May 9, 2019

City Platform

Digital City Testbed Center

Jonathan Fink, DCTC Director

What is a "Smart" or "Digital" City?

"Smart Cities" refers to the use of digital technology (sensors, cloud computing, analytics, visualization) to improve urban operations and residents' quality of life

The Promise of Smart Cities

- Technology can improve operations, access, equity, health, environment
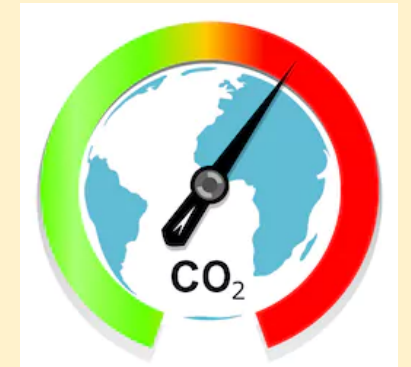
Improve City Operations

Universal Accessibility

Equitable Opportunity

Better Health Outcomes

Emissions Reduction

The Risks of Smart Cities

- Concerns about security, ethics, equity, monopolies, non-interoperability

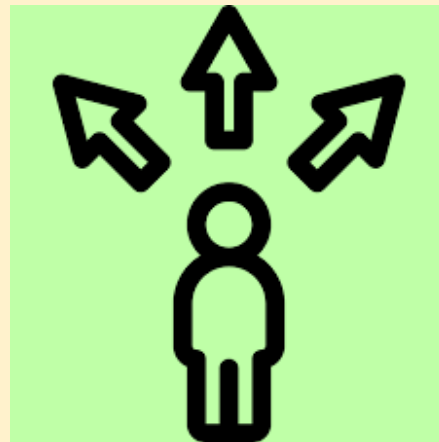Security   Ethics   Equity   Monopolies   Incompatibility

Three Challenges of Smart Cities

How do cities evaluate their smart options?

How does the public assess smart futures?

How do companies align smart products?

Three Strengths of PSU

**Research based
on partnerships**

**Social science &
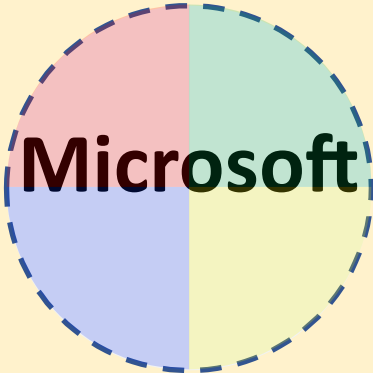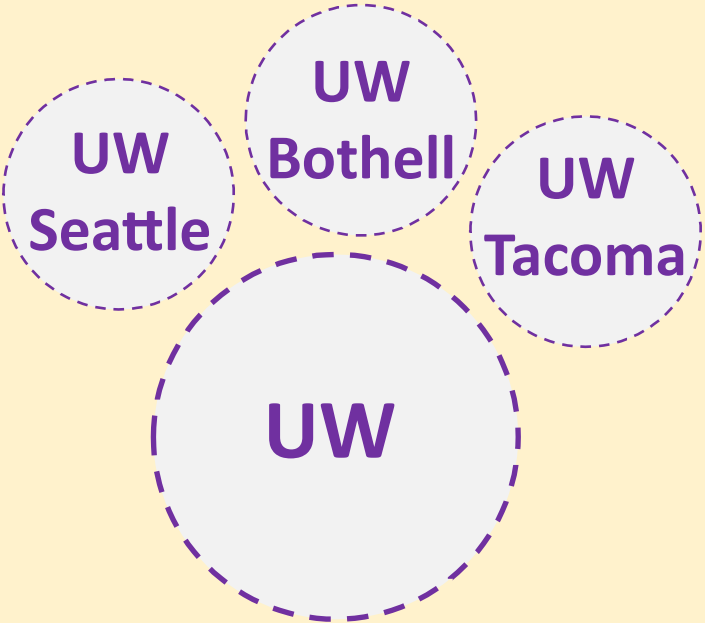policy expertise**

**Strong ties to
tech industry**

Smart City Innovation Needs to be Tested

55 acres

18 acres

OMSI

990 acres

PSU

UBC

Single-owner campuses can be ideal smart city testbeds

Digital City Testbed Network

2019: PSU, OMSI, UBC

2020: UW Seattle, UW Bothell, UW Tacoma, UW, Microsoft

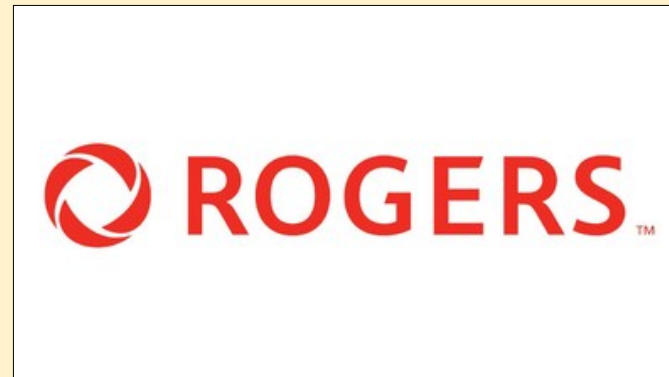2021: OHSU, PDX Airport, Oregon Zoo

Digital City Testbed Rationale

OMSI site

1. **Test before deployment, in partnership with cities**
2. **Use single-owner academic, corporate and non-profit campuses**
3. **Network campuses in Portland, Seattle and Vancouver BC**
4. **Create replicable, interoperable technology ecosystems**
5. **Apply academic social science and policy expertise**
6. **Initially include faculty from PSU, UW, UBC, OSU, ASU, CMU**
7. **Priorities set by communities (like this City Platform group)**
8. **Testbeds to emphasize accessibility, resilience, public education**
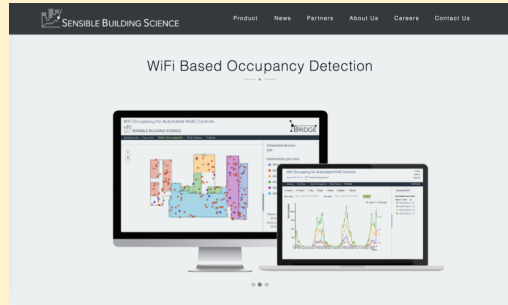9. **Technical focus on data security, data sovereignty and privacy**
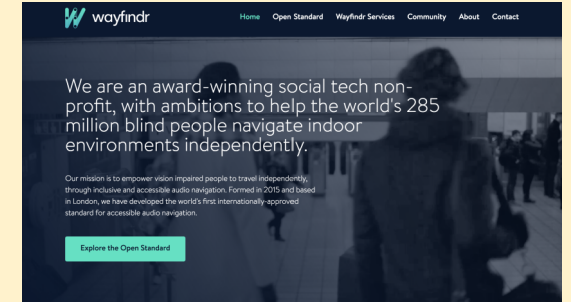
Potential Corporate Infrastructure Partners

GE Lighting, TOZNY, AT&T, CISCO, DELL, NTT DATA, verizon, intel, ROGERS, Microsoft

Potential Urban Applications and Technology

Hello Lamp Post

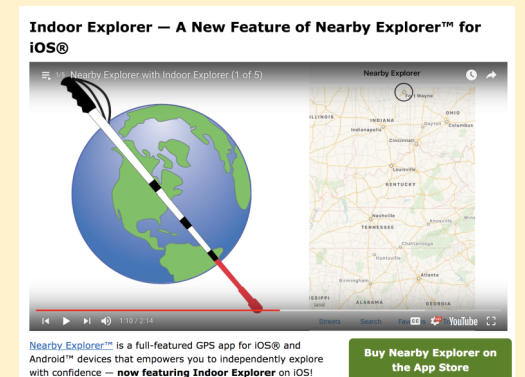Sensible Building Science

Wayfindr

Downtown.ai

GeoSim Cities

Air Advice

Numina
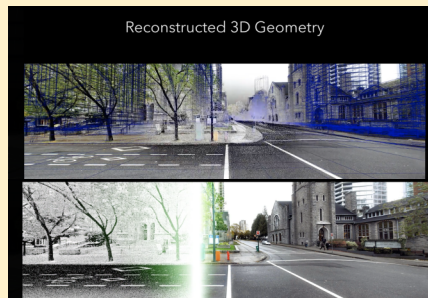
PREPHub
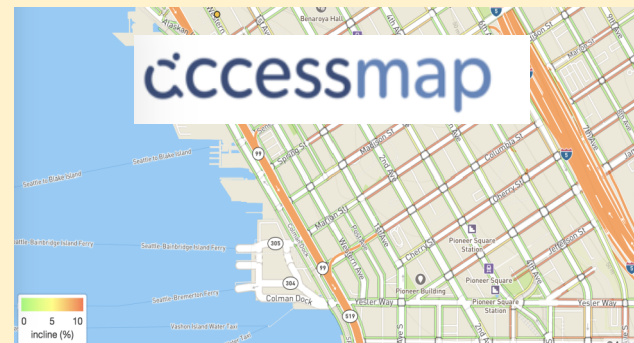
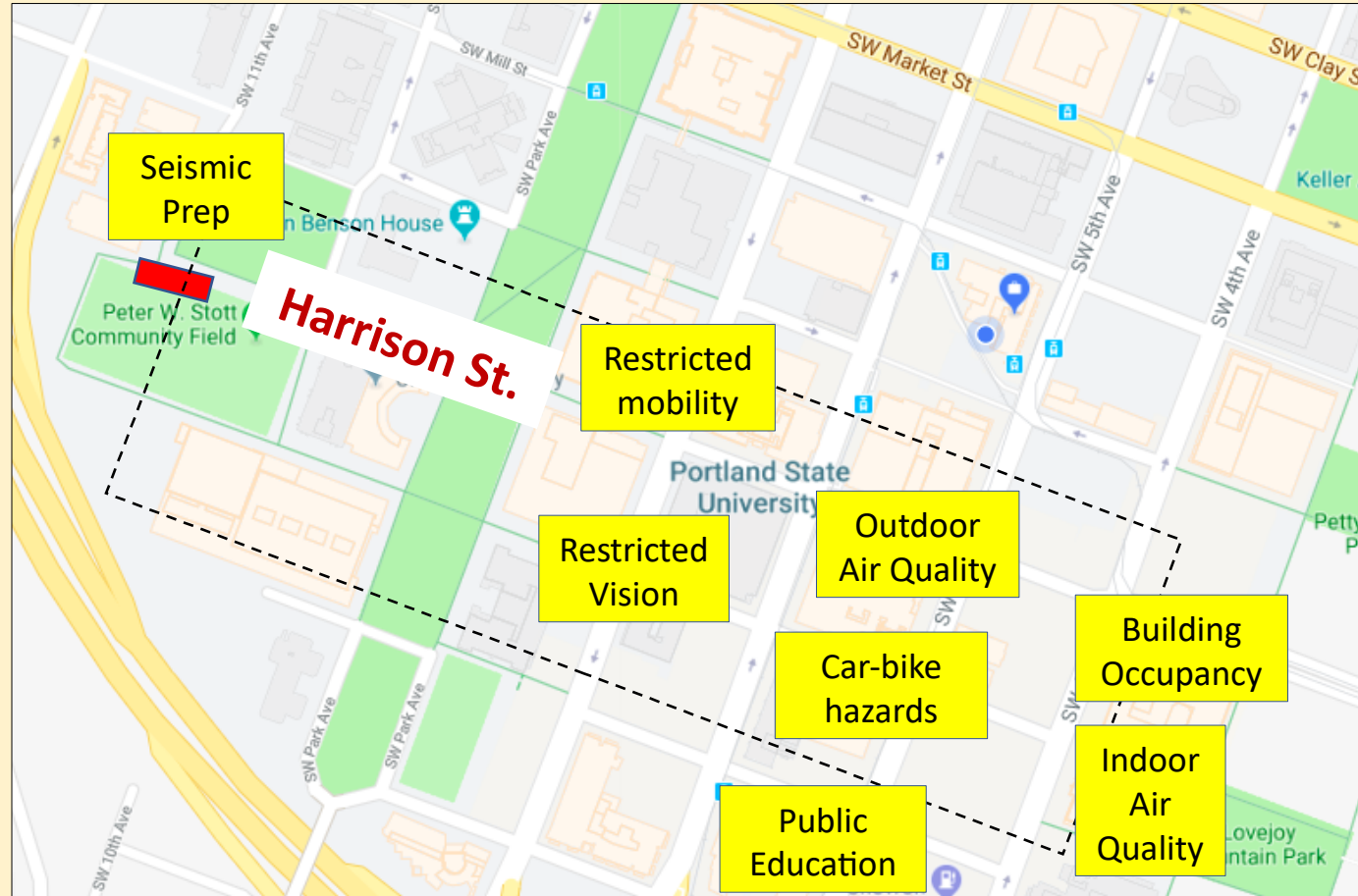Urban Leap

Array of Things
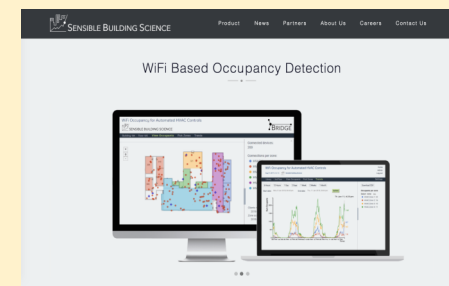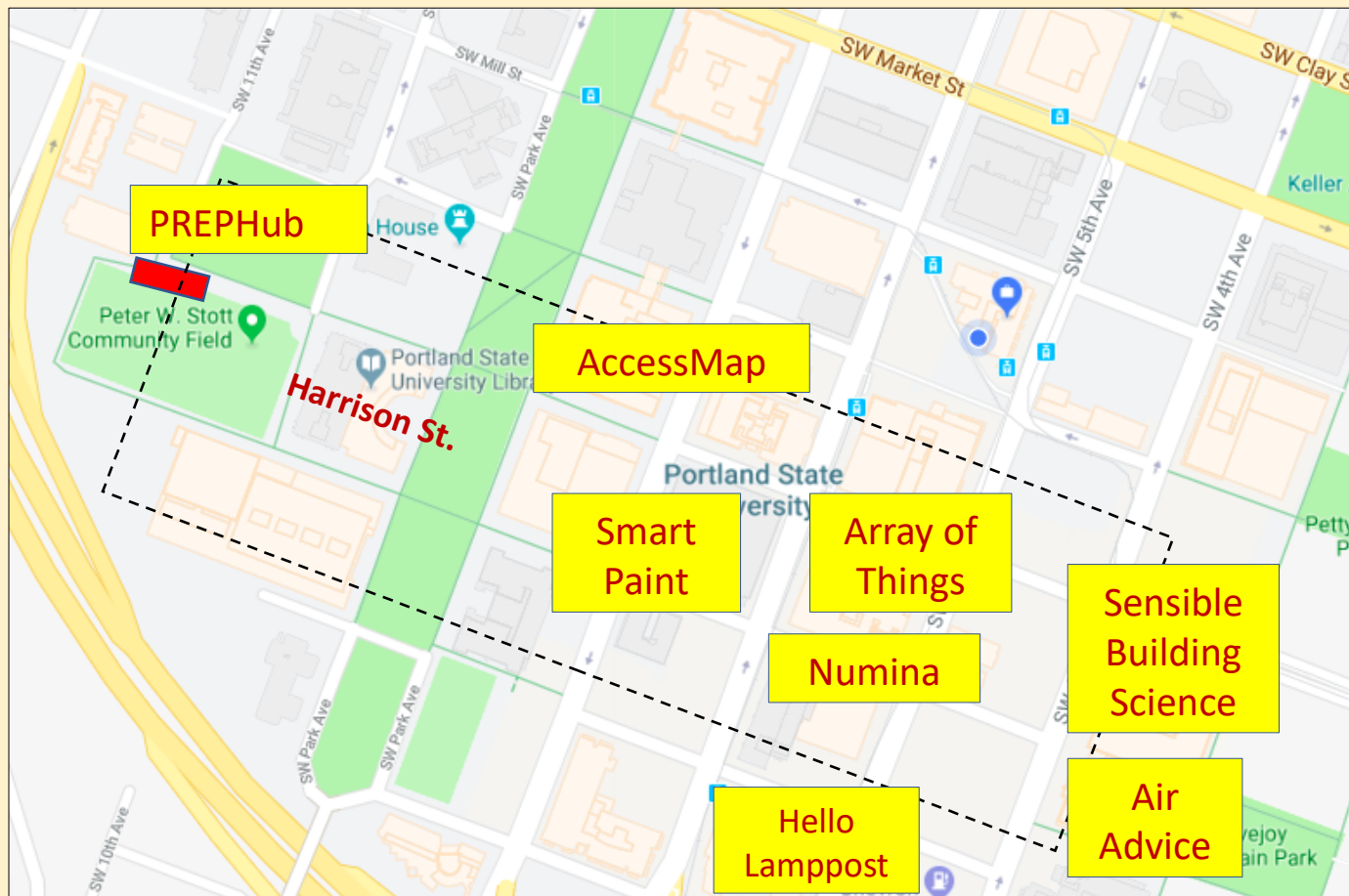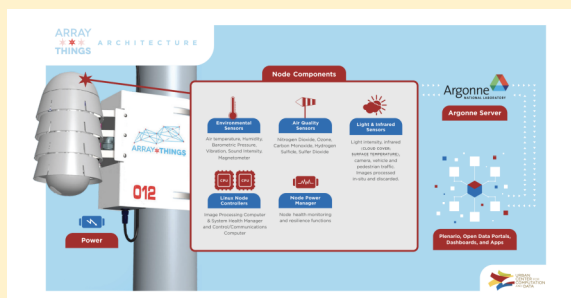
DigiTel

AccessMap

Nearby Explorer

PSU Digital Campus Corridor (Harrison Street)

Seismic Preparedness

Restricted Mobility

Restricted Vision

Bike-car Collisions

Outdoor Air Quality

Indoor Air Quality

Building Occupancy

Public Education

PSU Digital Campus Corridor (Harrison Street)

Corridor Opportunities

OMSI site

1. Educate the public about smart cities
2. Test data storage, retrieval, security protocols
3. Explore interoperability among applications
4. Use campuses to evaluate different boundary conditions

PSU Department Participants

- Electrical & Computer Engineering
- Computer Science & Engineering
- Civil & Environmental Engineering
- Mechanical & Materials Engineering
- Transportation Research & Education Center
- Urban Studies & Planning
- Entrepreneurship & Social Innovation (Business)
- Special Education
- Economics
- Public Administration
- Geography
- Environmental Science
- School of Art & Design

DCTC Advisory Board

- Microsoft
- Intel
- Bullitt Foundation
- MetroLab Network
- NIST
- Prudential Real Estate
- ZGF Architects
- City of Portland
- Technology Association Oregon

DIGITAL CITY TESTBED NETWORK

DIGITAL CITY TESTBED PSU

DIGITAL CITY TESTBED UBC

DIGITAL CITY TESTBED OMSI