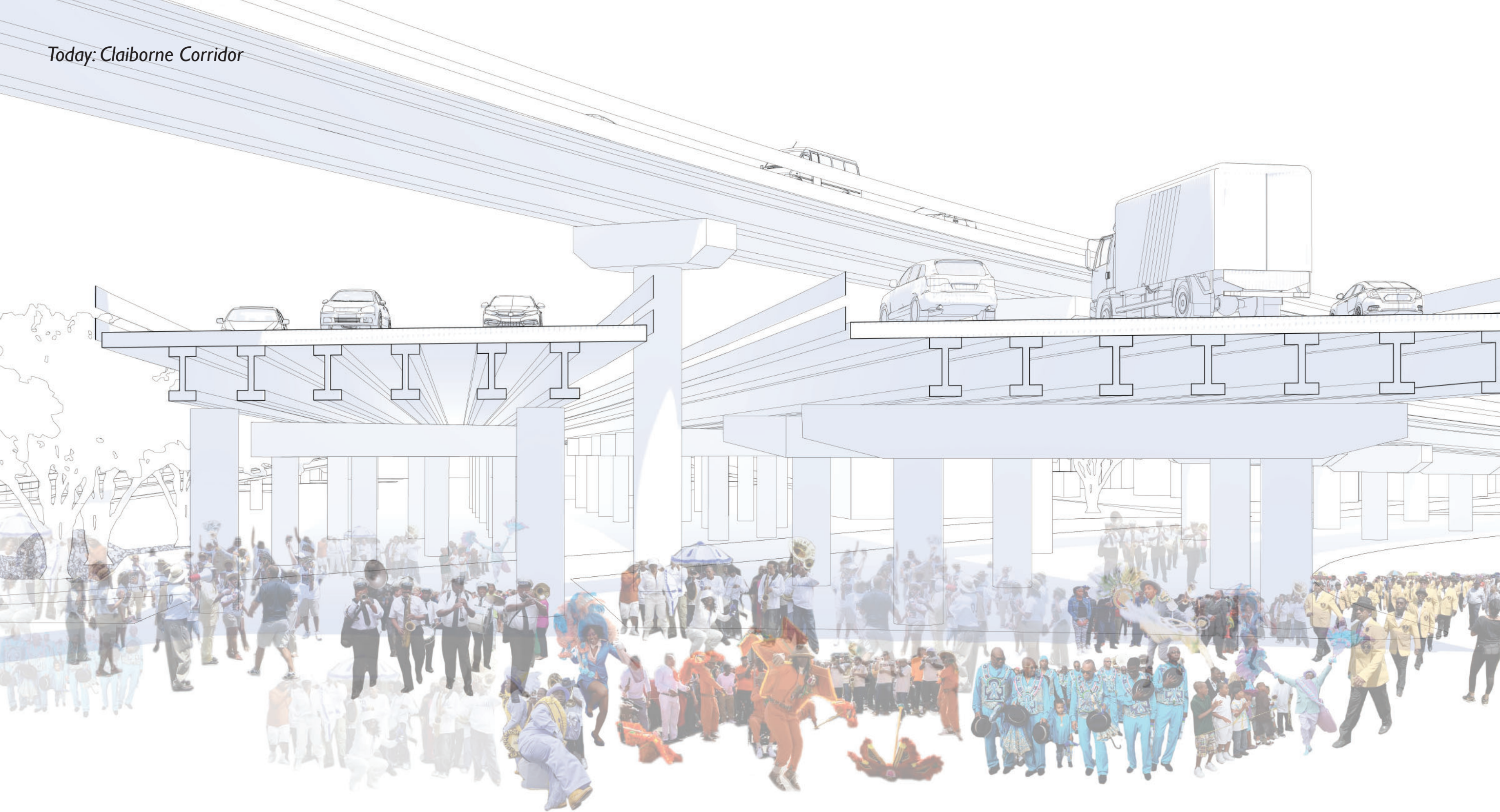


Source: Phyllis Wheatley Community School, Ms. Davidson's 4th Grade Class, Field Study of the effects of the I-10 Claiborne Corridor on the Treme Neighborhood, May 2019

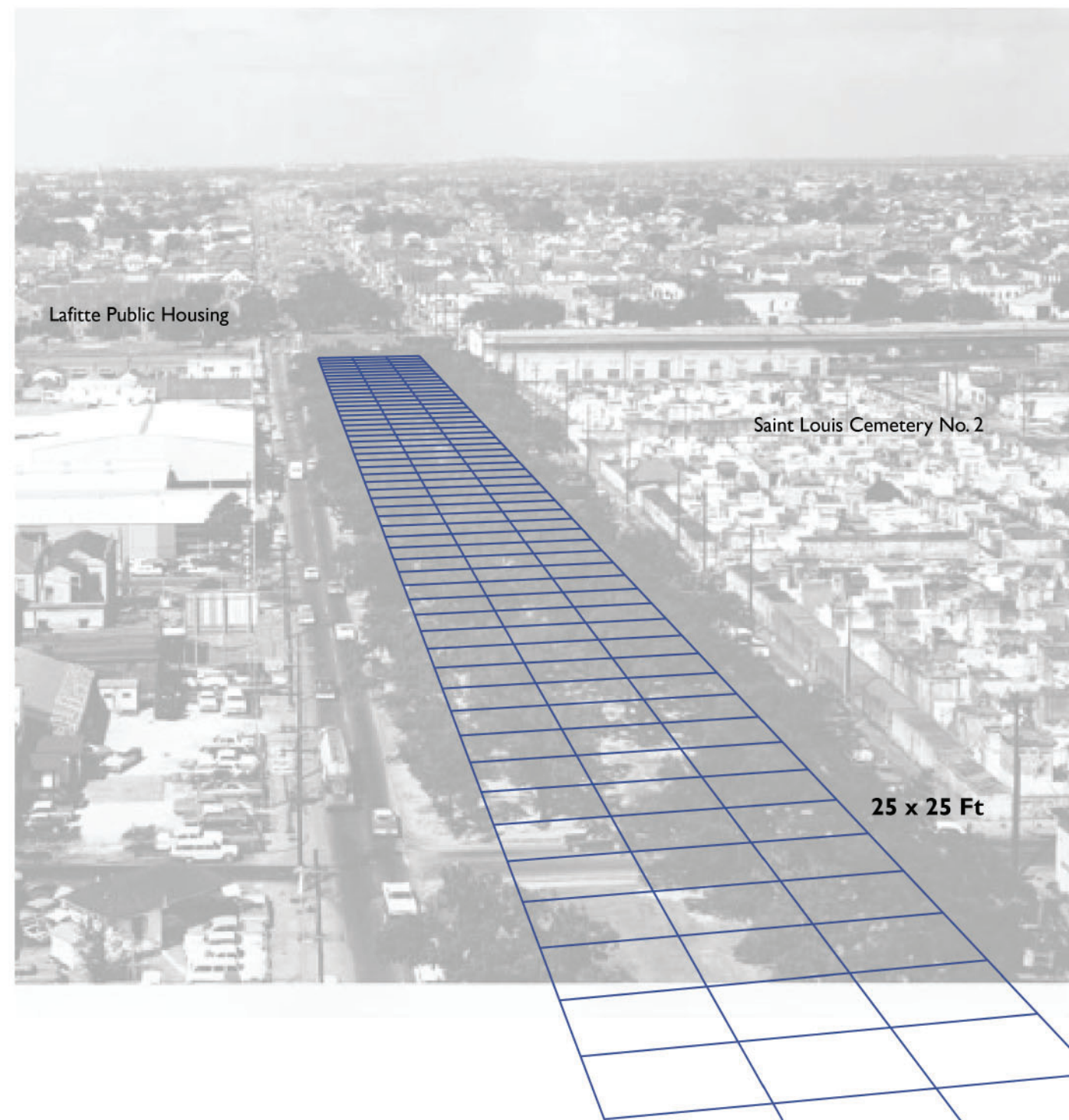
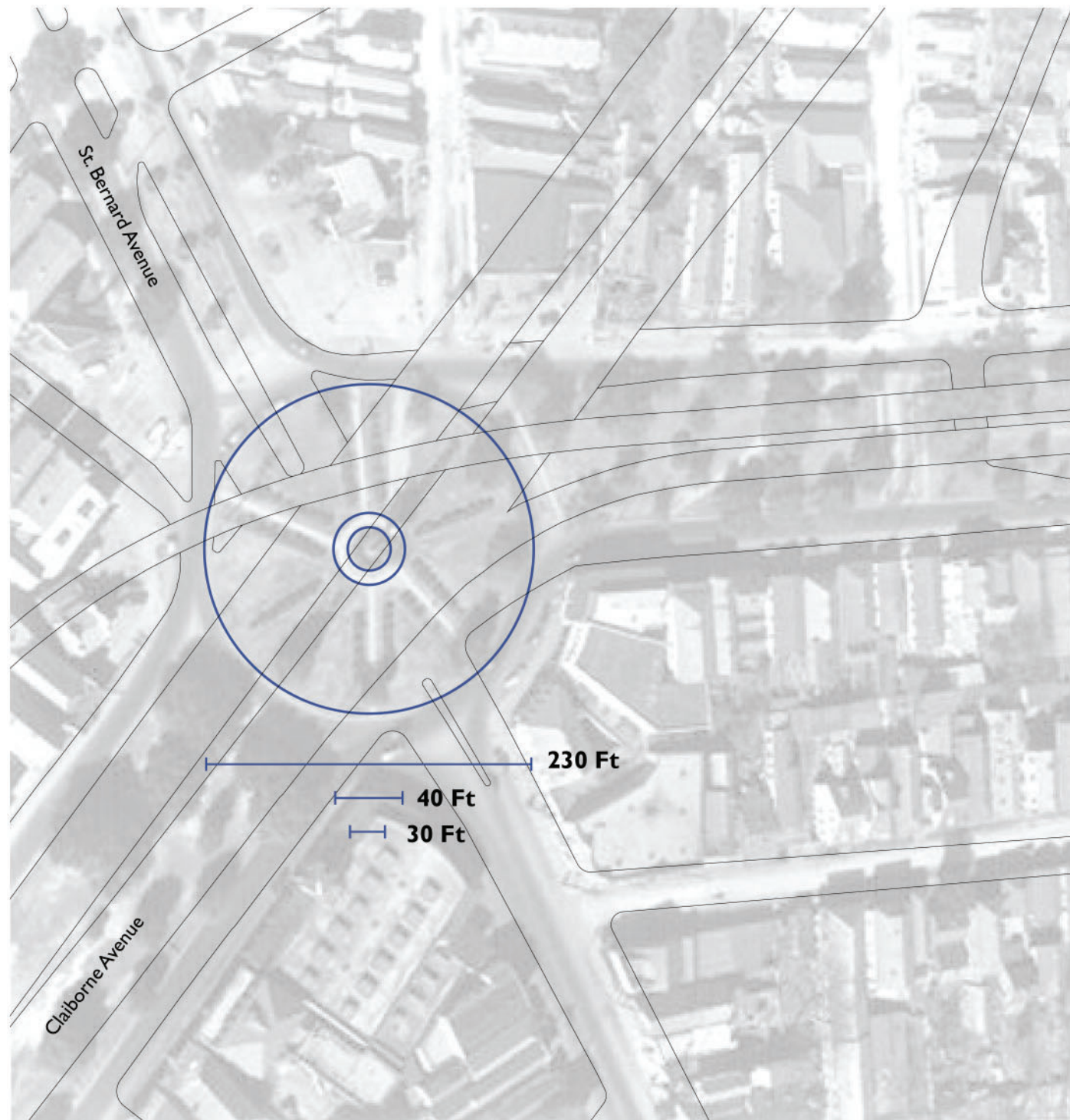
Today: Claiborne Corridor

The I-10 underpass is place of memory, environmental racism, and use. People meet under the highway's expansive shade to play dominoes, and vendors sell food, drinks, and produce. The legacy of the underpass is repositioned through everyday acts, and moments of collective joy. Here, Second Lines reach their acoustic climax—with singing, dancing, and jazz reverberating through the concrete room.



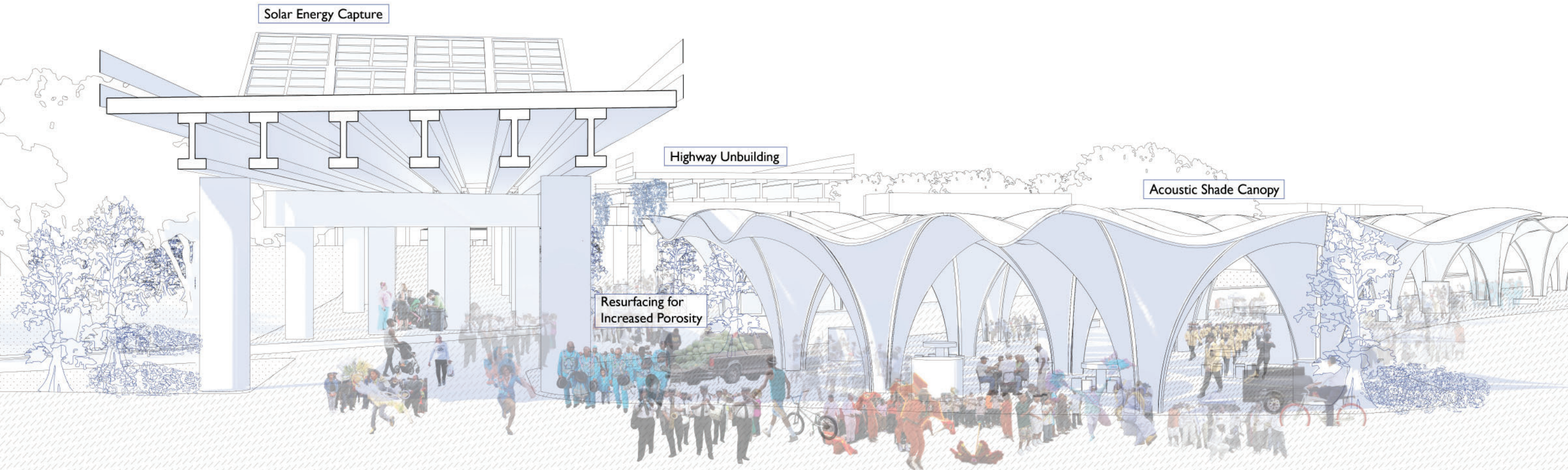


Looking Forward: Claiborne Corridor



Throwing Shade: Claiborne Corridor

Looking forward, the redesign celebrates the memory of the corridor as a site of cooling and entrepreneurship through the use of the circle motif and the 25 x 25-foot neutral ground planting grid. The cooling design of the Claiborne Corridor focuses on three main components—highway decommissioning and repositioning, acoustic capture, and increased porosity.



Throwing Shade: Interstate-10 Decommissioning Strategy

Through the redesign, the highway infrastructure is repositioned into a multi-community asset. Interstate-10 at Claiborne was cited by President Biden in the American Jobs Plan as being emblematic of past investments that divided communities. The plan commits \$20 billion for the reconnection of neighborhoods such as the Seventh Ward. Now is the time to question how infrastructure built to marginalize communities of color can be reimagined to connect and support them.

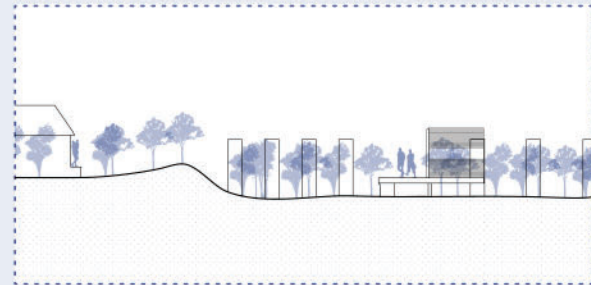
In this project's design, the I-10 overpass will be decommissioned and vehicles will be rerouted through I-610. Through partial highway unbuilding, the remaining infrastructure is repositioned as necessary shade coverage. Removed portions align with key crossings to create perpendicular relationships, and the acoustic canopy supports and expands the importance of music in civic life. Grassy permeable pavers under the repurposed highway and at the key crossings increase porosity and signify pedestrian and bike prioritization. And the highway top is repurposed for solar panels and an elevated wetland with water filtration for irrigation of the expanded oak and cypress canopy.

THE WHITE HOUSE

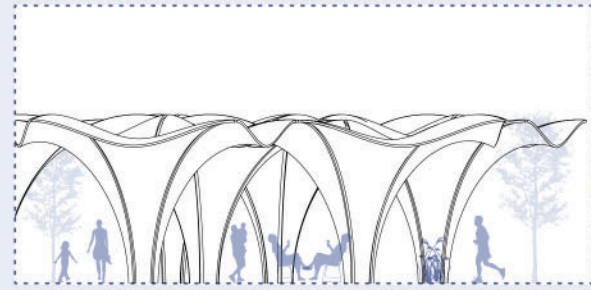


- **Redress historic inequities and build the future of transportation infrastructure.** The President's plan for transportation is not just ambitious in scale, it is designed with equity in mind and to set up America for the future. Too often, past transportation investments divided communities – like the **Claiborne Expressway** in New Orleans or I-81 in Syracuse – or it left out the people most in need of affordable transportation options. The President's plan includes \$20 billion for a new program that will reconnect neighborhoods cut off by historic investments and ensure new projects increase opportunity, advance racial equity and environmental justice, and promote affordable access. The President's plan will inspire basic research, like advanced pavements that recycle carbon dioxide, and “future proof” investments that will last decades to leave coming generations with a safe, equitable, and sustainable transportation system. And, the President's plan will accelerate transformative investments, from pre-development through construction, turning “shovel worthy” ideas into “shovel ready” projects.

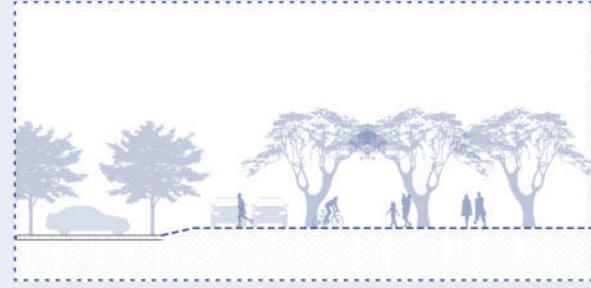
Throwing Shade: Interstate-10 Decommissioning Strategy



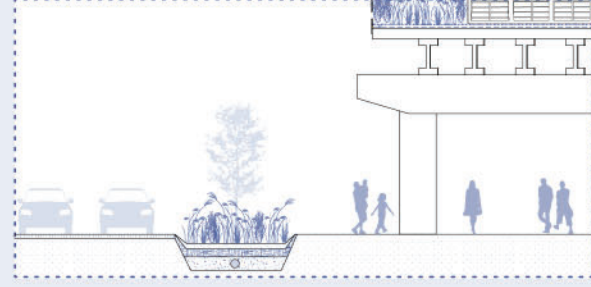
Cypress Corridor
4% slope with central outflow, cypresses, oaks, and boardwalk for bikes and pedestrians



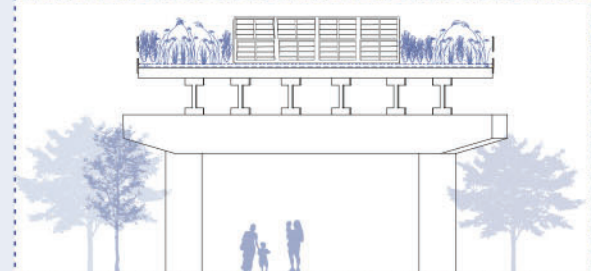
Tree Canopy
oaks, cypresses



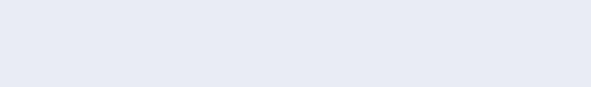
Acoustic Canopy
modular curved shade structures



Crossings
traffic calming and pavers for flexible programming and pedestrian prioritization



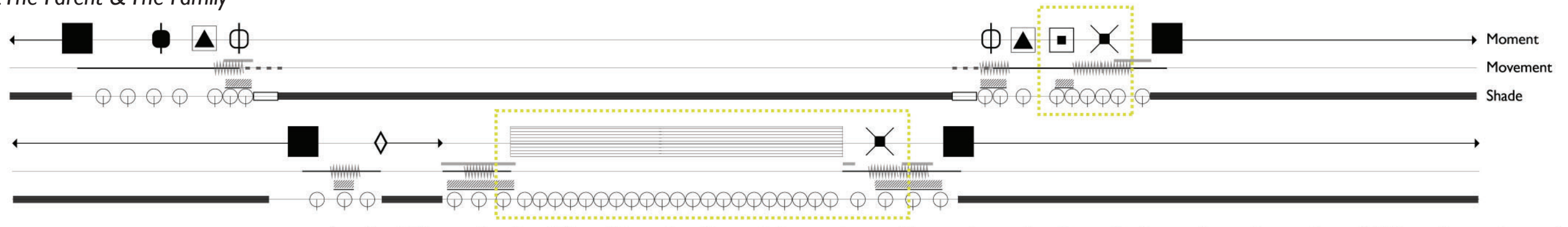
Water Retention
rain garden and bioswales



Highway Top
constructed elevated wetland, water filtration for irrigation and solar panels



Daily Scores: The Parent & The Family



Moments:

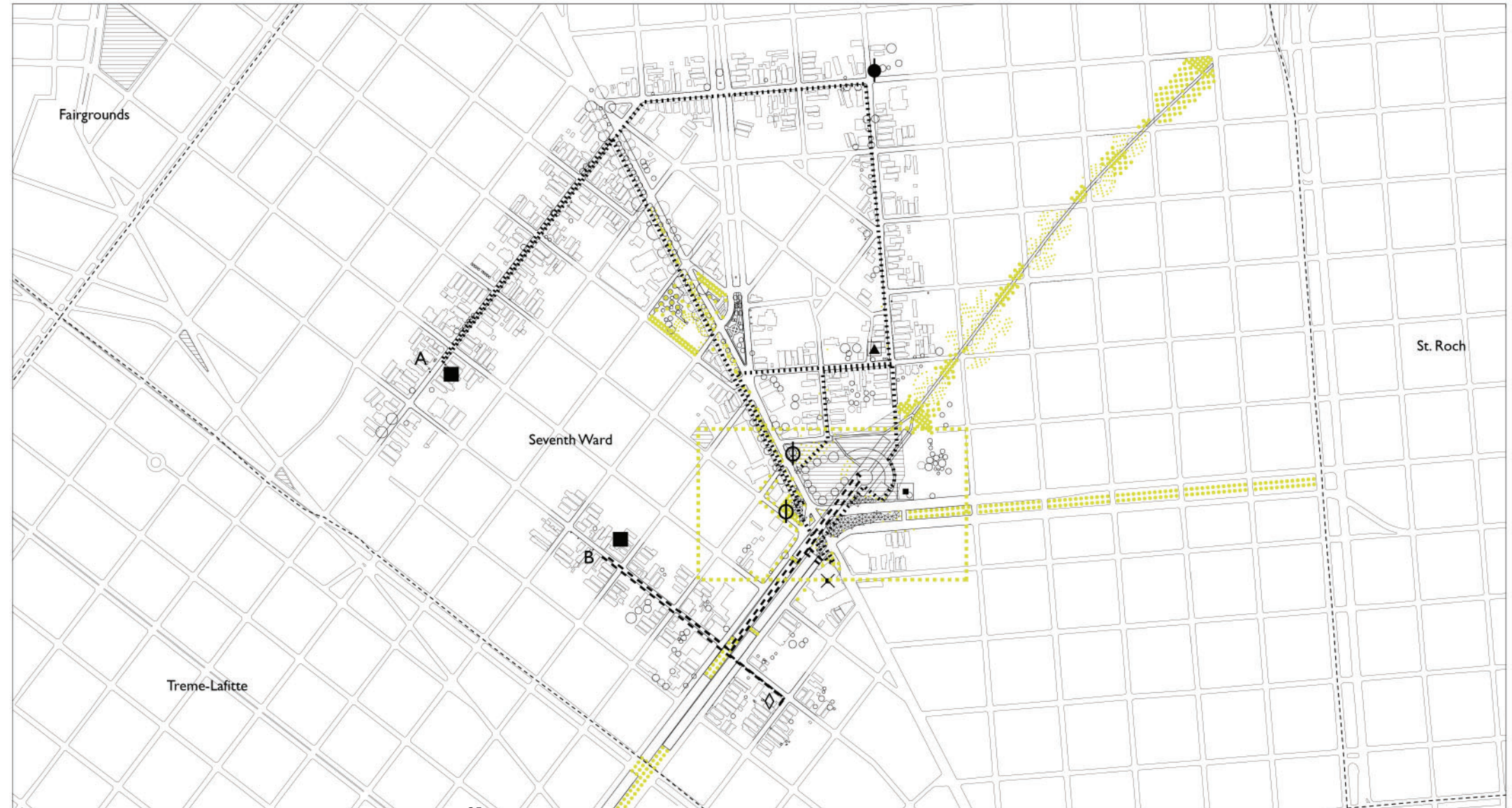
- Parks
- Homes
- School Bus Drops
- Daycares
- Bus Stops
- NORDC Facilities
- Places of Worship
- Grocery Stores

Movements:

- Streets
- Walking
- Public Transit
- Neutral Grounds
- Emissions Exposure

Shade:

- Canopy
- Indoors
- Shade Covers



Throwing Shade: Claiborne Corridor

The Claiborne Corridor plays a vital role in the Seventh Ward and nearby neighborhoods as a civic and transportation artery. Drawing from the site's previous condition as a grassy circle, there is a particular focus in the design on the intersection of St. Bernard and Claiborne Avenues.

The design's interventions support both daily gathering in the nearby Hunter's Field and crossings during second line parades. The acoustic canopy reintroduces the neutral ground previously removed for the highway off ramp and throws both shade and sound on the site. The design shifts the porosity of the site to both increase thermal comfort and programs. The street paving establishes pedestrian prioritization and the flexibility to develop a plaza typology during celebrations and emergencies. The tree plantings extend the neutral ground grid into the surrounding blocks, establishing greater connections, and improved shade and air quality.



Throwing Shade: Claiborne Corridor

- Gathering
- Moments
- Grocery Stores
- NORDC Centers
- Bus Stops
- Movements
- Public Transit
- Bike Lanes
- Second Line Routes
- Underpass Pavers
- Street Pavers
- Paths
- Shade
- Existing Canopy
- Introduced Canopy
- Canopy Shadows

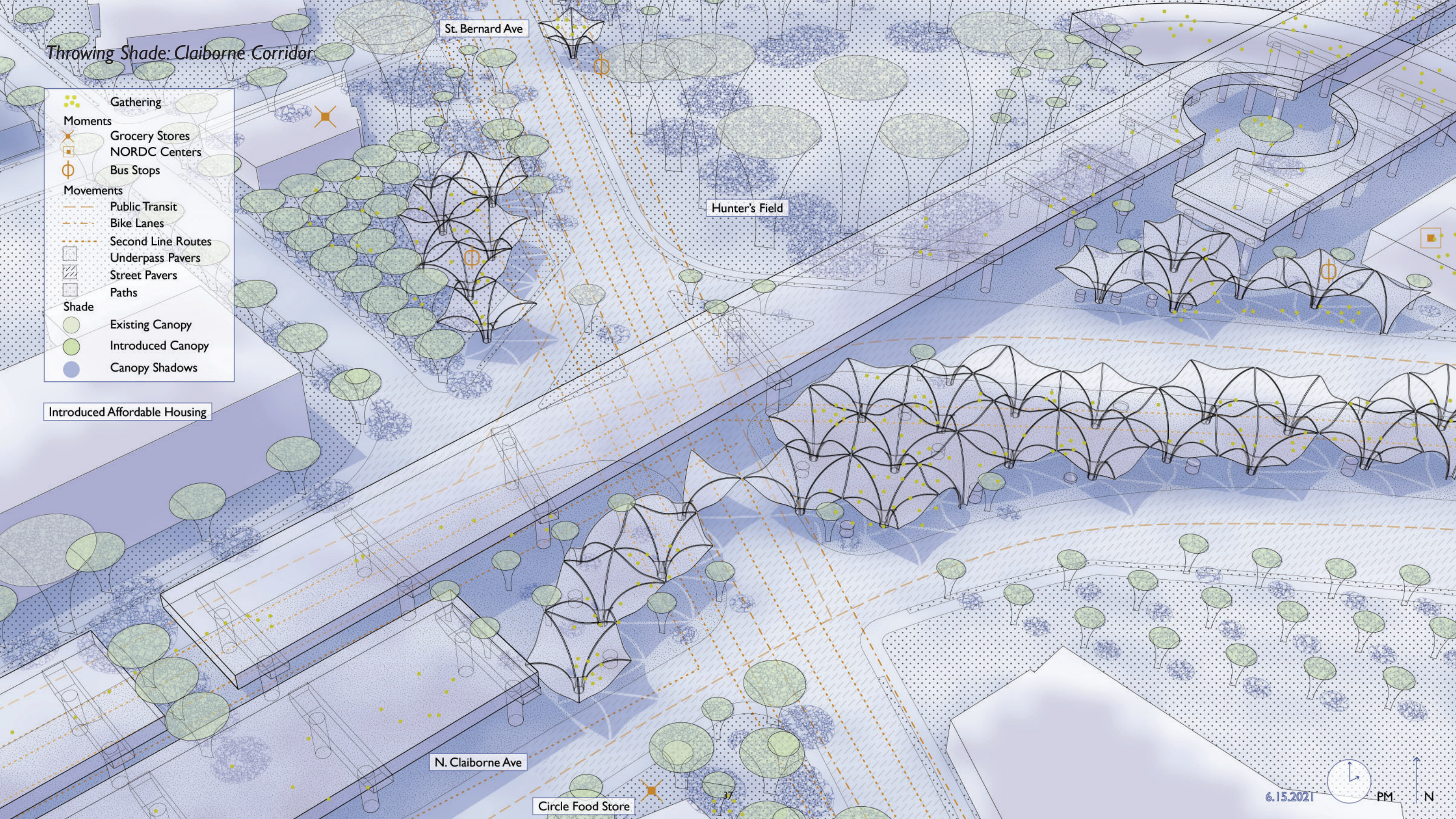
St. Bernard Ave

Hunter's Field

N. Claiborne Ave

Circle Food Store

Introduced Affordable Housing



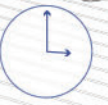
Throwing Shade: Claiborne Corridor

Water Capture and Filtration for Irrigation

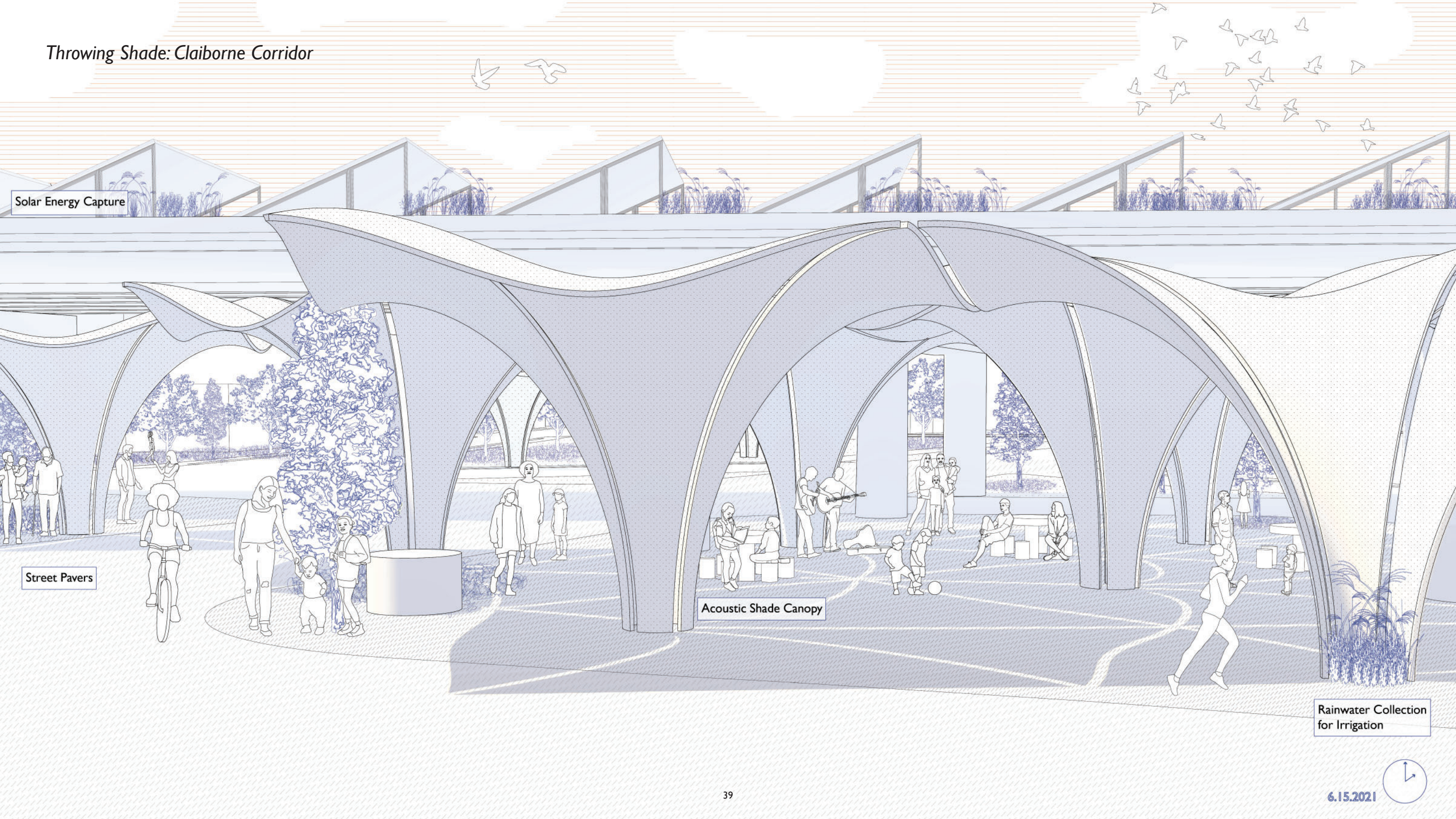
Built in Planters with Hanging Vines

Misters

Flexible Event Space and Seating



Throwing Shade: Claiborne Corridor



Solar Energy Capture

Street Pavers

Acoustic Shade Canopy

Rainwater Collection for Irrigation



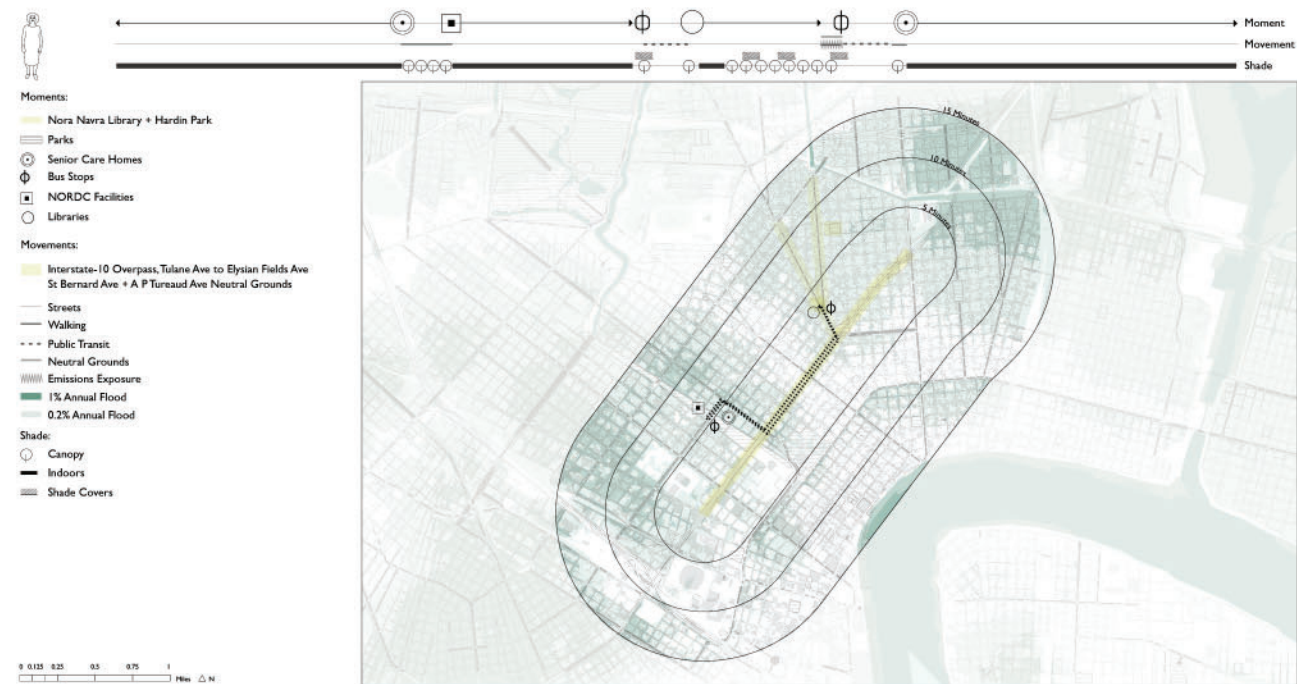
Daily Score: The Elder

The next score follows an elder from senior housing, to the neighborhood center, to the public library, and back home.

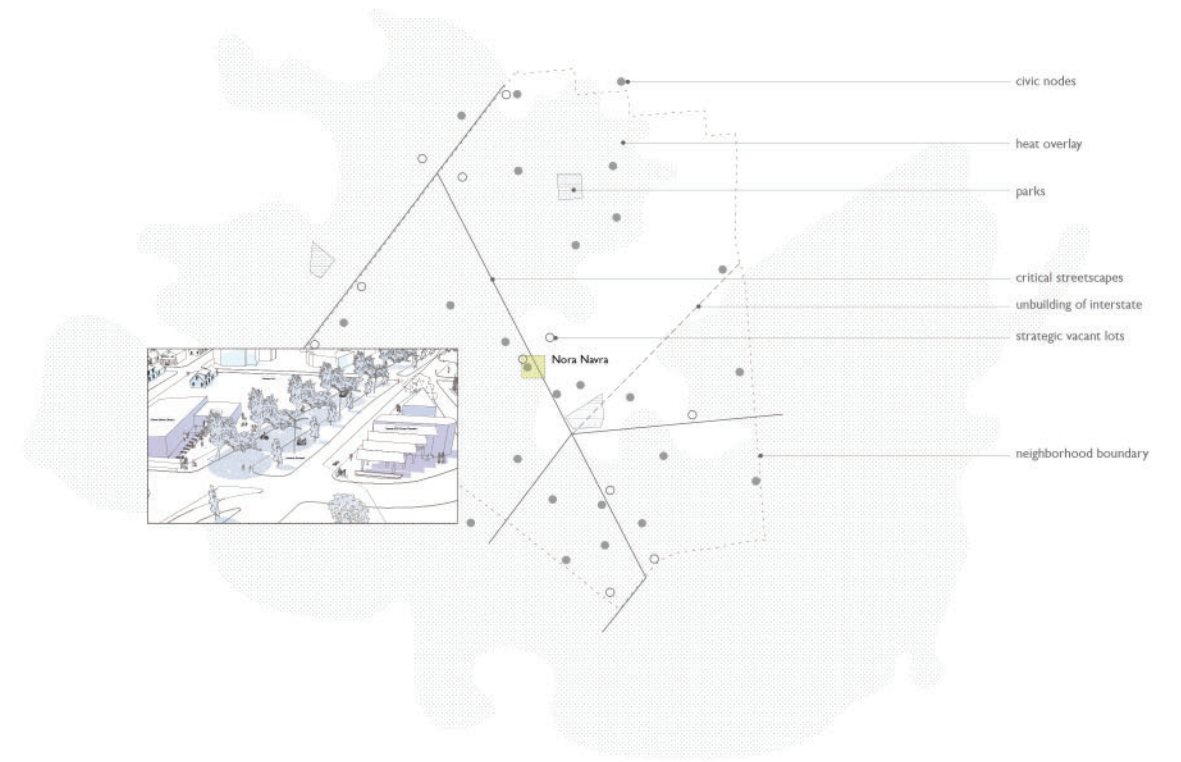


Daily Score: The Elder

The elder moves primarily through public transit and pauses at the library during peak heat exposure times. Nora Navra Library is located on St. Bernard Avenue in the Seventh Ward.



Sites: Nora Navra Library



Legacies: Nora Navra Library

In 1946, Nora Navra opened as the second black library in the city. The library was originally comprised of two repurposed army surplus huts and later expanded into a permanent building on the same site. After 69 years of use, in 2005, Nora Navra was flooded during Hurricane Katrina. Reconstruction was not started until 2017.

1948



Source: Creole Genealogical and Historical Association

1956



Source: Creole Genealogical and Historical Association

2005



Source: NOLA.com

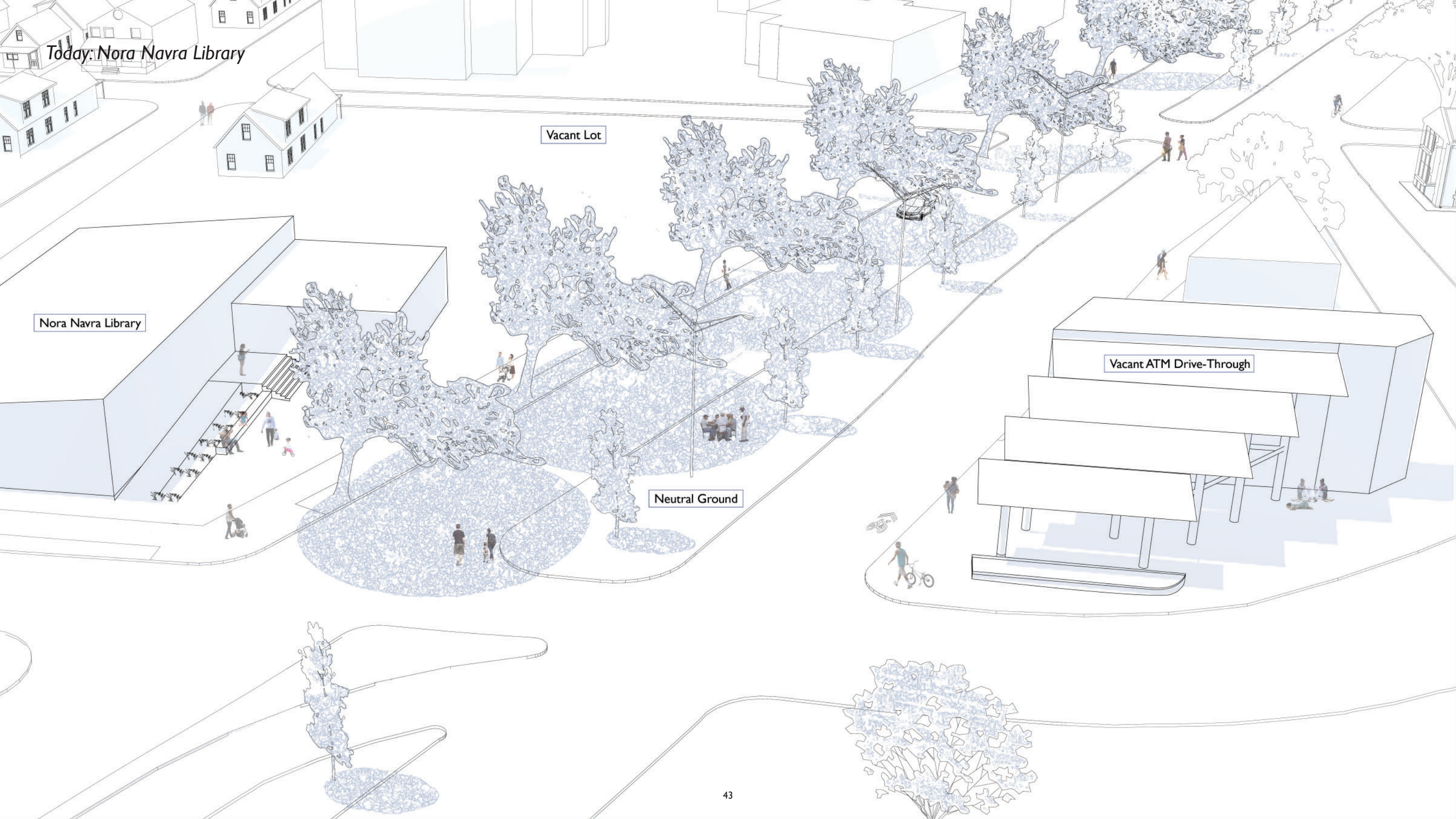
Today: Nora Navra Library

Vacant Lot

Nora Navra Library

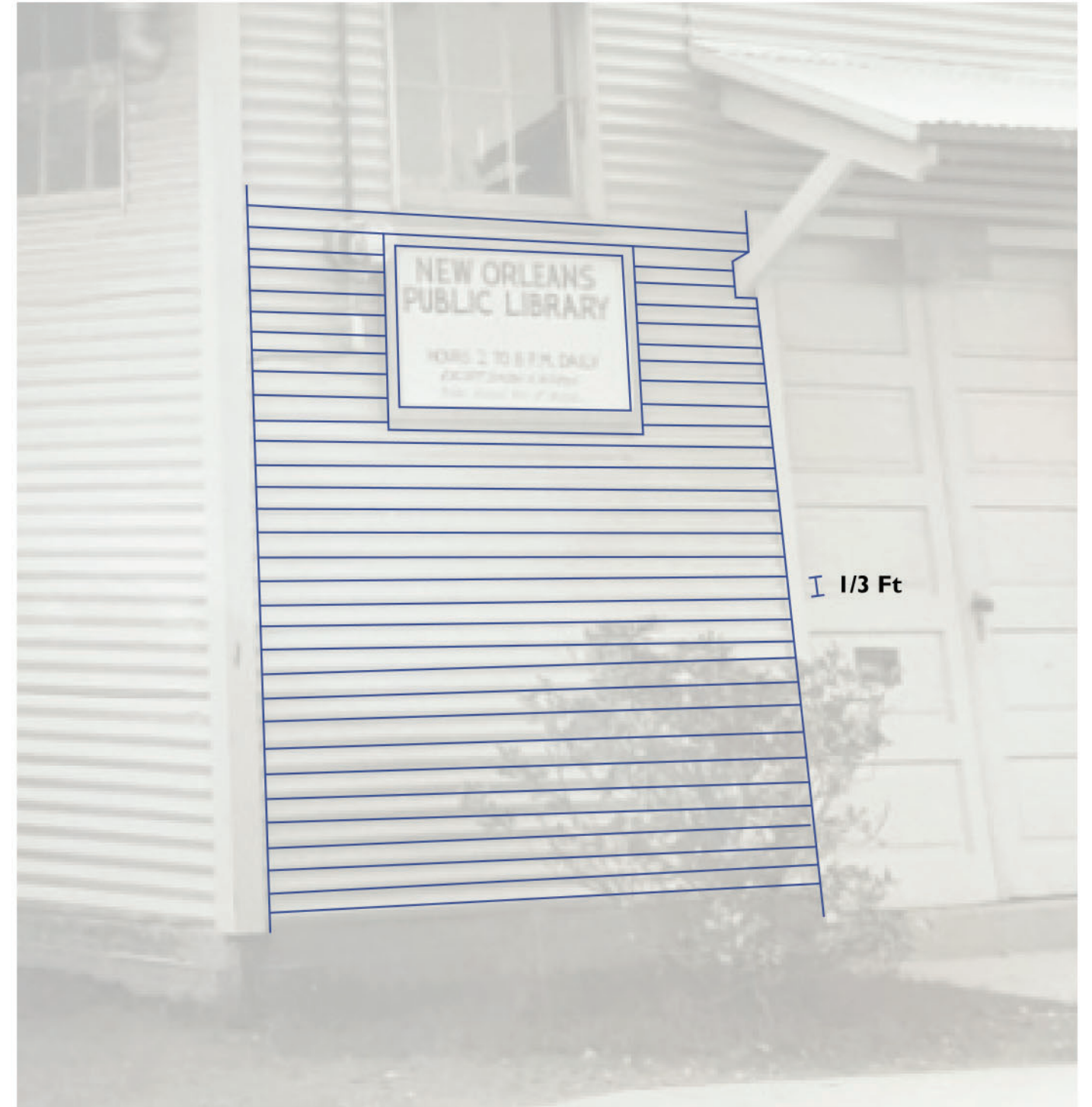
Vacant ATM Drive-Through

Neutral Ground



Looking Forward: Nora Navra Library

Looking forward, the design reflects the legacies of Nora Navra's beginnings as a 32 x 54-foot surplus hut, and a place for learning and enclosure.



Throwing Shade: Nora Navra Library

Backyard Grove

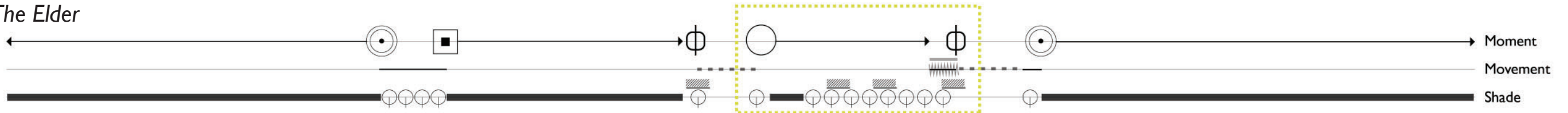
Expanded Neutral Ground

Solar Energy Capture and Storage

Community Kitchen



Daily Score: The Elder



Moments:

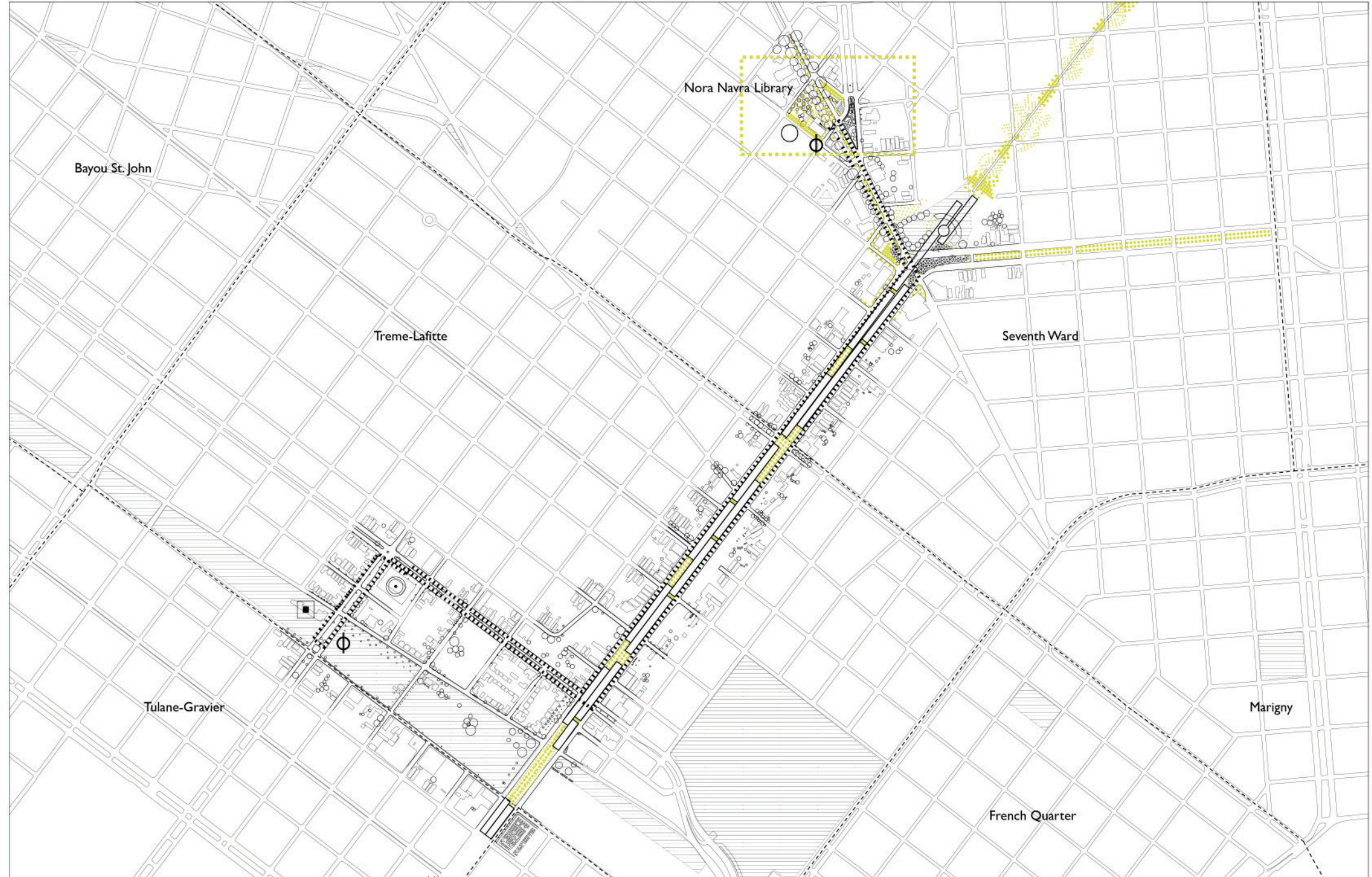
- Parks
- Senior Care Homes
- Bus Stops
- NORDC Facilities
- Libraries

Movements:

- Streets
- Walking
- Public Transit
- Neutral Grounds
- Emissions Exposure

Shade:

- Canopy
- Indoors
- Shade Covers



0 0.125 0.25 Miles N

Throwing Shade: Nora Navra Library

Nora Navra's redesign has three main components—the backyard grove, the introduction of an outdoor community kitchen and solar energy storage center, and the expansion of the neutral ground.

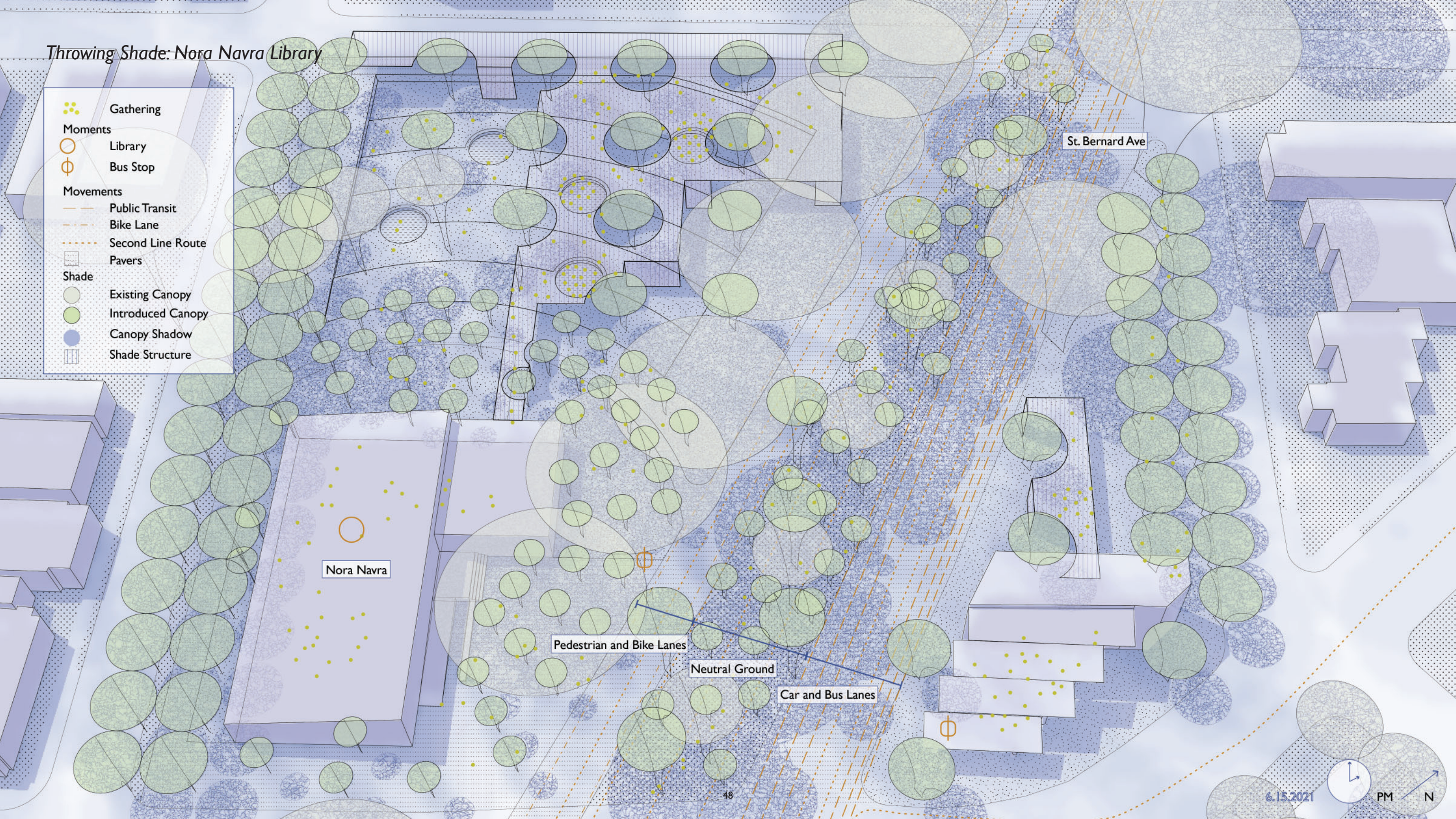
The language of linear and radial grids defined by oak and cypress plantings connects the adjacent lots, expands shade, and increases programs. The library is expanded across the entire block, emphasizing its positioning as an open neighborhood resource. Both the introduced trees and structure throw shade onto the library, neutral ground, community kitchen, and sunken stepped landscape.

Until the tree canopy grows to provide expansive shade, the structure can provide comfort and expanded programmatic use. Below the living and constructed canopy, the light and shade define rooms for gathering and learning.



Throwing Shade: Nora Navra Library

- Gathering Moments
- Library
- Bus Stop
- Movements**
 - Public Transit
 - Bike Lane
 - Second Line Route
- Pavers**
 -
- Shade**
 - Existing Canopy
 - Introduced Canopy
 - Canopy Shadow
 - Shade Structure



Nora Navra

St. Bernard Ave

Pedestrian and Bike Lanes

Neutral Ground

Car and Bus Lanes



Expanded
Neutral
Ground

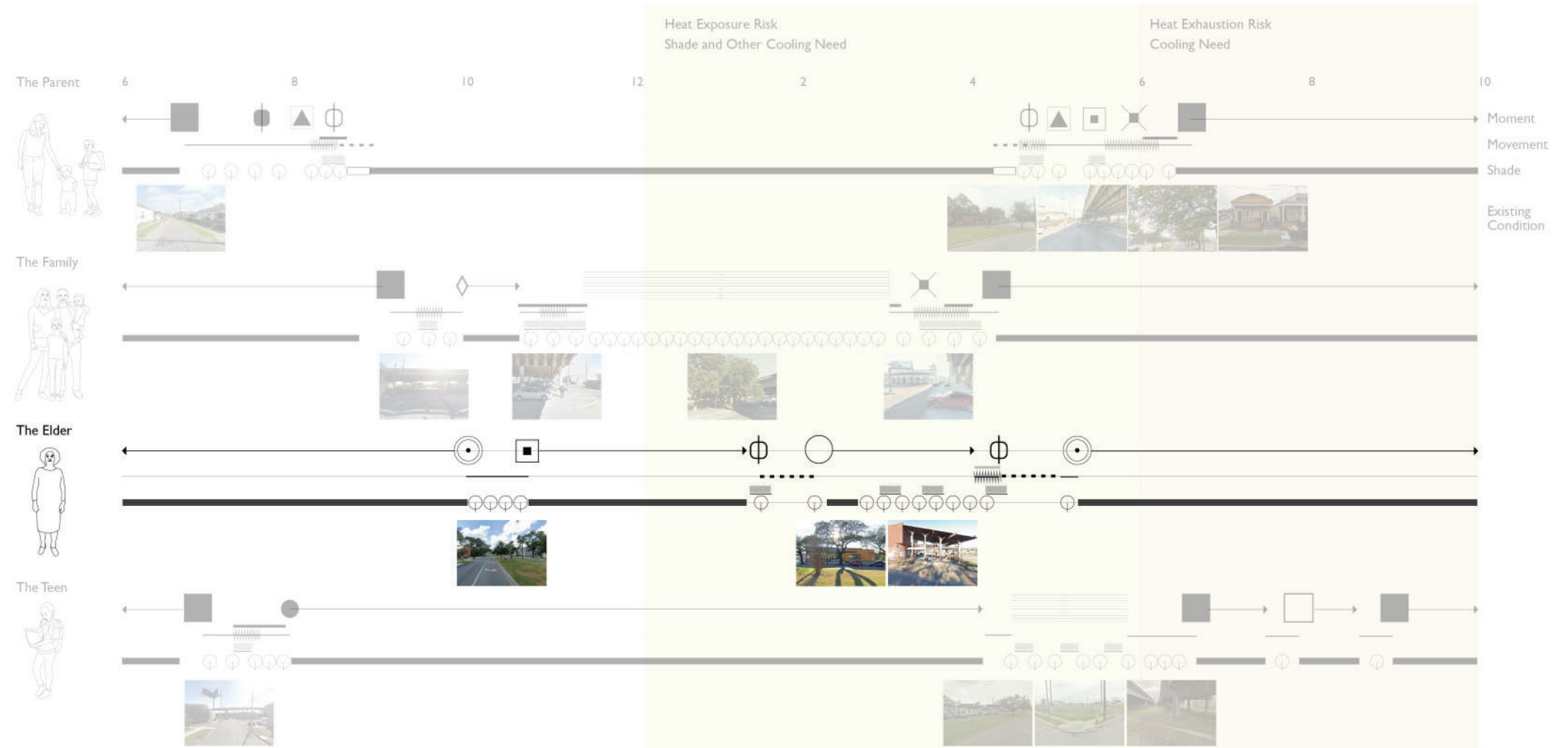
Semi-Temporary Shade Structure

Shaded Rooms



Daily Score: The Teen

The final score follows a teenager on their way from home to school, to a park after school, home, to a friend's house, and home again.



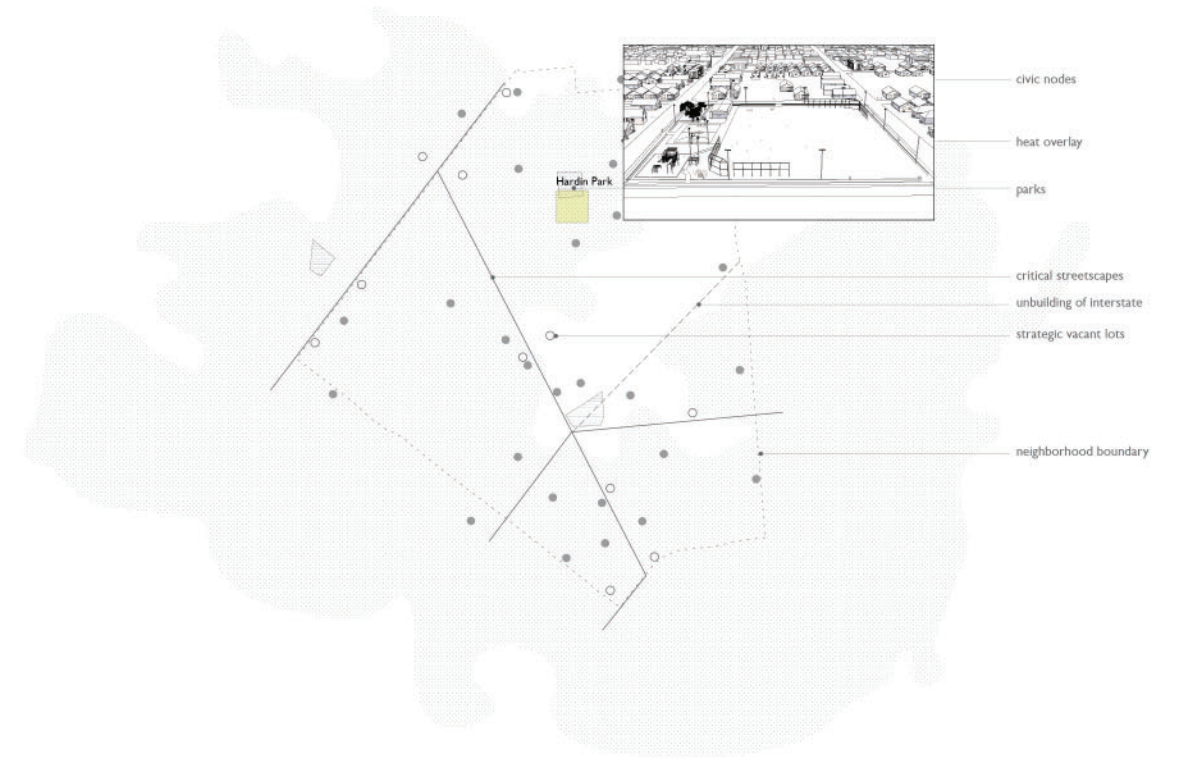
- Moments:**
- Homes
 - Friend's/Family's Homes
 - ⊙ Senior Care Homes
 - School Bus Drops
 - ⊕ Bus Stops
 - Schools
 - ▲ Daycares
 - NORDC Facilities
 - ✕ Grocery Stores
 - ◇ Places of Worship
 - Libraries
 - ▭ Parks
- Movements:**
- Walking
 - - - Public Transit
 - Neutral Grounds
 - ▨ Emissions Exposure
- Shade:**
- Canopy
 - Indoors
 - ▨ Shade Covers

Daily Score: The Teen

The score traces along the cooling spine established on the extended St. Bernard Avenue neutral ground, as well as the final moment and movement in the design set. Specifically, the score pauses at Hardin Park and moves through the I-10 Swamp. The following designs will begin with Hardin Park—a block-sized open space in the Seventh Ward.



Sites: Hardin Park



Legacies: Hardin Park

The park was established in 1921 as a private black park. It was funded through community stocks towards collective ownership. The park hosted the 1933 Negro World Series, for which 4,000 seats were erected. Even after it was assumed by the city in 1939, the playground equipment was still paid for by neighborhood donors. Decades later, the park was home to tens of families housed in FEMA trailers for several years after Hurricane Katrina.

1921

Mayor Favors Negro Park.
A delegation of negroes headed by Walter Cohen called on Mayor McShane Thursday afternoon and asked if he would offer any objection to negroes purchasing a tract of land in the rear of the city for establishing a park for their race. The mayor replied that he would not, and declared his belief that it would be of benefit to the negro population of New Orleans.

Source: Times Picayune, February 4, 1921

1933



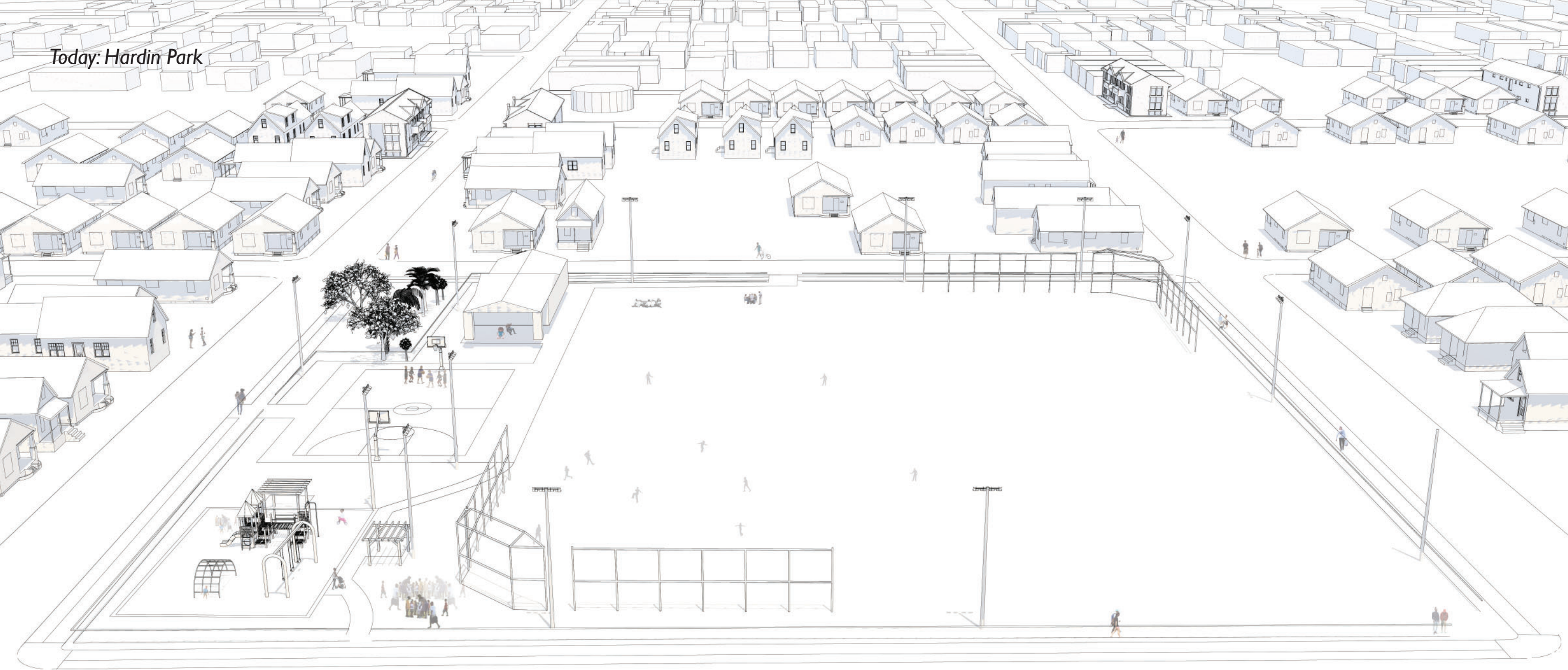
Source: The Crisis: A Record of the Darker Races vol. 23, no. 1 (National Association for the Advancement of Colored People, 1921)

2007



Source: Google Maps Street View, 2007

Today: Hardin Park



Today: Hardin Park

The park currently hosts a baseball field, playground, basketball court, and public bathrooms. There is little to no shade on the site. While the open green space offers cooling, it is minimal, especially during heatwaves.

The park's boundary is currently defined by the block's pavement, but nearby vacant lots, especially those adjudicated to or owned by the city or the New Orleans Redevelopment Authority, offer potential for expanding the park's boundaries and allowing for more shade to be thrown.

1925 N Rocheblave St
Owner: New Orleans Redevelopment Authority

2426 New Orleans St
Owner: New Orleans Redevelopment Authority

2639 Annette St
Owner: Albert H Bentley Jr
C/O City of New Orleans

2044 Hope St
Owner: New Orleans Redevelopment Authority

2629 Annette St
Owner: Glory of God Baptist Church
Adjudicated to City of New Orleans

2022 N Dorgenois St
Owner: Mitchell Claude
C/O City of New Orleans

2012 N Dorgenois St
Owner: John B Richards
Adjudicated to City of New Orleans

2016 N Dorgenois St
Owner: John B Richards
Adjudicated to City of New Orleans

- Park boundary
- Vacant lot
- NORA, C/O or adjudicated City lots
- ▨ Expanded park boundary
- ▤ Rapid response lot use
- 1 ft contours

0 62.5 125 250 375 500 Feet

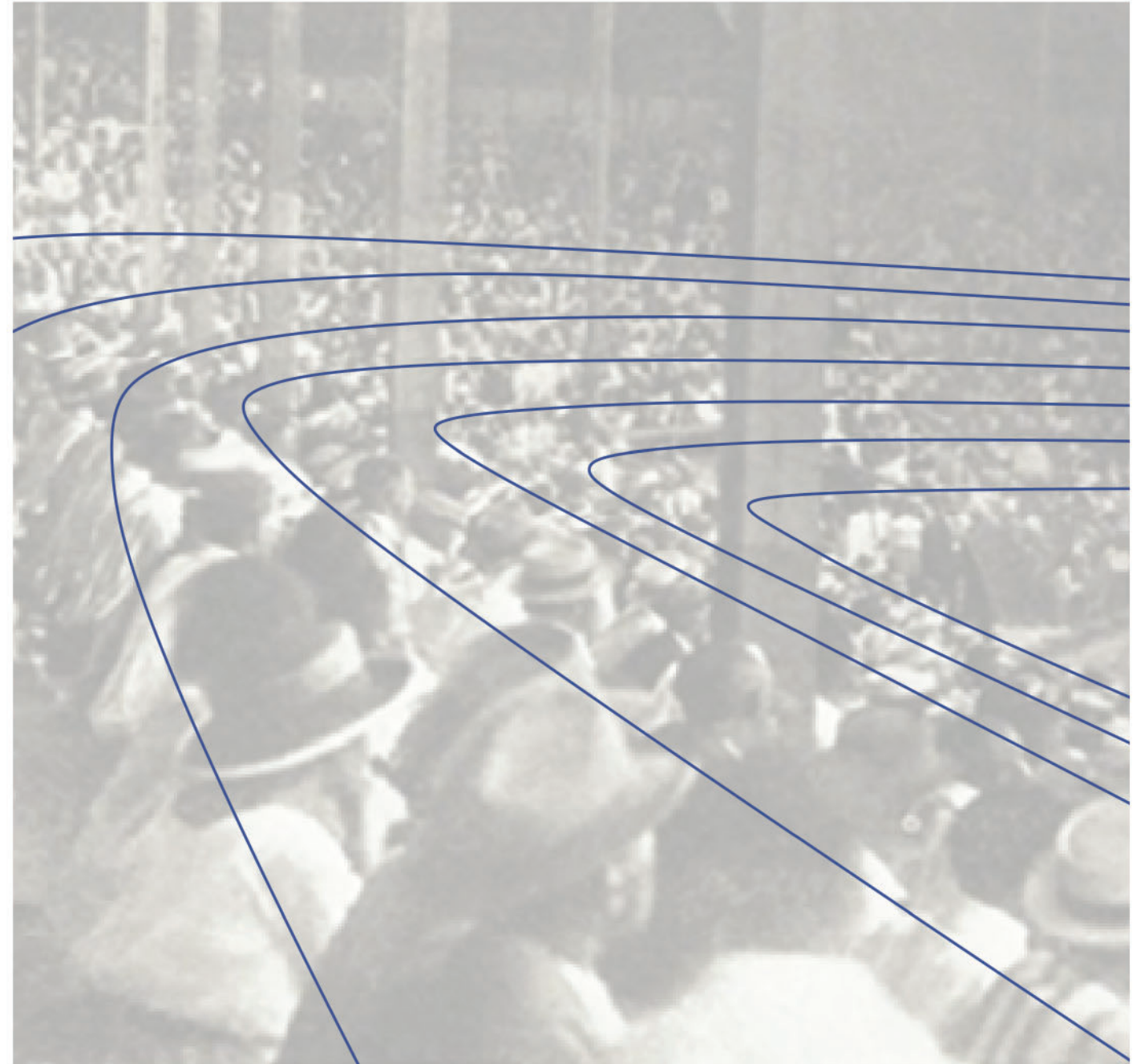
Looking Forward: Hardin Park

In later years, I branched off and started the Dirty Dozen Brass Band. I'm a founding member. They used to play baseball every Thursday at Hardin Park in the Seventh Ward and we'd go in to the grandstand and we'd play music for the neighborhood people. Then at the end of the game we'd parade from Hardin Park to Darryl's Lounge on Saint Ann Street. That used to be on a Thursday night.

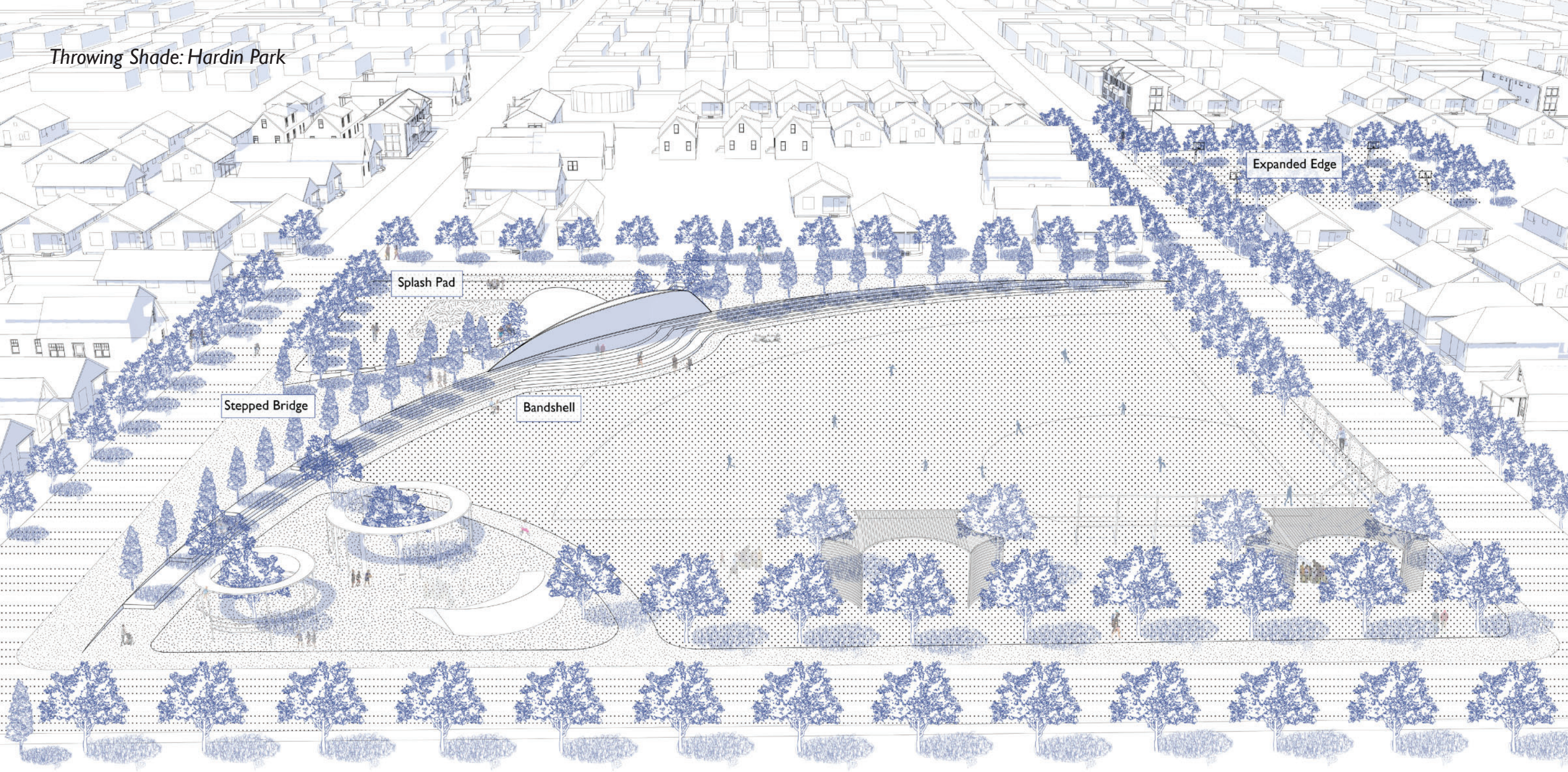


Benny Jones Senior was born in a musical family. His father, Chester Jones, played drums in the Preservation Hall Jazz Band and he married into the Batiste family. He has played in and assembled some of the city's most acclaimed jazz bands -- Olympia Brass Band, Dirty Dozen Brass Band, and the Tremé Brass Band. He is the band leader of the Tremé Brass Band, which plays every Wednesday at the Candlelight Lounge, pulling in a large crowd and holding down the only regular live music show in the Historic Tremé.

When I was a kid, I was a student at Joseph Craig School. That's right over on Saint Philip and North Villere. And sometimes during the weekdays jazz funerals would be passing while we were in school. And they'd let us go to the window and peep at the jazz funeral going down the street. I always wanted to be involved in something like that, be a musician and be a part of that one day. So another time there was one jazz funeral coming by and everybody went to the window. I went downstairs like I was going to the bathroom and went out there and followed the parade. And when I got back, school was closed. So the next day when I went to school, the teacher didn't say anything and I thought I got away with it. When school let out, she said, "Come here. Where were you yesterday? You left my classroom."



Throwing Shade: Hardin Park



Expanded Edge

Splash Pad

Stepped Bridge

Bandshell

Daily Score: The Teen



Moments:

- Parks
- Homes
- Friend's/Family's Homes
- Schools

Movements:

- Streets
- Walking
- Neutral Grounds
- Emissions Exposure

Shade:

- Canopy
- Indoors
- Shade Covers

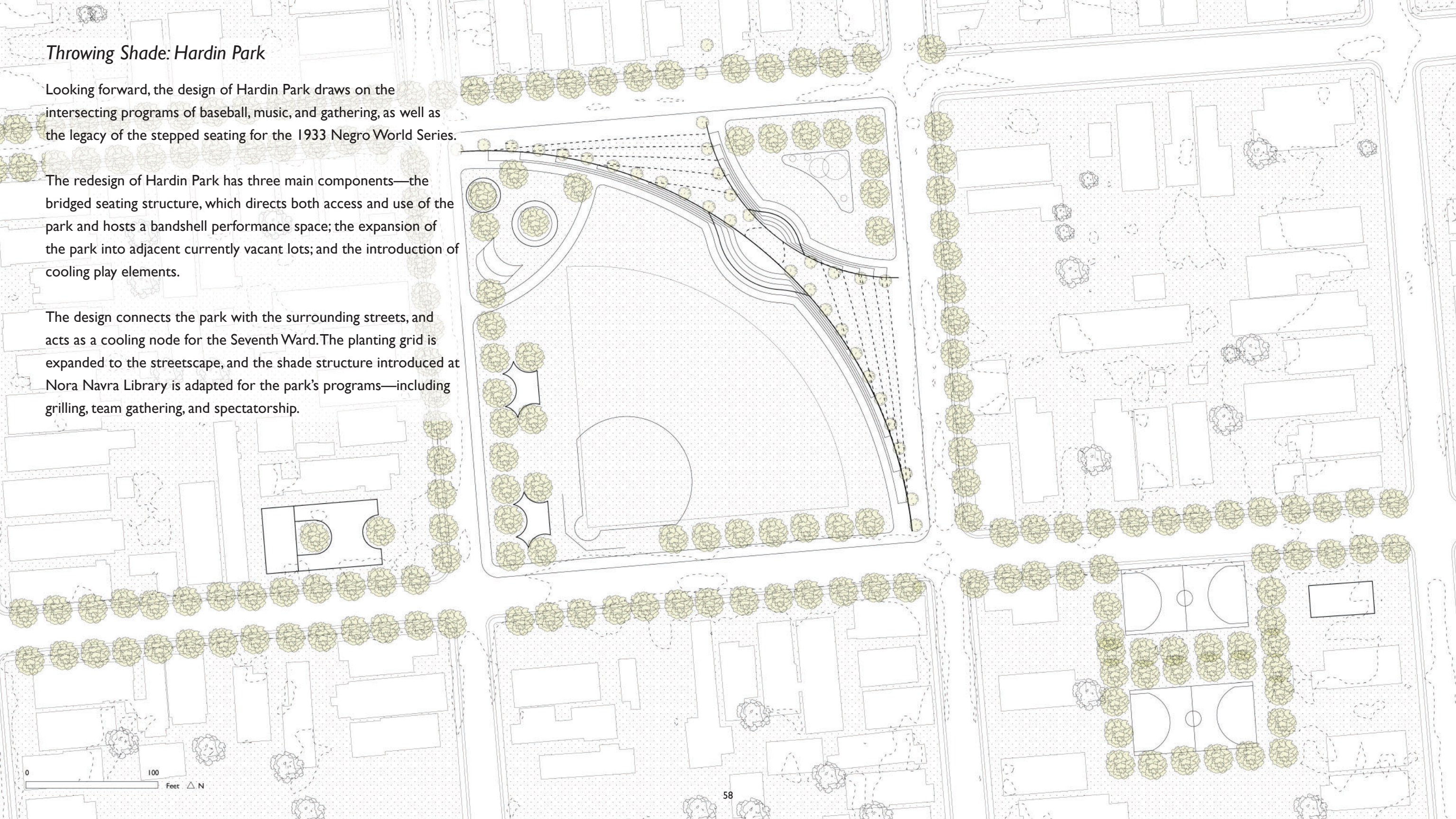


Throwing Shade: Hardin Park

Looking forward, the design of Hardin Park draws on the intersecting programs of baseball, music, and gathering, as well as the legacy of the stepped seating for the 1933 Negro World Series.

The redesign of Hardin Park has three main components—the bridged seating structure, which directs both access and use of the park and hosts a bandshell performance space; the expansion of the park into adjacent currently vacant lots; and the introduction of cooling play elements.

The design connects the park with the surrounding streets, and acts as a cooling node for the Seventh Ward. The planting grid is expanded to the streetscape, and the shade structure introduced at Nora Navra Library is adapted for the park's programs—including grilling, team gathering, and spectatorship.



0 100 Feet \triangle N

Throwing Shade: Hardin Park

- Moments**
 - Gathering
 - Basketball Court
 - Playground, Splash Pad
- Movements**
 - Contours, 1 ft
 - Pavers
 - Paths
- Shade**
 - Existing Canopy
 - Introduced Canopy
 - Canopy Shadow
 - Shade Structure

Bathrooms
Community Grills

Stepped Bridge

Playground

Bandshell

Splash Pad

Shared Streets

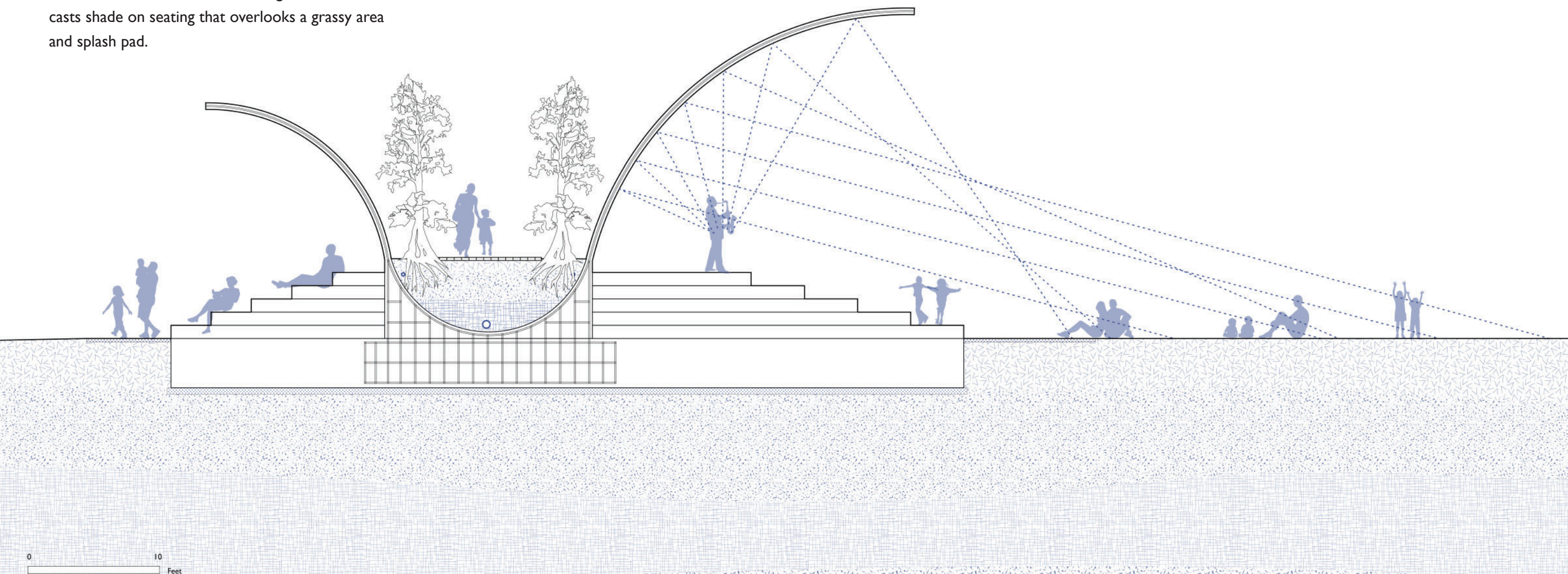
Bathrooms with Showers

Basketball Courts 6.15.2021

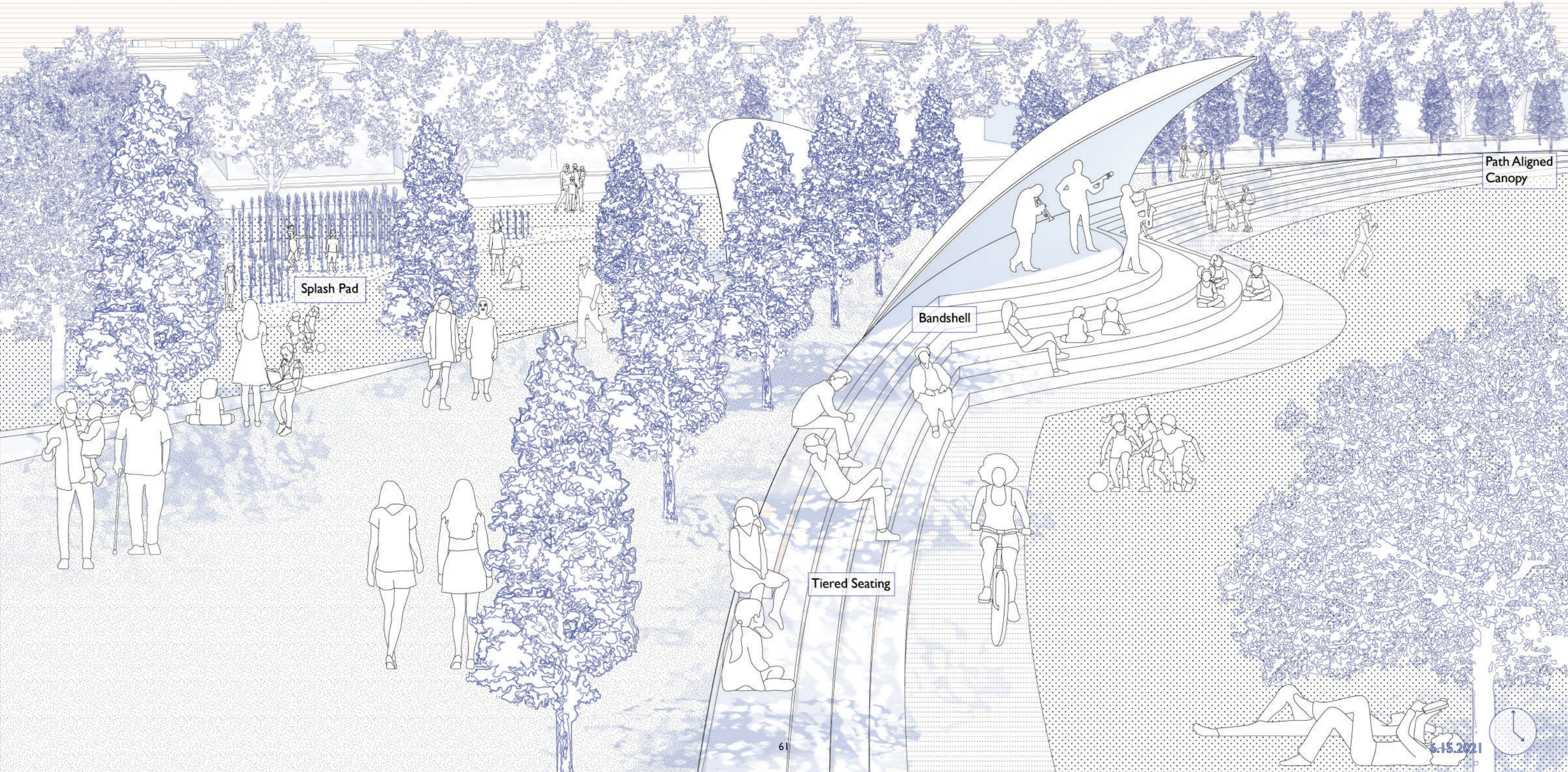


Throwing Shade: Hardin Park

The double curvature formation of the shells provides shelter and performance space. Like the acoustic canopy at the Claiborne Corridor, the curvature here creates both shade and sound reverberation. The large shell's location allows it to support daily music and performances, as well as community-wide programming for which the baseball field can be used as seating. The small shell casts shade on seating that overlooks a grassy area and splash pad.



Throwing Shade: Hardin Park



Splash Pad

Bandshell

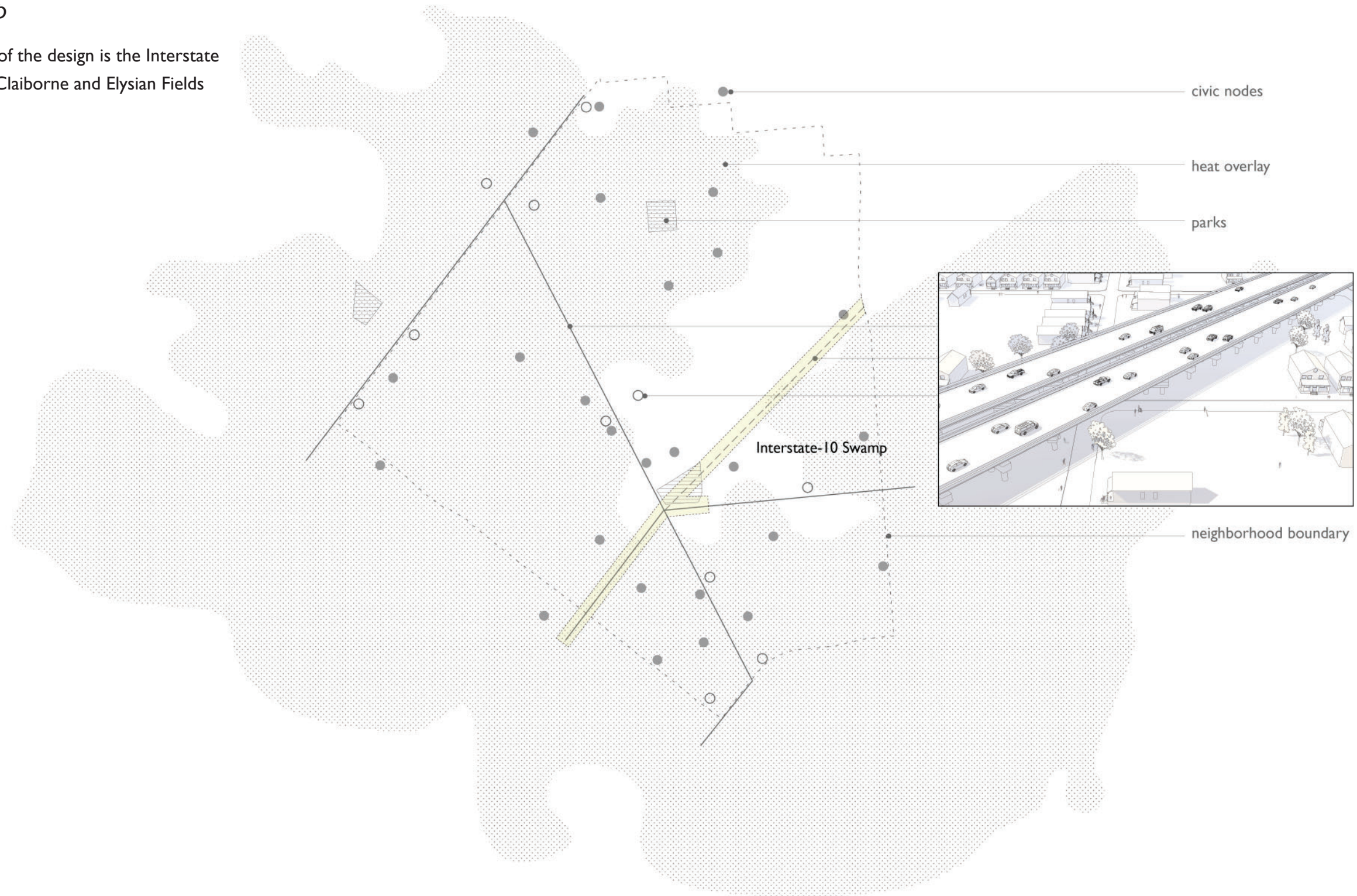
Tiered Seating

Path Aligned Canopy



Sites: I-10 Swamp

The final movement of the design is the Interstate 10 Swamp between Claiborne and Elysian Fields Avenues.



Legacies: I-10 Swamp

The cypress swamps historically provided homes for indigenous populations and protection for Maroon communities. Maroons were communities of formerly enslaved Africans and their descendants who sought refuge in the swamps. They cultivated beans, corn, and herbs, as well as fished and hunted. Maroons were often brutally captured and killed by colonists.

Across the 19th, 20th, and 21st centuries, there have been numerous attempts to control and drain the swamps in order to expand the city, initially with the digging of canals to connect the city to Lake Pontchartrain. In 1913, with the invention of the Wood screw drainage pump—draining became the main strategy. Wood’s pumps and their successors have funneled groundwater and organic matter out of the water table for more than 100 years, leaving the dried-out soil to crumble under the weight of roads and buildings. More than 50 percent of the city’s geographic area has sunk below sea level—creating the well-known bowl condition where residents walk up to the water’s edge.

1784

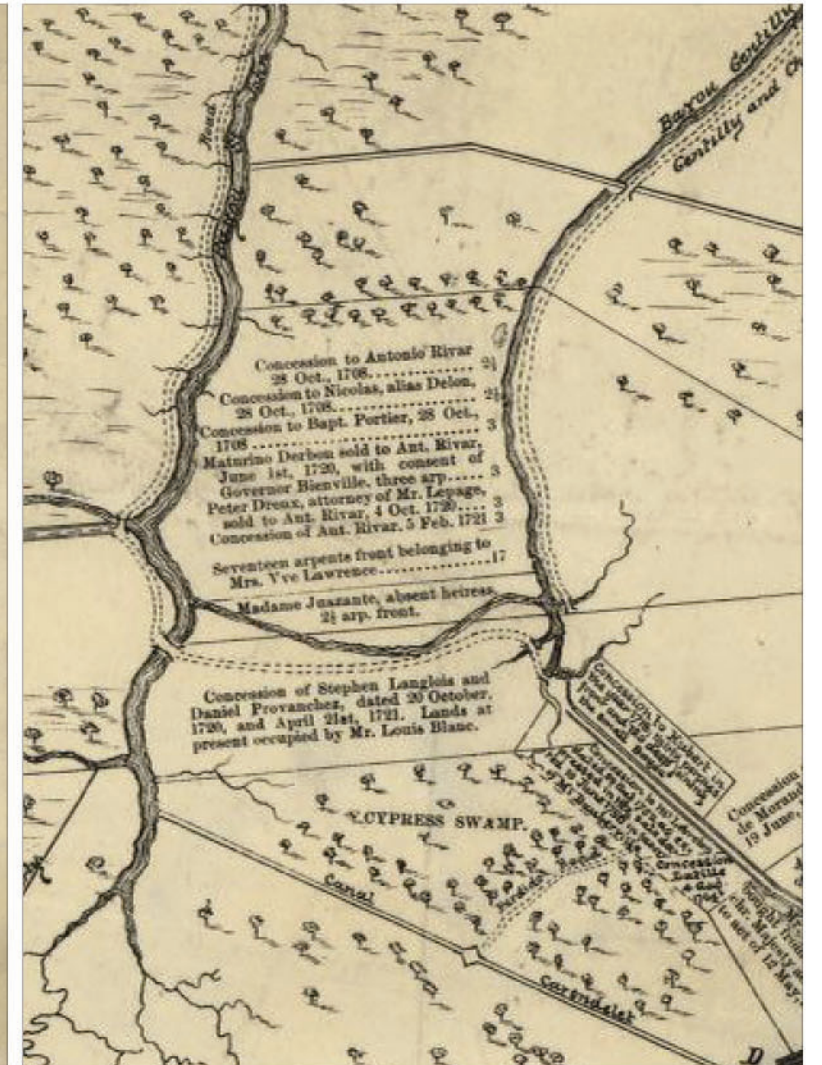


Source: Paper Monuments

1798



Source:WWNO



Legacies: I-10 Swamp

These images depict the destumping of cypress swamps at Elysian Fields in 1935, and the immense labor and removal involved. Rich swamps were cut and dug up to make room for streets and homes on sinking land.

The soils below the overpass are classified as Schriever Clay—meaning they are heavy clay soils, highly fertile, and highly influenced by moisture, and poorly drained. The soils swell when moist and then crack open when dry, making building foundations, roads, and pipelines structurally compromised.



Source: New Orleans Public Library Archive

Today: I-10 Swamp

- Seventh Ward
- Streets
- Flow Accumulation
 - High
 - Low
- Cancienne Silty Loam
- Cancienne Silty Clay Loam
- Harahan Clay
- Schriever Silty Clay Loam
- Schriever Clay
- Urban Land
- Water

Hardin Park

Nora Navra Library

St. Bernard Ave

Schriever Clay: heavy clay soils, highly fertile, highly influenced by moisture, and poorly drained
Located in the backswamp on the Mississippi River alluvial plain

Esplanade Ave

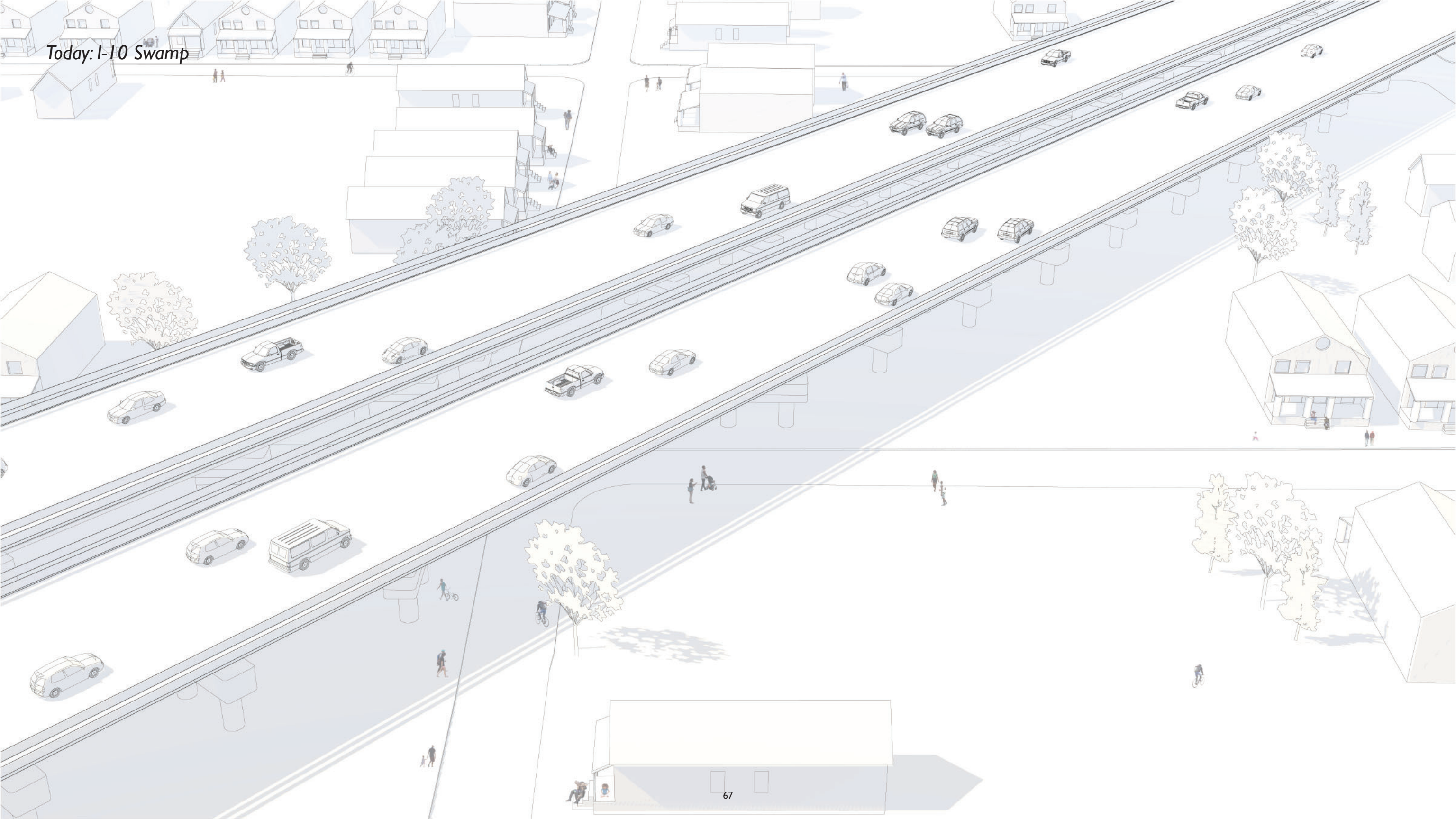
N Claiborne Ave

Interstate-10

Lafitte Greenway

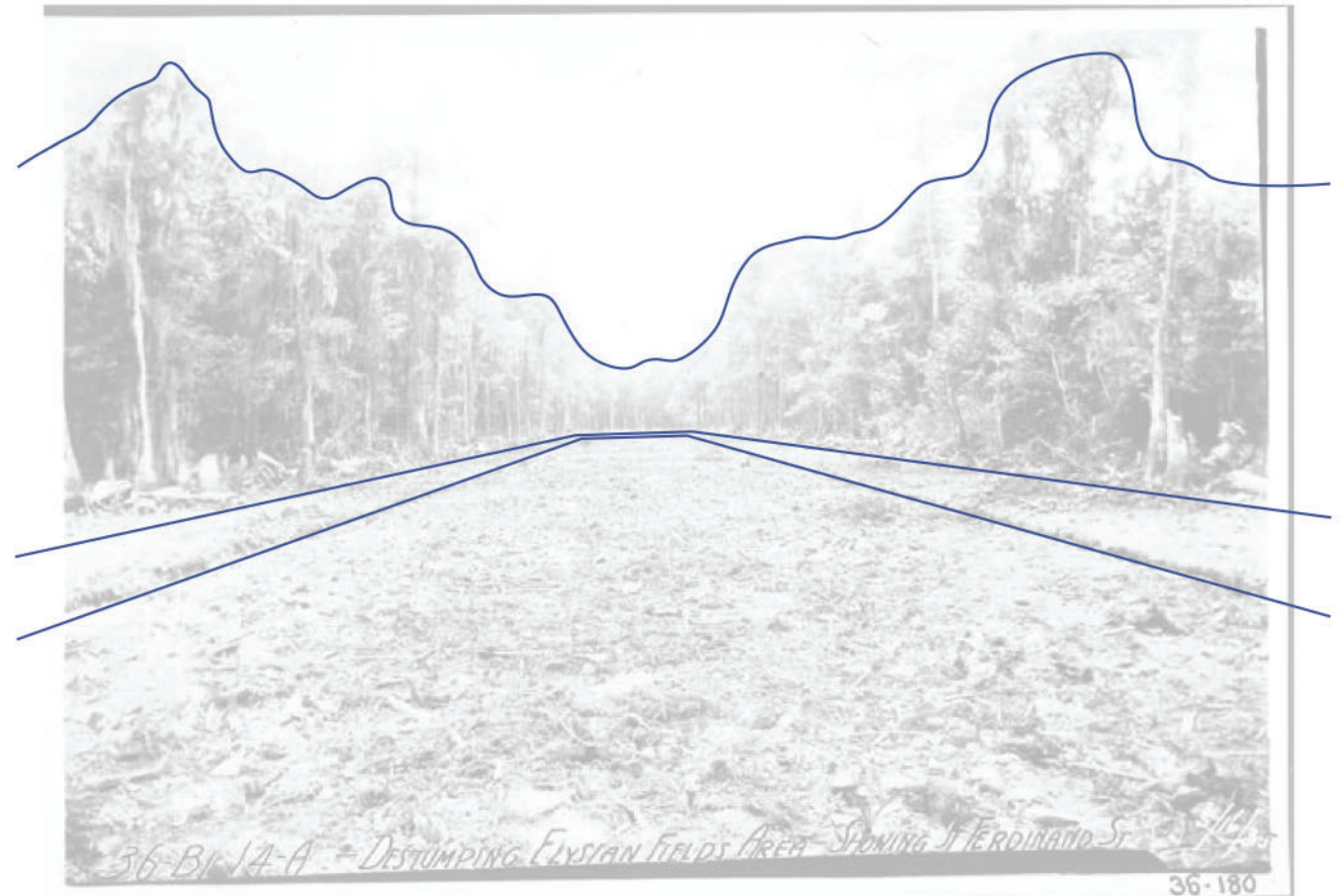
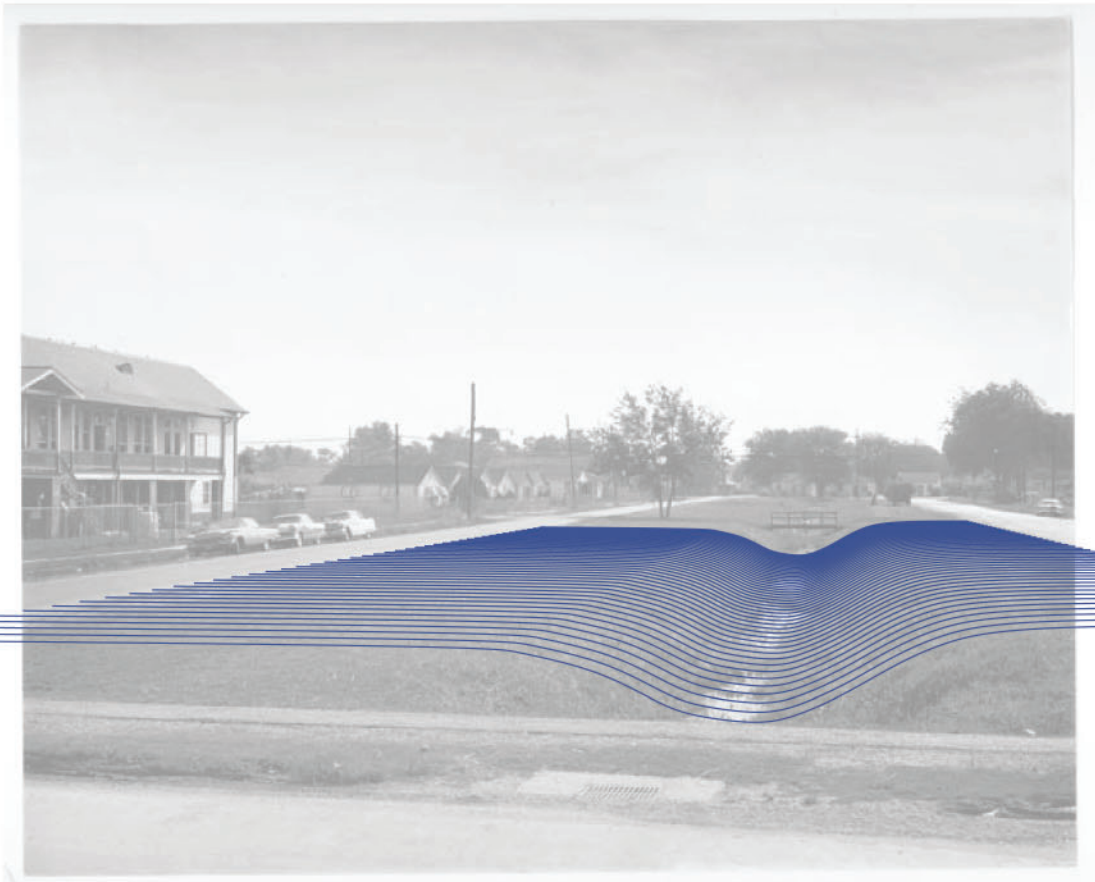
0 0.125 0.25 0.5 Miles N

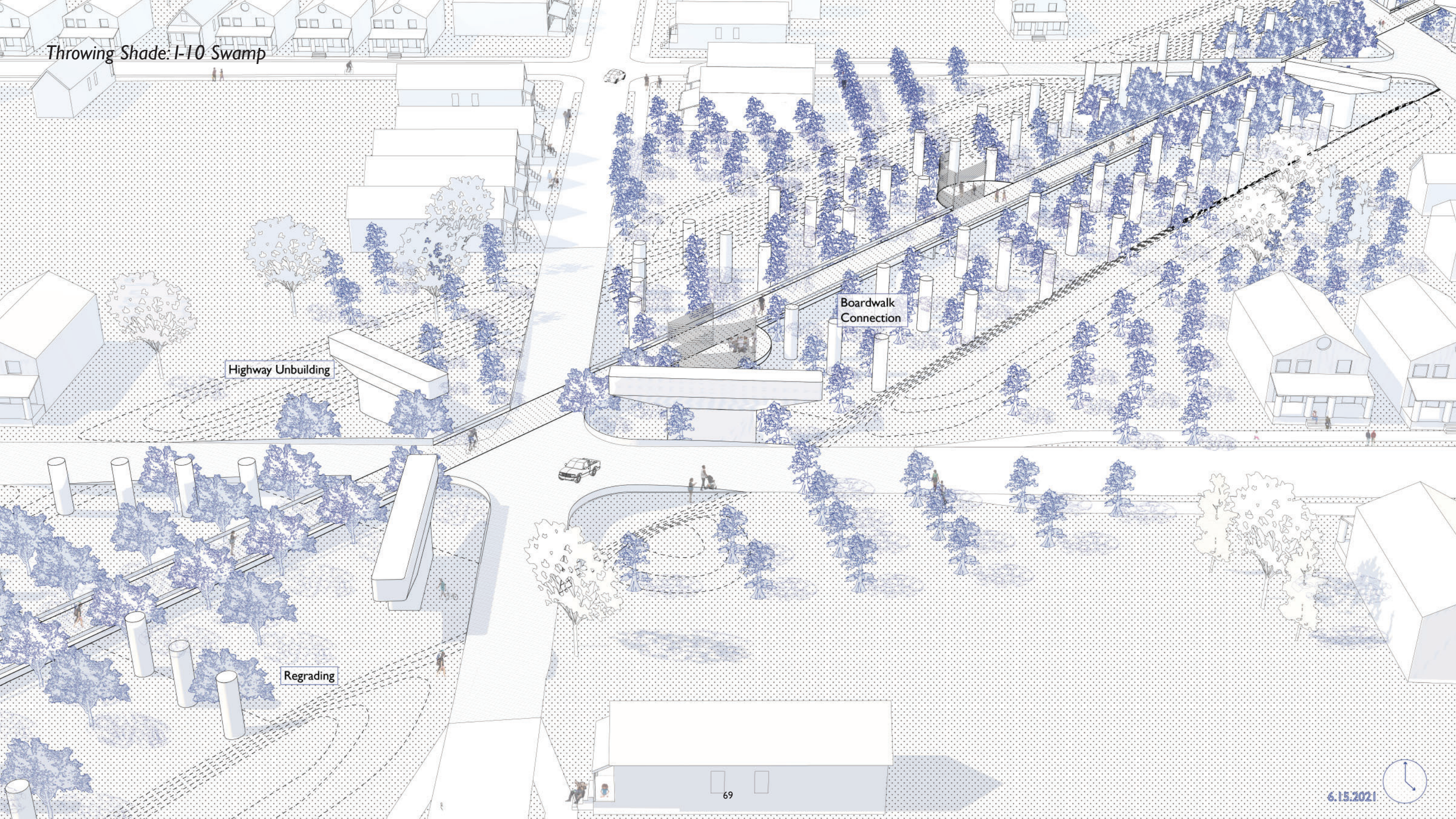
Today: I-10 Swamp



Looking Forward: I-10 Swamp

Today, the highway stands only 15 feet above the ground, placing the traffic at a competing vertical scale with the adjacent houses, and flooding the ground below with polluted runoff. The redesign will consider both the flows of water and vibrant cypress swamps that have been covered and removed.





Highway Unbuilding

Boardwalk Connection

Regrading



Throwing Shade: I-10 Swamp

The design of the Cypress Corridor incorporates three key factors—the decommissioning of the highway, the restoration of the canopy and soil, and the reduction of neighborhood flooding.

The Cypress Corridor extends the cooling spine established at the Claiborne Corridor to Elysian Fields, totaling a two-mile stretch.

Through sloping the footprint of the highway but retaining the bike and pedestrian boardwalk at street level, the cypress corridor brings users from the ground to the canopy, with porch rest points shaded by radial cypress plantings. The four percent sloping ensures water movement with central outflow points. This relieves some of the routine and emergency flooding experienced in the Seventh Ward neighborhood.



0 100 Feet



Throwing Shade: I-10 Swamp

Gathering
Movements
Bike Lane
Contours, 1 ft
Pavers
Shade
Existing Canopy
Introduced Canopy
Canopy Shadow

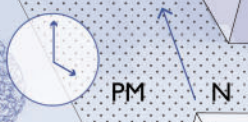
Neighborhood
Street Connection

Boardwalk
Connection

Berms

Public Porches

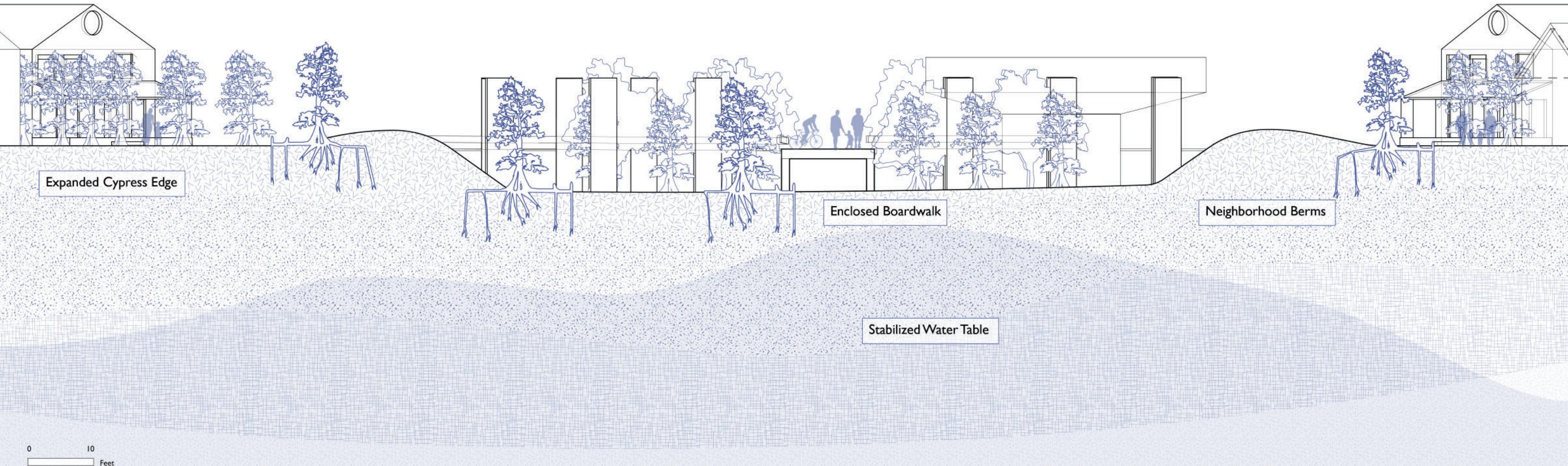
4% Slope

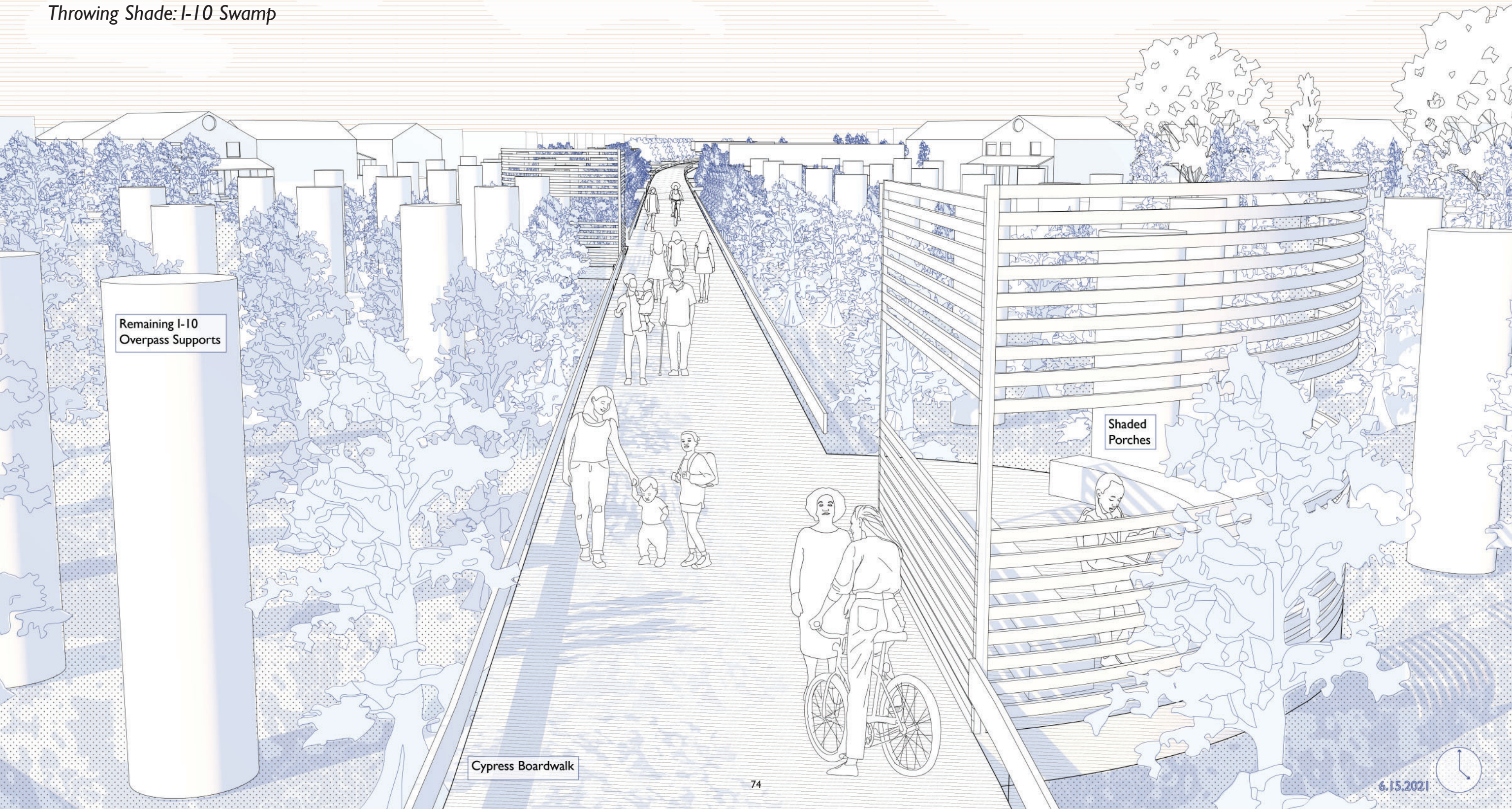


Throwing Shade: I-10 Swamp

The corridor is bounded by berms, reminiscent of levees. The topographic shifts enclose the corridor and provides privacy for the adjacent households, which is currently not afforded by the lofted highway. The boardwalk and shaded porches are constructed with cypress planks. While the highway top will be removed, the pillion supports will remain—transformed into objects of memory that will become less visible as the canopy grows.

The corridor allows water to slowly seep into the ground, keeping the water table more stable and reducing the rate of subsidence. In large rain events, water can be directed and held in the swamp, reducing pressure on the city's aging drainage system, and preventing neighborhood flooding.





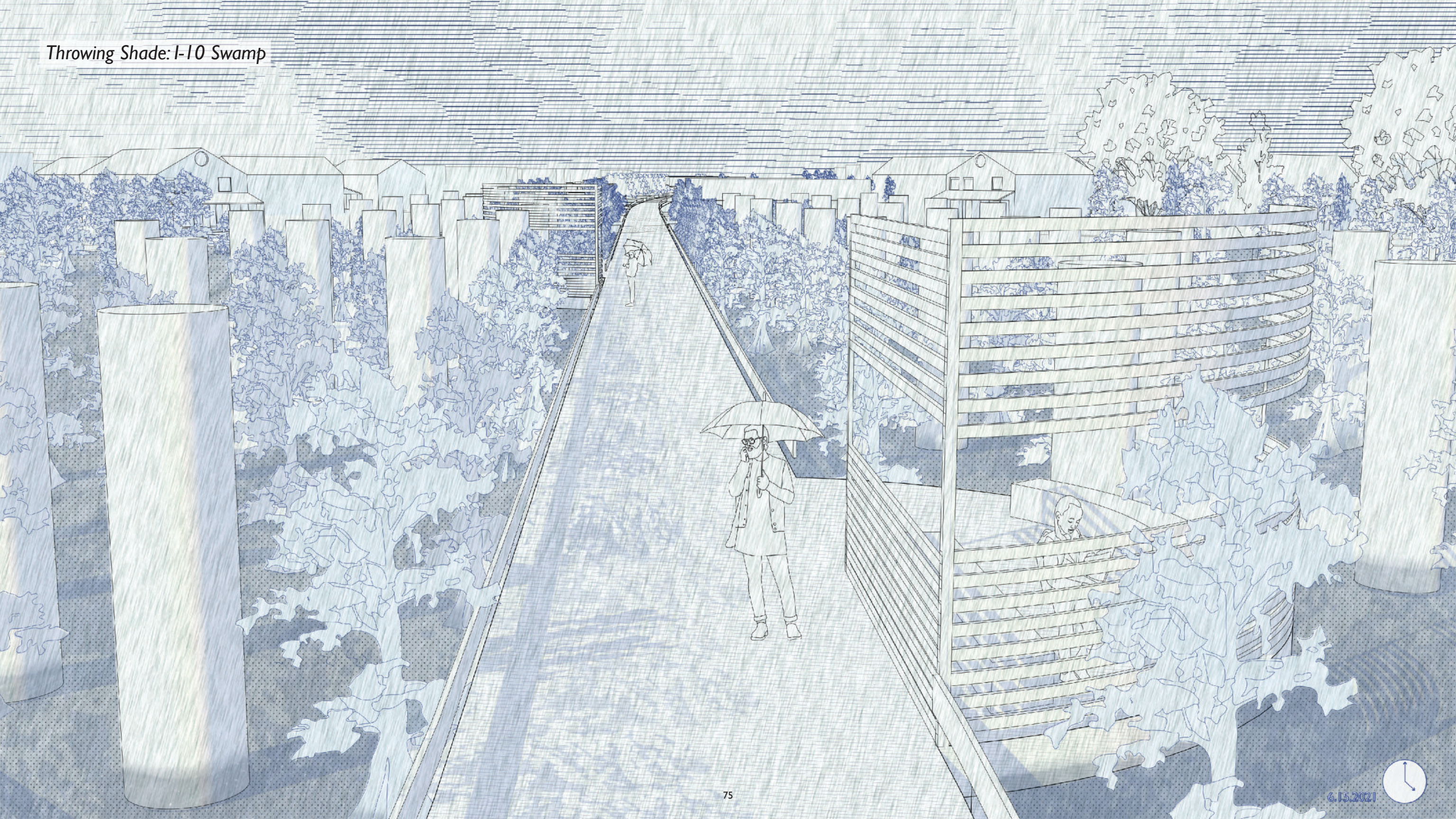
Remaining I-10
Overpass Supports

Shaded
Porches

Cypress Boardwalk

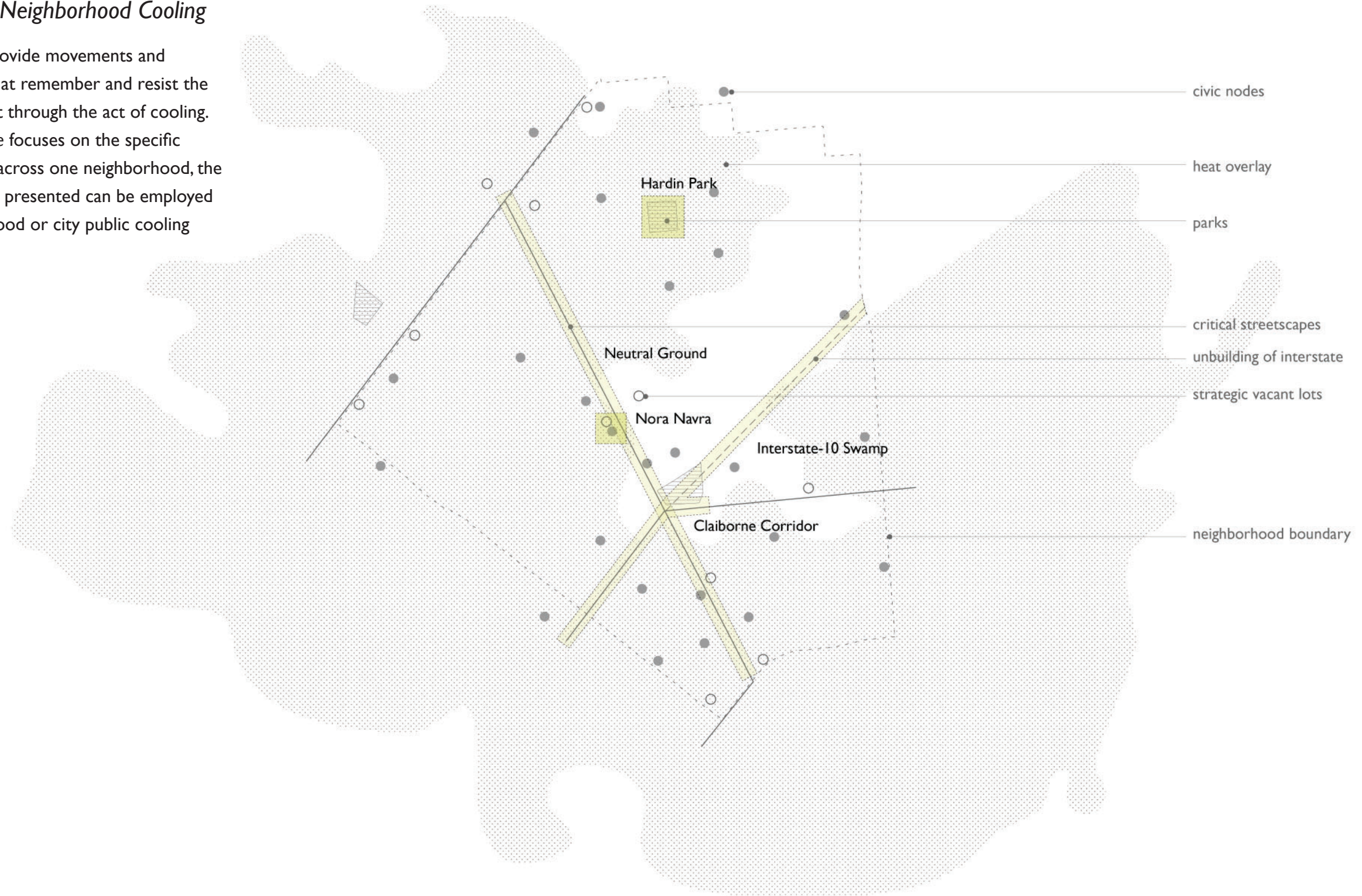


Throwing Shade: I-10 Swamp

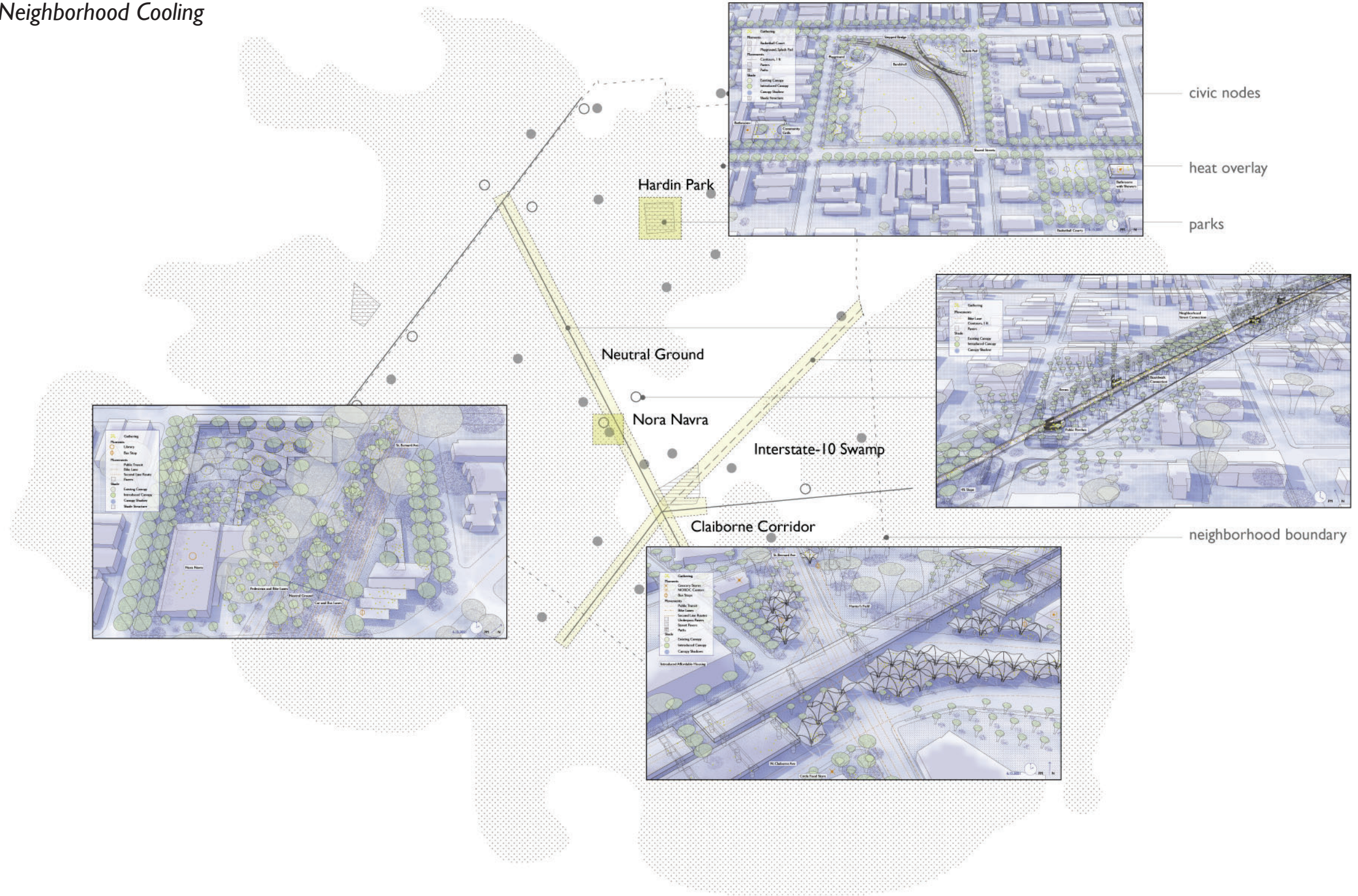


Throwing Shade: Neighborhood Cooling

Together, the sites provide movements and moments of shade that remember and resist the racist legacies of heat through the act of cooling. While *Throwing Shade* focuses on the specific designs of four sites across one neighborhood, the framework and tools presented can be employed as a multi-neighborhood or city public cooling strategy.



Throwing Shade: Neighborhood Cooling



Requiring Shade



Requiring Shade

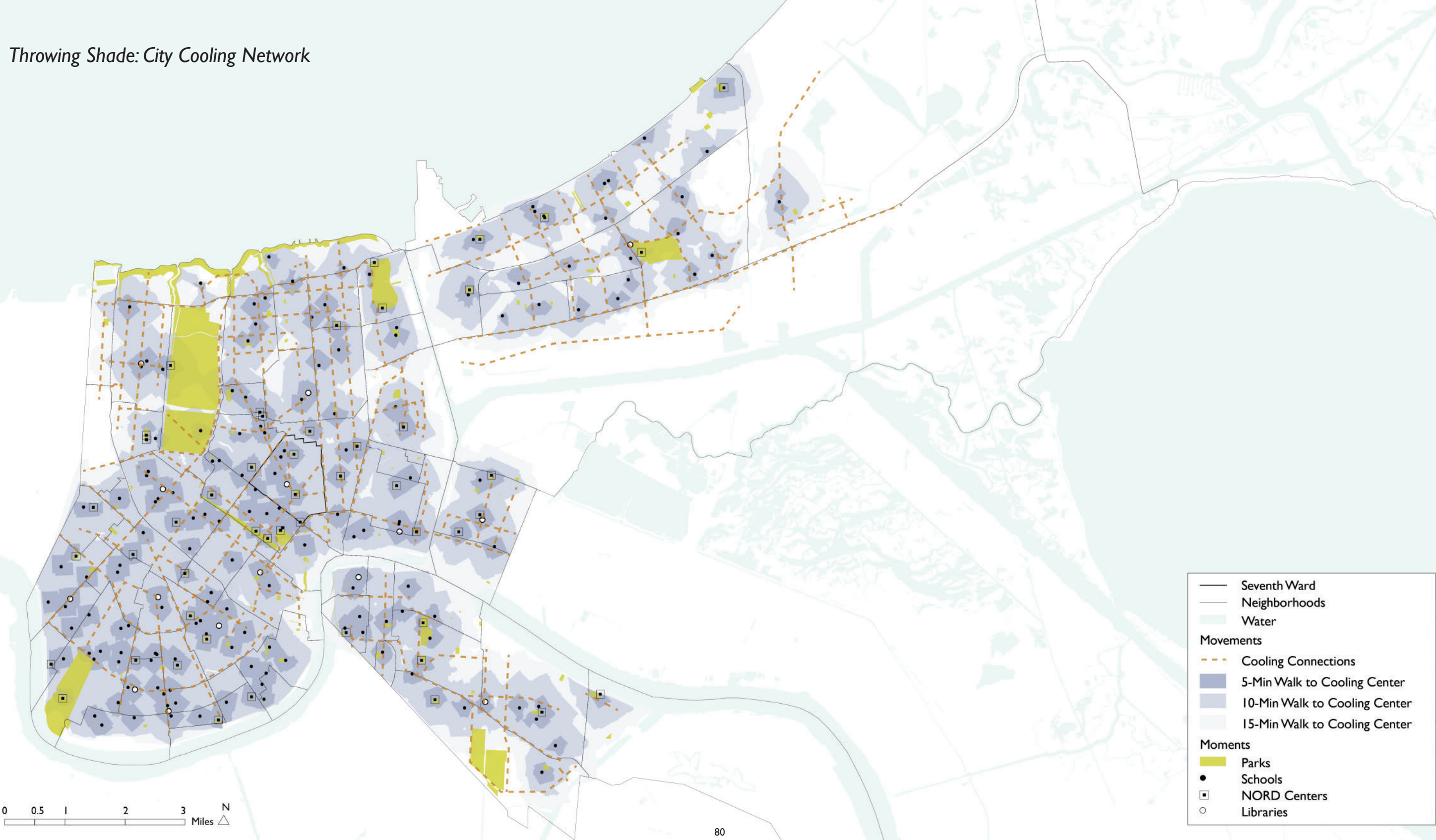
Applied across New Orleans, *Throwing Shade* imagines a network of streetscapes, open spaces, and cooling centers within walking distance that provide thermal comfort to all New Orleanians, but in particular for those who experience difficulty breathing, social isolation, and energy cost burden. Beyond the daily benefits, in times of emergency, the cooling centers can be activated for rapid response. A 2019 study titled *Killer Heat in the United States*, by the Union of Concerned Scientists, projected that, by 2036, New Orleanians may be exposed to nearly five months of temperatures exceeding 90 degrees, and a whopping 46 days topping 105 degrees. There are also projected to be “off the charts” days, meaning the temperature and humidity are so extreme that they exceed levels the National Weather Service can reliably calculate. Currently, “off the charts” means an index of about 131 degrees, and only occurs in the U.S. in the Sonoran Desert, stretching parts of California, Arizona, and northern Mexico.³

During heatwaves, Nora Navra Library, and other cooling sites, will leverage their daily cooling capacities to meet the expanded needs of the community. Through solar panels and an elevated back-up generator, Nora Navra can help to relieve household energy cost burden during heatwaves and provide continued energy access during potential blackouts. Care will be taken to elevate energy capture and storage systems to limit the risk of damage during flooding. Nora Navra will also expand to meet health needs with medicine refrigeration and clean drinking water access. During prior blackouts, nearby public housing units have lost access to water; this intervention provides a necessary neighborhood back up. The outdoor kitchen, designed under the shade of the existing vacant ATM drive-through, brings the hottest part of the home into the public realm and expands the concept of shared resources and space within the library model. Finally, low energy activities under shade will provide relief during the hottest points of the day. Through both daily and rapid cooling designs, the Seventh Ward, and other neighborhoods across New Orleans, can cool safely and collectively.

Throwing Shade considers cooling as justice. It proposes heat escapes, situated within, and with the capacity to be leverage by, the Seventh Ward’s social infrastructure, as shaped by legacies of damage and desire, racism, resistance, and celebration.

³ Dahl, Kristina, Erika Spanger-Siegfried, Rachel Licker, Astrid Caldas, John Abatzoglou, Nicholas Mailloux, Rachel Cleetus, Shana Udvardy, Juan Declet-Barreto, and Pamela Worth. 2019. *Killer Heat in the United States: Climate Choices and the Future of Dangerously Hot Days*. Cambridge, MA: Union of Concerned Scientists. <https://www.ucsusa.org/resources/killer-heat-united-states-0>.

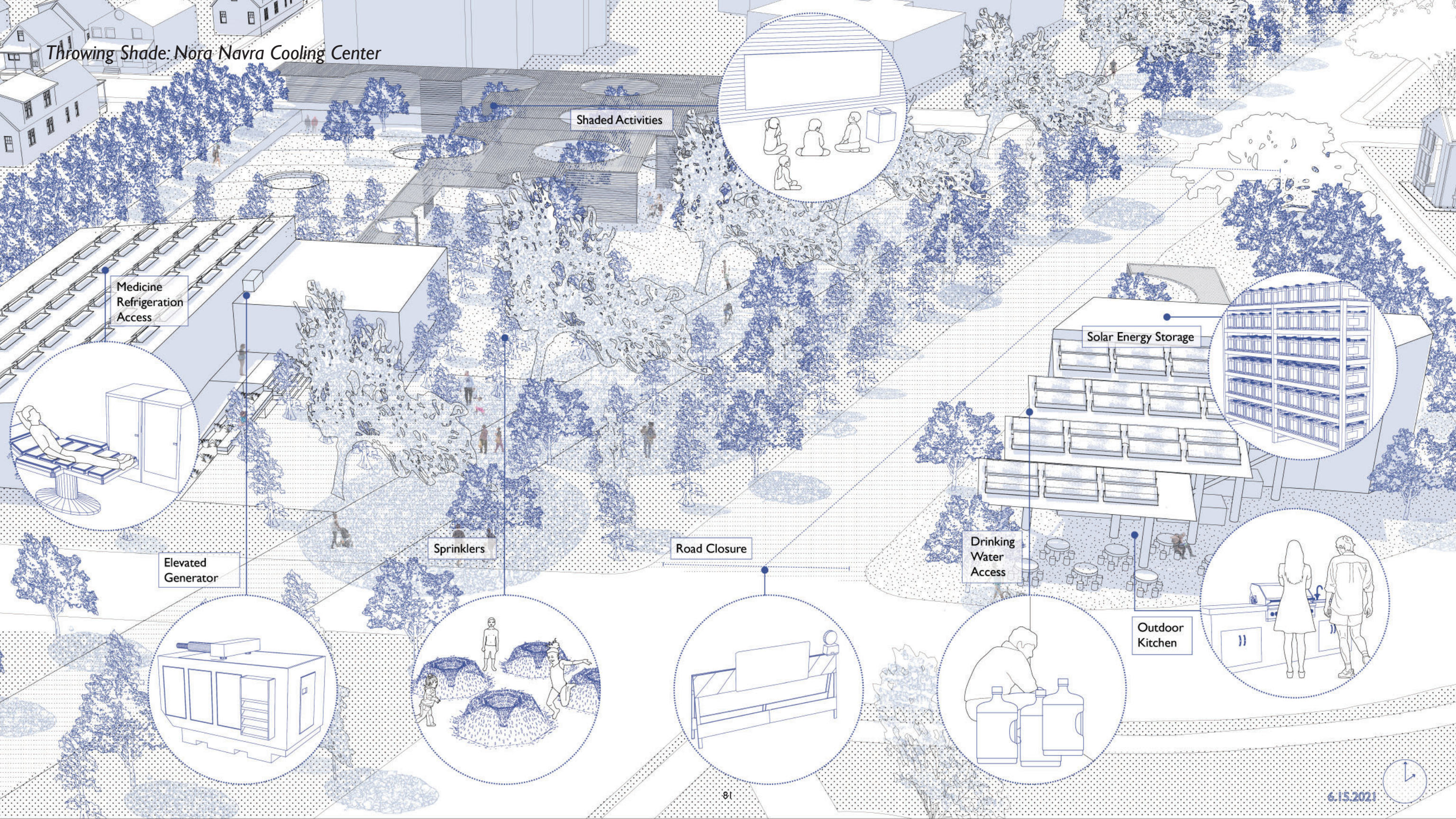
Throwing Shade: City Cooling Network



- Seventh Ward
- Neighborhoods
- Water
- Movements**
- - - Cooling Connections
- 5-Min Walk to Cooling Center
- 10-Min Walk to Cooling Center
- 15-Min Walk to Cooling Center
- Moments**
- Parks
- Schools
- NORDC Centers
- Libraries

0 0.5 1 2 3 Miles N

Throwing Shade: Nora Navra Cooling Center



Shaded Activities

Medicine Refrigeration Access

Solar Energy Storage

Elevated Generator

Sprinklers

Road Closure

Drinking Water Access

Outdoor Kitchen

Giving Shade



Giving Shade

Thank you to everyone who contributed to this thesis:

Jill Desimini, Charles Waldheim, Danielle Choi, Emily Wettstein, Rosalea Monacella, Sara Zewde, Min Yeo, Gracie Villa, Alana Godner-Abravanel, Chloe Soltis, Kara Gadecki, Nora Chuff, Jake Meiseles, Sheila Hopkins, and Peter Stein.

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