

APHA 2023
November 12

Developing responsive community-engagement in participatory food systems modeling: Examples from 5 U.S. cities

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Presenter Disclosures

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- ▶ **The following personal financial relationships with commercial interests relevant to this presentation existed during the past 24 months:**
 - ▶ The authors have no relationships to disclose

Participatory Approaches to Food System Modeling



➤ **Community-Engaged Research**

- Enhances credibility when seeking to translate research to action

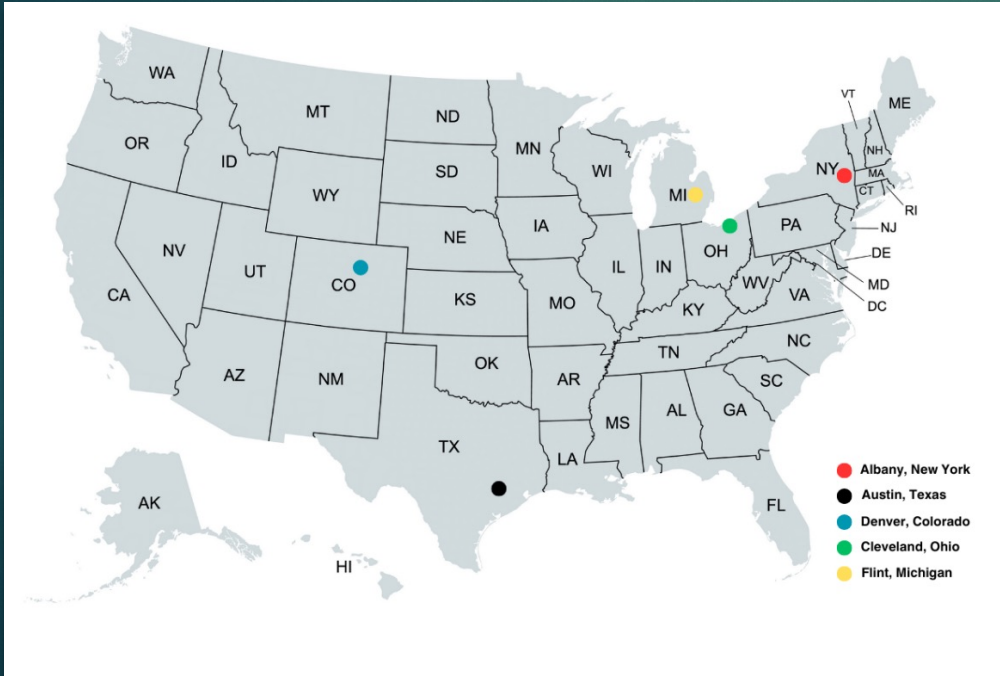
➤ **Participatory Modeling**

- Participants can help identify, develop and test solutions to inform collective decision-making
- But challenges include, increased time and money for research, technology barriers, and managing relationships and trust

➤ **Food Systems Participatory Modeling**

- Tensions between urgency of ensuring equitable access to food and nutrition and long-term environmental impacts of food systems function

Foundation for Food and Agriculture Research Tipping Points Projects



- ▶ Leveraging Community Food Systems for Change
- ▶ 5 Case Study Examples
 - ▶ Albany, New York
 - ▶ Austin, Texas
 - ▶ Cleveland, Ohio
 - ▶ Denver, Colorado
 - ▶ Flint, Michigan

Albany, New York

Community Requests/Research Gaps

- Need for food system interventions to simultaneously maximize environmental, nutritional, and health benefits

Modeling Approach

- System Dynamics Modeling (SD)
- Life Cycle Assessment (LCA)

Key Engagement Strategies

- Biweekly meetings with community partners
- Volunteering activities with project partners



Austin, Texas

Community Requests/Research Gaps

- Desire for increased healthy food options economically and geographically accessible to historically underserved regions

Modeling Approach

- Agent-based Modeling

Key Engagement Strategies

- Weekly research meetings, monthly with community partners
- Community feedback on all stages of model building
- Dissemination to local and regional stakeholders



Cleveland, Ohio

Community Requests/Research Gaps

- Urgency for hyper-local leverage points to accelerate economic opportunity, food security and access in historically redlined neighborhoods

Modeling Approach

- System Dynamics Modeling (SD)

Key Engagement Strategies

- 20 interactive modeling workshops over 2 years and 6 workshops with local food policy council



Denver, Colorado

Community Requests/Research Gaps

- Understanding tradeoffs across public food procurement strategies and regional distribution of impact

Modeling Approach

- Agent-based Modeling

Key Engagement Strategies

- Annual participation in CO Food Summit
- Quarterly meetings with Good Food Purchasing Program Coalition
- Bi-weekly modeling team meetings



Flint, Michigan

Community Requests/Research Gaps

- Eliminate food apartheid in Flint
- Understand values residents want in future food system, and improve community/research collaboration and partnerships

Modeling Approach

- Fuzzy Cognitive Mapping
- System Dynamics Modeling

Key Engagement Strategies

- Biweekly meetings with researchers and key community partners
- Advised at all stages by Community Consultative Panel (CCP)



Synthesis and Recommendations



Build

Build research in collaboration with partners from the onset



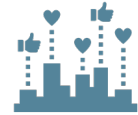
Develop

Develop awareness of the challenges of community-researcher partnerships



Support

Support transparent communication to increase relevance of models



Promote

Promote justice and trust through accessible dissemination processes.

Lessons in Food System Modeling

Foster change while balancing the tension between long-term environmental challenges with the immediate food needs of communities

There is no single best approach to participatory modeling → be responsive to partners to co-create policy with stakeholders



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Thanks to our community partners, our research teams, the Foundation for Food and Agriculture Research, and our individual matching funders, and thank you!