Smart and Connected Communities Technology and Social Science Working Together for Better Society

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Program Director
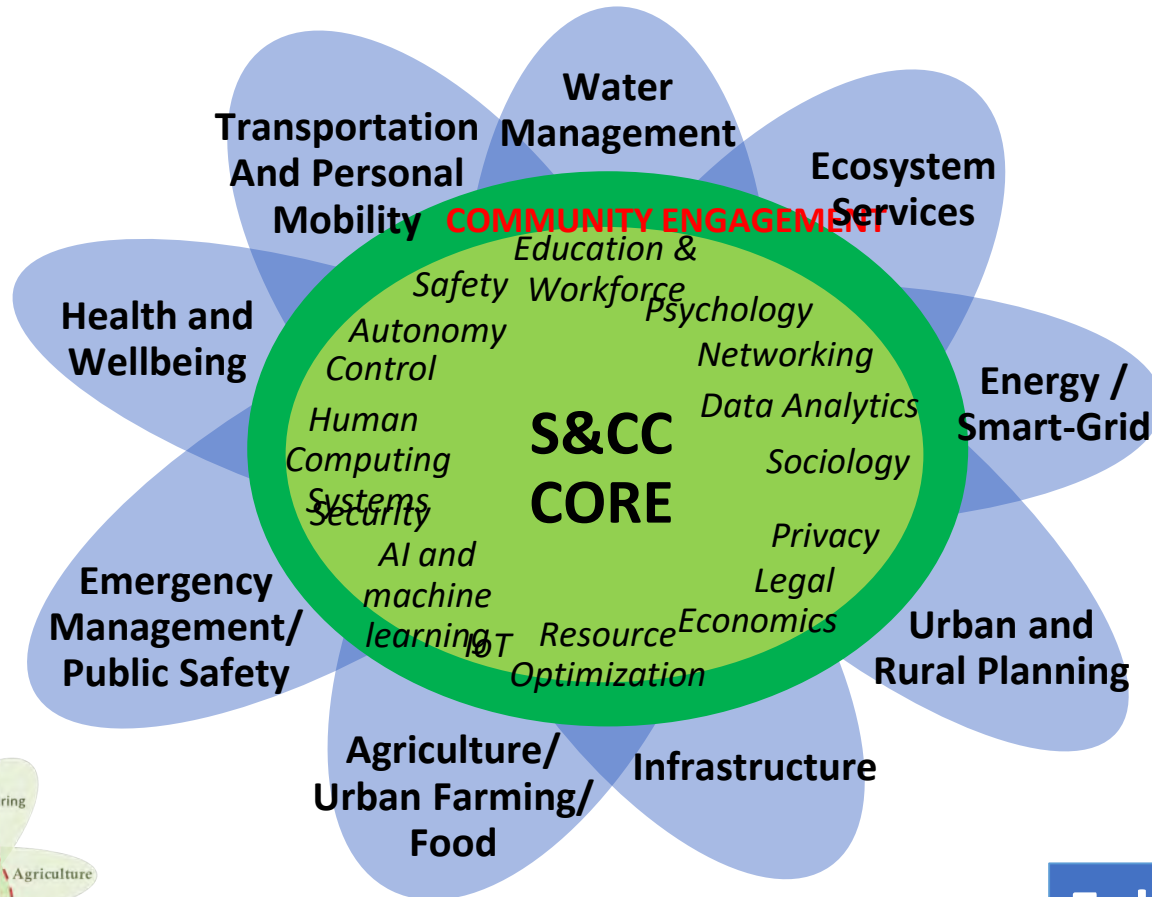Directorate for Computer and Information Science and Engineering
National Science Foundation
December 17, 2019

Smart and Connected Communities video

https://www.youtube.com/watch?v=Wm4Elder2CQ&feature=youtu.be

The value of fundamental research in smart and connected communities (S&CC)

Water Management

Transportation And Personal Mobility

Ecosystem Services

COMMUNITY ENGAGEMENT

Education & Workforce

Safety

Psychology

Health and Wellbeing

Autonomy Control

Networking

Energy / Smart-Grid

Human Computing Systems

Data Analytics

S&CC CORE

Sociology

Security

AI and machine learning

Privacy

Legal

Emergency Management/ Public Safety

IoT

Resource Optimization

Economics

Urban and Rural Planning

Agriculture/ Urban Farming/ Food

Infrastructure

Smart & Connected Communities

Aeronautics

Manufacturing

Information Management

Safety

Verification

Automotive

Control

Design

Agriculture

Autonomy

Networking

Data Analytics

Human in the Loop

Energy

Real-time Systems

Privacy

Civil

Security

IoT

Medical

Materials

CPS Core

A fundamental understanding of the complex, dynamic interactions between technology and society is essential for unlocking the potential benefits of smart and connected communities.
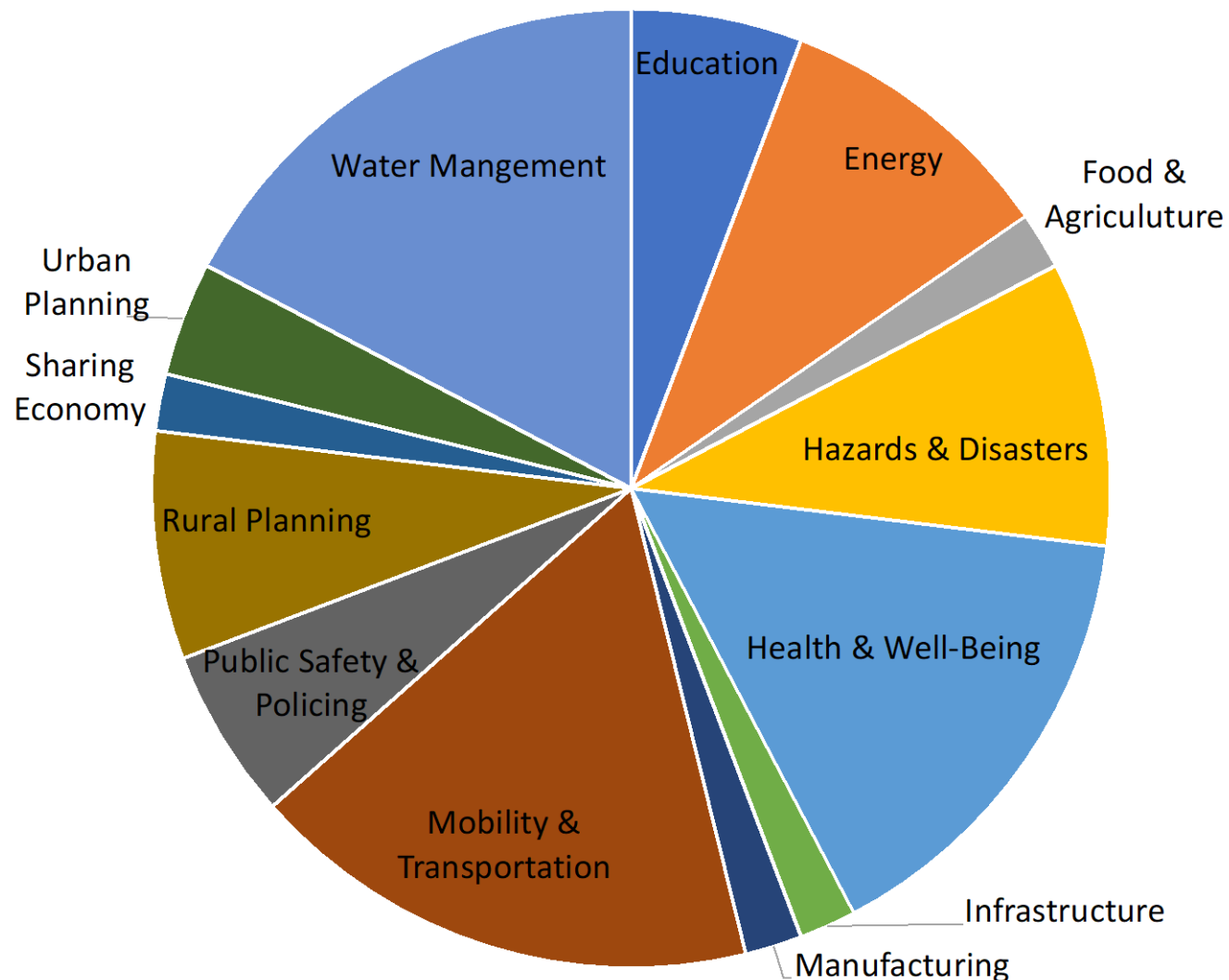
Enhances scientific and engineering knowledge in ways that improve the quality of life within communities.

Successful Smart & Connected Communities Research

Integrative Research

Community Engagement

Near- and Long-term Scientific and Community Impact

Research that integrates and advances social, behavioral, and economic sciences, policy and implementation, and technical disciplines.

Research questions inspired by community needs and iterative cycle of conducting research, and piloting and evaluating solutions in the community.

Enabling university community partnerships, civic engagement, and education and workforce development to facilitate long-term benefits of innovation.

NSF's Smart and Connected Communities program

- Advancing **technological and social** research dimensions

- **Integrating community stakeholders** within projects

- **Managing** across disciplines, institutions, and community entities

- **Evaluating** short, medium, and long-term **impacts** of the activities

S&CC website: NSF.gov/SCC

52 Awards; $42.3 million

International Collaborations for SCC

- NSF recognizes value of international collaborations and how they can significantly grow the research impact

- NSF plans to discuss with JPI Urban further opportunities for collaborative funding

- Meanwhile:
  - Researchers with existing NSF funding can always propose supplements to extend research with international collaboration - NSF funds US portion, other agency funds international side
  - Individual PI initiated for specific proposals leveraging existing agreements with various countries – for example - Joint Solicitation or international track to an existing solicitation CPS solicitation NSF 19-553 included a track with DGF Germany on Networked CPS
  - PI can propose NSF sponsorship of International / collaborative workshops