



Community-centered Governance Design

codesigning food systems work across institutional boundaries

a thesis document

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Community-centered Governance Design

codesigning food systems work across institutional boundaries

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*In loving memory of **Nana & Grandpa**,
a public servant and a military servant,
both generous, both life-long learners
and parents to my father*

*In loving memory of **Grandpa & Grandma Crowder**,
farmers in rural Missouri and parents to my mother*

And dedicated to food-concerned citizens everywhere

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Thank you to all who have mentored me and believed in me throughout my career, especially to the strong women who have demonstrated zest for life, strength of character, and a passion for people-centered practice: Kristin, K. Lynne, Liza, Joy, and Kendra. You have influenced my practice deeply.

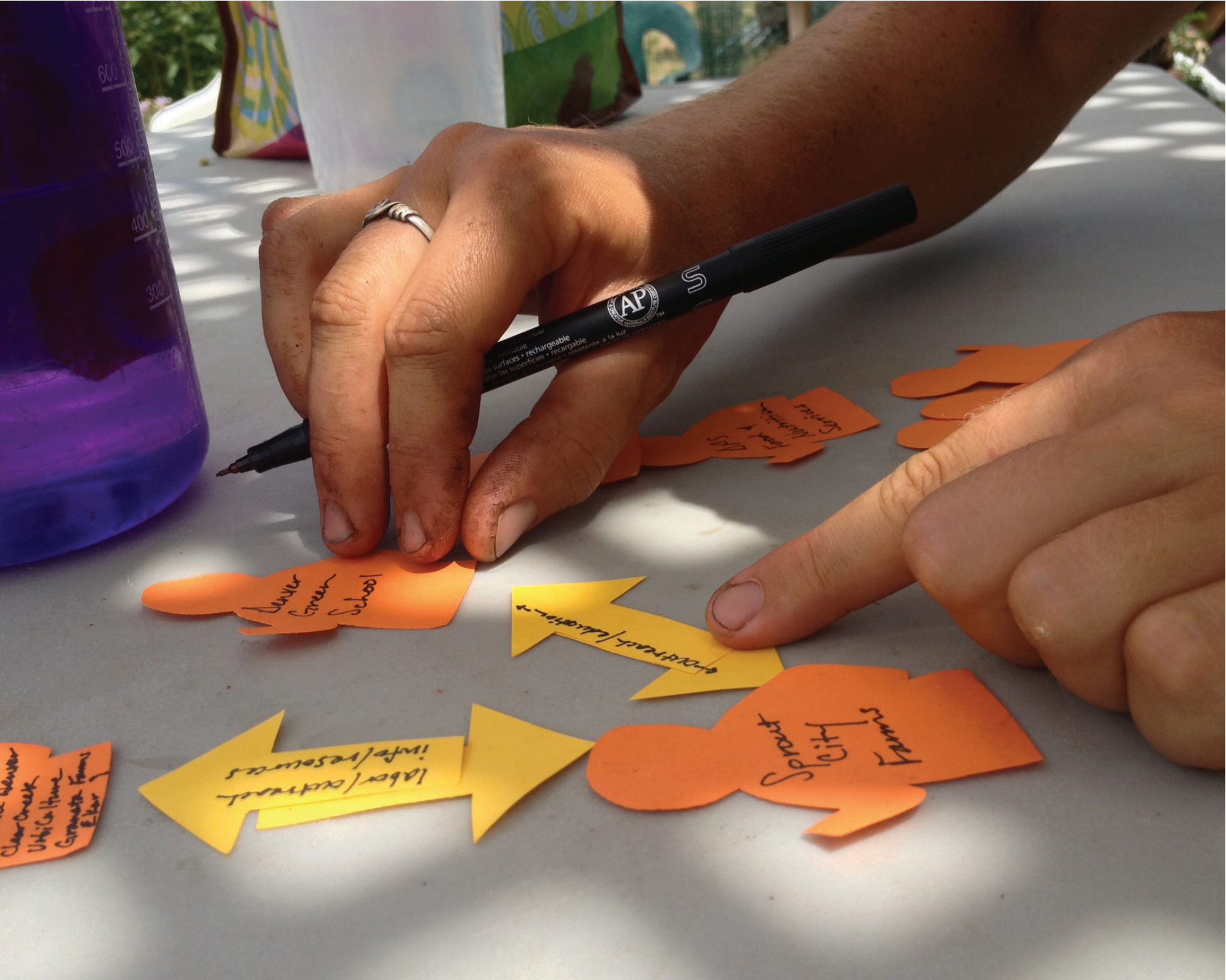
Thank you to my colleagues and all thoughtful and care-full designers.

Thank you to my former and future students. I learn from you.

Thank you to Padre, Mutti, and Chard for unconditional support and phone conversations during walks. Stay strong.

Thank you to my communities—past, present, and future. Shalom.

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“ The more we study the major problems of our time, the more we come to realise that they cannot be understood in isolation. They are systemic problems, which means that they are interconnected and interdependent.”

– *Fritjof Capra (1996)*

“ Design for social innovation is a complex (and often contradictory) participatory design process where a constellation of actors collaborates in developing social conversations aiming at tangible outputs.”

– *Ezio Manzini*

Introduction



How can design help solve societal issues that require many stakeholders to collaborate across sectoral boundaries?

To answer this question, I am examining the relationship between ad hoc local food networks and local government, mediated by cross-sectoral food advisory bodies (often food policy councils and community food assessments). I focused on food systems actors in the Denver local food system, taking special interest in the Denver Sustainability Food Policy Council (SFPC). I conducted generative research under the auspices of the Denver Office of Sustainability in the summer of 2013 and later validated my design concepts with several members of the Denver SFPC.


Groups like the SFPC must act as an intermediary governance body advocating for food policy on behalf of communities. To do so, they must understand what's happening and needs to happen in the system, form partnerships to optimize organizational capacity, all the while navigating changing political communication channels. Then they must propose policies and devise programs that are mission-aligned, community-oriented and politically viable.

Design intent


It is my belief as a researcher and designer that the elicitation of tacit knowledge lends itself to tactile expressions. This thesis proposes instilling design methods into dialogue-based collaboration techniques by equipping network “conveners” with a context-specific, multi-narrative, co-design toolkit that supports the existing process of food policy groups and similar cross-sectoral food-systems advocacy groups.



Food System Fundamentals



“People need to understand how
the food system works.”
– *Denver public official*



A Rube Goldberg machine in a black box

In a way, local food systems are not unlike a Rube Goldberg machine.

That is, a whole lot of energy, effort, and time is wonderfully synchronized in order to produce and deliver a simple result: fresh, healthy and affordable food that is both produced and enjoyed in your locale.

However, the difference between the Rube Goldberg Machine and the local food system today in North America and elsewhere on the globe is this: while the purpose of the Rube Goldberg machine is to make a conspicuous display of a superfluous amount of energy and work by arranging the moving parts and synchronizing them spectacularly, any local food system has just as many moving parts, but all are necessary. Further, most of the moving parts are invisible to the people who have the most direct influence on the success of the system: policymakers, funders, and local food consumers. Similarly, the influence of these people on the system is largely invisible aside from the measures taken to quantify the amount, direction, and purpose of funds.

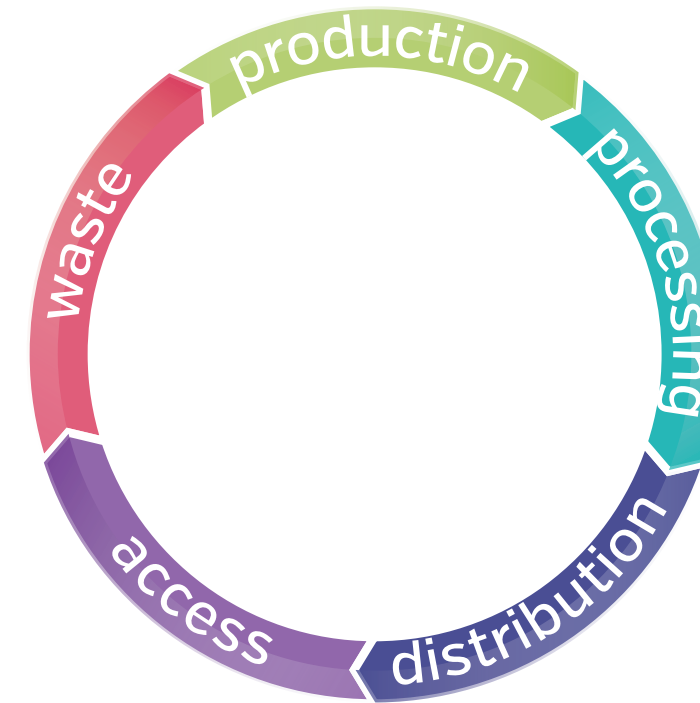
Because food systems comprise a complex set of components (production, processing) and a diverse network of actors (producers, advocates) who interact with those components, it's important to understand how the moving parts work in order to identify the system's strengths and weaknesses.

Thus, I'm looking at food systems as a whole series of *societal and industrial 'mechanisms'* that get a person's food from the field to their mouth.



caption

Food system cycle



Though the food system is a first and foremost an ecological cycle, in agriculture each of the functional components are each connected to the others, with flows of value in every direction.

The Denver Office of Sustainability defines the local food system as a cycle comprised of five functional components: production, processing, distribution, access and post-consumption (waste).

Production can refer to the planting, growing, harvesting of crops, or raising of livestock.

Processing is any kind of 'value add' such as packaging, preserving, canning, or anything that changes the natural state of the food, often to a form that has a longer shelf life. Although the term 'processed food' is generally considered unhealthy, this is not always the case with locally processed food.

Distribution involves transporting food from producer to processor and from processor to restaurant to retailer or wholesaler. Sometimes distribution bypasses processing and goes straight to a direct buyer, such as a local restaurant. Because distribution (whether local or not) involves planes, trains, and automobiles, local food advocates coined the term "food miles" to refer to the distance food travels from the field to one's fork.

Access involves any point at which people acquire food, either by buying it at retail or wholesale establishments, or by receiving it at food pantries, soup kitchens and the like.

Post-consumption typically involves processing food remnants so that what doesn't get used (in food preparation) or eaten (after preparation) can be repurposed. Composting is a common form of post-consumption. Other forms include feeding livestock with vegetable stalks or hops leftover from beer brewing.



Food cycle inputs & outputs

Inputs and outputs necessary to a local food system take many forms.

To bring systems thinking to local food systems, it is important to first understand the inputs and outputs that form the basis of the system.

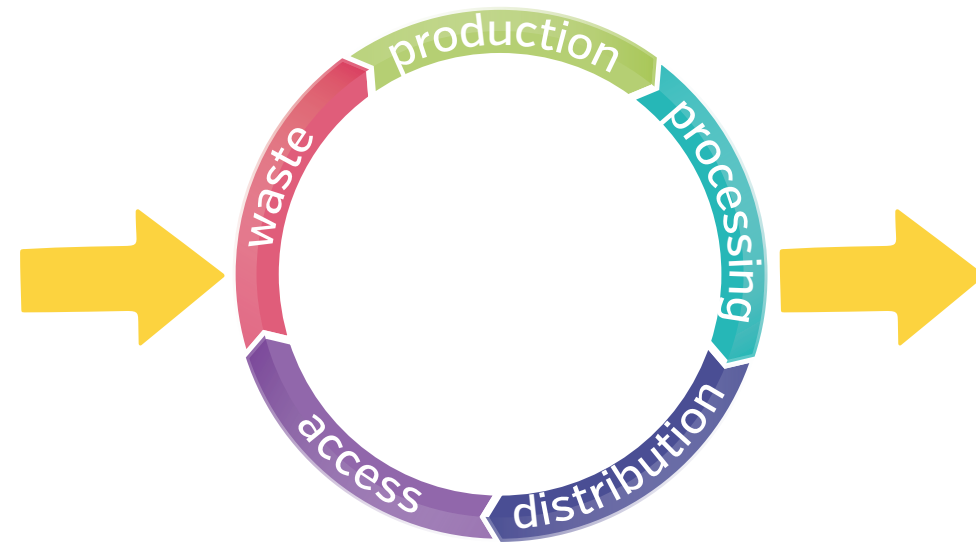
Inputs include sunshine, water (rainfall or irrigation), arable land, labor, money, and agricultural tools and machinery.

Outputs include fresh produce and processed goods, jobs, oxygen (from photosynthesis), post-consumption materials that can be converted to compost.

At the state level, a report by Colorado State University Extension (CSU 2013), delineated the following categories:

- › **human capital:** physical labor, administrative work, community outreach
- › **natural-resource capital:** land and water
- › **physical capital:** agricultural tools and machinery
- › **financial capital:** money from city agencies, foundations, and retail and wholesale transactions

But more than simply inputs and outputs to the functional components, a local food system comprises a complex, interdependent relationship of groups and organizations that engage in one or more of those components. Food system actors view inputs and outputs as vital resources, and resource exchange is the basis for building partnerships.



Food systems are a network of relationships

“Developing trust—that’s the most important thing. A healthy, robust system depends on people knowing each other.”

– community advocate

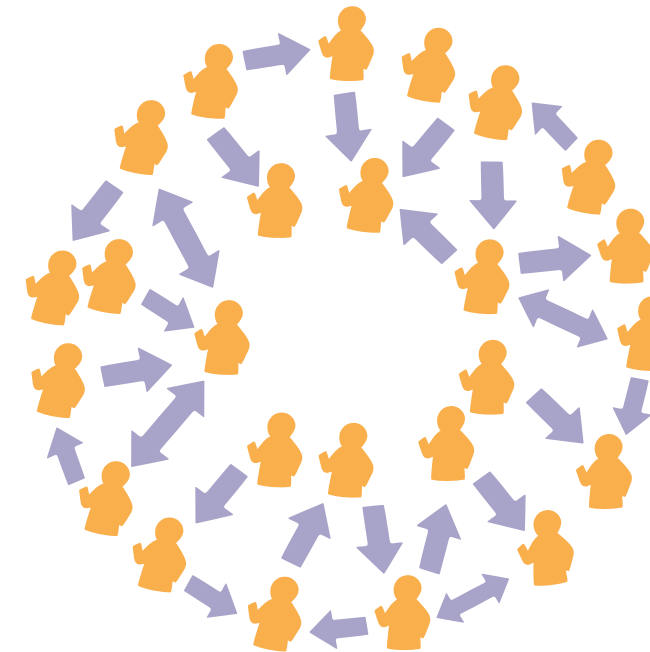
In Denver, there are over 200 groups and organizations that are involved in one or more components of the food system. This network is comprised of nonprofits, local businesses, government agencies and community groups at the grassroots level.

As a result of this multiplicity of actors, local food networks are typically ad hoc. They are self-organizing and operate at micro and macro levels. That is, they put energy toward both serving communities and navigating political and economic systems, organizing in ways that seem effective.

Because food system actors are often challenged by limited capacity, they are highly oriented toward relationship building and resource sharing.

My research participants repeatedly emphasized the value of meeting face-to-face in order to establish and maintain relationships necessary to move forward with food system initiatives. From coffee shop chats and community potlucks to food policy council meetings and neighborhood food assessments, these meetings are the lifeblood of the local food network.

Food systems actors rely on each other for sharing knowledge and expertise regarding best practices for producing and processing food. They also discuss what’s happening in various communities around the city, what’s new on the policy front, and what upcoming events are suitable for promotion, fundraising, or further networking.



The food system is a resource network

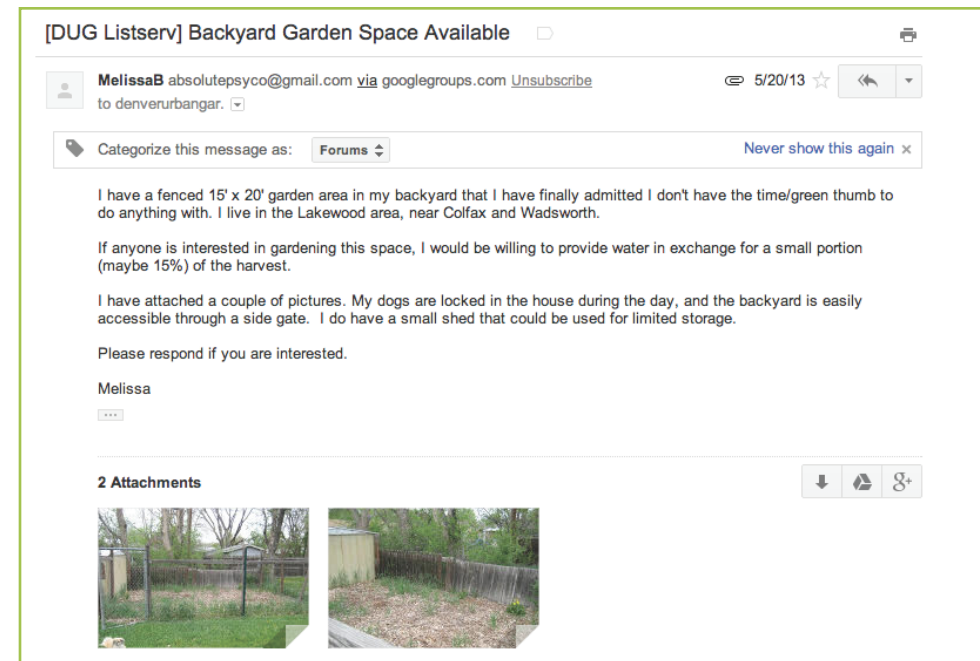
Many actors sharing resources

In addition to face-to-face meetings, evidence of active relationship building and resource sharing in Denver's local food system can be found by perusing posts to Denver Urban Gardens' listserv. Listserv members are primarily community growers in one of Denver Urban Garden's 135 community gardens. In addition to reaching out for growing advice, members ping the list to offer or request growing materials such as seeds and seedlings, plant clippings and divisions, trees, and compost. Members also announce educational opportunities for all ages—from summer farm and sustainability camps for elementary school students to open-source beehive workshops.

Additionally, members crowdsource physical labor in the form of crop mobs. A **crop mob** is “a community building exercise based on the traditional Amish barn-raising model.” [cite: Slow Food Denver?] In exchange for a few hours of physical labor, the beneficiary feeds the crop mobbers with local food they have produced.

Actors and flows of value

Of the issues surrounding the shift from global to local food systems, the visibility of actors and flows of value is seldom addressed. Borrowed from Bruno Latour's Actor Network Theory (ANT) (Latour, 2005), this approach is valuable for understanding and improving situations in complex social networks where people work together to change existing food access situations into more equitable and healthful situations for all citizens.



A resident emails Denver Urban Gardens' listserv, offering gardeners the opportunity to grow in her unused backyard garden space.

Resources are more than just food and money

Colorado State University's value chain description demonstrates why organizations in the local food system rely on partnerships that exchange more than simply food for money and money for food.

In comparison to CSU's value chain report, my generative interviews showed that in Denver, food systems actors characterize flows of value in the following ways:

- › agricultural production expertise
- › policy expertise
- › public health expertise
- › administrative support
- › agricultural labor (either on a paid or volunteer basis)
- › agricultural production materials
- › financial capital (from sales, contracts or grants)
- › informational resources for small businesses
- › food (either transported, sold, or donated)
- › space for events and classes
- › outreach and education about local food
- › contracts with the city
- › “providing strength in numbers”

Both Colorado State University's report and my research findings provide evidence for the importance of conceptualizing the food system as a network of actors and flows of value.

As in any complex system, these flows demonstrate emergent properties. That is, the local food system as a whole possesses properties that are not characteristic of any single food system actor.



Generative actor-network diagram produced by
Urbiculture Community Farms (summer 2013)

Food system feedback loops: strengths

Amplifying feedback loops result from existing strengths of the local food system and create opportunities for it, reinforcing those strengths. **Local food systems often manifest amplifying feedback in the following ways:**

Recurring, organized social events: The farmers' markets is an example of emergence in local food systems. Although a single farmer can have a farm stand, one farmer does not a farmers' market make.

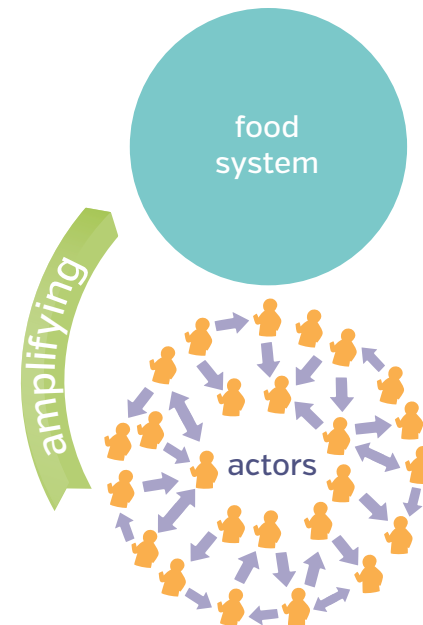
Change in cultural disposition: As popularity of local food increases (through word of mouth and other means), the cultural values of the local community gradually shift from emphasizing convenience and low costs to nutritional value, flavor, and supporting the local food network.

Proliferation of organics and increased biodiversity: Similarly, as demand for organic foods and heirloom vegetables increases, producers will contribute to the ecological health and biodiversity of our agricultural products.

Improved community health: Local communities, at times in partnership with collaborative initiatives (such as LiveWell Colorado), can make positive steps toward living healthier lifestyles and thus decrease risk factors of diet-related chronic diseases (such as diabetes and cardiovascular disease).

Strengthened local economy: The birth or growth of a single organization can produce jobs, but the birth and growth of many organizations can strengthen a local economy by providing income to citizens who then have increased buying power.

Increased business viability: Restaurants and cafés that source locally could not exist without multiple producers and processors to provide local food.



Food system feedback loops: weaknesses

Dampening feedback loops result from existing weaknesses of the local food system and create potential threats for it, discouraging some behaviors. **Potential threats to a local food system include**

Threats to funding: Organizations that secure funding (from the city or foundations) but fail to effectively create impact with it may be viewed as incompetent by those funders and therefore may be perceived as undeserving of further funding. Funding opportunities may also be threatened if multiple organizations compete for the same funds.

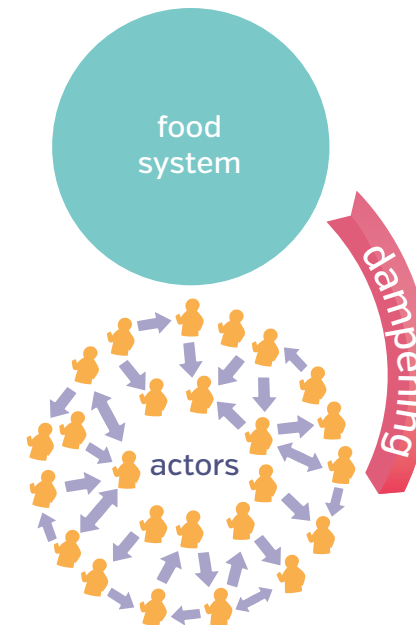
Collective impact initiatives can deter both of these threats because it brings groups together. This diminishes (and in some instances, eliminates) competition for funds while simultaneously making a stronger case for funding.

Threat to reputation: Instances where consumers of local food experience food borne illness (resulting from poor food-handling practices that jeopardize food safety) may significantly damage the reputation of local food producers and processors as reliable providers of safe and enjoyable food.

This threat can be diminished by educating local food producers and processors about proper handling of food as well as reducing the number of handlers of food between farm to plate.

Threats to production: Regional natural disasters and the onset of extreme, inhospitable weather due to climate change pose threats to the ability of local farmers and homesteaders to produce sufficient volumes of local food.

This is the most daunting threat to address and one reason why many communities have shifted focus from sustainability to resilience.





Increasing Access



“Access, access, access.
It’s about access!”
– *Denver public official*



Fresh food access
Government access

Access to fresh, healthy food

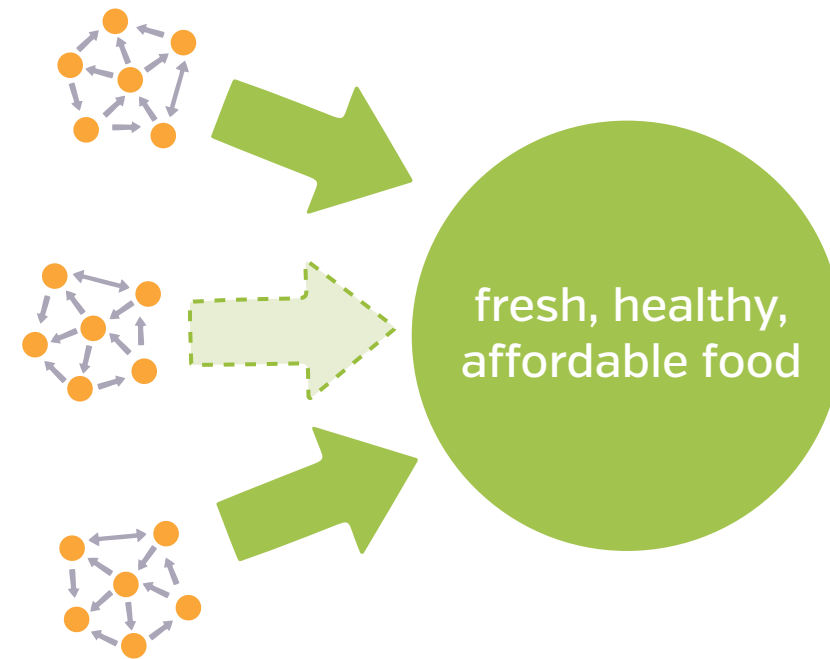
“The neighborhood can grow enough food for the neighborhood.”

—farmers’ market manager

Most actors in Denver’s local food system are working to achieve a common goal: increasing access to fresh, healthy, affordable food in their communities. They take several approaches to do this:

- › **The GrowHaus** and **Revision International** teach communities and families, respectively, how to grow food. Both invest in underserved neighborhoods over the long term, enabling them to become more self-sufficient.
- › **Produce for Pantries** educates school, community, and residential gardeners about donating excess produce to their local food pantry.
- › **Urbiculture Community Farms** and **Sprout City Farms** operate pay-what-you-can farm stands so community members with low cash flow can buy fresh, local produce.
- › **Sprout City Farms** and **Delaney Community Farms** offer work exchange programs so community members with low cash flow can affordably become a community-supported agriculture (CSA) shareholder.
- › **So All May Eat (SAME) Café** operates a pay-what-you-can café that sources fresh, local food.

These are just a few examples of food access organizations working in Denver. To make this work economically sustainable, these organizations often rely on financial resources from the city and foundations. Thus, increasing government access is intertwined with increasing community food access.



Access to government decision-makers

Advising policy to increase access

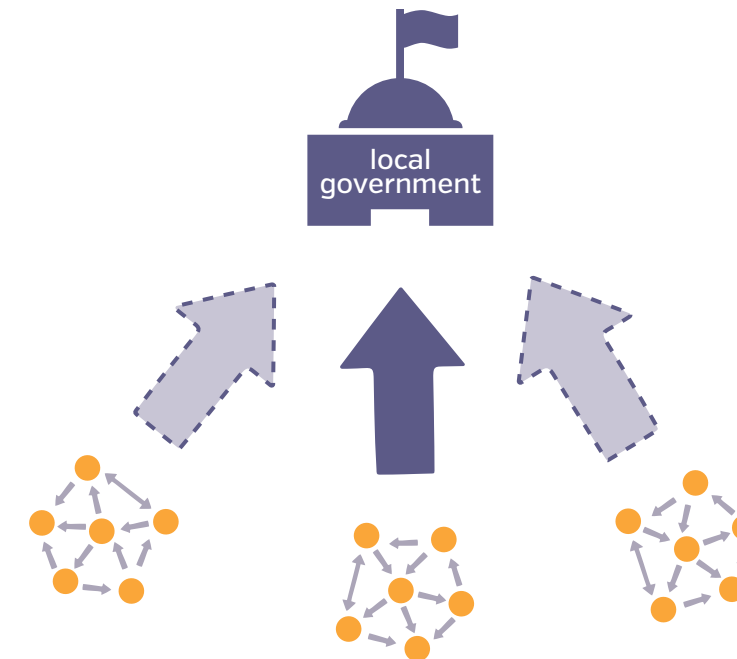
While the self-organizing nature of local food groups is effective at getting tons of food annually from local farms to people’s plates, resources and licenses need to be obtained from local government agencies.

To facilitate the education and advising of public officials and policymakers, who allocate resources and inform or create policy, cross-sectoral advisory groups have emerged in North America in the past three decades.

Two types of advisory bodies are prevalent in the United States: community food assessments and food policy councils—FPCs and FPACs, respectively). Both types of groups typically comprise one or two dozen members from across sectors—local nonprofits, businesses, government agencies, and foundations. Each of these members brings their unique perspective and domain expertise to regularly occurring meetings that serve as the basis for their collaborative, long-term processes.

In exploring a role for design in the realm of collective impact, I focused on FPCs as a genre of collective impact teams existing in many cities across North America.

My research in Denver’s food system revealed much concerning many facets of the Denver Sustainable Food Policy Council (SFPC)—its purpose, functional role in the food system, its process, and challenges.



Food Policy Councils

“We’re most proud of partnerships and relationships with people doing this work all over the city. Now we feel we’re part of a community and we’re all really good friends. It’s like a living organism, and its heartbeat is just strong.” – *Denver SFPC member*

Mission

Function

Process

Intensive work

Project phases

Meeting layers

Existing tools

Words

Personas

Purpose: policy advocacy for food access

The first food policy council (FPC), which emerged about three decades ago in Tennessee, is now one of approximately 200 FPCs in North America. FPCs operate at the city, county and state levels.

The purpose of an FPC is to understand community food needs that pertain to the local food system and advise policymakers on how policies affect these needs. Some FPCs even take it upon themselves to advocate for specific policy changes.

For example, the mission of Denver’s Sustainable Food Policy Council (SFPC) is “to influence policy that fosters food security for all community members, and promotes a healthy, equitable, and sustainable local food system, with consideration for economic viability and environmental impact.”

The key question FPCs ask is, “*How might we influence policies to increase access to fresh, healthy, affordable food in our community?*”

To answer this question, the Denver SFPC currently has four policy initiatives [cite], each of which is led by a subcommittee:

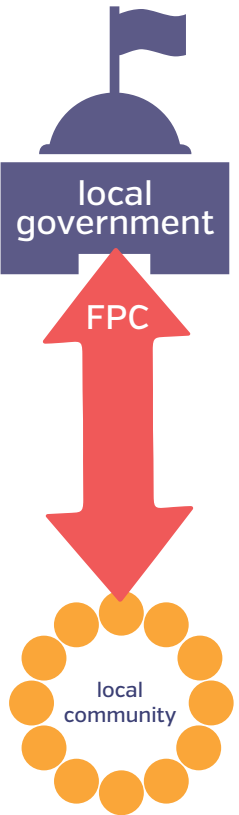
- › Remove regulatory barriers on the sale of raw agricultural commodities on residential properties
- › Develop a local purchasing ordinance
- › Increase SNAP redemption opportunities
- › Encourage a broad range of fresh food outlets from traditional models to alternatives

These initiatives—removing regulatory barriers, developing an ordinance, increasing opportunities to redeem federal food assistance (SNAP), and encouraging food outlets—all demonstrate ways that the SFPC is advocating for community food needs by interfacing with the local government.

“In every social innovation process, and more clearly in large-scale ones, different actors participate at different moments and in different ways in a sequence of diverse and sometimes even contrasting events. The design process that emerges is quite a dynamic and unforeseeable process...”

– *Ezio Manzini (2013)*

Function: community-government interface



For the purposes of my research and posturing of design, I have focused on FPCs at the municipal level. In exploring a role for design in the realm of collective impact, I focused on FPCs as a genre of cross-sectoral team existing in many cities across North America.

From a community-government interface perspective, my research revealed the following:

- › Local communities want to be heard and feel empowered.
- › Allocation of resources by the government and how to access them can be a difficult thing for citizens to understand.
- › The local government recognizes this and wants to streamline delivery of resources to citizens.
- › Policies, because they materialize through bureaucratic paperwork, often take binary, “check the box” perspective for assessing need and evaluating impact.
- › As a result, a ‘policy ceiling’ exists between communities with needs and stories and policymakers.
- › Boards and commissions are a way for citizens to discuss the needs and stories of their communities with appropriate city officials.
- › A challenge of doing community-centered governance is having the collective discernment for how to appropriately include and engage communities.

Because FPCs serve as an interface between local governments and the communities they serve, FPCs seem to be well poised for executing a form of **urban acupuncture** [cite] that could provoke transition from global industrial food system and its effects to locale-oriented food systems and the regenerative potential they have for our society. Their position within a given municipality and prevalence in many North American municipalities positions them as critical nodes of sociopolitical influence in both the municipal and North American realms.

A multi-dimensional process

Because the Denver SFPC acts as an interface between two complex sociotechnical systems, the food network and the municipal government, the process they use is, by necessity, multi-dimensional.

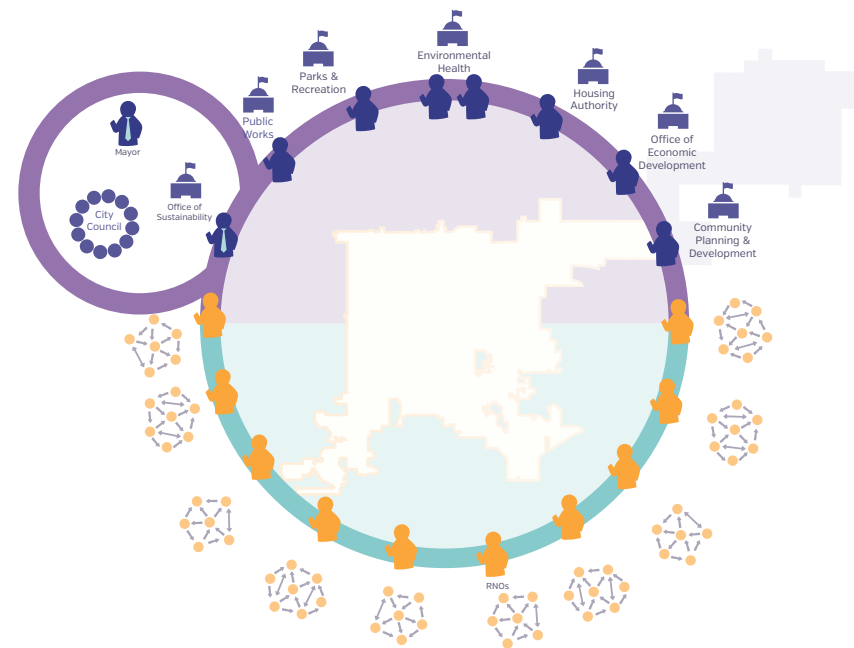
One dimension concerns the long-term process of doing food policy advocacy work. This process has several phases that unfold over time. Because the SFPC has four policy initiatives, the various phases often overlap: one policy initiative could be in an initial phase, while another could be in a later phase of the process.

A second dimension concerns the bi-monthly SFPC meetings, with 26 members engaging in a multi-layered, dialogue-based, collaborative process.

The third dimension concerns this dialogic and collaborative nature of the process. The SFPC cycles through moments of collective assessment and deliberation when convened in bi-monthly meetings and collective action during the intervals between meetings.

Yet a fourth dimension concerns the dynamic between the group as a whole and the four subcommittees, each of which leads a policy initiative. These subcommittees convene during the off months, engaging in a similar multi-layered, dialogue-based, collaborative process. They then report back to the whole group when it convenes the following month.

Each of these dimensions has implications for the effectiveness and efficiency of the group's overall process.



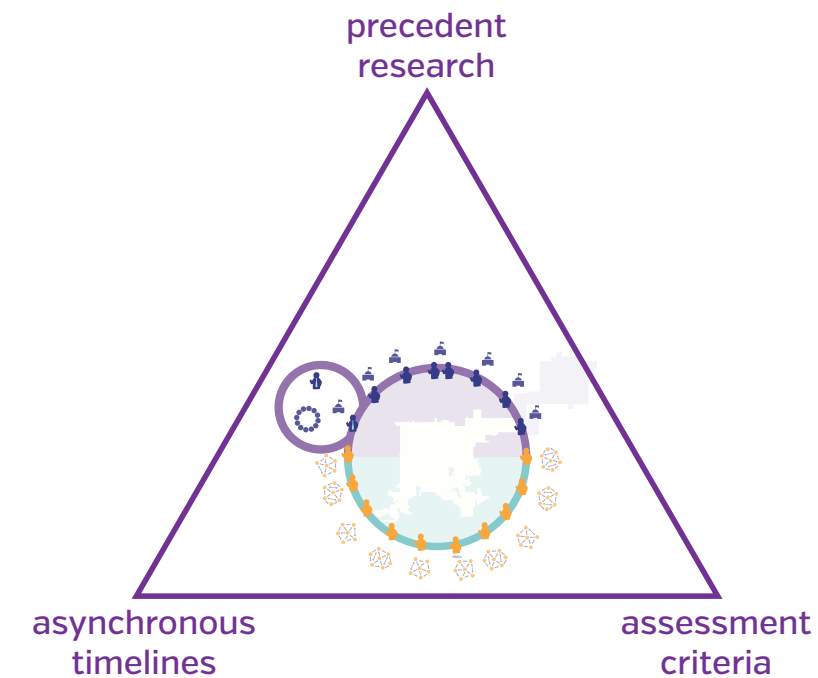
Intensive work

Advocating for better food policies is intensive work

For cities that prefer to govern by following precedents rather than setting them, groups must do secondary research concerning what has worked in other cities. They must then discern and interpret the ways in which precedents are fitting for their own locale, considering [the habitability of] the political climate [for the precedent], the mechanics and logistics of the local food system, and the capacity and willingness of the social network.

Additionally, government initiatives and community actions operate with different timelines and rhythms. One research participant noted that in the two-month interval between FPC meetings, the city government climate can change so rapidly as to make what the FPC has been working on outdated. This is more of the exception than the rule, but changes in staff appointments or mayoral directives can significantly alter the nature of what things can get done, how they get done, or both.

Lastly, the way that criteria for eligibility and feasibility in assessment of potential impact are determined differs between government agencies, businesses, and nonprofits. As depicted by three SFPC personas at the end of this chapter, each member focuses a different amount of time and energy in each sector. Additionally, each member has their own inclinations for interacting in groups. Some members are more outspoken than others. Some members think abstractly, while others tend to think more concretely. Lastly, some prefer to go with the conversational flow, while others prefer well-structured meetings.



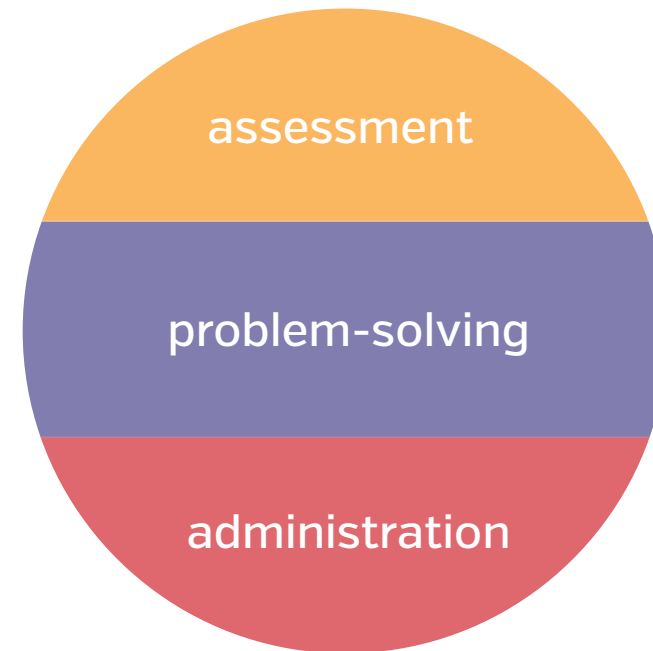
Meetings with several layers

Although a bi-monthly SFPC meeting could be viewed as a string of discussions concerning food system planning, each meeting has three primary content layers: the system assessment layer, the problem-solving layer, and the administration layer.

The system assessment layer comprises any group dialogue that aims to understand what's happening and what needs to happen in the local food system. The problem-solving layer comprises any group dialogue that pertains to implications of the system assessment. This involves weighing community needs alongside policies and regulations, and then envisioning and planning the best possible course of action. The administration layer comprises any group dialogue that focuses on keeping the group running smoothly. The SFPC has a director and two co-chairs who share the responsibility of keeping the group on course and delegating tasks that surface in the system assessment and problem-solving layers. They also help to mitigate misunderstandings or disagreements when they arise.

Thinking meta

Because the system is complex, the process unfolds over time and the content of each meeting is multi-layered, it is important that FPC members are able to understand these facets on a metacognitive level. For instance, addressing matters of administration need not get in the way of system assessment and problem-solving. Disagreements may arise when a group member disagrees with how some task should be done even though that person agrees with the content of the task. While the facilitator can highlight this distinction, it is helpful for the group members to be able to make the distinction themselves while in the midst of deliberation.



Phases of a project

For each policy or program initiative it undertakes, the SFPC engages in a long-term process with five essential phases: convene, assess, envision, plan, and implement. These labels I've borrowed from Kahane's model in *_Transformative Scenario Planning_*. (Kahane 2012)

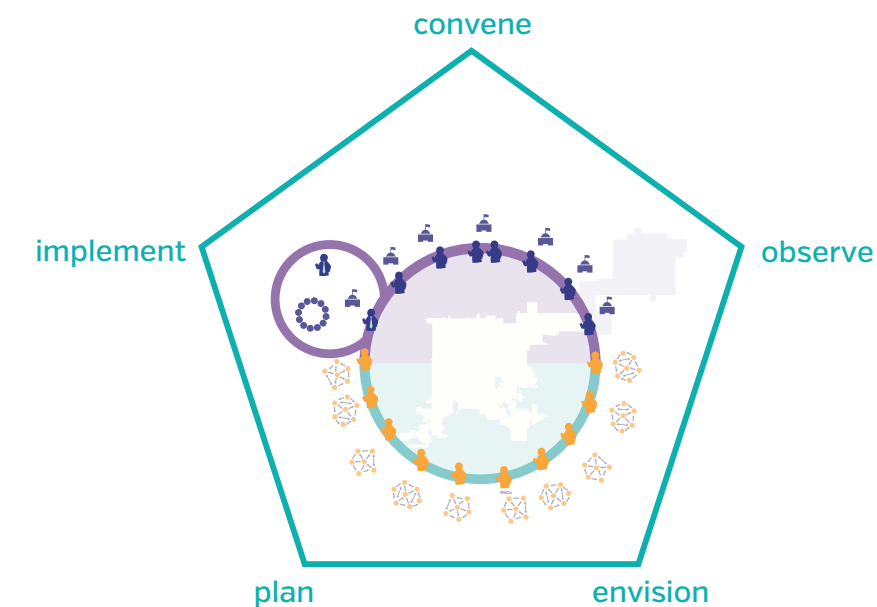
In the first phase, the SFPC must “**convene** a team from across the whole system” (ibid). As a representative microcosm of key partners for the project, this team will include the subcommittee leading the initiative and several people who are not members of the SFPC. This team will have its own collaborative process and communication channels.

In the **assess** phase, the team observes what's happening in the local food system and in the policy arena pertaining to the policy initiative. The team seeks to understand who's affected, who's doing relevant work, what those actors need, what resources are available, what resources are needed, and what barriers exist.

In the **envision** phase, the team imagines possibilities of how the food system could work to enable the desired policy outcome. Often this phase involves researching food system precedents in other locales. After envisioning the possibilities, the team determines which possibility is the most viable and valuable.

In the **plan** phase, the team determines how each partner can contribute to the desired outcome and creates a plan of action. Keeping in mind each organization's mission and capacity, the team delegates tasks to each partner.

The final phase involves executing the plan in order to **implement** a policy or program. In this phase, it is important that partners have the resources they need to carry out the tasks they were delegated. Communication may be frequent initially and then dwindle once the policy is put in place or the program is running smoothly.



Tools: Rigid hot air

In order to grasp the challenges and design opportunities for the SFPC, it is important to understand the tools they use to function as interface between communities and the local government.

Tools the SFPC uses include oral dialogue, a set of rules to govern the group (Robert's Rules, in the case of the Denver SFPC and other commissioned FPCs), meeting minutes, policy documents, and emails. For my purposes, I will discuss the first two.

Parliamentary process

As with many FPCs, the Denver SFPC is an official city board and commission. Thus the group's by-laws mandate that it use a parliamentary process to make democratic decisions. Although necessary for the sake of officiality, Robert's Rules can be bit too rigid during the ****envision**** phase of a process. In addition, some group members prefer less structure and may even become confused by the official dialogue structure.

Minutes for the masses

As another matter of officiality, meeting minutes are the primary mode for capturing what has been discussed and decided upon in bi-monthly FPC meetings. The Denver SFPC's bi-monthly meeting minutes become public information once the group has approved the minutes at the following meeting. While it is useful to capture and archive the course of the dialogue for later retrieval, meeting minutes are also too rigid a tool for the group's emergent, problem-solving process.

Although these official tools are important for gaining political buy-in, they are government-oriented and not community-oriented. **Because the purpose of the SFPC is to advocate for *community* food system needs, design-enabled tools must be *community-orienting*.**

“[Planning is] the favored means of responding to complexity. Yet it's badly suited to the challenges we now face.” – *Zaid Hassan (2014)*

Tools: Words are not enough



The FPC uses a primarily verbal process, making effective collaboration and dialogue challenging.

Verbal tools are inadequate enablers of a multi-dimensional process.

Aside from the rigidity of Robert's Rules, words in and of themselves are insufficient tools. They can too easily fill the space of the meeting without actually helping the group create a shared understanding of the system. This is because words lack the ability to depict each group member's mental model of what's happening in the system. Further, words alone are insufficient for mitigating power dynamics that arise when a group of two dozen community leaders and city officials deliberate about a complex system; words can be used to wield power just as much as they can be used to neutralize it.

In addition, the archived format that the words exchanged in the meeting take—meeting minutes—serve as meager problem solving tools. This is because the linear structure of meeting minutes does not represent the nonlinear nature of the system in question. In a similar vein, the verbal format doesn't support visual learners. Further, meeting minutes don't serve to effectively contain meeting structure or retain group memory as a project process unfolds over time.

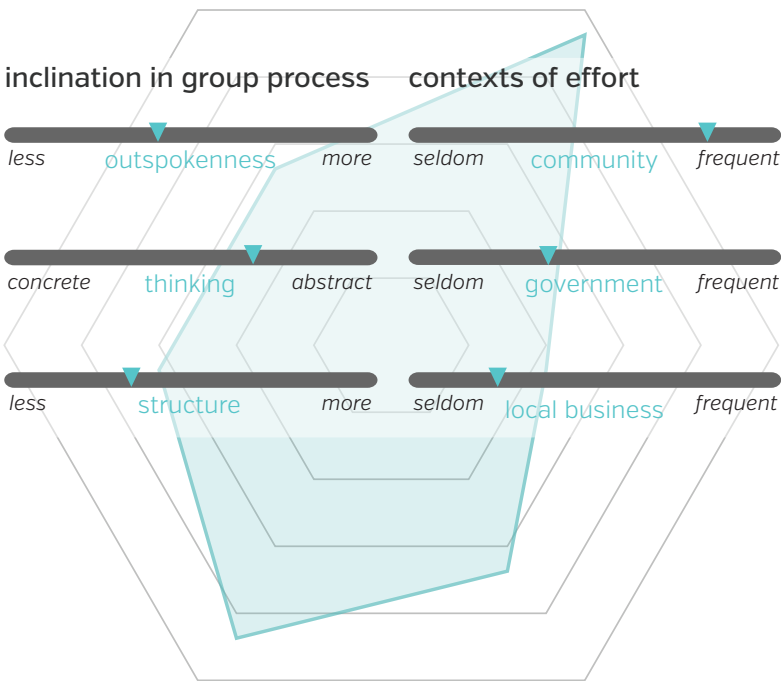
Thus, a tool or set of tools is needed to show the moving parts of the system as understood by experts in multiple areas of the food system. Additionally, a tool comprised of physical components could serve to mitigate power dynamics by giving each team member an opportunity to externalize their knowledge through a neutral boundary object.

Persona: community advocate



Cora age 35
social change strategist
4 years experience in community outreach and organizing
co-researcher for neighborhood food assessment

*“Let’s get some sh*t done and have it resonate with the community.”*



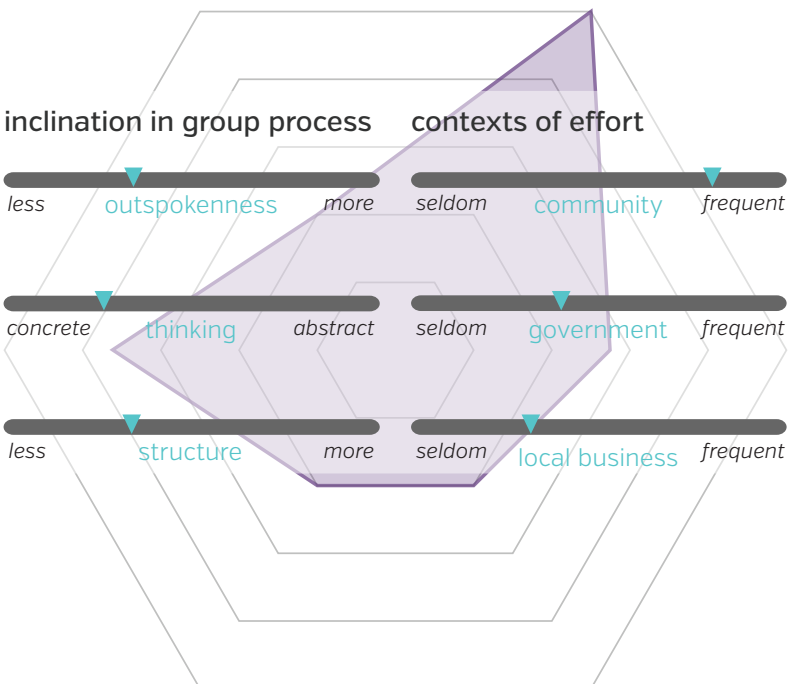
- As a community advocate, Cora wants to
- › ensure the right people are at the table, so the conversation is inclusive
 - › ensure data collection is sufficient and informed by community stories
 - › help the group think holistically rather than just checking boxes for program criteria
 - › be discerning in how we engage community members so they feel empowered and engaged
 - › know how the information and communication is flowing so that we’re all acting in one accord

Persona: convener



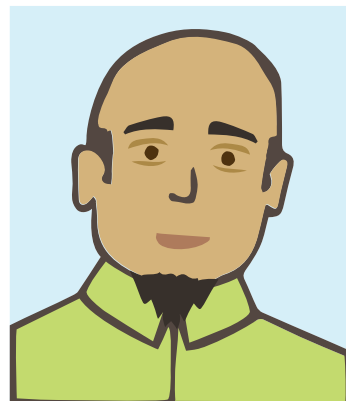
Jocelyn age 39
6+ years as executive director at well-reputed neighborhood nonprofit
member of Rocky Mountain Farmer’s Union
co-chair of Sustainable Food Policy Council

“I know the content expertise, views and perspectives of many of the key players in our local food system.”



- As a community advocate, Cora wants to
- › ensure the right people are at the table, so the conversation is inclusive
 - › ensure data collection is sufficient and informed by community stories
 - › help the group think holistically rather than just checking boxes for program criteria
 - › be discerning in how we engage community members so they feel empowered and engaged
 - › know how the information and communication is flowing so that we’re all acting in one accord

Persona: city official

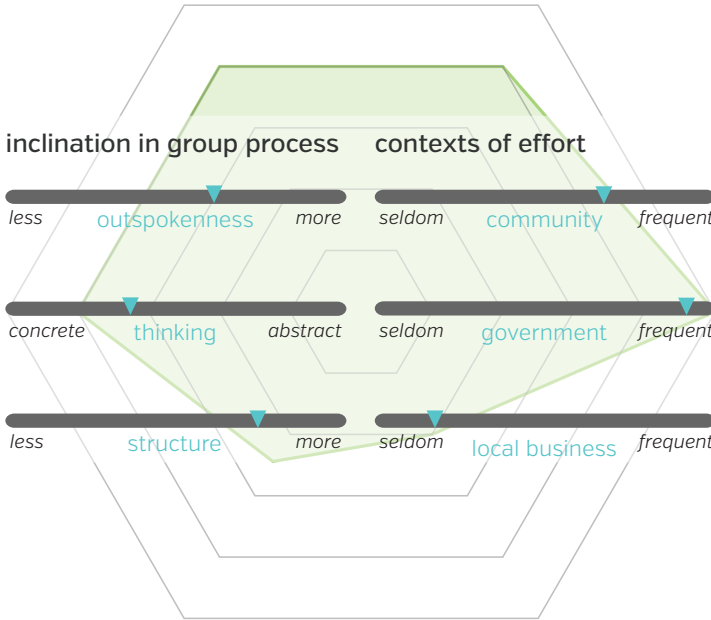


Rodrigo age 44

10 years experience in local government, previously worked as community activist.

ex-officio on Food Policy Council

“Community groups outside the City have the mindset that the City is the Boogie Man. I know where they’re coming from and try to bridge that gap.”

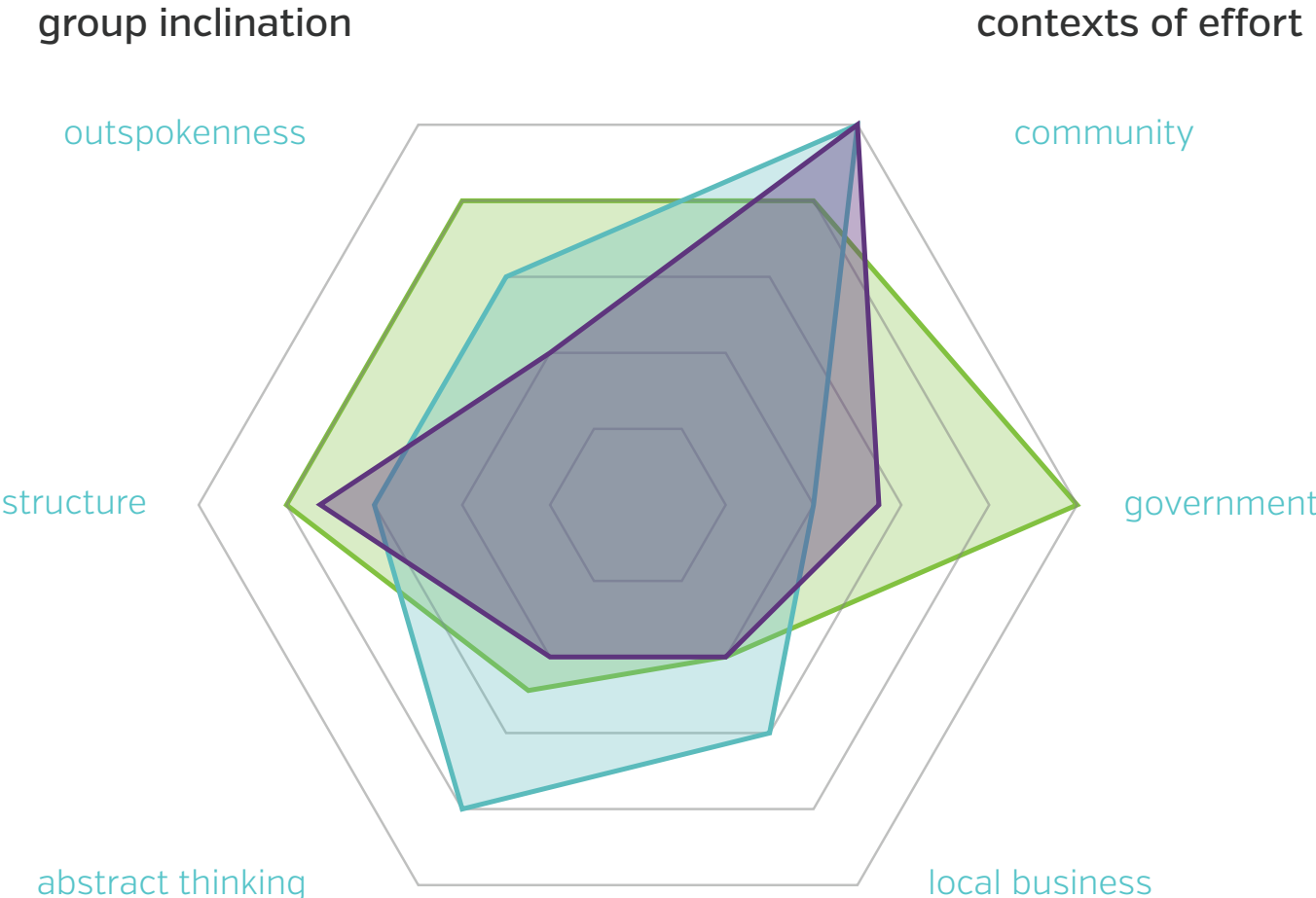


As a community advocate, Cora wants to

- › ensure the right people are at the table, so the conversation is inclusive
- › ensure data collection is sufficient and informed by community stories
- › help the group think holistically rather than just checking boxes for program criteria
- › be discerning in how we engage community members so they feel empowered and engaged
- › know how the information and communication is flowing so that we’re all acting in one accord

Collaborative dispositions map

community advocate / convener / city official



Hunches & Heuristics

“Systems happen all at once. They are connected not just in one direction, but in many directions simultaneously. To discuss them properly, it is necessary somehow to use a language that shares some of the same properties as the phenomena under discussion. Pictures work for this language better than words, because you can see all the parts of a picture at once.”

– Donna Meadows

Hunches

When I initially proposed this project, the problem space was, for me, a Rube Goldberg machine in a black box. In my quest to understand how cross-sectoral groups like the Denver SFPC affect and are affected by the nature of the local food system, I brought several hunches to the problem space. These hunches, borrowed from various disciplines, served to frame my design research approach at the conjunction of five design interventions:

- › multi-stakeholder problem solving à la Conklin and DESIS (*Dialogue Mapping, Design Plan*)
- › co-creative design activities à la Liz Sanders (MakeTools)
- › commons-based peer production à la Benkler (*The Wealth of Networks*)
- › cognitive modeling à la Dubberly and Norman
- › systems thinking à la Donna Meadows

These five interventions are the lenses by which I examined several design precedents in social innovation and alternative food systems initiatives. The table to the right compares how eight precedents make use of the five design interventions.

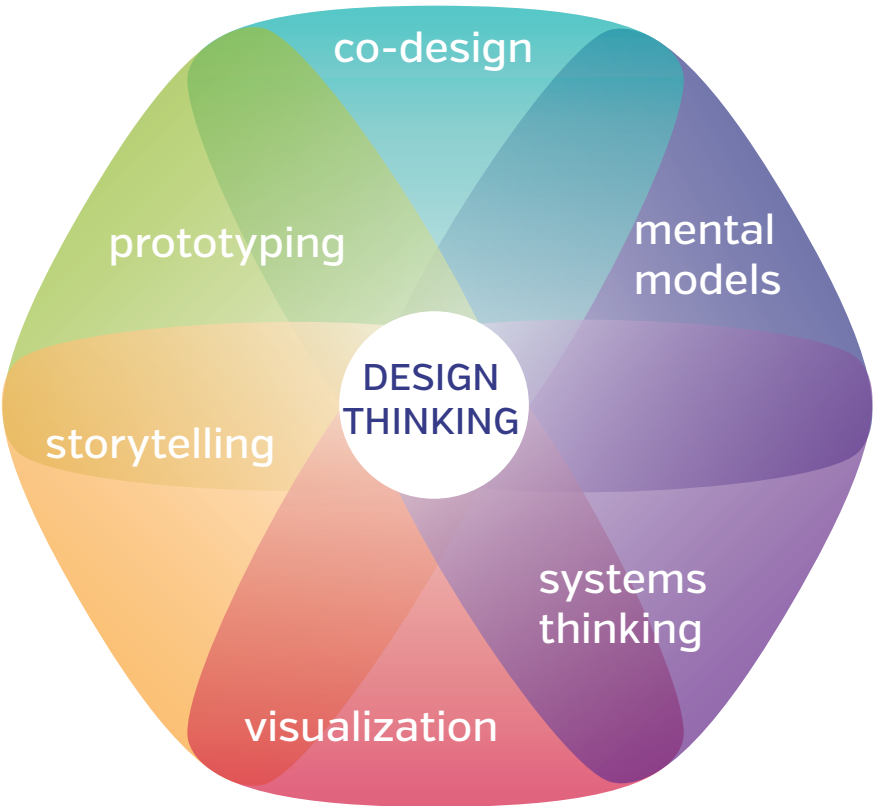
In moving from precedents to problem space, I had the opportunity to conduct my research under the auspices of the Denver Office of Sustainability. This experience enriched my research by enabling me to situate what I heard from my research participants, in turn shaping the way I saw this complex system. In addition to defining design criteria based on research findings, I was also able to define heuristics for my design solution.

Although I applied them a certain way, the heuristics that follow could be applied in many ways by any designer aiming to create tools for cross-sectoral social impact groups. These heuristics I’ve also remixed in the final chapter, using the Tao Te Ching as a metaphor.

	multi-stakeholder problem solving	co-creative design	peer production	cognitive modeling	systems thinking
Collective Action Toolkit	x	x		x	
Enabling City	x	x	x		x
Community Remarks			x		x
RFSC	x		x	x	x
Crop Mob			x		
Denver Gypsy Bus			x		
Five Borough Farms	x		x	x	x
Library Farm		x	x		

Comparing the approaches of the above social innovation and alternative food systems precedents, it is apparent that peer production is most common, followed by multi-stakeholder problem solving and systems thinking. Co-creative design and explicit cognitive modeling are least common. My sense initial hunch was that cognitive modeling is this overlooked tool which provides insight with even just a small amount of effort. Both sensemaking and monitoring are necessary processes in creative problem solving. Sensemaking brings about understanding of the problem in question and leads to possible solutions. Monitoring allows for ongoing assessment of the effectiveness of implemented solutions.

Co-creative visualization as a foundation



“The world that we have to deal with is out of reach, out of sight, out of mind. It has to be explored, reported, and imagined.”
– Walter Lippmann

Visualizing to externalize many perspectives

Visual modeling could enable FPC members to externalize each of their individual perspectives. Each member who shows what they think is happening has the opportunity to contribute to the dialogue, inform other members, and create a more complete understanding of the system.

Synthesizing perspectives into a shared understanding

As group members externalize their individual perspectives, they begin to synthesize them into a common model. This single picture of the system then contains a more situated perspectives informed by multiple experiences and areas of expertise.

Visualizing to iteratively prototype solutions

Visual modeling could enable group members to map out the logistics of a proposed policy or program. By doing so, the group could discover potential kinks in the proposal before making the policy recommendation or launching a pilot program.

Visualizing to tell stories about the system

Visual modeling could enable the FPC to relate community stories and their policy implications to policymakers in an easily digestible manner. Such narrative models could accompany policy recommendation documents and serve as a visual executive summary.

Dialogue approaches

Recognizing that dialogue is the primary mode of collaboration in both formal and informal meetings, I surveyed various process frameworks for multistakeholder dialogue and collaboration. These I'm labeling as presencing (Scharmer), scenario planning (Kahane), organizational learning (Senge), social labs (Hassan), and dialogue mapping (Conklin).

Many of these frameworks originate from practitioners in strategic management (complex organizational change). They take similar approaches from various angles in enabling groups of various stakeholders to explore and address complex problems.

In the words of William Isaacs, the goal is typically to foster 'thinking together' by creating a 'conversation without sides'. [cite: Isaacs] This is accomplished by various dialogic techniques for removing stakeholders' blindspots (Scharmer), mitigating power dynamics (Conklin), imagining what *could* be (Kahane), and determining what can and must be done (ibid). [cite dates]. While these frameworks offer a smorgasbord of techniques and best practices for engaging many stakeholders in effective dialogue, most of the best practices presented by these frameworks not task-based or activity-oriented.

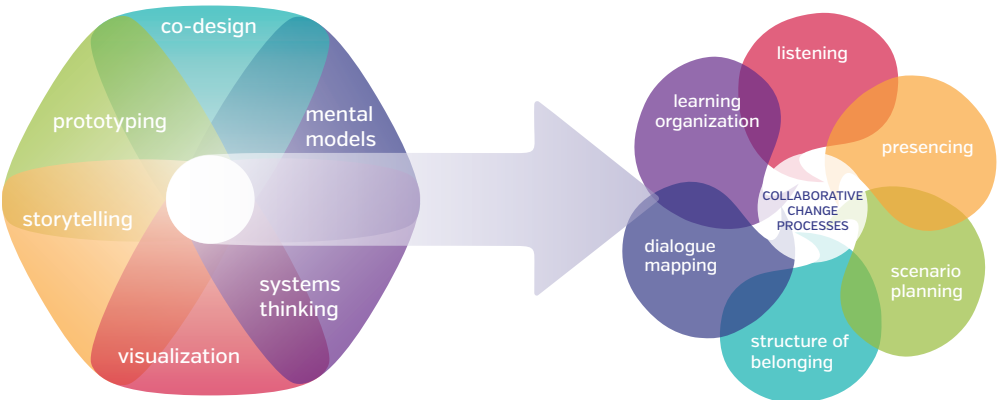
In addition, dialogue in and of itself is not sufficient to enable two dozen stakeholders, each with a unique mental model, to collaboratively and creatively solve food systems problems. Not surprisingly, the best practices described are primarily verbal, with some rudimentary attempts at visualizing certain system contexts and decisionmaking processes.



Dialogue is the primary mode of collaboration for both the local food network and formal advisory bodies like the SFPC. Strategic management literature describes best practices for enabling many stakeholders to creating change through collaborative dialogue. These tools and techniques could help to foster shared attention and vision among stakeholders.

However, most of the best practices presented by these frameworks not task-based or activity-oriented.

Design-enabled dialogue



Infusing design methods into collaborative change processes could help members of the food policy council better understand the system, thus making their process more efficient

A launching pad of co-design tools

Enter Design. Approaching this multi-layered context from a launching pad of co-design tools to enable cross-sectoral groups to more effectively collaborate. To the primarily verbal process, I propose that visualization techniques can bring rich, shared understanding of complex systems and networks/ relationships. To the need for stories to funnel up into government decision making processes, I propose design can enable storytelling. To the formation of partnerships, I propose design can facilitate systems thinking and prototyping tactics/ techniques.

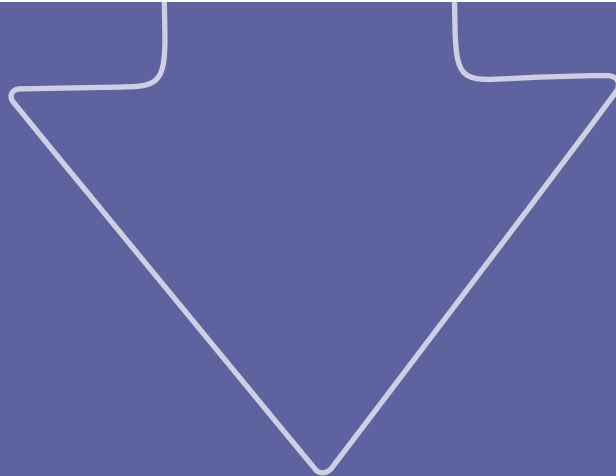
A Framework to Support FPCs' work

	orient	convene	observe	envision	plan	enact
model	<div>» What's the value of modeling the food system?</div> <div>» What are some different approaches to modeling the food system?</div> <div>» What are some case studies/ pathways?</div>	<div>» How are participants thinking about the food system?</div> <div>» How can the group calibrate their language and mental models of the food system?</div>	<div>Represent what's been happening in the food system</div> <div>» whole system</div> <div>» focal areas</div>	<div>Represent what could happen in the food system</div> <div>» whole system</div> <div>» focal areas</div>	<div>Represent what should happen in the food system</div> <div>» whole system</div> <div>» focal areas</div>	<div>For each actor/ project, represent</div> <div>» key partnerships</div> <div>» exchanges of value</div>
ascertain	<div>» Where is the group in the process?</div> <div>» How can the toolkit suit the group?</div>	<div>» What's the group's purpose?</div> <div>» Who is/ should be involved [roles and functions]?</div> <div>» What are the group's agreements?</div> <div>» What are the group's objectives?</div>	<div>Ascertain what's been happening in tthe food system:</div> <div>» What's working?</div> <div>» What are the barriers?</div>	<div>» What could happen?</div> <div>» What resources, partnerships, mechanisms are needed?</div>	<div>» What could happen?</div> <div>» What resources, partnerships, mechanisms, must we leverage or establish?</div>	<div>Who does what?</div> <div>» roles</div> <div>» functions</div> <div>» operational logistics</div>
facilitate	<div>» How can the group approach this project with an open mind?</div> <div>» How can positions of power be acknowledged while giving all stakeholders a voice?</div> <div>» What are the team dynamics?</div>	<div>» Is there sufficient cross-sectoral representation?</div> <div>» Should anyone else be involved?</div> <div>» Is there a need for subgroups?</div> <div>» Will there be an even distribution of labor?</div>	<div>Facilitate reinforce the funneling of community stories into the group observation process.</div>	<div>Ensure that the group considers the possibilities from the perspective of each sector and at both a macro and micro level.</div>	<div>Facilitate participation of all group members in decision making and planning.</div>	<div>Ensure all partners understand their roles and functions.</div>
meeting layers	long-term group/ project process					

The size of each of the colored circles in the table below represent the degree to which each layer should be a focal layer at each of the six stages in the process.



Successes & Significance



“This is for facilitators. It brings
structure, and the facilitator
holds the structure.

–Denver community advocate



Participant responses: process

To validate my design direction, five SFPC members—including a co-chair—engaged in a modeling exercise. They spent about twenty minutes co-creating a stakeholder map for a policy initiative they were working on. During a reflectional conversation following the exercise, their responses to the process validated nearly all aspects of my design concept. Following are excerpts from that reflectional conversation:

“This [exercise] shows connections that people didn’t realize were there.” “I agree.”

“It also speaks to inclusivity...taking everyone’s experiences and putting them on the table, literally, and fleshing them out. Not that people won’t be forgotten... but you’re doing your best to make sure that everyone is included.”

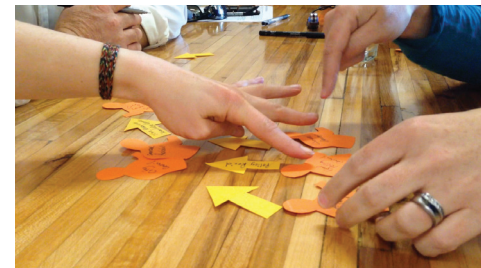
“It helps keep the group memory alive also. Less verbal backstory, catching up, more ‘Here’s the map of how it is.’”

“Two things to add to [group memory]:

- 1) That then increases the capacity of the organization to do this if it’s ongoing and you’re not starting from scratch.
- 2) This creates a similar language, a similar experience. Would help create a jumping off point.”

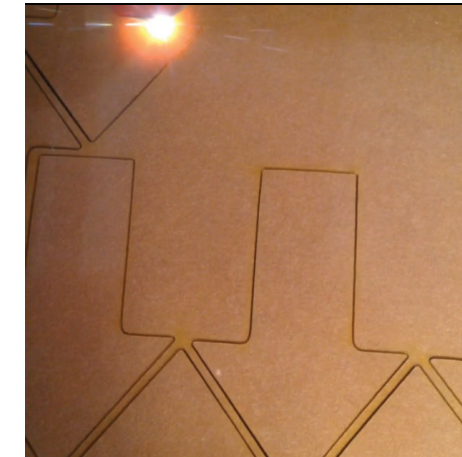
“Brainstorming [like] this in the beginning, too. You could put all sorts of people on the periphery that may or may not be involved. That might help you recall later on as you move through [the process]: This was someone that could be an asset in the process. They were in your mind three months ago, but they’re not in your mind now.”

“Thank you for taking this [project] on. We need to be more conscious about how we do our work.”



In January 2014, I ran a round table and co-design test session with five members of the Denver SFPC. Using a basic paper prototype, they co-created a stakeholder map of a policy and program initiative aimed at modifying a zoning ordinance that would enable residential sales of local food. All five participants responded positively to the exercise, even going so far as to suggest forms the tool could take.

Participant responses: form



Based on my participants’ feedback, I prototyped some of the pieces for the modeling layer of the toolkit out of colorful acrylic. The acrylic is durable and has a smooth surface that works well with dry erase markers.

All five of the SFPC members who participated could see the value and application of the proposed modeling component of the toolkit.

The SFPC members even went to far as to make suggestions about the form without me asking for suggestions.

“Could see this as an ongoing mini map. ...If we were to do this exercise back when we started this project, we’d have ‘City Council sponsor question mark’. Wouldn’t have necessarily have had all the information: ‘Oh there’s this particular staffer, and this particular city council person, and this particular department’. You keep shifting the way you understand relationships.”

“In order for this thing to be practical—if these things were permanent and a little bit larger. If we could stick them somewhere.”

“I love [your] dry-erase idea.”

“If you take a nice picture of [the diagram], you could put this in the minutes.”

“At that point you’re not doing more work to create a visual for the minutes.”

“You could have some standard playboards. ‘Here’s the map of stakeholder and the network and relationships.’”

“If you give me [multiple diagramming shapes] in a bag, I’ll buy it from you, and I’ll go use it. ...It’s practical, functional, I could use it tomorrow. I don’t have to learn it; I already learned it. It’s an easy way to do it, and people love it.”

“You’re onto somethin’”

Some of these suggestions, such as creating permanent pieces with more shapes, I had already planned on doing.

Significance for design

Although participants engaged in what may seem to be a simple diagramming exercise, their responses articulated implications for tool design that directly pertain to their food policy work: a durable, reusable collaborative modeling tool could ostensibly build the capacity of the group to assess the local food system and plan food policies and programs.

I believe participants found the framework and co-design exercise valuable because the SFPC is a certain kind of entity that can benefit from this certain kind of designing.

Zooming out from their day-to-day and month-to-month activities, I see two concepts that are vital to the work of the SFPC (and similar FPCs) and that can inform the work of design in this space.

First, the context and complexities of the local food system demonstrate the properties of a **complex adaptive system**.

Second, the SFPC, as a *genre of social impact teams operating in this context*, possesses the traits of both a **hybrid impact team** (a term I am coining) and a **learning organization**.

Complex adaptive systems

Actors' multiple interactions produce system-specific behaviours

Local food systems and the network of organizations that operate them possess the characteristics of a complex adaptive system, a system that is

“made up of a diverse set of actors whose multiple interactions produce behaviours in the whole system not found in any of the actors. They generate adaptation by changing, both intentionally and indirectly, in the face of new circumstances in order to sustain themselves.” (Baser & Morgan, 2008)

Thus, like most pervasive social challenges, increasing access to fresh healthy food exists in a complex system that can be characterized as having multiple inputs and outputs, various institutional policies and regulations, constraints of the natural environment, and feedback loops that either dampen or amplify the behaviors of the actors in the system.

As discussed in chapter one, inputs and outputs to a complex adaptive system take many forms. These inputs and outputs create or become amplifying and dampening feedback loops. These feedback loops weave through the warp and weft of the system: (in the case of food systems) natural laws, agricultural practices, and institutional policies and regulations. In response to these feedback loops, actors in the system adapt their behaviors, which become new inputs to the system. As a result, the system's emergent properties—and hence feedback loops—change over time.

In order to effectively tackle social challenges existing in complex adaptive systems, collaborative teams must take a holistic and strategic approach that enables them to learn about the system and respond to it in a way that is appropriate culturally, socially, and politically.

Hybrid impact teams

My findings suggest that the Denver SFPC possesses a distinct combination of qualities important for social designers to understand: those of a **collective impact group** that engages in a **hybrid process**.

Collective impact groups, as characterized by the *Stanford Social Innovation Review* (Kania and Kramer, 2011) are a “group of important actors from different sectors [committed] to a common agenda for solving a specific social problem”. In the case of FPCs, food system actors convene *laterally*—from across societal sectors—to figure out ways to increase healthy food access locally.

Hybrid processes, as defined by Ezio Manzini, result in “radical innovation emerging from a combination of top-down and bottom-up processes”. FPCs act as a dynamic, ‘*vertical*’ interface between hierarchically organized institutions that allocate resources and grassroots, self-efficating community groups.

Thus, I believe it is fitting to describe the Denver SFPC (and any similar FPC) as a **hybrid impact team** (HIT). HITs are mission-oriented, cross-sectoral group of community and business leaders who act as intermediaries between local communities and the government representatives that serve them.

As demonstrated by the Denver SFPC, HITs form to combine expertise, resources, and organizational capacity in an emergent coalescence of collective knowledge and collective action.

My research findings lead me to draw three conclusions about hybrid impact teams (like the Denver SFPC).

Lateral breadth + vertical depth

First, both the lateral breadth of collective impact and the vertical depth of hybrid processes are necessary to solve the pervasive social challenges of our day.

Adding efficiency to effectiveness

Second, while these groups may be able to operate **effectively** with only verbal tools, they could benefit greatly from design-enabling tools that could help them operate more **efficiently**.

Modes of efficiency

Third, group efficiency could be measured in the group’s ability to focus their dialogue and deliberation, paint a picture of the whole system or subsystem in question, and make their documentation better serve their process. Such documentation could help them prototype solution concepts—before piloting them—and tell stories to policymakers and other decision-makers in order to gain political buy-in.

By interpreting my participants’ feedback through the lenses of these concepts, I can conclude that enabling multiple stakeholders to model a complex and dynamic food governance system builds the capacity of the SFPC and its subcommittees to a) function as a hybrid impact team b) evolve as a learning organization c) make sense of and navigate the complex adaptive system that comprises the food system, its multitude of actors, and its governing forces. In the following chapter, I use a chapter from the Tao Te Ching as a metaphor to discuss four principles designers can use to support food policy councils as a hybrid impact team evolving in complex adaptive system.



Learning organization

The Denver SFPC possesses many characteristics of a **learning organization** (Senge 1990). Each FPC member has an experience-based **mental model** of the local food system and its complexities that is informed by their own area of expertise. Throughout the team's process, the group builds a shared vision over time. Annual retreats (like the ones taken by the Denver SFPC) especially play a role in building a shared, long-view vision.

The local food system shifts as environmental factors, community needs, and political climate change. FPC members demonstrate **systems thinking** by considering all the moving parts of the system and how they influence healthy food access.

With tenures of one year for ex-officio members and three years for all other members, the FPC matures over time, demonstrating **team learning**. While a newly-formed FPC acts as a community of *interest*, a mature FPC acts more like a community of *practice*. This is because the members hone a set of best practices as their process unfolds over time.

Thus, organizational memory is critical to the ability of an FPC to make assessments and plans that are culturally appropriate and politically informed. A design opportunity exists to create a way for the group's process and memory to live outside of the minds of the members, in a mode more information rich than meeting minutes.

Although FPC members must demonstrate some degree of **personal mastery** to be appointed to the board, it is unclear to me the degree to which this trait plays out in the group's process. Two of my key research participants believed that ego and power dynamics potentially creates blind spots, including an inability to understand how to appropriately engage community members and assess community needs.

Design-Dao Principles

“Thirty spokes converge on the wheel’s hub.
But the center hole which receives the axle makes it useful.

Clay is shaped into a pot. But the inner space which receives
whatever one puts into it makes it useful.

Wood is cut and joined to build a house. But the windows and
doors which allow things to enter and leave make it useful.

The potential utility resides in the tangible. But true
usefulness is a manifestation of the intangible.”

–Lao Tzu

Drawing Design Principles from the Tao

Structure of a wheel

Viewed in light of western physics, the momentum of a wheel is made possible by the radial arrangement of spokes that join to form a hub. At the center of the hub, the axle provides the form/structure/guidance that enables the wheel to turn with consistency.

Structure of society

Similarly, society, by its very nature, has long [involved the] coordinated the efforts of many actors to address a common need by converting inertia into momentum. Societal structures—be they government agencies that form the public sector, businesses that comprise the private sector, or nonprofits that comprise the social sector—all channel the time, energy, and resources of people and organizations to turn ‘nothing’ into something by adding value in a meaningful, viable and accessible manner.

Perceptible and imperceptible

Generally, as humans, we actively perceive what directly or immediately affects us, and we don’t actively perceive what indirectly, gradually or eventually affects us.

Thus in societal endeavors to influence large-scale systems over time, a challenge exists: When coordinating many actors with many resources, every actor holds a piece of the puzzle but no one actor can grasp the how to complete the puzzle or what the completed puzzle looks like without all the puzzle pieces converging in a particular configuration.

The following are four principles drawn from the Tao Te Ching, that I believe designers can use to guide their work in doing community-centered governance design.

Design/er as spoke

- › Design researcher as one who joins the spokes, i.e. becomes embedded in the network or system—in order to better understand the wheel, its hub, and the ways in which the hub is and is not empty.
- › Design as one of many fields of expertise brought to bear on pervasive social challenges.

Design as supporting structure

- › Design as scaffold for the layers of the group’s meetings
- › -Design as an adaptable process framework that forms the space where the group’s emergent process can reside.

Design as vessel

- › Design as providing a container for (see William Isaacs, Adam Kahane) face-to-face, multi-stakeholder meetings
- › Design as conduit through which flow co-creative visualization, storytelling, and [problem solving through] prototyping
- › Design facilitator as one who fosters the group’s capacity to be a vessel/conduit for change

Design as boundary object

- › Design as providing a container for (see William Isaacs, Adam Kahane) face-to-face, multi-stakeholder meetings
- › Design as conduit through which flow co-creative visualization, storytelling, and [problem solving through] prototyping
- › Design facilitator as one who fosters the group’s capacity to be a vessel/conduit for change

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