POLICY WORKING GROUP CHARTER

Thank you for volunteering to serve on one of the SPFC's Policy Working Groups. Policy Working Groups are essential for advancing strategic, innovative, and impactful policy to support Denver's residents and the food system. Your work over the coming months will inform the SFPC and, if approved, the City and County of Denver on specific food issues and policy solutions. As Denver's only food policy organization, the SFPC welcomes and eagerly awaits the outcomes and recommendations of this Policy Working Group!

OVERVIEW

The Denver Sustainable Food Policy Council (SFPC) was formed in 2010 as one of the city's Boards and Commissions at the request of the Denver Department of Environmental Health. The SFPC advises the City and County of Denver on food-related policy issues and is committed to pursuing policy changes that will have the greatest impact on achieving the priorities and winnable goals outlined in the Denver Food Vision and Action Plan. The SFPC focuses its resources on researching, developing, and promoting policy and relies on its partners to promote programming and implementation of policy changes.

One of the primary purposes of the Denver Sustainable Food Policy Council is to "Provide Recommendations to the City on Regulations and Policies" by providing Mayor and city staff detailed policy analysis and recommendations that are both responsive to the Mayor/city and stakeholders by identifying interested parties, identifying pro and con arguments, identifying key stakeholders, and assesses the impact of the policy and legislation.

To accomplish this purpose, the SFPC established Policy Working Groups made up of city staff, SFPC members, and interested community stakeholders. Policy Working Groups to carry forward specific policy-related tasks for specific periods of time.

While Policy Working Groups do not have the authority of the Council, they do provide invaluable information and recommendations to support the SFPC. The SPFC creates a timeline for Policy Working Group creation, progress reporting, and dissolution, but Policy Working Groups have wide discretion in how they deliver outputs back to the SFPC.

TASKS AND DELIVERABLES

Each Policy Working Group is expected to complete the three tasks and deliver to the results to the SFPC:

1. An Issue Brief
2. Demonstrated Stakeholder Engagement
3. A Mayoral Advisory

Issue Brief

- An Issue Brief provides more detail on key policy area to frame a key issue, provide greater information and context to the community, and help assess stakeholder support/opposition

- Issue Briefs are typically 2 pages long and describe a critical issue: why that issue important; how it relates to the Denver Food Vision and Action Plan; what are potential policy solutions; and what are 1 to 2 case studies of effective policy interventions (see Exhibit A)
- The primary audience for Issue Briefs are public and elected officials and community or industry stakeholders

Demonstrated Stakeholder Engagement

- Stakeholder engagement provides a critical opportunity for the Policy Working Groups to hear directly about issues affecting the community and to solicit additional feedback on Issue Briefs and/or Mayoral Advisories
- Each Policy Working Group is expected to demonstrate stakeholder engagement before presenting their final Mayoral Advisory to the SFPC for approval: for example, participating in at least one public engagement event
- If a public engagement event is the best way to engage stakeholders, events should be hosted in partnership with the SFPC to streamline public communications and logistics

Mayoral Advisory

- A Mayoral Advisory provides a detailed review of specific policy change options that would support the Denver Food Vision and Action Plan
- Mayoral Advisories are substantive, may span 10-15 pages, and include detailed information on the policy background, case studies from other areas, pro/con analysis for Denver, and a summary of stakeholder engagement and outreach (see Exhibit B)
- The primary audience for Mayoral Advisories is Mayor and the Mayor's Office. Draft Mayoral Advisories are also often shared with elected officials, city agencies, and stakeholders to gather additional comments and feedback
- If approved by the SFPC, a Mayoral Advisory is sent to the Mayor for Mayoral approval

Timeline

As noted above, the SPFC creates the timeline for Policy Working Group creation, progress reporting, and dissolution. On average it is expected that Policy Working Groups will need approximately 4 to 9 months to complete the tasks outlined above. It is likely that Policy Working Groups will need to meet at least twice per month.

Meetings

Meetings will take place at a time and location decided by a majority of Policy Working Group members. Unless otherwise noted all Policy Working Group meetings are expected to take place outside of and in addition to regular SFPC meetings.

Example Work Plan

Policy Working Groups may develop their own work plans as needed to complete the tasks and deliverables. The following outlines a possible sequence of Policy Working Group meetings:

1. Meeting 1: Policy Working Group kick-off meeting to review Charter, clarify tasks, timeline and to determine roles, decision making structure, and an initial communications strategy.

2. Meeting 2: Review initial research on issue, stakeholder/community feedback from Vision, policy solutions/precedents from Policy Docket and SFPC Policy Platform, and best practices from other cities.
3. Meeting 3: Begin drafting Issue Brief
4. Meeting 4: Complete and vote to approve Issue Brief
5. * Meeting 5: Present Issue Brief to SFPC for approval and publication
6. Meeting 6: Refine and prioritize list of policy solutions
7. Meeting 7: Identify and assess stakeholders; develop stakeholder engagement plan
    - Explore alignment with existing city policy priorities from Ex-Officio Members, Mayor's Office, and/or other city agencies.
    - Identify city Policy Champions (usually Mayor or City Council Member)
    - Identify collaborating city agency representatives (typically an Ex-Officio member)
    - Identify community implementation Partners (Organizations who will carry forward policy)
    - Identify other stakeholders and assess strength of support/opposition
8. Meeting 8: Begin Drafting Mayoral Advisory
9. Meeting 9: Review and approve Draft Mayoral Advisory
10. Meeting 10: Collaborate with SFPC to convene Stakeholder Engagement Event to review Mayoral Advisory
11. Meeting 11: Discuss stakeholder feedback and refine Mayoral Advisory to address concerns
12. Meeting 12: Complete and vote to approve Mayoral Advisory
13. * Meeting 13: Present Mayoral Advisory to SFPC for approval and forwarding to the Mayor
14. Meeting 14: Refine Mayoral Advisory to address SFPC concerns (if needed)
15. * Meeting 15: Present final Mayoral Advisory to SFPC for approval and forwarding to the Mayor
16. Meeting 16: Final meeting to celebrate success and discuss Policy Working Group members plans to monitor implementation and support implementation partners. Recommend subsequent Policy Working Group efforts to the SFPC.

* = Policy Working Group presents to SFPC

Policy Working Group Members

When the SFPC establishes a Policy Working Group, they will brainstorm possible Policy Working Group Members. Each Policy Working Group will be made up of at least one Ex-Officio or city staff Member, at least 3 SFPC members, at least 2 subject matter experts, and interested community stakeholders.

Roles

At least one city staff (typically an Ex-Officio Member) and one SFPC member will co-lead each Policy Working Group. Ex-Officio Members will provide relevant information, some staff support and highlight opportunities for alignment with city efforts but will not direct the final recommendations made by the Policy Working Groups. One SFPC member will chair each Policy Working Group. The SFPC may also create Policy Working Groups that are not led or supported by city staff. Policy Working Groups can create additional positions, like a Co-Chair or Secretary if desired.

Decision Making

Policy Working Groups should determine their own decision making processes. The SFPC has found that in most cases a vote by a simple majority of members at a meeting in which quorum is present

works well. For some decisions, like approving Issue Briefs and Mayoral Advisories, the SFPC requires a 2/3 vote for approval.

COMMUNICATIONS

Each Policy Working Group should develop a communication strategy for communicating with Policy Working Group members, the SFPC, and other external stakeholders (e.g. public or elected officials, topic experts, affected residents/businesses, etc). Communication strategies should be developed in the early stages of each Policy Working Group and updated as needed.

Strategy for Policy Working Group member communications

- Decide on the timing and frequency of meetings and other messaging/communication.
- Decide on the best communication channels (face to face, telephone, email, Mobilize, Google Docs, etc.)
- Decide who will be responsible for leading Policy Working Group member communications

Strategy for SFPC communications

- The city staff (e.g. Ex-Officio member) and/or SFPC Council Member (e.g. Policy Working Group Chair) should be the primary liaison between Policy Working Groups and the Council.
- Members for the SFPC Leadership Committee may attend Policy Working Groups to help ensure two-way communications as well

Strategy for other external stakeholders:

- Consider developing a distinct stakeholder engagement approach for each group of stakeholders. The precise approach may vary for each, but may include:
  - The reason for the communication/engagement (why? What is the anticipated action)
  - Timing (perhaps by phase of policy development, rather than discrete dates, as policy timelines may vary widely)
  - The frequency of messaging/communication
  - The best communication channels (face to face, telephone, email, social media, press, community events, community/neighborhood-based publications, etc.)
  - Content of message
  - Who is responsible for leading communications and how the Policy Working Group will accept and manage feedback from these stakeholders

Press and media relations

- All press and media inquiries, requests, and contacts shall be referred to an SFPC Co-Chair. Policy Working Groups do not have the authority or permission to speak on behalf of or to represent the SFPC.

City Food, City Land

City Food, City Land is an initiative of Denver's Sustainable Food Policy Council aimed at increasing food production on underutilized public land. As part of the initiative, we are proposing to identify suitable public land and expand the following four types of urban agriculture within the City and County of Denver:

- **Demonstration farms:** sites aimed at educating the general public about gardening, farming, nutrition, landscaping and more.
- **Access farms:** farms that sell or donate fresh produce to underserved communities.
- **Commercial farms**: for-profit enterprises, often housed in greenhouses, designed to operate as viable business and create jobs.
- **Edible landscaping**: installations of fruit, berries and other crops designed to minimize maintenance and water usage.

How would it work?

Under our proposed policy, the City would identify land that is suitable for one or more of the above uses on an ongoing basis. For each parcel chosen, it would issue a request for proposals (RFP) soliciting submissions from nonprofits, businesses and community groups. Once the most qualified proposal is selected, the City would arrange a long-term land use agreement allowing that group to use the land at an affordable rate.

Why City Food, City Land?

- **Local Food.** As part of the Mayor's 2020 Sustainability Goals, the City intends to source 20& of Denver's food locally by 2020. Even with our city's dense character, urban agriculture can play a key role in meeting that goal: according to calculations by UCD professor John Brett, Denver could grow 100% of its demand for seven common vegetables on just a couple hundred acres of public land.
- **Public health.** Engaging more Denverites in food production can have ripple effects far beyond the actual food grown: studies at the Colorado School of Public Health have shown that gardening leads to improvements in overall fruit and vegetable consumption, dietary knowledge, physical activity, and community engagement.
- **Economic development.** Over the last decade, several types of urban agriculture have proven to be viable business models. Expanding the number of commercial farms has the potential to employ dozens

of Denver residents in living-wage jobs.

- **Cost Savings.** City Food, City Land parcels would be leased to qualified nonprofits or other organizations to maintain, eliminating ongoing maintenance costs currently borne by taxpayers.
- **Beautification**. Most of the sites being considered are currently underutilized or vacant. Activating this land through urban agriculture can turn eyesores into pieces of vital civic infrastructure.
- **Demonstration**. Many other progressive cities are already pursuing food production on public land as a means of educating their residents about the benefits of urban agriculture. It's time for The City of Denver to follow suit.

How far along is the process?

We are currently reaching out to stakeholders to gain input on our proposed policy. In the second half of 2015, we will be submitting a policy briefing to the Mayor with our recommendations. Once we have secured his support, we aim to launch 3-5 pilot sites and a pass a policy to institutionalize the program in 2016.

How can you help?

- **Tell us your ideas and concerns.** We want to propose a policy that's realistic to implement and that makes sense for all of Denver's citizens. Therefore, we'd love to hear what excites you about our ideas, as well as potential concerns or obstacles and how they might be addressed.
- **Recommend a pilot site.** The City Food, City Land committee is actively seeking recommendations for the program's pilot sites. Potential parcels must be at least 10,000 sq ft, and owned by the City and County of Denver or another public agency (Denver Public Schools, Denver Housing Authority, Colorado Department of Transportation, etc).

Want to know more?

We'd love to hear your thoughts! Contact one of the City Food, City Land committee chairs:

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Policy Advisory: City Food, City Land

A. Statement of Issue

Despite widespread attention and concerted efforts by the public and nonprofit sectors, food insecurity and diet-related illness remain significant challenges in the City and County of Denver. Approximately 122,755 Denverites, or 19% of the population, lives below the poverty line, while nearly three-quarters of students in Denver Public Schools qualify for free and reduced-cost lunches compared to the state average of 35%[1]. Meanwhile, the City and County of Denver continues to face environmental challenges including climate change, drought, and stormwater management that threaten to reduce long-term quality of life for its residents.

Over the last decade, urban agriculture has emerged as a promising tool to address the above issues and more. Community gardens, urban farms, and edible landscaping have all been shown to have multiple positive impacts that extend far beyond the direct benefits of the produce grown at them. Recognizing these impacts, many progressive cities have taken steps to proactively develop urban agriculture on public land. Although several agencies in the City and County of Denver have initiated urban agriculture projects on their land, the City lacks a cohesive vision for how to integrate food production into public property and maximize its benefits. This policy briefing proposes a streamlined process for food production on Denver's public spaces, based on an extensive case study analysis and dialogue with dozens of stakeholders in the public, private and nonprofit sectors.

B. Denver's Current Rules

The proposed policy aligns with numerous goals, policy recommendations, and operational mandates within the City and County of Denver.

Section 1.1 of Executive Order 123, signed March 11, 2013, mandates the Office of Sustainability to "...**position Denver to become a leader in urban food production**... that will lead to new jobs and greater access to healthy, locally-produced food in every neighborhood." Section 9.1 of the same Executive Order provides that "city agencies will source foods locally in catering or other transactions and **consider on-site food production**, where cost-effective."

The City of Denver's Climate Adaptation Plan, adopted in late 2014, includes a number of recommendations that would be reinforced by the proposed policy. In particular, goal 5.3.1, "Enhance and preserve existing urban forest resources", goal 5.5.2, "Integrate green infrastructure, pavement options, and alternatives that reduce stormwater runoff", and goal 5.6.1, "Increase food security," could each be met by increasing food production on public land[2].

In 2014, the Denver Department of Environmental Health published a report reviewing best practices in food access form across the country. One of the specific recommendations in that report was for Denver to grow food on the grounds of public agencies[3].

More broadly, several of the Mayor's 2020 sustainability goals would be advanced by increased food prouction on public land, particularly the goals for food ("grow and/or process at least 20% of food purchased in Denver in

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[1] Colorado Department of Education, 2011
[2] *City and County of Denver Climate Adaptation Plan*, Denver Environmental Health, 2014
[3] *Food System Policies and Population Health: Moving Toward Collective Impact in Denver*

Colorado"), health ("ensure that at least 90% of Denver children are not obese"), and climate ("reduce Denver CO2 emissions to below 1990 levels").

The City Food, City Land policy is in full accordance with the existing Denver Zoning Code. Under current zoning, food-growing uses on both private and public land are allowed through the "Urban Garden" use category, which is permitted as a primary use in all zone districts, including residential zone districts. Urban Gardens may be managed by public or non-profit organizations, or by one or more private persons, and are used to grow and harvest plants for donation, for personal use consumption, or for off-site sales by those managing or cultivating the land. Urban Gardens include community gardens as well as small farms for Community Supported Agriculture.

C. Proposed Policy Change

In order to incentivize the responsible growth of urban agriculture in Denver, The SFPC recommends that the City and County of Denver create a target of 100 acres of public land to be converted to food production by 2020 - an area equivalent in size to approximately 25 city blocks. This land would consist of 20-50 unique sites, each between .25 and 5 acres in size, that would be identified by relevant land-owning agencies. The sites would be converted to agricultural use via public-private partnerships with existing food-producing organizations, and would be maintained by those organizations under a land use agreement.

Site Selection

- **Goals:** The SFPC has identified the following four objectives for growing food on public land:
    - **Economic development** - generate jobs through expansion of food production in Denver
    - **Education** - raise awareness about food and nutrition issues for K-12 students or other populations
    - **Food security** - grow healthy food for food-insecure populations
    - **Green infrastructure** - integrate edible landscaping into the City's open spaces and rights-of-way

  It is unlikely that any one site will meet all four objectives, but ideal sites should strive to meet at least two.
- **Location**: The SFPC recommends that priority be placed in siting projects on low-income communities that lack access to healthy food and job opportunities.
- **Site conditions:** The majority of the site should receive a minimum of six hours of sun per day. Unless the site is being considered for greenhouse farming, it should be unpaved and free of soil contamination. It should have easy vehicular access and an existing water tap, or the ability to easily install one. Ideal sites will not have any current programming or formal activities taking place, and there should be no other plans for development or activation of the site. For example, designated parks or parkways managed by Denver Parks and Recreation are ineligible for consideration.
- **Size:** The minimum viable parcel size will vary depending on the intended use. In general, sites geared towards economic development or food security should be a minimum of 10,000 square feet, while sites emphasizing education or green infrastructure may be much smaller.

Partner Selection

Once suitable site is identified, a partner organization to grow food would be sought via an RFP (request for proposal) process. RFPs would be structured to suit the goals of each site and landowning agency, and may cover multiple parcels. They may provide incentives or requirements around the kinds of crops grown, growing practices, and eventual use of the harvest. It is recommended that RFPs and submitted proposal be reviewed by a panel of stakeholders including the Manager of Food Systems Development, a representative of the SFPC, and a representative from the land-owning agency. Partner organizations may be 501(c)3 nonprofits or for-profit enterprises, as long as the

organization is dedicated to serving the public good. See Appendix A for sample urban agriculture RFPs from Arvada, Salt Lake City, and Denver Public Schools.

Funding

The City Food, City Land policy is intended to be revenue-neutral for public agencies, and will in many cases reduce ongoing maintenance expenditures (see Section E). Costs for converting property to agricultural use will vary depending on the specifics of each parcel, but in general the food-producing partner would be expected to pay for the majority of site infrastructure - fencing, sheds, irrigation, soil amendments, et cetera. If the site requires installation of a water tap, the public agency may choose to pay for this cost out of its maintenance budget, or negotiate a lower tap installation fee with Denver Water. It also advised that the public agency set aside funds in escrow for site cleanup in the event that the partner vacates the property or becomes defunct.

Public process

The selection and ongoing operation of City Food, City Land sites should involve a robust process of public engagement. Suggested mechanisms for community involvement include:

- Soliciting community residents to share suggestions for potential City Food, City Land sites
- Notification of residents once a potential site is identified
- Structuring RFPs to require the ongoing engagement and solicitation of feedback from community residents

Land use agreements

Once a food-producing partner is selected via the RFP process, they will be asked to sign a land-use agreement granting use of the parcel for three to five years at a nominal rate. As part of this land-use agreement, food-producing partners will be required to carry appropriate liability insurance and abide by all local, state and federal food safety regulations. Food-producing partners will be subject to periodic performance assessment and review in accordance with the land-owning agency's guidelines. Land-use agreements may also require food-producing partners to obtain relevant certifications such as HAACP certification or a wholesale license. See example land use agreements in Appendix B.

D. State, Local and National Precedent

There are many state, local and national precedents for municipalities encouraging food production on public land. The cities of San Francisco, Salt Lake City, and Boston have all adopted citywide policies regarding the use of city land for agriculture. In Colorado, the cities of Basalt and Arvada have each dedicated large public parcels to urban farms, while Denver itself has experimented with several pilot projects that can yield valuable lessons for a city-wide policy.

NATIONAL

San Francisco, California

A longtime leader in the urban agriculture movement, San Francisco's initiatives on public land are characteristically robust. Despite having a population density more than twice that of Denver's - as well as higher development pressure and real estate prices - agriculture on San Francisco's public land remains a priority. In a 2012 report, local public-policy nonprofit SPUR identified 76 existing urban agriculture projects on public land, totalling over 20 acres (see table A). According to the report, nearly $600,000 is spent annually by city agencies on capital expenses, maintenance, programming and administration for urban agriculture on public land. Over one-third of that amount comes from the city's Community Challenge Grant Program, which is funded by businesses that designate up to 1

percent of their payroll tax obligation.[4] On the other hand, the SPUR report notes that a lack of coordination within the municipal government has hampered the further development of food production within the city.

TABLE A. Urban Agriculture Sites on Public Land in San Francisco

Land-owning agency	# of sites	Acres
SF Recreation and Park Department	25	7.20
SF Department of Public Works	18	1.53
Golden Gate National Recreation Area	6	1.43
SF Public Utilites Commission	5	4.05
SF Unified School District	5	1.2
SF Housing Authority	3	1.24
SF Mayor's Office of Housing	2	1.08
SF Real Estate Division	2	.82
SF Department of Public Health	2	.14
SF Public Library	2	.01
California Department of Parks and Recreation	1	.32
California Department of Transportation	1	.62
SF Port Department	1	.22
SF Police Department	1	.10
US Department of Labor	1	.85
US Department of Veteran's Affairs	1	.01
TOTAL	**76**	**20.82**

Salt Lake City, Utah

In 2009, Salt Lake County launched an initiative called the Urban Farming Program designed to convert under-utilized public land into productive gardens and farms for commercial and community use. As part of that program, UFP employees identified several large parcels of publicly-owned land that were slated for eventual development and released RFPs on these properties for a 3-year lease. The land use agreements for these parcels stipulate that the food grown must be sold locally, and organic growing practices are encouraged. The City provides land and access to a water tap, while the farmer provides the rest of the infrastructure and keeps any profits from sale of the produce. In 2012, the last year for which data was available, over 100,000 lbs were produced on the 15 acres converted thus far. City officials are pleased with financial impact of the program, which has generated modest lease revenue and cut agency maintenance costs.[5]

Boston, Massachusetts

[4] Zigas, E. *Public Harvest: Expanding the Use of Public Land for Urban Agriculture in Sand Francisco*, SPUR, 2012.
[5] *2012 Urban Farming Annual Report,* Salt Lake County Open Space and Urban Farming, 2013

In 2011, the City of Boston passed an Urban Overlay District amendment to its zoning code to allow qualified applicants to lease vacant City-owned land at very low cost for-profit fruit and vegetable production. The text of the amendment is as follows:

> "This section 60-28 establishes Urban Agriculture Overlay Districts ("UAOD") as overlays to underlying subdistricts within the Greater Mattapan Neighborhood District. UAODs are established to improve public health and environmental sustainability and promote economic development by supporting the local production of fresh food. UAODs shall consist of land appropriate for and limited to: a) the cultivation of plants, herbs, fruits, flowers, or vegetables, including the cultivation and tillage of soil and the production, cultivation, growing and harvesting of any agricultural, floricultural or horticultural commodity; and, b) composting (the accelerated biodegradation and stabilization of organic material under controlled conditions for beneficial garden use) only of materials produced on site. The cultivation of any and all edible produce shall comply with all applicable federal, State and City requirements. There are four designated UAODs in the Greater Mattapan neighborhood District as shown on Maps 8B and 8C."

The UAOD currently supports two urban farms, and the City has donated the first year of water and compost in addition to providing land. Based on the success of these two project, The Office of Food Initiatives is actively working with the Boston Redevelopment Authority, the Mayor's Urban Agriculture Working Group, and community stakeholders to make additional opportunities for urban food production available.

STATE

City of Arvada

As a historical farming community, the city of Arvada has a rich heritage of small-scale agriculture. Today, most of Arvada's land is developed, but citizens and city officials are eager to reclaim this heritage through the use of public land for agriculture. In 2012, Arvada launched a pilot three-acre urban agriculture site on an open space near Mickeljohn Elementary School with a $170,000 grant from JeffCo Open Space. An RFP was issued to secure a qualified farmer, while the grant funding was used to install infrastructure such as a water tap, fencing, a parking lot, a wash station and a farmstand. After three growing seasons, the project is widely seen as a success by citizens, Arvada City Council, and JeffCo Open Space. In early 2015, the city released another RFP for its second parcel, and it has identified several additional city-owned properties for potential agricultural use.

Town of Basalt

In 2013, the Rocky Mountain Institute and the Central Rocky Mountain Permaculture Institute engaged in a partnership with the Town of Basalt to convert ½ acre of city-owned land to a "public food forest" - an edible landscape of vegetables, fruit trees and berry bushes that will be freely accessible to participating community members. Town officials were eager to activate the site, which is within walking distance of the town's elementary and high schools and is adjacent to a trailer park largely occupied by immigrants. "This is where we need to go," said town horticulturalist Lisa DiNardo in a 2013 Denver Post article about the project. "This is one way to build bridges in communities is through a food network, a healthy food network." Since its launch, over 100 trees have been planted and a strong and diverse network of town residents have been recruited to maintain the property.

LOCAL

Denver Housing Authority

For the last five years, the Denver Housing Authority has experimented with a variety of urban agriuclutural uses on its new and existing developments, including community gardens, non-profit and for-profit urban farms. In 2010, Denver

Housing Authority convened an "Urban Farmers Collaborative" of three local producers to develop small-scale farms with shared infrastrucrure at the southern section of a vacant block in the Curtis Park neighborhood. The overall goals of the project were to distribute local produce, educate community members, and create "green" jobs for local youth and residents. Overall, the site is considered a modest success, with all three farmers reporting high yields and positive public exposure. However, land tenure has been a consistent challenge: at the outset of the project, it was unclear how long the farmers would be able to remain on the property, and a land use agreement was never signed. The property is currently under contract with a private housing developer, and while the developer remains committed to incorporating some form of urban agriculture onsite, the existing partners will be required to vacate at the end of the 2015 growing season.

Denver Public Schools

Although Denver Public Schools have long been host to school gardens and community gardens, DPS did not have urban farms on its property until 2008. In that year, Sprout City Farms launched a ½-acre farm at the Denver Green School, which currently yields 12,000 pounds of produce annually. Based on this early success, DPS partnered with the University of Colorado Denver and Agriburbia to identify over 60 additional acres of underutilized DPS-owned land that could be converted to food production[6]. Based on this information, DPS issued an RFP to grow food for eventual use in school cafeterias. For the past three years, Produce Denver has farmed these sites, which are located at McGlone, Schmidtt and Bradley elementary schools. Reliability, price, and food safety concerns continue to be a challenge for bringing food from these farms into school lunches. However, DPS staff remain open to outdoor food production on its land, regardless of whether that food ends up in the cafeteria[7]. Meanwhile, opportunities for controlled-environment production are actively being pursued to localize the district's supply of fresh vegetables.

Denver Urban Gardens

The nonprofit Denver Urban Gardens has been developing and managing community gardens on public land in the Denver area for over 20 years. While DUG staff are responsible for designing and installing new gardens, they train community members to assume the responsibility of maintenance - a model which builds civic engagement while conserving limited staff capacity. Many of DUG's community gardens within the City and County of Denver are on land owned by Denver Public Schools or Denver Parks and Recreation. In early 2015, DUG developed a master land-use agreement with DPR to streamline issues of site use, access, water use, and more across its seven existing sites as well as any future ones. The following items in that agreement may be relevant to future land use agreements covered by this proposal:

- DUG is required to provide a detailed annual report to DPR about number and demographics of participants in each garden on DPR land
- DUG is solely responsible for developing, managing and maintaining its sites
- Only organic pesticides, herbicides and fertilizers are allowed on DUG gardens
- Parks and Rec is the holder of water taps, but DUG is responsible for paying for their installation
- All gardens must comply with ADA accessibility guidelines
- DUG maintains liability insurance

E. Potential Impact

[6] "Healthy Kids, Healthy Scores: An Economic Feasibility Study", Denver Public Schools, 2012

[7] Personal correspondence, Laurel Mattrey, April 2015

By employing public land to integrate food production into Denver's urban fabric, this policy would generate a variety of positive impacts. For the purposes of this study, potential impacts considered are limited to the areas of economic development, local food, public health, cost savings, stormwater management, and greenhouse gas emissions.

Economic development

A comprehensive policy for food production on public land has the potential to generate dozens of direct jobs and support hundreds of indirect jobs within the City and County of Denver. Studies by the Metro Wellness Commission estimate that $6.5 billion is spent on food in Denver annually; however, only $600 million of that is on food that is grown within Colorado. Recapturing even a small portion of those food dollars could have a significant impact on our communities, small businesses, and local economy. Urban agriculture has been estimated to create 2-5 direct jobs per acre of outdoor production[8]; job creation figures for indoor production are much greater. The indirect economic impact from from processing, transporting and retailing the food produced further adds to the economic impact of urban agriculture.

Local Food

As part of the Mayor's 2020 Sustainability Goals, the City aims to source 20 percent of Denver's food locally by 2020. Even with our city's dense character, urban agriculture can play a key role in meeting that goal. According to calculations by the IGERT Food Systems Research Group at the University of Colorado Denver, the City and County of Denver could supply its *entire* yearly demand for five common vegetables with 766 acres of outdoor food production[9] - equivalent in area to the combined size of City, Washington, Cheeseman and Sloan's Lake parks (see table B). Moreover, with the use of indoor controlled-environment systems, the area required for an equivalent yield is much smaller. It is entirely realistic, then, that the 100 acres of urban agriculture suggested in this proposal would be capable of contributing significantly to Denver's food security.

Table B: Total Acreage Necessary to Grow Six Common Vegetables

Type of Vegetable	Potential Yield (lbs/acre)	Yearly Vegetable Demand (lbs)*	Acres Needed to Meet Vegetable Demand
Broccoli	39,204	2,615,200	67
Carrot	52,272	3,362,400	64
Peppers	12,880	4,016,200	312
Spinach	26,136	793,900	30
Tomato	26,136	7,658,800	293
			Total: 766

Public Health

Nearly 100,000 Denverites are estimated to be food insecure[10], lacking the access, money, knowledge or time to ensure a healthy diet. Growing food on public property has the potential to directly impact the diets of tens of thousands of these community members, increasing their consumption of fresh fruits and vegetables and lowering rates of hunger and diet-related illness.

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[8] The Conservation Law Foundation and CLF Ventures, Inc. "Growing Green: Measuring Benefits, Overcoming Barriers, and Nurturing Opportunities for Urban Agriculture in Boston", July 2012

[9] Cook, Jessica. "Farming the City: Urban Agriculture Potential in the Denver Metro Area", IGERT Food Systems Research Group, 2012

[10] Feeding America, "Map the Meal Gap 2015: Overall Food Insecurity in Colorado by County in 2013"

Furthermore, engaging more Denverites in food production can have positive ripple effects far beyond the actual food: recent studies from CU Environmental Studies Professor Jill Litt have demonstrated that gardening leads to improvements in overall fruit and vegetable consumption, dietary knowledge, physical activity, and community engagement.[11]

Cost Savings

While the conversion of public land to urban agriculture may require some initial city expenditures, the long-term fiscal impact is clearly positive due to reduced maintenance costs. Denver Housing Authority, for example, recently budgeted $41,920 per year to maintain 12.67 acres of vacant property[12]. At this rate, 100 acres of urban agriculture managed by third-party partners would save public agencies $330,915 in annual maintenance costs.

Even more substantial are the second-order cost savings resulting from improved access to healthy food. The annual cost of treating diabetes in Denver County is estimated to be between $267,668,340 and $430,616,520[13], while the annual loss of income from diabetes in Denver County is estimated to be an additional $167,010,600 to $392,700,600. [14] If this policy, coupled with other initiatives, were able to reduce Denver's diabetes rate by even one percent, Denver's economy and healthcare system would save millions of dollars per year.

Stormwater Management

Urban agriculture is ideally suited to assist with the City's stormwater runoff goals. Urban vegetation effectively absorbs and filters rainwater, reducing peak treatment loads by slowing down its eventual entrance into municipal sewer systems[15]. In addition to slowing rainwater down, outdoor farms reduce total runoff volume, with one of the lowest runoff rates of any land-use type[16]. A 2012 study at the University of Pennsylvania demonstrated that converting vacant lots to community gardens in Philadelphia would reduce runoff volumes by 525,000 gallons per acre [17]. In particular, compost-amended soils have been shown to increase water retention rates by 65% while reducing the phosphorus and nitrate content in runoff.[18]

For these reasons, the water departments of Philadelphia and New York City[19] have each begun funding urban agriculture projects due to their stormwater-retention benefits. Examples of these projects include:

- a right-of-way bioswale to divert stormwater into a rain garden featuring native plants, which will manage approximately 130,000 gallons of stormwater per year

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[11] Litt, Jill et. el. "The Influence of Social Involvement, Neighborhood Aesthetics, and Community Garden Participation on Fruit and Vegetable Consumption" *American Journal of Public Health*, 2011 August; 101(8): 1466–1473

[12] Personal correspondence, Isabelle Wolfe, Development Program Manager, Denver Housing Authority, May 2015

[13] Cefalu, William et. al, "The Alarming and Rising Costs of Diabetes and Prediabetes," *Diabetes Care*, 2014 December, vol. 37 no. 12 3137-3138

[14] Jacobs, Phillip et. al. "Productivity Losses Associated With Diabetes in the U.S.", *Diabetes Care,* 2001 February; vol. 24 no. 2 257-261

[15] Ackerman,K., R. Plunz, M. Conrad, R. Katz, E. Dahlgren, P. Culligan. *The Potential for Urban Agriculture in New York City*. Prepared by the Urban Design Lab. The Earth Institute, Columbia University, New York City. 2012

[16] Yang, J.-L., & Zhang, G.-L., "Water infiltration in urban soils and its effects on the quantity and quality of runoff." *Journal of Soils and Sediments*

[17] Heather, K.L. *The Environmental Benefits of Urban Agriculture on Unused, Impermeable and Semi-Permeable Spaces in Major Cities With a Focus on Philadelphia, PA*. University of Pennsylvania, Philadelphia, PA. August, 2012.

[18] Pit, R., J. Lantrip, R. Harrison. *Infiltration Through Disturbed Urban Soils and Compost-Amended Soil Effects on Runoff Quality and Quantity*. Prepared for the U.S. Environmental Protection Agency. Office of Research and Development, Cincinnati, OH. December 1999.

[19] The Freshwater Society. *Urban Agriculture as a Green Stormwater Management Strategy.* February, 2013

- a 40,000 square-foot commercial rooftop farm that will manage over one million gallons of stormwater per year

Greenhouse Gas Emissions

Urban agriculture has the potential to contribute to Denver's greenhouse gas reduction efforts in several important ways:

- Most urban agriculture projects employ organic inputs and use little mechanized equiment, minimizing the need for fossil fuels associated with industrial-scale crop production.
- Crop waste on small-scale organic farms is usually composted rather than sent to the landfill, reducing methane emissions associated with landfilling organic waste.
- Urban farms shrink the distance and time between harvest and consumption, decreasing emissions associated with food transportation and storage.
- Well-managed soils of urban farms and edible landscaping can sequester carbon from the atmosphere, reducing net emissions from other activites.

A 2012 study of urban agriculture in Boston analyzed these factors and estimated that 50 acres of urban agriculture could reduce emissions by 4758 tons of CO_2 annually[20] - an amount equivalent to the emissions from 1000 passenger vehicles or 434 homes[21].

It is important to note, however, that local food is not inherently lower in GHG emissions. Not all farms use the same growing techniques, and emissions reductions from organic production techniques can easily be canceled out by increased vehicular traffic associated with transporting small quantities of food over short distances. Controlled-environment agriculture, in particular, can be very energy-intensive depending on the production systems, lighting, and heating technologies used. In order to ensure the maximum GHG reductions, therefore, it is recommended that RFPs are structured to incentivize carbon-neutral and carbon-negative practices.

F. Issues for Further Consideration

Capital costs for setup

While the proposed policy recommends that the food-producing partners be responsible for ongoing maintenance and operational expenses, the costs of converting vacant or underutilized land to productive use may be prohibitively expensive for these partners to bear on their own. The installation of water taps alone may cost several thousand dollars per parcel, while other necessary infrastructure such as fencing, tool sheds and signage may cost tens of thousands of dollars. In the long-term, it is recommended that the City and County of Denver develop a dedicated source of funding for such capital costs, similar to the Community Challenge Grant Program outlined in the San Francisco precedent study. In the meantime, these expenditures may need to be partially supported by the landowning agencies or via case-by-case grant funding.

Length of lease

[20] The Conservation Law Foundation and CLF Ventures, Inc. "Growing Green: Measuring Benefits, Overcoming Barriers, and Nurturing Opportunities for Urban Agriculture in Boston", July 2012

[21] USEPA Greenhouse Gas Equivalencies Calculator, http://www.epa.gov/cleanenergy/energy-resources/calculator.html

In order for urban farmers to invest in developing a new farm, it is necessary that they feel secure in having long-term access to their land. Therefore, it is recommended that RFPs only be issued for parcels where a minimum of five years of food production is feasible. In some cases, a site may be managed as a training or incubation space for beginning farmers, who may not feel comfortable committing to a five-year lease. However, even in these cases, the organization holding the master lease should have a minimum of a five-year commitment to the property.

Insurance

Any third-party organization operating on public property should be required to carry appropriate liability insurance for its activities. However, due to the new and unusual nature of urban agriculture, insurance agents have a challenging time calculating its risk factors. As a result, insurance premiums for urban farmers can be prohibitively expensive: the annual premium for one farm on public land in Denver, for example, costs around $2000. One potential solution is to lower premiums by creating an "association plan" with a master policy that covers multiple parcels; another option being explored is insuring new parcels through the existing coverage of a partner organization.

G. Summary of Pros

Based on state, local and national precedents, as well as input from residents and communities in Denver, the SFPC believes that the proposed policy would have the following "pros":

- Increased access to healthy and affordable foods in food deserts
- Direct and indirect economic development
- Municipal cost savings through management of public assets via public-private partnerships
- Beautification of blighted property
- Reduced greenhouse gas emissions
- Increased resilience and overall food sovereignty for the City and County of Denver
- Increased community interaction, social cohesion, and neighborhood development.
- Creates a positive image of Denver as a progressive city that supports local food production and innovative use of public space.
- Increased stormwater absorbtion
- No changes necessary to zoning code

G. Summary of Cons

- Increased legal necessary to develop land-use agreements for multiple new sites
- Capital expenditures associated with site preparation
- Risk of food-producing institutions vacating site or becoming defunct before end of lease

Appendices

A. Example RFPs
   a. Denver Public Schools
   b. Arvada
   c. Salt Lake City

B. Example Land Use Agreements
   a. Denver Public Schools

b. Denver Urban Gardens
c. Sample use agreement from PolicyLink study

C. Studies

a. DPS Urban Farm Feasibility Study
b. UCD Feasibility Study