

Alerting Elders to Air Quality Health Risks

Three³, Inc. is advancing indoor environmental justice (EJ) outcomes for elders living in historically under-resourced communities of color. The pilot improves resilience of elders to indoor and outdoor risks through the development of the Elders Alerts System about Imminent Environmental Risks (EASIER).

BUDGET

\$1.06M

\$746K
TVA Connected
Communities

\$320K
Proposed
Match

Background



Inequalities in EJ

Un-weatherized homes in under-resourced communities are frequently kept at unsafe temperatures and exposed to indoor hazards, requiring more frequent medical treatments for residents.

THE OPPORTUNITY

Insights into EJ

In addition to addressing inequalities, this pilot expands the understanding of indoor and outdoor EJ impacts to human health.

ACHIEVEMENTS

1st

of a kind program in the Tennessee Valley.

Elderly Populations

are the most common recipients of low-income weatherization programs.

Scope



Air Quality Monitors

including Indoor Environmental Quality (IEQ) and outdoor home monitors are installed to measure conditions.



Weather Conditions and Forecast Data

are aggregated to trigger alerts to elders and their designated contacts during extreme events.



Tablets

with an accessible user interface communicate alerts and triggers to elders.

QUANTITY

50

homes receive EASIER.

8

census tracks that rank high minority and low-income residents are the focus of recruitment efforts.

THE GOAL

Improve Resilience

A functioning EASIER that is deployed in homes of elders will demonstrate a reduction in indoor and outdoor environmental health risks for residents.



Performance

Key Performance Indicators

- Homes that receive EASIER
- Alerts that EASIER provides to users and networks
- Individuals and organizations connected to EASIER and their direct users

The Value

Low-Income Elders

- Improved indoor comfort
- Resiliency due to awareness of threats
- Improved quality of life
- Reduced energy costs

Businesses and Local Economies

- A workforce for both current and future businesses in rural America
- A business-partner relationship as funding partners, advisors on curriculum and mentors to students

Knoxville Neighborhoods

- Allows elders to age in place
- Addresses EJ inequities



Key Partners

PROJECT LEAD

Three³, Inc.

ADDITIONAL PARTNERS

Knoxville Utilities Board

Nexus Insight Advisors

Slipstream, Inc.

Social Equal Energy
Efficiency Development

Tennessee Valley Authority

University of Tennessee, Knoxville

Timeline

Phase 1

Rapid prototype of EASIER is deployed in 10 houses

Phase 2

Improved versions of EASIER is deployed in 10 more homes

Phase 3

Improved versions of EASIER is deployed in 30 more homes

Phase 4

System evaluation, software documentation, report writing and other communications

Phase 5

Continuous evaluation and consultation of system and user interface



Learn more about
this pilot project