

SIGNIFICANCE



- Older adults face an increased risk of multiple chronic diseases and substantial healthcare costs.



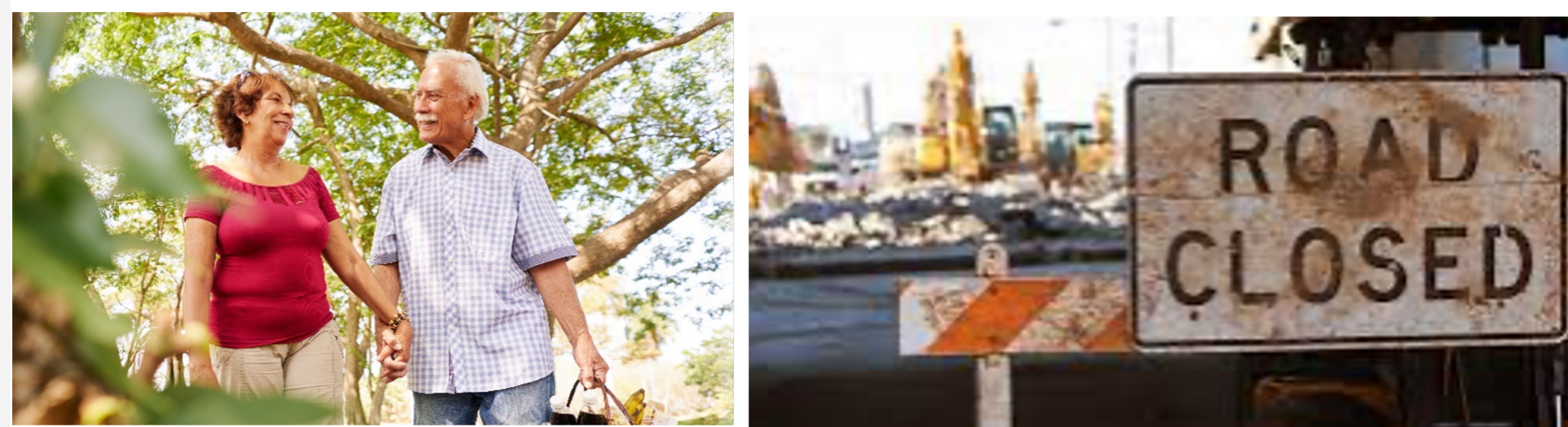
- Encouraging physical activity, notably walking, is crucial for mitigating such risks and associated cost/care burdens.



- Built environmental factors significantly influence walking habits and overall physical activity of older adults.



- Traditional urban planning and design practices, geared towards the "average person," often fail to address the distinct needs of older adults.



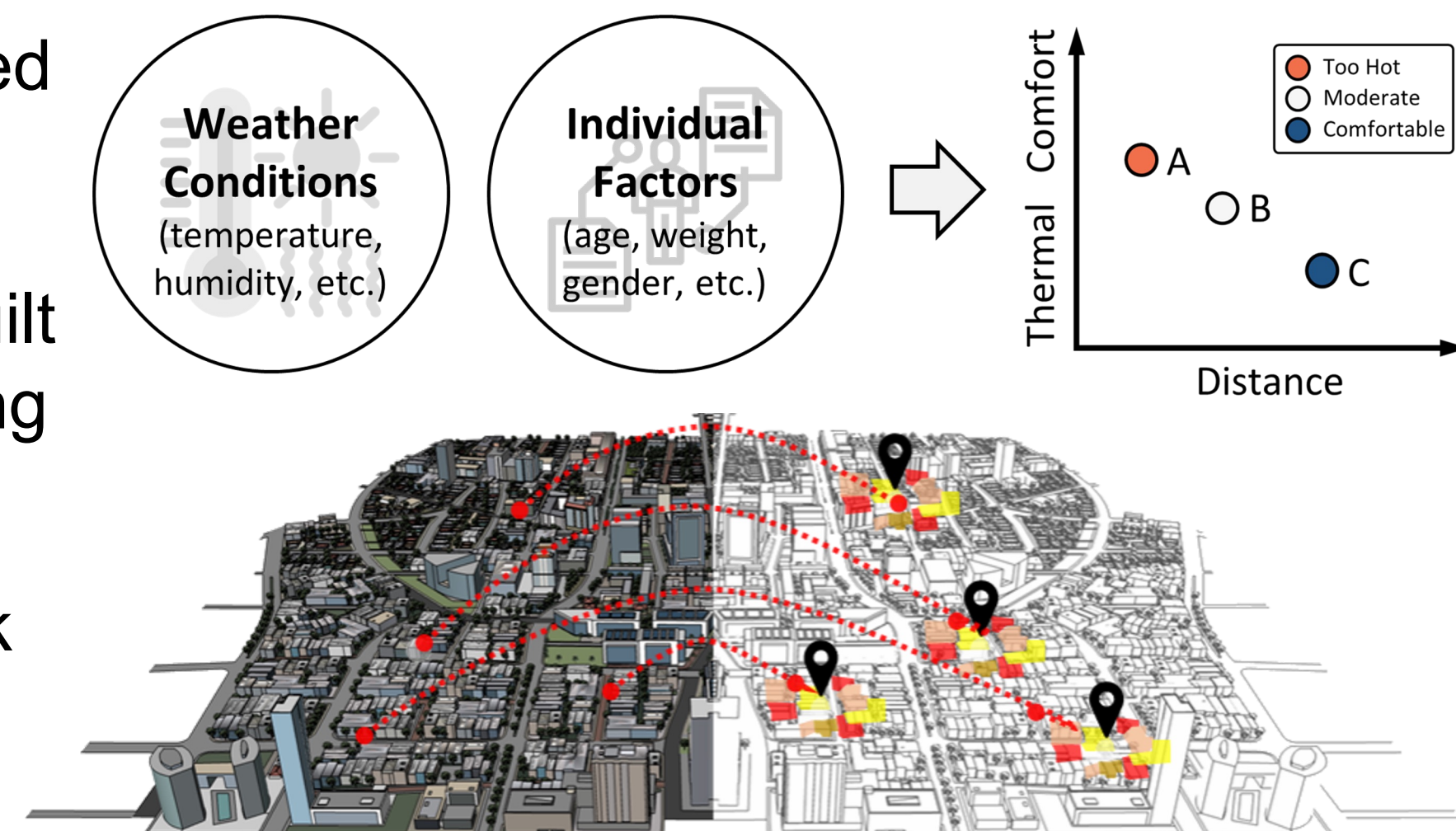
AIMS

- Aim1.** Create a Digital Twin City (DTC) model that reveals older adults' collective distress and associated environmental conditions.
- Aim2.** Leverage the DTC model to develop and evaluate technological and environmental interventions aimed at alleviating older adults' distress while walking, thereby contributing to their independent mobility and health.

MAJOR UPDATES

Building DTC Model of Environmental Distress

- A DTC prototype was developed to better understand environmental distress factors, adding new insights into the built environment conditions affecting walkability of older adults.
- A pedestrian-centric framework was developed to evaluate bioclimatic heat stress.

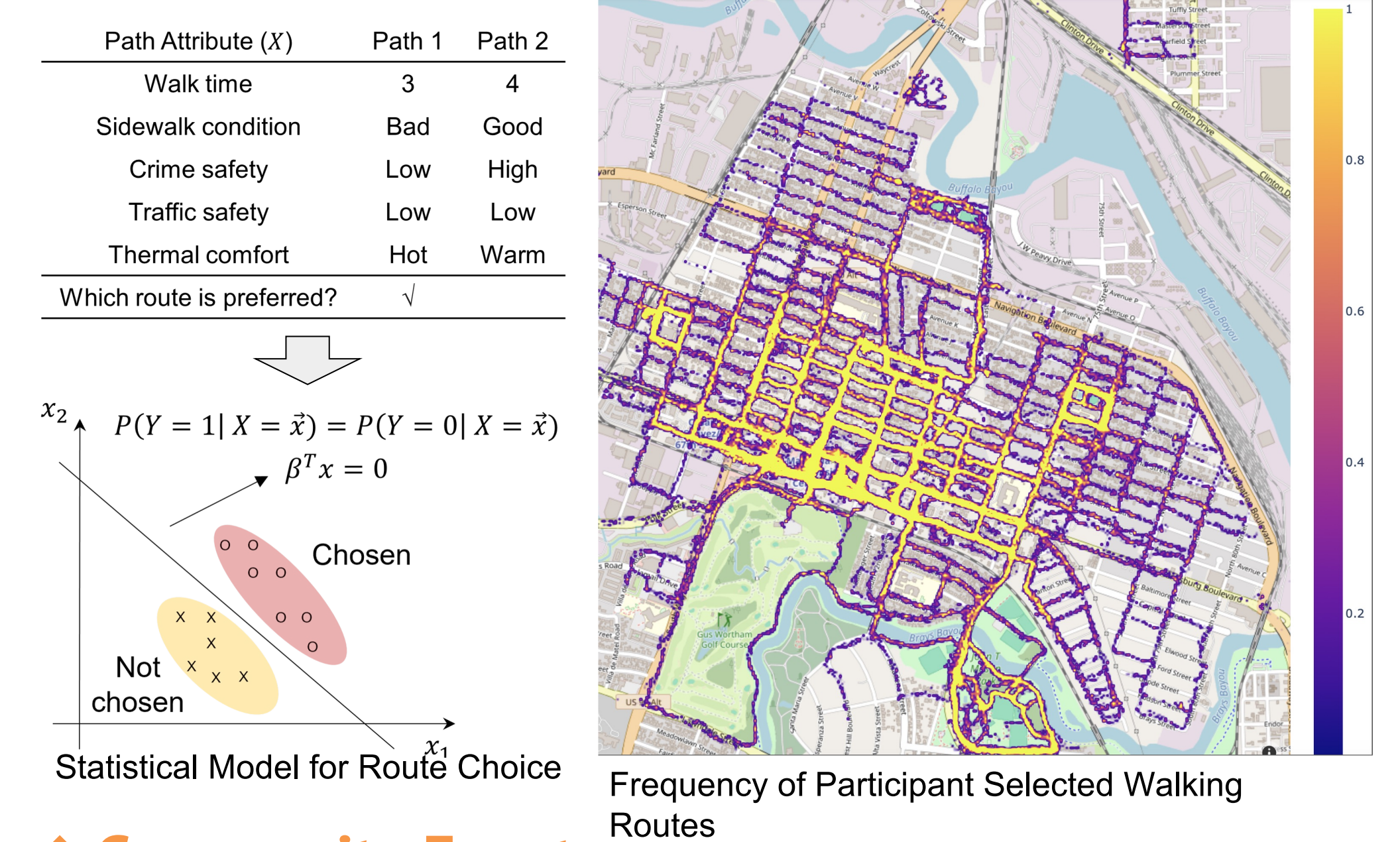


Implementing Environmental Interventions



Personalized Route Planning

- Major findings:** Temperature and crime have significant impacts on the electrodermal activity (proxy stress measure), and will be incorporated into the route planning app development.



Community Events



Broader Impacts & Future Goals

- Identifying environmental and technology strategies to benefit local communities by enhancing older adults' understanding of safety risks and mobility challenges in their neighborhood.
- Implementing and evaluating environmental interventions collaborating with the City of Houston.
- Designing and evaluating technological interventions using a within-subjects design.