Using a Network of Campus Testbeds and Community Engagement to Accelerate the Mutual Creation, Adoption, and Transfer of Urban Innovation in Cities

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Overview: By convening **multisector** (community groups, government agencies, startups, tech companies) **discussions** combined with novel and traditional surveys about smoke impacts on air quality and strategies for evacuation from heat, smoke, and wildfire, we seek to increase the **acceptance of digital technologies** by urban communities vulnerable to climate extremes.

Community Problem: Neighborhood groups in Portland OR, concerned about **climate impacts** including heat, smoke, and wildfire, **distrust** the agencies and companies whose **technologies** can **help them prepare** for and **survive** these threats.

Intellectual Merit: By using 10 elements of the theory of **transformative capacity** to interpret technology deployment on the five-campus network of Portland State University's **Digital City Testbed Center (DCTC)**, we are **refining** how cities and neighborhoods can **learn from each other**, and **transfer climate solutions** from one urban location and scale to another.

Project Activities: (1) Identified three neighborhoods concerned about air quality, located adjacent to DCTC testbed campuses in Portland. (2) With UW and UBC partners, found sites for later scaling to Seattle WA and Vancouver BC. (3) On PSU and UBC campuses, tested apps to help people with disabilities navigate safely. (4) Conducted 1000-person survey in Portland about air quality and sensing technology. (5) Used "Hello Lamp Post" software to digitally query and inform thousands of UBC students and staff about air quality and wildfire smoke. (6) With community and city input, deployed a new survey on technology, trust, and climate change. (7) Met with thought leaders about applying urban transformative capacity model to our results. (8) Organized a regional monthly webinar series on wildfires and urban smoke. (9) Submitted an unsuccessful IRG Track 1 proposal.

Societal Impact: Increased trust across sectors, combined with testing of new technologies, and application of theory can result in better protections for communities, improved and scalable city policies, and more company profits.

Sustainable Impact: We will work more closely with city staff and community members to identify priority problems that our multisectoral approach and collaboration with startups and advocacy groups can address.

Next Steps: IRG proposal reviews and community meetings suggested we focus a new IRG on evacuation and protection of vulnerable urban populations, working with Portland's 51 Neighborhood Emergency Teams (NETs) and Bureau of Emergency Management.

By working with Portland's Bureau of Emergency Management and 51 tech-savvy Neighborhood Emergency Teams (NETs),

Based on initial community meetings and reviews of our unsuccessful IRG proposal, we are shifting our focus to evacuation and protection of vulnerable urban populations, working with Portland's Neighborhood Emergency Teams (NETs).