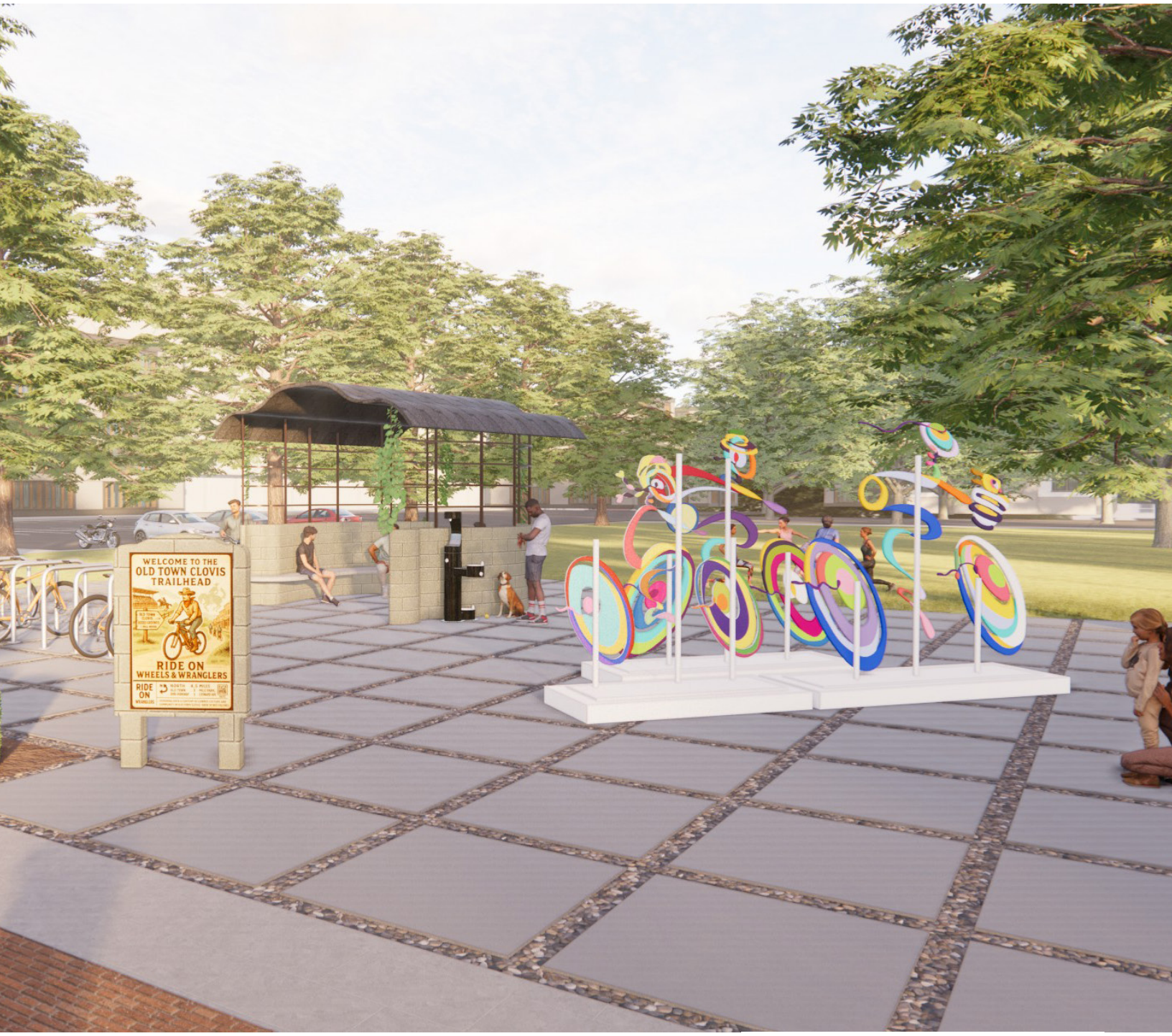
SJSU SAN JOSÉ STATE UNIVERSITY

MTI MINETA TRANSPORTATION INSTITUTE

Fresno's Scribbles Bike Path: A Master Plan for Active Transportation

Holly Sowles Uris Giron



CSUTC California State University Transportation Consortium

FRESNO STATE Discovery. Diversity. Distinction.

CSU TRANSPORTATION CONSORTIUM transweb.sjsu.edu/csutc

MINETA TRANSPORTATION INSTITUTE

Founded in 1991, the Mineta Transportation Institute (MTI), an organized research and training unit in partnership with the Lucas College and Graduate School of Business at San José State University (SJSU), increases mobility for all by improving the safety, efficiency, accessibility, and convenience of our nation's transportation system. Through research, education, workforce development, and technology transfer, we help create a connected world. MTI leads the California State University Transportation Consortium (CSUTC) funded by the State of California through Senate Bill 1 and the Climate Change and Extreme Events Training and Research (CCEETR) Program funded by the Federal Railroad Administration. MTI focuses on three primary responsibilities:

Research

MTI conducts multi-disciplinary research focused on surface transportation that contributes to effective decision making. Research areas include: active transportation; planning and policy; security and counterterrorism; sustainable transportation and land use; transit and passenger rail; transportation engineering; transportation finance; transportation technology; and workforce and labor. MTI research publications undergo expert peer review to ensure the quality of the research.

Education and Workforce Development

To ensure the efficient movement of people and goods, we must prepare the next generation of skilled transportation professionals who can lead a thriving, forward-thinking transportation industry for a more connected world. To help achieve this, MTI sponsors a suite of workforce development and education opportunities. The Institute supports educational programs offered by the Lucas Graduate School of Business: a Master of Science in Transportation Management, plus graduate certificates that include High-Speed and Intercity Rail Management and Transportation Security Management. These flexible programs offer live online classes so that working transportation professionals can pursue an advanced degree regardless of their location.

Information and Technology Transfer

MTI utilizes a diverse array of dissemination methods and media to ensure research results reach those responsible for managing change. These methods include publication, seminars, workshops, websites, social media, webinars, and other technology transfer mechanisms. Additionally, MTI promotes the availability of completed research to professional organizations and works to integrate the research findings into the graduate education program. MTI's extensive collection of transportation-related publications is integrated into San José State University's world-class Martin Luther King, Jr. Library.

Report 25-25

Fresno's Scribbles Bike Path: A Master Plan for Active Transportation

Holly Sowles

Uris Giron

September 2025

A publication of the
Mineta Transportation Institute
Created by Congress in 1991

College of Business
San José State University
San José, CA 95192-0219

TECHNICAL REPORT DOCUMENTATION PAGE

1. Report No. 25-25	**2. Government Accession No.**	**3. Recipient's Catalog No.**	
4. Title and Subtitle Fresno's Scribbles Bike Path: A Master Plan for Active Transportation		**5. Report Date** September 2025	
		6. Performing Organization Code	
7. Authors Holly Sowles Uris Giron		**8. Performing Organization Report** CA-MTI-2451	
9. Performing Organization Name and Address Mineta Transportation Institute College of Business San José State University San José, CA 95192-0219		**10. Work Unit No.**	
		11. Contract or Grant No. SB1-SJAUX_2023-26	
12. Sponsoring Agency Name and Address State of California SB1 2017/2018 Trustees of the California State University Sponsored Programs Administration 401 Golden Shore, 5th Floor Long Beach, CA 90802		**13. Type of Report and Period Covered**	
		14. Sponsoring Agency Code	
15. Supplemental Notes 10.31979/mti.2025.2451			

16. Abstract

The Fresno Scribbles Bike Path Master Plan, which represents a commitment to equitable active transportation and social infrastructure, is designed to enhance the quality of life for Fresno residents by providing safe, comfortable, and accessible biking and walking paths while promoting sustainability and fostering a sense of community. This report details the Intelligent Design Visualization Lab's (IDVL) ongoing contribution to the Fresno City Scribbles Bike Campus initiative. This multifaceted urban intervention seeks to promote bike and pedestrian safety, enhance environmental resilience, and active transportation infrastructure through design, serving as a form of placemaking. In collaboration with the Fresno State Transportation Institute (FSTI) and in alignment with the Fresno County Regional Active Transportation Plan (FATP), the project focuses on two critical deliverables: the design development of eight educationally themed, district-specific bike shelters and the creation of a heat island mitigation design toolkit (which aims to reduce the impact of "heat islands" in which urban areas become significantly warmer than surrounding rural areas due to human activities and built environment), known as the Heat Island Design Toolkit (HIDT). Both efforts are grounded in health, safety, and well-being principles, as well as democratized design, environmental equity, social justice, and spatial agency. The gateway trailhead bike shelters are designed as contextual and functional complements to the cultural and architectural vernacular (styles) of the eight districts in the greater Fresno area. They are intended to support year-round use of the biking infrastructure by integrating amenities such as shade structures, charging stations, water access, and repair services. Parallel to this, the Heat Island Toolkit investigates and prototypes scalable strategies to reduce surface temperatures at gateway trailheads and along bike pathways. The mitigation strategies include community surveys, site-specific analysis, 3D renderings, and flythroughs of the sites. The master plan proposes a participatory framework that prioritizes distributed decision-making by engaging district residents through both in-person touchpoint stations and asynchronous digital tools for feedback. Findings from early survey data indicate district-level variation is preferred in heat mitigation design strategies, underscoring the need for localized design informed by community engagement. Ultimately, the initiative advances a public social infrastructure model highlighting safety, health and wellness, climate adaptation, and inclusive design processes. By merging technological exploration with grassroots engagement, the IDVL proposes an ecologically responsive, resilient, and socially oriented archetype for active transportation design in California's Central Valley. These efforts promote bike and pedestrian use and safe, inclusive, equitable, and environmentally sound mobility.

17. Key Words Transportation modes, community action programs, environmental impact analysis, environmental.	**18. Distribution Statement** No restrictions. This document is available to the public through The National Technical Information Service, Springfield, VA 22161.		
19. Security Classif. (of this report) Unclassified	**20. Security Classif. (of this page)** Unclassified	**21. No. of Pages** 45	**22. Price**

Form DOT F 1700.7 (8-72)

DOI: 10.31979/mti.2025.2451

Mineta Transportation Institute
College of Business
San José State University
San José, CA 95192-0219

Tel: (408) 924-7560
Fax: (408) 924-7565
Email: mineta-institute@sjsu.edu

transweb.sjsu.edu/research/2451

ACKNOWLEDGMENTS

This study was supported by the Fresno State Transportation Institute (FSTI) and the California State University Transportation Consortium (CSUTC). Any opinions, findings, conclusions, and recommendations expressed in this material are those of the authors and do not necessarily reflect the views of these institutes. The authors would also like to extend special appreciation to the dedicated student design research teams, whose professionalism, creativity, and commitment drove the success of this project. Their efforts, attention to detail, and passion for sustainable, equitable urban design significantly enriched both the process and the resulting design solutions. Their collective contributions have set a strong foundation for continued innovation and community engagement in future transit infrastructure projects.

CONTENTS

List of Figures

Executive Summary

The Fresno Scribbles Bike Path Master Plan, developed by the Intelligent Design Visualization Lab (IDVL), represents a commitment to equitable active transportation and social infrastructure through participatory design and environmental resilience. This project is designed to enhance the quality of life for Fresno residents by providing safe, comfortable, and accessible biking and walking paths while promoting sustainability and fostering a sense of community. Building upon IDVL's previous work, this phase of the project advances Fresno City's Scribbles Bike Campus initiative by finalizing the design development of eight bike shelters and launching an innovative Heat Island Design Toolkit (HIDT) aimed at community educational engagement, biking and pedestrian safety, and climate-responsive placemaking.

The proposed shelters serve dual roles: they function as infrastructural and educational support for cyclists and pedestrians while reflecting the cultural and architectural vernacular of each district by creating opportunities for placemaking through public art and thematic storytelling at each location. The shelters provide critical amenities, such as shade, hydration, charging capabilities, and repair stations, tailored to the architectural dialect and requirements of individual Fresno and Clovis districts. Concurrently, the Heat Island Design Toolkit (HIDT) serves as a participatory design framework and community-centered prototyping system. Rather than functioning as a traditional analytical tool focused on site-specific environmental data, the HIDT provides a structured menu of five core cooling strategies: Shading, Ventilation, Vegetation, Reflectivity, and Evaporative Cooling. The toolkit's primary purpose is to empower local communities to guide design decisions based on visual preference, cultural identity, and neighborhood character. While each approach contributes to mitigating urban heat, the HIDT acknowledges that community identity and spatial agency are central to creating public spaces that are both functionally effective and socially meaningful. This ensures residents have a direct voice in determining how their neighborhoods will look, feel, and function, balancing technical cooling benefits with community-driven design choices.

The IDVL's methodology emphasizes democratized design. Rather than relying on traditional town hall meetings, which often exclude working-age adults, the team engages communities through hybrid participatory methods such as on-site touchdown stations and online surveys. This data-driven engagement captures diverse perspectives on gateway trailhead locations, preferred cooling design strategies, and desired collaborative partnerships.

Preliminary survey findings reveal community interest and geographically distinct preferences for heat mitigation interventions, underscoring the importance of localized, responsive design solutions. Ultimately, this work models an inclusive, resilient, and interdisciplinary approach to active transportation infrastructure in the Central Valley.

1. Scribbles Gateway Trailhead Development

In partnership with the Fresno State Transportation Institute (FSTI) and aligned with the objectives of the Fresno County Regional Active Transportation Plan (FATP), the City of Fresno's Scribbles Bike Path (FSBP) master plan aims to achieve two interrelated outcomes: the development of eight educationally oriented, district-specific bike shelters and the development of a comprehensive Heat Island Design Toolkit (HIDT). Both deliverables are formulated through the lens of democratized design, safety and wellbeing, environmental justice, and community-embedded resilience.

1.1 Fresno's Bike Path System: Passive Cooling as Active Infrastructure and Placemaking

In park-like settings, the district gateway bike shelters are positioned at key traffic intersections along the current biking pathways established by the City of Fresno in the 2016 FATP (City of Fresno, 2017). The shelters are uniquely envisioned for each location as site-responsive locations for gathering and respite. They are architecturally and culturally attuned to the identity of the eight districts of Fresno and Clovis. The shelters are designed for all-season usability and integrate essential amenities, including shade structures, hydration stations, mobile device charging ports, and an on-site bike repair stand. Additionally, they are accompanied by thematic public art pieces that support the safety and educational priority of the specific district. Collectively, they function as a social and mobility infrastructure and as localized points for collective gathering, providing thermal comfort and opportunities for placemaking within communities.

Simultaneously, the Heat Island Design Toolkit (HIDT) serves as a participatory design framework and community-guided prototyping system. Rather than collecting new site-specific data, the HIDT provides a curated selection of five core heat mitigation strategies—Shading, Ventilation, Vegetation, Reflectivity, and Evaporative Cooling—each supported by research. The toolkit's primary goal is to empower residents to select design solutions that reflect their neighborhood's identity, aesthetic preferences, and cultural values, while still addressing the challenges of urban heat along key segments of the FATP, particularly at the gateway trailheads and high-exposure bike paths.

The HIDT supports transdisciplinary collaboration by enabling students, faculty, and practitioners to translate these community-driven preferences into design prototypes, 3D models, and animated spatial simulations that visualize future interventions. While full community engagement could not be completed during this phase due to coordination challenges beyond the team's control, the project is structured to ensure resident input remains central in future phases of design refinement and implementation.

This endeavor outlines a visionary master plan for Fresno's Scribbles Bike Path system, where clean cooling is seamlessly integrated at the project's inception rather than added later. Active transportation is closely linked to bike and pedestrian safety, thermal comfort, and environmental justice, which can be achieved through a comprehensive design approach. The bike path system in Fresno is not just a means of transportation; it serves as a framework for resilient urban living, promoting equity, cooling solutions, and community engagement in the city's most vulnerable areas.

1.2 Climate-Responsive Design and the Reimagining of Urban Mobility

The Heat Island Design Toolkit redefines Fresno's bike path system, framing it not just as a means of transportation but as a key component for adapting to Fresno's unique urban climate challenges. This approach aligns with Fresno's Active Transportation Plan, emphasizing connectivity, safety education, social equity, and reduced reliance on vehicles. The HIDT proposes a cohesive strategy incorporating passive cooling design into the overall structure of the shelters and the bikeway network.

At the heart of this vision is the integration of safety education, public art, sustainability, and social infrastructure. Passive design elements, which include Jali-style walls that promote air circulation, solar-reflective coatings, and extensive tree canopies, are strategically placed along bike routes, greenways, and pedestrian paths. These features work in tandem to transform Fresno's bike paths into cooling corridors that help reduce urban heat, enhance air quality, and promote environmental health (Joshi, 2022). Tree canopies and green roofs help regulate microclimates in areas with high thermal stress (Howe, Lammars, & Bair, 2019). Meanwhile, reflective surfaces on bike paths lower heat absorption and make these routes more accessible for vulnerable populations during peak heat periods (Jo, Carlson, Golden, & Bryan, (2010).

These features are not merely aesthetic; they are functional urban ecologies designed to reduce reliance on mechanical cooling, alleviate energy strain on the grid, and provide equitable access to climate comfort. This design approach is crucial in neighborhoods vulnerable to heat and lacking adequate infrastructure and tree canopy. By integrating passive strategies and promoting active mobility, we can create clean, comfortable, and connected environments for everyone.

In this model, Fresno's bikeways are reimagined as more than just pathways for movement; they evolve into distributed public spaces that facilitate the flow of people, wind, shade, and social connections. This framework broadens the role of the bike network by integrating aspects of public health and safety, environmental sustainability, and climate resilience.

1.3 Environmental Justice, CEJST Communities, and Embedded Collaboration

The second phase of this project grounds passive cooling within the social and environmental realities of Fresno's most burdened communities, particularly those identified by the Climate and

Economic Justice Screening Tool (CEJST). Within Fresno's most underprivileged areas, 80% of residents are designated as disadvantaged; the compounded impacts of particulate pollution, inadequate housing infrastructure, and heat vulnerability are acute (Council on Environmental Quality, n.d.). The HIDT fosters social infrastructure that promotes safety, health, and well-being by targeting thermal relief. This focus is meant to improve local communities' livability, health outcomes, and energy efficiency.

Expanding tree canopies and implementing vegetative infrastructure within the city's active transportation network serve two essential functions: they help reduce diesel exhaust concentrations and lower surface temperatures in asphalt-dominated areas (Greene, Robinson, & Millward, 2018). Research on urban canopy inequity suggests that these design changes have environmental, social, and spatial justice implications, particularly for South and Southeast Fresno neighborhoods that have historically received less investment.

Additionally, incorporating reflective coatings on bike lanes and installing green roofs over community transit hubs provide low-cost, high-impact solutions that benefit private properties and shared public infrastructure (Taleghani, Kleerekoper, Tenpierik, & van den Dobbelsteen, 2015). These features help reduce energy consumption, improve thermal comfort for cyclists and pedestrians, and enhance urban areas' aesthetic and ecological value.

This project's initiatives outline an innovative vision for Fresno's Active Transportation Plan. In this vision, Fresno's bike path system serves as a means for transportation and a foundation for a resilient urban lifestyle that promotes safety, equity, comfort, and community throughout the city's most vulnerable areas.

1.4 Third Place Reimagined: Outdoor Social Infrastructure as Democratized Space

In literature regarding urban design and shared community experiences, the "third place theory," introduced by sociologist Ray Oldenburg in his book *The Great Good Place* (1989), has gained renewed examination. Oldenburg defines the third place as informal gathering spots such as cafés, libraries, barbershops, and pubs, focusing not primarily on commerce or home life but on fostering connection, conversation, and a sense of belonging (Oldenburg, 1989). These spaces play a vital role in democratizing infrastructure by promoting spontaneous social interactions and serving as an intermediary between work and home life. The gateway trailheads of Fresno's Scribbles Bike Path have been designed with the third-place theory in mind.

The Scribbles Bike Campus Project demonstrates how the integration of social infrastructure and the third-place theory can inform the design of heat-resilient, community-oriented bike shelters. In Fresno's climate, where extreme summer temperatures and limited shade pose ongoing challenges, these bike shelters must serve as both protective structures and social hubs.

Social infrastructure, as described by Klinenberg, highlights the physical and organizational supports, such as shaded structures, passive cooling strategies, and ADA-compliant access, that enhance community resilience to environmental stressors (Klinenberg, 2019). Within the bike campus, these shelters provide thermal comfort and protection, enabling cyclists and pedestrians to pause, gather, and connect safely during periods of extreme heat.

Third place theory adds another layer to this framework by offering a behavioral perspective through which functional infrastructure can evolve into vibrant social hubs. Oldenburg describes third places as informal, accessible environments that foster community life through spontaneous social interaction (Oldenburg, 1989). When bike shelters are welcoming, visually engaging, and well-integrated into campus circulation, they promote these informal exchanges, enriching the cycling experience and strengthening community ties. By combining environmental resilience with social vitality, the bike shelters become everyday locations for connection and comfort for the active transportation community and pedestrians.

By incorporating these dual principles into the Scribbles Bike Campus, the project promotes a vision of active transportation that is not only functional but also socially and environmentally meaningful. The network of bike shelters, shaded paths, and rest areas collectively creates a micro-campus for social interaction and thermal refuge, encouraging consistent and comfortable cycling habits. This approach aligns with broader placemaking strategies, transforming the bike campus from a simple transit route into a destination for community life and interaction.

Public art, flexible gathering zones, and thoughtfully designed shelter hubs enliven the space, allowing it to serve both mobility needs and social engagement. Ultimately, the Scribbles Bike Campus project exemplifies how climate-adaptive design can enhance active transportation networks while fostering a more connected and resilient campus community.

In this project, the reconfiguration of green infrastructure focuses on the outdoors as an alternative living space that links interior environments—such as terraces, patios, and shared courtyards—with the public sphere. The third place is designed to go beyond aesthetics; it enhances the users' experiences of time, proximity, and openness to social engagement. Spaces like these serve as essential social infrastructure, a concept introduced by sociologist Eric Klinenberg to describe physical environments that shape social interactions. Like the theory of a "third place," social infrastructure is practical and relational; it is designed to foster trust, familiarity, and mutual support within communities. When outdoor areas are regarded as public assets, such as when bike paths become venues for art, benches encourage gatherings, and shade structures with public Wi-Fi invite people to linger, vibrant public life can thrive (Klinenberg, 2019).

When public art is incorporated in this context, it serves not only a decorative purpose but also a functional one. For example, Unity Tracks in Baltimore demonstrates how art and infrastructure can collaborate to enhance pedestrian safety, spatial clarity, and emotional connection by creating a network of painted crosswalks and curb extensions based on community input (Bloomberg

Philanthropies, & Sam Schwartz Consulting, 2022). Similarly, the Asphalt Art Safety Study, conducted by Bloomberg Philanthropies, demonstrates that artistic interventions in streetscapes reduce traffic-related injuries and provide visual cues that influence behavior across different modes of transportation (Graham Projects, 2021).

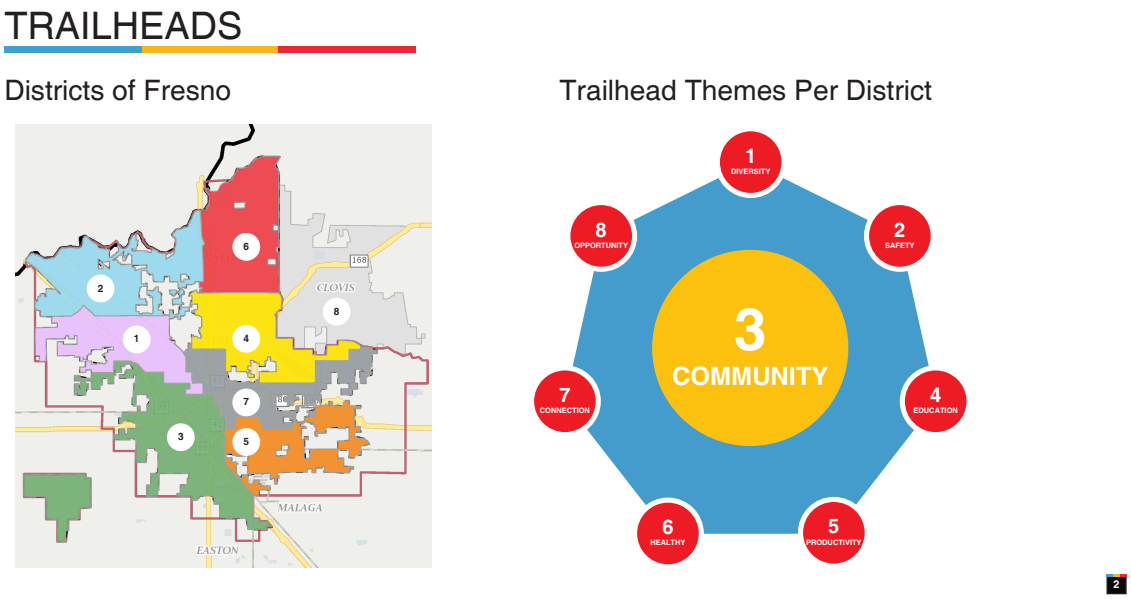
1.5 Educating the Public Through the Aesthetics of Safety

The relationship between public art and the aesthetic design of the Scribbles Bike Path gateway trailheads is essential for educating the public about bike and pedestrian safety along the FATP corridors. The eight districts will be connected by bike and pedestrian pathways linking to the FATP. The gateway locations for the FATP are strategically placed at heavily trafficked intersections to draw attention to both the public art and the architectural and cultural style of the shelter design, which is unique to each district. The proposed locations and themes of the gateways are listed below (Figs. 1 & 2).

Figure 1. Proposed Gateway Sites

District		Gateway Location
1	Diversity	E Weldon Ave & N Maroa Ave
2	Safety	N Palm Ave & W Nees Ave
3	Community	City Hall & Chukchansi Park
4	Education	Matoian Way & N Maple Ave
5	Productivity	E McKenzie Ave & N Willow Ave
6	Health & Wellness	Yosemite Rd & N Friant Rd
8	Opportunity	5th St & Clovis Ave

Figure 2. District Trailheads



The redesigned third place in this project incorporates public art, outdoor infrastructure, and a civic-minded approach to function effectively as an educational tool. Each park-like setting ensures personal safety while conveying a sense of place and respite. In this context, the designed environment acts as both a spatial and educational interface, allowing the community to experience, understand, and internalize the principles of bike and pedestrian safety through their everyday experiences.

Analyzing the third-place theory, this project provides a foundational framework for its educational objective: promoting public awareness of bike and pedestrian safety. It illustrates how physical interventions—such as sculptures, murals, colored crosswalks, art-integrated bike lanes, pedestrian-scale lighting, and sidewalk furniture—can serve dual purposes. These elements incorporated into the design enhance the visibility of safety knowledge.

The concept of a "third place" provides an accessible platform for public dialogue. A third place is experiential and emotionally engaging, unlike traditional signage or policy documents. It can host various programs and events, such as community art days, mobile workshops, and walking tours, that invite participants to understand public space in a new way. This approach encourages individuals to view infrastructure not as something static, but as something co-created and responsive to the community's needs. By incorporating safety stories into these spaces, through methods such as commemorative art, augmented reality overlays, or narratives embedded in the landscape, designers and planners can transform the gateway trailheads and pathways into a dynamic and engaging learning environment (Loh, Ashley, Kim, Durham, & Bubb, 2022).

Figures 3 through 10 are renderings of the proposed eight gateway trailheads of the Scribbles Bike Path. They represent the unique local cultural and architectural vernacular of each Fresno County District and the City of Clovis. Additionally, the designs focus on bike safety and represent the educational theme of each location.

Figure 3. District 1 Gateway: E. Weldon Ave. & N. Maroa Ave.

Figure 4. District 2 Gateway: N. Palm Ave. & W. Nees Ave.

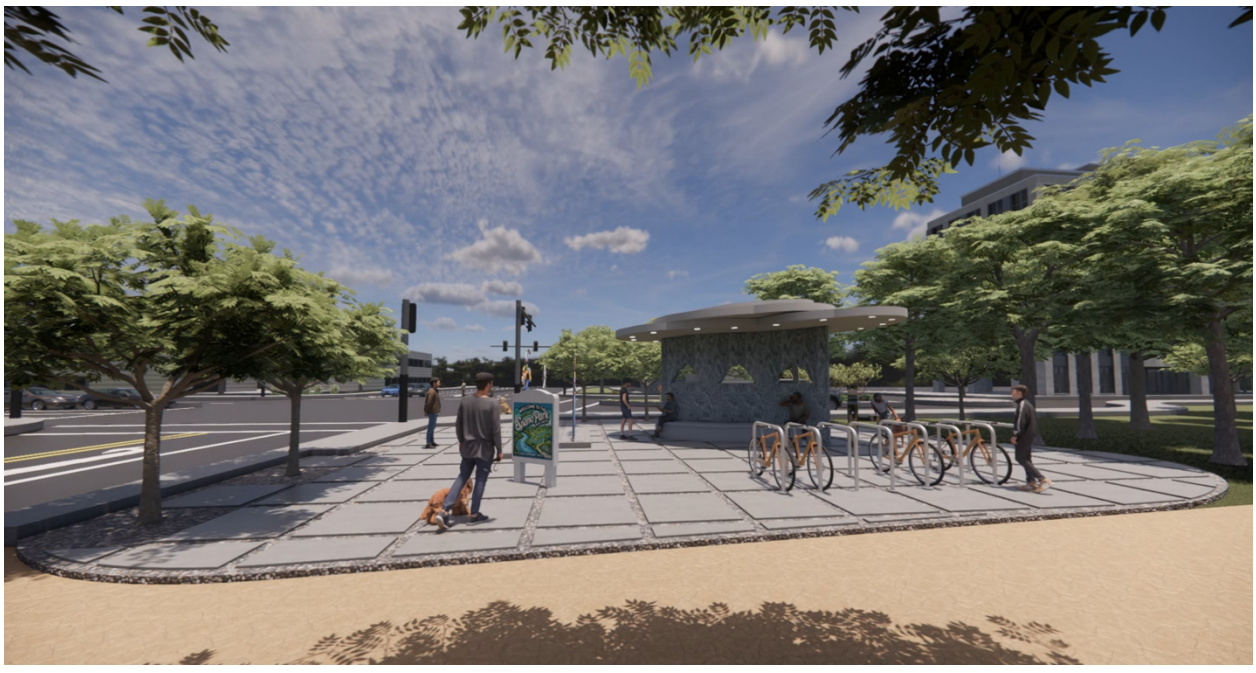


Figure 5. District 3 Gateway: City Hall

Figure 6. District 3 Gateway: Chukchansi Park

Figure 7. District 4 Gateway: Matoian Way & N. Maple Ave.

Figure 8. District 5 Gateway: E. McKenzie Ave. & N. Willow Ave.

Figure 9. District 6 Gateway: Yosemite Rd. & N. Friant Rd.

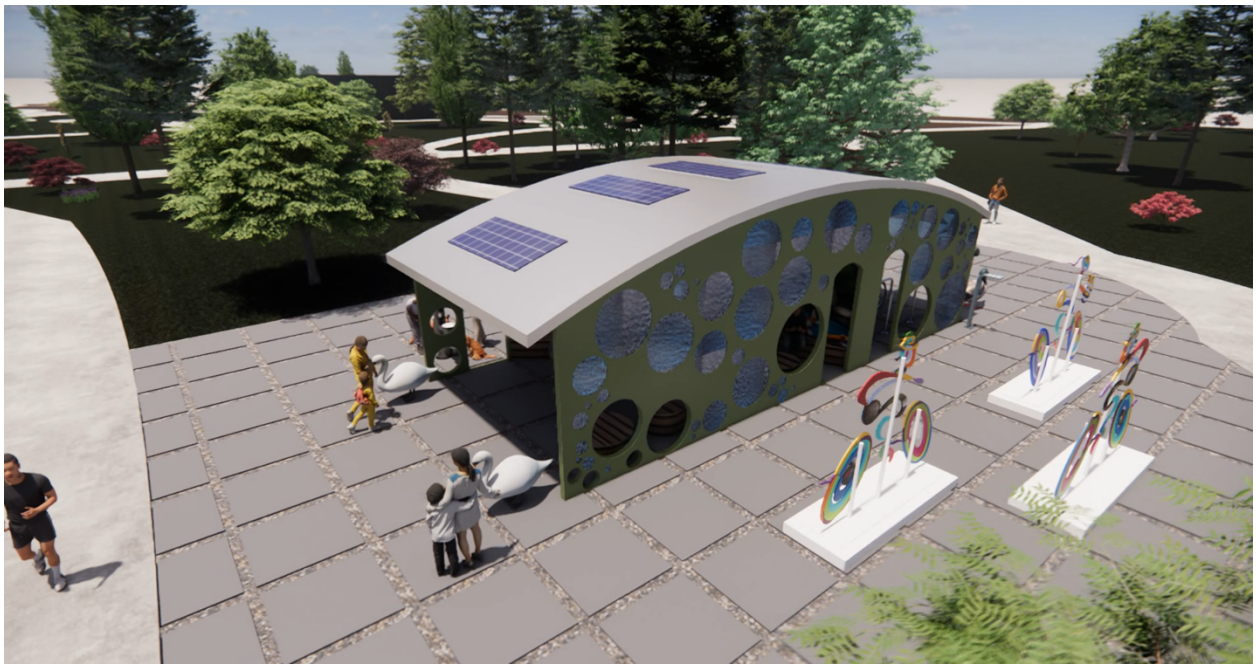


Figure 10. District 8 Gateway: 5th St. & Clovis Ave.

2. Heat Island Reduction Design Strategies

Urban heat is no longer just an environmental issue; it represents a social and spatial inequity, resulting in a public health crisis and urban design failure. In the City of Fresno, where climate vulnerability intersects with historical redlining and infrastructural neglect, rising temperatures disproportionately impact communities that have already been marginalized by disinvestment. In response to this situation, this project proposes the Heat Island Design Toolkit (HIDT) as a participatory design framework focused on community-driven heat mitigation strategies aimed at reclaiming public spaces through heat mitigation and redefining social infrastructure.

While there is a wealth of technical approaches to heat mitigation, such as cooling surfaces, increasing greenery, and using reflective materials, few have localized these strategies within a framework responsive to specific community needs by offering a pre-vetted set of heat mitigation options adapted to the Central Valley's climate and local cultural context. The HIDT is participatory and community-choice driven. The toolkit is not an environmental intervention but a framework for developing placemaking centered on community preferences, while offering environmental performance context to guide choice.

The toolkit was developed through an iterative design process and employs BIM to visualize design options and illustrate potential impacts to community members. However, modeling with BIM alone is not enough. What sets this work apart is its incorporation of community awareness through distributive intelligence, which is gathered through multilingual forums, hands-on workshops, and fieldwork. Each intervention is informed through participatory engagement, community feedback, and culturally specific design preferences, recognizing Fresno's diverse cultural enclaves, and ensuring that design decisions are grounded in real-world experiences and memories.

In collaboration with the Fresno State Transportation Institute, we are implementing HIDT to propose a design for a master plan for the City of Fresno's Scribble Bike Campus. This active transportation corridor intersects neighborhoods that have been shaped by historical exclusion. Its purpose is to serve as a living laboratory for climate-informed civic design strategies. It uses BIM to prototype and visually communicate design interventions selected by communities including planted buffers, shaded rest zones, and art-integrated crosswalks not merely as aesthetic additions, but as foundational infrastructures that promote a sense of belonging. These spatial configurations aim to transform sidewalks, bike lanes, and vacant lots at the gateways and along the pathways of the Scribbles Bike Campus 12nviteng, comfortable, and culturally meaningful third places.

2.1 Heat Island Design Toolkit

In this project, we redefine heat mitigation not just as a technical solution, but as a participatory civic and educational initiative. The HIDT is practical and instructional; it empowers participants to select preferred design strategies, encourages engagement, and enhances the visibility and

sensory experience of climate-responsive design. Public safety, energy efficiency, historical preservation, and ecological stewardship are not treated as separate goals. Instead, they are integrated into a cohesive spatial framework that underscores thermal equity as essential to public life in the Central Valley.

Through our dissemination strategy, we propose promoting various educational tools, including digital models, physical mock-ups, accessible literature, and community exhibitions, to share design options and community preferences with city officials, design review boards, and the public over two years. Our long-term goal is to expand this toolkit across the Central Valley, adapting it to fit regional climatic conditions while maintaining our core commitment: that design must be contextually grounded, collaboratively developed, and ecologically aligned to reach sustainable goals.

The HIDT is not just a response to rising temperatures but a framework for creating social and spatial justice by providing free and accessible green space to the inhabitants of the greater Fresno area (Figure 11). It provides a platform for Fresno and similar cities to rethink public spaces as equitable social infrastructure, combining participatory decision-making, educational resources, and catalysts for urban resilience.

Figure 11. Heat Island Toolkit Benefits

The HIDT provides many benefits to the community, including:

Health and Well-Being: Heat island reduction helps lower ambient temperatures, reducing the risk of heat-related illnesses such as heatstroke and heat exhaustion. Shading, vegetation, and evaporative cooling strategies improve thermal comfort and promote year-round outdoor activity, contributing directly to public health and well-being.

Increased Comfort and Livability: Cooler environments created through shading, ventilation, and reflective materials make outdoor spaces more comfortable for residents. This encourages social use of public spaces, supports outdoor recreation, and enhances the overall livability of neighborhoods by reducing heat stress during peak summer months.

Enhanced Air Quality: Green spaces and vegetation introduced through the HIDT contribute to improved air quality. Plants absorb pollutants, filter particulate matter, and release oxygen, leading to healthier urban environments, particularly in areas historically burdened by poor air quality.

Energy Efficiency: Strategies such as shading, vegetation, and reflective materials reduce surface temperatures, lowering the need for mechanical cooling in nearby buildings. This reduces overall energy consumption and leads to lower energy bills for both residents and businesses.

Economic Benefits: HIDT interventions can boost local economic activity by increasing property values, reducing energy costs, and creating more attractive, walkable commercial areas. Cooler, more inviting streetscapes can attract both residents and businesses, fostering neighborhood revitalization.

Place Making: By integrating community-selected design elements, such as shade structures, public art, water features, and culturally relevant landscaping, HIDT fosters placemaking. These interventions promote neighborhood identity, create inviting spaces for gathering, and strengthen cultural expression in public spaces.

Community Engagement and Social Cohesion: The HIDT process prioritizes participatory design, encouraging residents to shape their environment. This collaborative approach builds social ties, empowers community voice, and fosters long-term stewardship of public spaces.

Preservation of Cultural and Historical Assets: Heat mitigation strategies protect cultural and historical assets by reducing thermal stress on historic buildings, landmarks, and culturally significant spaces. Cooler environments help safeguard these assets from deterioration and make heritage spaces more accessible and enjoyable year-round.

2.2 Heat Mitigation Design Strategies

This HIDT initiative collaborates with organizations such as the Transportation Institute to educate the public and city officials on long-term alternative and innovative design strategies for

creating a more sustainable and cooler Fresno and Central Valley. Heat island reduction measures, such as cool roofs and pavements, offer numerous benefits, including lower energy bills, increased property values, greater investment opportunities, and enhanced livability (Bouketta, 2023). These interventions make neighborhoods more attractive and promote community participation and social cohesion. Furthermore, they help preserve cultural and historical assets, ensuring that urban development respects and protects the area's legacy.

Passive cooling techniques, such as the Venturi effect generated by Jali-style walls, are essential for minimizing reliance on traditional mechanical cooling systems (Figure 12) (Joshi, 2022). These techniques are vital for ensuring that pathways are energy-efficient and sustainable.

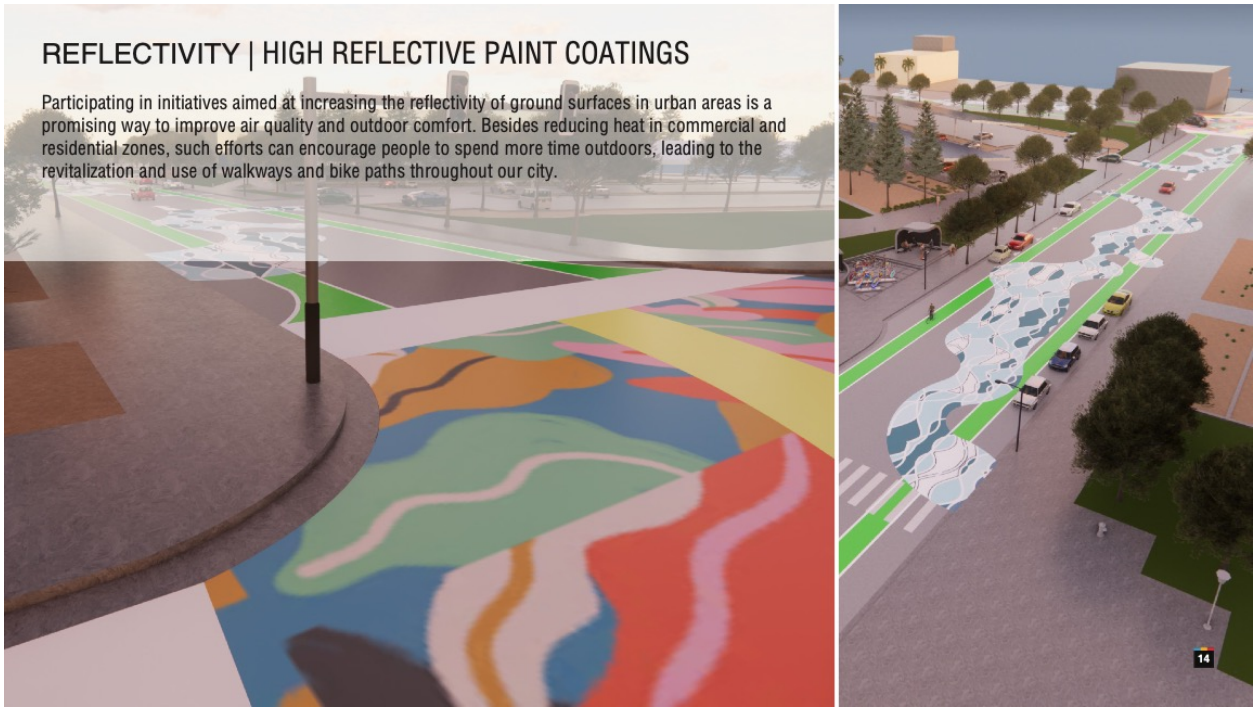
Figure 12. Heat Island Design Toolkit Outcomes 1

Incorporating water features into urban planning and building design can help mitigate the urban heat island effect. These water features promote natural evaporation, which leads to cooling through evaporative cooling (Taleghani, Kleerekoper, Tenpierik, & van den Dobbelsteen, 2015). Moreover, water surfaces and features can provide shade and reflection, reducing the amount of direct sunlight in surrounding areas (Figure 14).

Implementing clean cooling solutions such as green roofs, walls, and vegetation, can enhance green spaces and significantly reduce dependence on mechanical cooling systems (Chen, Jin, & Du, 2020). Green roofs provide shade, absorb heat from the air, and help lower the roof's surface and surrounding air temperatures (Figure 13) (U.S. Environmental Protection Agency, 2018).

Figure 13. Heat Island Design Toolkit Outcomes 2

Figure 14. Heat Island Design Toolkit Outcomes 3



Mitigating urban heat islands, primarily by increasing the reflectivity of ground surfaces, is an effective strategy to improve air quality, enhance outdoor comfort, revitalize public spaces such as walkways and bike paths, and reduce fatalities and accidents along transportation corridors (Figure 14) (Sha, Liu, Tang, & Li, 2017). As summers intensify, cities such as Fresno encounter growing challenges, including rising energy costs, increased public health risks, and widening socioeconomic inequalities. In this context, the HIDT provides the opportunity to create innovative solutions that connect environmental sustainability with human-centered design. Professionals specializing in the built environment, especially those proficient in BIM and development visualization, are well-suited to simulate, analyze, and effectively communicate these interventions purposefully to initiate change in the future of Fresno's infrastructure and building codes.

Figure 15. Heat Island Design Toolkit Outcomes 4

Empirical research supports the broader safety benefits of creative streetscape interventions (Figure 14). For example, the Asphalt Art Safety Study by Bloomberg Philanthropies evaluated seventeen sites across the United States. The study found that intersections featuring street murals experienced a 50% reduction in crashes involving pedestrians and cyclists and a 37% decrease in accidents resulting in injuries. These findings highlight the potential of artistic infrastructure to influence road user behavior, indicating an enhancement in aesthetics and a tangible improvement in urban safety due to public art (Bloomberg Philanthropies, & Sam Schwartz Consulting, 2022).

This evidence-based approach aligns with local climate resilience strategies to mitigate urban heat in Fresno and the Central Valley. By partnering with the Transportation Institute, the HIDT

initiative seeks to clarify climate adaptation for policymakers and the public, promoting accessible, long-term planning models based on participatory design. However, despite the documented benefits of these strategies, design features such as cool roofs, reflective pavements, and increased tree canopy coverage are often deprioritized due to their perceived complexity and delayed returns on investment. This tendency overlooks the HIDT's multifaceted value aimed at reducing Fresno's heat island effect, which enhances energy efficiency, stabilizes property values, promotes economic development, strengthens community bonds, and protects cultural assets (Yeksarova, Yeksarev, & Yeksarev, 2022). These initiatives encourage collective public stewardship and integrate environmental awareness into the urban landscape. They illustrate how climate-conscious design can achieve equity, foster identity, and enhance resilience in the built environment.

3. Stakeholder Engagement

The Intelligent Design Visualization Lab's collaborative approach for this project is supported by institutional and practitioner partnerships that offer insight and strategic access to community stakeholders. At the heart of this initiative is the Fresno State Transportation Institute, an interdisciplinary group with established connections to municipal authorities. This collaboration ensures that our design, as a research output, is effectively communicated to city officials, nonprofit organizations, and residents.

As the lead researchers, the IDVL provided the technical expertise to create high-quality simulations and design prototypes. These visual tools are essential for effectively communicating the expected outcomes of the HIDT to a broad audience. They translate complex environmental data into clear and engaging narratives that are easy to understand, as well as visualizations of the gateway structures for the Scribbles Bike Campus.

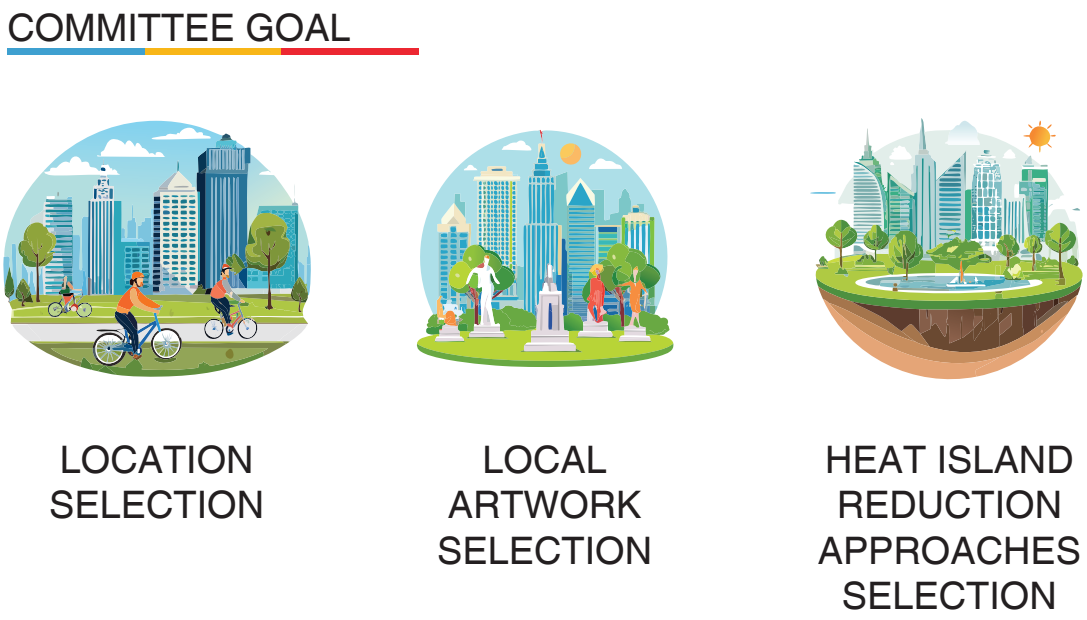
The Scribbles Bike Campus project was structured to be participatory and educational. Fresno State students and faculty led the creation of early-stage prototypes, combining scholarly rigor with design inquiry to foster innovation in developing the HIDT and gateway trailhead shelters. At the same time, the community workshop will create a feedback loop that allows local engagement to shape each phase of the development process.

Using the collaborative approach, the IDVL connected academic research with community involvement and climate-sensitive design. Engaging a diverse array of community professionals and organizations expanded our inquiry and enhanced the project's social significance within Fresno and Clovis. Ultimately, this partnership aims to create a model for co-producing a viable active transportation plan and urban resilience supported by vibrant social infrastructure—one that prioritizes lived experiences, encourages mutual learning, and provides tailored solutions for a cooler and more equitable FATP.

3.1 Stakeholder Committee Goals

With a shared commitment to sustainability and spatial equity, this transdisciplinary partnership aimed to reimagine the city's bike campus while implementing heat island reduction strategies throughout the eight districts of Fresno and Clovis. The IDVL's technical expertise in simulation and visualization created an essential association between abstract policy ideas and concrete environmental results. The Labs' literacy in BIM and advanced technological software tools helps translate design research into clear, evidence-based information that is easy to understand through the visual representation of data collected during the project's research phase.

Figure 16. Stakeholder and Community Goals

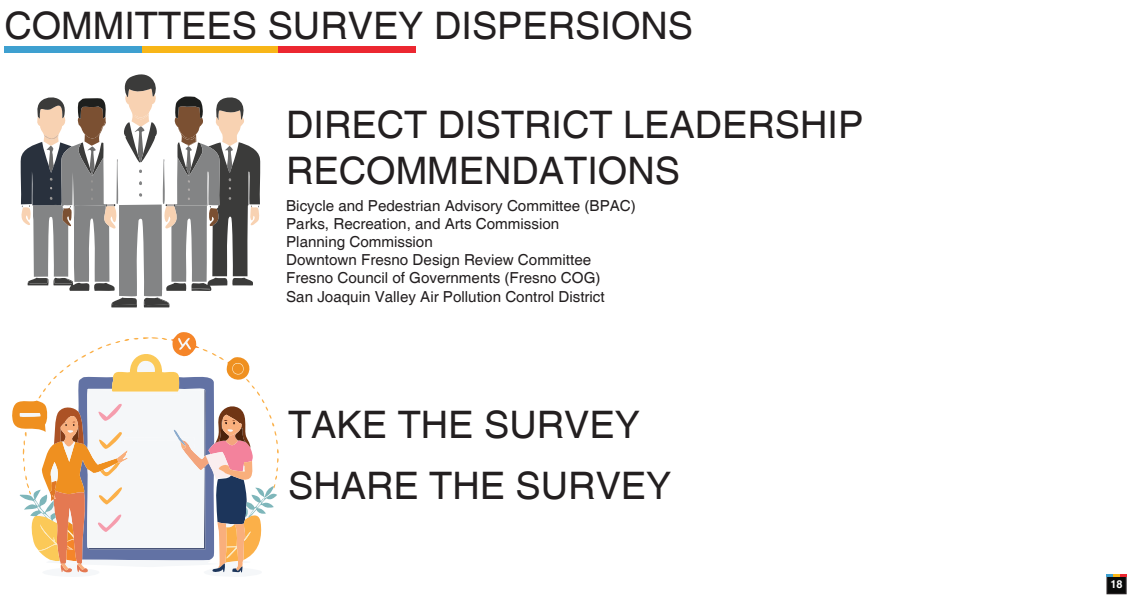


The collaboration between the various partners represents a forward-thinking, transdisciplinary approach to urban design, planning, and resiliency. By combining academic research, community input, and policy alignment, this effort positions Fresno as a place for intervention and an example of equitable and climate-conscious urban transformation.

3.2 Committee Survey Dispersion

For the democratization of the design process to be effective, community input was necessary to determine the placement and design strategies of the gateway trailheads along the City of Fresno Bike Campus. The trailheads are intended to serve as functional rest stops, providing shade, hydration, and basic bike repair services. Additionally, they act as civic hubs that promote biking and pedestrian safety, foster social connections, and reflect the local identity.

Figure 17. Committee Survey Dispersions



The survey illustrated below (Figures 18 through 22) invites residents to help shape broader heat design strategies for mitigating heat islands in their neighborhoods. Although many technological and sustainable approaches are available, their success ultimately depends on how well they fit the local context. Therefore, local insights are crucial for determining the most suitable and effective interventions.

The survey illustrates initial visualizations of potential trailhead shelter designs and techniques for reducing heat to support informed community decision-making. The design explorations serve as conceptual prompts to inspire discussion, gather feedback, and ensure that the implementation of the gateway shelters aligns with the unique cultural and climatic characteristics of Fresno's communities. The QR code below allows easy access and engagement with the broader community.

Figure 18. Survey QR Code

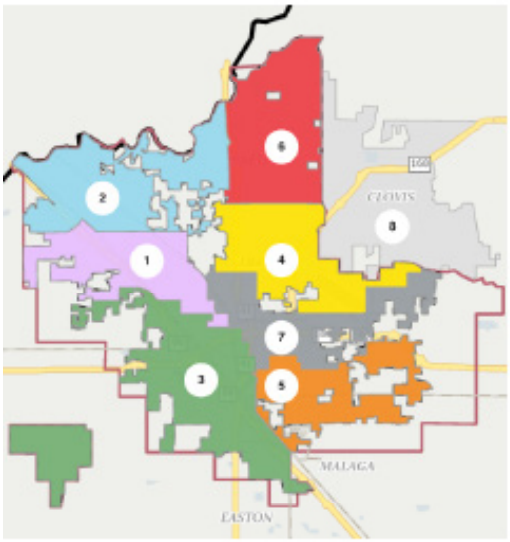
3.3 Survey

This participatory survey, distributed to the general population of Fresno and Clovis, invites residents to assist in shaping broader design strategies for mitigating the heat island effect in their neighborhoods. The survey illustrates technological and ecological solutions. Local insights are crucial in identifying each district's most suitable and effective interventions.

Figure 19. Introduction to Survey and Question 1

Figure 20. Question 2

Districts



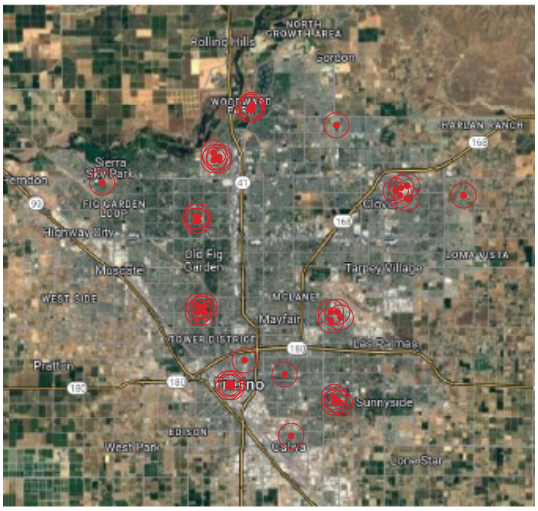
What District do you live in?

- ○ Fresno District 1
- ○ Fresno District 2
- ○ Fresno District 3
- ○ Fresno District 4
- ○ Fresno District 5
- ○ Fresno District 6
- ○ Fresno District 7
- ○ Clovis | 8 on the map
- ○ Not From the Area
- ○ I Don't Know

20

Figure 21. Example Survey 3

Trailhead Location



Where do you think the trailhead should be? Please click on the spot on the map.

If you want to be more specific, please enter the nearest cross street intersection.

21

Figure 22. Example Survey 4

Heat Island Approach

For your district what Heat Island Approach do you think is right for your community? See Images Below

- Option 1 | Screens
- Option 2 | Heat Reflective Artworks
- Option 3 | Green Roof/Walls and Parks
- Option 4 | Water Features

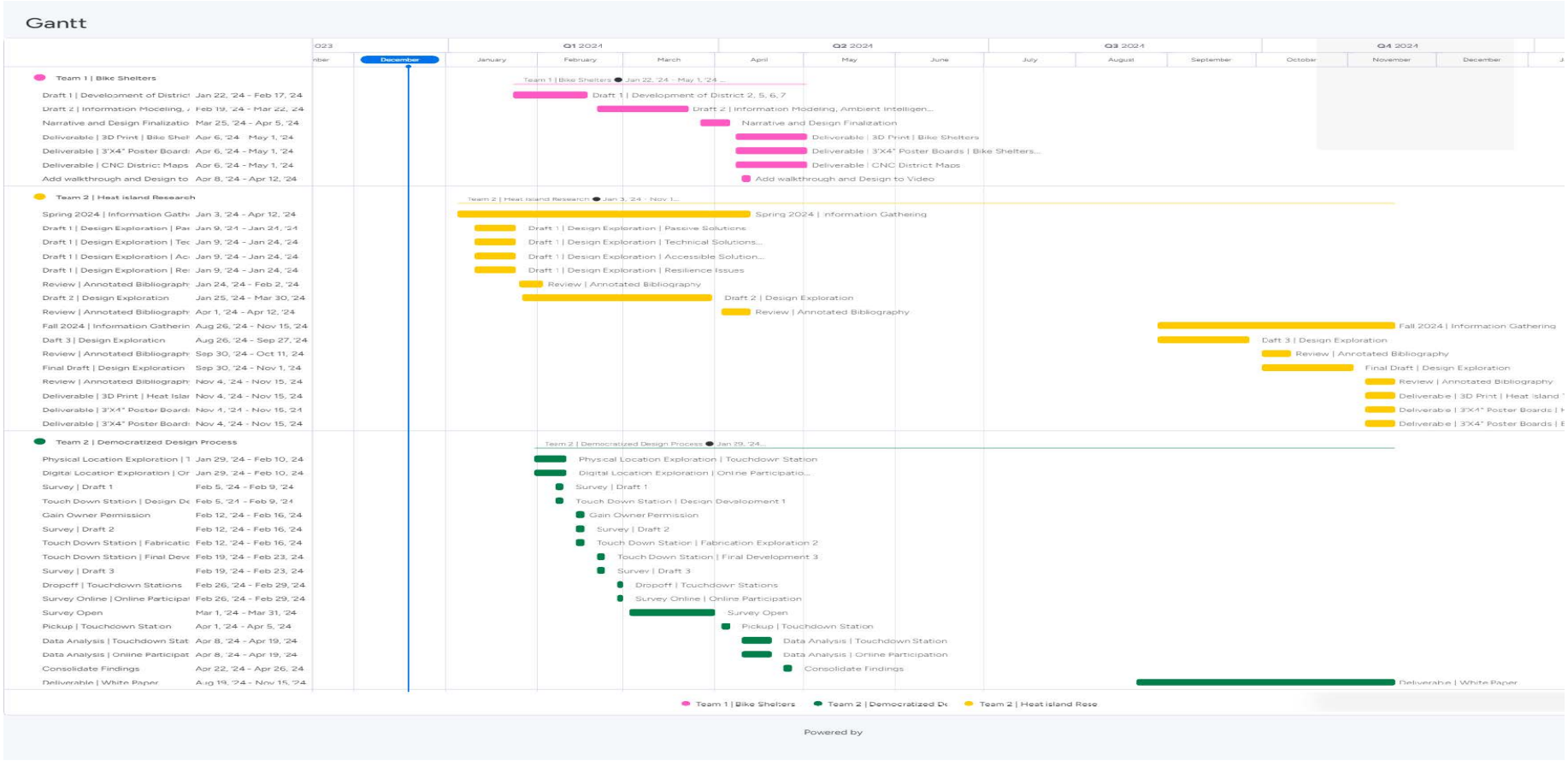
Please let us know if you have any other ideas, though or additional recommendations for ways to cool your community.

22

4. Project Timeline

The project timeline is organized into well-planned phases, emphasizing a comprehensive approach to community engagement, design research, and implementation. It begins with the foundational phase of Assessment and Analysis, where the project team gathers baseline environmental and infrastructural data. This diagnostic phase lays the essential groundwork for all future interventions (Lawson, 2006).

Figure 23. Project Timeline



The HIDT Development phase is characterized by an iterative design process focused on climate-responsive strategies tailored to Fresno's urban planning and climate challenges. This phase includes modeling, evaluating, and refining design solutions such as passive cooling, green infrastructure, and active transportation (Olgyay, 2015).

Finally, the Evaluation and Dissemination phase consolidates the results by analyzing the effectiveness of the strategies implemented to reduce heat island effects and improve community livability. This phase concludes with creating a publicly accessible distributed knowledge asset, a replicable heat mitigation design toolkit, and civic presentations to ensure the findings are clear, transferable, and actionable for future citywide applications (Nabatchi & Leighninger, 2015).

5. Findings & Proposed Next Steps in the Design Process

The City of Fresno is developing a vision for sustainable, inclusive, interconnected biking and walking infrastructure spanning all eight districts. The Fresno Active Transportation Plan is designated as both a recreational asset and a commuting corridor (City of Fresno, 2017). The findings of this project propose that the FATP include an additional commitment to urban planning, which provides for equity, environmental stewardship, and public health and safety, as demonstrated through the HIDT, which provides an intentional integration of cooling design strategies into the city's emerging Scribbles Bike Campus.

The HIDT proposal highlights the strategic implementation of passive cooling interventions, such as vegetated shade corridors, green roofs, green walls, and sustainable materials to enhance user comfort and reduce localized urban heat. These measures are not just aesthetic or technological upgrades; they rethink infrastructure as an active social and sustainable interface, where technology, transportation, climate resilience, and community identity come together.

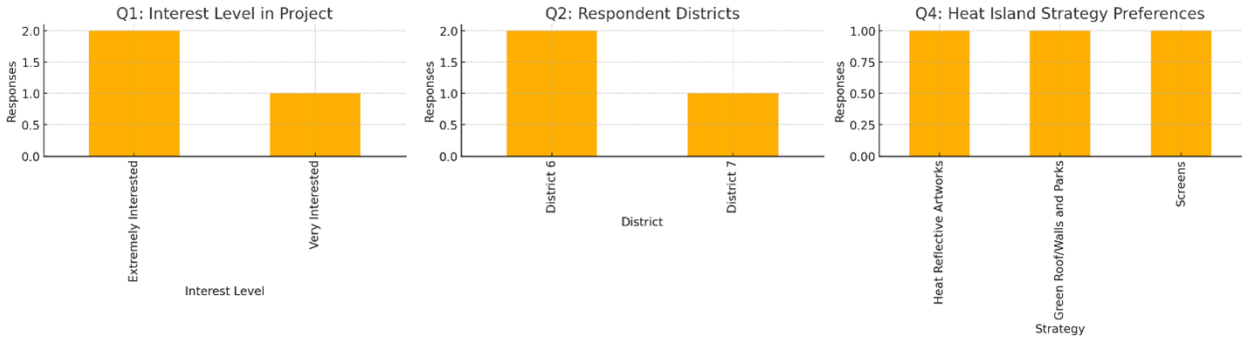
Community engagement is vital in shaping and ultimately implementing this design initiative. Feedback from residents in each of the eight districts of Fresno and Clovis must determine the need for shaded, comfortable, and culturally diverse places in publicly accessible spaces along bike routes. The planned gateway trailheads, enriched by public art and environmentally friendly materials, will act as community hubs, promoting social interaction and spatial equity while highlighting Fresno's unique urban character.

The long-term vision of this project extends beyond just heat mitigation. Fresno can lead in sustainable urban design by investing in green mobility infrastructure and linking cooling strategies with economic development, cultural preservation, and public well-being. The HIDT model, founded in collaboration, responsiveness, and systems integration, can transform Freno's Scribbles Bike Campus into a vibrant social infrastructure that promotes safety and well-being and enriches community identity for resilience, connectivity, and inclusive growth.

5.1 Summary of Survey Results

The initial community feedback on the Scribbles Bike Campus and Heat Island Design Toolkit indicates strong engagement and specific design opportunities reflecting each district's cultural and historic vernacular, while promoting active transportation safety. Most respondents showed a high level of interest in the project, with "Extremely Interested" and "Very Interested" being the most common responses. This confirms the initiative's relevance to its target audience and highlights the importance of ongoing community involvement throughout the design development process.

Figure 24. Survey Results



Responses to the survey were primarily concentrated in District 6, with only one response from District 7. This imbalance highlights the need for more extensive outreach to ensure equitable representation across all districts in future survey rounds. Due to logistical coordination challenges that were outside the project team's control, some districts received fewer survey touchpoints than intended during this phase. Future engagement efforts will prioritize early coordination with district-level partners to facilitate more consistent outreach opportunities across all areas.

The insights gathered indicate a strong community preference for specific trailhead locations, particularly around Woodward Park and its nearby amenities, including the Art of Life Healing Garden and the Eaton Trail. This suggests that the community values natural and recreational landscapes as essential elements of mobility infrastructure.

Respondents selected solutions such as green walls and roofs, reflective artworks, and architectural screens. Additionally, respondents provided valuable suggestions for regional collaboration, identifying organizations such as Tree Fresno, FCBC, USGBC CC, and local hospitals. Although this preliminary data is limited in scope, it reinforces the project's central premise: that climate resilience and public infrastructure design should focus on sustainable design and incorporate the lived experiences and spatial preferences of the communities they serve.

5.2 Proposed Next Steps

In conclusion, this report's proposed locations for the Scribbles Bike Path gateway trailheads are preliminary. The City of Fresno is currently working on updating the 2016 Fresno Active Transportation Plan (FATP), which will be released to the public in November 2025. This updated FATP aims to expand the existing bike path system in Fresno County and the City of Clovis (City of Fresno, 2017).

Additionally, the Fresno Council of Governments is expected to complete its feasibility study on mobility hubs around the same time (Fresno Council of Governments, 2024). Upon the release of the two studies, the team intends to confirm and evaluate the locations of the gateway sites by integrating the proposed pathways of the 2025 FATP with the locations of the mobility hubs. This

will conclude the creation of a comprehensive biking and social infrastructure master plan for Fresno and Clovis.

Bibliography

Akbari, H., Menon, S., & Rosenfeld, A. (2008). Global cooling: Increasing world-wide urban albedos to offset CO2. *Climatic Change*, *94*(3–4), 275–286. https://doi.org/10.1007/s10584-008-9515-9

Bouketta, S. (2023). Urban Cool Island as a sustainable passive cooling strategy of urban spaces under summer conditions in Mediterranean climate. *Sustainable Cities and Society*, *99*, 104956-. https://doi.org/10.1016/j.scs.2023.104956

Bloomberg Philanthropies, & Sam Schwartz Consulting. (2022). *Asphalt art safety study: Historical crash analysis and observational behavior assessment at asphalt art sites*. Bloomberg Philanthropies. https://assets.bbhub.io/dotorg/sites/43/2022/04/Asphalt-Art-Safety-Study.pdf

Chen, J., Jin, S., & Du, P. (2020). Roles of horizontal and vertical tree canopy structure in mitigating daytime and nighttime urban heat island effects. *ITC Journal*, *89*. https://doi.org/10.1016/j.jag.2020.102060

City of Fresno. (2017). *Active transportation plan: Map atlas*. https://www.fresno.gov/wp-content/uploads/2023/07/170022FresnoATPFinal2017Amended042022_compressed-1.pdf

Cook, H. (2021, October 15). *How trees act as sound barriers in urban environments. GreenBlue Urban*. https://greenblue.com/na/trees-as-sound-barriers/#:~:text=Where%20space%20permits%2C%20thick%20strips,for%20use%20as%20sound%20barriers

Council on Environmental Quality. (n.d.). *Climate and economic justice screening tool (CEJST)*. NDC Partnership. Retrieved June 4, 2025 from https://ndcpartnership.org/knowledge-portal/climate-toolbox/climate-and-economic-justice-screening-tool-cejst

Environmental Protection Agency. (2018, August). *Estimating the environmental effects of green roofs: A case study in Kansas City, Missouri*. EPA. https://www.epa.gov/sites/default/files/2018-09/documents/greenroofs_casestudy_kansascity.pdf

Environmental Protection Agency. (2023a, June 28). *Using green roofs to reduce heat islands.* EPA. https://www.epa.gov/heatislands/using-green-roofs-reduce-heat-islands

Environmental Protection Agency. (2023b, October 12). *Climate change and heat islands.* EPA. https://www.epa.gov/heatislands/climate-change-and-heat-islands

Environmental Protection Agency. (2023c, October 31). *Using trees and vegetation to reduce heat islands*. EPA. https://www.epa.gov/heatislands/using-trees-and-vegetation-reduce-heat-islands

Fresno Council of Governments. (2024, January). *Fresno County mobility hub feasibility study: Request for proposals:* https://fresnocog.org/wp-content/uploads/2024/01/RFP_Fresno-County-Mobility-Hub-Study.pdf

Giron, U. (2016). *Democratizing design: Changing the way we design with communities* [Unpublished master's thesis). Washington State University.

Graham Projects. (2021, May). *Unity tracks*. https://grahamprojects.com/projects/unity-tracks-barrier-art/

Greene, C. S., Robinson, P. J., & Millward, A. A. (2018). Canopy of advantage: Who benefits most from city trees? *Journal of Environmental Management*, *208*, 24–35.

Hamilton, D. K. (2004). *Evidence-based design for multiple building types*. John Wiley & Sons.

Howe, M., O. Lammars, M., & W. Bair, R. (2019). Participatory science and directed survey methods: A case study with Odontocetes in the Maui Nui region of the Hawaiian Islands. *IWC Journal of Cetacean Research and Management*, *20*(1), 101–109. https://doi.org/10.47536/jcrm.v20i1.235

Jo, J. H., Carlson, J., Golden, J. S., & Bryan, H. (2010). An integrated empirical and modeling methodology for analyzing solar reflective roof technologies on commercial buildings. *Building and Environment*, *45*(2), 453–460.

Joshi, P. (2022). *Jaali: A study of passive cooling via 3d printed clay blocks*. [Master's thesis]. Iowa State University.

Karim, F. (2021). Making "community" through architecture. In *All-inclusive engagement in architecture*. Routledge.

Klinenberg, E. (2019). *Palaces for the people: How social infrastructure can help fight inequality, polarization, and the decline of civic life*. Broadway Books.

Kloppenburg, E., Martins, B., Nachareun, C., Poschmann, R., & Neuhaus, F. (2022). Civic discourse and space activation as a collaborative city-building process. *WIT Transactions on Ecology and the Environment*.

Lawson, B. (2006). *How designers think: The design process demystified*. (4th ed.). Architectural Press.

Leach, N. (2022). AI and architecture. In *Architecture in the age of artificial intelligence an introduction to AI for architects* (pp. 97–114). Bloomsbury Publishing USA.

Levinson, R., Ban-Weiss, G., Berdahl, P., Chen, S., Destaillats, H., Dumas, N., Gilbert, H., Goudey, H., De L'Aulnoit, S., Kleissl, J., Kurtz, B., Li, Y., Long, Y., Mohegh, A., Nazarian, N., Pizzicotti, M., Rosado, P., Russell, M., Slack, J., . . . Valspar. (2019). Solar-reflective "cool" walls: Benefits, technologies, and implementation. In *Solar-reflective "cool" walls: Benefits, technologies, and implementation final project report*. Report #: CEC-500-2019-040. https://escholarship.org/uc/item/5w9995b4

Li, B., Liu, Z., Nan, Y., Li, S., & Yang, Y. (2018). Comparative analysis of urban heat island intensities in Chinese, Russian, and DPRK regions across the transnational urban agglomeration of the Tumen River in Northeast Asia. *Sustainability*, *10*(8), 2637. https://doi.org/10.3390/su10082637

Loh, C. G., Ashley, A. J., Kim, R., Durham, L., & Bubb, K. (2022). Placemaking in practice: Municipal Arts and cultural plans' approaches to placemaking and creative placemaking. *Journal of Planning Education and Research*.

Lydon, M., & Garcia, A. (2015). *Tactical urbanism: Short-term action for long-term change.* Island Press.

Moujaes, S. F., & Brickman, R. (2003). Thermal performance analysis of highly reflective coating on residences in hot and arid climates. *Journal of Energy Engineering*, *129*(2), 56–68.

Nabatchi, T., & Leighninger, M. (2015). *Public participation for 21st century democracy*. Wiley.

O'Brien, R. (2001). An overview of the methodological approach of action research. In R. Richardson (Ed.), *Theory and practice of action research* (pp. 1–21). Universidade Federal da Paraíba.

Olgyay, V. (2015). *Design with climate: Bioclimatic approach to architectural regionalism*. Princeton University Press.

Oldenburg, R. (1989). *The great good place: Cafés, coffee shops, community centers, beauty parlors, general stores, bars, hangouts, and how they get you through the day*. Paragon House.

Sha, A., Liu, Z., Tang, K., & Li, P. (2017). Solar heating reflective coating layer (SHRCL) to cool the asphalt pavement surface. *Construction and Building Materials*, *139*, 355–364. https://doi.org/10.1016/j.conbuildmat.2017.02.087

Sanders, E. B. N., & Stappers, P. J. (2008). Co-creation and the new landscapes of design. *CoDesign*, *4*(1), 5–18.

Santos, M. M., Ferreira, A. V., & Lanzinha, J. C. G. (2022). Passive solar systems for the promotion of thermal comfort in African countries: A review. *Energies*, *15*(23).

Sowles, H. M. (Ed.). (2021). *Intelligent interior design framework: Pedagogy and practice*. The Press at California State University, Fresno.

Taleghani, M., Kleerekoper, L., Tenpierik, M., & van den Dobbelsteen, A. (2015). Outdoor thermal comfort within five different urban forms in the Netherlands. *Building and Environment*, *83*, 65–78. https://doi.org/10.1016/j.buildenv.2014.03.014

Wang, D. (2007). Diagramming design research. *Journal of Interior Design*, *30*, 1.

Whitemyer, D. (2010). The future of evidence-based design. *International Interior Design Association, Perspective*, *Spring*, 9–11.

Yeksarova, N., Yeksarev, V., & Yeksarev, A. (2022). Potential for architectural adaptation port silos. *VITRUVIO - International Journal of Architectural Technology and Sustainability*, *7*(1), 92–103. https://doi.org/10.4995/vitruvioijats.2022.17455

Zeisel, J. (1984). *Inquiry by design*. Cambridge University Press.

About the Authors

Holly Sowles

Professor Holly Sowles is an innovative and future-focused designer and educator whose work explores the intersection of interior design, emerging technologies, and human experience. Her research explores how ambient environments, cyber-physical systems, and intelligent frameworks can transform the way interiors are conceived and experienced. She has proposed new models for integrating experiential typologies into design thinking through her scholarship, reflecting a critical shift from 20th-century to 21st-century approaches.

As an Associate Professor of Interior Design and Chair of the School of Art, Design, and Art History at California State University, Fresno, Holly leads transdisciplinary initiatives that bridge theory, practice, and emerging technologies. She is passionate about preparing the next generation of designers to engage with the evolving landscape of the built environment, emphasizing interdisciplinary thinking, sustainability, and intelligent design practices.

Uris Giron

Professor Uris Giron is an inquisitive and committed designer who uses interior design as a tool for storytelling, empowerment, and transformation. With deep roots in community-based work and participatory design, Uris approaches every project with empathy, imagination, and a collaborative spirit. His work spans healthcare innovation to educational environments, and campus masterplans to culturally driven community spaces, all reflecting a dedication to making people feel safe, comfortable, and inspired.

Born in Los Angeles and shaped by early experiences with organizations such as MoLE, the Intel Computer Clubhouse, and RCDI, Uris developed a lifelong passion for art, technology, and civic engagement. His formative years led him to pursue design not only as a craft but as a social force for good. He continues to uphold this ethos today as an Assistant Professor of Interior Design at California State University, Fresno, where he mentors emerging designers and leads projects centered on equity, sustainability, and resilience.

Uris' professional experience includes design and project management roles at leading firms such as NBBJ and Perkins+Will, where he contributed to nationally recognized healthcare and institutional projects. His research in "Democratizing Design" explores participatory methods for engaging communities directly in the design process, an approach he tested with the revitalization of St. Ignatius Hospital in Colfax, WA.

MTI FOUNDER

Hon. Norman Y. Mineta

MTI BOARD OF TRUSTEES

Directors