

Connecting Communities and Promoting Health with Smart Participatory Parks

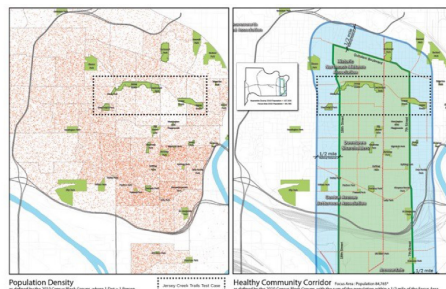
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Context of Health Equity

Health inequity is a pervasive problem affecting many American communities. The Office of Disease Prevention and Health Promotion has identified two determinants leading to disparities in the quality of health of people in their communities: life-stage risk factors that impact the development and behaviors of individuals throughout their lives; and socio-economic and environmental factors including the places where individuals live and work, and the social, political and economic forces that shape these environments.

Physical activity is one of the most important behaviors for improving or maintaining health, and collecting physical activity data through wearable devices is a potential opportunity for understanding individual and population behavior. Partnerships have been formed among community members, health providers, and researchers to improve the health of under-served communities through participatory practices. At the same time, legal issues and public policy surrounding data protection and privacy are rapidly evolving. The Centers for Disease Control and Prevention have focused on maximizing community health by developing tools to improve planning and design of the built environment.



Proposed park ecosystem to connect to the Jersey Creek Trails in Wyandotte County, KS.

Smart Participatory Park Design



Smart Park exercise element



Proposed phone app to leverage data analytics and support community engagement.

Participatory Design + Scalability

Connecting Communities and Promoting Health with Smart Participatory Parks proposes a parks ecosystem model, wherein the parks' physical infrastructure is enhanced with sensors, and a digital platform is accessible to connect engaged users in urban underserved communities to promote physical activity and improve population health.

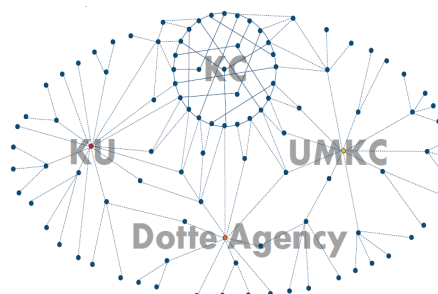
The digital platform will leverage recent advances in big data analytics to gain actionable insights from users' data. Analysis of the collected data will contribute to the understanding of how parks are used, and how programming improvements impact their use.

The research team builds on current research to capture and share behavioral data, and connects expertise in Public Policy and Law, Behavioral Sciences and Community Engagement, Design and Human factors, and Sensing and Information Technology, and leverages the natural collaboration between The University of Kansas, The University of Missouri-Kansas City, Kansas City Kansas, and Kansas City Missouri, as a bi-state regional collaboration and partner universities' memberships in the MetroLab Network, a consortium of city-university partnerships focused on bringing data, analytics, and innovation to city government.

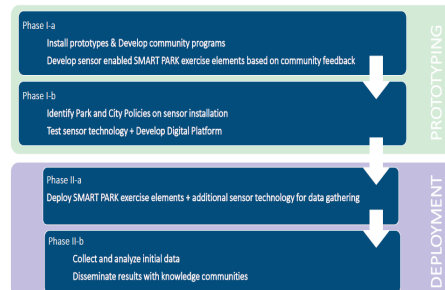
Research Process



Prototypes to promote healthy activities in the parks.

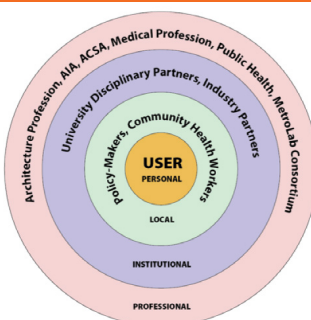


Collaborative city-university network as members of the MetroLab Network.



Knowledge Communities Served

The Connecting Communities and Promoting Health with Smart Participatory Parks project is transformational in its approach to the social determinants of health through enhanced environments that promote physical activity and community engagement for better overall population health. The objectives are to build research capacity integrating evolving public policies regarding surveillance and privacy, human-centered park design, sensor-based enhancements, community-based parks and health programming, and the development of a smart digital platform integrating behavioral, social and technological research, existing and newly-collected data in public parks, and local organizational capacity to measure outcomes for park enhancements.



This project targets: Enhancing the education of future architects, lawyers, social scientists, engineers, and computer scientists toward collaboration and innovation; Promoting knowledge in human-centered design thinking, community-based participatory practices, urban sensing and health promotion; Improving design and programming processes for parks and public spaces including plazas, trails, and sidewalks, through community-based participatory practices; Scalability for replication of the parks ecosystem in other MetroLab cities.