

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

Holly Sowles
Uris Giron

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Introduction

The Intelligent Design Visualization Lab (IDVL) conducted this study to finalize the design of the eight gateway bike shelters for the Fresno City Bike Campus Project. The bike shelters will enhance the Scribbles Bike Sculptures by prioritizing bike and pedestrian safety, aligning with local architectural vernacular (styles) and providing essential amenities such as shade, charging stations, water access, and bike repair facilities. The IDVL developed a heat island toolkit to analyze strategies for reducing extreme surface temperatures on campus pathways and trailheads and to increase community educational engagement, biking and pedestrian safety, and climate-responsive placemaking. The IDVL involved local districts in a participatory design process via in-person stations and online surveys to gather community input and ensure the final designs meet their needs and preferences.

Study Methods

The Fresno State Intelligent Design Visualization Lab (IDVL) offers a transdisciplinary experience for the Fresno community by allowing faculty, students, and practitioners to engage in accelerated design prototyping and simulation through cutting-edge

design research. The IDVL aims to establish locally driven, evidence-based design research that addresses the community's needs while involving student research assistants in service to the Central Valley. The IDVL teams investigated heat island mitigation solutions suitable for enhancing the community's health and well-being. The teams researched and implemented various heat island mitigation strategies and identified commonalities to create design domains for a localized design framework designated as the Heat Island Design Toolkit (HIDT). The IDVL applied the HIDT design outcomes to the pathways and gateway trailheads of the Fresno City Bike Campus. After exploring various options, the IDVL selected the most appropriate mitigative design solutions for each district, which the community partners and city districts will review through a democratized design process. The IID Visualization Lab produced 3D renderings and simulated walkthroughs to inform the public about the heat island mitigation strategies. The democratized design process included several significant forms of participation, allowing a diverse population to engage in the design and redevelopment of their community.

Localized design guidelines through the Heat Island Design Toolkit to educate the Fresno community on active transportation safety through public art and placemaking.

Findings

The City of Fresno is developing a vision for sustainable, inclusive, interconnected biking and walking infrastructure spanning all eight community districts. The Fresno Active Transportation Plan is designated as both a recreational asset and a commuting corridor. The findings of this project propose that the Fresno Active Transportation Plan (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 intentionally integrates 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.

Policy/Practice Recommendations

Fresno has faced challenges with unsafe bike paths. The Fresno County Regional Active Transportation Plan, which is in the process of adoption, will pave the way for the Scribbles Bike Campus, catering to cyclists, pedestrians, and other active users. The IDVL aims to address health and safety issues along the Bike Campus by promoting safe paths and mitigating the heat island effect. This study focuses on lowering temperatures along bike paths to create a year round community space.

The HIDT model emphasizes collaboration and systems integration to transform the Scribbles Bike Campus into a vibrant social infrastructure, enhancing safety and community identity. It addresses rising temperatures and advocates social and spatial justice by offering accessible green spaces. The Democratized Design Process encourages diverse community participation in design and redevelopment, allowing Fresno residents to engage meaningfully in shaping their environment.

About the Authors

Professor Holly Sowles is an innovative designer and educator focused on integrating emerging technologies and human experience in interior design, emphasizing sustainability and interdisciplinary thinking.

Professor Uris Giron is a designer focused on storytelling and empowerment, emphasizing community involvement and sustainability in projects like healthcare, education, and public spaces.

To Learn More

For more details about the study, download the full report at transweb.sjsu.edu/research/2451



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